

# LG

## MULTI/SINGLE

Indoor unit

R32 Heat Pump (50 / 60Hz)

0CTI5-02A (Replaces 0CTI5-01C)

# TOTAL HVAC SOLUTION PROVIDER

## ENGINEERING PRODUCT DATA BOOK

# **MULTI/SINGLE**

Indoor unit

**General information**

**Product data**

**Wall Mounted Unit**

**Wall Mounted Unit (2)**

**ART COOL Mirror**

**Ceiling Mounted cassette 4-way**

**Ceiling concealed duct - Middle static pressure**

**Ceiling concealed duct - Low static pressure**

**Ceiling Suspended Unit**



# MULTI/SINGLE

Indoor unit

## General information

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

# 1. Model Line Up

## ◆ MULTI / SINGLE Model

Category		Chassis Name	Capacity Index [kW (kBtu/h)]										
			1.5 (5)	2.1 (7)	2.5 (9)	3.5 (12)	4.2 (15)	5.0 (18)	7.1 (24)	10.0 (36)	12.0 (42)	14.0 (48)	15.0 (60)
Wall Mounted Unit (R410A/R32 Common)	Deluxe	SJ		○	○	○							
		SK						○	○				
	Standard plus	SJ	○	○	○	○	○						
		SK						○	○				
	Standard	SJ		○	○	○							
		SK						○	○				
Wall Mounted Unit (2) (R32 only)	Deluxe	SJ			○	○							
		SK						○					
	Standard plus	SJ			○	○							
		SK						○					
	Standard	SJ			○	○							
		SK						○					
ART COOL Mirror		SJ		○	○	○							
		SK						○	○				
Ceiling Mounted Cassette	4-Way	TR	○	○	●	●							
		TQ						●					
		TP							●				
		TM								◎	◎	◎	◎
Ceiling Concealed Duct	Middle Static Pressure	M1						●	●				
		M2								◎	◎		
		M3										◎	◎
	Low Static Pressure (Slim)	L2			●	●		●					
		L3							●				
Ceiling Suspended Unit		VM1						◎	◎				
		VM2								◎	◎	◎	◎








### Note

1. Refer the Combination Table of Product Data Book for Outdoor Units.

- : Connectable with MULTI model only.
- ◎ : Connectable with SINGLE model only.
- : Connectable with MULTI or SINGLE model.

2. This product contains Fluorinated greenhouse gases.

## 2. External Appearance

<p>• <b>Wall Mounted Unit (R410A/R32 common)</b></p> <p>AMNW07GSJL0 [DM07RP NSJ]          ASNW09GJ1Z0 [DM09RP NSJ]          ASNW12GJ1Z0 [DM12RP NSJ]          ASNW18GK1Z0 [DM18RP NSK]          ASNW24GK1Z0 [DM24RP NSK]</p> <p>AMNW05GSJB0 [PM05SP NSJ]          AMNW07GSJB0 [PM07SP NSJ]          USNW09GJ2F0 [PM09SP NSJ]          USNW12GJ2F0 [PM12SP NSJ]          AMNW15GSJB0 [PM15SP NSJ]          USNW18GK2F0 [PM18SP NSK]          USNW24GK2F0 [PM24SP NSK]</p> <p>AMNW07GSJA0 [PM07EP NSJ]          USNW09GJ3A0 [PM09EP NSJ]          USNW12GJ3A0 [PM12EP NSJ]          USNW18GK3A0 [PM18EP NSK]          AMNW24GSKA0 [PM24EP NSK]</p> 	<p>• <b>Wall Mounted Unit (2) (R32 only)</b></p> <p>S3NM09JL1ZA [DC09RQ NSJ]          S3NM12JL1ZA [DC12RQ NSJ]          S3NM18KL1ZA [DC18RQ NSK]</p> <p>S3NM09JA2FA [PC09SQ NSJ]          S3NM12JA2FA [PC12SQ NSJ]          S3NM18KL2FA [PC18SQ NSK]</p> <p>S3NM09JA3BA [SC09EQ NSJ]          S3NM12JA3BA [SC12EQ NSJ]          S3NM18KL3BA [SC18EQ NSK]</p>  <p>• <b>ART COOL Mirror</b></p> <p>AMNW07GSJR0 [AM07BP NSJ]          USNW09GJRZ0 [AM09BP NSJ]          USNW12GJRZ0 [AM12BP NSJ]          USNW18GKRZ0 [AM18BP NSK]          AMNW24GSKR0 [AM24BP NSK]</p> 
<p>• <b>Ceiling Suspended Unit</b></p> <p>ZVNW18GM1A0 [UV18R N10]          ZVNW24GM1A0 [UV24R N10]          ZVNW36GM2A0 [UV36R N20]          ZVNW42GM2A0 [UV42R N20]          ZVNW48GM2A0 [UV48R N20]          ZVNW60GM2A0 [UV60R N20]</p> 	<p>• <b>Ceiling Mounted Cassette 4-way</b></p> <p>ZMNW05GTRA0 [MT06R NR0]          ZMNW07GTRA0 [MT08R NR0]          ZTNW09GRLA0 [CT09R NR0]          ZTNW12GRLA0 [CT12R NR0]          ZTNW18GQLA0 [CT18R NQ0]          ZTNW24GPLA0 [CT24R NP0]          ZTNW36GMLA0 [UT36R NM0]          ZTNW42GMLA0 [UT42R NM0]          ZTNW48GMLA0 [UT48R NM0]          ZTNW60GMLA0 [UT60R NM0]</p> 
<p>• <b>Ceiling Concealed Duct – Middle static pressure</b></p> <p>ZBNW18GM1A0 [CM18R N10]          ZBNW24GM1A0 [CM24R N10]          ZBNW36GM2A0 [UM36R N20]          ZBNW42GM2A0 [UM42R N20]          ZBNW48GM3A0 [UM48R N30]          ZBNW60GM3A0 [UM60R N30]</p> 	<p>• <b>Ceiling Concealed Duct – Low static pressure</b></p> <p>ZBNW09GL2A0 [CL09R N20]          ZBNW12GL2A0 [CL12R N20]          ZBNW18GL2A0 [CL18R N20]          ZBNW24GL3A0 [CL24R N30]</p> 

## 3. Nomenclature

### 3.1 Global Name

#### ■ Basic (Except for the exception case below)

Model Name	ZTN	W	12	G	R	L	A	0
No.	1	2	3	4	5	6	7	8

No.	Signification
1	<b>Z*N : Indoor units using R32</b> * Indicates Product type M : Only for Multi systems T : Ceiling Mounted Cassette B : Ceiling Concealed Duct V : Ceiling Suspended Unit  <b>A*N, U*N : Indoor units using R410A and R32 Commonly</b> * Indicates Product type M : Only for Multi systems J, S : Wall Mounted unit / ARTCOOL Mirror
2	<b>Model type</b> W/H : DC Inverter Heat pump
3	<b>Nominal Capacity</b> Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'
4	<b>Electrical rating</b> G: 1Ø, 220-240V, 50 Hz / 1Ø, 220V, 60 Hz
5	<b>Indoor unit type for Z*N-, ASN-, USN- series models</b> Chassis name  <b>Indoor unit type for AMN- series models</b> S : Wall Mounted Unit / ART COOL Mirror T : Ceiling Mounted Cassette
6	<b>Indoor unit type for Z*N-, ASN-, USN- series models</b> L : Basic 1 : Deluxe type 2 : Standard plus type 3 : Standard type R : ARTCOOL Mirror type  <b>Indoor unit type for AMN-, ZBN-, ZVN- series models</b> Chassis name
7	<b>Functions</b> A : Basic, B : B2B function, C/L : Plasma, E : Elevation grille, Z : Ionizer  <b>Functions for Wall Mounted Unit (AMN-, ASN-, USN- series)</b> L/Z : Ionizer + 4 Way Air flow + Wi-Fi B/F : Non-Ionizer + 4 Way Air flow + Wi-Fi  <b>Functions for ARTCOOL Mirror (USN- series)</b> Z : Ionizer + 4 Way  <b>Panel Color for ARTCOO Mirror(AMN- series)</b> R : Mirror
8	<b>Serial number</b>

### 3. Nomenclature

#### ■ Wall Mounted Unit (2)

Model Name	S	3	N	M	09	J	L	1	Z	A
No.	1	2	3	4	5	6	7	8	9	10

No.	Signification
1	<b>Product Type</b> S : Split
2	<b>Refrigerant</b> 3 : R32 4 : R410A
3	<b>Supply Type</b> N : Indoor Unit U : Outdoor Unit
4	<b>Model Type</b> M : Common Indoor unit for Multi and Residential system
5	<b>Nominal Capacity</b> Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'
6	<b>Indoor unit Chassis name</b> J : SJ K : SK
7	<b>Outdoor unit Chassis name for Residential system</b> L : UL2 2 : U24A 4 : U4
8	<b>Look &amp; Color (SJ, SK Chassis)</b> R : ART COOL (Mirror Black) 1 : R Look (White Panel : Transparent) 2 : Semi-R Look (White Panel : Silver Deco) 3 : E Look (White Pane)
9	<b>Function</b> B : Non-Ionizer + 4way F : Non-Ionizer + 4way + Wi-Fi Z : Ionizer + 4way + Wi-Fi
10	<b>Standard Model No.</b>

## 3. Nomenclature

### 3.2 European Name

#### ■ Basic (Except for the exception case below)

Model Name	C	T	12	R	N	R	0
No.	1	2	3	4	5	6	7

No.	Signification
1	<b>Connectable Outdoor unit type</b> M : Indoor units only for Multi systems U : Indoor units only for Single CAC systems C : Common Indoor Unit for Multi and Single CAC
2	<b>Product type</b> T : Ceiling Mounted Cassette B, L: Ceiling Concealed Duct V : Ceiling Suspended Unit
3	<b>Nominal Capacity</b> Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'
4	<b>Detailed product type</b> R : Indoor Units using R32
5	<b>Indoor Unit / Outdoor Units</b> N : Indoor Unit U : Outdoor Unit
6	<b>Chassis name</b>
7	<b>Serial number</b>

### 3. Nomenclature

#### ■ Wall Mounted Unit / ARTCOOL Mirror

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

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

### 3. Nomenclature

#### ■ Wall Mounted Unit (2)

Model Name	D	C	09	R	Q	N	SJ
No.	1	2	3	4	5	6	7

No.	Signification
1	<b>Product type</b> D : Deluxe P : Standard plus S : Standard A : ARTCOOL Mirror
2	<b>Connectable Outdoor unit type</b> C : Multi Compatible
3	<b>Nominal Capacity</b> Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'
4	<b>Product Look</b> R : R-Look S : Semi R-Look E : E-Look B : Black Mirror-Look
5	<b>Serial</b>
6	<b>Indoor Unit / Outdoor Units</b> N : Indoor Unit U : Outdoor Unit
7	<b>Chassis name</b>



# **MULTI/SINGLE CAC**

Indoor unit

## **Product data**

**Wall Mounted Unit**

**Wall Mounted Unit (2)**

**ARTCOOL Mirror**

**Ceiling Mounted cassette 4-way**

**Ceiling concealed duct - Middle static pressure**

**Ceiling concealed duct - Low static pressure**

**Ceiling Suspended Unit**

# **MULTI/SINGLE**

Indoor unit

## **Wall Mounted 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

## ■ Deluxe

### ◆ Basic functions of Indoor Unit

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

#### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	AMNW07GSJL0 [DM07RP NSJ] ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ] ASNW18GK1Z0 [DM18RP NSK] ASNW24GK1Z0 [DM24RP NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	X
<b>Note</b> 1. O: Possible, X: Impossible, - : Not applicable 2. * : Some advanced functions controlled by individual controller cannot be operated. 3. ** : It could not be operated some functions. 4. If you need more detail, please refer to the <b>BECON</b> PDB or the manual of product. ( <a href="http://partner.lge.com/global">http://partner.lge.com/global</a> : Home> Download> Manuals)				

# 1. List of functions

## ■ Standard plus

### ◆ Basic functions of Indoor Unit

Category	Functions	AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ] USNW09GJ2F0 [PM09SP NSJ], USNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ], USNW18GK2F0 [PM18SP NSK] USNW24GK2F0 [PM24SP NSK]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	O (5 Steps)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	6 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O
	Humidity Control	X
Comes with product	Wireless Remote Controller	O**
	Wired Remote Controller	X
Network Solution(LGAP)		O

#### Note

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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.

# 1. List of functions

## ◆ Network solution Accessory List

Category		Product	Remark	AMNW05GSJB0 [PM05SP NSJ] AMNW07GSJB0 [PM07SP NSJ] USNW09GJ2F0 [PM09SP NSJ] USNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ] USNW18GK2F0 [PM18SP NSK] USNW24GK2F0 [PM24SP NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	X

### Note

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(<http://partner.lge.com/global> : Home> Download> Manuals)

# 1. List of functions

## ■ Standard

### ◆ Basic functions of Indoor Unit

Category	Functions	AMNW07GSJA0 [PM07EP NSJ], USNW09GJ3A0 [PM09EP NSJ] USNW12GJ3A0 [PM12EP NSJ], USNW18GK3A0 [PM18EP NSK] AMNW24GSKA0 [PM24EP NSK]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	O (Manual)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	6 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	O
	Timer(weekly)*	X
	Two thermistor control*	X
Special Functions	Auto Elevation Grille	X
	Wi-Fi	X
Comes with product	Humidity Control	X
	Wireless Remote Controller	O**
	Wired Remote Controller	X
Network Solution(LGAP)		X

#### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. 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

## ◆ Network solution Accessory List

Category		Product	Remark	AMNW07GSJA0 [PM07EP NSJ] USNW09GJ3A0 [PM09EP NSJ] USNW12GJ3A0 [PM12EP NSJ] USNW18GK3A0 [PM18EP NSK] AMNW24GSKA0[PM24EP NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	X
		PQRCHCA0Q(W)	for Hotel	X
	Standard	PREMTB001	Standard (White)	X
		PREMTBB01	Standard (Black)	X
		PREMTB100**	New Standard (White)	X
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	X
		PDRYCB400	2 Points Dry Contact (For Setback)	X
	Communication type	PDRYCB300	-	X
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	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

### Note

1. O: Possible, X: Impossible, - : Not applicable
2. \* : Some advanced functions controlled by individual controller cannot be operated.
3. \*\* : It could not be operated some functions.
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## 2. Specifications

### ■ Deluxe

Model Name				AMNW07GSJL0 [DM07RP NSJ]	ASNW09GJ1Z0 [DM09RP NSJ]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling		kW	2.1	2.5
	Heating		kW	2.3	3.2
Power Input	Min./Nom./Max.		W	9 / 17 / 30	9 / 18 / 30
Running Current	Min./Nom./Max.		A	0.12 / 0.15 / 0.20	0.12 / 0.16 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	892 x 381 x 249	892 x 381 x 249
		W x H x D	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)
	Shipping		kg (lbs)	11.6 (25.6)	11.6 (25.6)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 23 x 22) x 1	(2 x 23 x 22) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.20 (2.15)
Fan	Type		-	Cross Flow Fan	Cross Flow 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	Type		-	BLDC	BLDC
	Output		W x No.	30 x 1	30 x 1
Sound Pressure Level		H / M / L	dB(A)	35 / 31 / 26	36 / 32 / 27
Sound Power Level		Max.	dB(A)	56	56
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b>					
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 Name				ASNW12GJ1Z0 [DM12RP NSJ]	ASNW18GK1Z0 [DM18RP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		3.5	5.0
	Heating	kW		4.0	5.8
Power Input	Min./Nom./Max.	W		9 / 19 / 30	26 / 39 / 60
Running Current	Min./Nom./Max.	A		0.12 / 0.17 / 0.20	0.22 / 0.28 / 0.40
Casing Color		-		Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	998 × 345 × 210
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	892 × 381 × 249	1,063 × 420 × 274
		W x H x D	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)
	Shipping	kg (lbs)		11.6 (25.6)	15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x No.	-		(2 x 23 x 22) x 1	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.20 (2.15)	0.28 (3.01)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W x No.		30 x 1	60 x 1
Sound Pressure Level	H / M / L	dB(A)		38 / 34 / 29	44 / 38 / 34
Sound Power Level	Max.	dB(A)		56	60
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 9.52 (3/8)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices		-		Fuse	
		-		Thermal Protector for Fan Motor	
Connections Method		-		Flared	Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"> <li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li> <li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li> <li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li> </ul>					

## 2. Specifications

Model Name				ASNW24GK1Z0 [DM24RP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		6.6
	Heating	kW		7.5
Power Input	Min./Nom./Max.	W		27 / 45 / 60
Running Current	Min./Nom./Max.	A		0.24 / 0.33 / 0.40
Casing Color		-		Munsell 7.5BG 10/2 (RAL 9016)
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,063 x 420 x 274
		W x H x D	inch	14-27/32 x 16-17/32 x 10-25/32
Weight	Body	kg (lbs)		12.0 (26.5)
	Shipping	kg (lbs)		15.9 (35.1)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
Fan	Type		-	Cross Flow 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	Type		-	BLDC
	Output		W x No.	60 x 1
Sound Pressure Level		H / M / L	dB(A)	47 / 41 / 36
Sound Power Level		Max.	dB(A)	64
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices			-	Fuse
			-	Thermal Protector for Fan Motor
Connections Method			-	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)

### 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 : 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

### ■ Standard plus

Model Name				AMNW05GSJB0 [PM05SP NSJ]	AMNW07GSJB0 [PM07SP NSJ]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling		kW	1.5	2.1
	Heating		kW	1.6	2.3
Power Input	Min./Nom./Max.		W	11 / 16 / 30	11 / 17 / 30
Running Current	Min./Nom./Max.		A	0.10 / 0.13 / 0.20	0.10 / 0.14 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	909 x 383 x 256	909 x 383 x 256
		W x H x D	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)
	Shipping		kg (lbs)	12.0 (26.5)	12.0 (26.5)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(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)
Fan	Type		-	Cross Flow Fan	Cross Flow 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	Type		-	BLDC	BLDC
	Output		W x No.	30 x 1	30 x 1
Sound Pressure Level		H / M / L	dB(A)	34 / 31 / 27	35 / 32 / 27
Sound Power Level		Max.	dB(A)	57	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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 Name				USNW09GJ2F0 [PM09SP NSJ]	USNW12GJ2F0 [PM12SP NSJ]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		2.5	3.5
	Heating	kW		3.2	3.8
Power Input	Min./Nom./Max.	W		11 / 18 / 30	11 / 19 / 30
Running Current	Min./Nom./Max.	A		0.10 / 0.16 / 0.20	0.10 / 0.17 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 x 308 x 189	837 x 308 x 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	909 x 383 x 256	909 x 383 x 256
		W x H x D	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)
	Shipping	kg (lbs)		12.0 (26.5)	12.0 (26.5)
Heat Exchanger	(Row x Column x Fins per inch) x No.	-		(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)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W x No.		30 x 1	30 x 1
Sound Pressure Level	H / M / L	dB(A)		36 / 33 / 27	40 / 35 / 27
Sound Power Level	Max.	dB(A)		57	57
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name				AMNW15GSJB0 [PM15SP NSJ]	USNW18GK2F0 [PM18SP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		4.2	5.0
	Heating	kW		5.4	5.8
Power Input	Min./Nom./Max.	W		12 / 21 / 30	26 / 39 / 60
Running Current	Min./Nom./Max.	A		0.12 / 0.18 / 0.20	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 x 308 x 189	998 x 345 x 210
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	909 x 383 x 256	1,080 x 422 x 281
		W x H x D	inch	35-25/32 x 15-3/32 x 10-3/32	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		8.7 (19.2)	12.0 (26.5)
	Shipping	kg (lbs)		12.0 (26.5)	15.8 (34.8)
Heat Exchanger	(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
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.19 (2.05)	0.28 (3.01)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W x No.		30 x 1	60 x 1
Sound Pressure Level	H / M / L	dB(A)		41 / 36 / 29	44 / 38 / 35
Sound Power Level	Max.	dB(A)		57	59
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	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			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name				USNW24GK2F0 [PM24SP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		6.6
	Heating	kW		7.5
Power Input	Min./Nom./Max.	W		27 / 45 / 60
Running Current	Min./Nom./Max.	A		0.24 / 0.33 / 0.40
Casing Color		-		Munsell 7.5BG 10/2 (RAL 9016)
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,080 x 422 x 281
		W x H x D	inch	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		12.8 (28.2)
	Shipping	kg (lbs)		16.2 (35.7)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
Fan	Type		-	Cross Flow 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	Type		-	BLDC
	Output		W x No.	60 x 1
Sound Pressure Level		H / M / L	dB(A)	46 / 41 / 36
Sound Power Level		Max.	dB(A)	65
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices		-	-	Fuse
		-	-	Thermal Protector for Fan Motor
Connections Method		-	-	Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		4C x 1.0 (18)

### 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 : 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

### ■ Standard

Model Name				AMNW07GSJA0 [PM07EP NSJ]	USNW09GJ3A0 [PM09EP NSJ]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		2.1	2.5
	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.	A		0.10 / 0.14 / 0.20	0.10 / 0.16 / 0.20
Casing Color				Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	909 x 383 x 256	909 x 383 x 256
		W x H x D	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)		8.5 (18.7)	8.5 (18.7)
	Shipping	kg (lbs)		11.0 (24.3)	11.0 (24.3)
Heat Exchanger	(Row x Column x Fins per inch) x No.	-		(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)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W x No.		30 x 1	30 x 1
Sound Pressure Level	H / M / L	dB(A)		35 / 32 / 27	36 / 33 / 27
Sound Power Level	Max.	dB(A)		57	57
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Connections Method
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"> <li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li> <li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li> <li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li> </ul>					



## 2. Specifications

Model Name				USNW12GJ3A0 [PM12EP NSJ]	USNW18GK3A0 [PM18EP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		3.5	5.0
	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.	A		0.10 / 0.17 / 0.20	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 x 308 x 189	998 x 345 x 210
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	909 x 383 x 256	1,080 x 422 x 281
		W x H x D	inch	35-25/32 x 15-3/32 x 10-3/32	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		8.5 (18.7)	11.6 (25.6)
	Shipping	kg (lbs)		11.0 (24.3)	14.6 (32.2)
Heat Exchanger	(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
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.19 (2.05)	0.28 (3.01)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W x No.		30 x 1	60 x 1
Sound Pressure Level	H / M / L	dB(A)		40 / 35 / 27	44 / 38 / 35
Sound Power Level	Max.	dB(A)		57	59
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	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			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)

### Note

- 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.
- Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
  - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

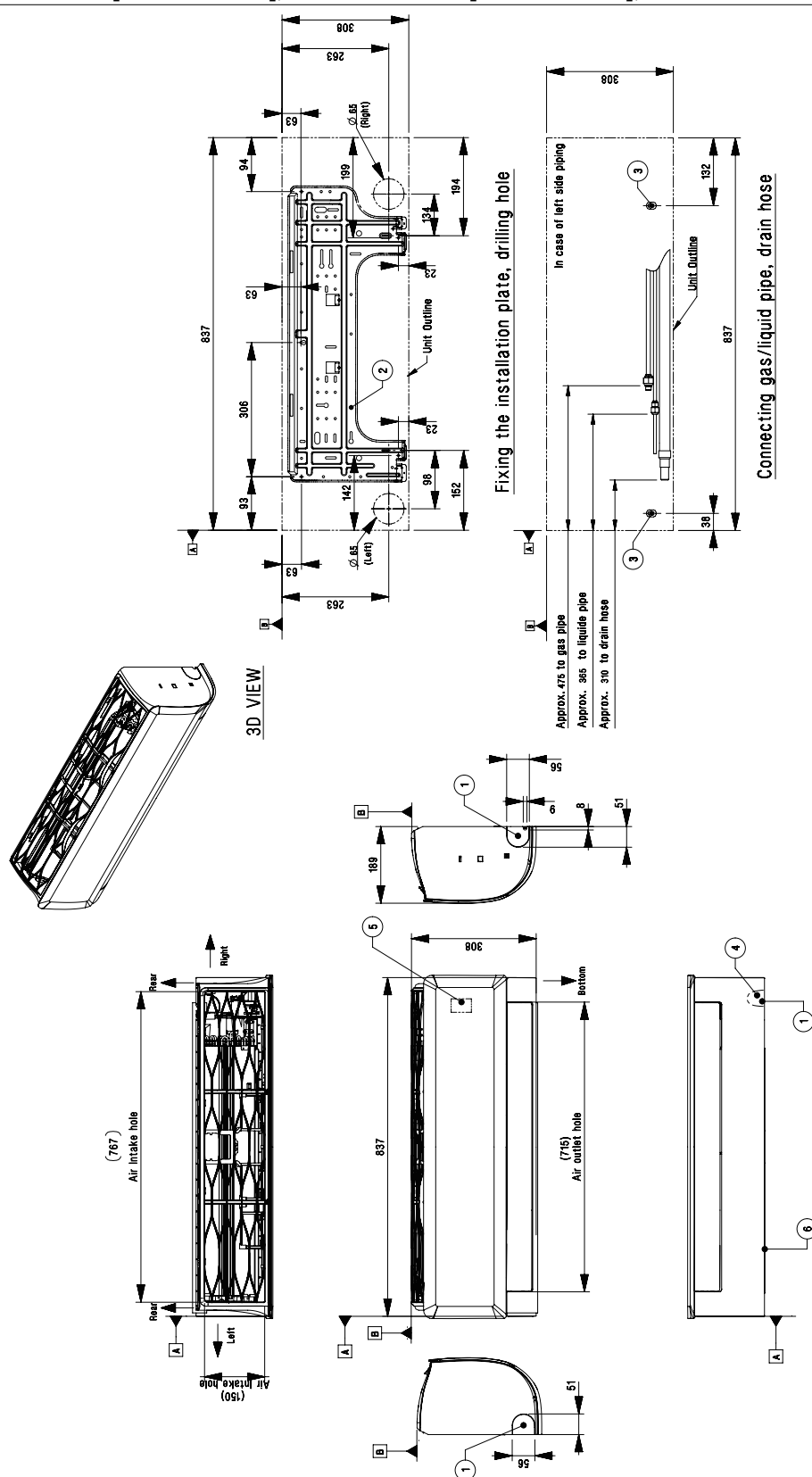
Model Name				AMNW24GSKA0 [PM24EP NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		6.6
	Heating	kW		7.5
Power Input	Min./Nom./Max.	W x No.		27 / 45 / 60
Running Current	Min./Nom./Max.	A		0.24 / 0.33 / 0.40
Casing Color		-		White
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,080 x 422 x 281
		W x H x D	inch	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		12.5 (27.6)
	Shipping	kg (lbs)		15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
Fan	Type		-	Cross Flow 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	Type		-	BLDC
	Output		W x No.	60 x 1
Sound Pressure Level		H / M / L	dB(A)	46 / 41 / 36
Sound Power Level		Max.	dB(A)	65
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7(1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices		-		Fuse
		-		Thermal Protector for Fan Motor
Connections Method		-		Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		4C x 1.0 (18)

### 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 : 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.

### ◆ Deluxe (SJ Chassis)

[Unit: mm]

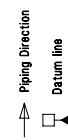


6	Decoration Cover	-
5	Display & Remote Controller Signal Receiver	-
4	Terminal Block for Power Supply Communication	-
3	Drain hose connection	-
2	Installation Plate	-
1	Refrigerant/Drain pipe and cable routing hole	Knock-out type
No.	Part Name	Description

**Note**

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

## Symbols



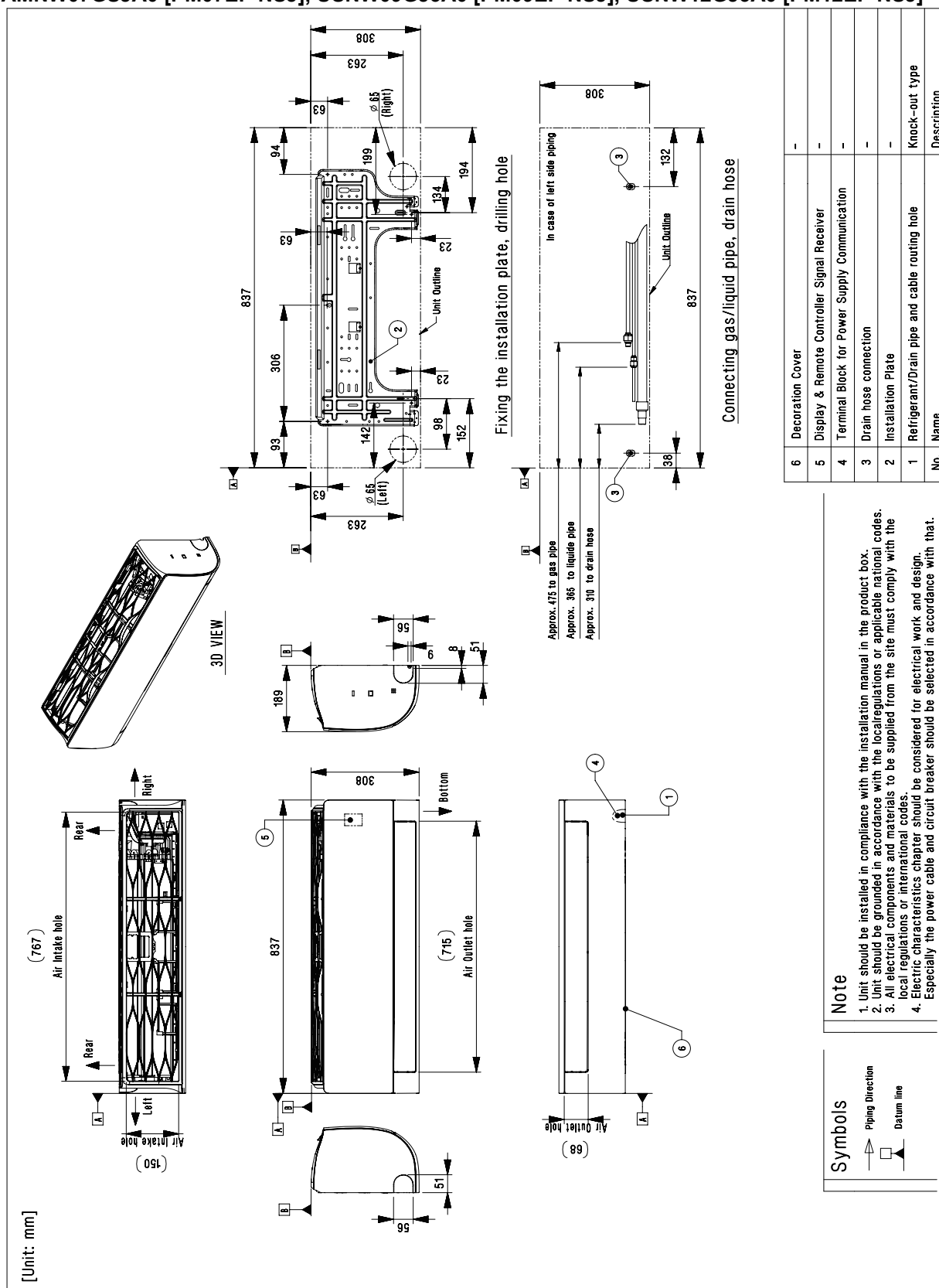
## 3. Dimensions

### ◆ Standard Plus / Standard (SJ Chassis)

AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ], USNW09GJ2F0 [PM09SP NSJ]

USNW12GJ2F0 [PM12SP NSJ], AMNW15GSJB0 [PM15SP NSJ]

AMNW07GSJA0 [PM07EP NSJ], USNW09GJ3A0 [PM09EP NSJ], USNW12GJ3A0 [PM12EP NSJ]



◆ **Deluxe / Standard Plus / Standard (SK Chassis)**

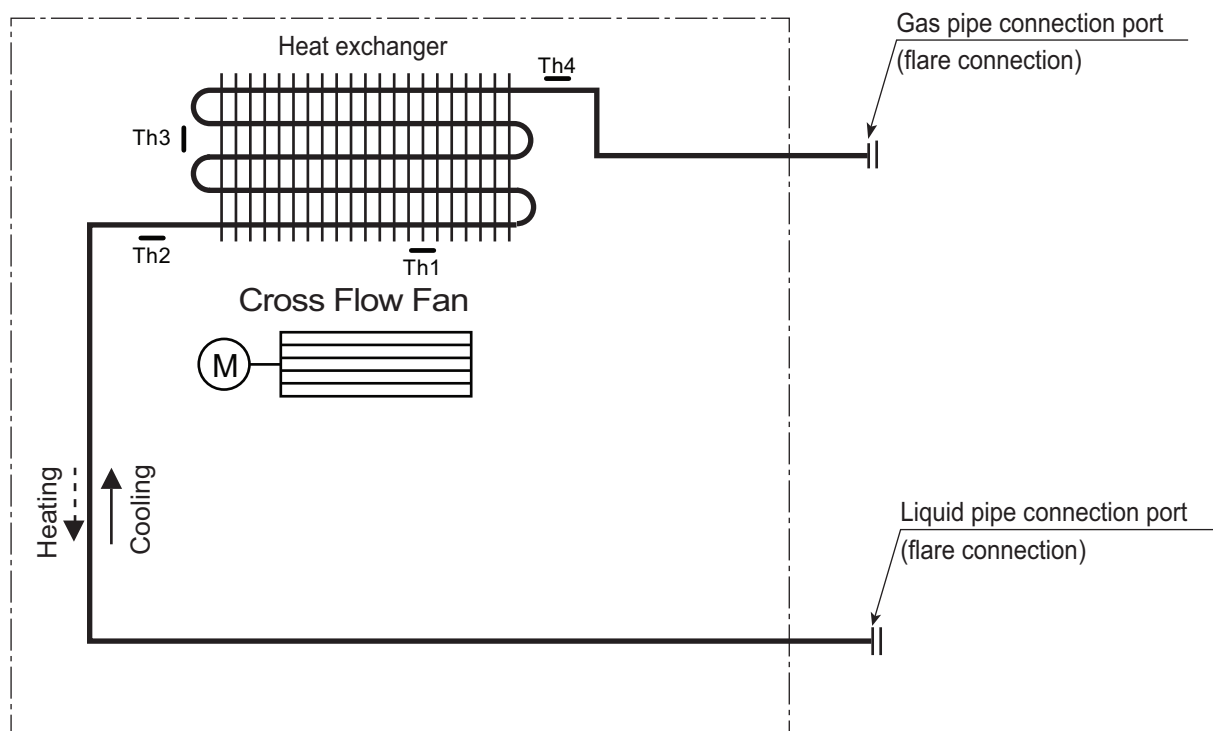
USNW18GK2F0 [PM18SP NSK], USNW24GK2F0 [PM24SP NSK]

USNW18GK3A0 [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

- \* : AMNW07GSJL0 [DM07RP NSJ] Model not available.

### ◆ Refrigerant pipe connection port diameters

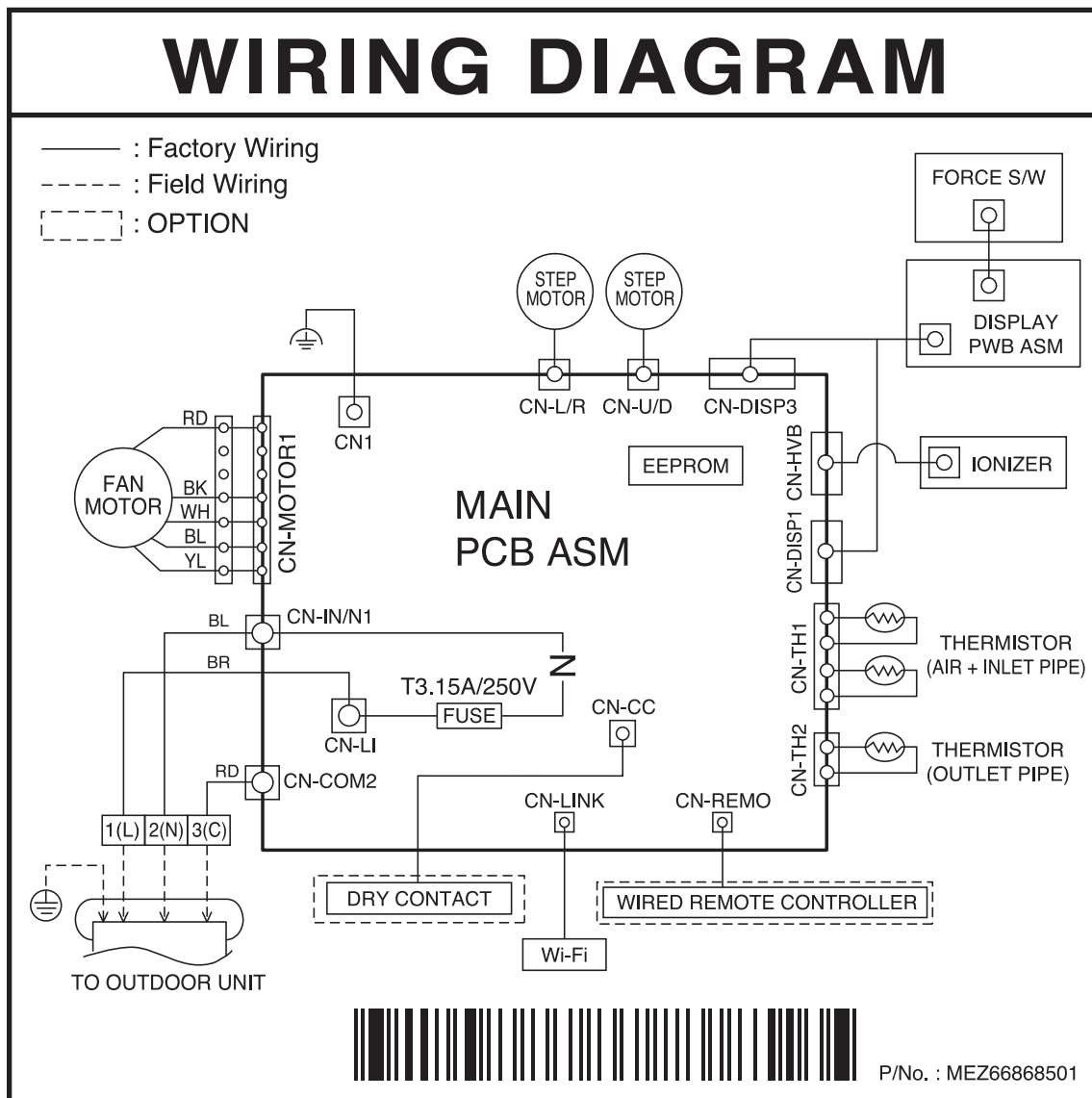
[Unit : mm (inch)]

Model	Gas	Liquid
AMNW07GSJL0 [DM07RP NSJ] ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ]  AMNW05GSJB0 [PM05SP NSJ] AMNW07GSJB0 [PM07SP NSJ] USNW09GJ2F0 [PM09SP NSJ] USNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ]	Ø9.52 (3/8)	Ø6.35 (1/4)
AMNW07GSJA0 [PM07EP NSJ] USNW09GJ3A0 [PM09EP NSJ] USNW12GJ3A0 [PM12EP NSJ]		
ASNW18GK1Z0 [DM18RP NSK] ASNW24GK1Z0 [DM24RP NSK]  USNW18GK2F0 [PM18SP NSK] USNW24GK2F0 [PM24SP NSK]  USNW18GK3A0 [PM18EP NSK] AMNW24GSKA0 [PM24EP NSK]	Ø12.7 (1/2)	

## 5. Wiring Diagrams

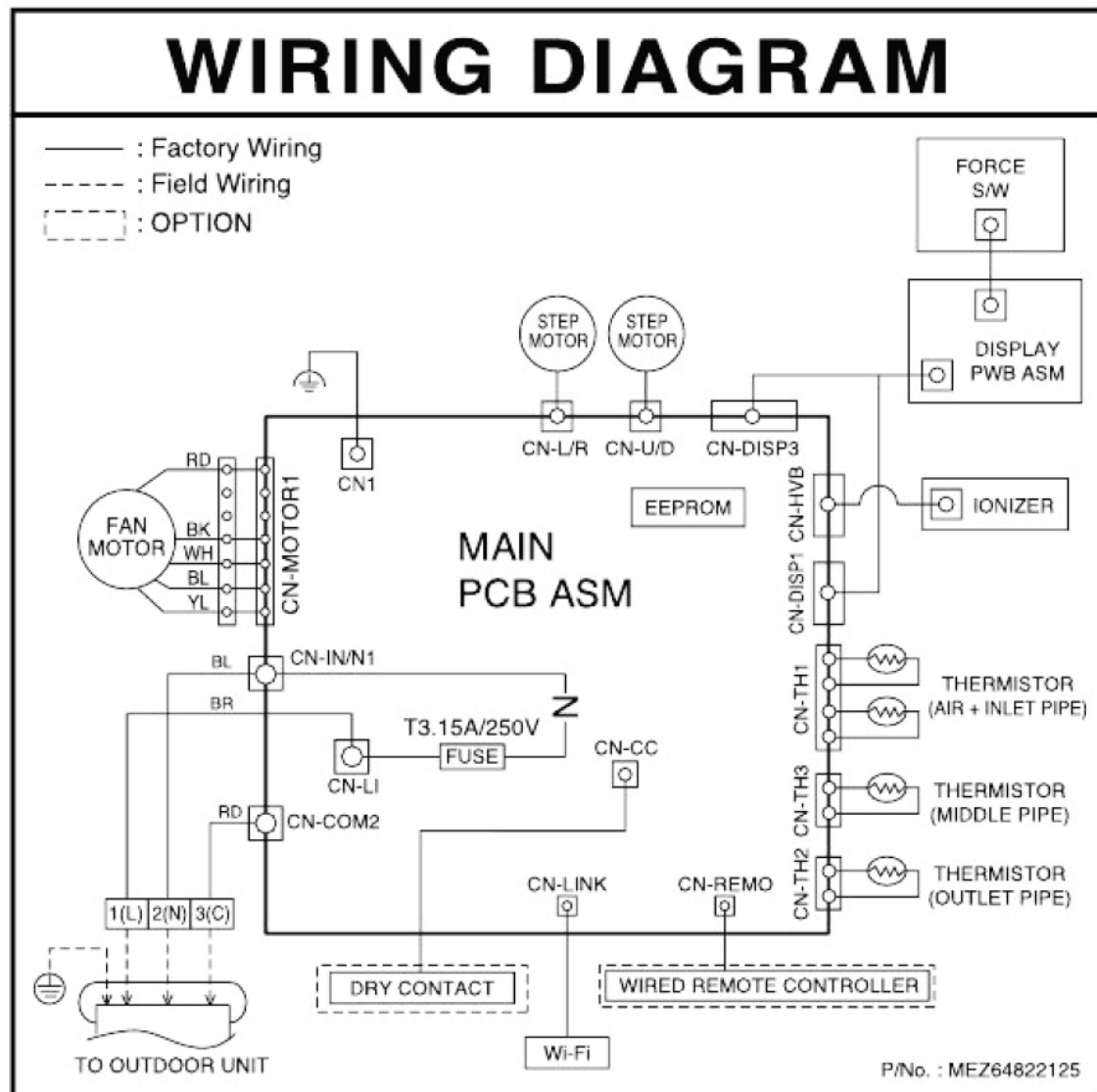
### ■ Deluxe

◆ Model : AMNW07GSJL0 [DM07RP NSJ]



## 5. Wiring Diagrams

- ◆ Models : ASNW09GJ1Z0 [DM09RP NSJ], ASNW12GJ1Z0 [DM12RP NSJ]  
ASNW18GK1Z0 [DM18RP NSK], ASNW24GK1Z0 [DM24RP NSK]

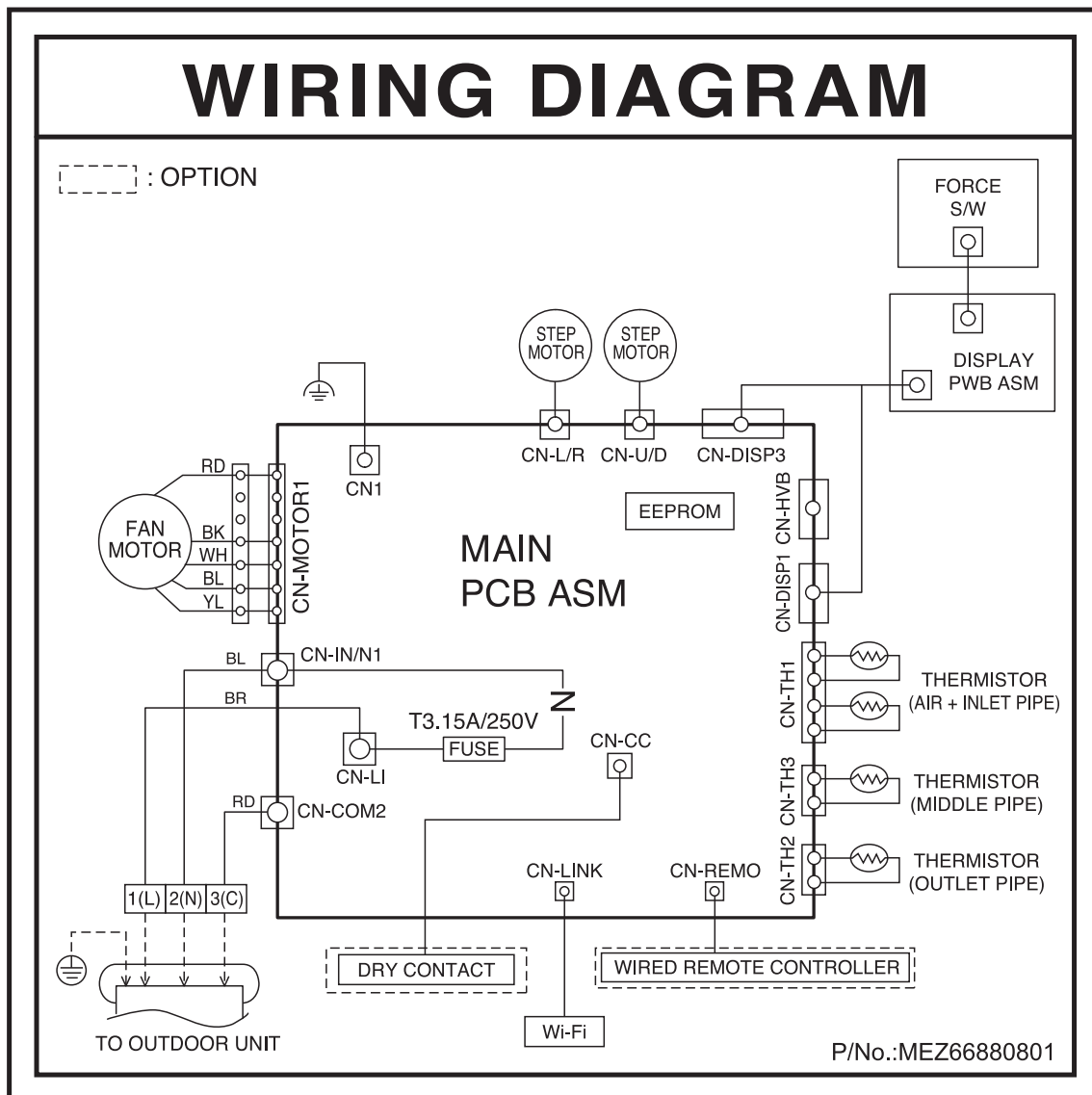




## 5. Wiring Diagrams

### ■ Standard plus

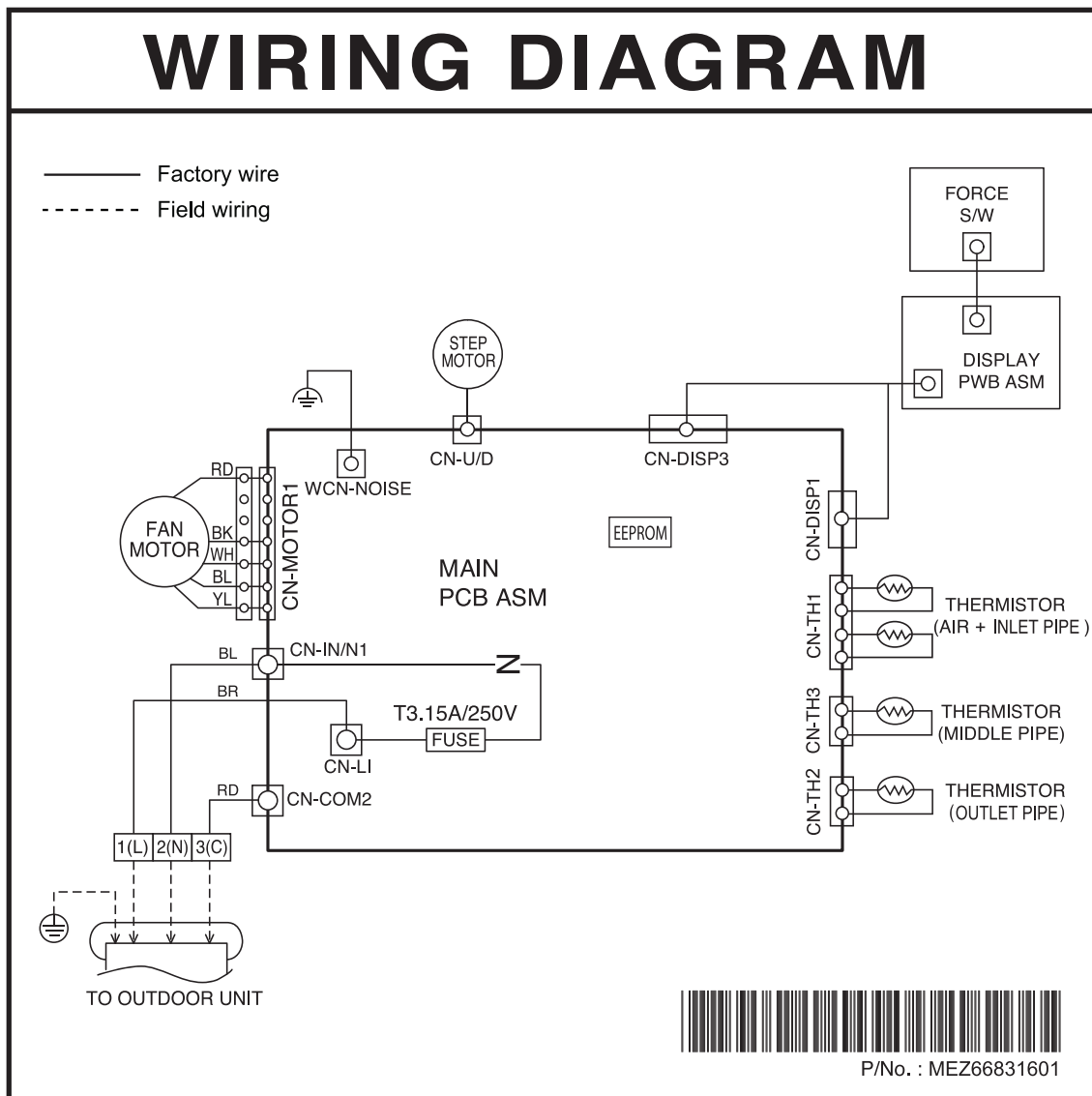
- ◆ Models : AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ]  
 USNW09GJ2F0 [PM09SP NSJ], USNW12GJ2F0 [PM12SP NSJ]  
 AMNW15GSJB0 [PM15SP NSJ], USNW18GK2F0 [PM18SP NSK]  
 USNW24GK2F0 [PM24SP NSK]



## 5. Wiring Diagrams

### ■ Standard

- ◆ Models : AMNW07GSJA0 [PM07EP NSJ], USNW09GJ3A0 [PM09EP NSJ]  
 USNW12GJ3A0 [PM12EP NSJ], USNW18GK3A0 [PM18EP NSK]  
 AMNW24GSKA0 [PM24EP NSK]



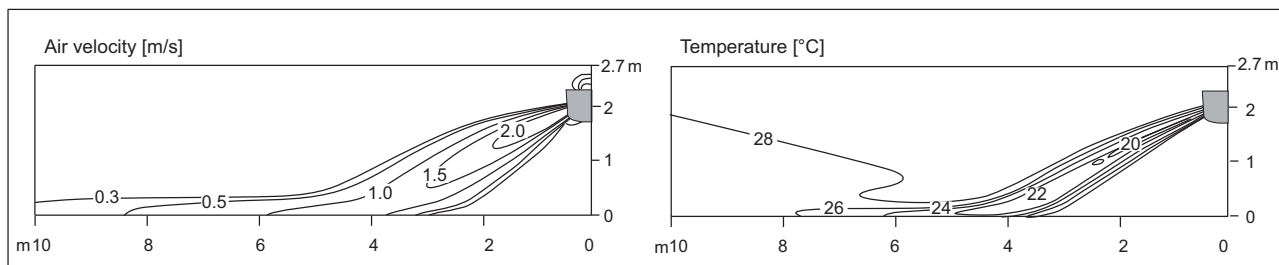
## 6. Air flow and temperature distributions (reference data)

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

### ◆ Cooling

#### Side View

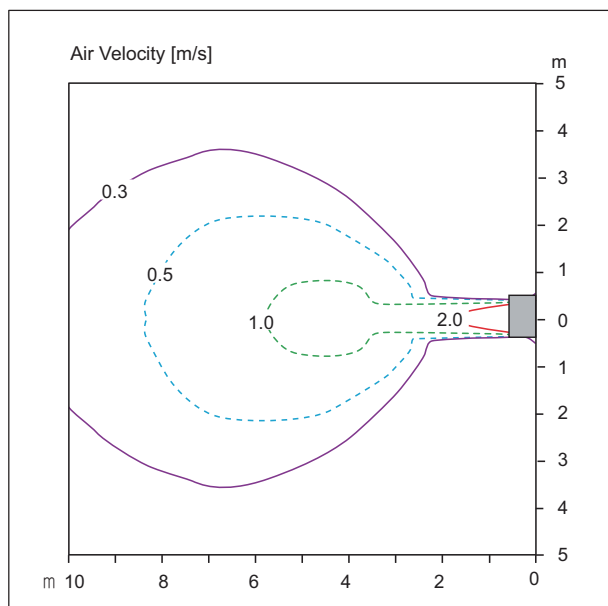
Discharge angle: 35°



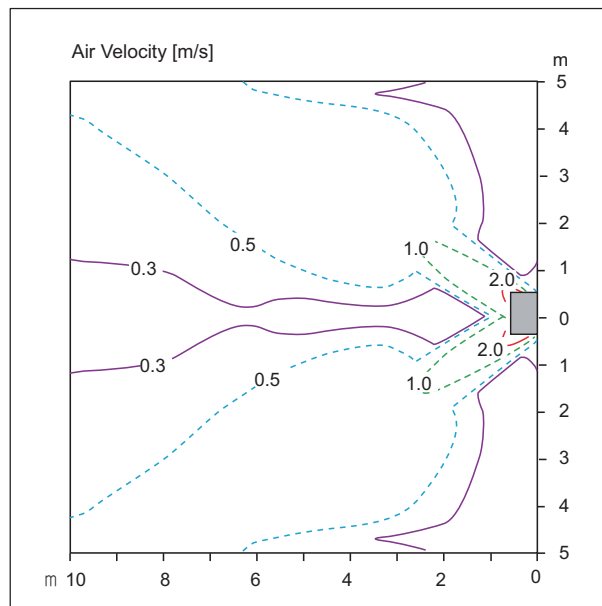
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 35°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 11.0m



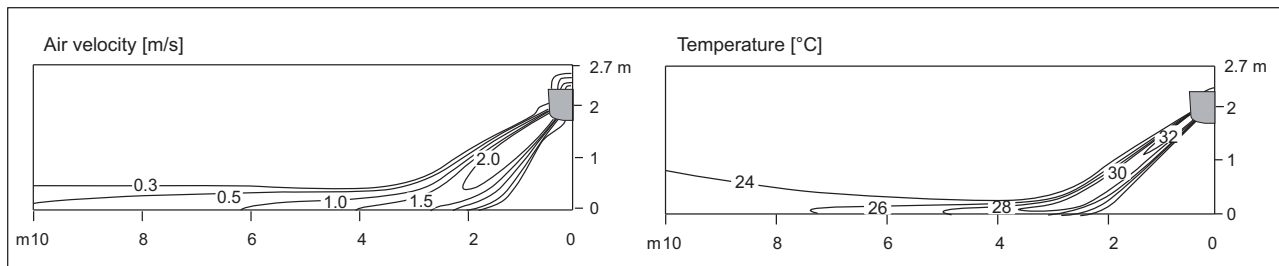
- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

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

### ◆ Heating

#### Side View

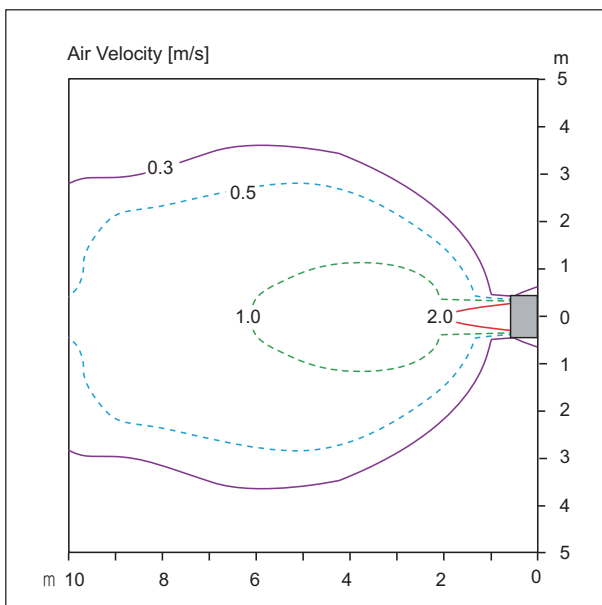
Discharge angle: 55°



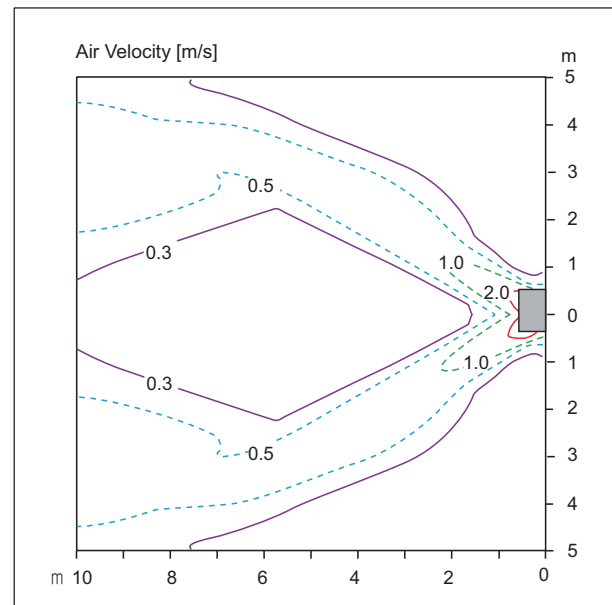
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 55°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 13.2m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

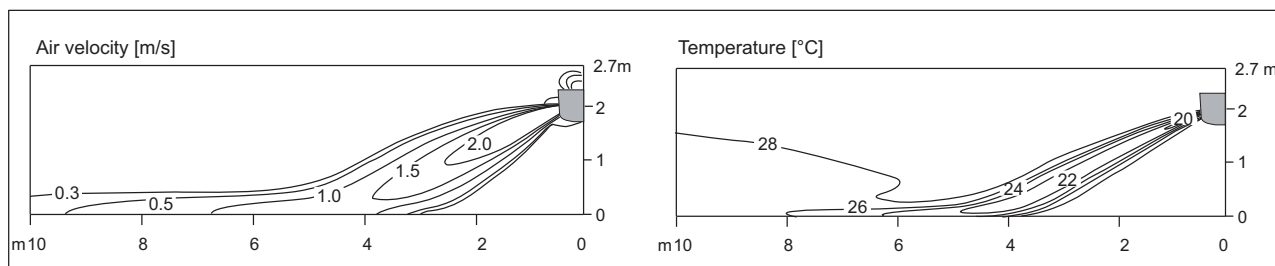
## 6. Air flow and temperature distributions (reference data)

■ **Models :** AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJA0 [PM07EP NSJ]  
 AMNW07GSJB0 [PM07SP NSJ], USNW09GJ3A0 [PM09EP NSJ]  
 USNW09GJ2F0 [PM09SP NSJ], USNW12GJ3A0 [PM12EP NSJ]  
 USNW12GJ2F0 [PM12SP NSJ], AMNW15GSJB0 [PM15SP NSJ]

### ◆ Cooling

#### Side View

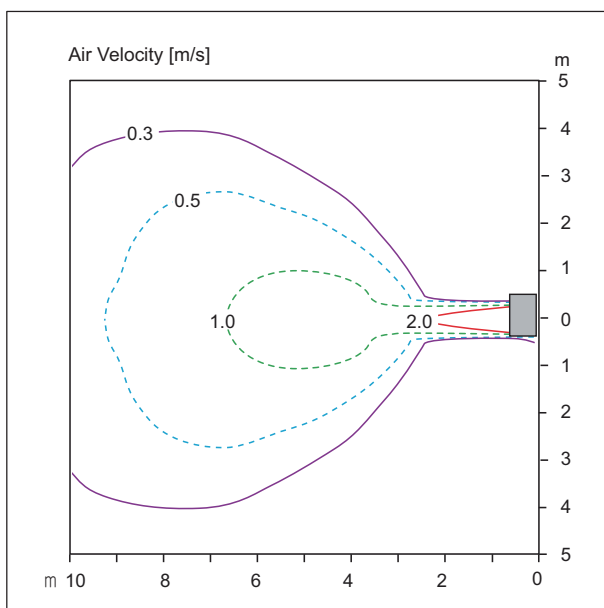
Discharge angle: 35°



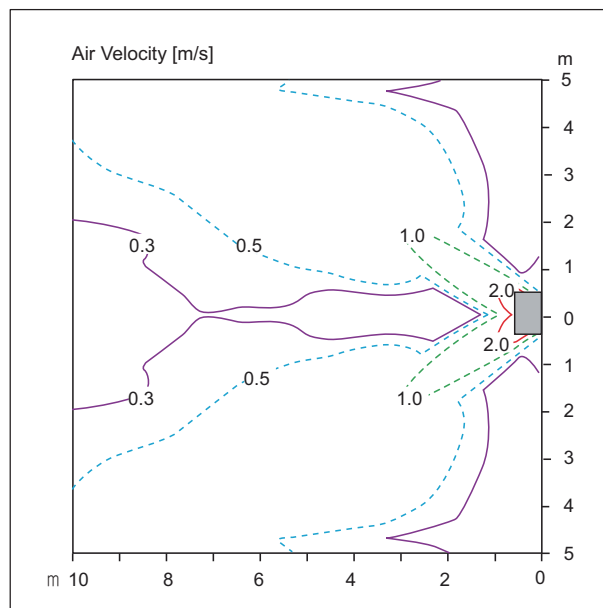
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 35°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 11.5m



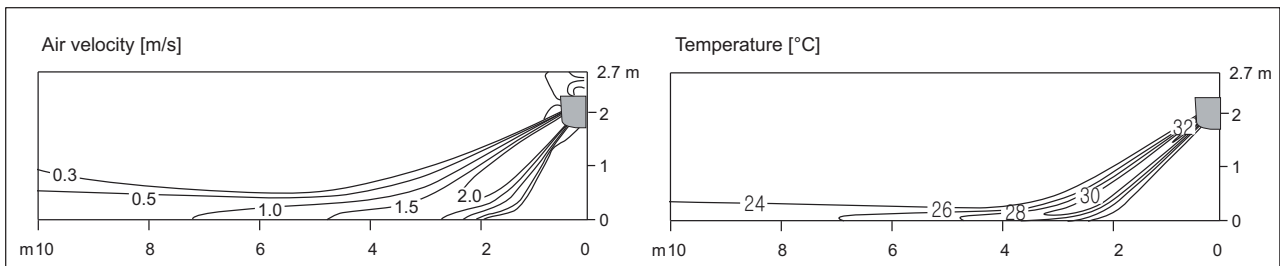
- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

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

### ◆ Heating

#### Side View

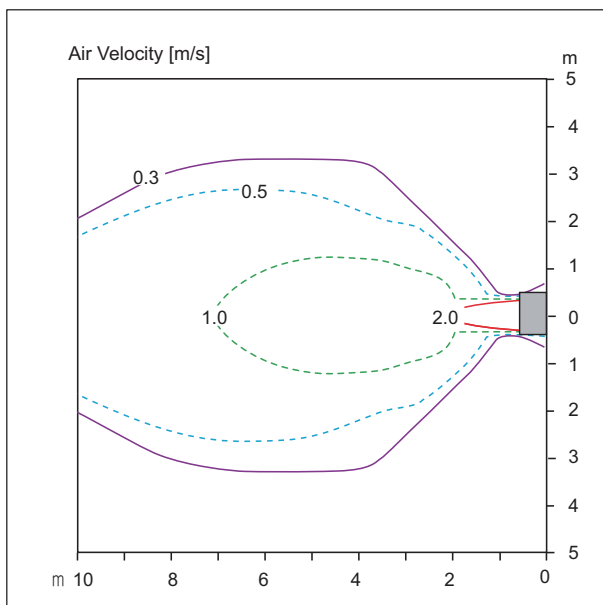
Discharge angle: 55°



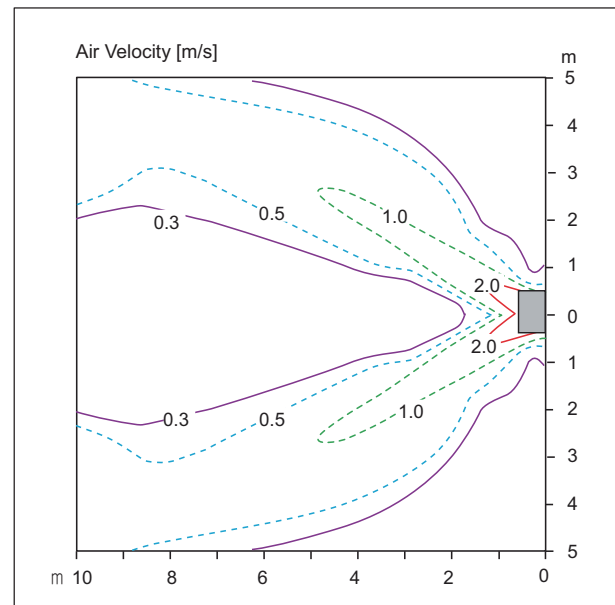
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 55°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 13.5m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

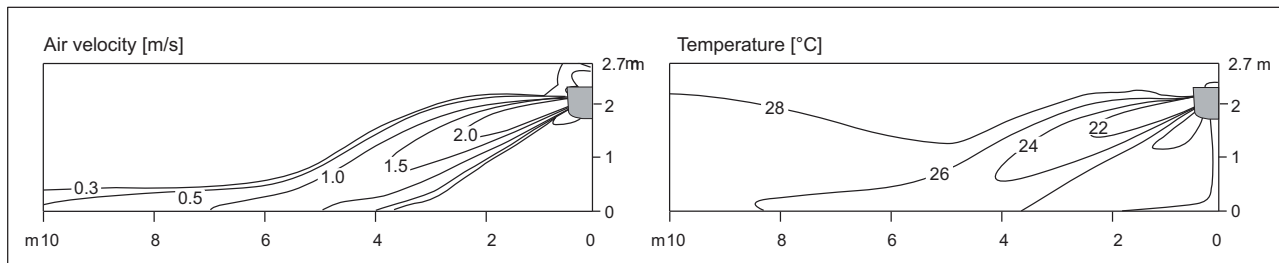
## 6. Air flow and temperature distributions (reference data)

■ Models : ASNW18GK1Z0 [DM18RP NSK], USNW18GK3A0 [PM18EP NSK]  
USNW18GK2F0 [PM18SP NSK]

### ◆ Cooling

#### Side View

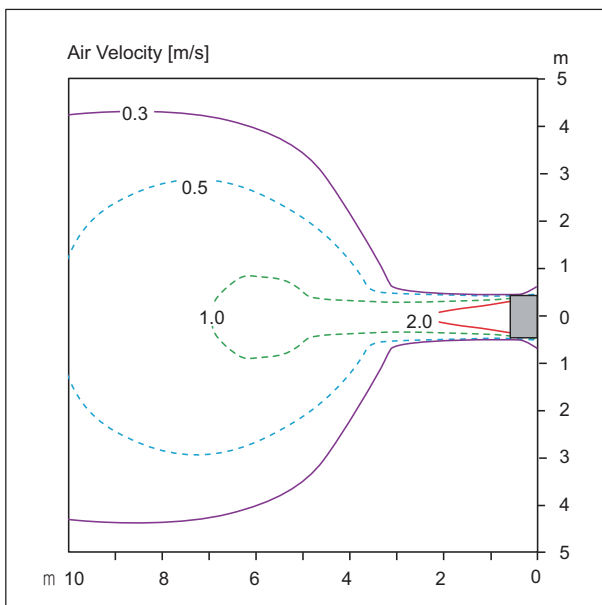
Discharge angle: 25°



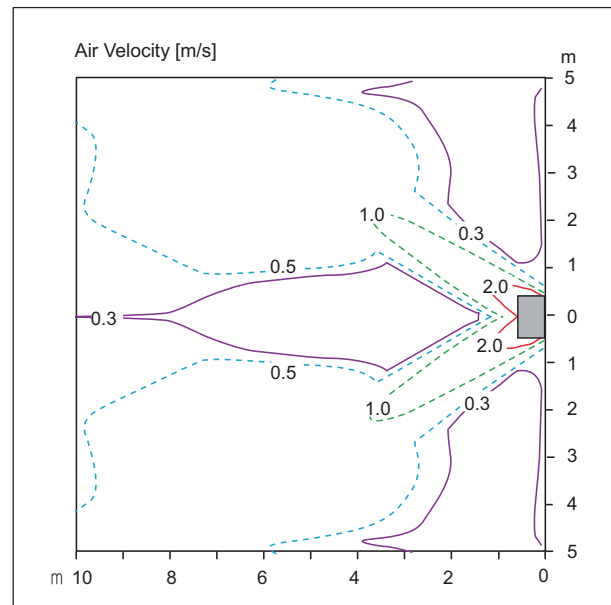
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 25°



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



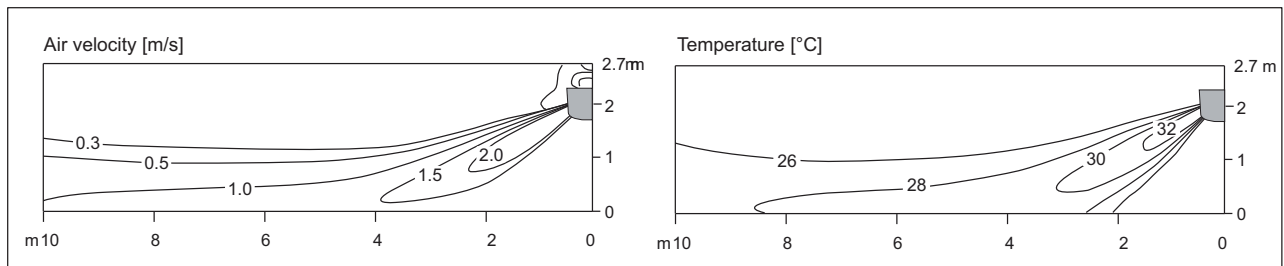
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

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

### ◆ Heating

#### Side View

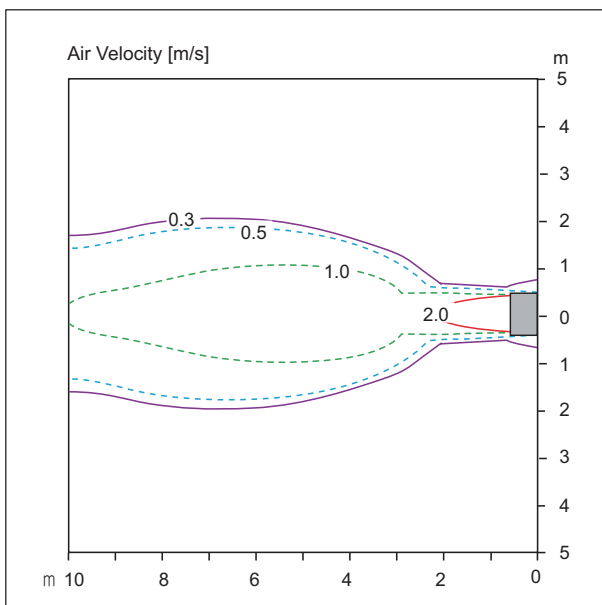
Discharge angle: 45°



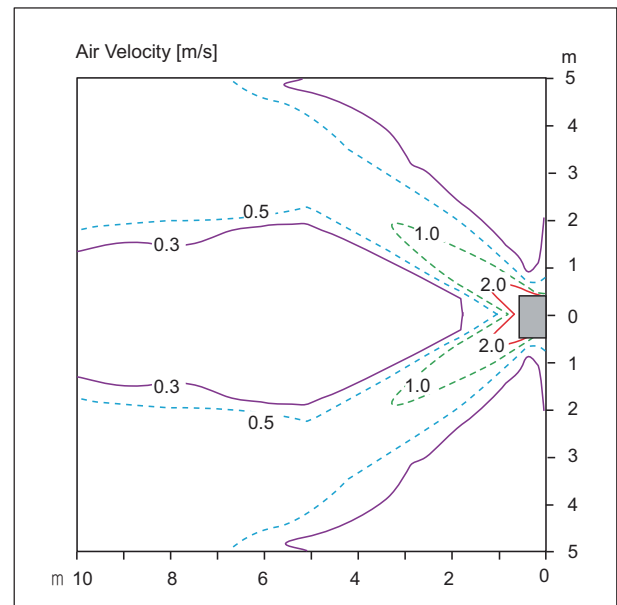
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 45°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 20.0m



- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power



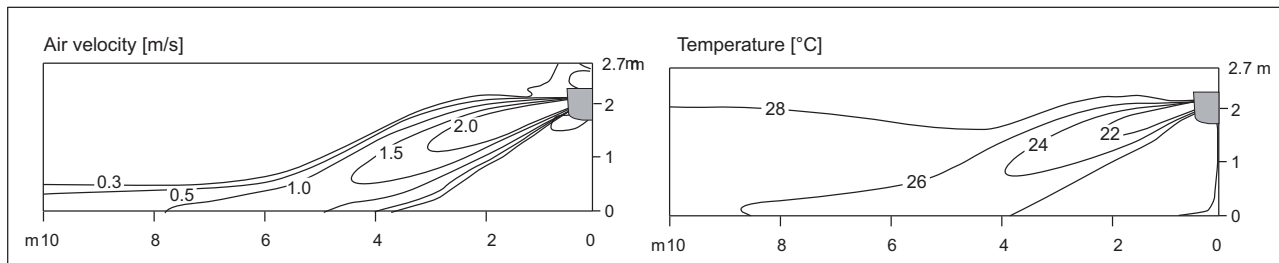
## 6. Air flow and temperature distributions (reference data)

■ Models : ASNW24GK1Z0 [DM24RP NSK], AMNW24GSKA0 [PM24EP NSK]  
USNW24GK2F0 [PM24SP NSK]

### ◆ Cooling

#### Side View

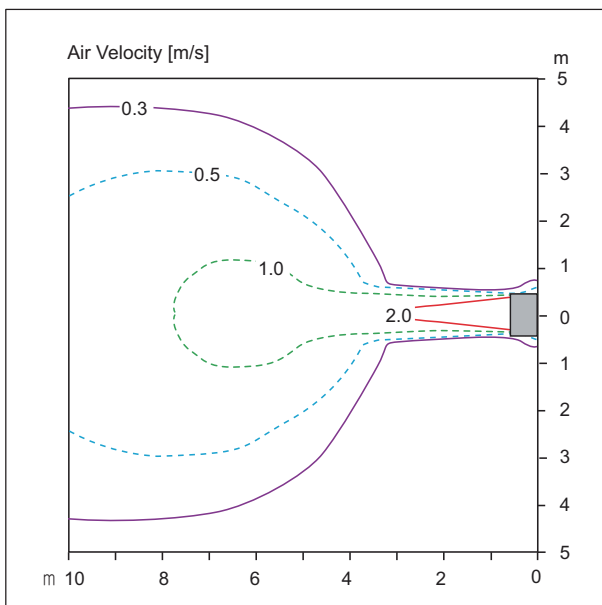
Discharge angle: 25°



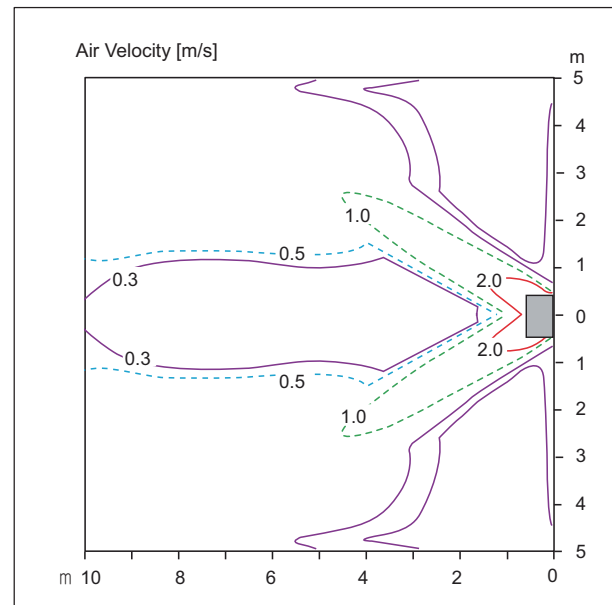
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 25°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 15.0m



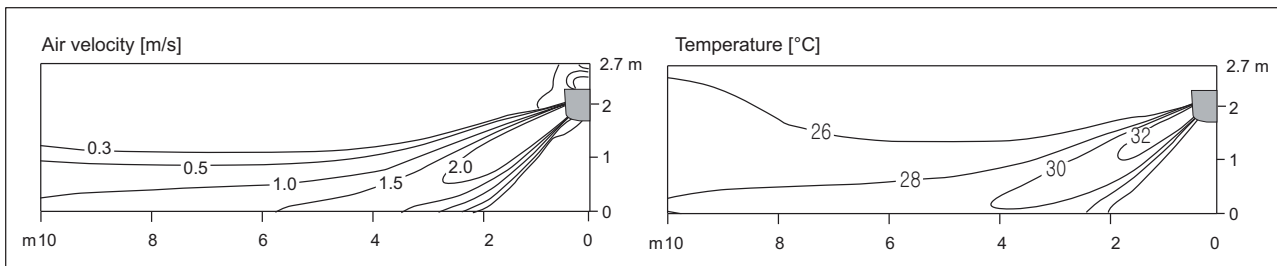
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

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

### ◆ Heating

#### Side View

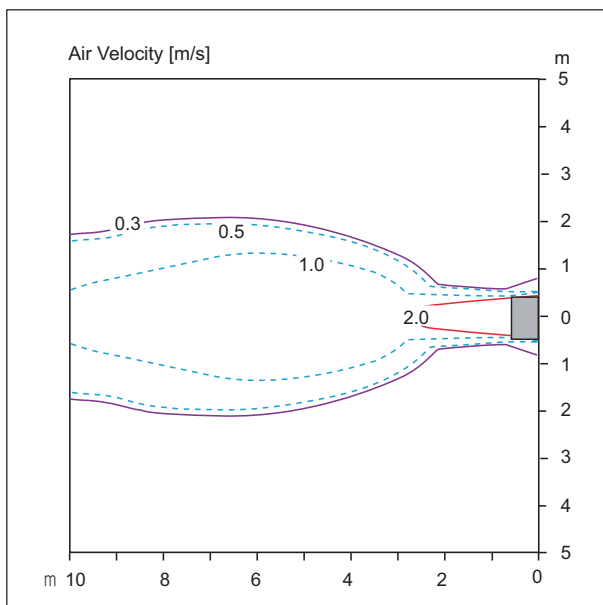
Discharge angle: 45°



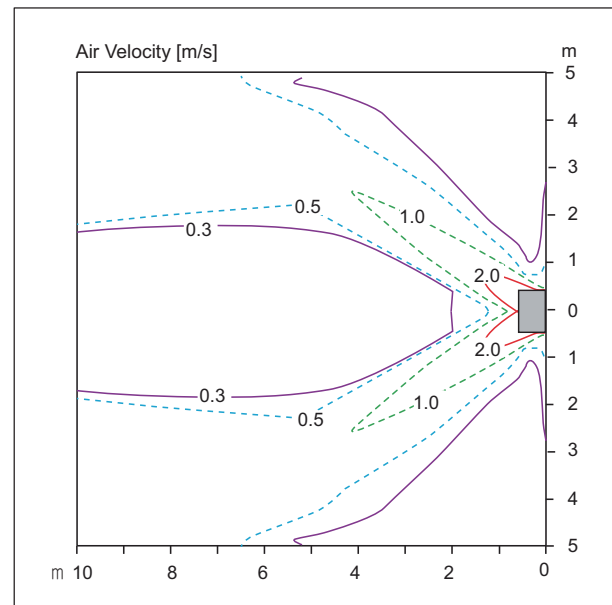
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 45°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 20.0m

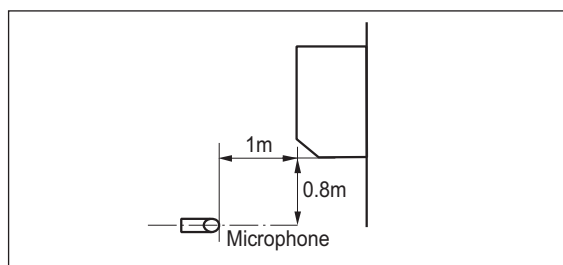


- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

## 7. Sound levels

### 7.1 Sound pressure level

#### ■ Overall



#### Note

1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic 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 is installed.

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

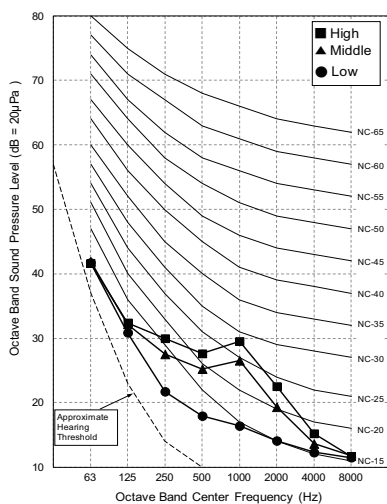
Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNW05GSJB0 [PM05SP NSJ]	34	31	27
AMNW07GSJB0 [PM07SP NSJ]	35	32	27
USNW09GJ2F0 [PM09SP NSJ]	36	33	27
USNW12GJ2F0 [PM12SP NSJ]	40	35	27
AMNW15GSJB0 [PM15SP NSJ]	41	36	39
USNW18GK2F0 [PM18SP NSK]	44	38	35
USNW24GK2F0 [PM24SP NSK]	46	41	36

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNW07GSJA0 [PM07EP NSJ]	35	32	27
USNW09GJ3A0 [PM09EP NSJ]	36	33	27
USNW12GJ3A0 [PM12EP NSJ]	40	35	27
USNW18GK3A0 [PM18EP NSK]	44	38	35
AMNW24GSKA0 [PM24EP NSK]	46	41	36

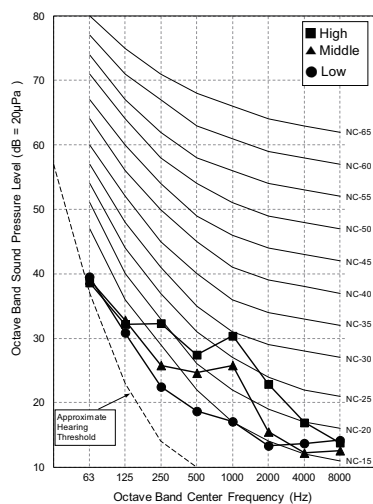
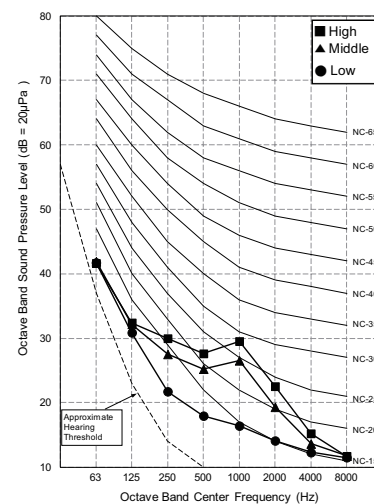
# 7. Sound levels

[Unit : mm (inch)]

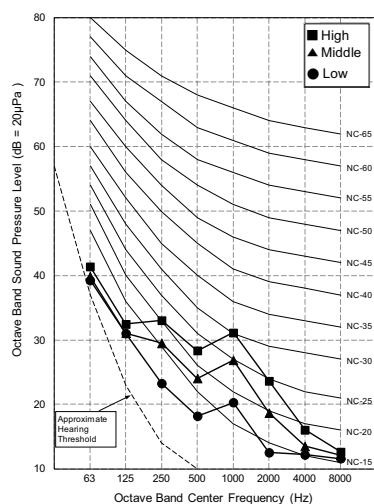
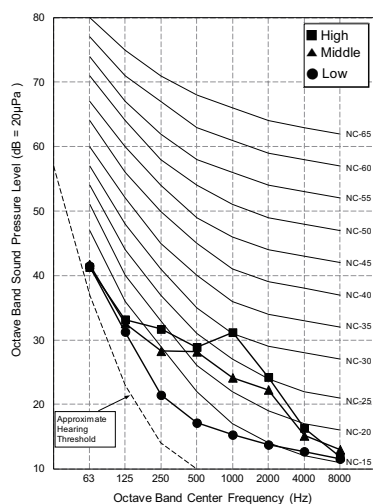
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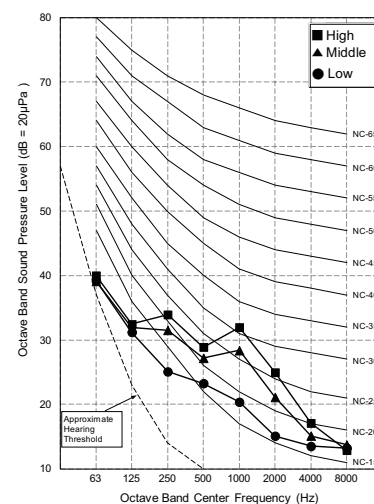
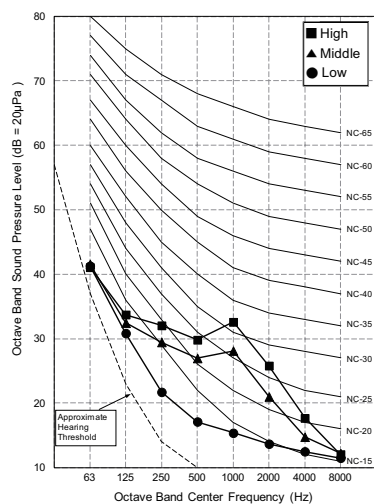
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AMNW07GSJB0 [PM07SP NSJ]  
AMNW07GSJA0 [PM07EP NSJ]

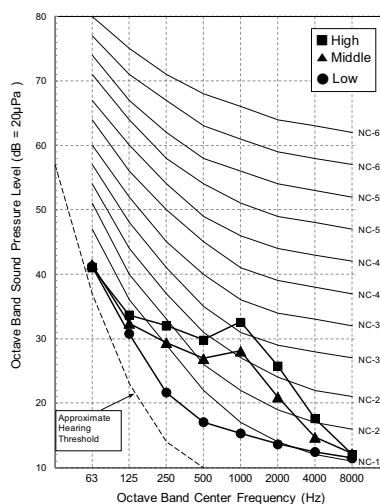
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USNW09GJ2F0 [PM09SP NSJ]  
USNW09GJ3A0 [PM09EP NSJ]

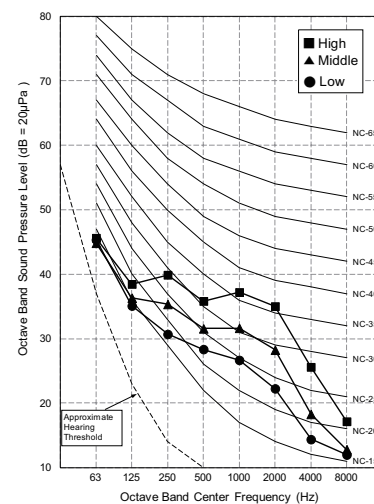
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USNW12GJ3A0 [PM12EP NSJ]

AMNW15GSJB0 [PM15SP NSJ]

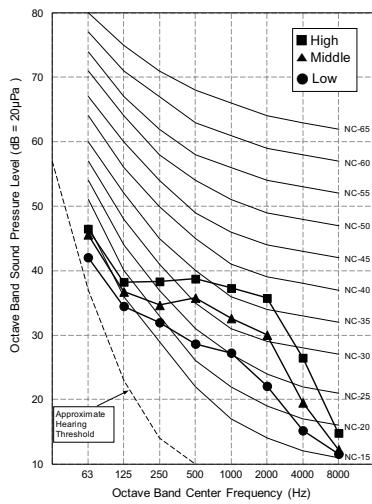


ASNW18GK1Z0 [DM18RP NSK]

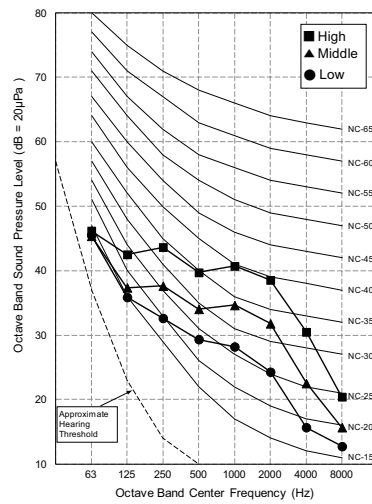


## 7. Sound levels

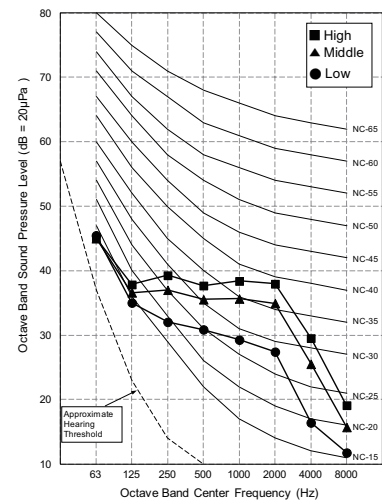
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USNW18GK3A0 [PM18EP NSK]



ASNW24GK1Z0 [DM24RP NSK]



USNW24GK2F0 [PM24SP NSK]  
AMNW24GSKA0 [PM24EP 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 is installed.
- Reference acoustic intensity 0dB =  $10E-6\mu W/m^2$

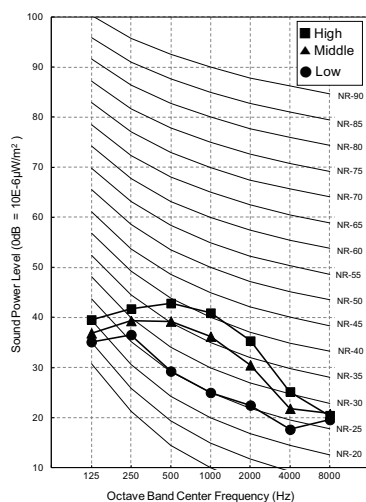
Model	Sound power Levels [dB(A)]
	H
AMNW07GSJL0 [DM07RP NSJ]	56
ASNW09GJ1Z0 [DM09RP NSJ]	56
ASNW12GJ1Z0 [DM12RP NSJ]	56
ASNW18GK1Z0 [DM18RP NSK]	60
ASNW24GK1Z0 [DM24RP NSK]	64

Model	Sound power Levels [dB(A)]
	H
AMNW05GSJB0 [PM05SP NSJ]	57
AMNW07GSJB0 [PM07SP NSJ]	57
USNW09GJ2F0 [PM09SP NSJ]	57
USNW12GJ2F0 [PM12SP NSJ]	57
AMNW15GSJB0 [PM15SP NSJ]	57
USNW18GK2F0 [PM18SP NSK]	59
USNW24GK2F0 [PM24SP NSK]	65

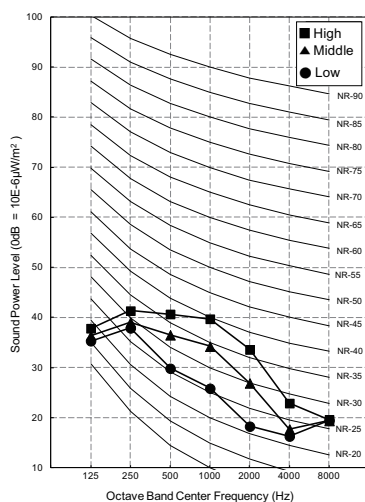
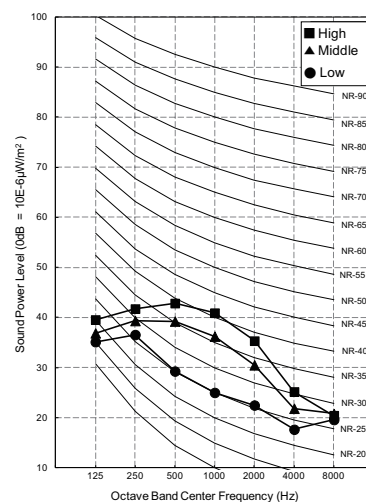
Model	Sound power Levels [dB(A)]
	H
AMNW07GSJA0 [PM07EP NSJ]	57
USNW09GJ3A0 [PM09EP NSJ]	57
USNW12GJ3A0 [PM12EP NSJ]	57
USNW18GK3A0 [PM18EP NSK]	59
AMNW24GSKA0 [PM24EP NSK]	65

# 7. Sound levels

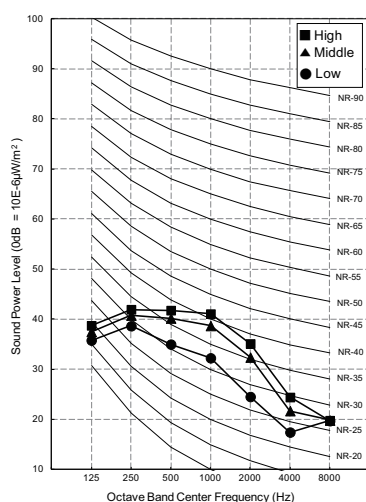
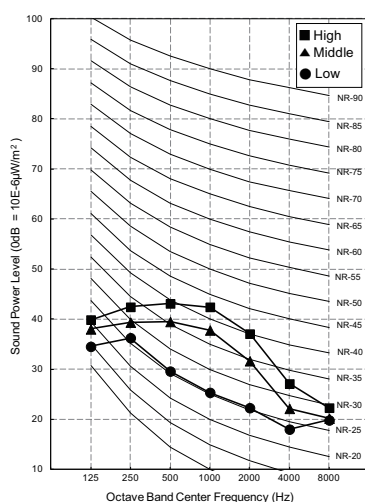
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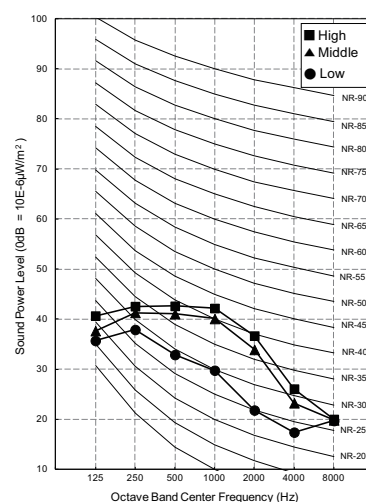
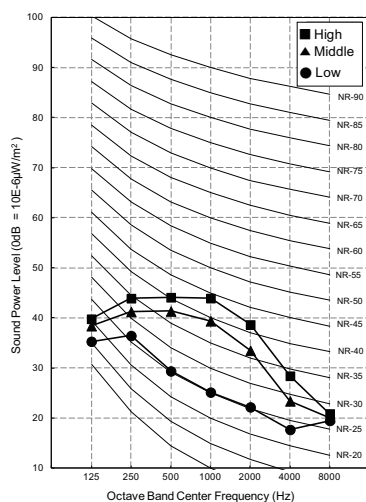
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AMNW07GSJB0 [PM07SP NSJ]  
AMNW07GSJA0 [PM07EP NSJ]

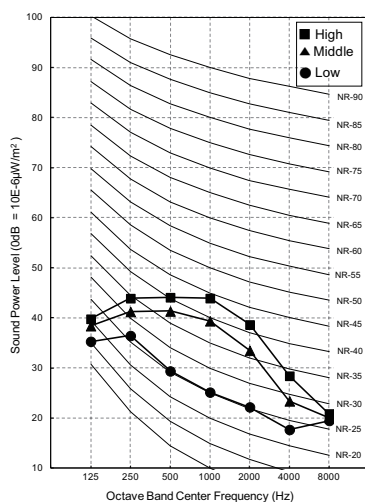
ASNW09GJ1Z0 [DM09RP NSJ]

USNW09GJ2F0 [PM09SP NSJ]  
USNW09GJ3A0 [PM09EP NSJ]

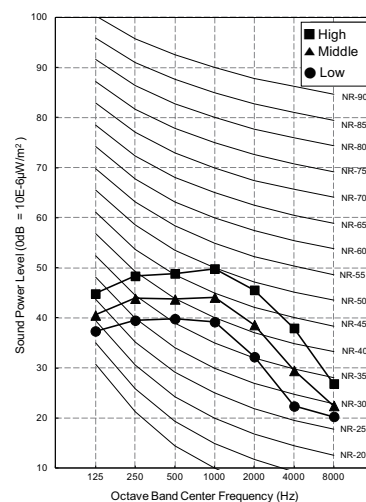
ASNW12GJ1Z0 [DM12RP NSJ]

USNW12GJ2F0 [PM12SP NSJ]  
USNW12GJ3A0 [PM12EP NSJ]

AMNW15GSJB0 [PM15SP NSJ]



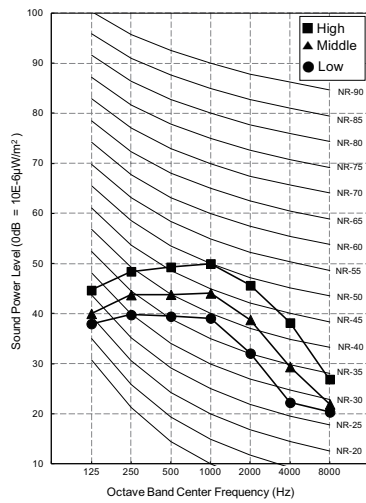
ASNW18GK1Z0 [DM18RP NSK]



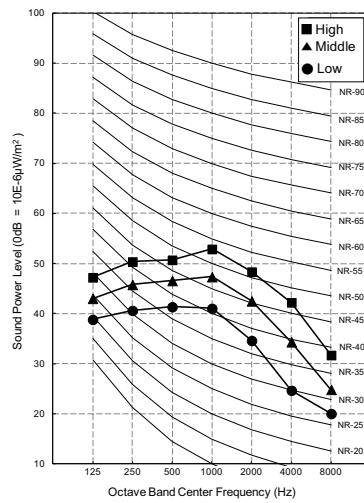
## 7. Sound levels

[Unit : mm (inch)]

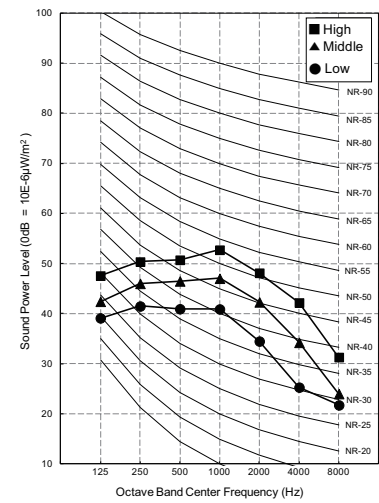
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USNW18GK3A0 [PM18EP NSK]



ASNW24GK1Z0 [DM24RP NSK]



USNW24GK2F0 [PM24SP NSK]  
AMNW24GSKA0 [PM24EP NSK]



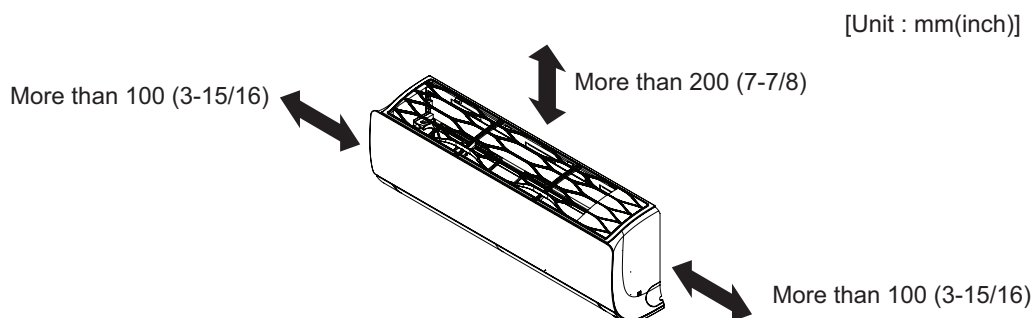


## 8. Installation

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

### 8.1 Selection of the best location

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



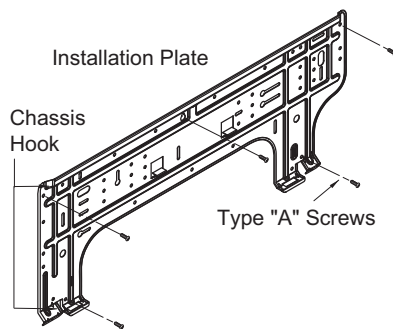
## 8. Installation

[Unit : mm (inch)]

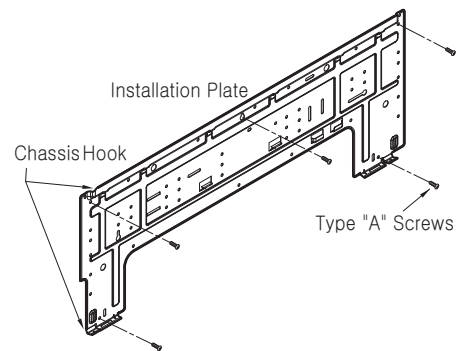
### ■ Fixing Installation Plate

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

SJ Chassis

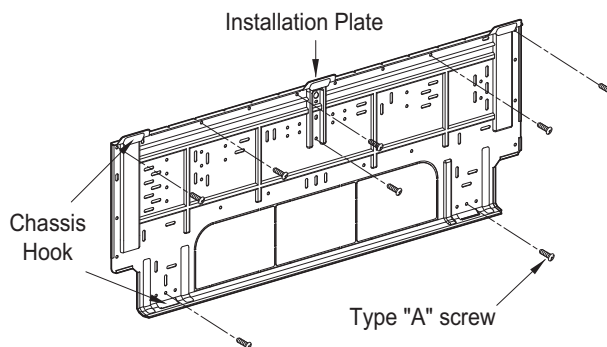


SK Chassis



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

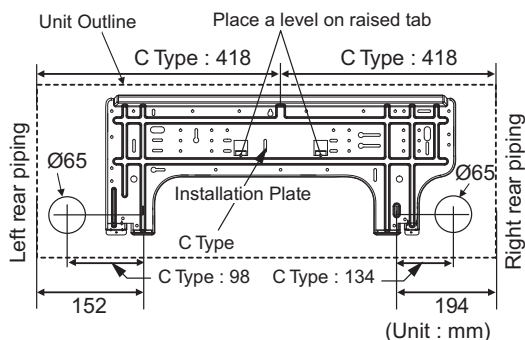
SV Chassis



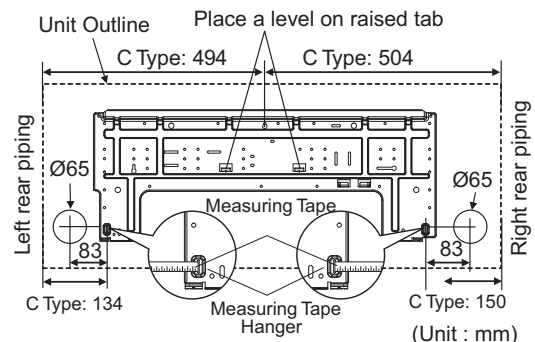
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

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

SJ chassis



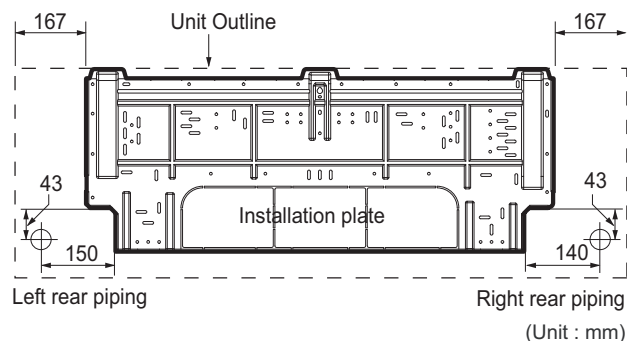
SK chassis



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

## 8. Installation

### SV chassis



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

### CAUTION

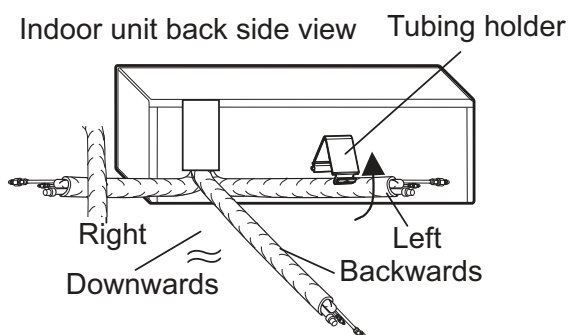
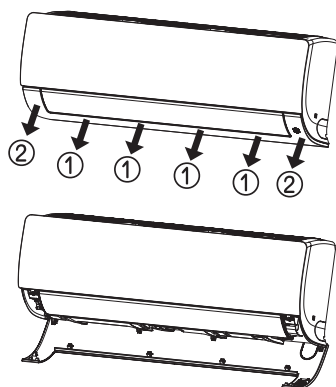
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

## 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 ①→②.
2. Remove the chassis cover from the unit.
3. Pull back the tubing holder.
4. Remove pipe port cover and positioning the tubing.



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

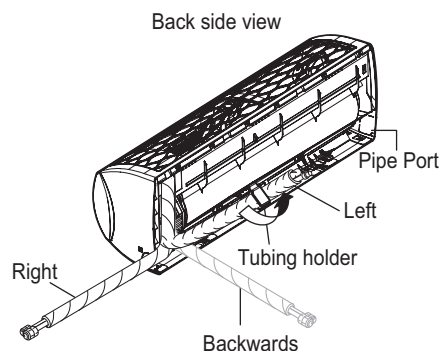
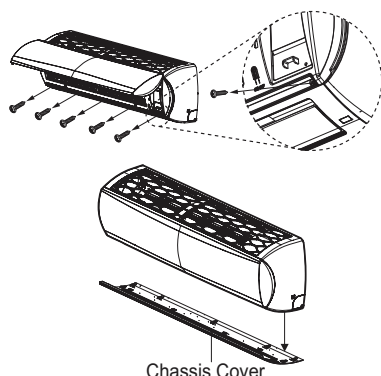
\* The feature can be changed according to type of model.

\* 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 loosening 5 screws.
3. Pull back the tubing holder.
4. Remove pipe port cover and position the piping.

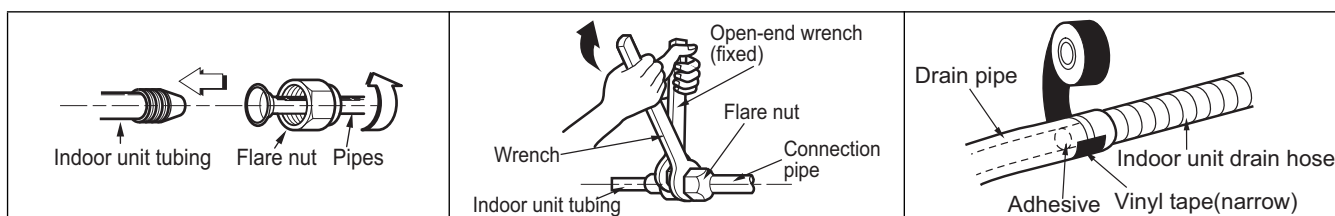
## 8. Installation



\* 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.

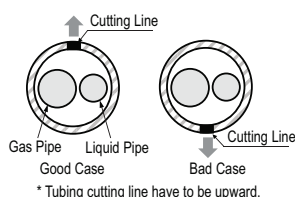
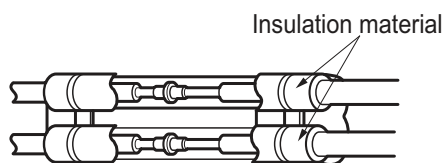
### ■ Connecting the installation pipe and drain hose



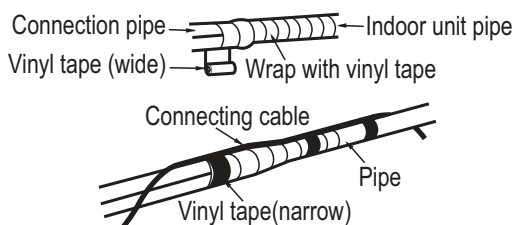
1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
2. Tighten the flare nut with a wrench.
3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

### ■ 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.



\* Tubing cutting line have to be upward.



### ⚠ CAUTION

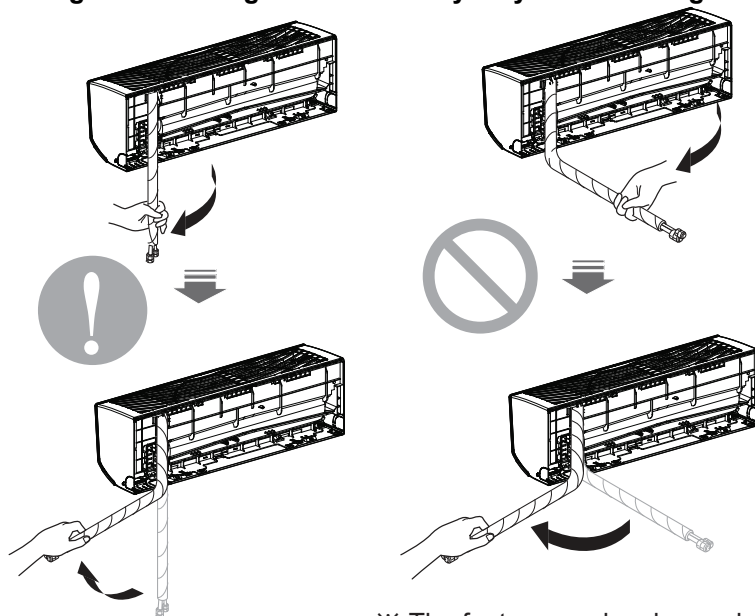
If the drain hose is routed inside the room insulate the hose with an insulation material\* so that dripping from sweating condensation) will not damage furniture or floors.

## 8. Installation

\* 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.



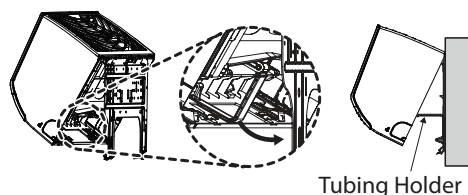
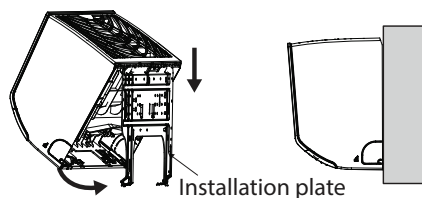
※ The feature can be changed according to type

- 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.

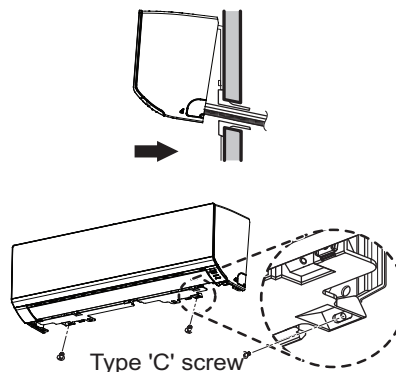


\* The feature can be changed according to type of model.

## 8. Installation

### 8.2.3 Finishing the indoor unit installation

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



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

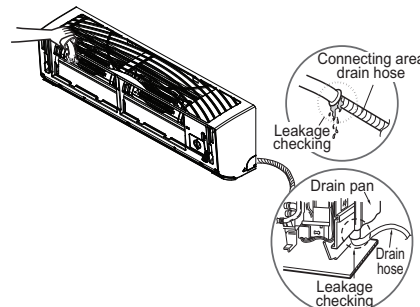
#### **CAUTION**

- 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.

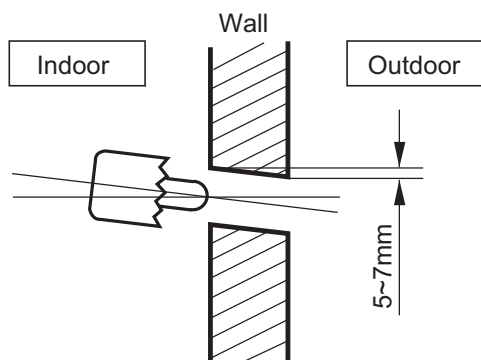


\* The feature can be changed according to type of model.

## 8. Installation

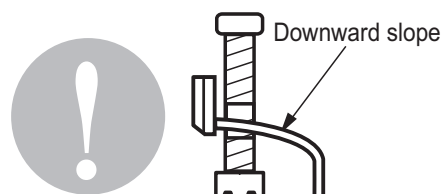
### ◆ Drill a Hole in the wall

1. Drill the piping hole with a  $\varnothing 70\text{mm}$  hole core drill.  
Drill the piping hole at either the right or the left with the holes slightly slanted to the outdoor side.

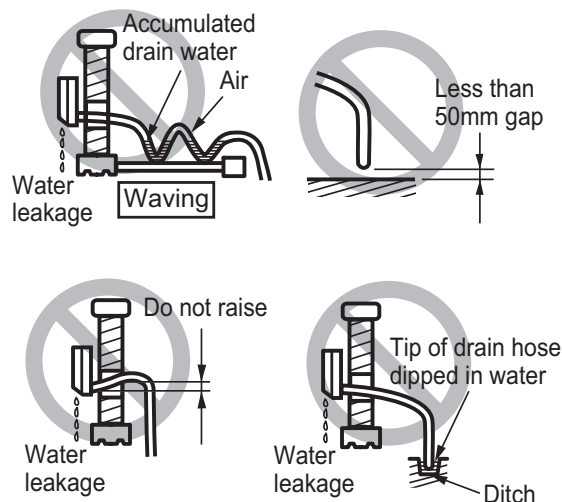


### ◆ Drain Piping

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.

## 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.

### ⚠ CAUTION

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

## 8. Installation

- 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 and visually 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.

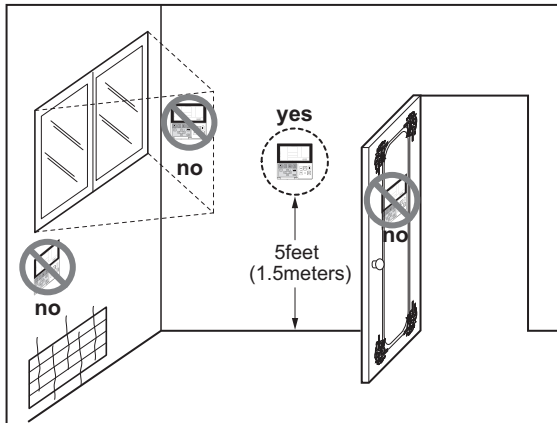
### 8.3.4 Wired Remote Controller Installation (Optional)

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.



## 8. Installation

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

## **Wall Mounted Unit (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**

# 1. List of functions

## ■ Deluxe

### ◆ Basic functions of Indoor Unit

Category	Functions	S3NM09JL1ZA [DC09RQ NSJ], S3NM12JL1ZA [DC12RQ NSJ] S3NM18KL1ZA [DC18RQ NSK]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	O (5 Steps)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	6 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	O
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O
	Humidity Control	X
Comes with product	Wireless Remote Controller	O**
	Wired Remote Controller	X
Network Solution(LGAP)		O

#### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	S3NM09JL1ZA [DC09RQ NSJ] S3NM12JL1ZA [DC12RQ NSJ] S3NM18KL1ZA [DC18RQ NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	X

### Note

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

# 1. List of functions

## ■ Standard plus

### ◆ Basic functions of Indoor Unit

Category	Functions	S3NM09JA2FA [PC09SQ NSJ], S3NM12JA2FA [PC12SQ NSJ] S3NM18KL2FA [PC18SQ NSK]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	O (5 Steps)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	6 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O
	Humidity Control	X
Comes with product	Wireless Remote Controller	O**
	Wired Remote Controller	X
Network Solution(LGAP)		O

#### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	S3NM09JA2FA [PC09SQ NSJ] S3NM12JA2FA [PC12SQ NSJ] S3NM18KL2FA [PC18SQ NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	X

### Note

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

# 1. List of functions

## ■ Standard

### ◆ Basic functions of Indoor Unit

Category	Functions	S3NM09JA3BA [SC09EQ NSJ], S3NM12JA3BA [SC12EQ NSJ] S3NM18KL3BA [SC18EQ NSK]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	O (5 Steps)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	6 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	O
	Timer(weekly)*	X
	Two thermistor control*	X
	Auto Elevation Grille	X
Special Functions	Wi-Fi	X
	Humidity Control	X
Comes with product	Wireless Remote Controller	O**
	Wired Remote Controller	X
Network Solution(LGAP)		X

#### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. 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

## ◆ Network solution Accessory List

Category		Product	Remark	S3NM09JA3BA [SC09EQ NSJ], S3NM12JA3BA [SC12EQ NSJ] S3NM18KL3BA [SC18EQ NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	X
		PQRCHCA0Q(W)	for Hotel	X
	Standard	PREMTB001	Standard (White)	X
		PREMTBB01	Standard (Black)	X
		PREMTB100**	New Standard (White)	X
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	X
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	X
		PDRYCB300	-	X
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	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

### Note

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



## 2. Specifications

### ■ Deluxe

Model Name				S3NM09JL1ZA [DC09RQ NSJ]	S3NM12JL1ZA [DC12RQ NSJ]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling		kW	2.5	3.5
	Heating		kW	3.2	4.0
Power Input	Min./Nom./Max.		W	9 / 18 / 30	9 / 19 / 30
Running Current	Min./Nom./Max.		A	0.12 / 0.16 / 0.20	0.12 / 0.17 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	892 x 381 x 249	892 x 381 x 249
		W x H x D	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)
	Shipping		kg (lbs)	11.6 (25.6)	11.6 (25.6)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 23 x 22) x 1	(2 x 23 x 22) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.20 (2.15)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	7.7 / 6.4 / 5.0	8.1 / 6.7 / 5.3
		H / M / L	ft <sup>3</sup> /min	272 / 226 / 177	286 / 237 / 187
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	30 x 1	30 x 1
Sound Pressure Level		H / M / L	dB(A)	36 / 32 / 27	38 / 34 / 29
Sound Power Level		Max.	dB(A)	56	56
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	21.5 / 16.0	21.5 / 16.0
Safety Devices			-	Fuse	Fuse
			-	Thermal Preotector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"><li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li><li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li><li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li></ul>					

## 2. Specifications

Model Name				S3NM18KL1ZA [DC18RQ NSK]
Power Supply			V, Ø, Hz	220-240, 1, 50
				220, 1, 60
Capacity	Cooling		kW	5.0
	Heating		kW	5.8
Power Input	Min./Nom./Max.		W	26 / 39 / 60
Running Current	Min./Nom./Max.		A	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,063 x 420 x 274
		W x H x D	inch	41-27/32 x 16-17/32 x 10-25/32
Weight	Body		kg (lbs)	12.0 (26.5)
	Shipping		kg (lbs)	15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 20) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
Fan	Type		-	Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	14.2 / 11.3 / 9.9
		H / M / L	ft <sup>3</sup> /min	501 / 399 / 350
Fan Motor	Type		-	BLDC
	Output		W x No.	60 x 1
Sound Pressure Level		H / M / L	dB(A)	44 / 38 / 35
Sound Power Level		Max.	dB(A)	60
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	21.5 / 16.0
Safety Devices			-	Fuse
			-	Thermal Protector for Fan Motor
Connections Method			-	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"> <li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li> <li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li> <li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li> </ul>				

## 2. Specifications

### ■ Standard plus

Model Name				S3NM09JA2FA [PC09SQ NSJ]	S3NM12JA2FA [PC12SQ NSJ]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling		kW	2.5	3.5
	Heating		kW	3.2	3.8
Power Input	Min./Nom./Max.		W	11 / 18 / 30	11 / 19 / 30
Running Current	Min./Nom./Max.		A	0.10 / 0.16 / 0.20	0.10 / 0.17 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	909 x 383 x 256	909 x 383 x 256
		W x H x D	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)
	Shipping		kg (lbs)	11.6 (25.6)	11.6 (25.6)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(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)
Fan	Type		-	Cross Flow Fan	Cross Flow 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	Type		-	BLDC	BLDC
	Output		W x No.	30 x 1	30 x 1
Sound Pressure Level		H / M / L	dB(A)	36 / 33 / 27	40 / 35 / 27
Sound Power Level		Max.	dB(A)	57	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	21.5 / 16.0	21.5 / 16.0
Safety Devices			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"><li>• Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li><li>• Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li><li>• Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li></ul>					

## 2. Specifications

Model Name				S3NM18KL2FA [PC18SQ NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		5.0
	Heating	kW		5.8
Power Input	Min./Nom./Max.	W		26 / 39 / 60
Running Current	Min./Nom./Max.	A		0.22 / 0.28 / 0.40
Casing Color		-		Munsell 7.5BG 10/2 (RAL 9016)
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,080 x 422 x 281
		W x H x D	inch	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		12.0 (26.5)
	Shipping	kg (lbs)		15.4 (34.0)
Heat Exchanger	(Row x Column x Fins per inch) x No.	-		(2 x 16 x 20) x 1
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.28 (3.01)
Fan	Type	-		Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	14.2 / 11.3 / 9.9
		H / M / L	ft <sup>3</sup> /min	501 / 399 / 350
Fan Motor	Type	-		BLDC
	Output	W x No.		60 x 1
Sound Pressure Level	H / M / L	dB(A)		44 / 38 / 35
Sound Power Level	Max.	dB(A)		60
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	21.5 / 16.0
Safety Devices		-		Fuse
		-		Thermal Protector for Fan Motor
Connections Method		-		Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		4C x 1.0 (18)

### 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 : 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

### ■ Standard

Model Name				S3NM09JA3BA [SC09EQ NSJ]	S3NM12JA3BA [SC12EQ NSJ]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling		kW	2.5	3.5
	Heating		kW	3.2	3.8
Power Input	Min./Nom./Max.		W x No.	11 / 18 / 30	11 / 19 / 30
Running Current	Min./Nom./Max.		A	0.10 / 0.16 / 0.20	0.10 / 0.17 / 0.20
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)	
Dimensions	Body	W x H x D	mm	837 × 308 × 189	837 × 308 × 189
		W x H x D	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
	Shipping	W x H x D	mm	909 x 383 x 256	909 x 383 x 256
		W x H x D	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)
	Shipping		kg (lbs)	11.6 (25.6)	11.6 (25.6)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(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)
Fan	Type		-	Cross Flow Fan	Cross Flow 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	Type		-	BLDC	BLDC
	Output		W x No.	30 x 1	30 x 1
Sound Pressure Level		H / M / L	dB(A)	36 / 33 / 27	40 / 35 / 27
Sound Power Level		Max.	dB(A)	57	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	21.5 / 16.0	21.5 / 16.0
Safety Devices			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 1.0 (18)	4C x 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"> <li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li> <li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li> <li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li> </ul>					

## 2. Specifications

Model Name				S3NM18KL3BA [SC18EQ NSK]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		5
	Heating	kW		5.8
Power Input	Min./Nom./Max.	W x No.		26 / 39 / 60
Running Current	Min./Nom./Max.	A		0.22 / 0.28 / 0.40
Casing Color		-		Munsell 7.5BG 10/2 (RAL 9016)
Dimensions	Body	W x H x D	mm	998 x 345 x 210
		W x H x D	inch	39-9/32 x 13-19/32 x 8-9/32
	Shipping	W x H x D	mm	1,080 x 422 x 281
		W x H x D	inch	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	kg (lbs)		12.0 (26.5)
	Shipping	kg (lbs)		15.4 (34.0)
Heat Exchanger	(Row x Column x Fins per inch) x No.	-		(2 x 16 x 20) x 1
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.28 (3.01)
Fan	Type	-		Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	14.2 / 11.3 / 9.9
		H / M / L	ft <sup>3</sup> /min	501 / 399 / 350
Fan Motor	Type	-		BLDC
	Output	W x No.		60 x 1
Sound Pressure Level	H / M / L	dB(A)		44 / 38 / 35
Sound Power Level	Max.	dB(A)		60
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	21.5 / 16.0
Safety Devices		-		Fuse
		-		Thermal Protector for Fan Motor
Connections Method		-		Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		4C x 1.0 (18)

### 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 : 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.

### ◆ Deluxe (SJ Chassis)

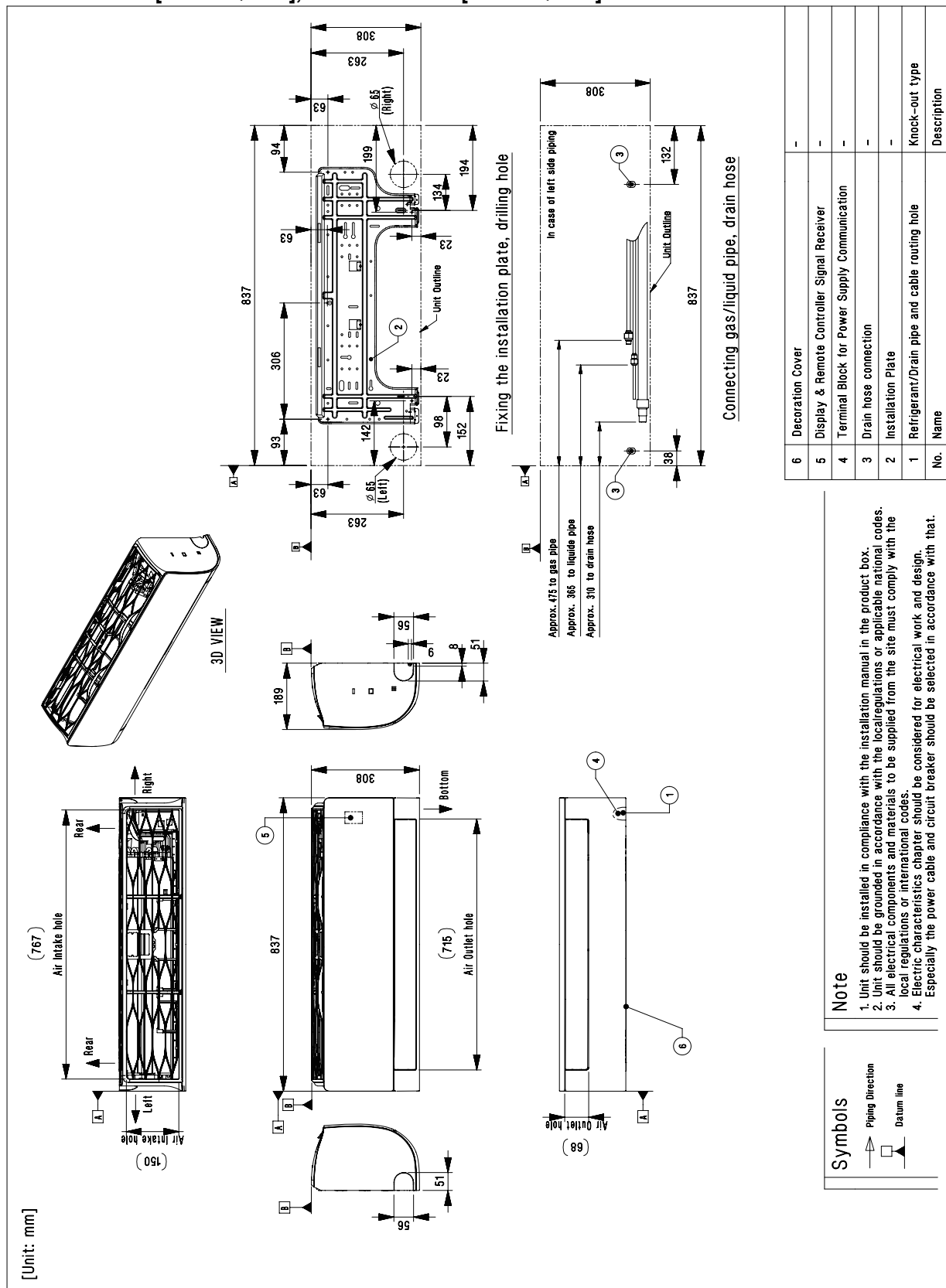
**S3NW09JL1ZA [DC09RQ NSJ], S3NM12JL1ZA [DC12RQ NSJ]**



### ◆ Standard Plus / Standard (SJ Chassis)

**S3NM09JA2FA [PC09SQ NSJ], S3NM12JA2FA [PC12SQ NSJ]**

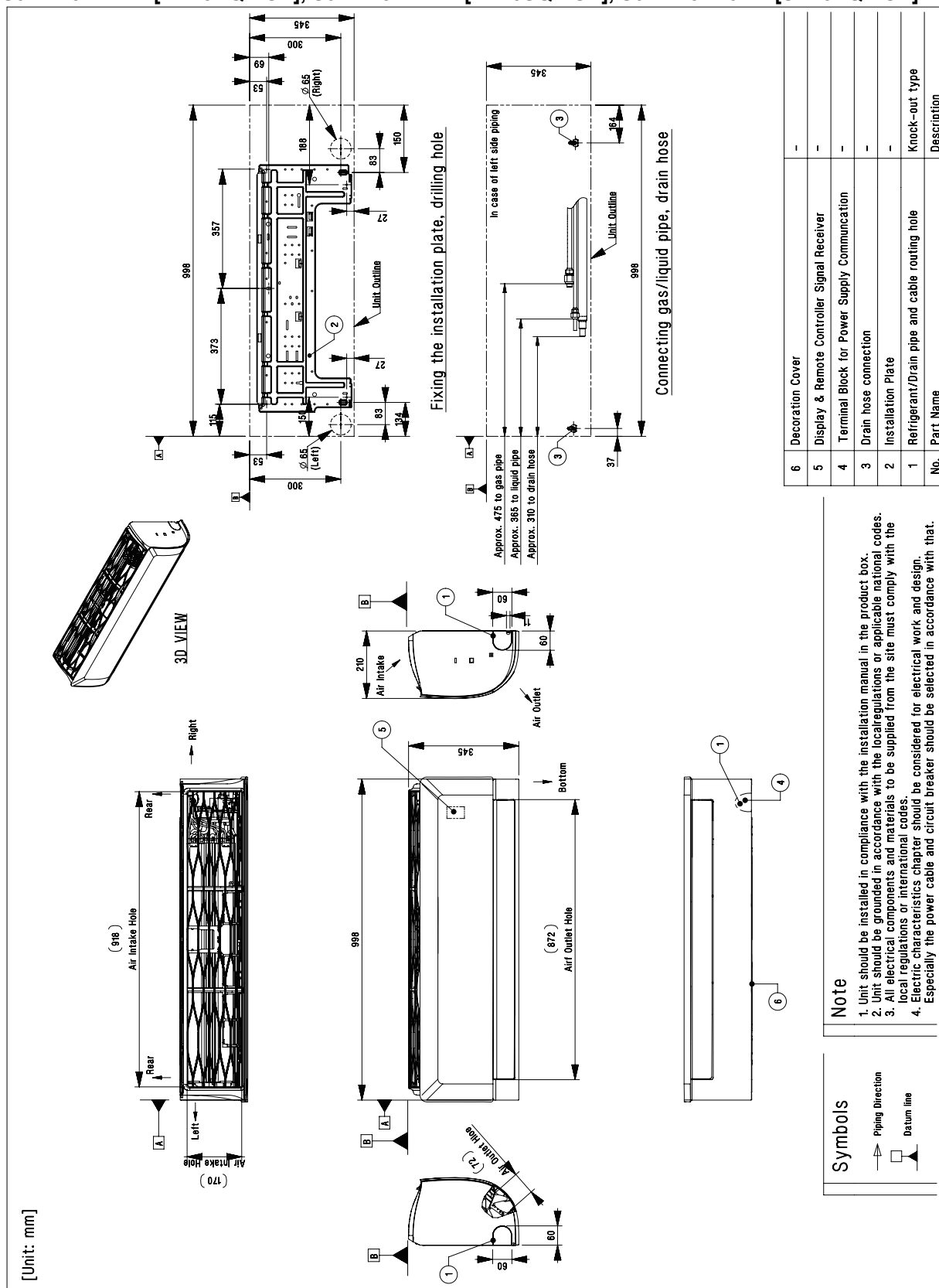
**S3NM09JA3BA [SC09EQ NSJ], S3NM12JA3BA [SC12EQ NSJ]**





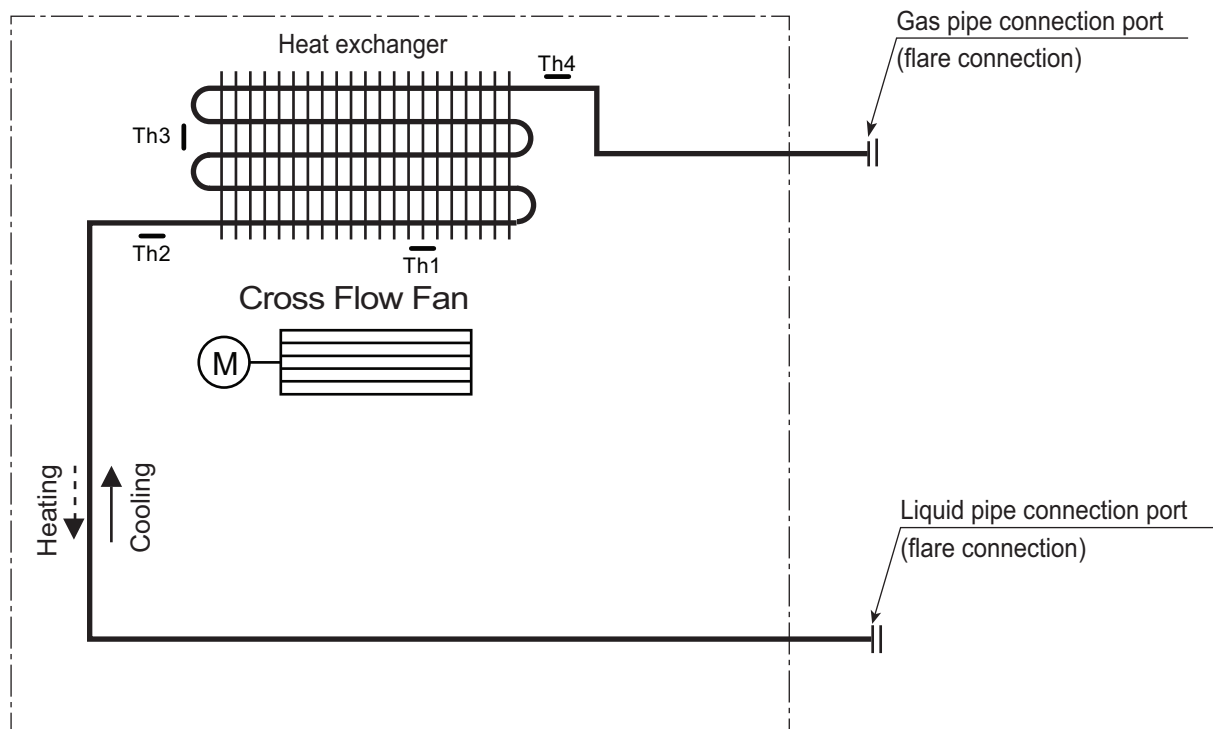
◆ **Deluxe / Standard Plus / Standard (SK Chassis)**

**S3NM18KL1ZA [DC18RQ NSK], S3NM18KL2FA [PC18SQ NSK], S3NM18KL3BA [SC18EQ 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

### ◆ Refrigerant pipe connection port diameters

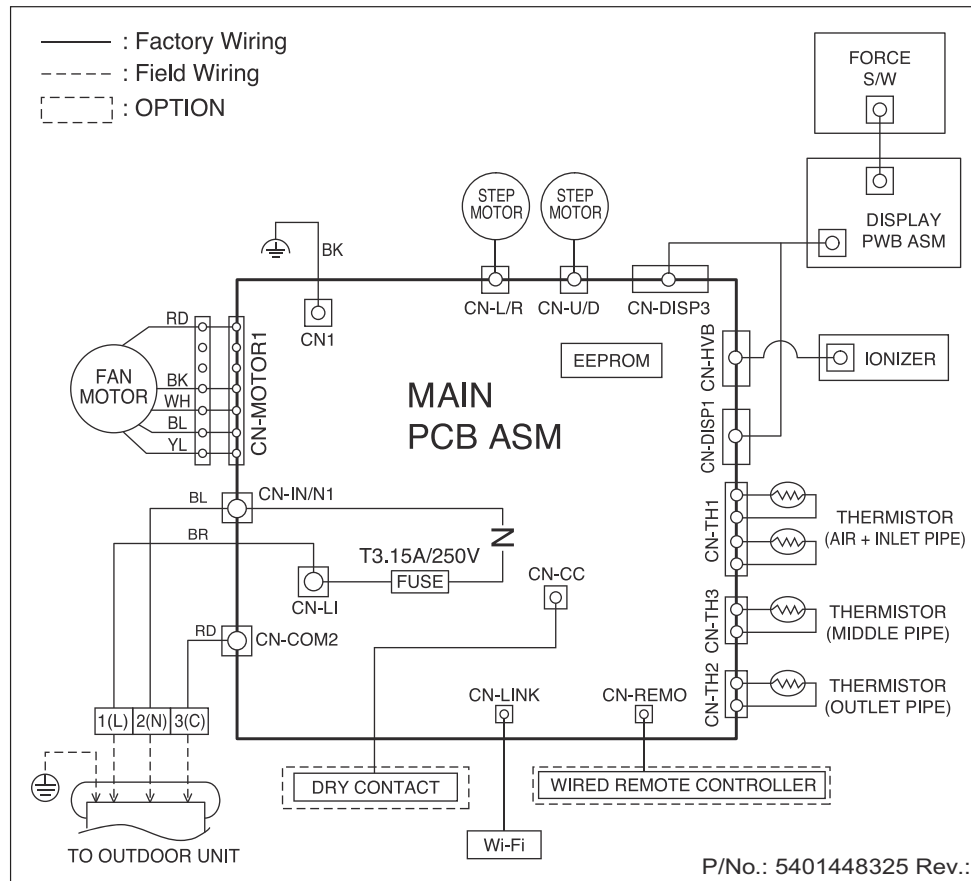
[Unit : mm (inch)]

Model	Gas	Liquid
S3NM09JL1ZA [DC09RQ NSJ] S3NM12JL1ZA [DC12RQ NSJ] S3NM09JA2FA [PC09SQ NSJ] S3NM12JA2FA [PC12SQ NSJ] S3NM09JA3BA [SC09EQ NSJ] S3NM12JA3BA [SC12EQ NSJ]	Ø9.52 (3/8)	Ø6.35 (1/4)
S3NM18KL1ZA [DC18RQ NSK] S3NM18KL2FA [PC18SQ NSK] S3NM18KL3BA [SC18EQ NSK]	Ø12.7 (1/2)	

## 5. Wiring Diagrams

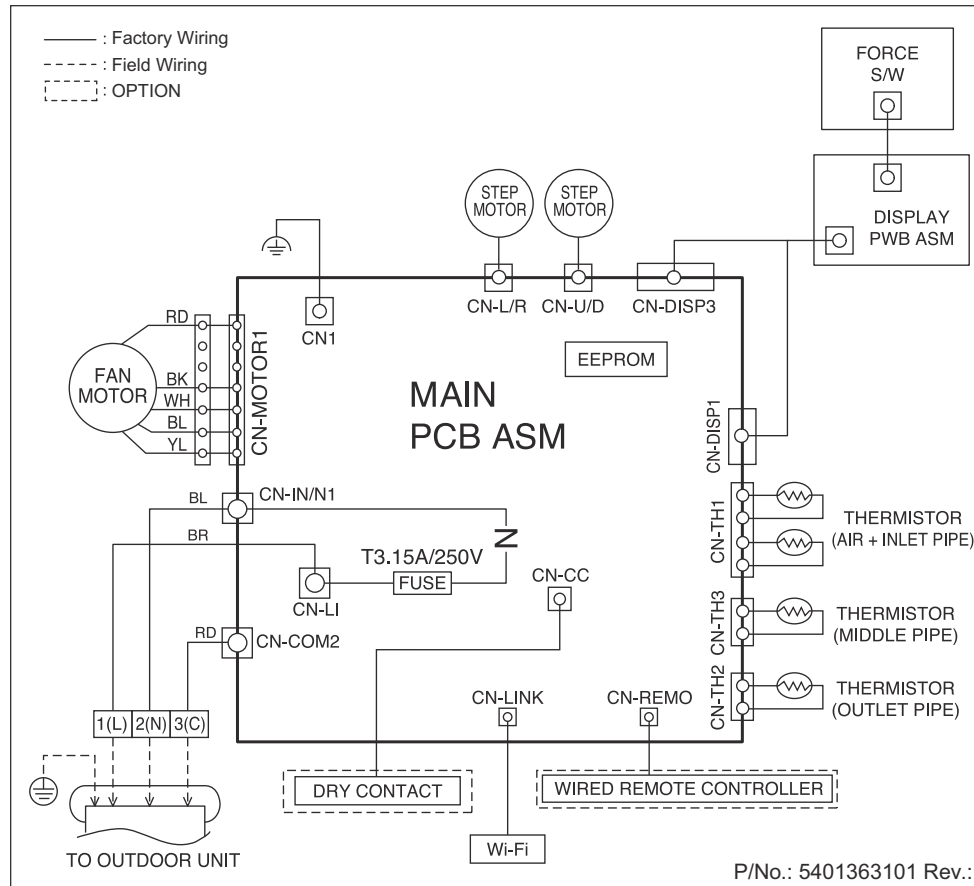
### ■ Deluxe

- ◆ Models : S3NM09JL1ZA [DC09RQ NSJ], S3NM12JL1ZA [DC12RQ NSJ],  
S3NM18KL1ZA [DC18RQ NSK]



■ **Standard plus**

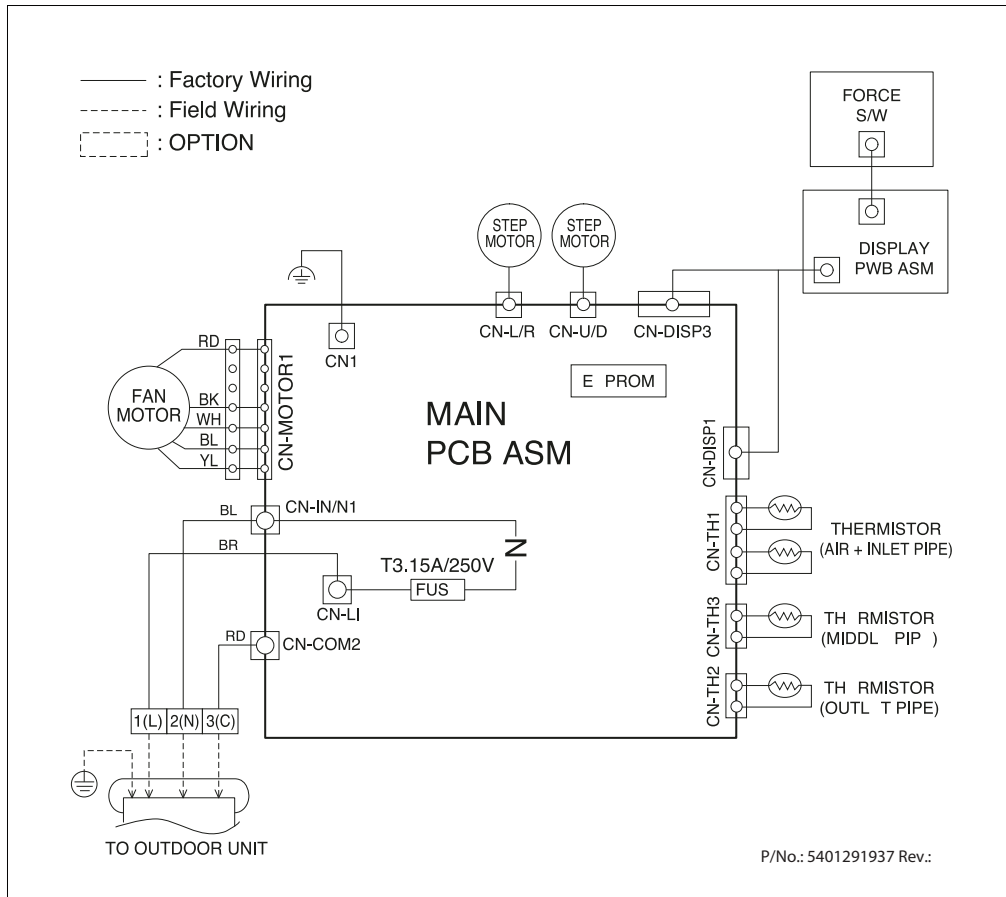
**S3NM18KL2FA [PC18SQ NSK]**



## 5. Wiring Diagrams

### ■ Standard

- ◆ Models : S3NM09JA3BA [SC09EQ NSJ], S3NM12JA3BA [SC12EQ NSJ],  
S3NM18KL3BA [SC18EQ NSK]



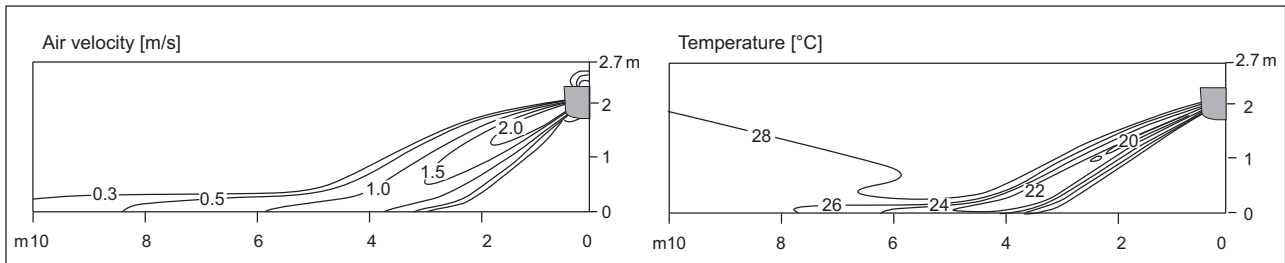
## 6. Air flow and temperature distributions (reference data)

■ Models : S3NM09JL1ZA [DC09RQ NSJ], S3NM12JL1ZA [DC12RQ NSJ]

### ◆ Cooling

#### Side View

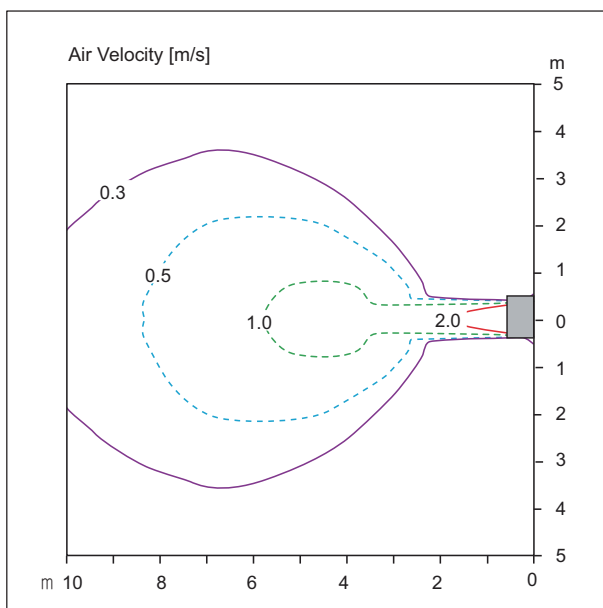
Discharge angle: 35°



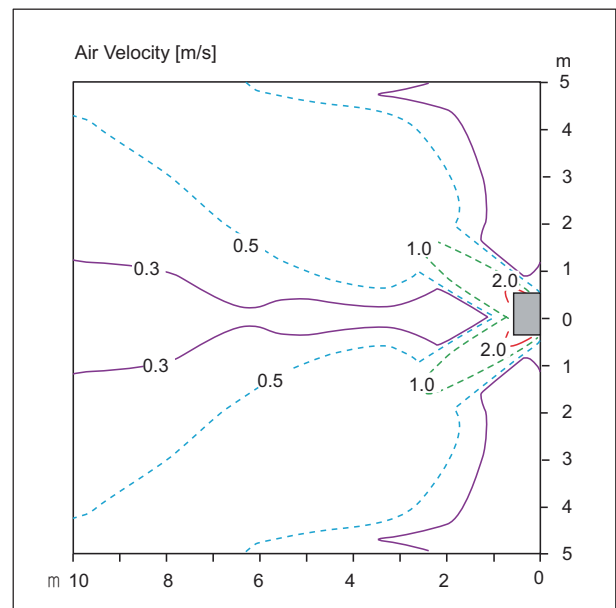
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 35°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 11.0m



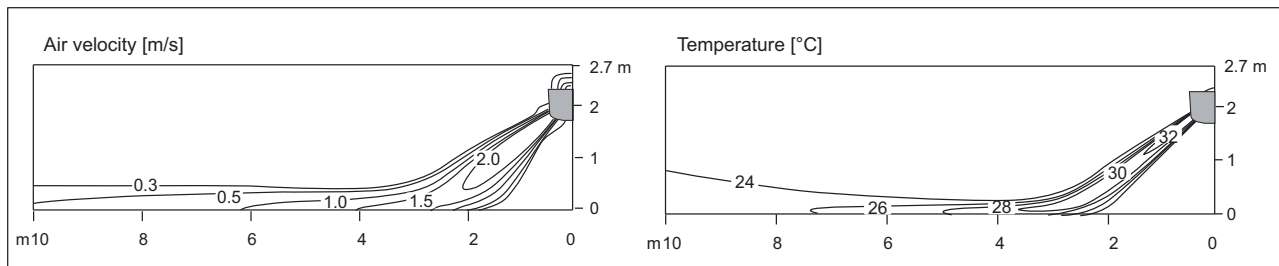
- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

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

### ◆ Heating

#### Side View

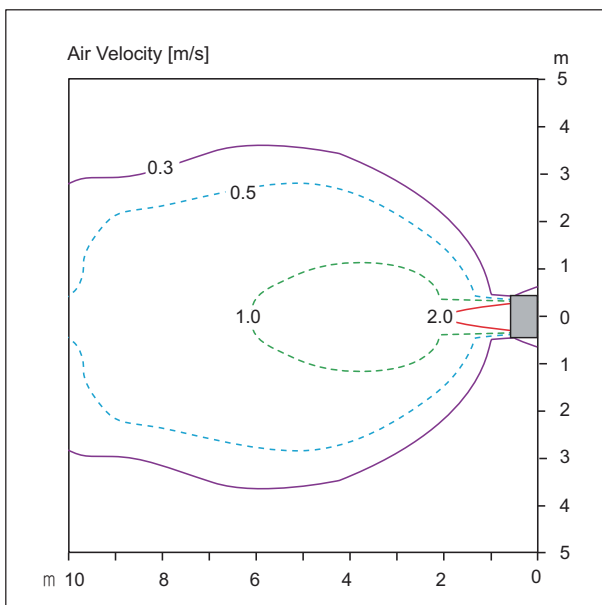
Discharge angle: 55°



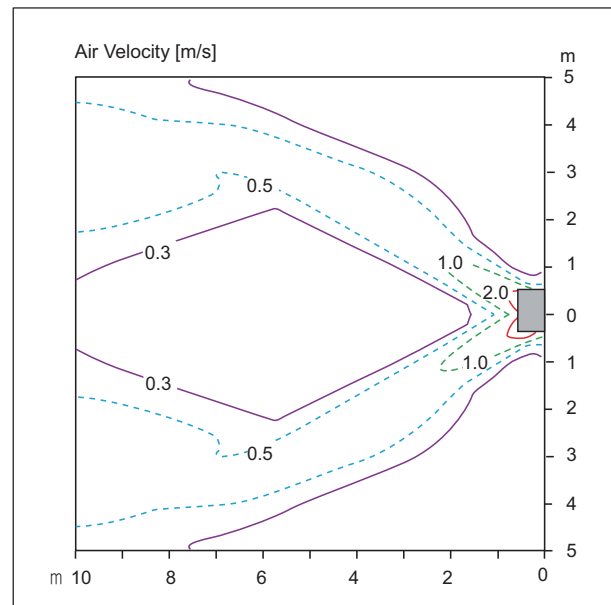
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 55°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 13.2m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

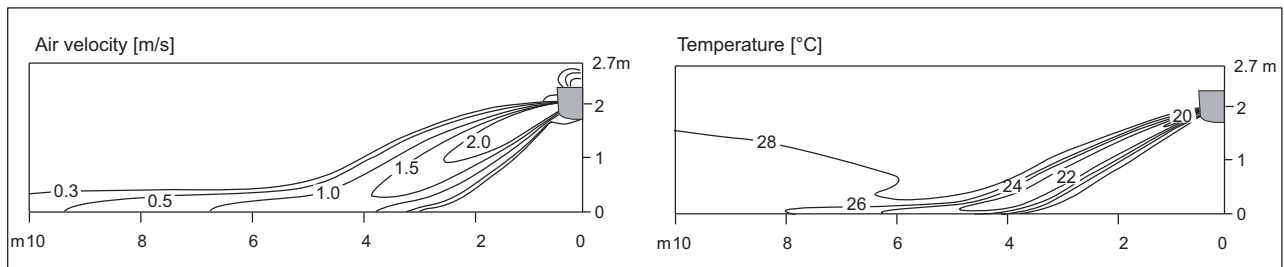
## 6. Air flow and temperature distributions (reference data)

■ Models : S3NM09JA2FA [PC09SQ NSJ], S3NM12JA2FA [PC12SQ NSJ]  
S3NM09JA3BA [SC09EQ NSJ], S3NM12JA3BA [SC12EQ NSJ]

### ◆ Cooling

#### Side View

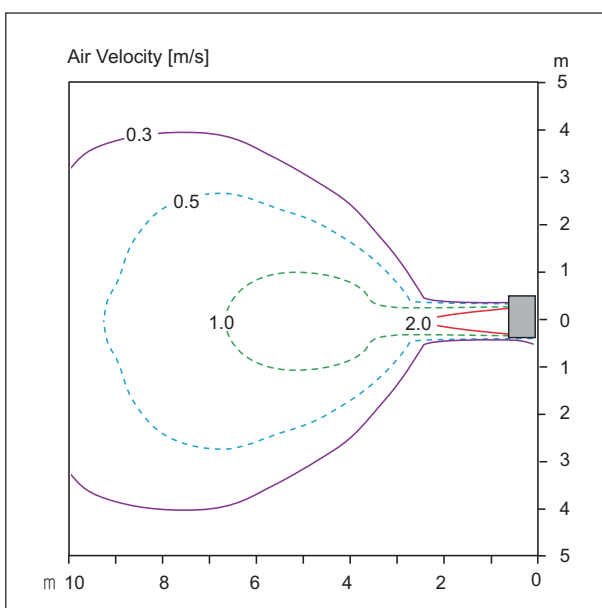
Discharge angle: 35°



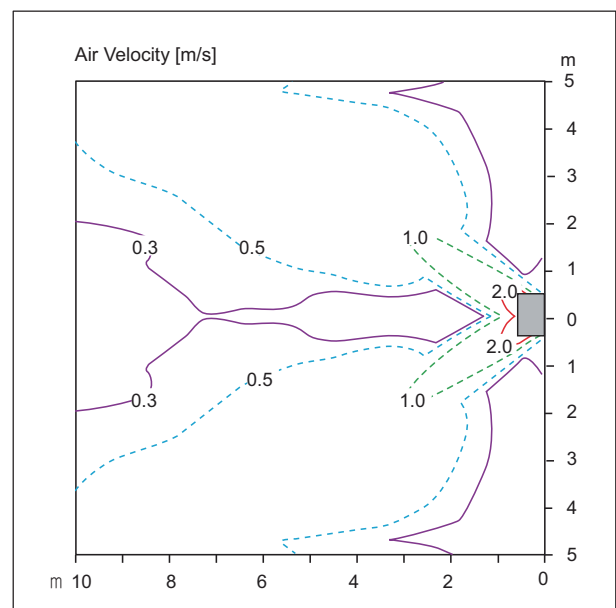
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 35°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 11.5m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

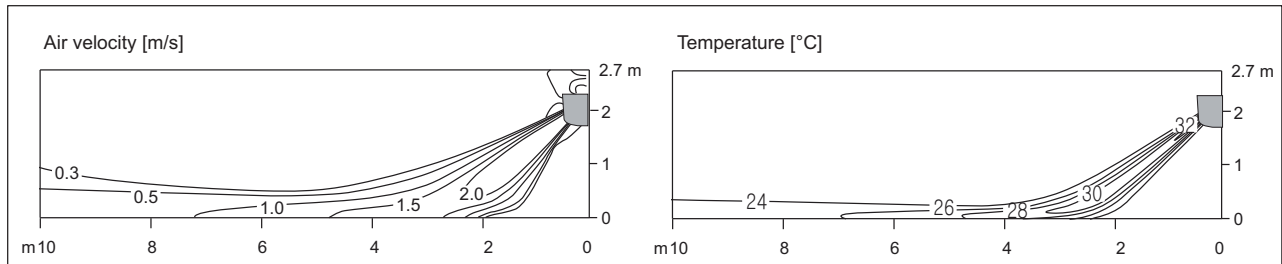


## 6. Air flow and temperature distributions (reference data)

### ◆ Heating

#### Side View

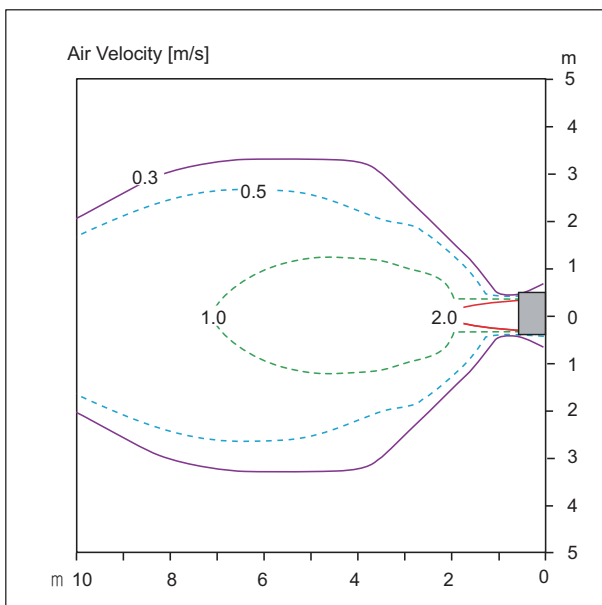
Discharge angle: 55°



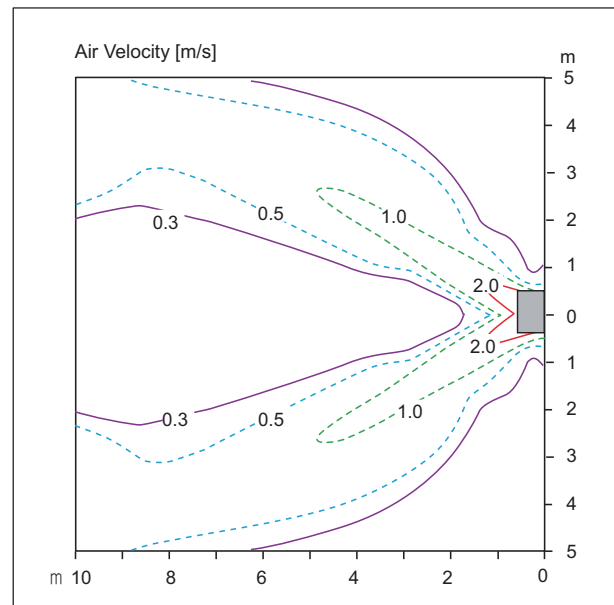
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 55°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 13.5m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

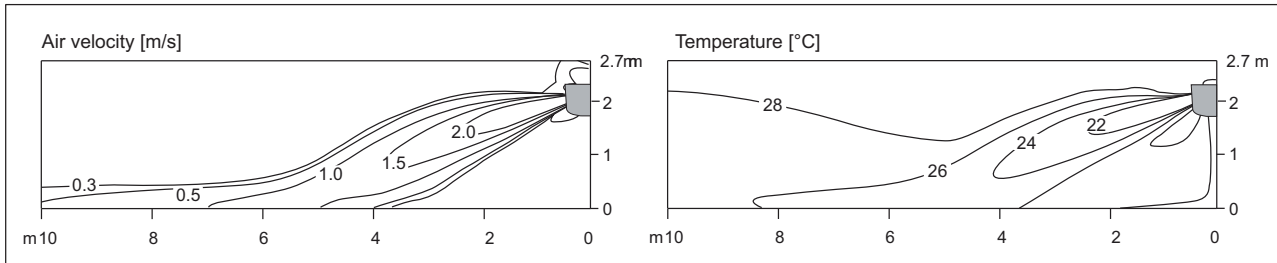
## 6. Air flow and temperature distributions (reference data)

■ Models : S3NM18KL1ZA [DC18RQ NSK], S3NM18KL2FA [PC18SQ NSK]  
S3NM18KL3BA [SC18EQ NSK]

### ◆ Cooling

#### Side View

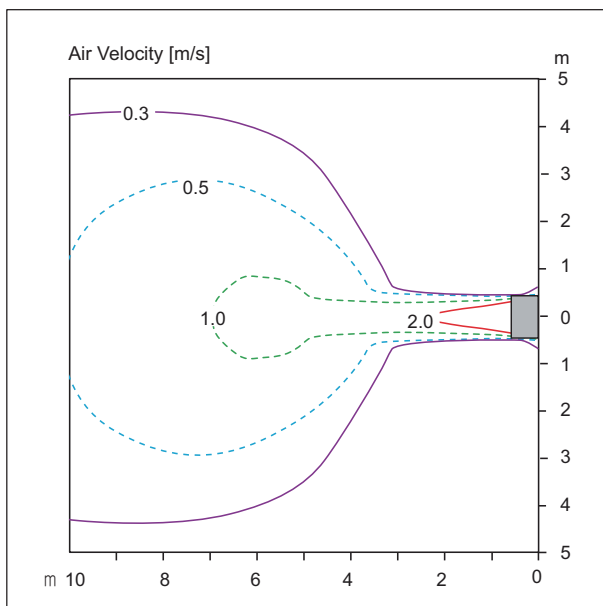
Discharge angle: 25°



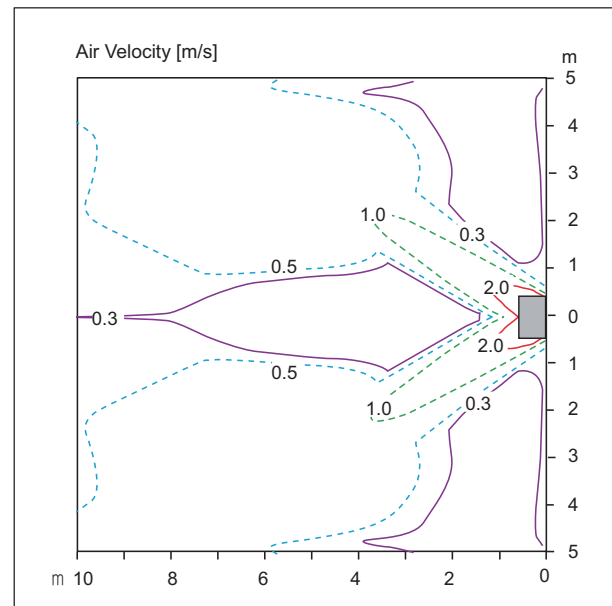
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 25°



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



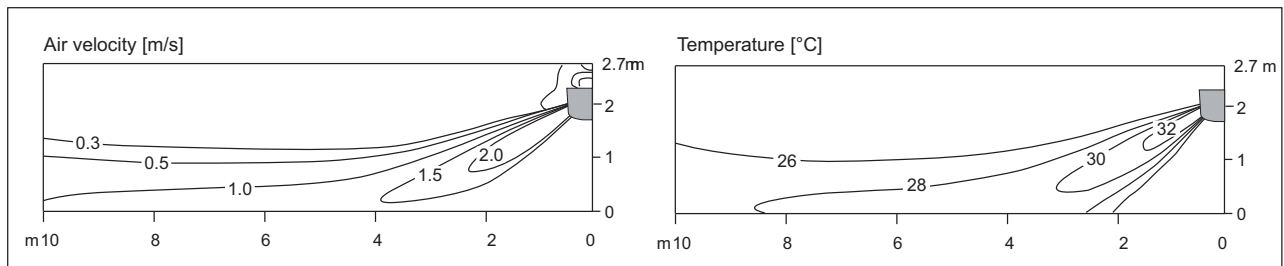
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

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

### ◆ Heating

#### Side View

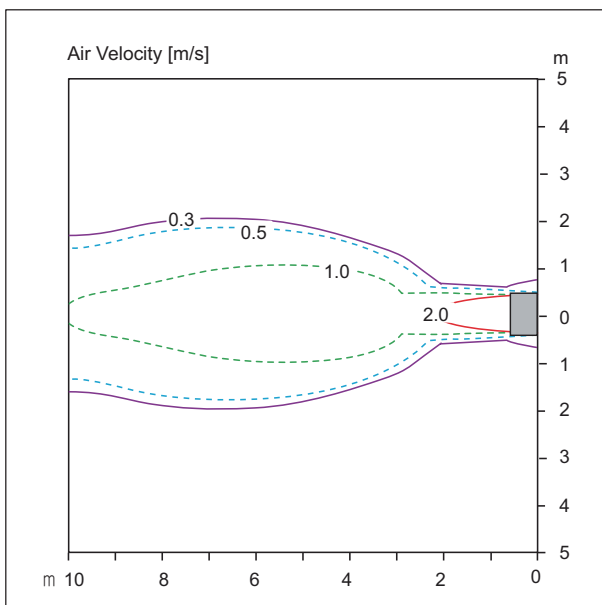
Discharge angle: 45°



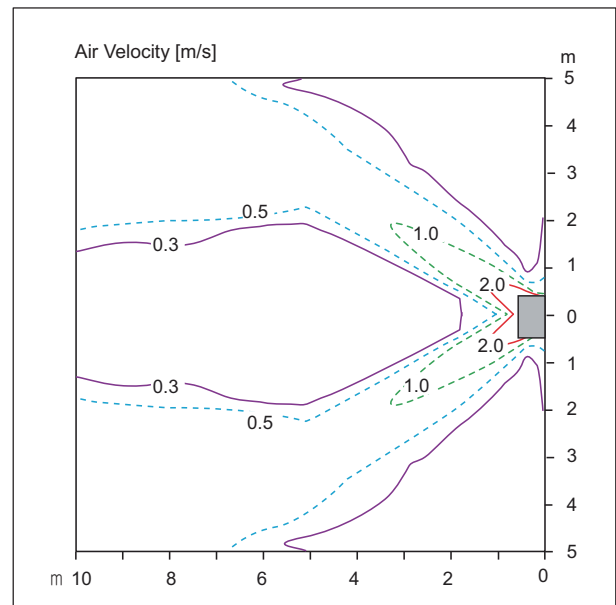
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 45°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 20.0m

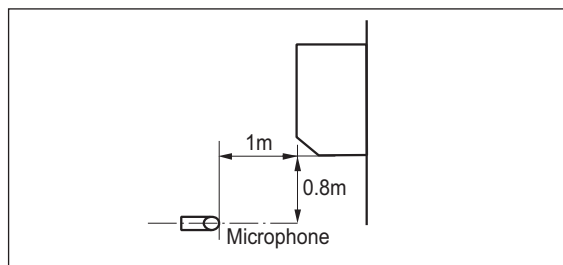


- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

## 7. Sound levels

### 7.1 Sound pressure level

#### ■ Overall



#### Note

1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic 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 is installed.

Model (Deluxe)	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
S3NM09JL1ZA [DC09RQ NSJ]	36	32	27
S3NM12JL1ZA [DC12RQ NSJ]	38	34	29
S3NM18KL1ZA [DC18RQ NSK]	44	38	35

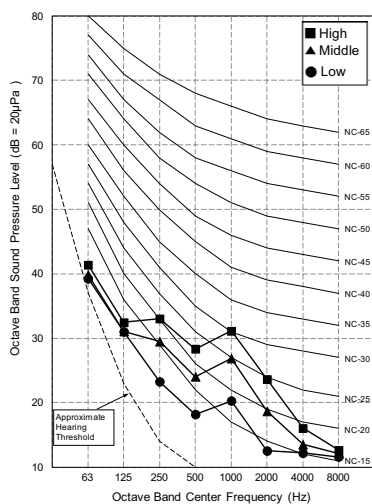
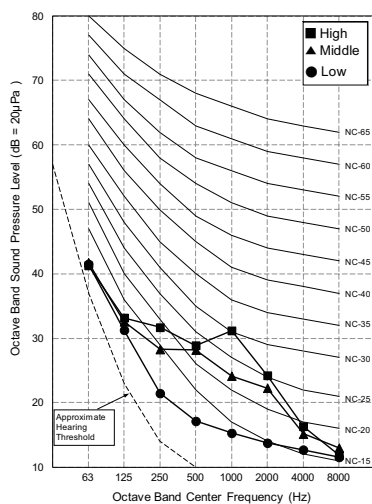
Model (Standard plus)	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
S3NM09JA2FA [PC09SQ NSJ]	36	33	27
S3NM12JA2FA [PC12SQ NSJ]	40	35	27
S3NM18KL2FA [PC18SQ NSK]	44	38	35

Model (Standard)	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
S3NM09JA3BA [SC09EQ NSJ]	36	33	27
S3NM12JA3BA [SC12EQ NSJ]	40	35	27
S3NM18KL3BA [SC18EQ NSK]	44	38	35

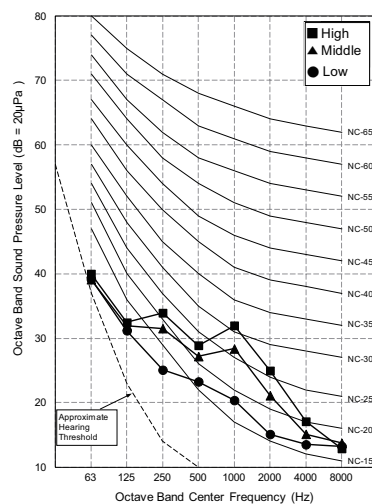
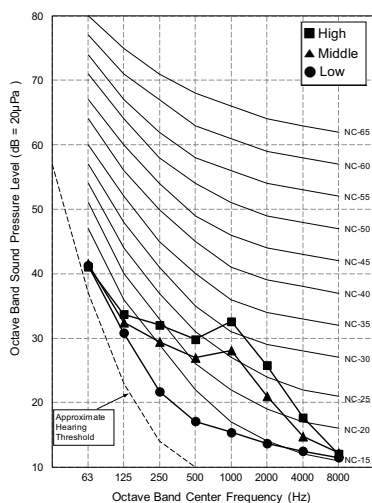
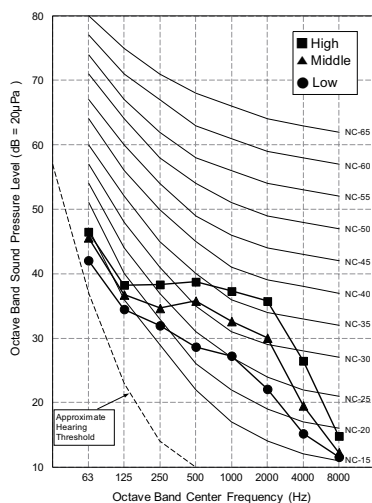
# 7. Sound levels

[Unit : mm (inch)]

S3NM09JL1ZA [DC09RQ NSJ]

S3NM09JA2FA [PC09SQ NSJ]  
S3NM09JA3BA [SC09EQ NSJ]

S3NM12JL1ZA [DC12RQ NSJ]

S3NM12JA2FA [PC12SQ NSJ]  
S3NM12JA3BA [SC12EQ NSJ]S3NM18KL1ZA [DC18RQ NSK]  
S3NM18KL2FA [PC18SQ NSK]  
S3NM18KL3BA [SC18EQ 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 is installed.
- Reference acoustic intensity 0dB =  $10E-6\mu W/m^2$

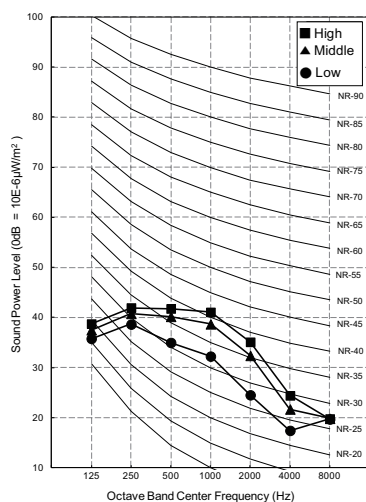
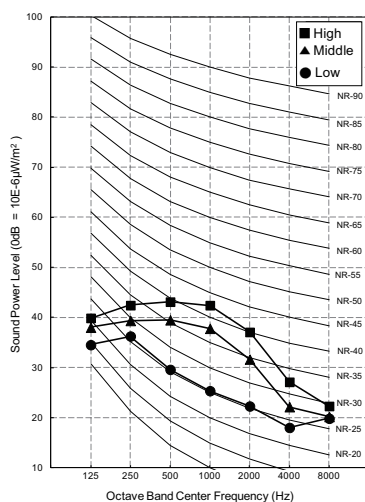
Model (Deluxe)	Sound power Levels [dB(A)]
	H
S3NM09JL1ZA [DC09RQ NSJ]	56
S3NM12JL1ZA [DC12RQ NSJ]	56
S3NM18KL1ZA [DC18RQ NSK]	60

Model (Standard plus)	Sound power Levels [dB(A)]
	H
S3NM09JA2FA [PC09SQ NSJ]	57
S3NM12JA2FA [PC12SQ NSJ]	57
S3NM18KL2FA [PC18SQ NSK]	60

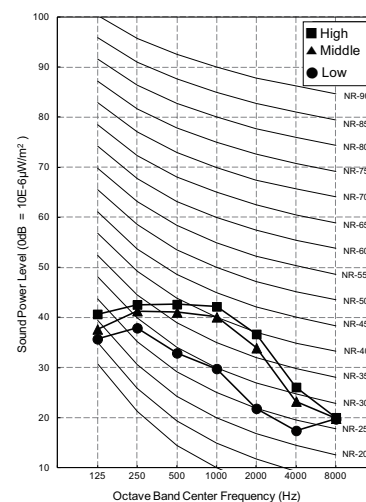
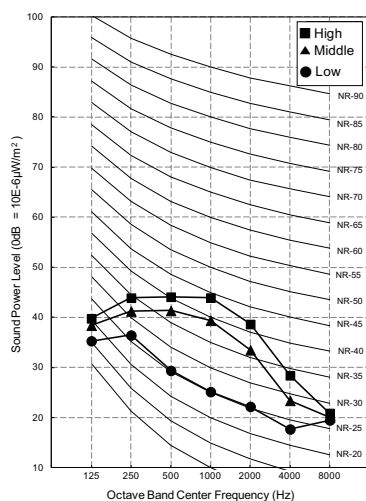
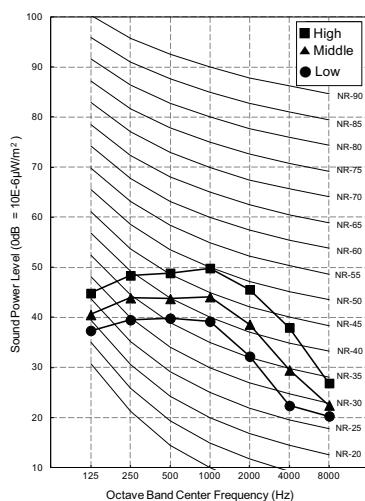
Model (Standard)	Sound power Levels [dB(A)]
	H
S3NM09JA3BA [SC09EQ NSJ]	57
S3NM12JA3BA [SC12EQ NSJ]	57
S3NM18KL3BA [SC18EQ NSK]	60

## 7. Sound levels

S3NM09JL1ZA [DC09RQ NSJ]

S3NM09JA2FA [PC09SQ NSJ]  
S3NM09JA3BA [SC09EQ NSJ]

S3NM12JL1ZA [DC12RQ NSJ]

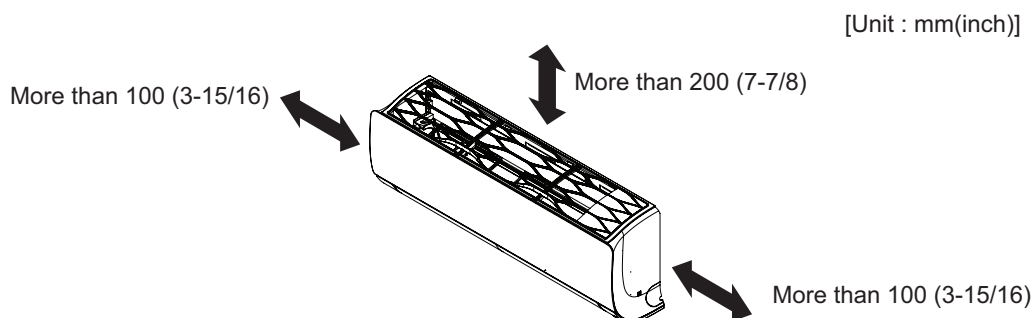
S3NM12JA2FA [PC12SQ NSJ]  
S3NM12JA3BA [SC12EQ NSJ]S3NM18KL1ZA [DC18RQ NSK]  
S3NM18KL2FA [PC18SQ NSK]  
S3NM18KL3BA [SC18EQ NSK]

## 8. Installation

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

### 8.1 Selection of the best location

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





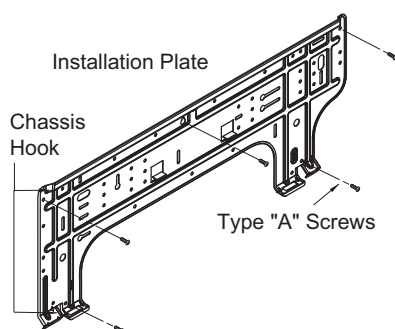
## 8. Installation

[Unit : mm (inch)]

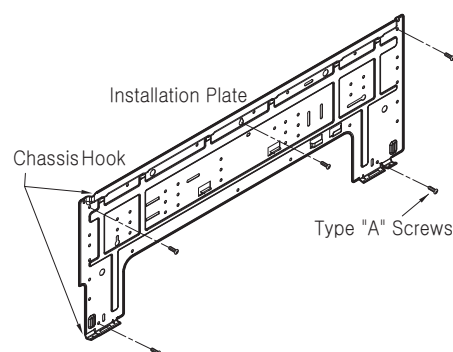
### ■ Fixing Installation Plate

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

SJ Chassis

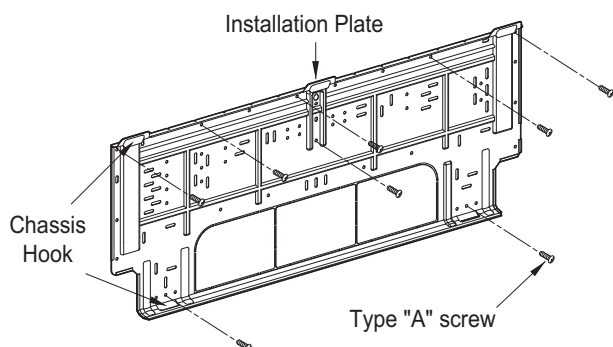


SK Chassis



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

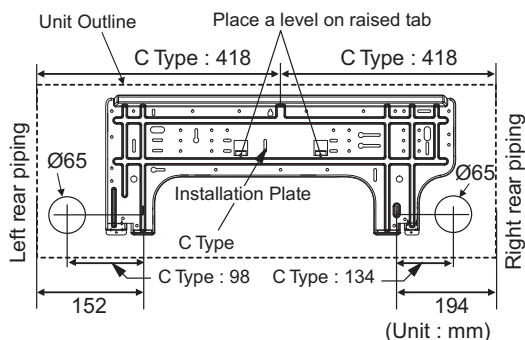
SV Chassis



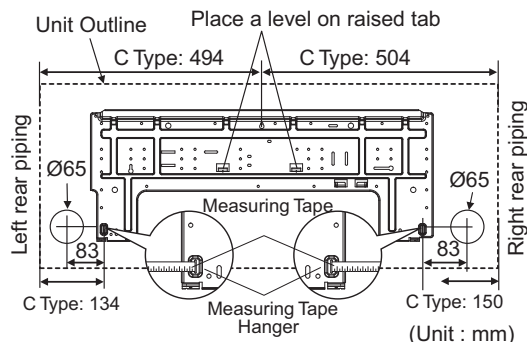
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

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

SJ chassis



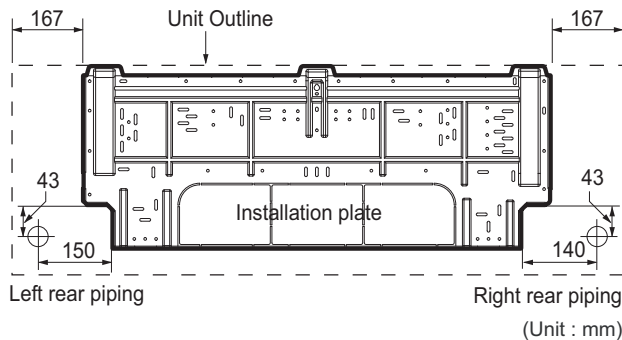
SK chassis



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

## 8. Installation

### SV chassis



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

### CAUTION

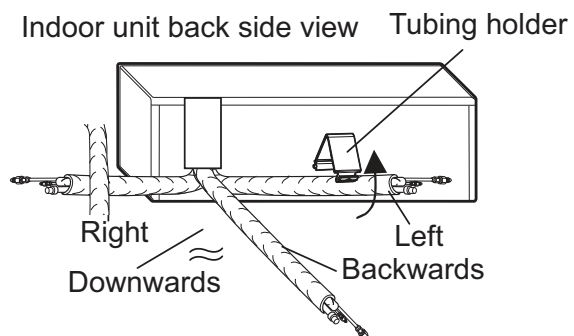
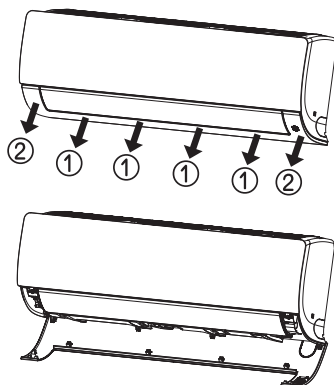
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

## 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 ①→②.
2. Remove the chassis cover from the unit.
3. Pull back the tubing holder.
4. Remove pipe port cover and positioning the tubing.



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

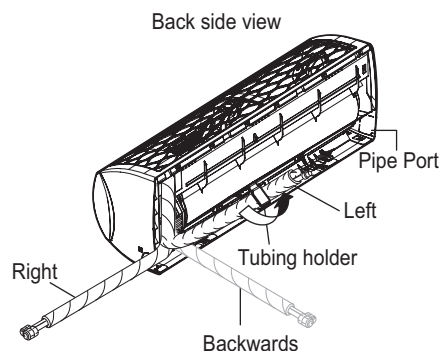
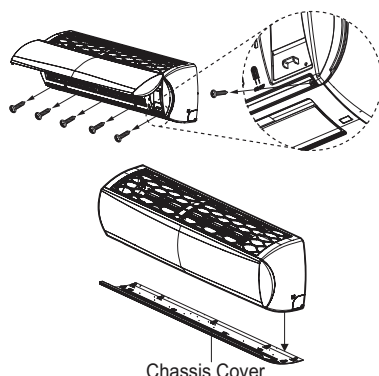
\* The feature can be changed according to type of model.

\* 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 loosening 5 screws.
3. Pull back the tubing holder.
4. Remove pipe port cover and position the piping.

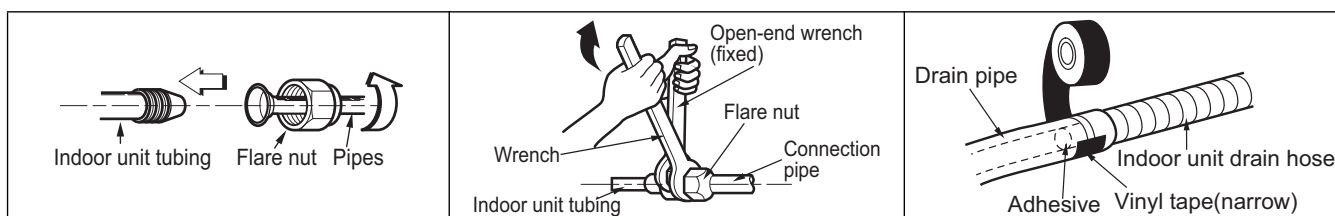
## 8. Installation



\* 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.

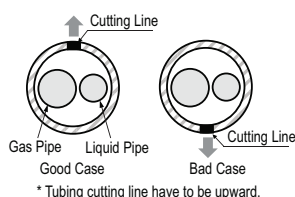
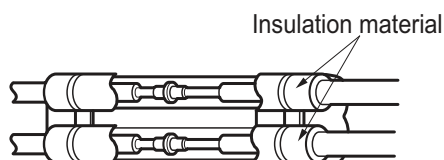
### ■ Connecting the installation pipe and drain hose



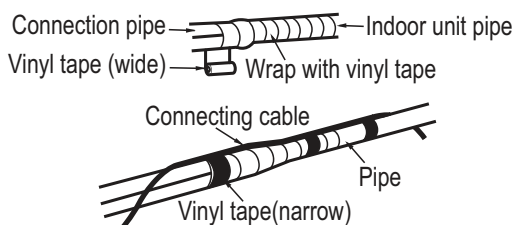
1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
2. Tighten the flare nut with a wrench.
3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

### ■ 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.



\* Tubing cutting line have to be upward.



### ⚠ CAUTION

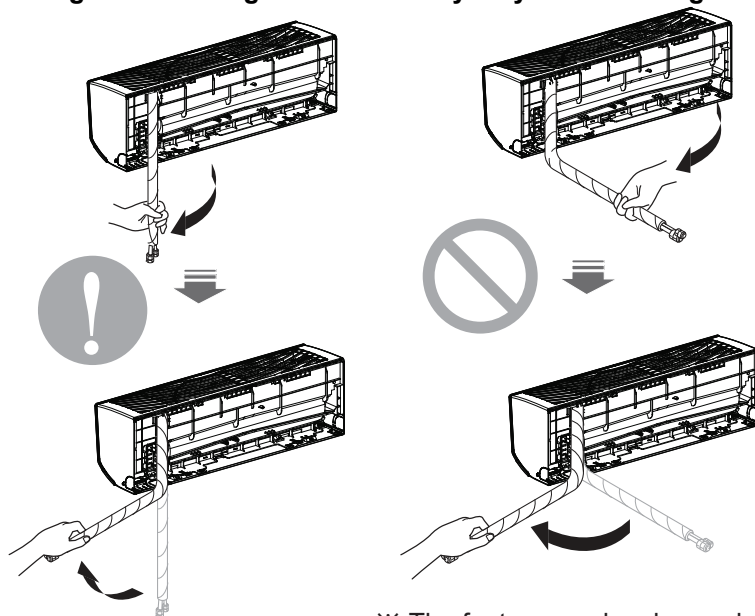
If the drain hose is routed inside the room insulate the hose with an insulation material\* so that dripping from sweating condensation) will not damage furniture or floors.

## 8. Installation

\* 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.



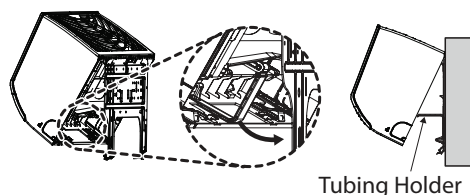
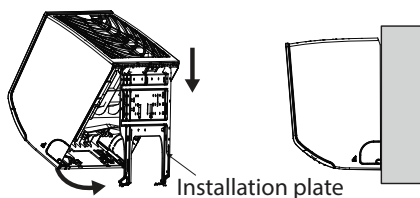
※ The feature can be changed according to type

- 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.

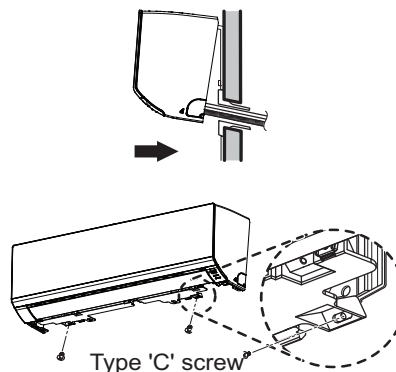


\* The feature can be changed according to type of model.

## 8. Installation

### 8.2.3 Finishing the indoor unit installation

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



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

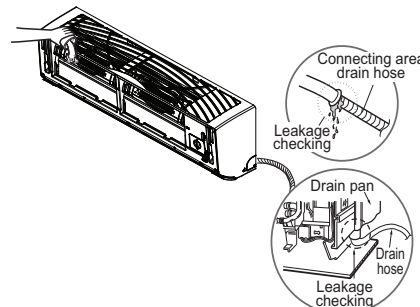
#### **CAUTION**

- 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.

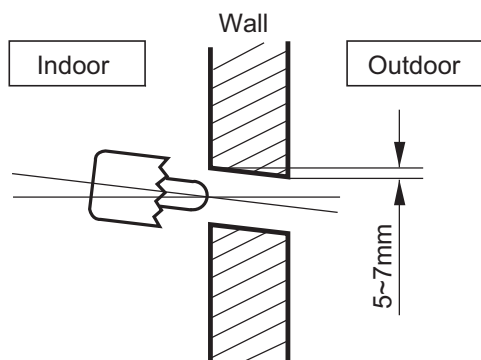


\* The feature can be changed according to type of model.

## 8. Installation

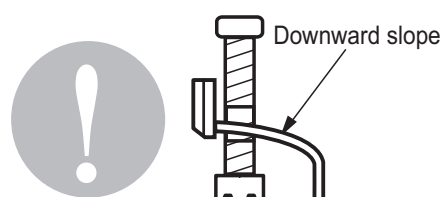
### ◆ Drill a Hole in the wall

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

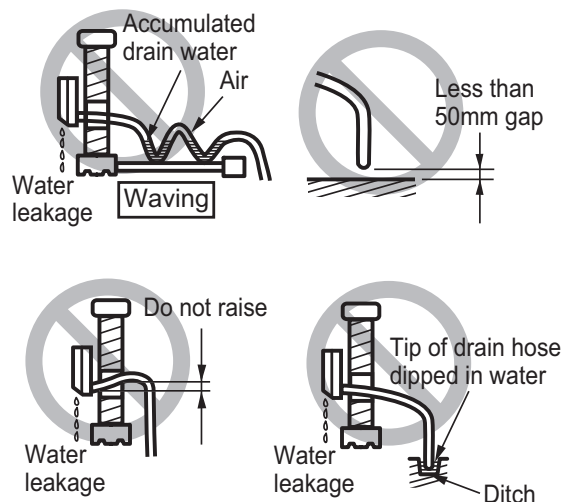


### ◆ Drain Piping

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.

## 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.

### ⚠ CAUTION

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

## 8. Installation

- 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 and visually 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

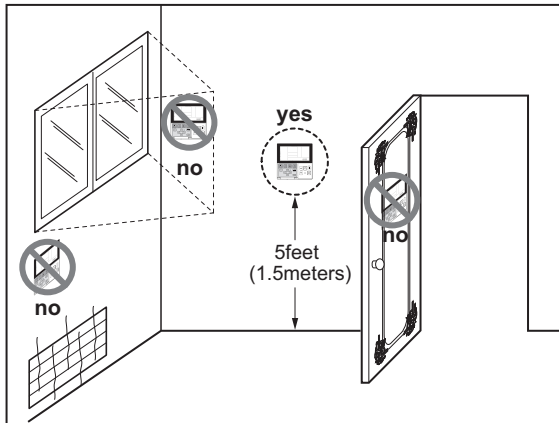
- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (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 (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.

## 8. Installation

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 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

## ◆ Basic functions of Indoor Unit

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

### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory 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	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	X
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	X

### Note

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

## 2. Specifications

Model Name				AMNW07GSJR0 [AM07BP NSJ]	USNW09GJRZ0 [AM09BP NSJ]
Power Supply		V, Ø, Hz		220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity	Cooling	kW		2.1	2.5
	Heating	kW		2.3	3.2
Power Input	Min./Nom./Max.	W		11 / 17 / 30	11 / 18 / 30
Running Current	Min./Nom./Max.	A		0.10 / 0.14 / 0.20	0.10 / 0.16 / 0.20
Exterior Color code			-	Munsell 7.5PB 0.2/20 (RAL 9005)	
Dimensions	Body	W × H × D	mm	837 × 308 × 192	837 × 308 × 192
		W × H × D	inch	32-15/16 × 12-1/8 × 7-9/16	32-15/16 × 12-1/8 × 7-9/16
	Shipping	W × H × D	mm	909 × 383 × 256	909 × 383 × 256
		W × H × D	inch	35-25/32 × 15-3/32 × 10-3/32	35-25/32 × 15-3/32 × 10-3/32
Weight	Body	kg (lbs)		9.1 (20.1)	9.9 (21.8)
	Shipping	kg (lbs)		12.5 (27.6)	13.0 (28.7)
Heat Exchanger	(Row×Column×Fins per inch) × No.	-		(2 × 15 × 21) × 1	(2 × 15 × 21) × 1
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.19 (2.05)	0.19 (2.05)
Fan	Type	-		Cross Flow Fan	Cross Flow 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	Type	-		BLDC	BLDC
	Output	W × No.		30 × 1	30 × 1
Sound Pressure Level	H / M / L	dB(A)		35 / 32 / 27	36 / 33 / 27
Sound Power Level	Max.	dB(A)		57	57
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. × mm <sup>2</sup> (AWG)	4C × 1.0 (18)	4C × 1.0 (18)

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name				USNW12GJRZ0 [AM12BP NSJ]
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Capacity	Cooling	kW		3.5
	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)
Dimensions	Body	W × H × D	mm	837 × 308 × 192
		W × H × D	inch	32-15/16 × 12-1/8 × 7-9/16
	Shipping	W × H × D	mm	909 × 383 × 256
		W × H × D	inch	35-25/32 × 15-3/32 × 10-3/32
Weight	Body	kg (lbs)		9.9 (21.8)
	Shipping	kg (lbs)		13.0 (28.7)
Heat Exchanger	(Row×Column×Fins per inch) × No.		-	(2 × 15 × 21) × 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)
Fan	Type		-	Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	9.6 / 8.1 / 5.6
		H / M / L	ft <sup>3</sup> /min	339 / 286 / 198
Fan Motor	Type		-	BLDC
	Output		W × No.	30 × 1
Sound Pressure Level		H / M / L	dB(A)	40 / 35 / 27
Sound Power Level		Max.	dB(A)	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices			-	Fuse
			-	Thermal Protector for Fan Motor
Connections Method			-	Flared
Power and Communication Cable (included Earth)			No. × mm <sup>2</sup> (AWG)	4C × 1.0 (18)
<b>Note</b> 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. <ul style="list-style-type: none"> <li>Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB</li> <li>Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB</li> <li>Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.</li> </ul>				

## 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
Capacity	Cooling	kW		5.0	6.6
	Heating	kW		5.8	7.5
Power Input	Min./Nom./Max.	W		26 / 39 / 60	27 / 45 / 60
Running Current	Min./Nom./Max.	A		0.22 / 0.28 / 0.40	0.24 / 0.33 / 0.40
Exterior Color code			-	Munsell 7.5PB 0.2/20 (RAL 9005)	
Dimensions	Body	W × H × D	mm	998 × 345 × 212	998 × 345 × 212
		W × H × D	inch	39-9/32 × 13-19/32 × 8-11/32	39-9/32 × 13-19/32 × 8-11/32
	Shipping	W × H × D	mm	1,080 × 422 × 281	1,080 × 422 × 281
		W × H × D	inch	42-17/32 × 16-5/8 × 11-1/16	42-17/32 × 16-5/8 × 11-1/16
Weight	Body	kg (lbs)		13.2 (29.1)	14.0 (30.9)
	Shipping	kg (lbs)		17.6 (38.8)	18.0 (39.7)
Heat Exchanger	(Row×Column×Fins per inch) × No.	-		(2 × 16 × 20) × 1 + (1 × 8 × 22) × 1	(2 × 16 × 20) × 1 + (1 × 8 × 22) × 1
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		0.28 (3.01)	0.28 (3.01)
Fan	Type	-		Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	14.2 / 11.3 / 9.9	15.2 / 12.7 / 10.2
		H / M / L	ft <sup>3</sup> /min	501 / 399 / 350	537 / 449 / 360
Fan Motor	Type	-		BLDC	BLDC
	Output	W × No.		60 × 1	60 × 1
Sound Pressure Level	H / M / L	dB(A)		44 / 38 / 35	46 / 41 / 36
Sound Power Level	Max.	dB(A)		59	65
Piping Connections	Liquid	mm(inch)		Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	mm(inch)		Ø 12.7 (1/2)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)		No. × mm <sup>2</sup> (AWG)		4C × 1.0 (18)	4C × 1.0 (18)

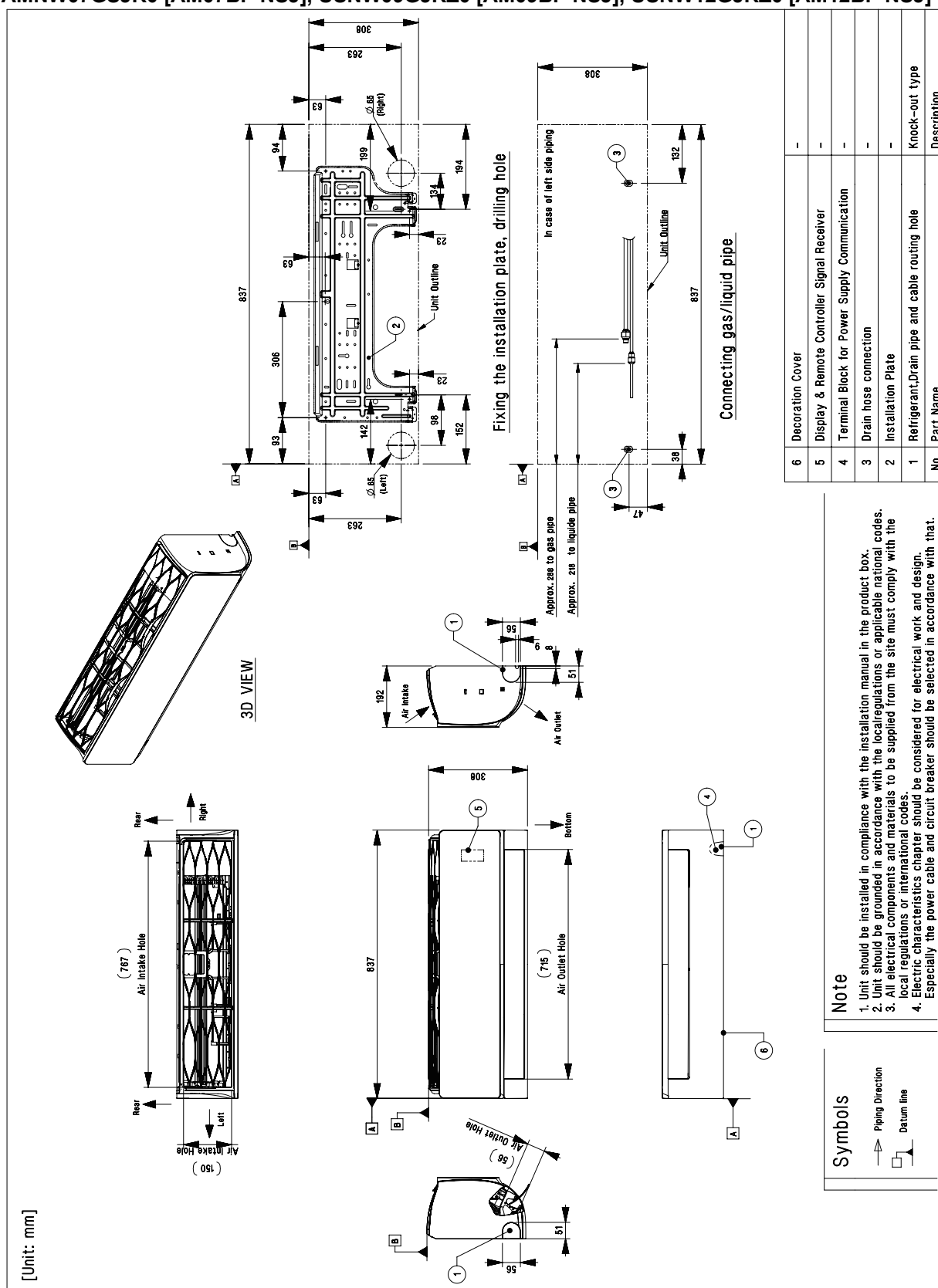
### Note

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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

# 3. Dimensions

## ◆ ARTCOOL Mirror (SJ Chassis)

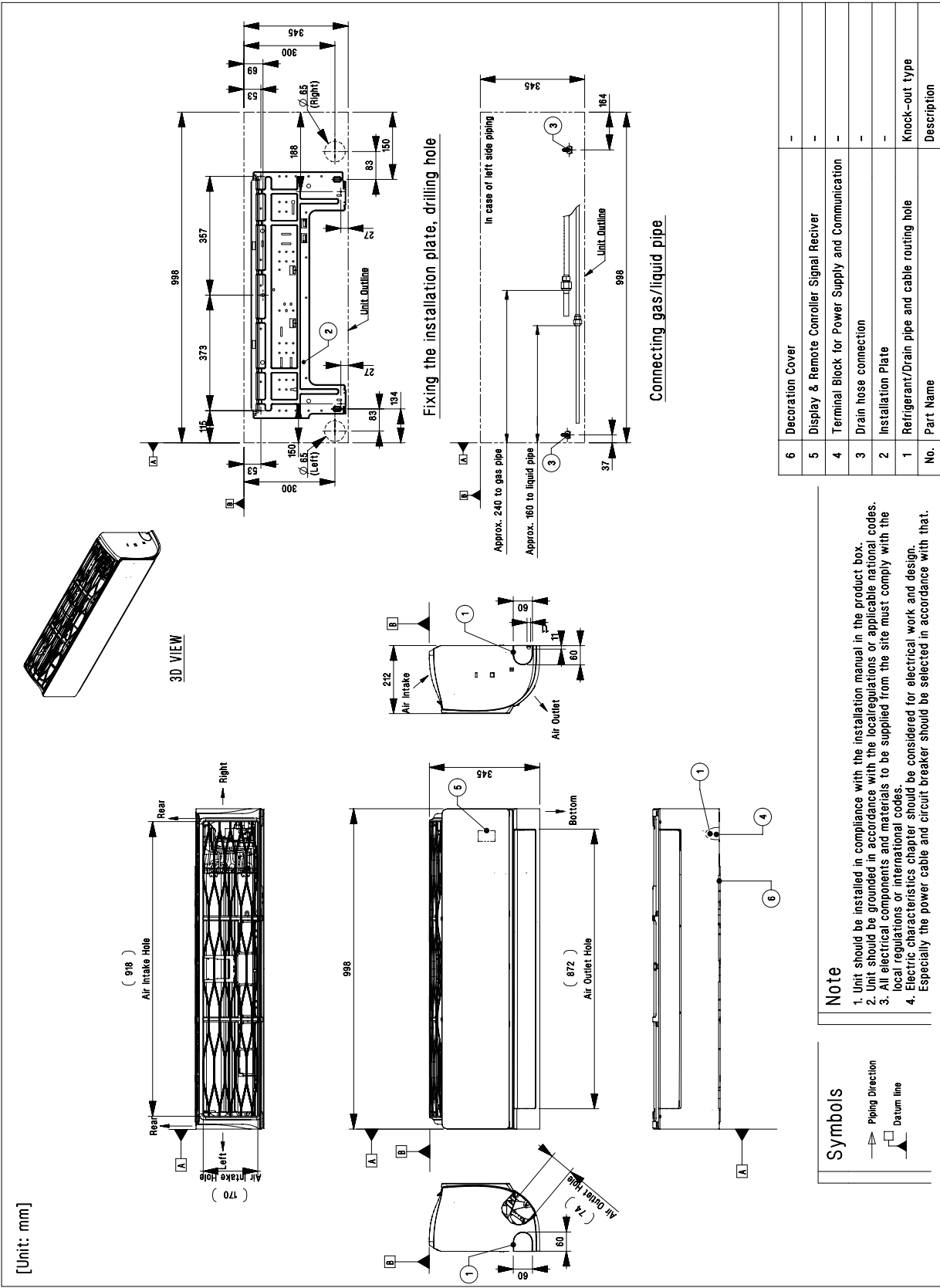
AMNW07GSJR0 [AM07BP NSJ], USNW09GJRZ0 [AM09BP NSJ], USNW12GJRZ0 [AM12BP NSJ]



3. Dimensions

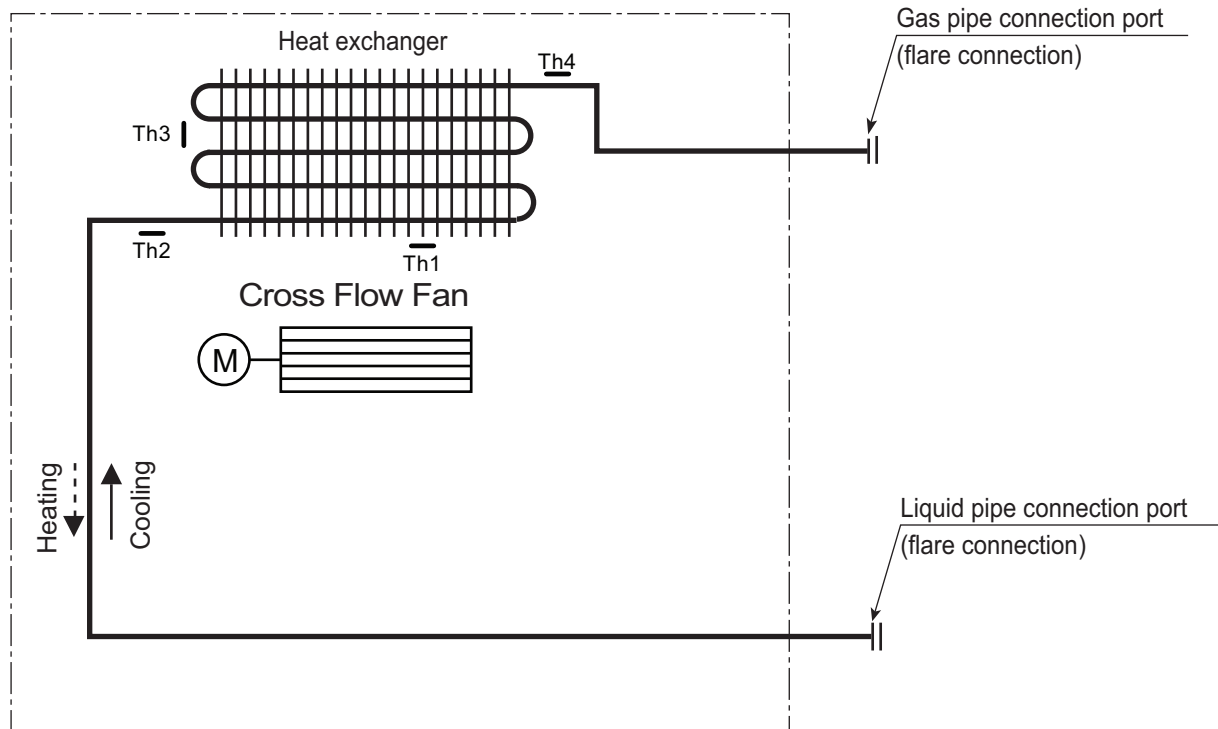
◆ ARTCOOL Mirror (SK Chassis)

USNW18GKRZ0 [AM18BP NSK], AMNW24GSKR0 [AM24BP NSK]





## 4. Piping diagrams



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

- \* : AMNW07GSJR0 [AM07BP NSJ], AMNW24GSKR0 [AM24BP NSK] models are not available.

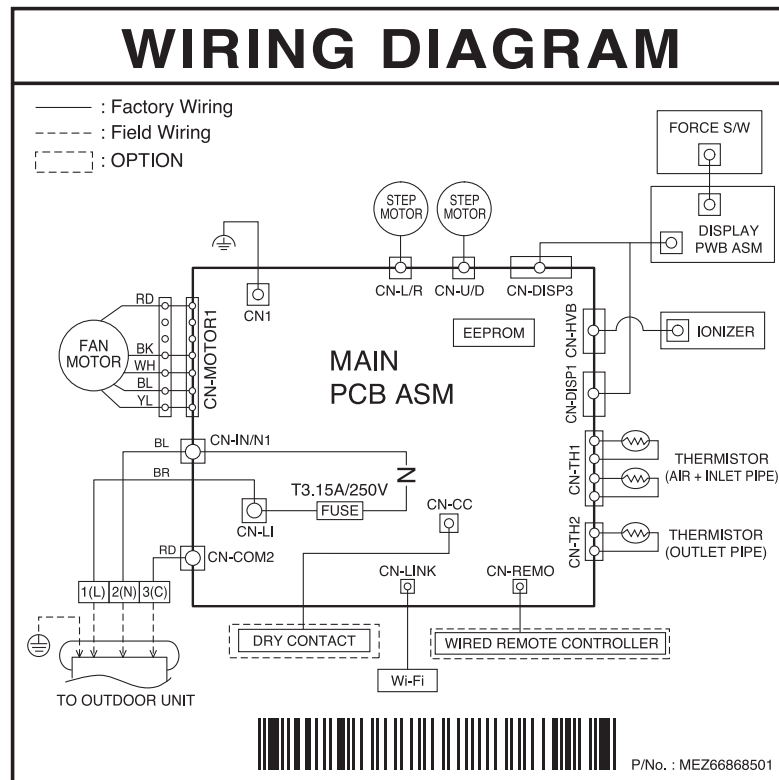
### ◆ Refrigerant pipe connection port diameters

[Unit : mm (inch)]

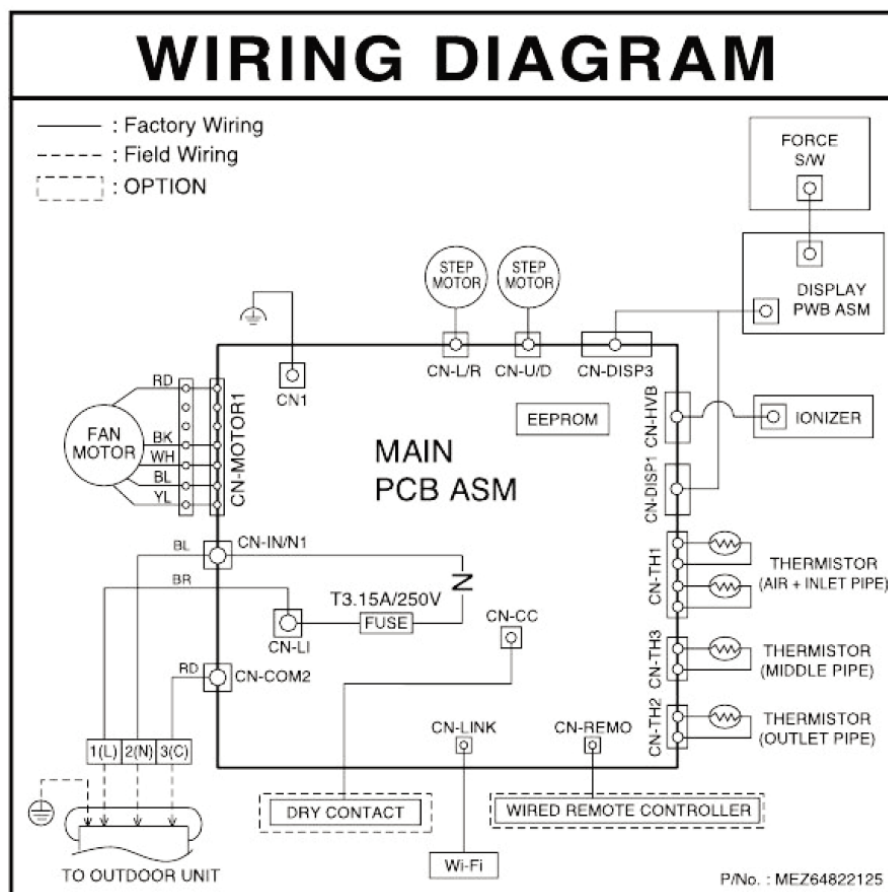
Model	Gas	Liquid
AMNW07GSJR0 [AM07BP NSJ] USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ]	Ø9.52 (3/8)	Ø6.35 (1/4)
USNW18GKRZ0 [AM18BP NSK] AMNW24GSKR0 [AM24BP NSK]	Ø12.7 (1/2)	

## 5. Wiring Diagrams

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



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



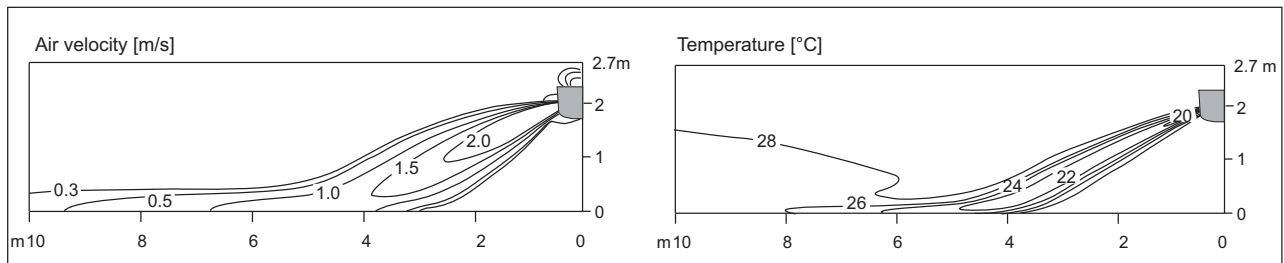
## 6. Air flow and temperature distributions (reference data)

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

### ◆ Cooling

#### Side View

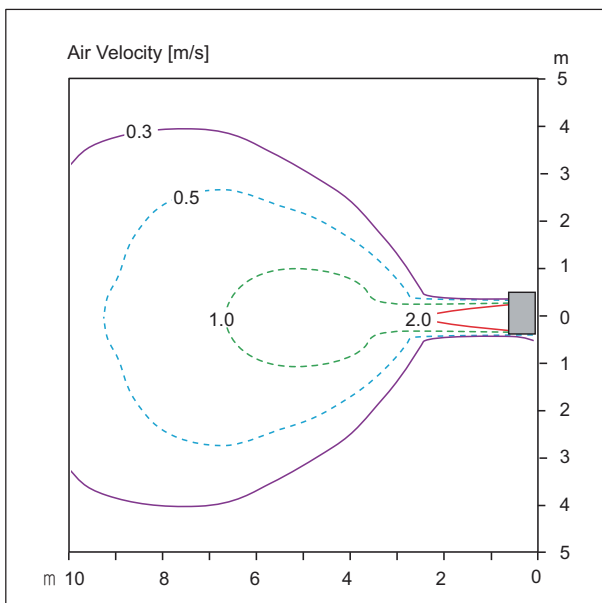
Discharge angle: 35°



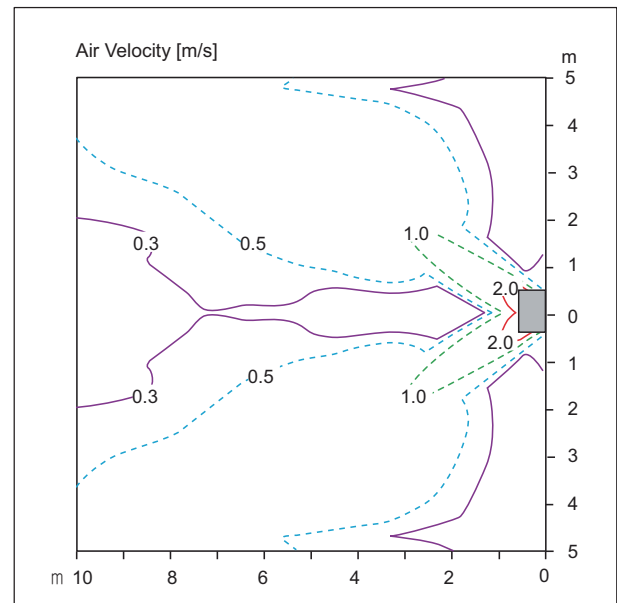
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 35°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 11.5m



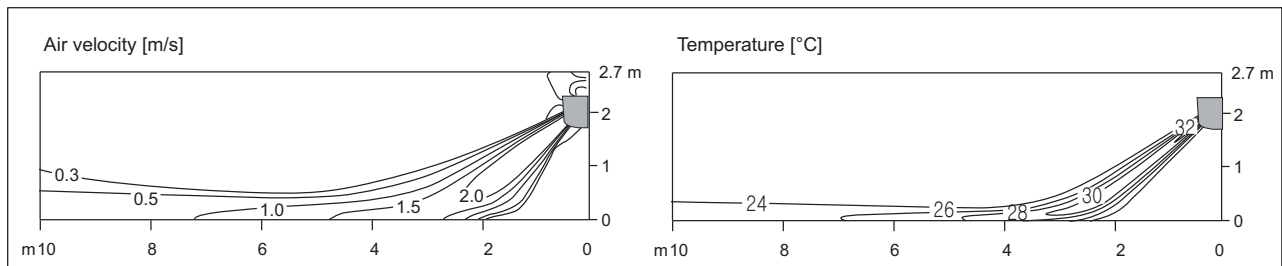
- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

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

### ◆ Heating

#### Side View

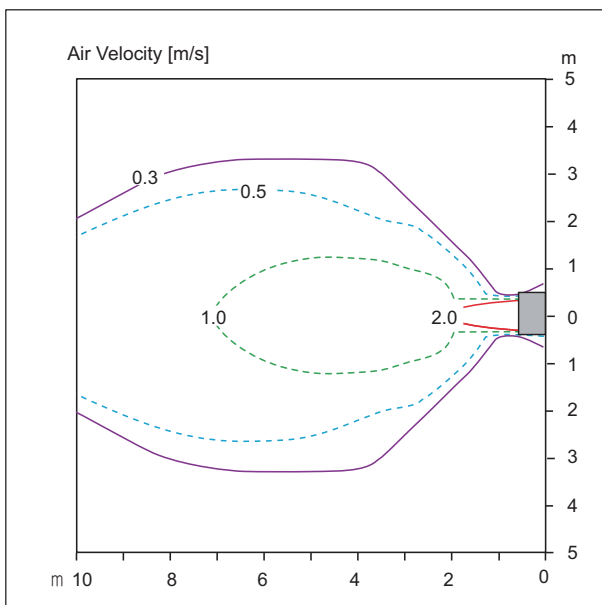
Discharge angle: 55°



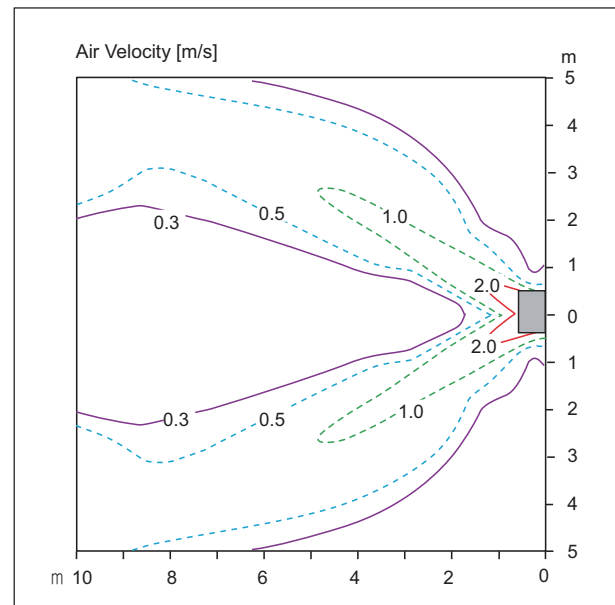
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 55°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 13.5m



- Vertical Louver : Left & Right
- Vertical Vane : 55°
- Fan speed : Power

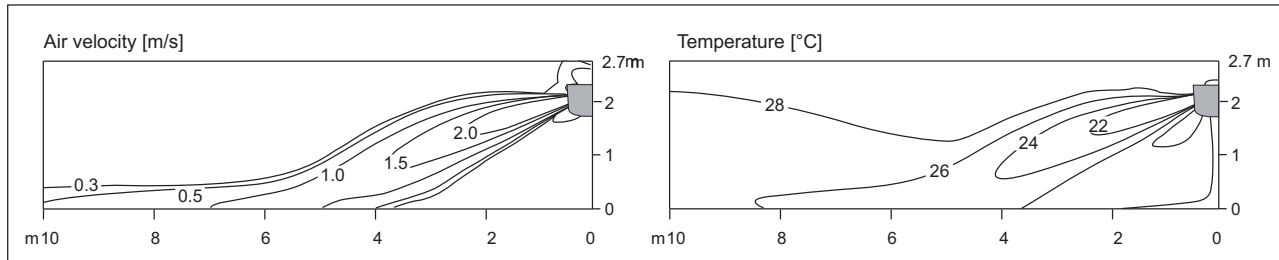
## 6. Air flow and temperature distributions (reference data)

### ■ Models : USNW18GKRZ0 [AM18BP NSK]

#### ◆ Cooling

##### Side View

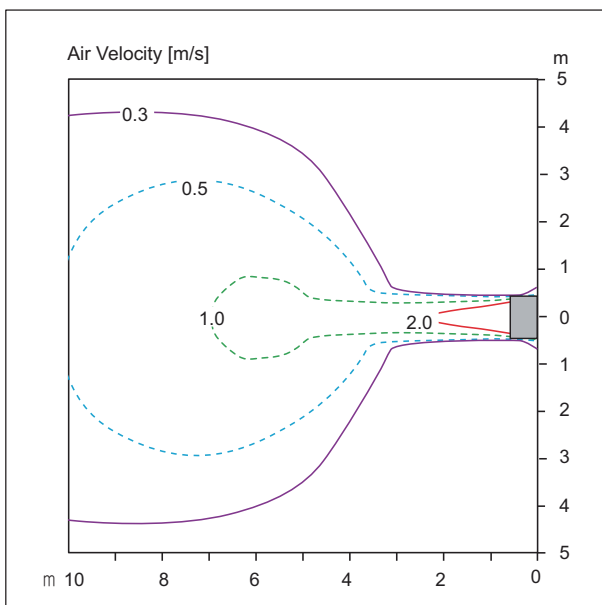
Discharge angle: 25°



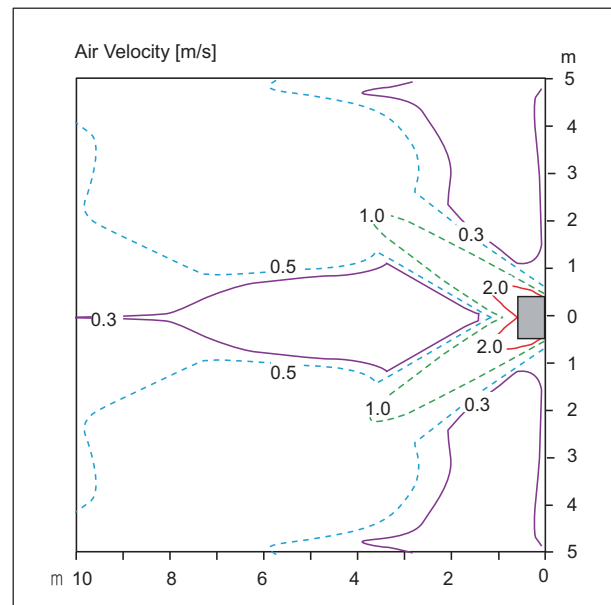
- Vertical Louver : Center
- Fan speed : Power

##### Top View

Discharge angle: 25°



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



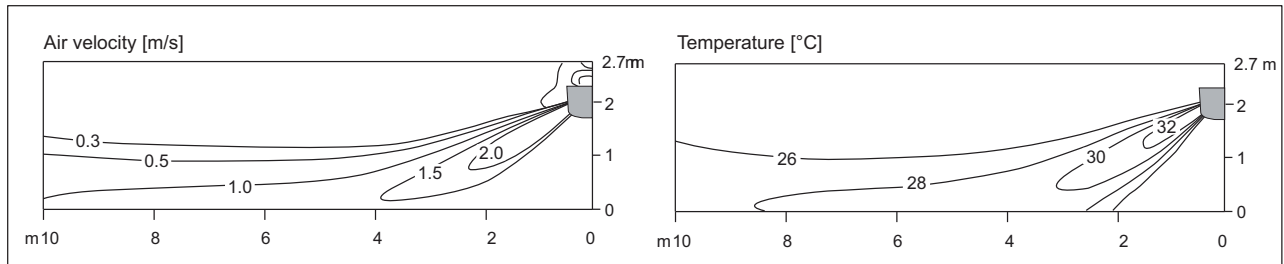
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

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

### ◆ Heating

#### Side View

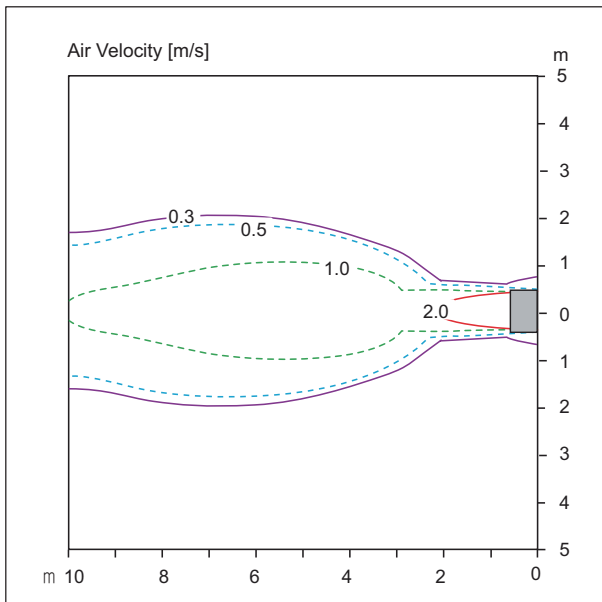
Discharge angle: 45°



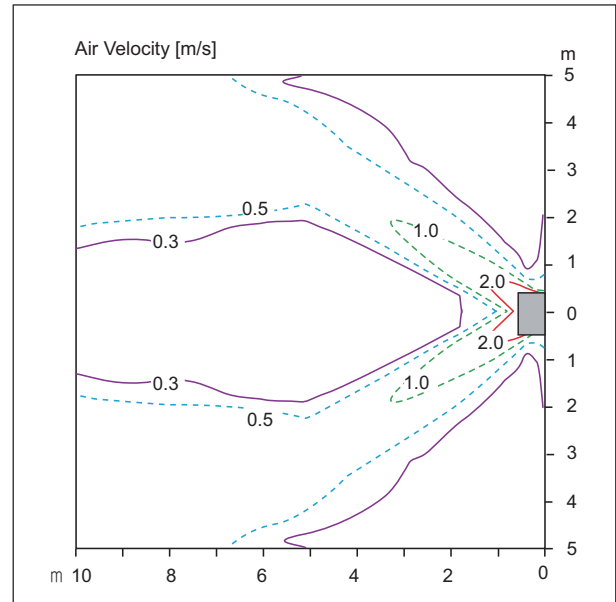
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 45°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 20.0m



- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

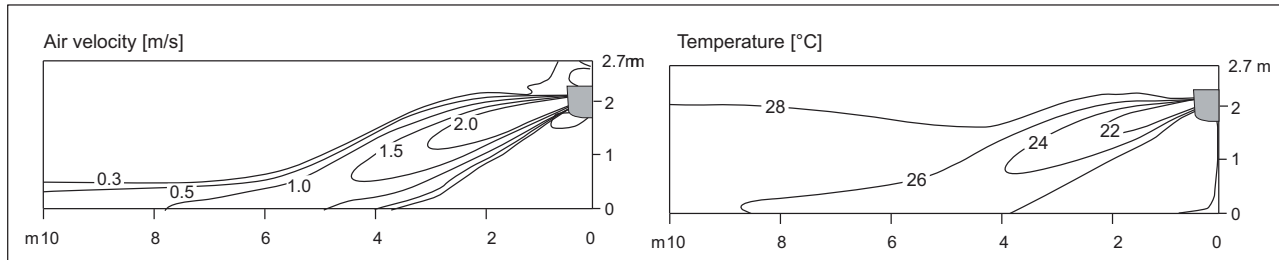
## 6. Air flow and temperature distributions (reference data)

### ■ Models : AMNW24GSKR0 [AM24BP NSK]

#### ◆ Cooling

##### Side View

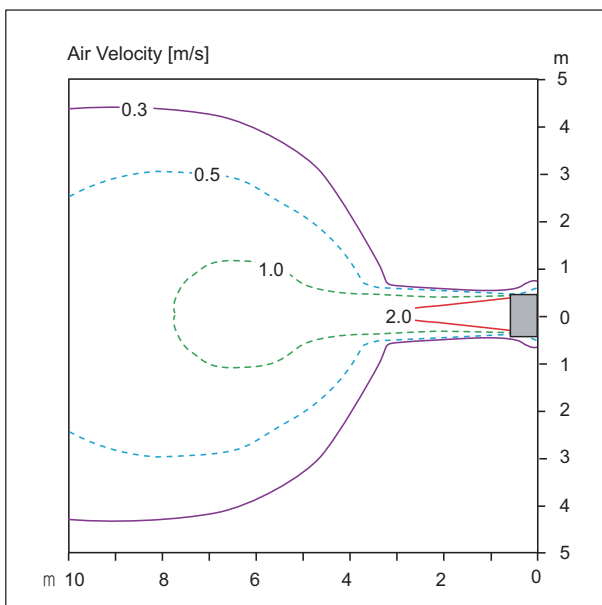
Discharge angle: 25°



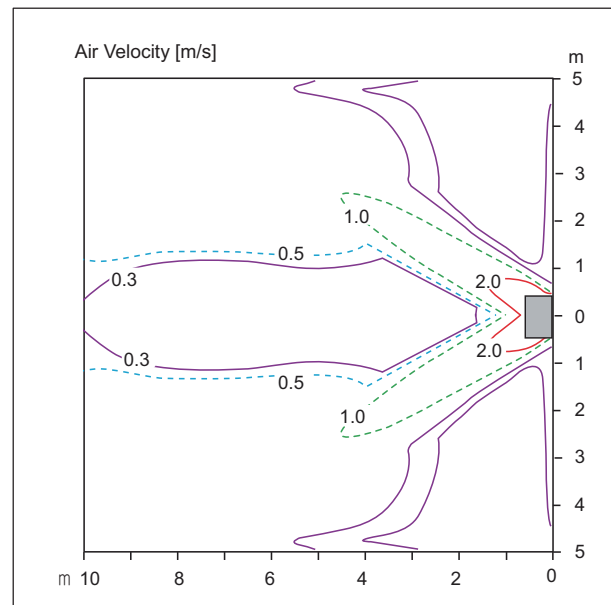
- Vertical Louver : Center
- Fan speed : Power

##### Top View

Discharge angle: 25°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 15.0m



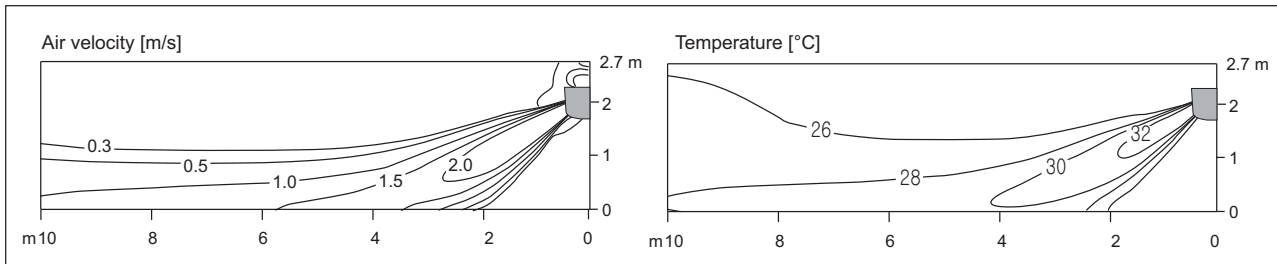
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power

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

### ◆ Heating

#### Side View

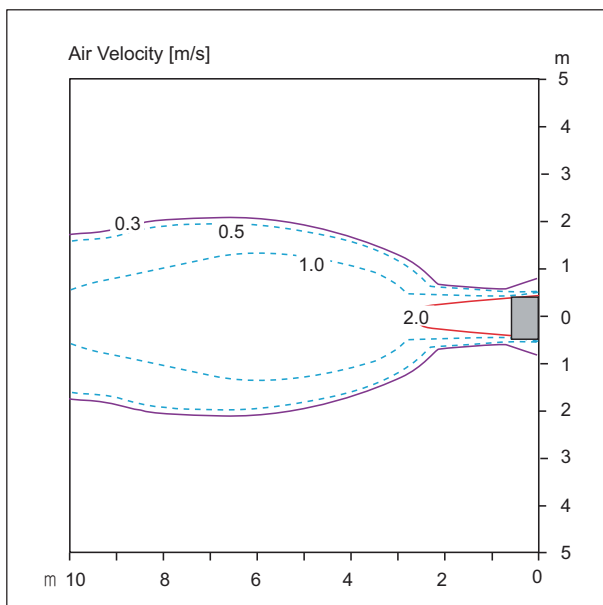
Discharge angle: 45°



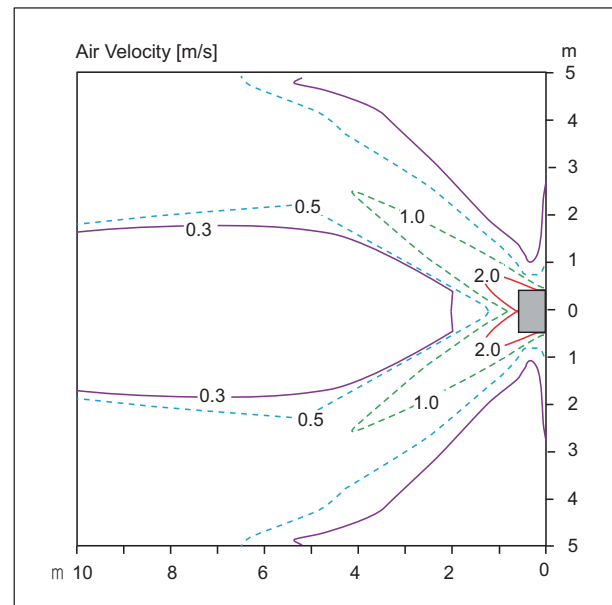
- Vertical Louver : Center
- Fan speed : Power

#### Top View

Discharge angle: 45°



- Vertical Louver : Center
- Vertical Vane : 0°
- Fan speed : Power
- Air speed 0.3m/s Range : 20.0m



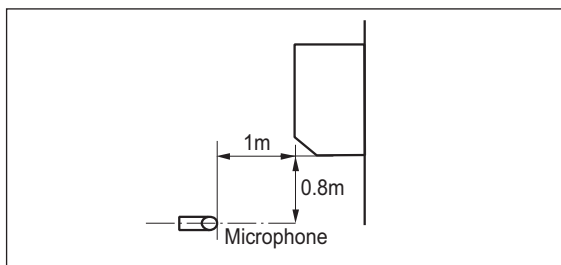
- Vertical Louver : Left & Right
- Vertical Vane : 50°
- Fan speed : Power



## 7. Sound levels

### 7.1 Sound pressure level

#### Overall

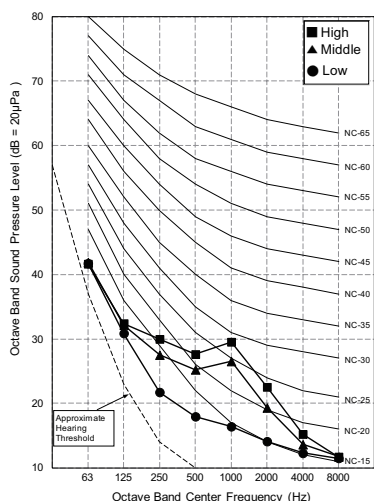


#### Note

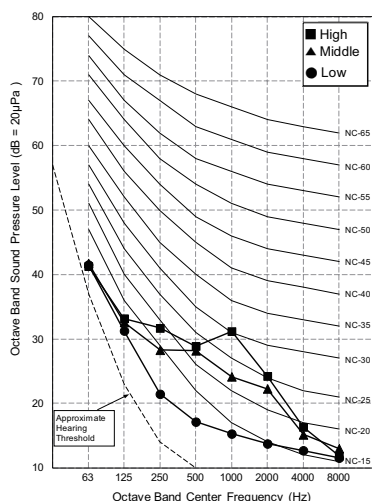
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition.  
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, 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 is installed.

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

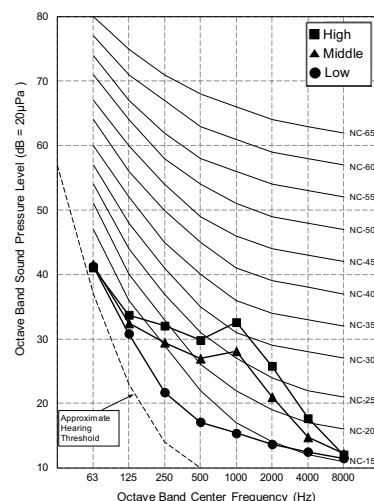
AMNW07GSJR0 [AM07BP NSJ]



USNW09GJRZ0 [AM09BP NSJ]



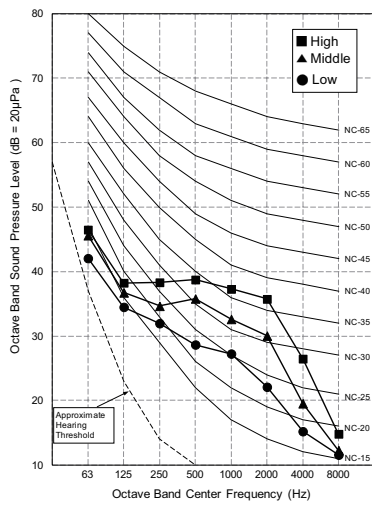
USNW12GJRZ0 [AM12BP NSJ]



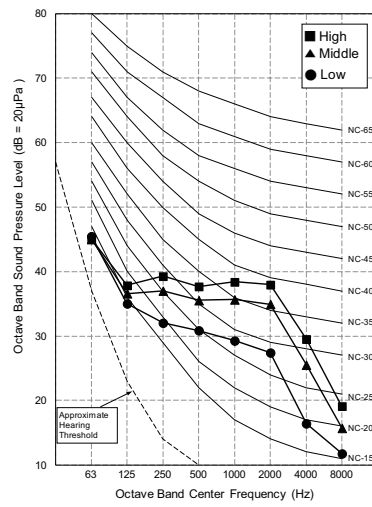
## 7. Sound levels

[Unit : mm (inch)]

USNW18GKRZ0 [AM18BP NSK]



AMNW24GSKR0 [AM24BP NSK]



## 7. Sound levels

[Unit : mm (inch)]

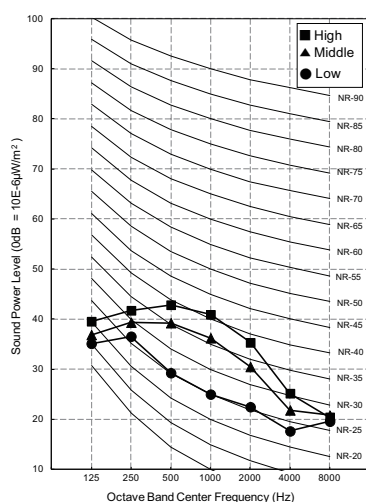
### 7.2 Sound power level

#### Note

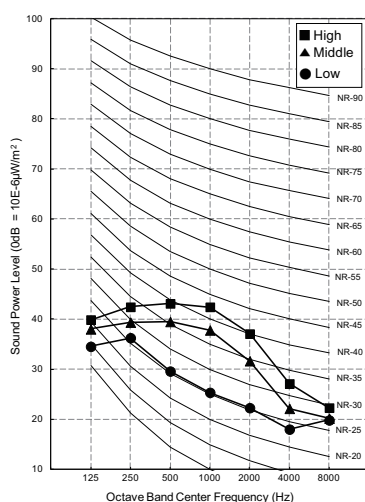
- Data is valid at diffuse field condition
- Data is valid at nominal operating condition
- Sound level can be increased in static pressure mode or used air guide.
- Sound power level is measured on the rated condition in the reverberation rooms.
- Sound level will vary depending on a range of factors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

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

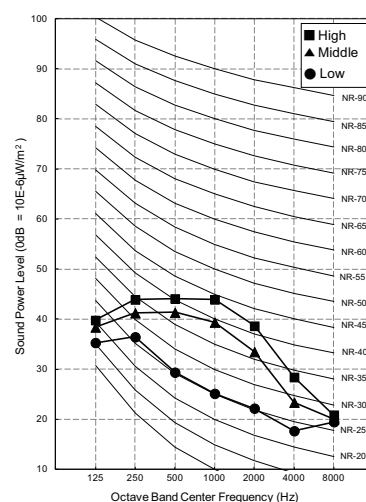
AMNW07GSJR0 [AM07BP NSJ]



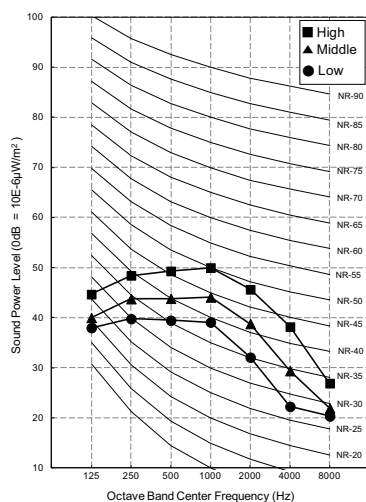
USNW09GJRZ0 [AM09BP NSJ]



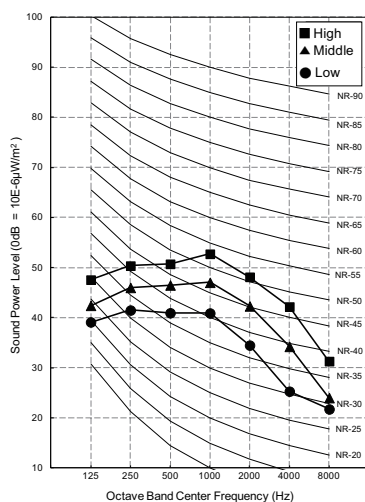
USNW12GJRZ0 [AM12BP NSJ]



USNW18GKRZ0 [AM18BP NSK]



AMNW24GSKR0 [AM24BP NSK]

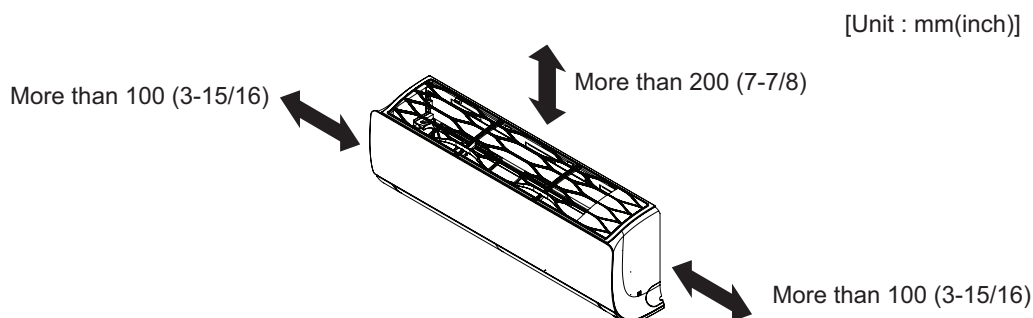


## 8. Installation

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

### 8.1 Selection of the best location

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

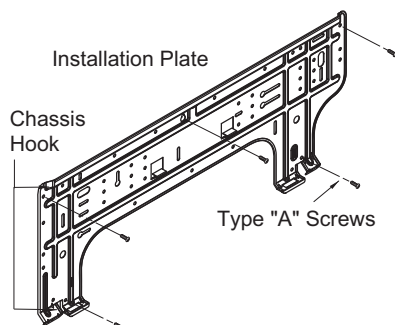


## 8. Installation

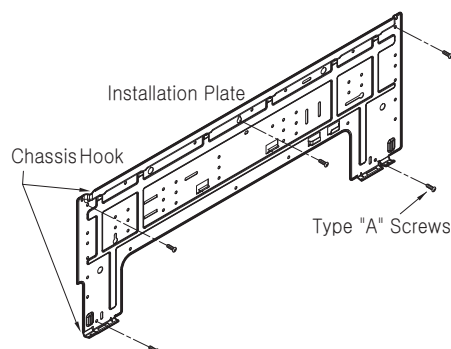
### ■ Fixing Installation Plate

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

**SJ Chassis**

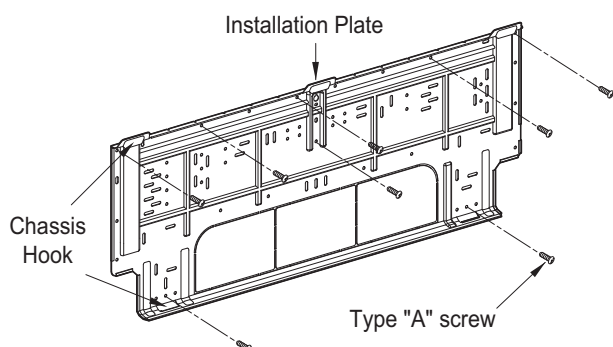


**SK Chassis**



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

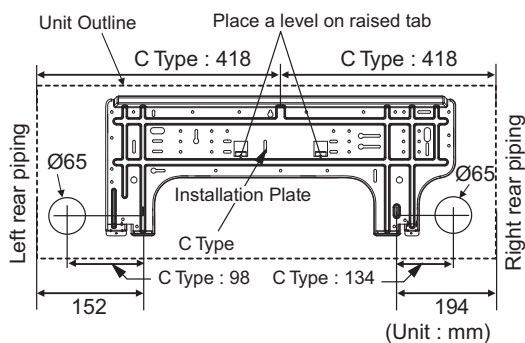
**SV Chassis**



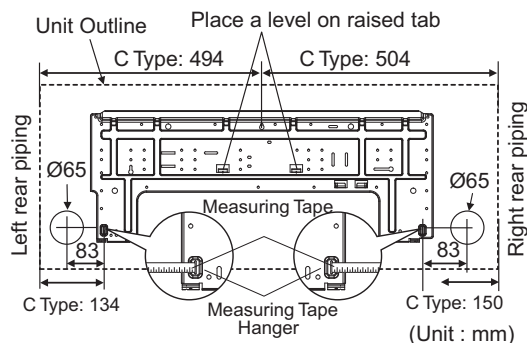
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

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

**SJ chassis**



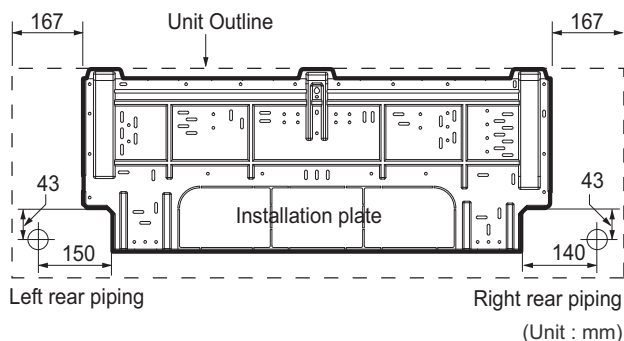
**SK chassis**



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

## 8. Installation

### SV chassis



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

### ⚠ CAUTION

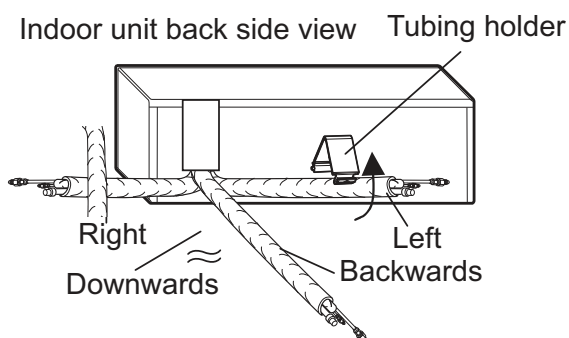
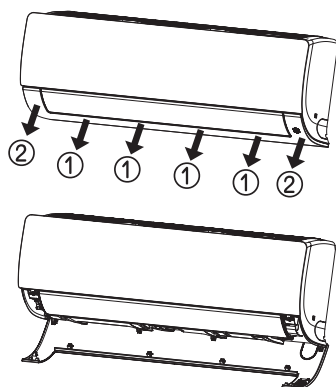
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

## 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 ①→②.
2. Remove the chassis cover from the unit.
3. Pull back the tubing holder.
4. Remove pipe port cover and positioning the tubing.



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

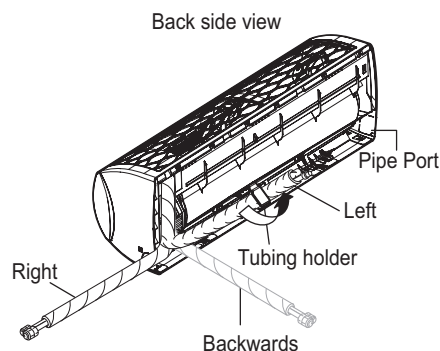
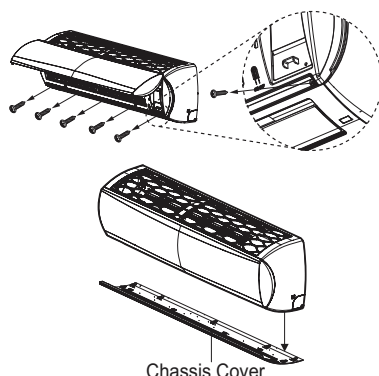
\* The feature can be changed according to type of model.

\* 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 loosening 5 screws.
3. Pull back the tubing holder.
4. Remove pipe port cover and position the piping.

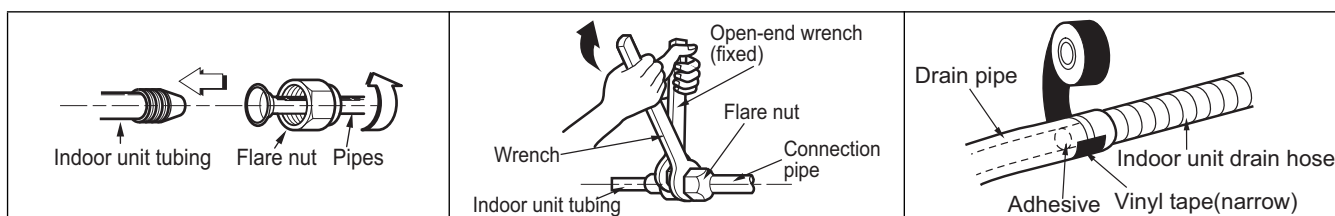
## 8. Installation



\* 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.

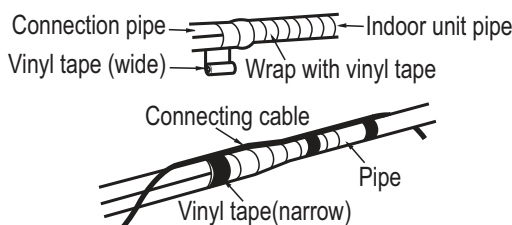
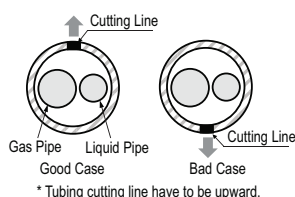
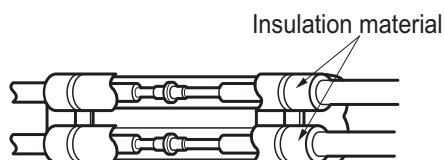
### ■ Connecting the installation pipe and drain hose



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

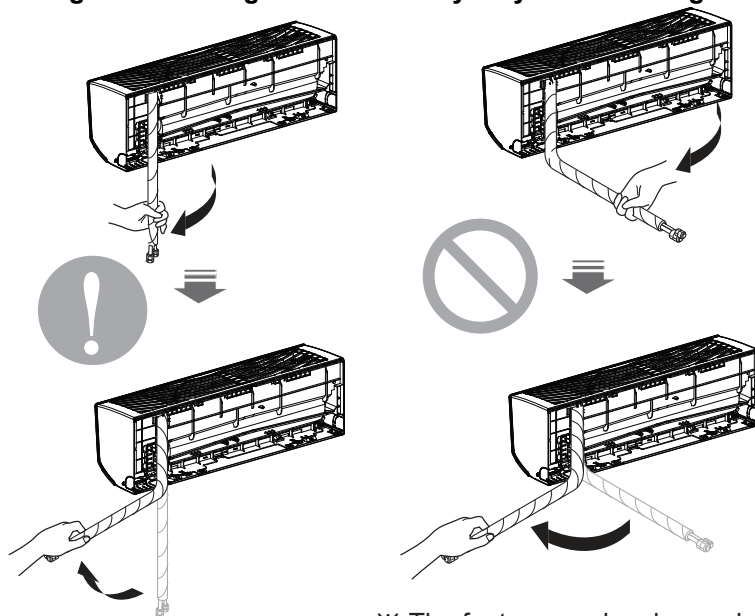
If the drain hose is routed inside the room insulate the hose with an insulation material\* so that dripping from sweating condensation) will not damage furniture or floors.

## 8. Installation

\* 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.



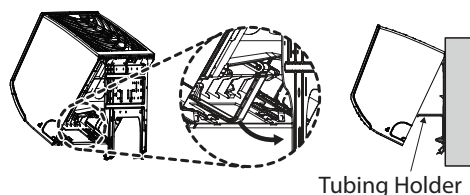
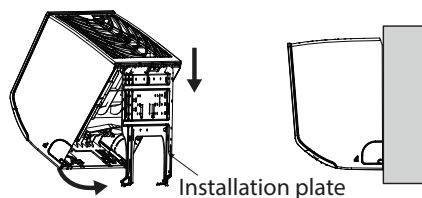
※ The feature can be changed according to type

- 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.



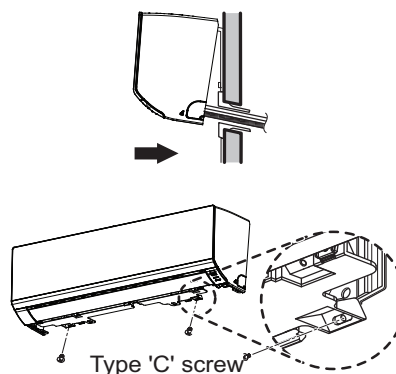
\* The feature can be changed according to type of model.



## 8. Installation

### 8.2.3 Finishing the indoor unit installation

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



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

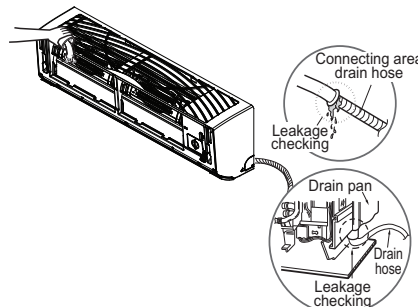
#### **! CAUTION**

- 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.

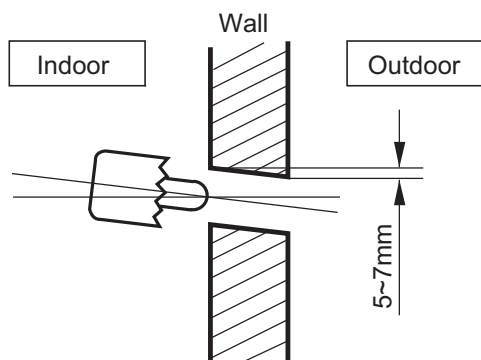


\* The feature can be changed according to type of model.

## 8. Installation

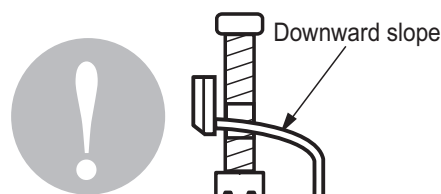
### ◆ Drill a Hole in the wall

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

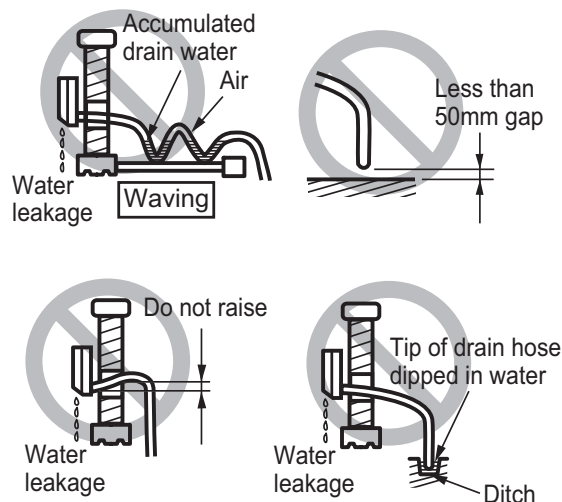


### ◆ Drain Piping

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.

## 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.

### ⚠ CAUTION

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

## 8. Installation

- 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 and visually 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

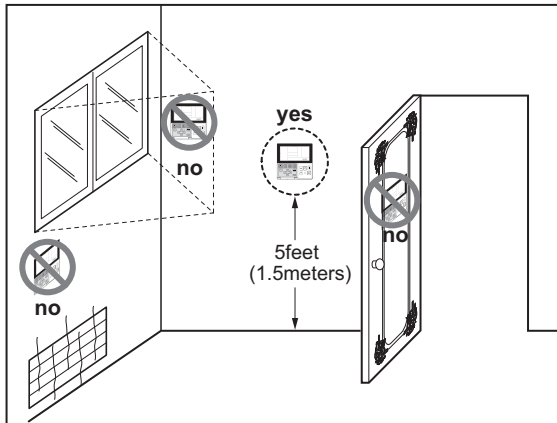
- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (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 (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.

## 8. Installation

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 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

## ◆ Basic functions of Indoor Unit

Category	Functions	ZMNW05GTRA0 [MT06R NR0] ZMNW07GTRA0 [MT08R NR0]	ZTNW09GRLA0 [CT09R NR0] ZTNW12GRLA0 [CT12R NR0]
Air flow	Air supply outlet	4	4
	Airflow direction control (left & right)	X	X
	Airflow direction control (up & down)	Auto	Auto
	Auto swing (left & right)	X	X
	Auto swing (up & down)	O	O
	Airflow steps (fan/cool/heat)	4 / 5 / 4	4 / 5 / 4
	Chaos wind(auto wind)	X	X
	Jet cool/heat	O / X	O / X
Air purifying	Swirl wind	O	O
	Triple filter (Deodorizing)	X	X
	Plasma air purifier	PTPKQ0	PTPKQ0
	Allergy Safe filter	X	X
Installation	Long-life prefilter (washable / anti-fungus)	O	O
	Drain pump	O	O
	E.S.P. control*	X	X
	Electric heater	X	X
Reliability	High ceiling operation*	O	O
	Hot start	O	O
	Self diagnosis	O	O
Convenience	Auto changeover	X	O (Single Only)
	Auto cleaning	X	X
	Auto operation(artificial intelligence)	O	O (Multi Only)
	Auto Restart	O	O
	Child lock*	O	O
	Forced operation	O	O
	Group control*	O	O
	Sleep mode	O	O
	Timer(on/off)	O	O
	Timer(weekly)*	O	O
	Two thermistor control*	O	O
Special Functions	Auto Elevation Grille	X	X
	Wi-Fi	X	O (Accessory)
	Humidity Control	X	X
Comes with product	Human Detecting Control	X	X
	Wireless Remote Controller	X	X
Network Solution(LGAP)	Wired Remote Controller	O**	O**
		O	O

### Note

1. O : Applied, X : Not applied  
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
2. Some functions can be limited by remote controller.
3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	ZMNM05GTRA0 [MT06R NR0] ZMNM07GTRA0 [MT08R NR0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMD200	-	X
	Human detecting sensor	PTVSMA0	-	X

Category		Product	Remark	ZTNW09GRLA0 [CT09R NR0] ZTNW12GRLA0 [CT12R NR0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMD200	-	O
	Human detecting sensor	PTVSMA0	-	X

### Note

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

# 1. List of functions

## ◆ Basic functions of Indoor Unit

Category	Functions	ZTNW18GQLA0 [CT18R NQ0]	ZTNW24GPLA0 [CT24R NP0]
Air flow	Air supply outlet	4	4
	Airflow direction control (left & right)	X	X
	Airflow direction control (up & down)	Auto	Auto
	Auto swing (left & right)	X	X
	Auto swing (up & down)	O	O
	Airflow steps (fan/cool/heat)	4 / 5 / 4	4 / 5 / 4
	Chaos wind(auto wind)	X	X
	Jet cool/heat	O / X	O / X
	Swirl wind	O	O
Air purifying	Triple filter (Deodorizing)	X	X
	Plasma air purifier	PTPKQ0	PTPKM0
	Allergy Safe filter	X	X
	Long-life prefilter (washable / anti-fungus)	O	O
Installation	Drain pump	O	O
	E.S.P. control*	X	X
	Electric heater	X	X
	High ceiling operation*	O	O
Reliability	Hot start	O	O
	Self diagnosis	O	O
Convenience	Auto changeover	O (Single Only)	O (Single Only)
	Auto cleaning	X	X
	Auto operation(artificial intelligence)	O (Multi Only)	O (Multi Only)
	Auto Restart	O	O
	Child lock*	O	O
	Forced operation	O	O
	Group control*	O	O
	Sleep mode	O	O
	Timer(on/off)	O	O
	Timer(weekly)*	O	O
	Two thermistor control*	O	O
	Auto Elevation Grille	X	PTEGM0
Special Functions	Wi-Fi	O (Accessory)	O (Accessory)
	Humidity Control	X	O (Single Only)
	Human Detecting Control	X	O (Accessory)
Comes with product	Wireless Remote Controller	X	X
	Wired Remote Controller	O**	O**
Network Solution(LGAP)		O	O

### Note

- O : Applied, X : Not applied  
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
- Some functions can be limited by remote controller.
- In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- \* : These functions need to connect the wired remote controller.
- \*\* : It is included by default when the product is manufactured.



# 1. List of functions

## ◆ Network solution Accessory List

Category		Product	Remark	ZTNW18GQLA0 [CT18R NQ0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	X

Category		Product	Remark	ZTNW24GPLA0 [CT24R NP0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	O

### Note

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3. \*\*: It could not be operated some functions.
4. If you need more detail, please refer to the **BECON** PDB or the manual of product.  
(<http://partner.lge.com/global> : Home> Download> Manuals)

# 1. List of functions

## ◆ Basic functions of Indoor Unit

Category	Functions	ZTNW36GMLA0 [UT36R NM0], ZTNW42GMLA0 [UT42R NM0] ZTNW48GMLA0 [UT48R NM0], ZTNW60GMLA0 [UT60R NM0]
Air flow	Air supply outlet	4
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	4 / 5 / 4
	Chaos wind(auto wind)	X
	Jet cool/heat	O / X
	Swirl wind	O
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	PTPKM0
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	O
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	PTEGM0
Special Functions	Wi-Fi	O (Accessory)
	Humidity Control	O
	Human Detecting Control	O (Accessory)
Comes with product	Wireless Remote Controller	X
	Wired Remote Controller	O**
Network Solution(LGAP)		O

### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	ZTNW36GMLA0 [UT36R NM0] ZTNW42GMLA0 [UT42R NM0] ZTNW48GMLA0 [UT48R NM0] ZTNW60GMLA0 [UT60R NM0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
		PREMTB001	Standard (White)	O
	Standard	PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
		Premium	PREMTA000(A/B)	Premium
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	O

### Note

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

Model Name				Unit	ZMNW05GTRA0 [MT06R NR0]	ZMNW07GTRA0 [MT08R NR0]
Power Supply				V , Ø , Hz	220-240, 1, 50	220-240, 1, 50
					220, 1, 60	220, 1, 60
Casing					-	-
Dimensions		W x H x D		mm	570 × 214 × 570	570 × 214 × 570
Net Weight				kg	13.0	13.0
Shipping Weight				kg	16.5	16.5
Heat Exchanger	Rows x Columns x FPI				1 x 8 x 18	1 x 8 x 18
	Face Area			m²	0.22	0.22
Fan Type					Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L		m³/min	7.5 / 6.0 / 5.0	7.5 / 6.0 / 5.0
Fan Motor	Type				BLDC	BLDC
	Drive				Internal	Internal
	Output		W x No.		43 x 1	43 x 1
	Power Input	Min./ Nom./ Max		W	10 / 20 / 20	10 / 20 / 20
	FLA (Full Load Ampere)		A		0.4	0.4
Dehumidification Rate				ℓ/h	-	-
Safety Device					Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side			mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side			mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain Pipe	O.D. / I.D.		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L		dB(A)	31 / 27 / 24	31 / 27 / 24
Sound Power Level	Cooling	Max.		dB(A)	48	48
Power and Communication Cable (included Earth)				No. x mm²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name				PT-QCHW0	PT-QCHW0
	Color				Morning Fog	Morning Fog
	Dimensions	W x H x D		mm	620 × 34 × 620	620 × 34 × 620
	Net Weight			kg	3.0	3.0
	Shipping Weight			kg	4.1	4.1

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name			Unit	ZTNW09GRLA0 [CT09R NR0]	ZTNW12GRLA0 [CT12R NR0]
Power Supply			V , Ø , Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Casing				-	-
Dimensions		W x H x D	mm	570 × 214 × 570	570 × 214 × 570
Net Weight			kg	13.0	13.0
Shipping Weight			kg	16.5	16.5
Heat Exchanger	Rows x Columns x FPI			(2 x 8 x 18) x 1	(2 x 8 x 18) x 1
	Face Area		m²	0.22	0.22
Fan Type				Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L	m³/min	8.5 / 7.0 / 6.0	9.5 / 8.0 / 7.0
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	43 x 1	43 x 1
	Power Input	H / M / L	W	26 / 22 / 19	28 / 24 / 20
	FLA (Full Load Ampere)		A	0.4	0.4
Dehumidification Rate			ℓ/h	0.9	1.4
Safety Device				Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	36 / 33 / 30	38 / 35 / 32
Sound Power Level	Cooling	Max.	dB(A)	52	52
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name			PT-QCHW0	PT-QCHW0
	Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	620 × 34 × 620	620 × 34 × 620
	Net Weight		kg	3.0	3.0
	Shipping Weight		kg	4.1	4.1

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name			Unit	ZTNW18GQLA0 [CT18R NQ0]	ZTNW24GPLA0 [CT24R NP0]
Power Supply			V , Ø , Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Casing				-	-
Dimensions		W x H x D	mm	570 × 256 × 570	840 × 204 × 840
Net Weight			kg	14.3	20.5
Shipping Weight			kg	18.5	26.0
Heat Exchanger	Rows x Columns x FPI			(2 x 10 x 18) x 1	(2 x 8 x 19) x 1
	Face Area		m²	0.28	0.35
Fan Type				Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L	m³/min	13.0 / 12.0 / 11.0	17.0 / 15.0 / 13.0
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	43 x 1	60 x 1
	Power Input	H / M / L	W	30 / 26 / 22	60 / 50 / 40
	FLA (Full Load Ampere)		A	0.4	0.6
Dehumidification Rate			ℓ/h	2.0	2.7
Safety Device				Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8) [Ø 6.35 (1/4)*]
	Gas Side		mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8) [Ø 12.7 (1/2)*]
	Drain Pipe	O.D. / I.D.	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	41 / 39 / 36	38 / 36 / 34
Sound Power Level	Cooling	Max.	dB(A)	57	57
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name			PT-QCHW0	PT-MCHW0
	Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	620 × 34 × 620	950 × 35 × 950
	Net Weight		kg	3.0	6.3
	Shipping Weight		kg	4.1	8.3

### 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 : 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 system, socket provided with indoor units should be connected.

## 2. Specifications

Model Name			Unit	ZTNW36GMLA0 [UT36R NM0]	ZTNW42GMLA0 [UT42R NM0]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Galvanized Steel Plate	Galvanized Steel Plate
Dimensions	W x H x D		mm	840 × 288 × 840	840 × 288 × 840
Net Weight			kg	24.6	24.6
Shipping Weight			kg	31.0	31.0
Heat Exchanger	Rows x Columns x FPI			2 x 12 x 21	2 x 12 x 21
	Face Area		m²	0.53	0.53
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m³/min	30 / 25 / 20	33 / 28 / 22
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	136 x 1	136 x 1
	Power Input	H / M / L	W	83 / 52 / 41	106 / 72 / 47
	FLA (Full Load Ampere)		A	0.63	0.63
Dehumidification Rate			ℓ/h	2.7	4.2
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	46 / 43 / 40	47 / 44 / 41
Sound Power Level	Cooling	Max.	dB(A)	62	64
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name			PT-MCHW0	PT-MCHW0
	Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	950 × 35 × 950	950 × 35 × 950
	Net Weight		kg	6.3	6.3
	Shipping Weight		kg	8.3	8.3

### 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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

## 2. Specifications

Model Name			Unit	ZTNW48GMLA0 [UT48R NM0]	ZTNW60GMLA0 [UT60R NM0]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Galvanized Steel Plate	Galvanized Steel Plate
Dimensions	W x H x D		mm	840 × 288 × 840	840 × 288 × 840
Net Weight			kg	24.6	24.6
Shipping Weight			kg	31.0	31.0
Heat Exchanger	Rows x Columns x FPI			2 x 12 x 21	2 x 12 x 21
	Face Area		m²	0.53	0.53
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m³/min	33 / 28 / 22	33 / 28 / 22
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	136 x 1	136 x 1
	Power Input	H / M / L	W	106 / 72 / 47	106 / 72 / 47
	FLA (Full Load Ampere)		A	0.63	0.63
Dehumidification Rate			ℓ/h	5.2	6.2
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	47 / 44 / 41	47 / 44 / 41
Sound Power Level	Cooling	Max.	dB(A)	64	66
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name			PT-MCHW0	PT-MCHW0
	Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	950 × 35 × 950	950 × 35 × 950
	Net Weight		kg	6.3	6.3
	Shipping Weight		kg	8.3	8.3

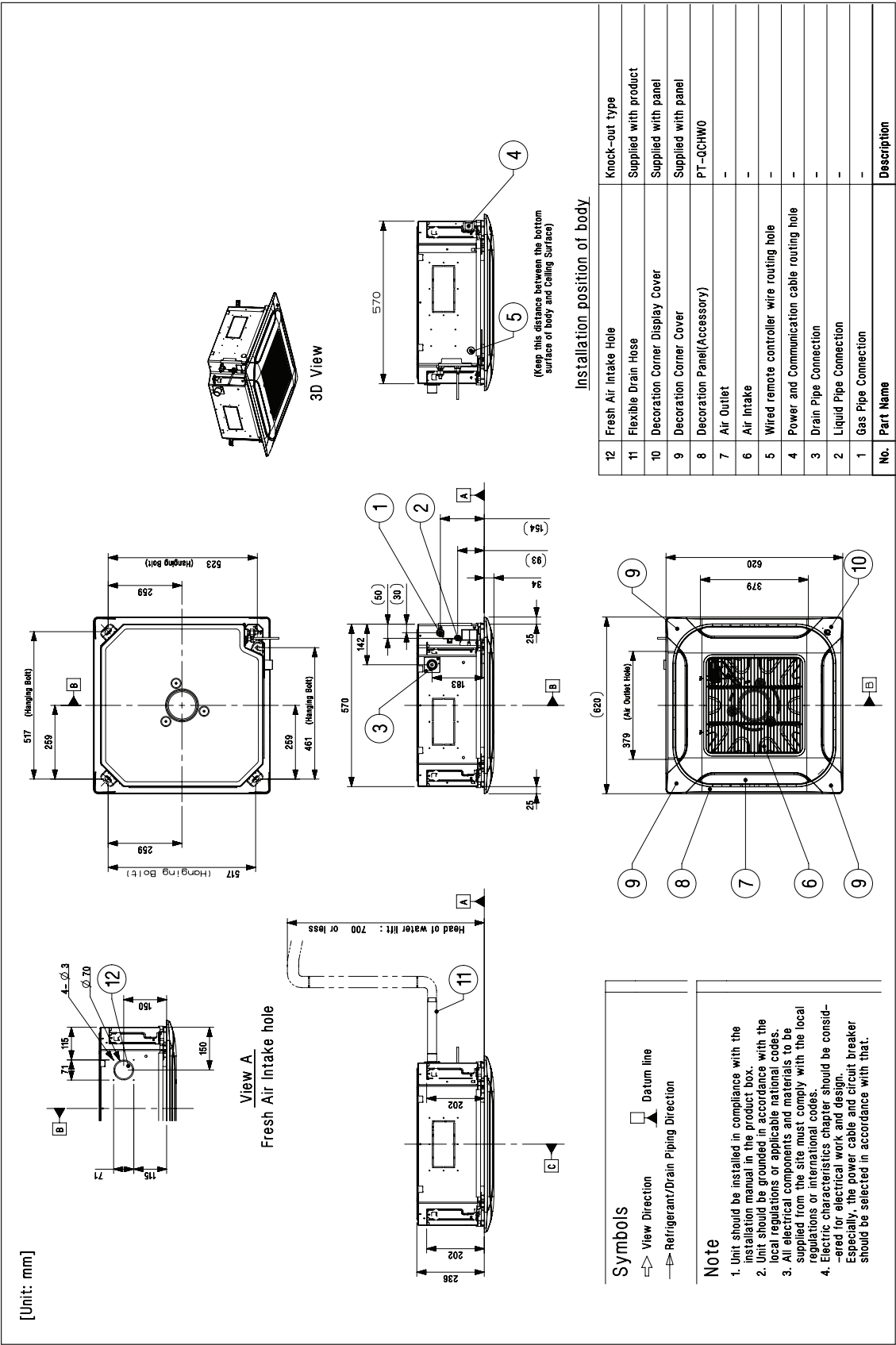
### Note

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 : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
  - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
  - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.



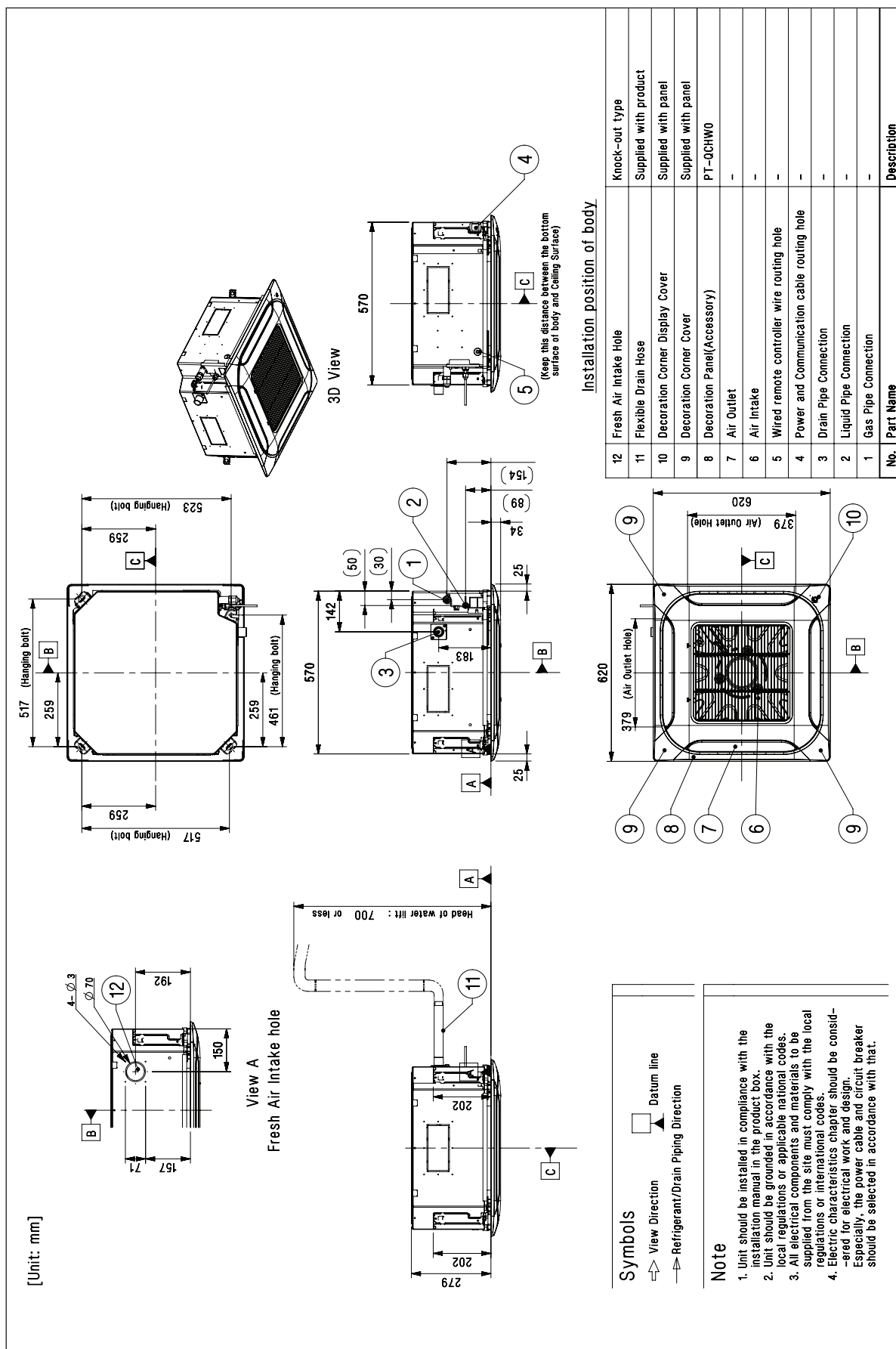
3. Dimensions

ZMNW05GTRA0 [MT06R NR0] / ZMNW07GTRA0 [MT08R NR0]  
ZTNW09GRLA0[CT09R NR0] / ZTNW12GRLA0 [CT12R NR0]



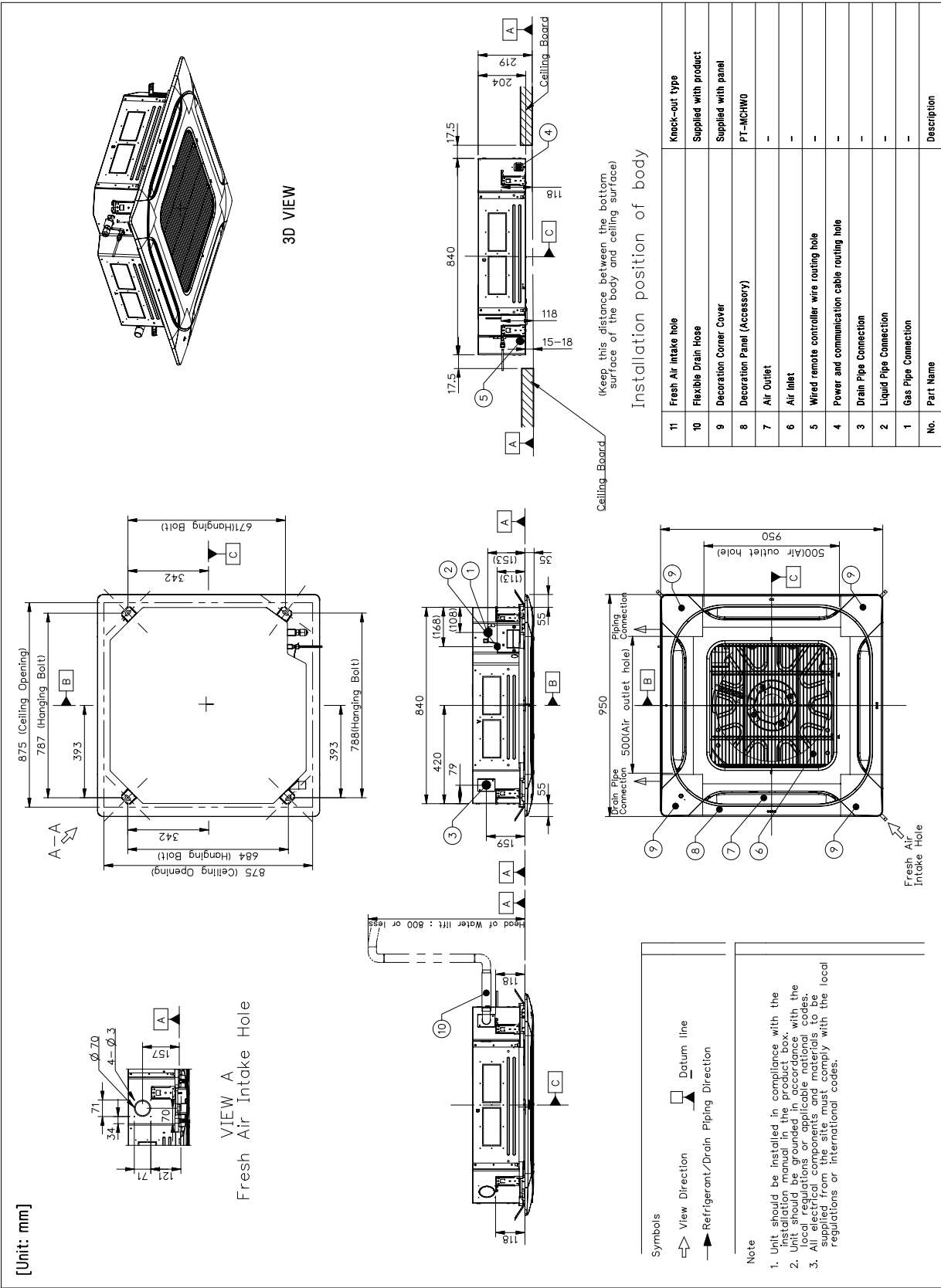
### 3. Dimensions

**ZTNW18GQLA0 [CT18R NQ0]**

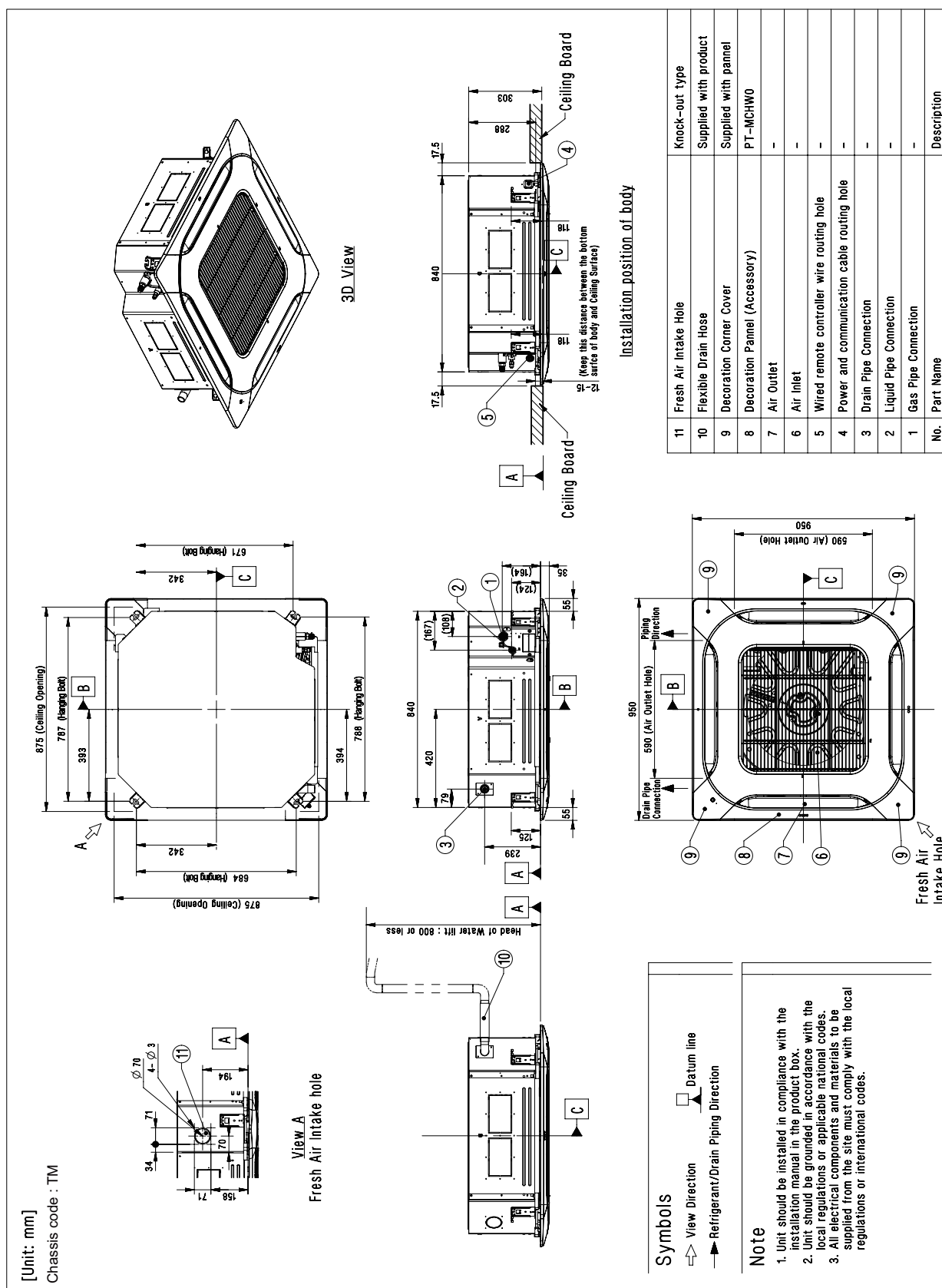


3. Dimensions

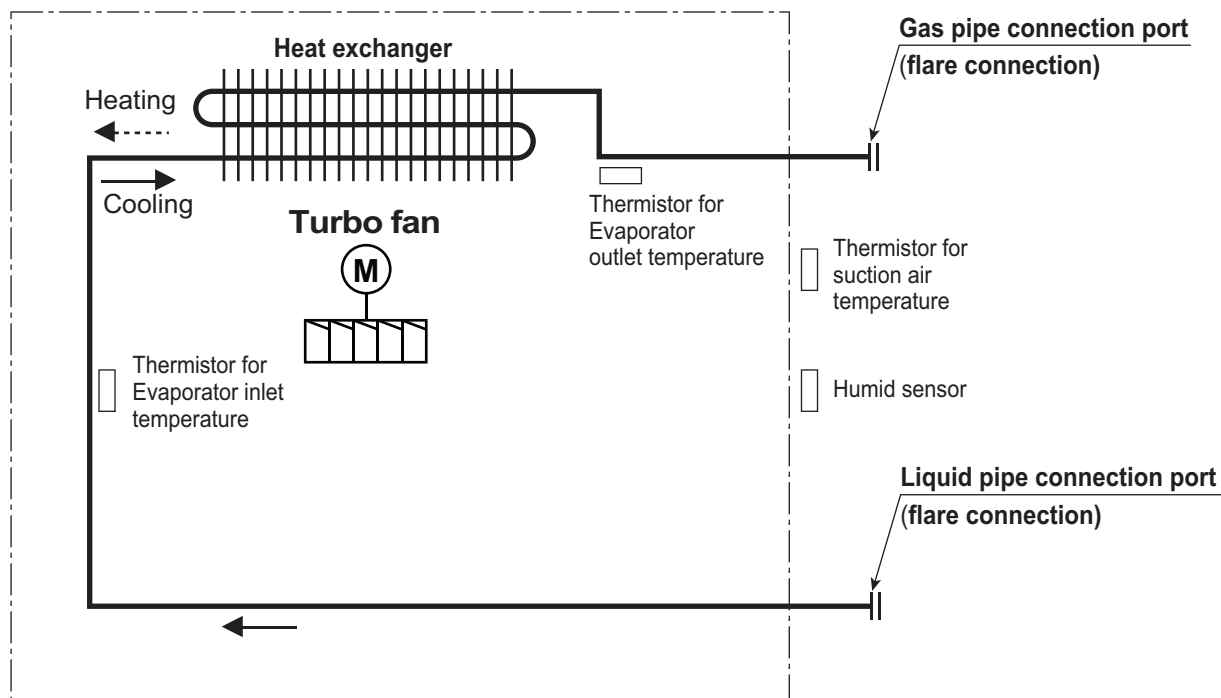
ZTNW24GPLA0 [CT24R NP0]



ZTNW36GMLA0 [UT36R NM0] / ZTNW42GMLA0 [UT42R NM0]  
ZTNW48GMLA0 [UT48R NM0] / ZTNW60GMLA0 [UT60R NM0]



## 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
Humid Sensor*	CN_HUMID*

\* : Not available for -05G/-07G/-09G/-12G/-18G- models.

### ◆ Refrigerant pipe connection port diameters

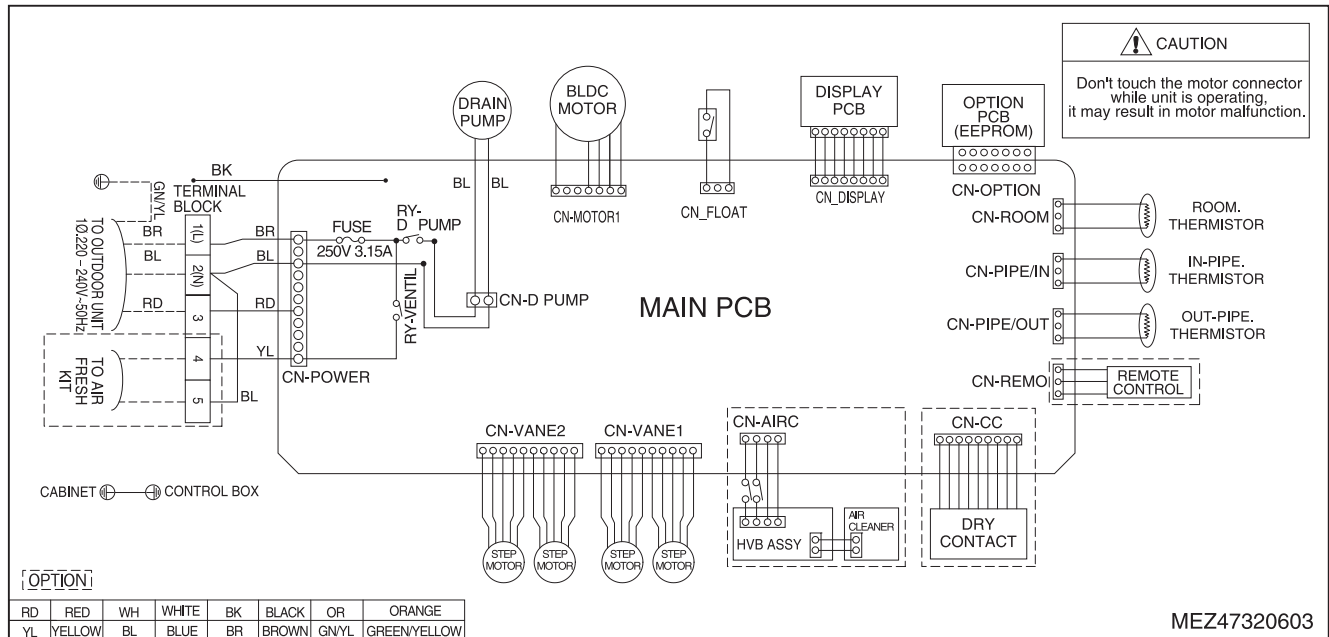
[Unit : mm]

Model	Gas	Liquid
ZMNW05GTRA0 [MT06R NR0] ZMNW07GTRA0 [MT08R NR0] ZTNW09GRLA0 [CT09R NR0] ZTNW12GRLA0 [CT12R NR0]	Ø9.52	Ø6.35
ZTNW18GQLA0 [CT18R NQ0]	Ø12.7	
ZTNW24GPLA0 [CT24R NP0]	Ø15.88 [Ø 12.7*]	Ø9.52 [Ø 6.35*]
ZTNW36GMLA0 [UT36R NM0] ZTNW42GMLA0 [UT42R NM0] ZTNW48GMLA0 [UT48R NM0] ZTNW60GMLA0 [UT60R NM0]	Ø15.88	Ø9.52

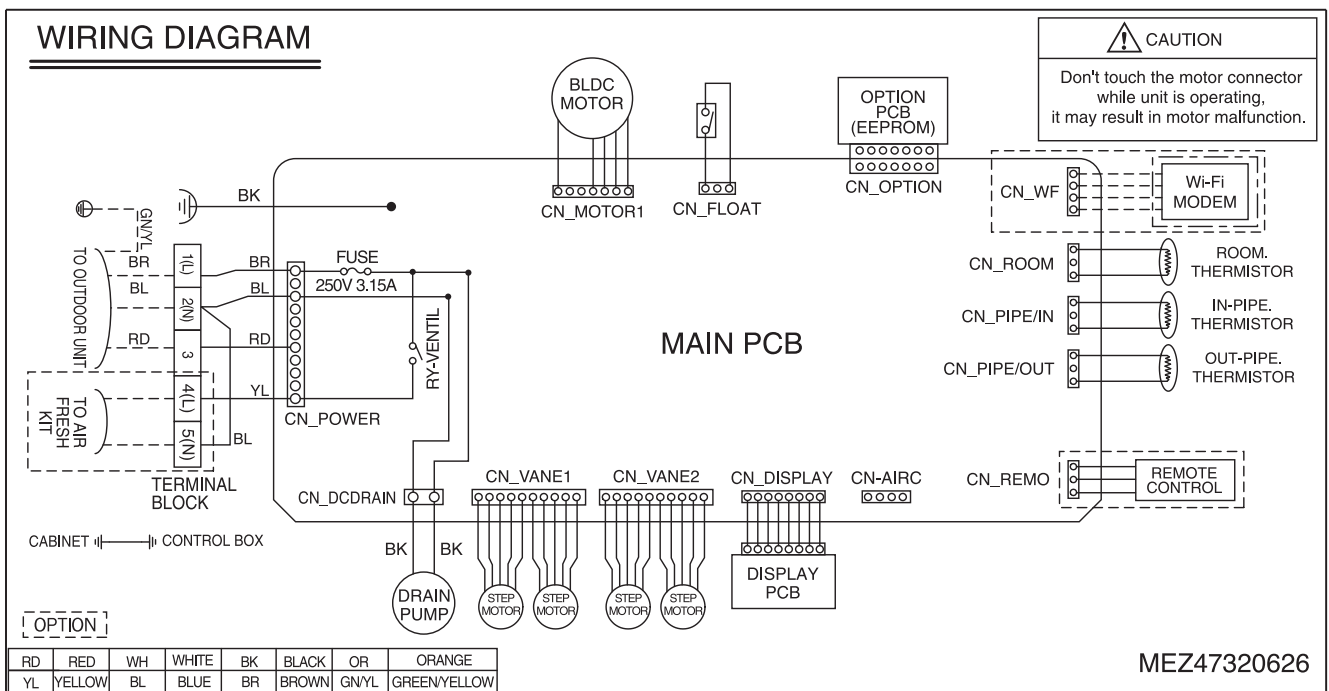
\* : For combined with Multi system, socket provided with indoor units should be connected.

## 5. Wiring Diagrams

### ■ Models: ZMNW05GTRA0 [MT06R NR0], ZMNW07GTRA0 [MT08R NR0]



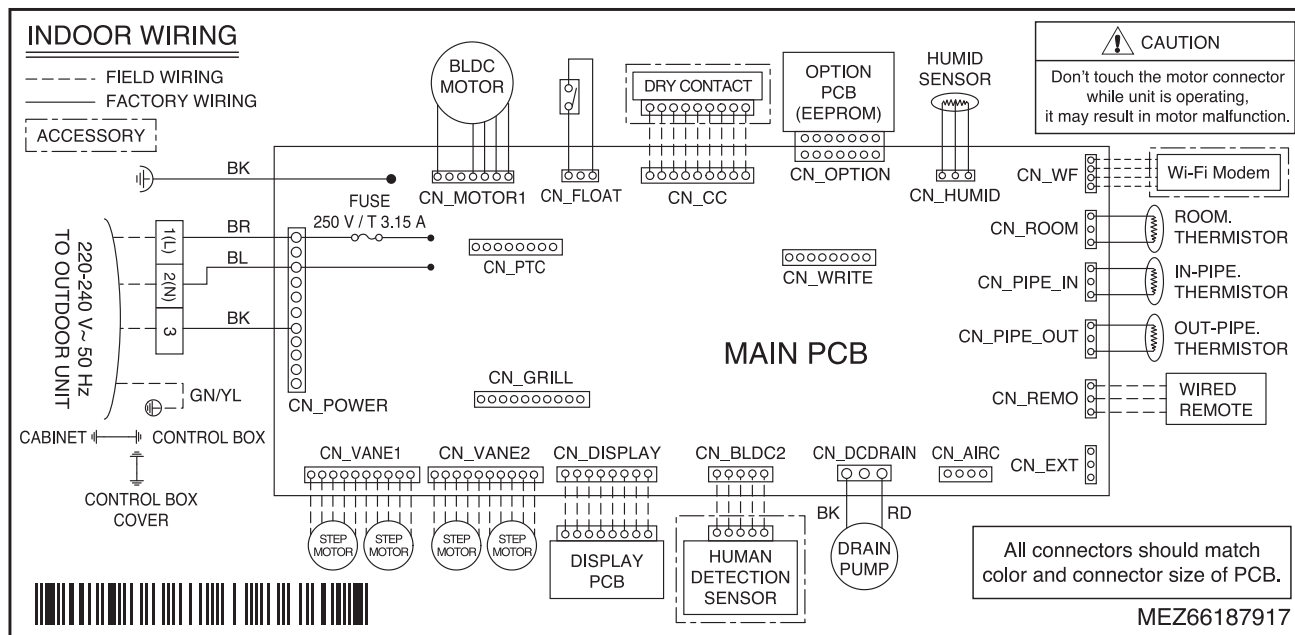
### ■ Model : ZTNW09GRLA0 [CT09R NR0], ZTNW12GRLA0 [CT12R NR0], ZTNW18GQLA0 [CT18R NQ0]



## 5. Wiring Diagrams

[Unit : mm]

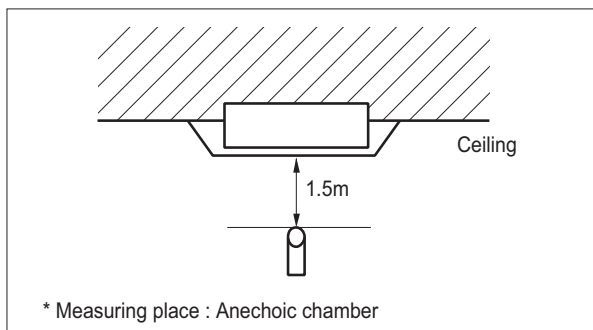
- Model : ZTNW24GPLA0 [CT24R NP0], ZTNW36GMLA0 [UT36R NM0],  
ZTNW42GMLA0 [UT42R NM0], ZTNW48GMLA0 [UT48R NM0],  
ZTNW60GMLA0 [UT60R NM0]



## 6. Sound levels

### 6.1 Sound pressure level

#### ■ Overall

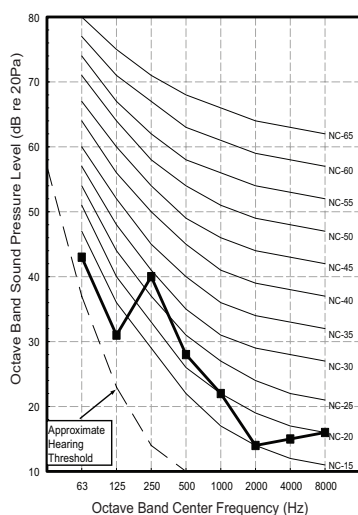


#### Note

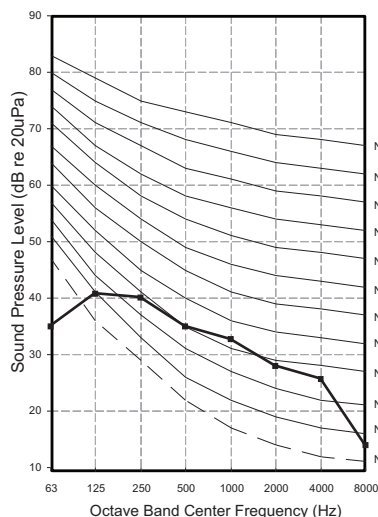
- Sound measured at 1.5m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference acoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
ZMNW05GTRA0 [MT06R NR0]	31	27	24
ZMNW07GTRA0 [MT08R NR0]	31	27	24
ZTNW09GRLA0 [CT09R NR0]	36	33	30
ZTNW12GRLA0 [CT12R NR0]	38	35	32
ZTNW18GQLA0 [CT18R NQ0]	41	39	36
ZTNW24GPLA0 [CT24R NP0]	38	36	34
ZTNW36GMLA0 [UT36R NM0]	46	43	40
ZTNW42GMLA0 [UT42R NM0]	47	44	41
ZTNW48GMLA0 [UT48R NM0]	47	44	41
ZTNW60GMLA0 [UT60R NM0]	47	44	41

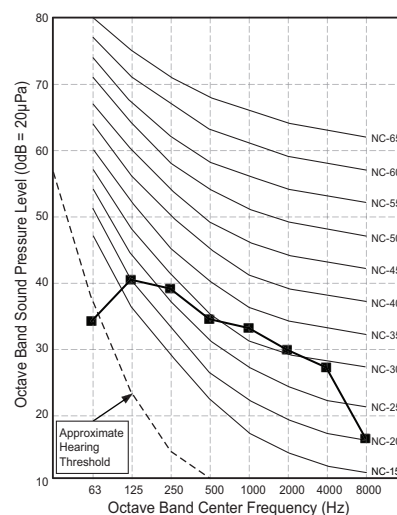
**ZMNW05GTRA0 [MT06R NR0]  
ZMNW07GTRA0 [MT08R NR0]**



**ZTNW09GRLA0 [CT09R NR0]  
ZTNW12GRLA0 [CT12R NR0]**



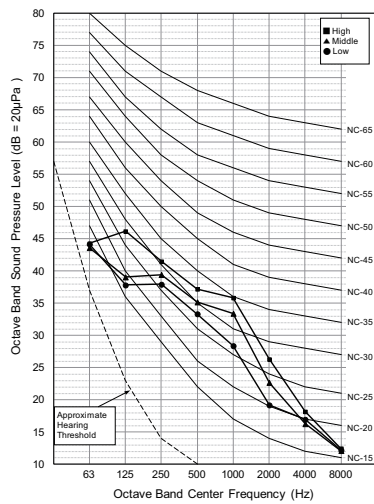
**ZTNW18GQLA0 [CT18R NQ0]**



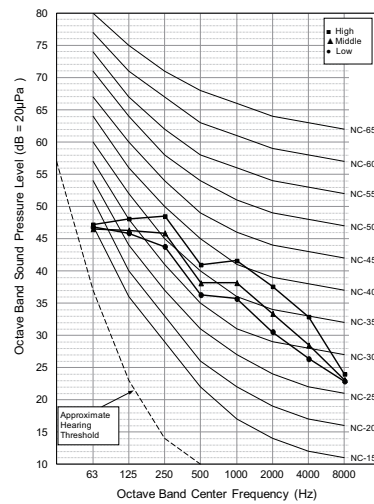


## 6. Sound levels

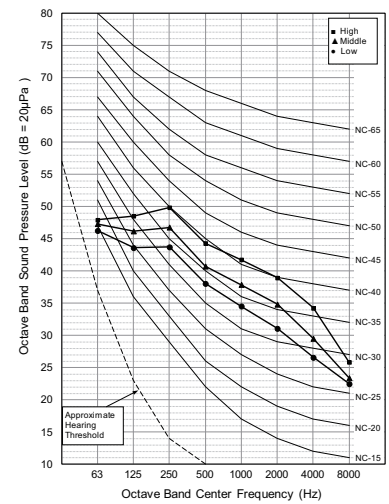
ZTNW24GPLA0 [CT24R NP0]



ZTNW36GMLA0 [UT36R NM0]



ZTNW42GMLA0 [UT42R NM0]  
ZTNW48GMLA0 [UT48R NM0]  
ZTNW60GMLA0 [UT60R NM0]



## 6. Sound levels

[Unit : mm]

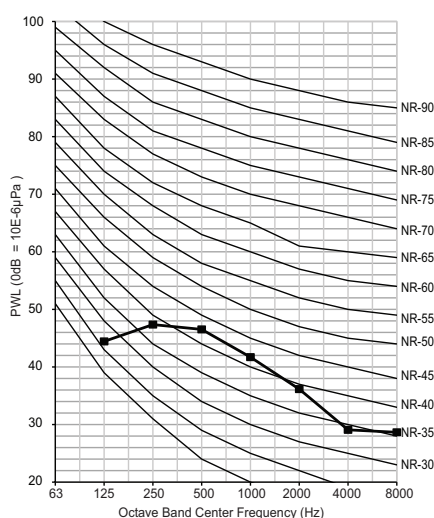
### 6.2 Sound power level

#### Note

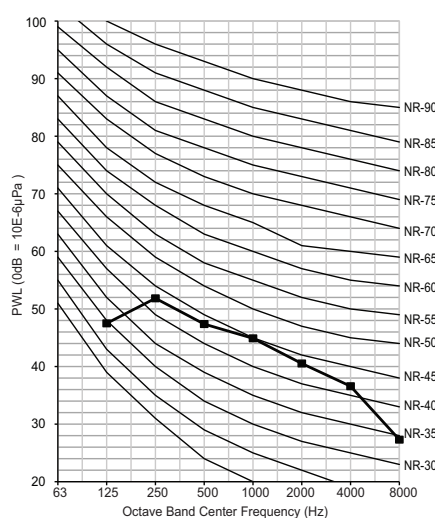
- Reference acoustic intensity 0dB =  $10E-6\mu W/m^2$
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
ZMNW05GTRA0 [MT06R NR0]	48
ZMNW07GTRA0 [MT08R NR0]	48
ZTNW09GRLA0 [CT09R NR0]	52
ZTNW12GRLA0 [CT12R NR0]	52
ZTNW18GQLA0 [CT18R NQ0]	57
ZTNW24GPLA0 [CT24R NP0]	57
ZTNW36GMLA0 [UT36R NM0]	62
ZTNW42GMLA0 [UT42R NM0]	64
ZTNW48GMLA0 [UT48R NM0]	64
ZTNW60GMLA0 [UT60R NM0]	66

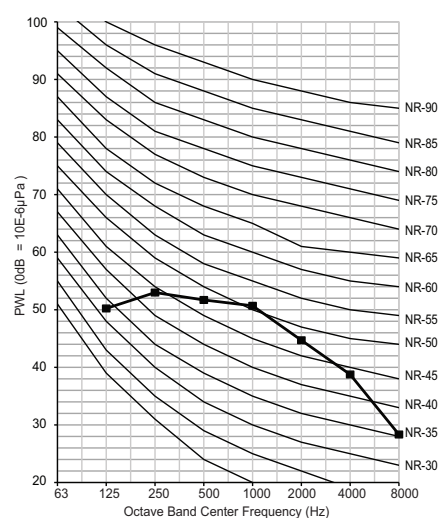
ZMNW05GTRA0 [MT06R NR0]  
ZMNW07GTRA0 [MT08R NR0]  
ZTNW09GRLA0 [CT09R NR0]



ZTNW12GRLA0 [CT12R NR0]

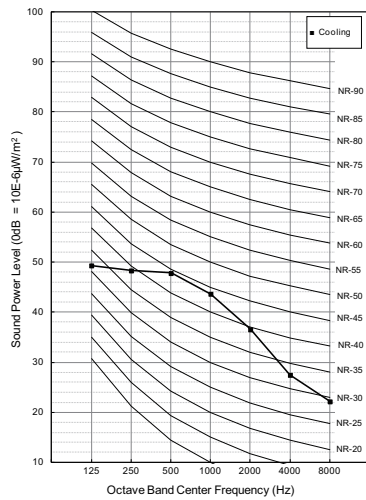


ZTNW18GQLA0 [CT18R NQ0]

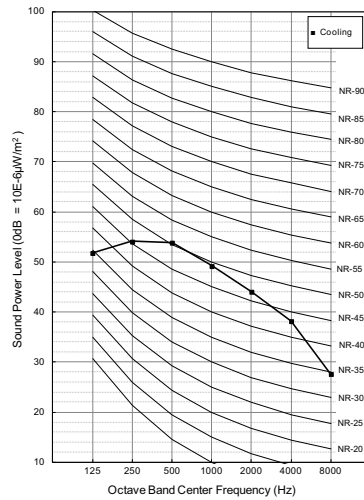


## 6. Sound levels

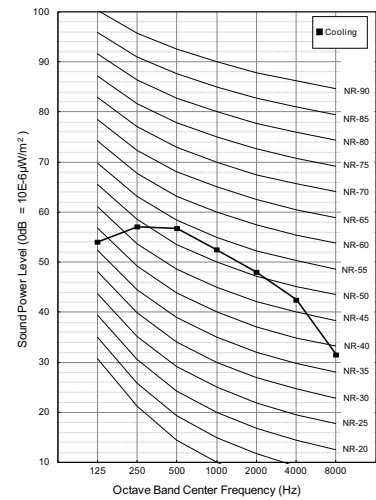
ZTNW24GPLA0 [CT24R NP0]



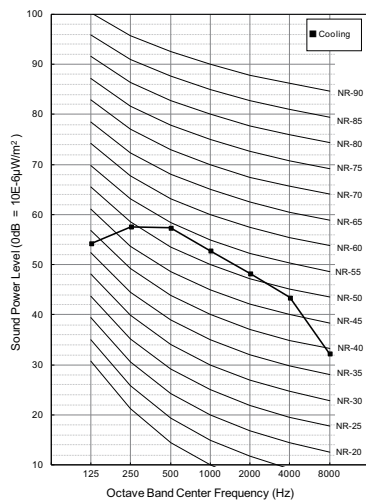
ZTNW36GMLA0 [UT36R NM0]



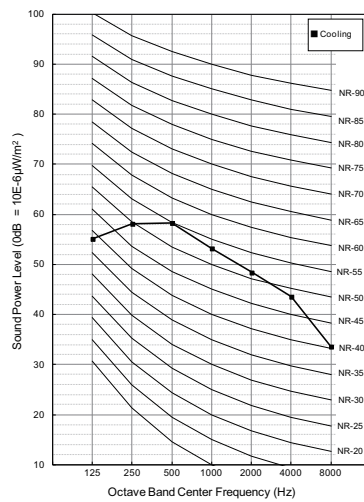
ZTNW42GMLA0 [UT42R NM0]



ZTNW48GMLA0 [UT48R NM0]



ZTNW60GMLA0 [UT60R NM0]

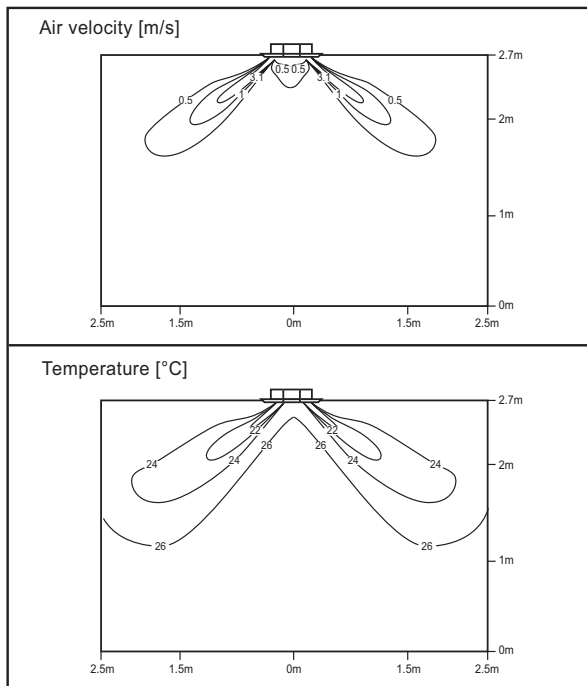


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZMNW05GTRA0 [MT06R NR0], ZMNW07GTRA0 [MT08R NR0]

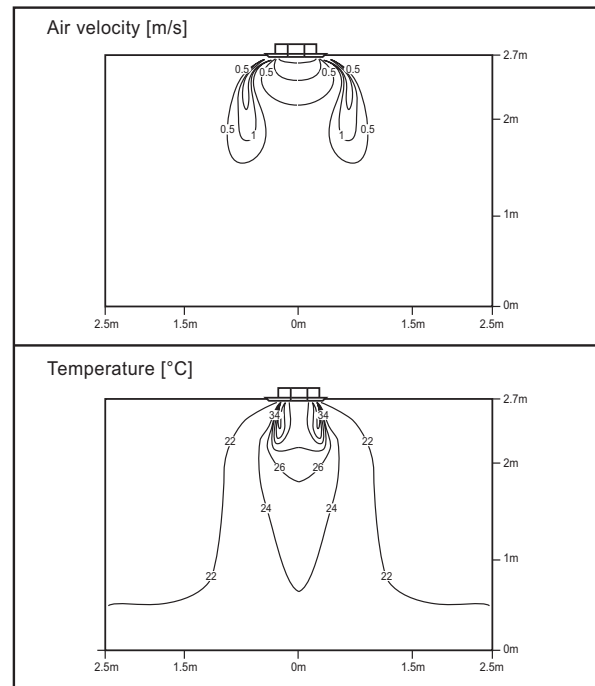
#### Cooling

Discharge angle: 40°



#### Heating

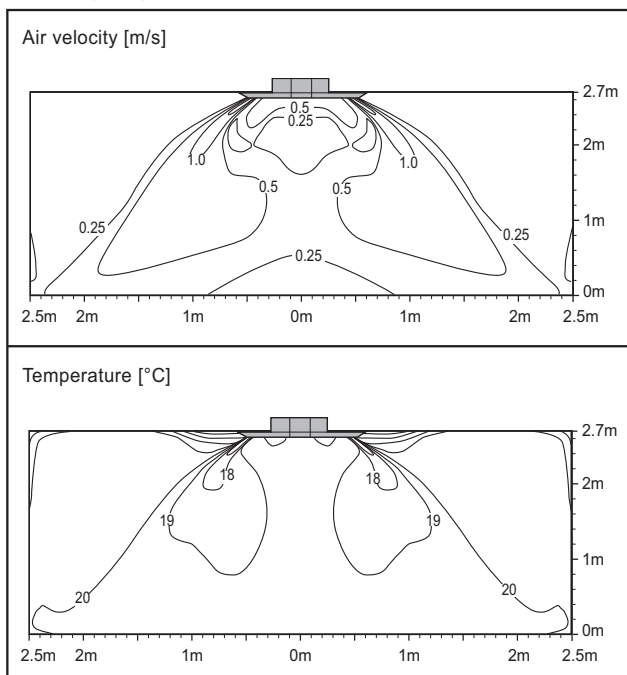
Discharge angle: 50°



### ■ Model : ZTNW09GRLA0 [CT09R NR0]

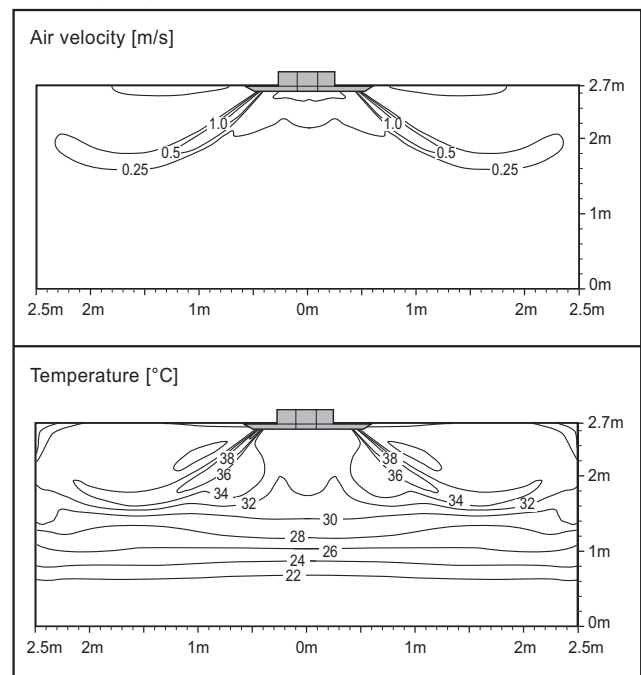
#### Cooling

Discharge angle: 40°



#### Heating

Discharge angle: 50°

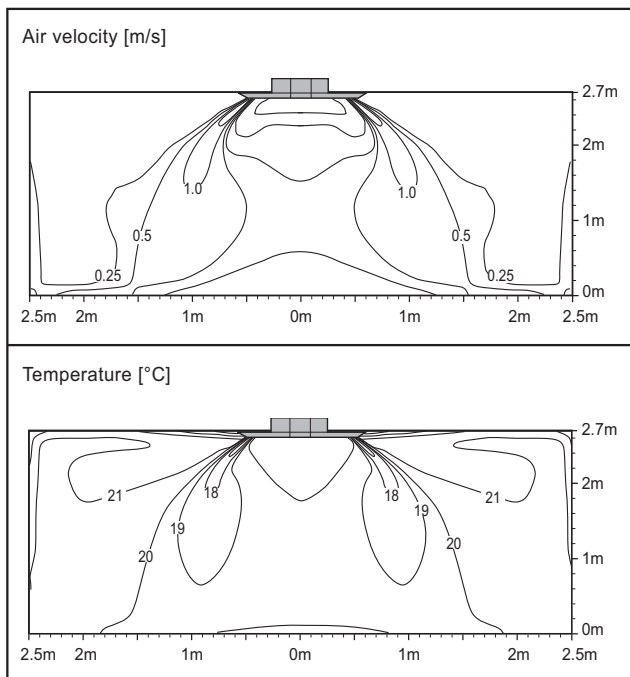


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZTNW12GRLA0 [CT12R NR0]

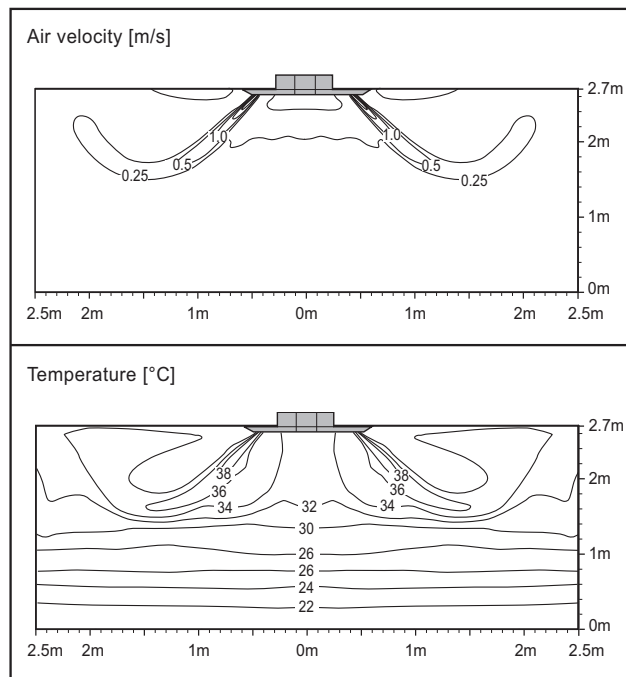
#### Cooling

Discharge angle: 40°



#### Heating

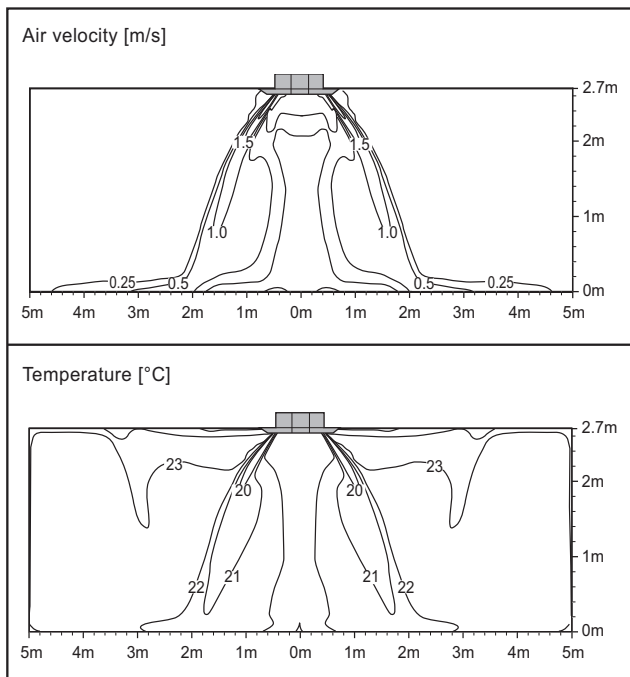
Discharge angle: 50°



### ■ Model : ZTNW18GQLA0 [CT18R NQ0]

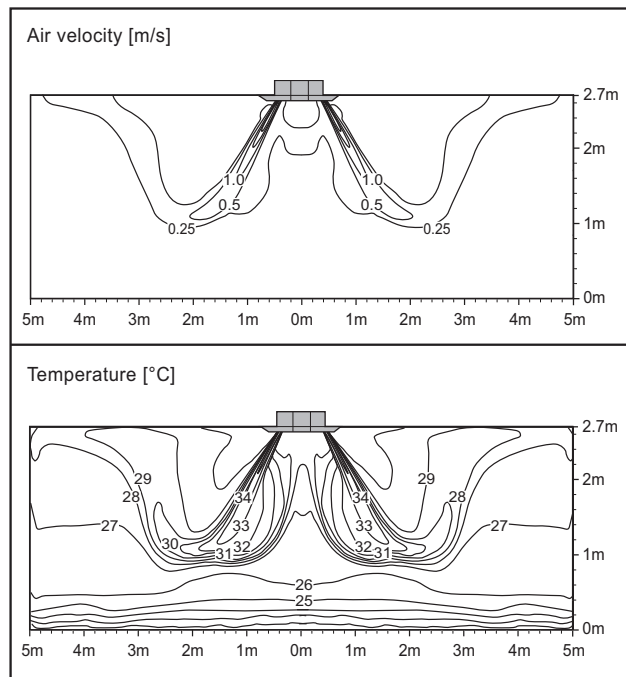
#### Cooling

Discharge angle: 40°



#### Heating

Discharge angle: 50°

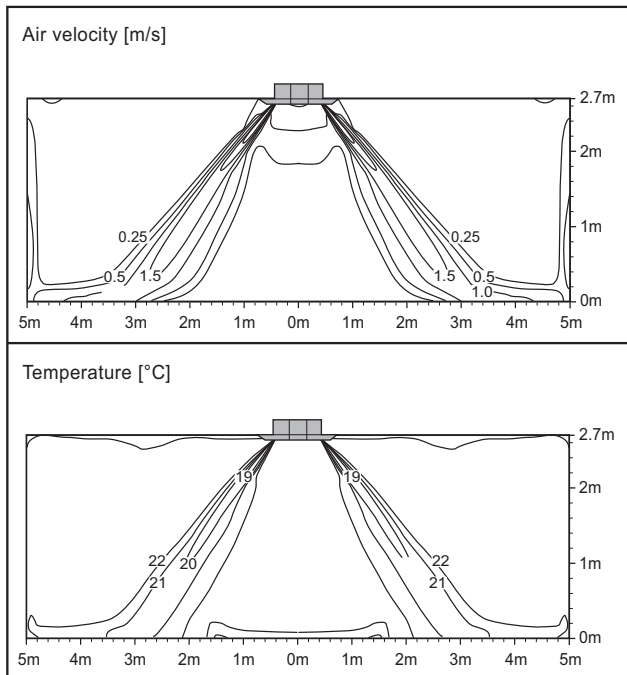


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZTNW24GPLA0 [CT24R NP0]

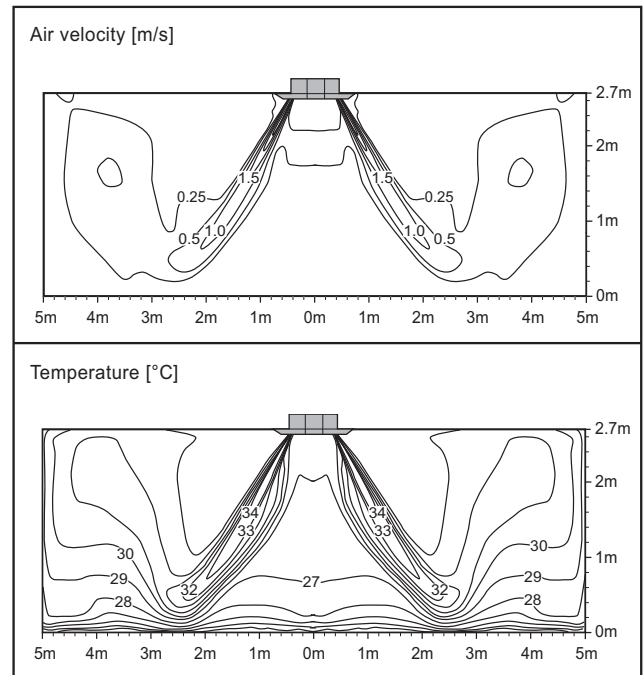
#### Cooling

Discharge angle: 40°



#### Heating

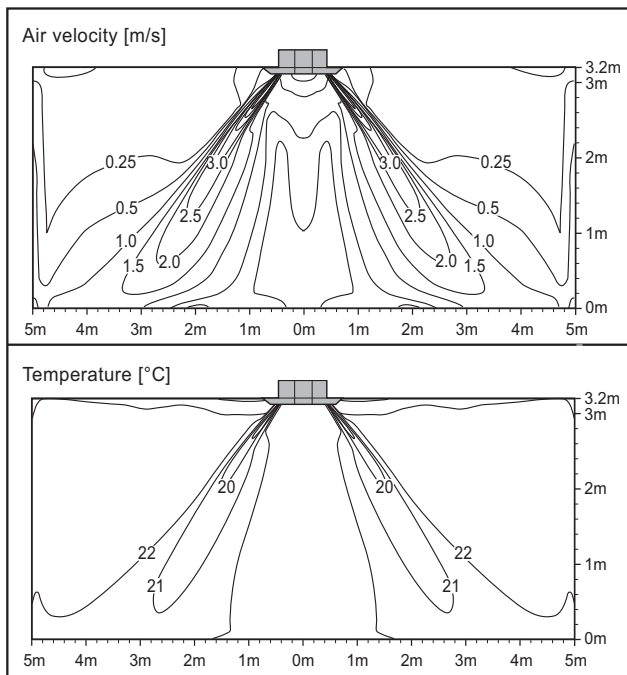
Discharge angle: 50°



### ■ Model : ZTNW36GMLA0 [UT36R NM0]

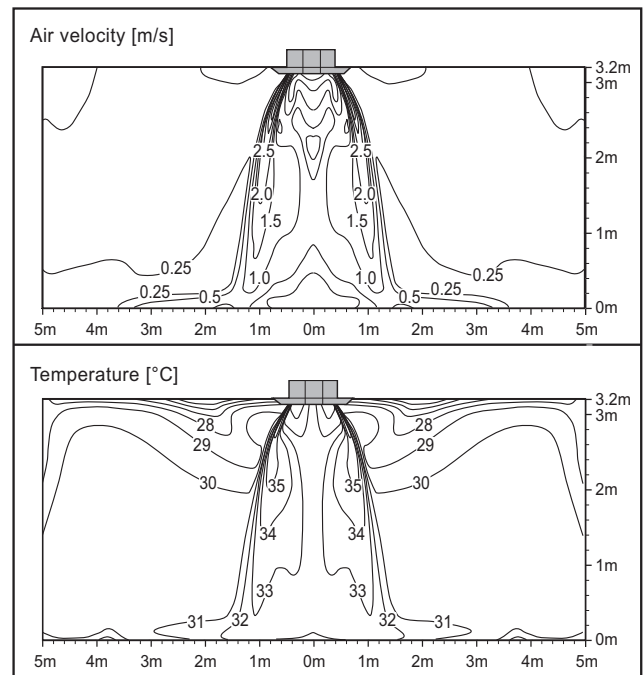
#### Cooling

Discharge angle: 40°



#### Heating

Discharge angle: 50°

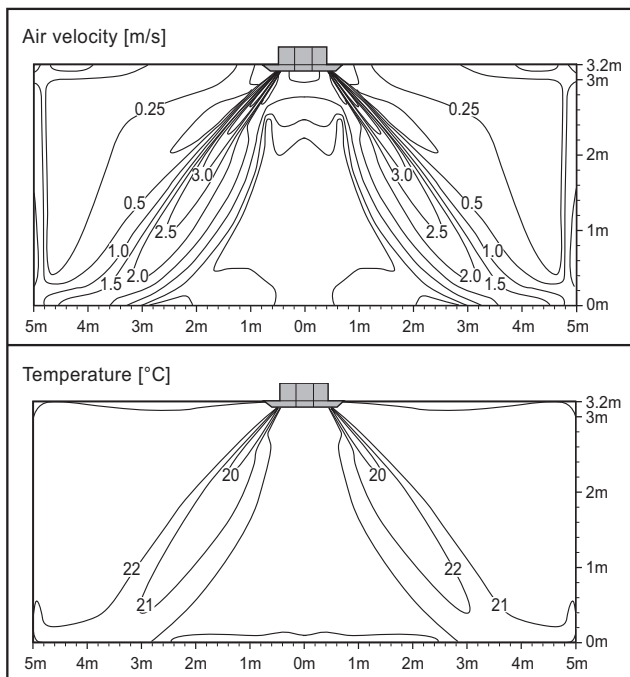


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZTNW42GMLA0 [UT42R NM0]

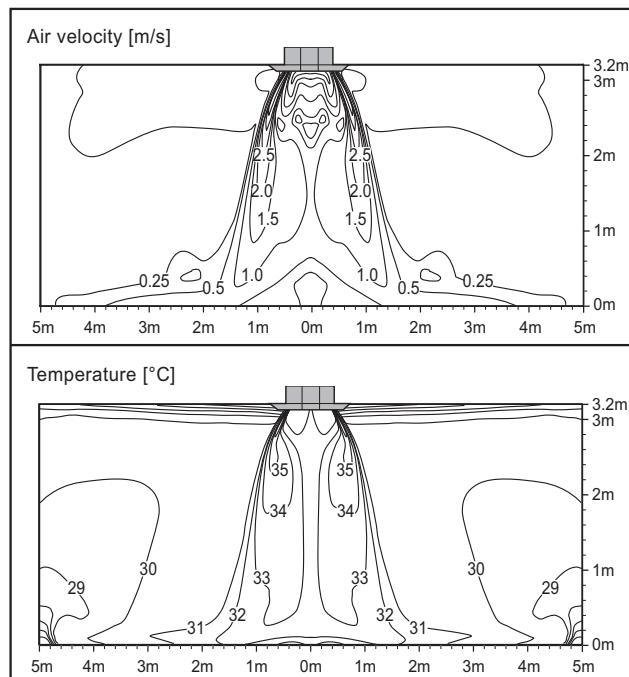
#### Cooling

Discharge angle: 40°



#### Heating

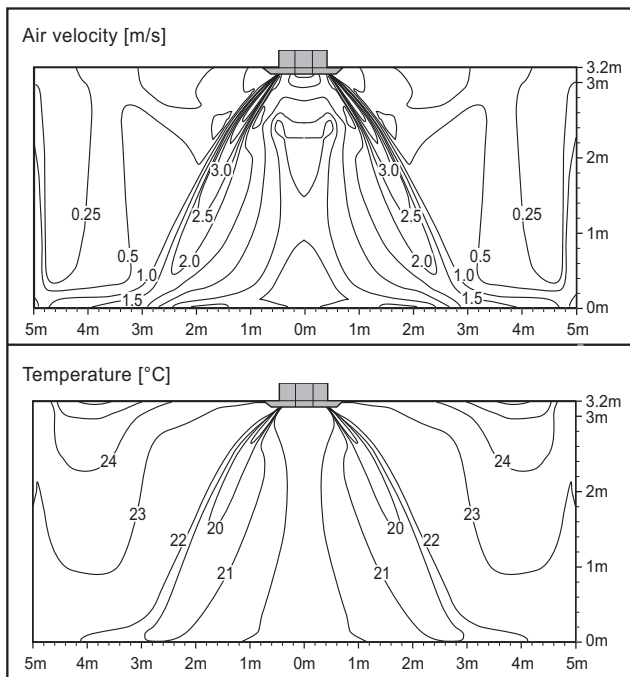
Discharge angle: 50°



### ■ Model : ZTNW48GMLA0 [UT48R NM0]

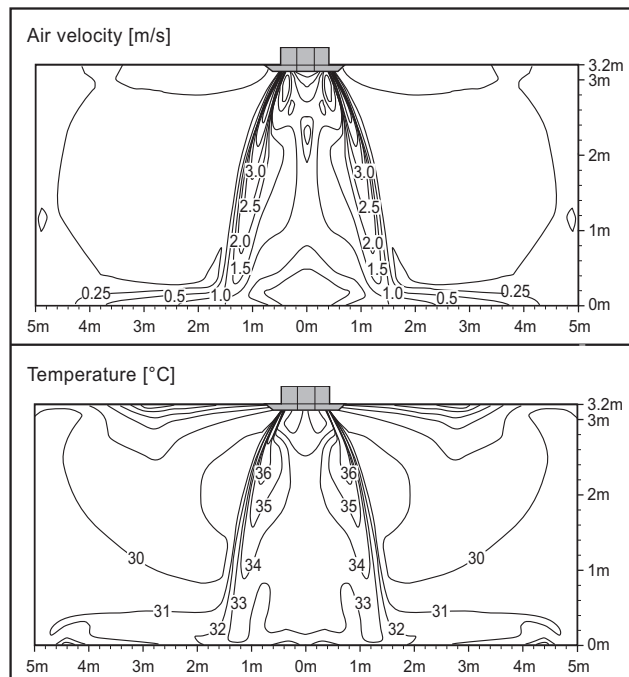
#### Cooling

Discharge angle: 40°



#### Heating

Discharge angle: 50°

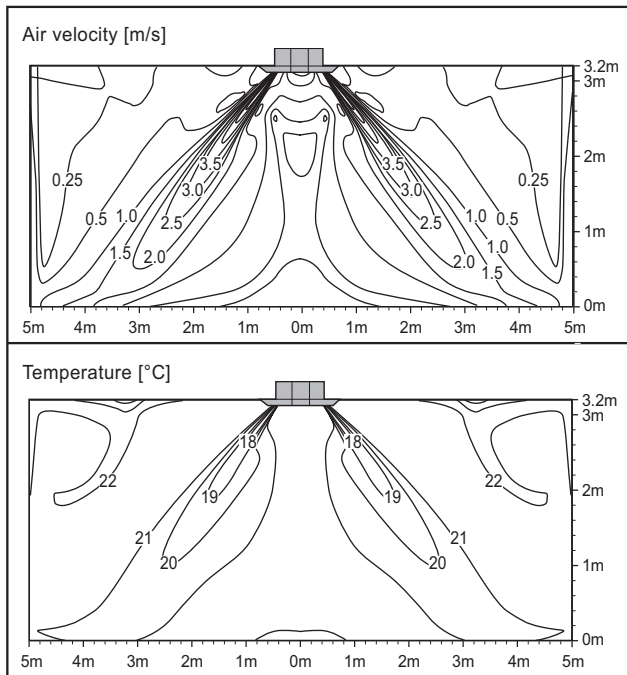


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZTNW60GMLA0 [UT60R NM0]

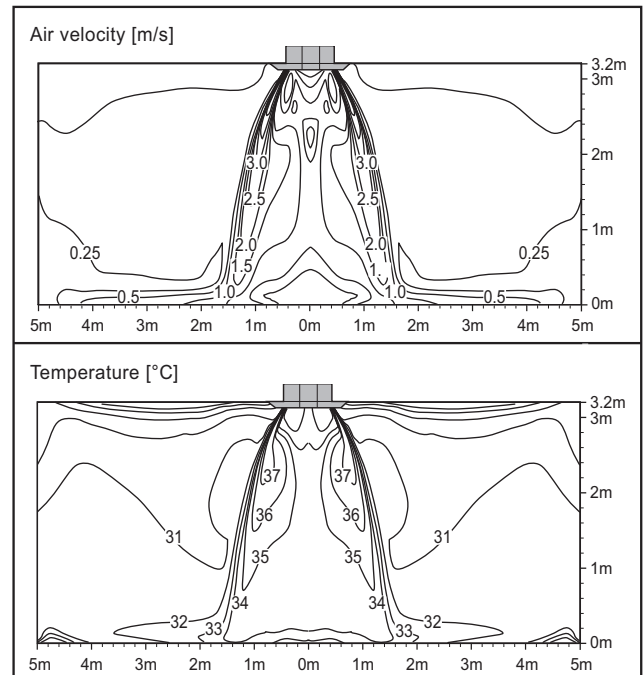
#### Cooling

Discharge angle: 40°



#### Heating

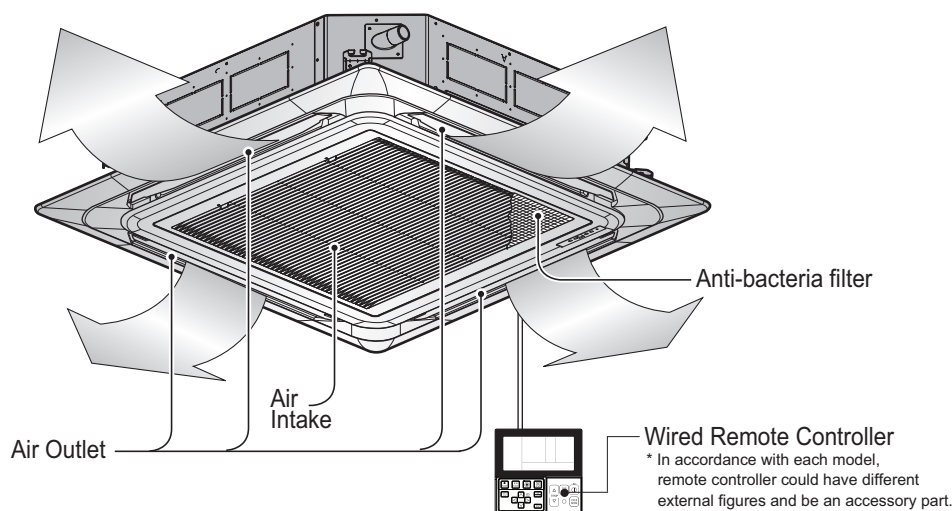
Discharge angle: 50°





## 8. Installation

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

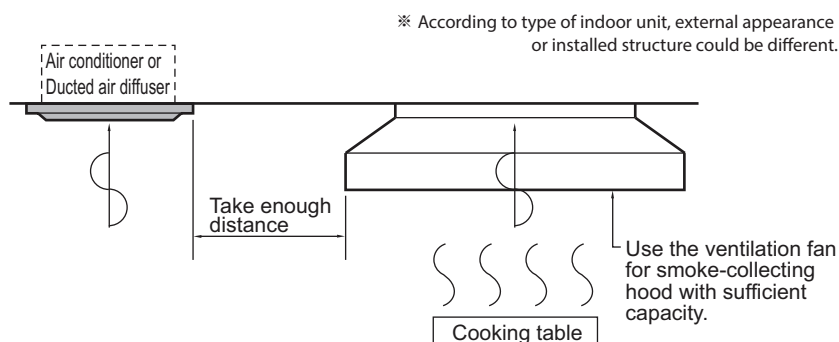


### 8.1 Selection of the best location

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

## 8. Installation

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



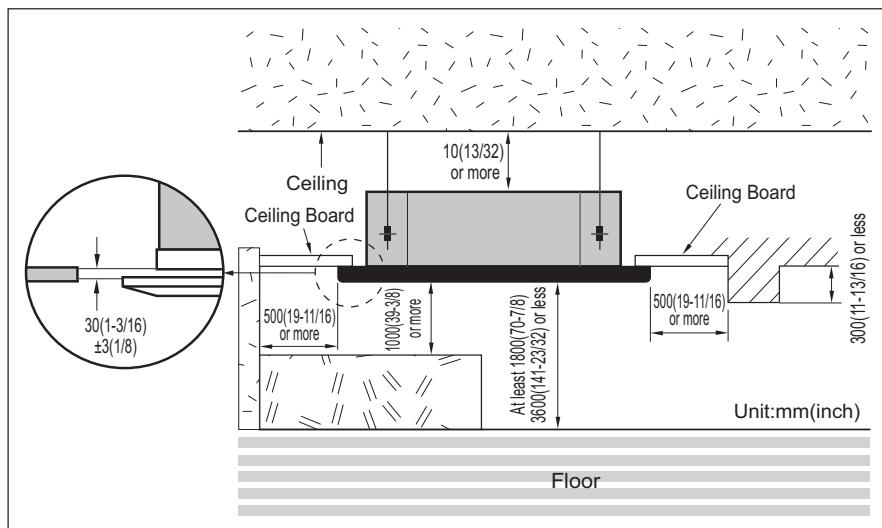
2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

### CAUTION

- If the temperature rise above 30°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.

### TQ/TR Chassis

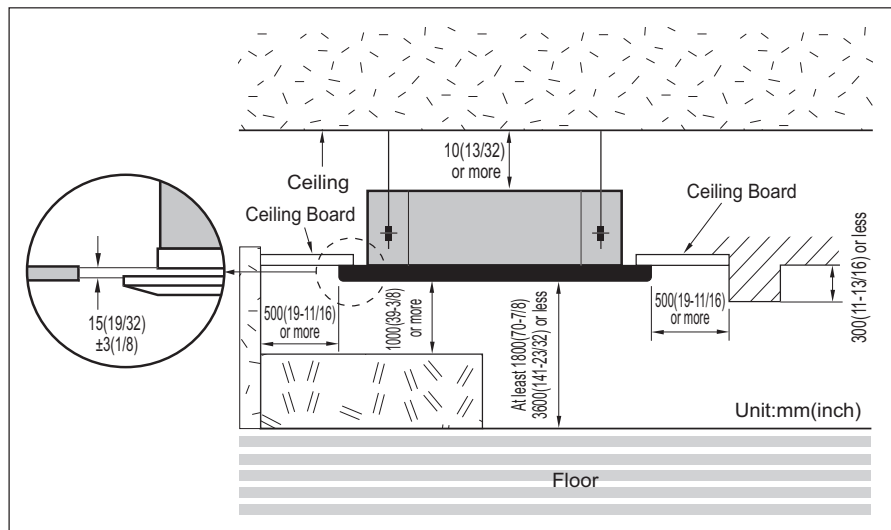
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



## 8. Installation

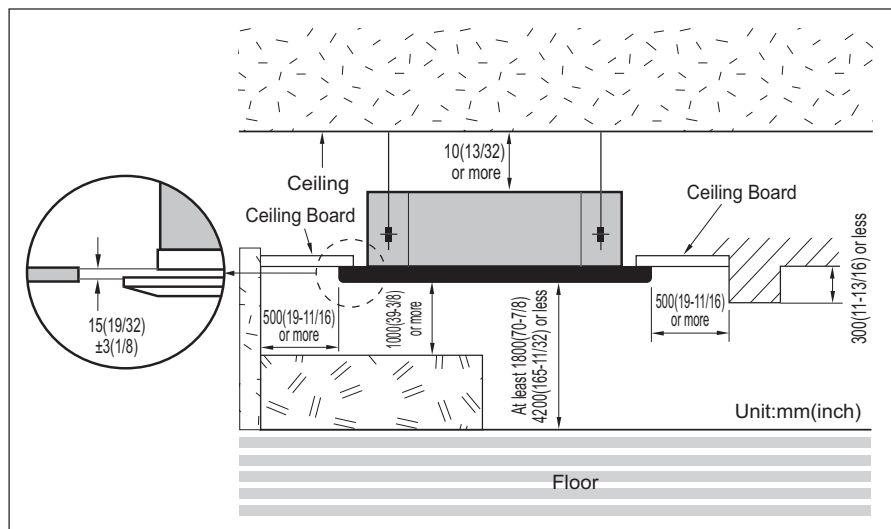
### TP Chassis

\* 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.

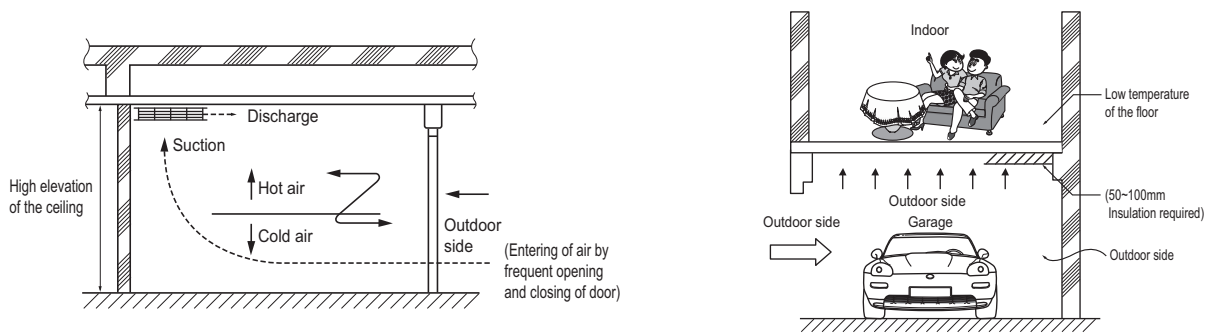


## 8.2 Precautions regarding cassette indoor unit installation

### ◆ 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.

## 8. Installation



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

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

### ⚠ CAUTION

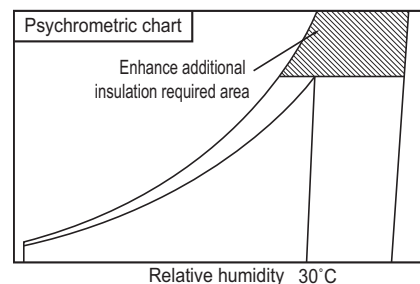
- In case there is a cold air intake,
  - » The duct surface may have some dew drops. So a insulation on the duct is a must.(Insulation material: a glass wool of thickness 25 mm will be appropriate.)

### • Countermeasure method

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

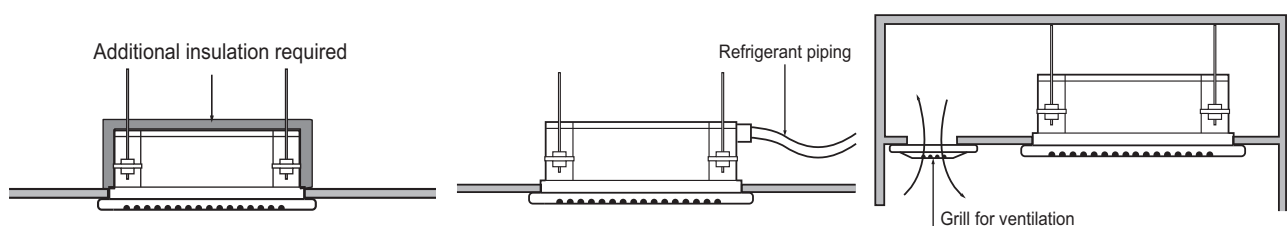
### ◆ In case of high temperature or humidity between the false ceiling and ceiling slab

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



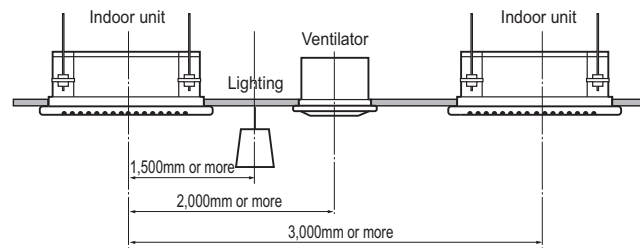
### • Countermeasure method

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



## 8. Installation

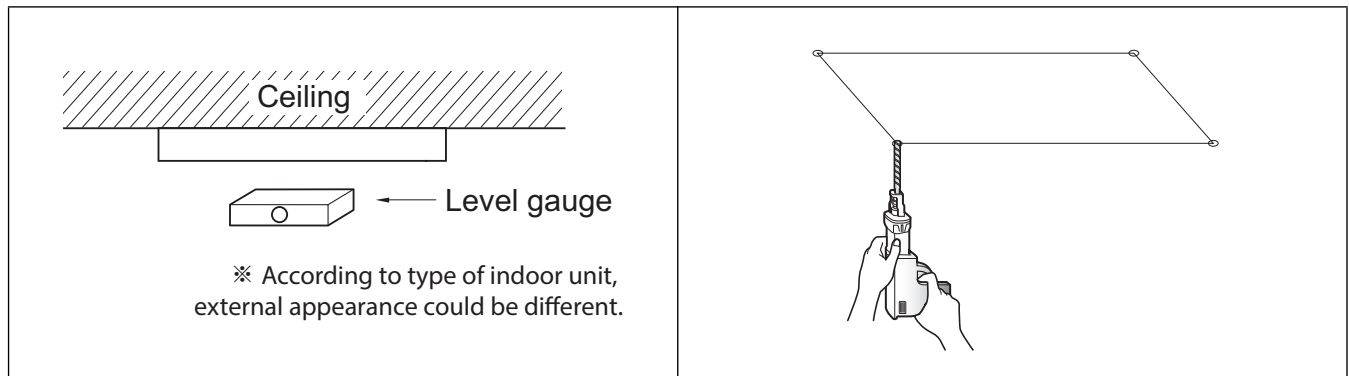
### ◆ In case of multiple indoor cassette units (recommended)



### 8.3 Ceiling opening dimensions and hanging bolt location

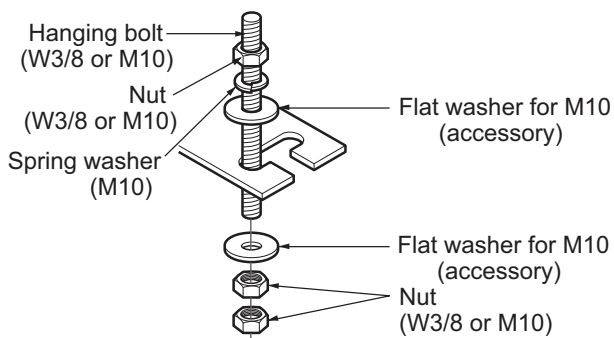
#### ⚠ CAUTION

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



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

## 8. Installation



- The following parts are local purchasing.

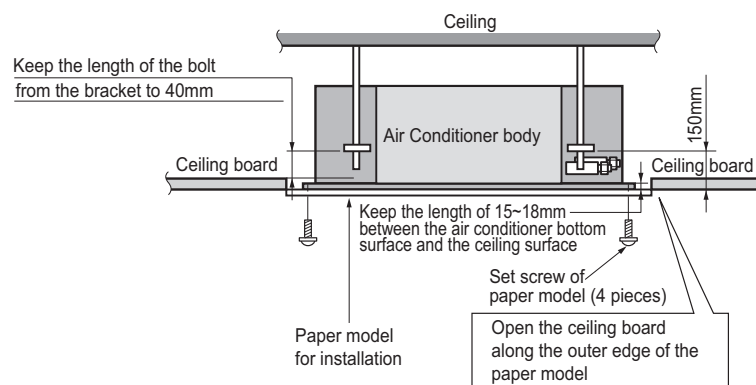
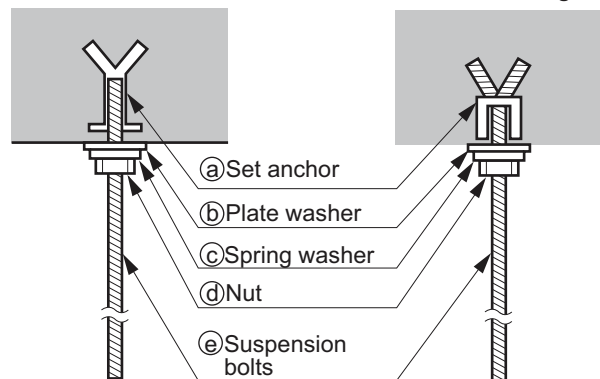
1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

### CAUTION

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

Old building

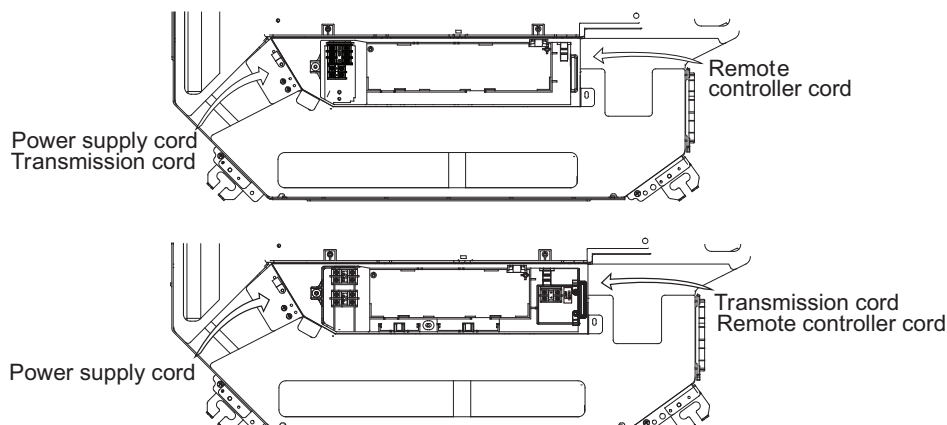
New building



TQ/TR Chassis	TM/TN/TP Chassis

## 8. Installation

### 8.4 Connecting Cables between Indoor Unit and Outdoor Unit



#### 8.4.1 General instructions

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

#### **CAUTION**

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

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

## 8. Installation

### 8.4.2 Wiring connection

- Connect the wires to the terminals on the control board and visually 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.

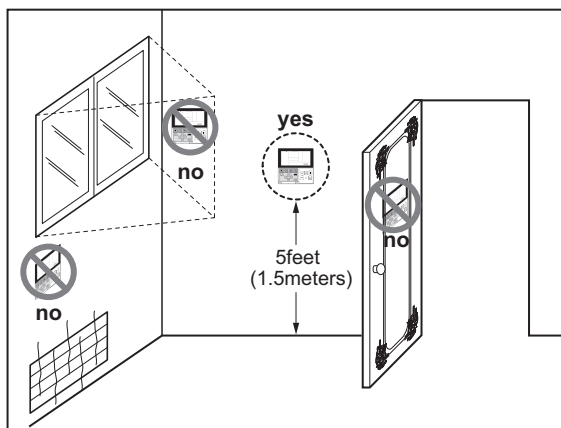
#### WARNING

- 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 (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.)



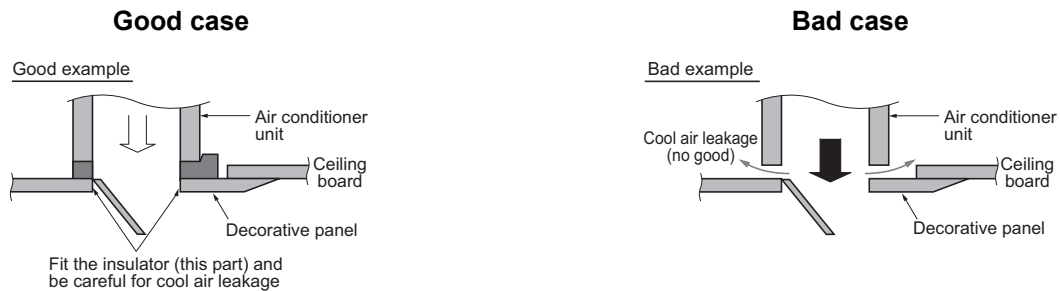
## 8. Installation

### 8.5 Installation of Decoration Panel

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

#### ⚠ CAUTION

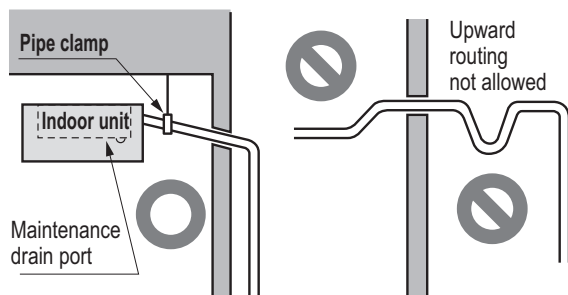
- Install correctly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



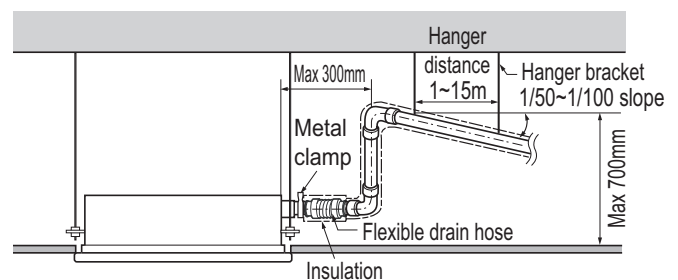
### 8.6 Indoor Unit Drain Piping

#### 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.



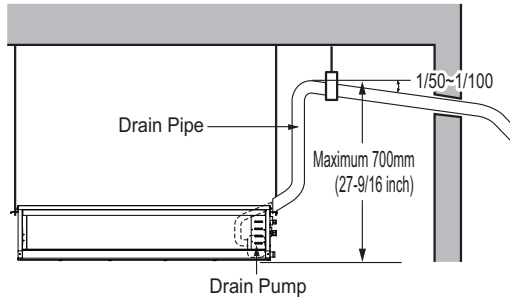
※ According to type of indoor unit, external appearance could be different.



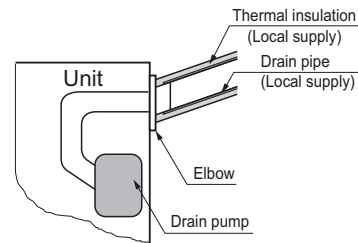
※ According to type of indoor unit, external appearance could be different.

## 8. Installation

- 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.

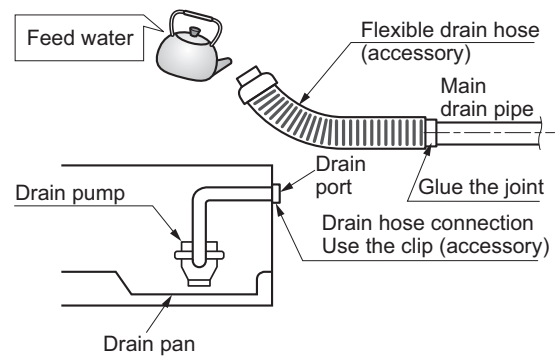


### 8.6.2 Method of Drainage test

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

Use the following procedure to test the drain pump operation.

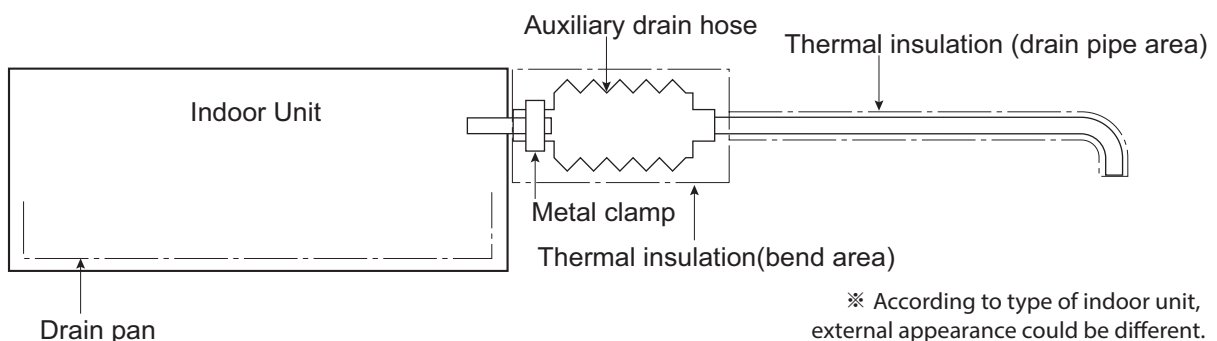
1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is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



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

### 8.6.3 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.



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

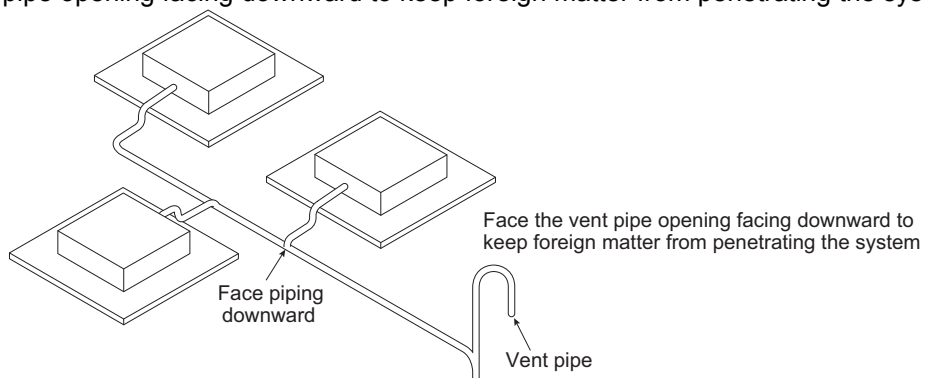
#### ⚠ CAUTION

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

## 8. Installation

### 8.6.4 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 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

## ◆ Basic functions of Indoor Unit

Category	Functions	ZBNW18GM1A0 [CM18R N10] ZBNW24GM1A0 [CM24R N10] ZBNW36GM2A0 [UM36R N20] ZBNW42GM2A0 [UM42R N20] ZBNW48GM3A0 [UM48R N30] ZBNW60GM3A0 [UM60R N30]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3 / 3 / 3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	ABDPG
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O (Accessory)
	Humidity Control	X
Comes with product	Wireless Remote Controller	X
	Wired Remote Controller	O**
Network Solution(LGAP)		O

### Note

1. O : Applied, X : Not applied

Accessory 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.

# 1. List of functions

## ◆ Network solution Accessory List

Category		Product	Remark	ZBNW18GM1A0 [CM18R N10] ZBNW24GM1A0 [CM24R N10]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O

### Note

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

# 1. List of functions

Category		Product	Remark	ZBNW36GM2A0 [UM36R N20] ZBNW42GM2A0 [UM42R N20] ZBNW48GM3A0 [UM48R N30] ZBNW60GM3A0 [UM60R N30]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMD200	-	O

## Note

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

## 2. Specifications

Model Name			Unit	ZBNW18GM1A0 [CM18R N10]	ZBNW24GM1A0 [CM24R N10]
Power Supply			V , Ø , Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Casing				-	-
Dimensions	W x H x D	mm	900 × 270 × 700		900 × 270 × 700
Net Weight		kg	26.5		26.5
Shipping Weight		kg	30.3		31.15
Heat Exchanger	Rows x Columns x FPI		2 x 13 x 18		2 x 13 x 18
	Face Area		m²	0.21	0.21
Fan Type			Sirocco Fan		Sirocco Fan
Air Flow Rate	H / M / L	m³/min	16.5 / 14.5 / 13.0		18.0 / 16.5 / 14.5
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type		BLDC		BLDC
	Drive		Internal		Internal
	Output		W x No.	136.5 x 1	136.5 x 1
	Power Input	H / M / L	W	150 / 130 / 110	180 / 150 / 130
	FLA (Full Load Ampere)		A	0.57	0.66
Dehumidification Rate		ℓ/h	1.5		2.5
Safety Device			Fuse / Thermal Protector for Fan Motor		
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8) [Ø 6.35 (1/4)*]
	Gas Side		mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8) [Ø 12.7 (1/2)*]
	Drain Pipe	O.D. / I.D.	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	34 / 32 / 30	35 / 34 / 32
Sound Power Level	Cooling	Max.	dB(A)	59	60
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75

### Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at 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 system, socket provided with indoor units should be connected.



## 2. Specifications

Model Name			Unit	ZBNW36GM2A0 [UM36R N20]	ZBNW42GM2A0 [UM42R N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Galvanized Steel Plate	Galvanized Steel Plate
Dimensions		W x H x D	mm	1,250 x 270 x 700	1,250 x 270 x 700
Net Weight			kg	38.5	38.5
Shipping Weight			kg	46.0	46.0
Heat Exchanger	Rows x Columns x FPI			3 x 13 x 18	3 x 13 x 18
	Face Area		m²	0.3	0.3
Fan Type				Sirocco Fan	Sirocco Fan
Air Flow Rate		H / M / L	m³/min	32 / 28 / 24	38 / 33 / 28
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	295 x 1	295 x 1
	Power Input	H / M / L	W	183 / 134 / 101	266 / 200 / 145
	FLA (Full Load Ampere)		A	2.50	2.50
Dehumidification Rate			ℓ/h	2.6	3.6
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	36 / 34 / 33	38 / 36 / 34
Sound Power Level	Cooling	Max.	dB(A)	60	62
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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

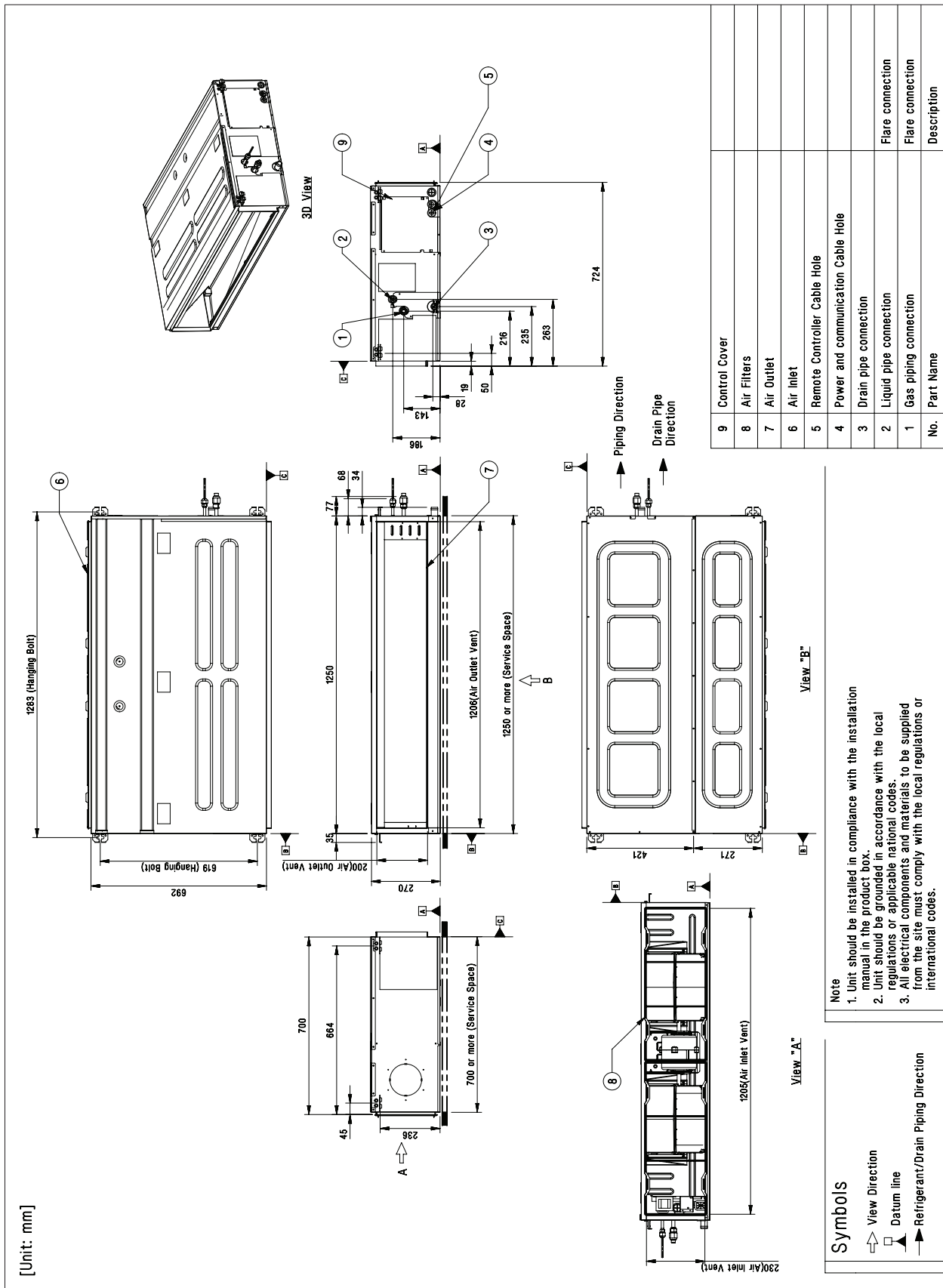
Model Name			Unit	ZBNW48GM3A0 [UM48R N30]	ZBNW60GM3A0 [UM60R N30]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Galvanized Steel Plate	Galvanized Steel Plate
Dimensions	W x H x D	mm		1,250 × 360 × 700	1,250 × 360 × 700
Net Weight		kg		43.5	43.5
Shipping Weight		kg		51.5	51.5
Heat Exchanger	Rows x Columns x FPI			3 x 16 x 18	3 x 16 x 18
	Face Area		m²	0.36	0.36
Fan Type				Sirocco Fan	Sirocco Fan
Air Flow Rate	H / M / L	m³/min		40 / 34 / 28	50 / 45 / 40
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	290 x 1	290 x 1
	Power Input	H / M / L	W	242 / 159 / 124	342 / 287 / 242
	FLA (Full Load Ampere)		A	2.50	2.50
Dehumidification Rate			ℓ/h	4.5	5.0
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	40 / 38 / 36	42 / 40 / 38
Sound Power Level	Cooling	Max.	dB(A)	65	66
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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.					

**ZBNW18GM1A0 [CM18R N10] / ZBNW24GM1A0 [CM24R N10]**



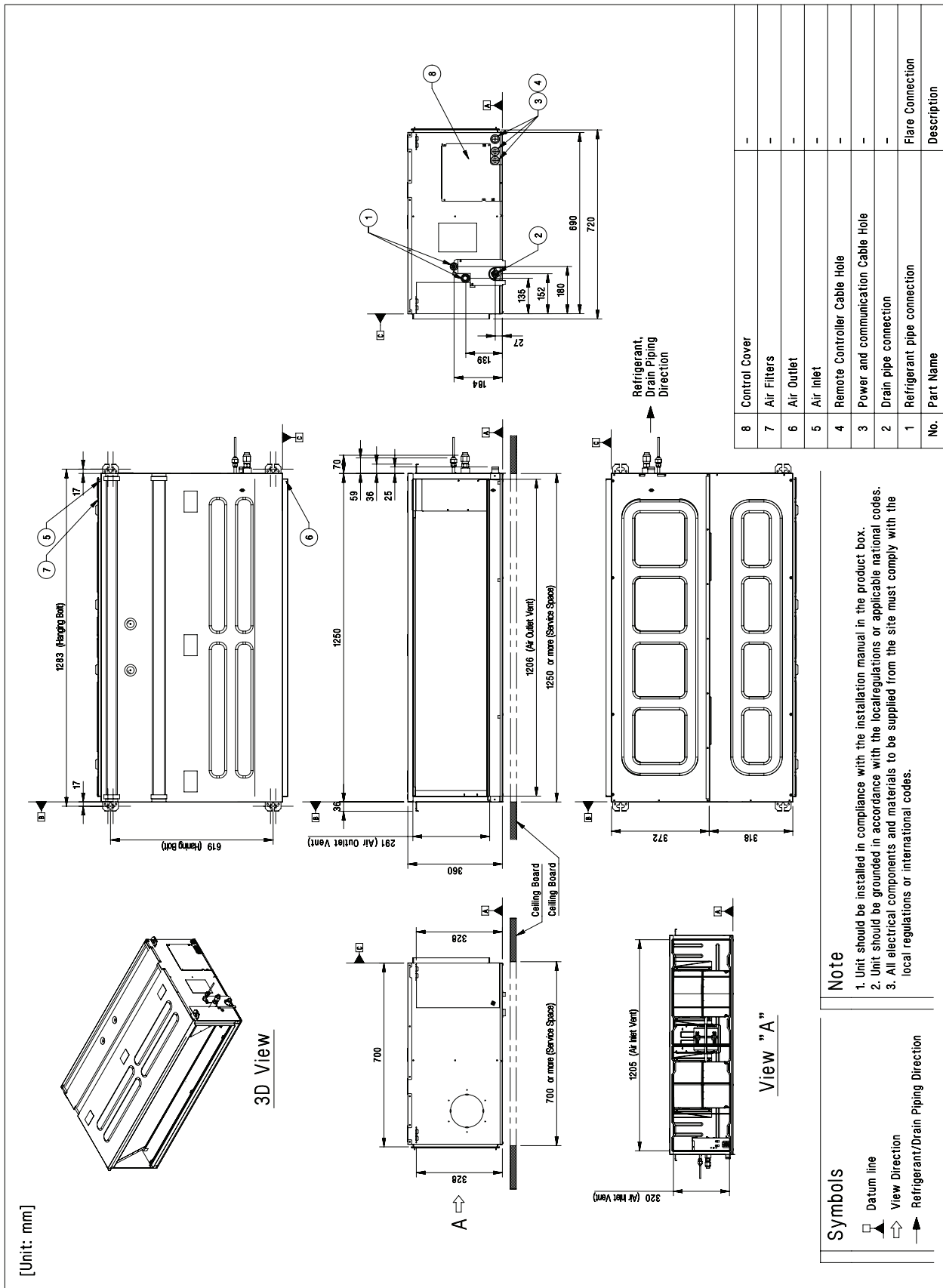
3. Dimensions

ZBNW36GM2A0 [UM36R N20] / ZBNW42GM2A0 [UM42R N20]



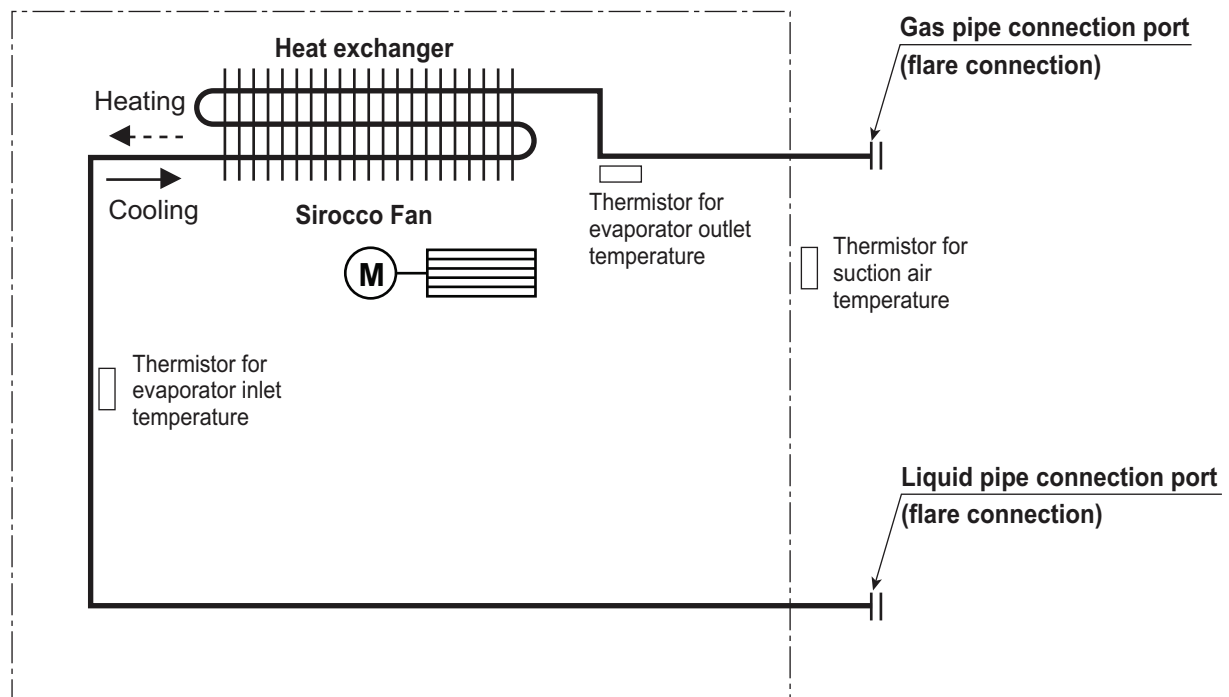
3. Dimensions

ZBNW48GM3A0 [UM48R N30] / ZBNW60GM3A0 [UM60R N30]



## 4. Piping diagrams

### ■ Model : ZBNW18GM1A0 [CM18R N10], ZBNW24GM1A0 [CM24R N10]



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

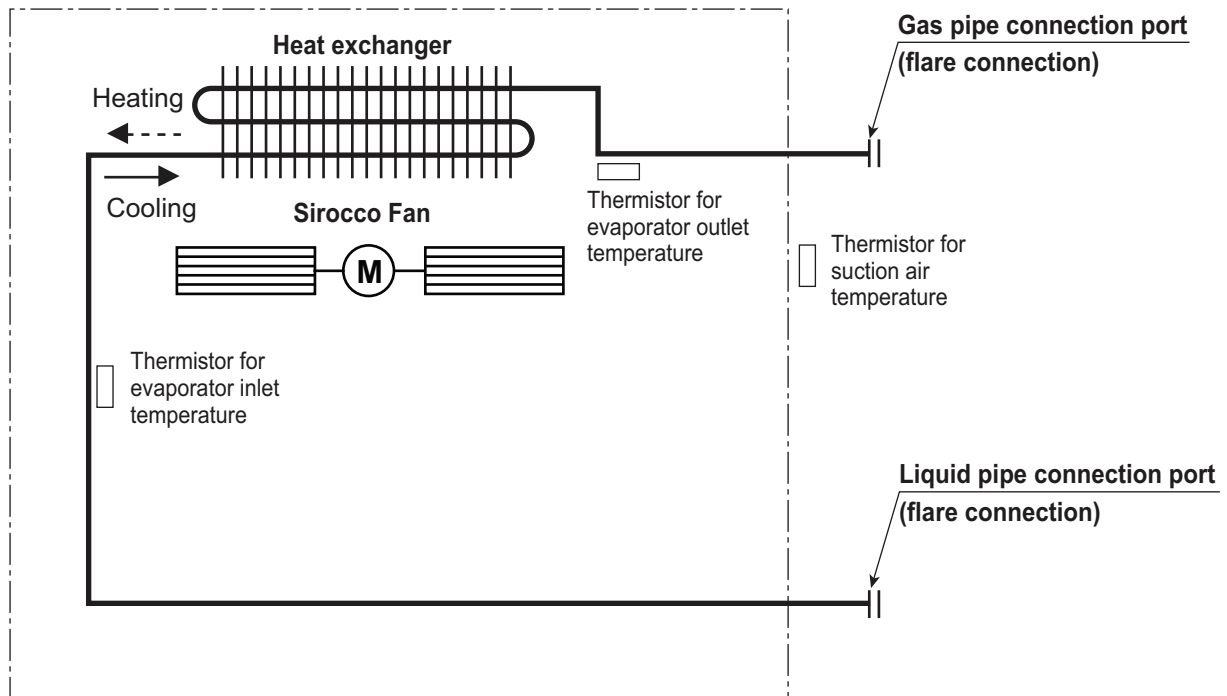
[Unit : mm]

Model	Gas	Liquid
ZBNW18GM1A0 [CM18R N10]	Ø12.7	Ø6.35
ZBNW24GM1A0 [CM24R N10]	Ø15.88	Ø9.52
	* Ø12.7	* Ø6.35

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

## 4. Piping diagrams

- Models : ZBNW36GM2A0 [UM36R N20], ZBNW42GM2A0 [UM42R N20],  
ZBNW48GM3A0 [UM48R N30], ZBNW60GM3A0 [UM60R N30]



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

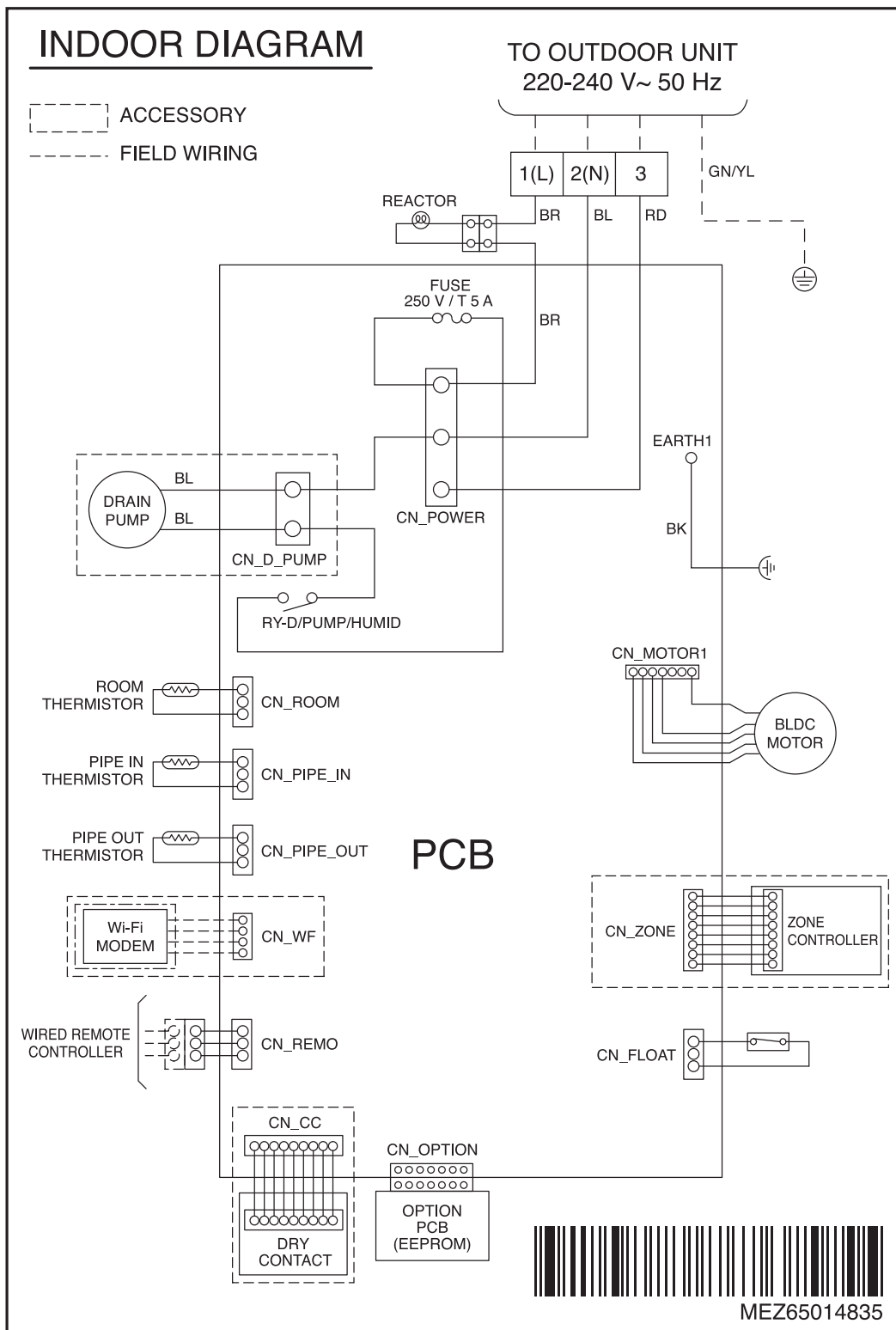
### ◆ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
ZBNW36GM2A0 [UM36R N20] ZBNW42GM2A0 [UM42R N20] ZBNW48GM3A0 [UM48R N30] ZBNW60GM3A0 [UM60R N30]	Ø15.88	Ø9.52

## 5. Wiring Diagrams

■ Model : ZBNW18GM1A0 [CM18R N10] / ZBNW24GM1A0 [CM24R N10]



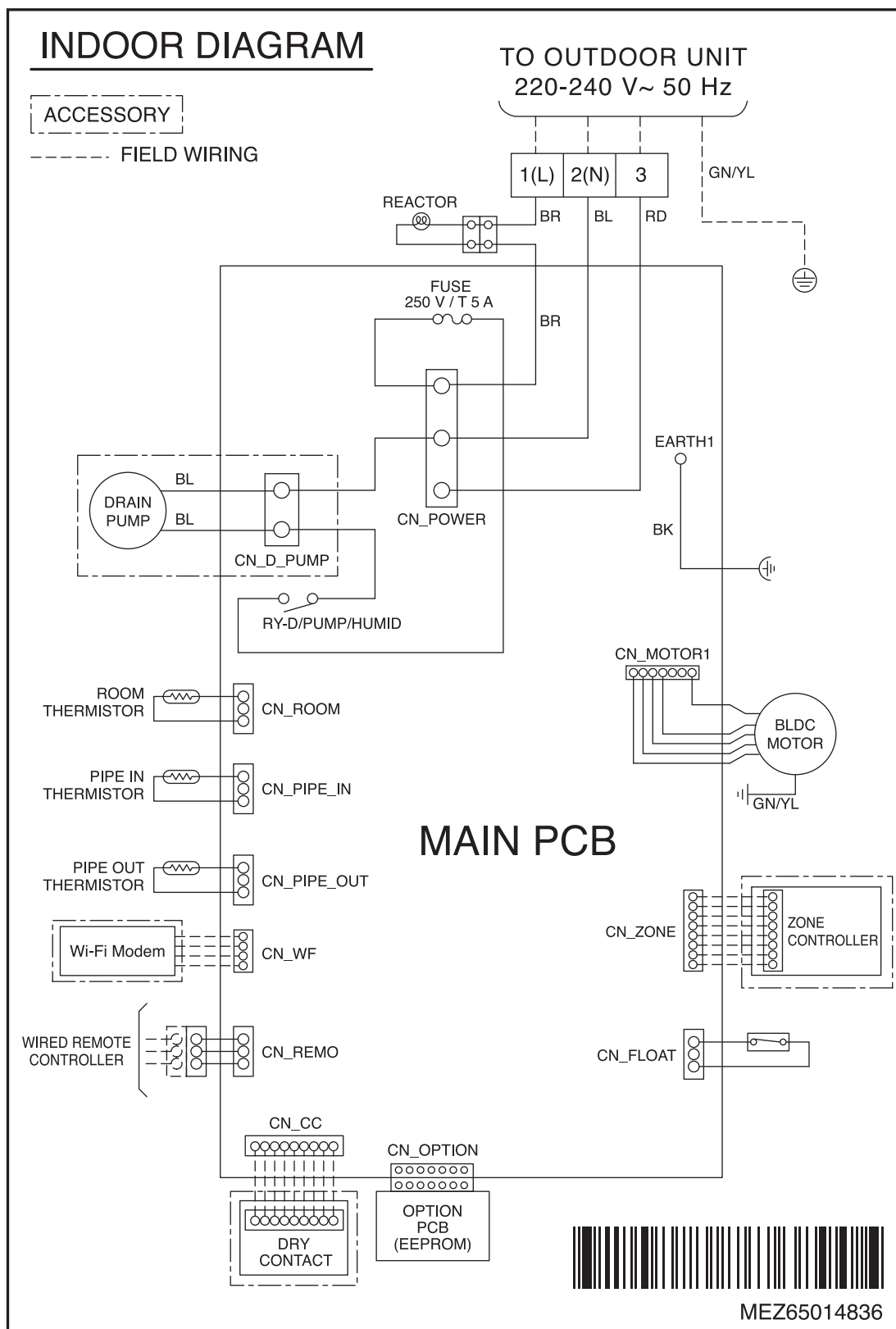


■ Model : ZBNW36GM2A0 [UM36R N20], ZBNW42GM2A0 [UM42R N20]



## 5. Wiring Diagrams

■ Model : ZBNW48GM3A0 [UM48R N30], ZBNW60GM3A0 [UM60R N30]

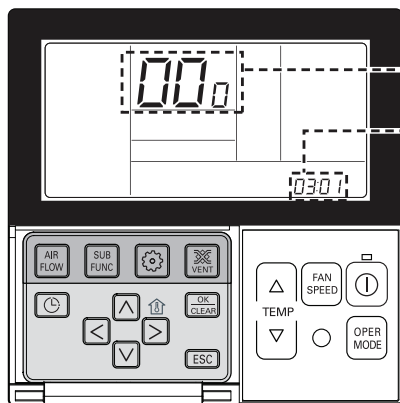




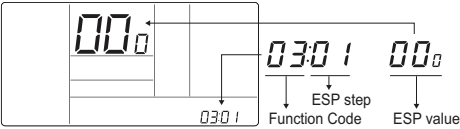
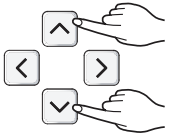
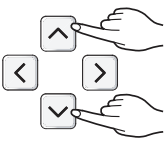

## 6. External Static Pressure & Air Flow

### ■ 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.



<p><b>1</b> If pressing  button long for 3 seconds, it enters into remote controller setter setup mode. - If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.</p> 	<p><b>4</b> Move to ESP value setting by pressing  button. (It is 000 when delivering from the warehouse.)</p> 
<p><b>2</b> If entering into ESP setup mode by using  button, it indicates as the picture below.</p> 	<p><b>5</b> Press   button to setup ESP value. (It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)</p> 
<p><b>3</b> Select ESP fan step by pressing   button. (01: very low, 02: low, 03: medium, 04: high, 05: very high)</p> 	<p><b>6</b> Select ESP fan step again by using   button and setup ESP value, as No. 4 and 5, that corresponds each wind flow</p> <p><b>7</b> Press  button to save.</p> 
	<p><b>8</b> Press  button to exit. * After setup, it automatically gets out of setup mode if there is no button input for 25 seconds. * When exiting without pressing set button, the manipulated value is not reflected.</p>

- 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.

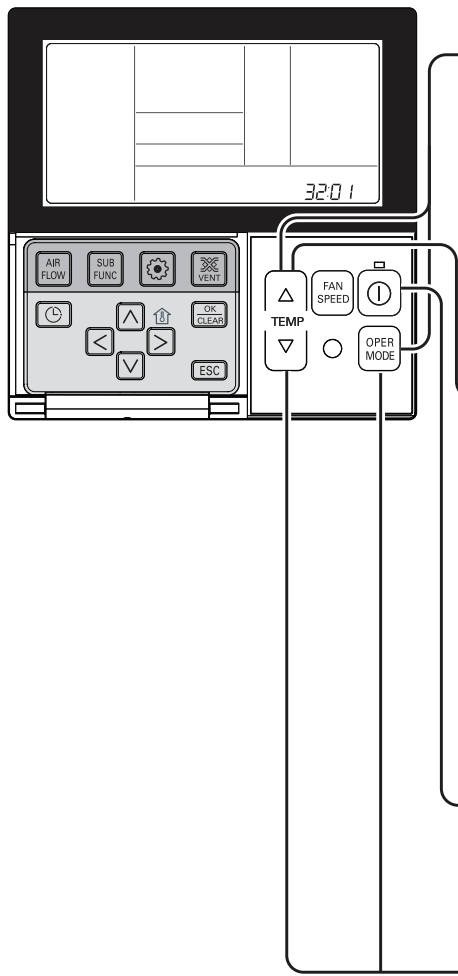
## 6. External Static Pressure & Air Flow




### ■ 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.






- 1 When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.  
- After entering into the installer setting mode, select the static pressure step setting code value by pressing the  button.  
\* Static pressure step setting code value : 32
- 2 Select the desired setting value with the temperature up(s), down(t) button.  
  



  
Function Code

  
Existing condition

  
00: use static pressure (code 06) set value  
01~ 11: static pressure step (code 32) set value
- 3 When pressing  button, currently established static pressure value will be set up.
- 4 When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.  
- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

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

## 6. External Static Pressure & Air Flow

■ Table 1

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			2(20)	2.5(25)	3(29)	4(39)	6(59)	8(78)	10(98)	12(118)	13(127)	14(137)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ZBNW18GM1A0 [CM18R N10]	LOW	13.0	74	76	79	85	93	103	111	117	120	125	128
	MID	14.5	79	81	84	89	97	107	114	121	125	128	131
	HIGH	16.5	85	87	90	94	103	110	118	125	128	131	134
ZBNW24GM1A0 [CM24R N10]	LOW	14.5	79	81	84	89	97	107	114	121	125	128	131
	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

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ZBNW36GM2A0 [UM36R N20]	LOW	24.0	88	91	95	100	101	108	113	115	118	118	118
	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

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	14(137)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ZBNW42GM2A0 [UM42R N20]	LOW	28.0	100	103	106	110	114	118	121	125	128	133	136
	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

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(68)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ZBNW48GM3A0 [UM48R N30]	LOW	28	74	76	79	82	89	92	94	96	99	102	107
	MID	34	78	82	84	89	94	96	98	101	104	106	112
	HIGH	40	83	89	92	94	98	1000	102	105	108	110	116

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(68)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ZBNW60GM3A0 [UM60R N30]	LOW	40	82	89	92	94	98	100	102	105	108	110	113
	MID	45	90	92	96	98	102	104	106	109	112	114	117
	HIGH	50	94	97	100	104	107	109	112	115	117	119	121

## 6. External Static Pressure & Air Flow

### Note

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

Model	Factory set (E.S.P.) mmAq(Pa)
ZBNW18GM1A0 [CM18R N10]	6(59)
ZBNW24GM1A0 [CM24R N10]	
ZBNW36GM2A0 [UM36R N20]	
ZBNW42GM2A0 [UM42R N20]	
ZBNW48GM3A0 [UM48R N30]	
ZBNW60GM3A0 [UM60R N30]	

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

Model	Maximum value
ZBNW18GM1A0 [CM18R N10]	115
ZBNW24GM1A0 [CM24R N10]	
ZBNW36GM2A0 [UM36R N20]	120
ZBNW42GM2A0 [UM42R N20]	
ZBNW48GM3A0 [UM48R N30]	98
ZBNW60GM3A0 [UM60R N30]	

## 6. External Static Pressure & Air Flow

■ Table 2

◆ ZBNW18GM1A0 [CM18R N10], ZBNW24GM1A0 [CM24R N10]

Setting value	Static Pressure (mmAq(Pa))							
	2.5(25)	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
	Air Flow Rate [m³/min]							
70	11.3							
75	12.8							
80	14.4	11.4						
85	15.9	13.2	10.2					
90	17.5	15.0	12.0					
95	19.0	16.7	13.7	10.7				
100	20.6	18.5	15.5	12.5				
105	22.1	20.3	17.3	14.3	11.1			
110	23.7	22.1	19.0	16.1	13.1	10.0		
115		23.8	20.8	17.9	15.1	12.2		
120			22.6	19.7	17.1	14.3	11.3	
125				21.5	19.1	16.5	13.6	11.9
130				23.3	21.2	18.7	15.8	14.3
135					23.2	20.8	18.0	16.7
140						23.0	20.3	19.1
145							22.5	21.5
150								23.8

◆ ZBNW36GM2A0 [UM36R N20]

Setting value	Static Pressure (mmAq(Pa))						
	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
	Air Flow Rate [m³/min]						
85	24.9						
90	27.6	22.7					
95	30.4	25.7	20.7				
100	33.1	28.7	24.0				
105	35.9	31.7	27.3	20.8			
110	38.6	34.7	30.5	24.3	20.6		
115		37.8	33.8	27.9	23.8		
120			37.1	31.4	27.0	22.4	20.5
125				35.0	30.1	25.7	23.7
128				37.1	32.0	27.6	25.7

**Note**

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

## 6. External Static Pressure & Air Flow

### ◆ ZBNW42GM2A0 [UM42R N20]

Setting value	Static Pressure (mmAq(Pa))						
	5(49)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
	Air Flow Rate [m³/min]						
90	22.2						
95	25.1	22.3					
100	28.0	25.4					
105	30.9	28.5	23.3				
110	33.8	31.6	26.8				
115	36.7	34.8	30.3	24.4			
120	39.7	37.9	33.8	28.3	23.5		
125	42.6	41.0	37.3	32.2	27.5		
130		44.1	40.8	36.1	31.6	26.1	
135			44.3	40.0	35.6	30.4	28.0
140				43.9	39.7	34.6	32.4
145					43.7	38.9	36.8
150						43.1	41.2
155							45.6

### ◆ ZBNW48GM3A0 [UM48R N30], ZBNW60GM3A0 [UM60R N30]

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

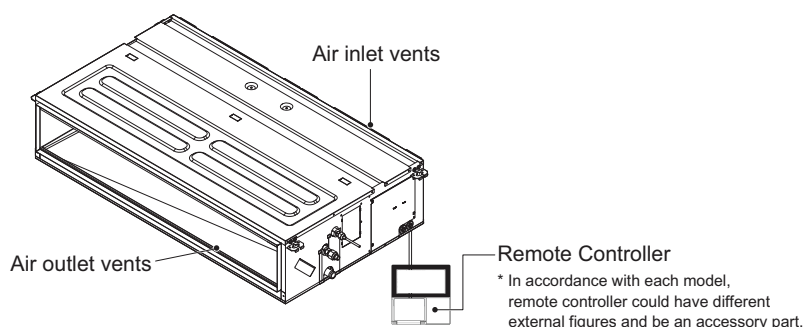
#### Note

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



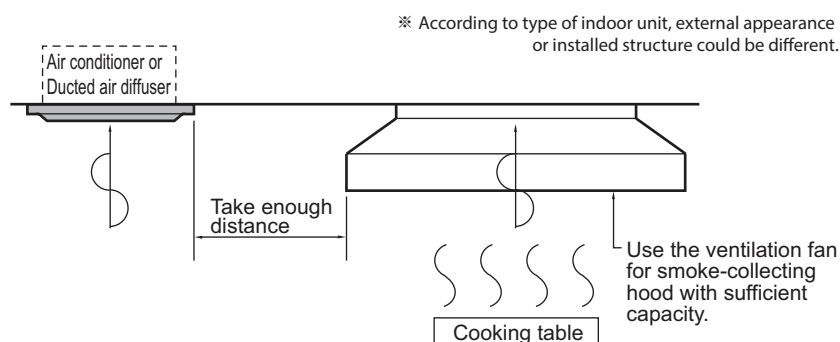
## 7. Installation

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



### 7.1 Selection of the best location

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



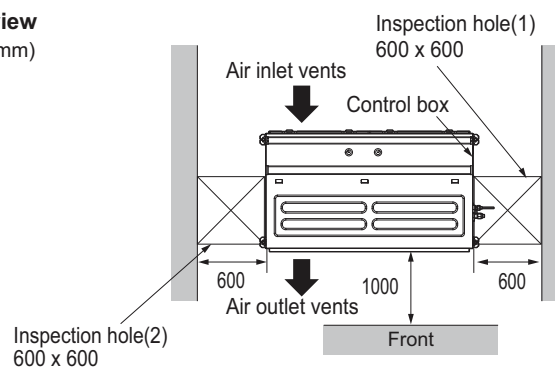
## 7. Installation

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

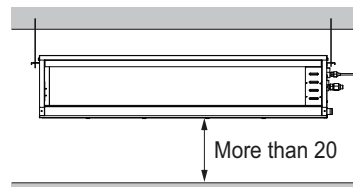
### ⚠ CAUTION

- If the temperature rise above 30 °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.

**Top view**  
(Unit: mm)



**Front view**  
(Unit: mm)



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

### ◆ Inspection Hole Standard

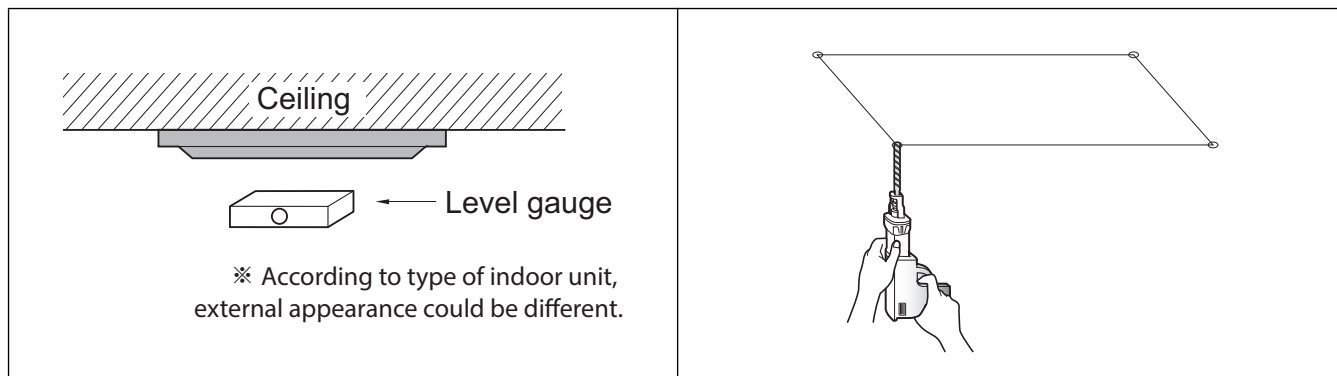
Distance between false ceiling & actual ceiling	Number of in spection hole	Remarks
More than 100cm	1	Sufficient space in the ceiling for servicing.
20cm to 100cm	2	Insufficient space. Difficult for servicing
Less than 20cm	Hole size should be more than the size of IDU.	Minimum height for motor replacement.

## 7. Installation

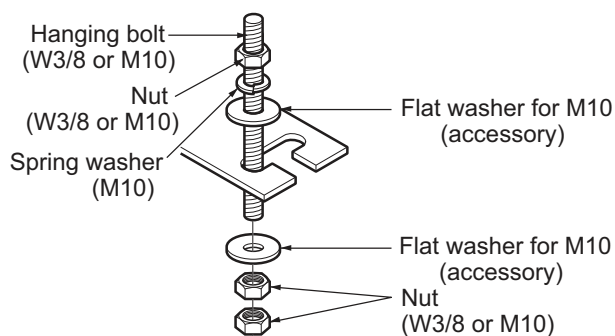
### 7.2 Ceiling dimension and hanging bolt location

#### ⚠ CAUTION

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



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

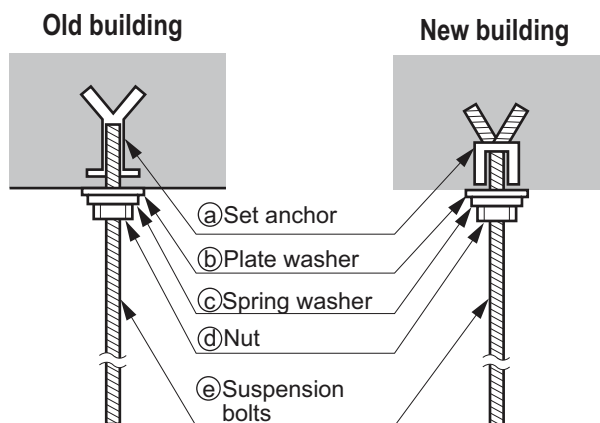


- The following parts are local purchasing.

1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

#### ⚠ CAUTION

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

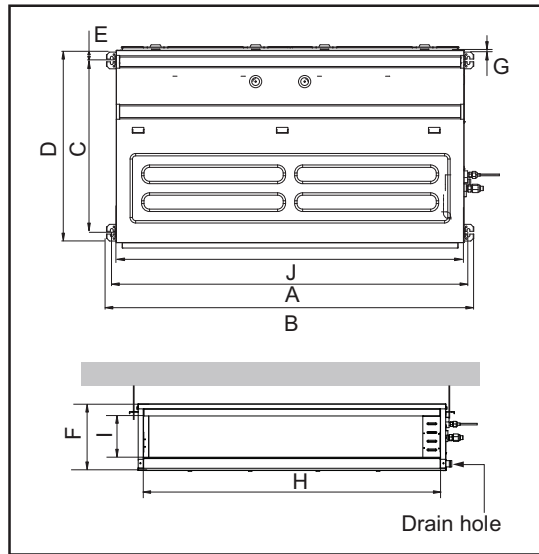


## 7. Installation

### ■ Installation dimension of Indoor unit

#### M1/M2/M3 Chassis

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



Chassis name	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
M1	933.4	971.6	619.2	700	30	270	15.2	858	201.4	900
M2	1,283.4	1,321.6	619.2	689.6	30	270	15.2	1,208	201.4	1,250
M3	1,283.4	1,321.6	619.2	689.6	30	360	15.2	1,208	291.4	1,250

## 7. Installation

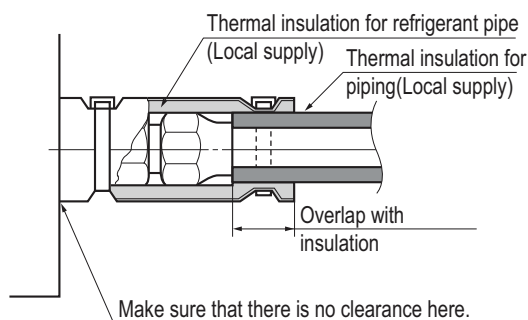
### 7.3 Connecting pipes to the indoor unit

#### ■ Refrigerant piping work

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

#### ■ Piping insulation work

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



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

#### ⚠ CAUTION

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

## 7. Installation

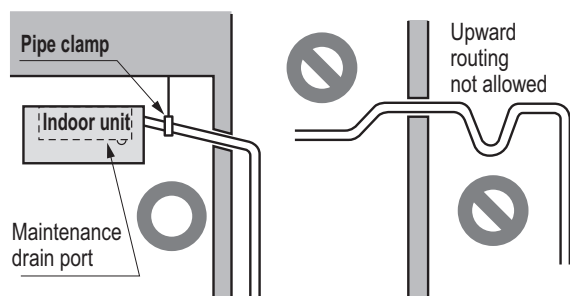
### 7.4 Indoor Unit Drain Piping

#### Important

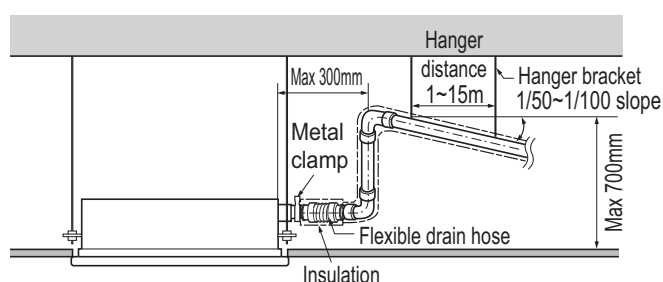
- The drain pipe should be at least equal in size to drain conduit of the indoor unit.
- The drain pipe is thermally insulated to prevent the formation of condensation inside the pipe.
- The drain up mechanism should be fitted before the indoor unit is installed and when the electricity has been connected 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)

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

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

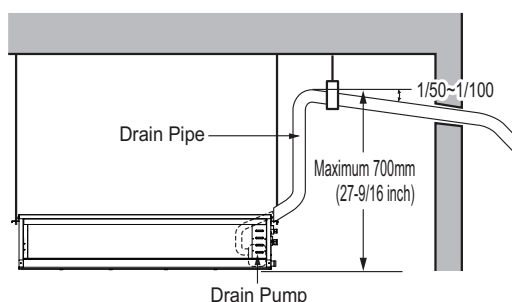


※ According to type of indoor unit, external appearance could be different.

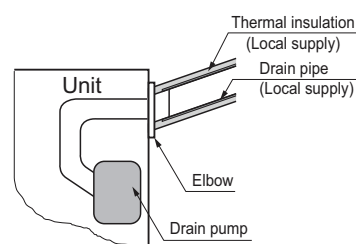


※ According to type of indoor unit, external appearance could be different.

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



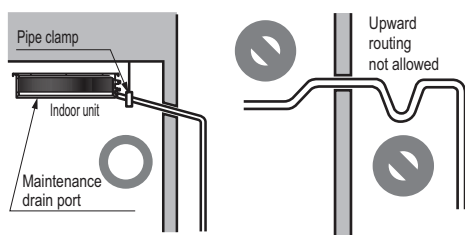
※ According to type of indoor unit, external appearance could be different.



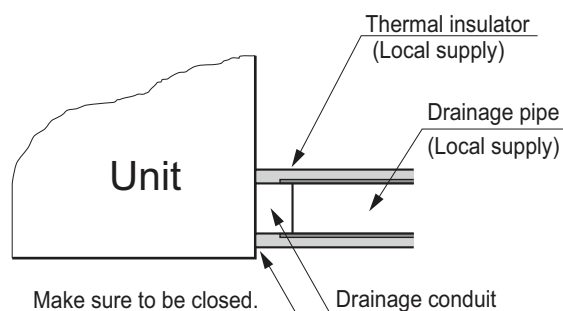
## 7. Installation

### 7.4.2 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)



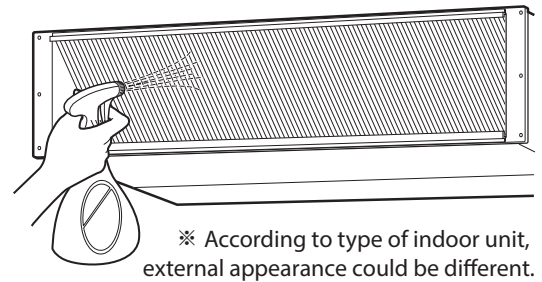
## 7. Installation

### 7.4.3 Method of Drainage test

#### ◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

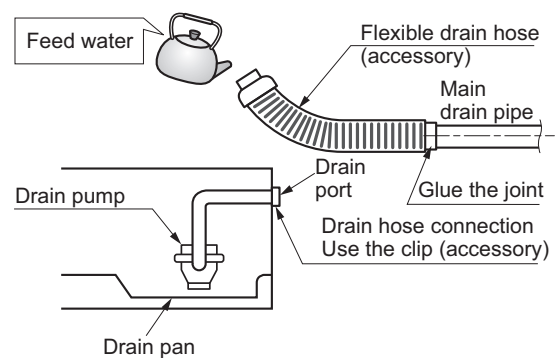
1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



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

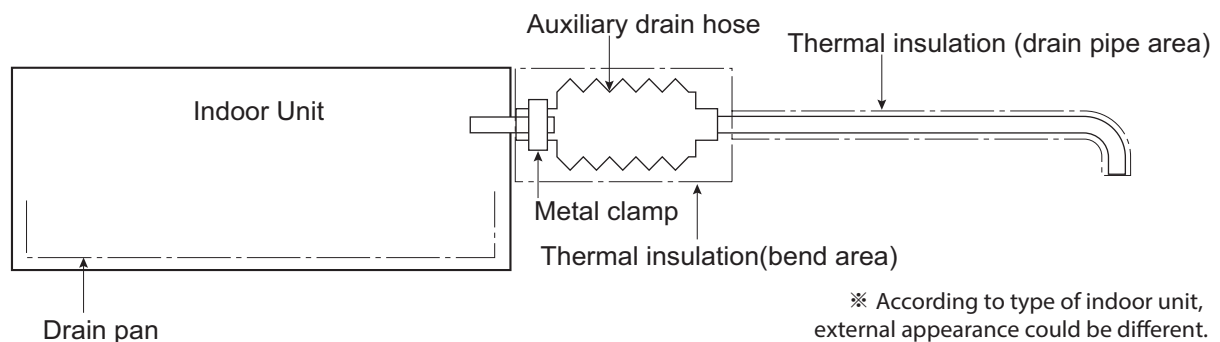
Use the following procedure to test the drain pump operation.

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.



### 7.4.4 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

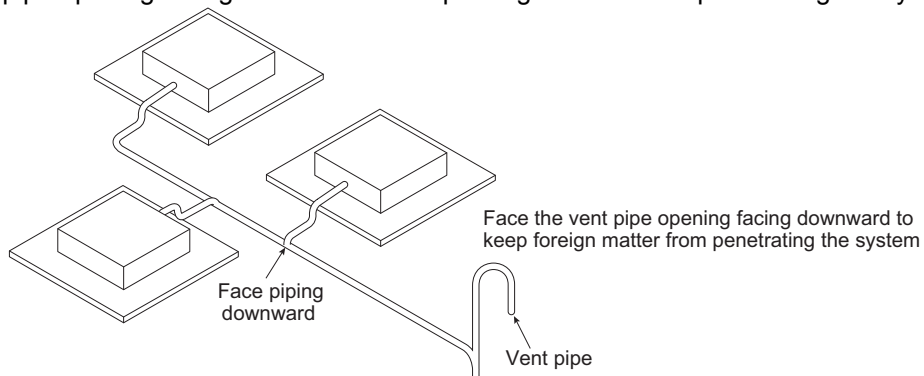
- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.



## 7. Installation

### 7.4.5 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.



## 7. Installation

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### 7.5 Electric wiring work

#### 7.5.1 General instructions

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

#### CAUTION

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

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

#### 7.5.2 Wiring connection

- Connect the wires to the terminals on the control board and visually 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.

#### 7.5.3 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.

## 7. Installation

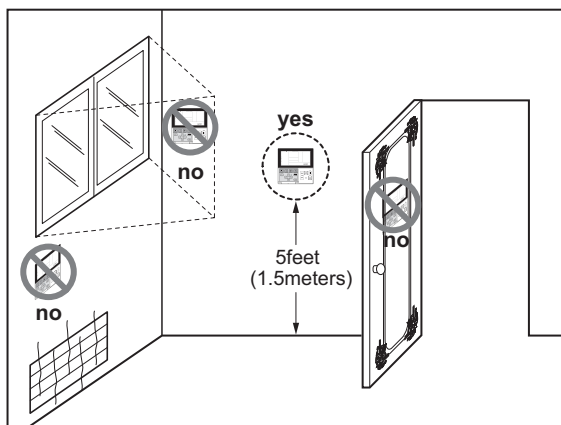
### **! WARNING**

- 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.

### 7.5.4 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 - 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

## ◆ Basic functions of Indoor Unit

Category	Functions	ZBNW09GL2A0 [CL09R N20] / ZBNW12GL2A0 [CL12R N20] ZBNW18GL2A0 [CL18R N20] / ZBNW24GL3A0 [CL24R N30]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3 / 3 / 3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O (Single only)
	Auto cleaning	X
	Auto operation(artificial intelligence)	O (Multi only)
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O (Accessory)
	Humidity Control	X
Comes with product	Wireless Remote Controller	X
	Wired Remote Controller	O**
Network Solution(LGAP)		O

### Note

1. O : Applied, X : Not applied

Accessory 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.

# 1. List of functions

## ◆ Network solution Accessory List

Category		Product	Remark	ZBNW09GL2A0 [CL09R N20] ZBNW12GL2A0 [CL12R N20]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O

### Note

1. O: Possible, X: Impossible, - : Not applicable

2. \* : Some advanced functions controlled by individual controller cannot be operated.

3. \*\* : It could not be operated some functions.

4. If you need more detail, please refer to the **BECON** PDB or the manual of product.  
(<http://partner.lge.com/global> : Home> Download> Manuals)

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

# 1. List of functions

Category		Product	Remark	ZBNW18GL2A0 [CL18R N20] ZBNW24GL3A0 [CL24R N30]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (White)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O

## Note

1. O: Possible, X: Impossible, - : Not applicable

2. \* : Some advanced functions controlled by individual controller cannot be operated.

3. \*\* : It could not be operated some functions.

4. If you need more detail, please refer to the **BECON** PDB or the manual of product.  
(<http://partner.lge.com/global> : Home> Download> Manuals)

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

## 2. Specifications

Model Name			Unit	ZBNW09GL2A0 [CL09R N20]	ZBNW12GL2A0 [CL12R N20]
Power Supply			V , Ø , Hz	220-240, 1, 50 220, 1, 60	220-240, 1, 50 220, 1, 60
Casing				-	-
Dimensions	W x H x D	mm		900 × 190 × 700	900 × 190 × 700
Net Weight			kg	24.0	24.0
Shipping Weight			kg	26.0	26.0
Heat Exchanger	Rows x Columns x FPI			2 × 11 × 18	2 × 11 × 18
	Face Area		m²	0.17	0.17
Fan Type				Sirocco	Sirocco
Air Flow Rate	H / M / L	m³/min		10.0 / 8.5 / 7.0	10.0 / 8.5 / 7.0
External static pressure	High Mode_Factory Set		Pa (mmAq)	24.5 (2.5)	24.5 (2.5)
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	19 × 1 + 5 × 1	19 × 1 + 5 × 1
	Power Input	H / M / L	W	40 / 32 / 26	40 / 32 / 26
	FLA (Full Load Ampere)		A	0.8	0.8
Dehumidification Rate			ℓ/h	0.55	1.11
Safety Device				Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	31 / 28 / 27	31 / 28 / 27
Sound Power Level	Cooling	Max.	dB(A)	55	55
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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

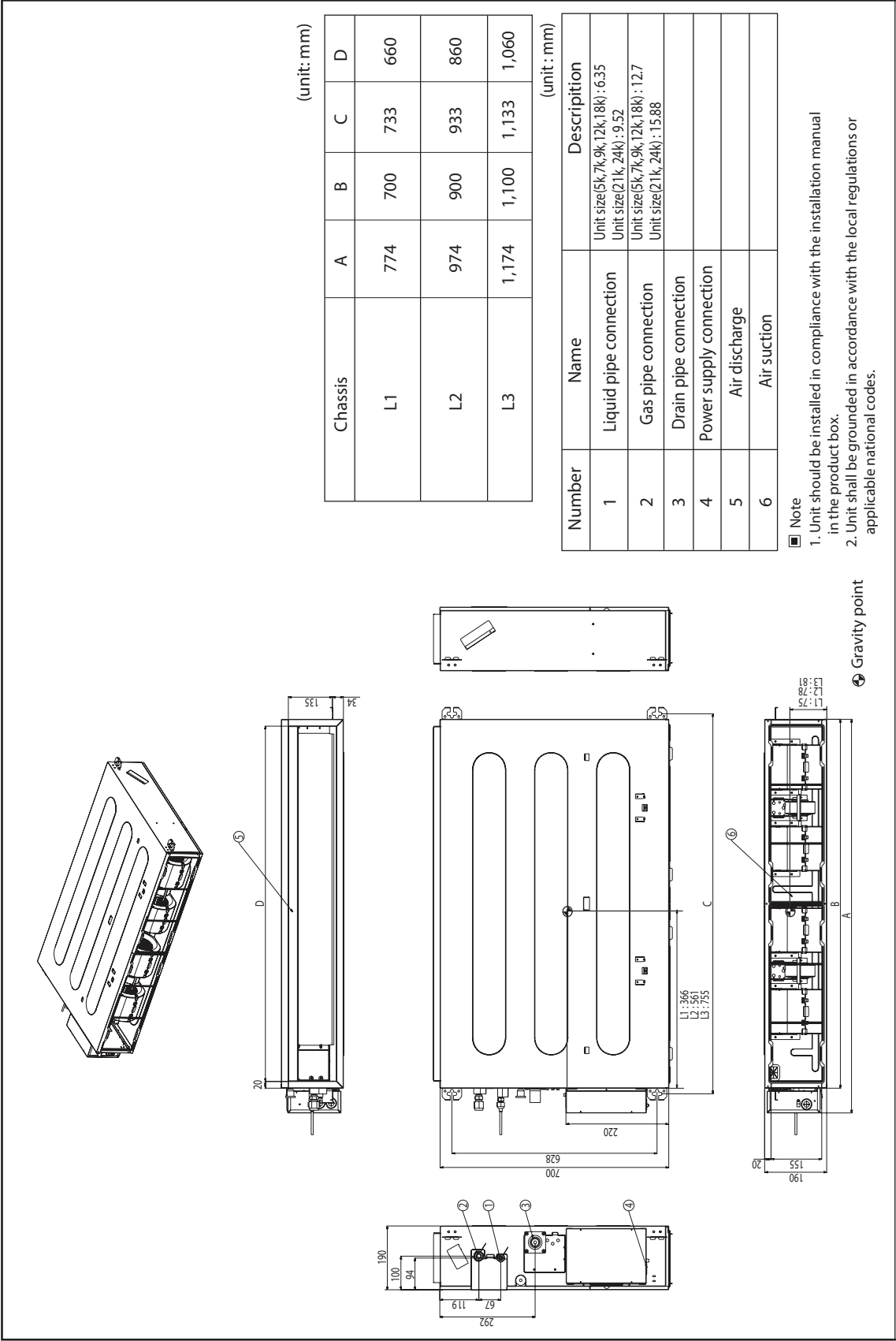
Model Name			Unit	ZBNW18GL2A0 [CL18R N20]	ZBNW24GL3A0 [CL24R N30]
Power Supply			V , Ø , Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Casing				-	-
Dimensions		W x H x D	mm	900 × 190 × 700	1,100 × 190 × 700
Net Weight			kg	24.0	27.0
Shipping Weight			kg	28.0	31.0
Heat Exchanger	Rows x Columns x FPI			2 × 11 × 18	3 x 11 x 18
	Face Area		m²	0.17	0.21
Fan Type				Sirocco	Sirocco
Air Flow Rate		H / M / L	m³/min	15.0 / 12.5 / 10.0	20.0 / 16.0 / 12.0
External static pressure	High Mode_Factory Set		Pa (mmAq)	24.5 (2.5)	24.5 (2.5)
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	19 x 1 + 5 x 1	19 x 2
	Power Input	H / M / L	W	130 / 120 /105	150 / 130 / 110
	FLA (Full Load Ampere)		A	0.8	1.0
Dehumidification Rate			ℓ/h	1.58	2.65
Safety Device				Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8) [Ø 6.35 (1/4)*]
	Gas Side		mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8) [Ø 12.7 (1/2)*]
	Drain Pipe	O.D. / I.D.	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	36 / 34 / 31	39 / 35 / 32
Sound Power Level	Cooling	Max.	dB(A)	54	58
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75

### Note

- 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.
  - 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 system, socket provided with indoor units should be connected.

3. Dimensions

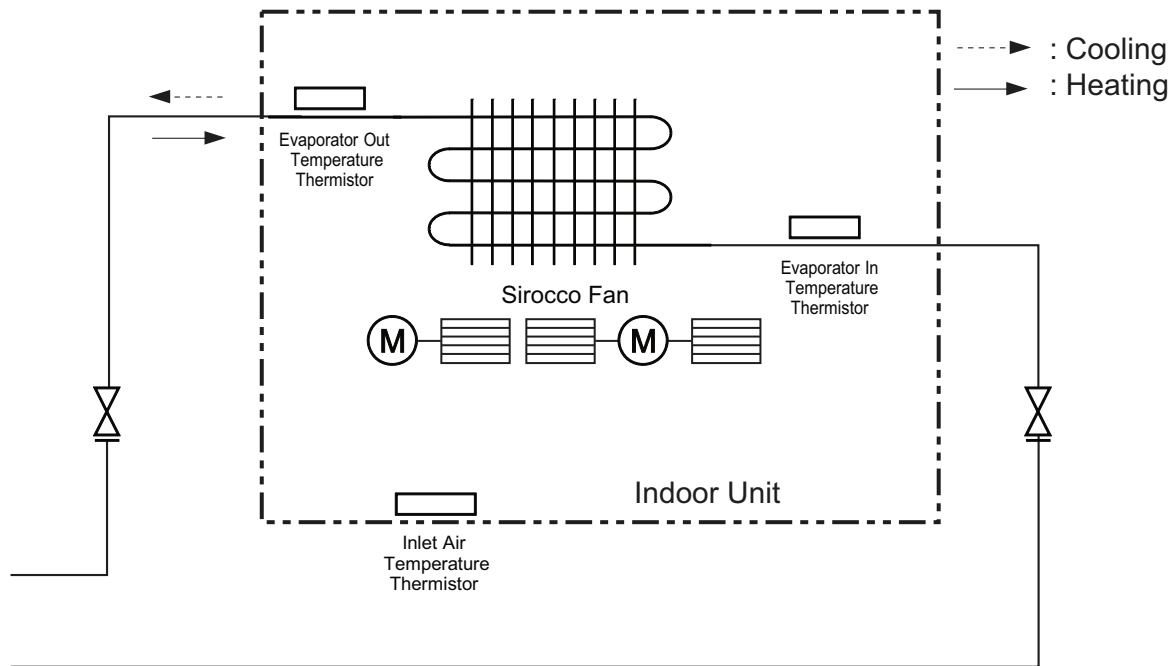
ZBNW09GL2A0 [CL09R N20] / ZBNW12GL2A0 [CL12R N20]  
ZBNW18GL2A0 [CL18R N20] / ZBNW24GL3A0 [CL24R N30]



## 4. Piping diagrams

### ■ L2 Chassis

ZBNW09GL2A0 [CL09R N20] / ZBNW12GL2A0 [CL12R N20] / ZBNW18GL2A0 [CL18R N20]



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

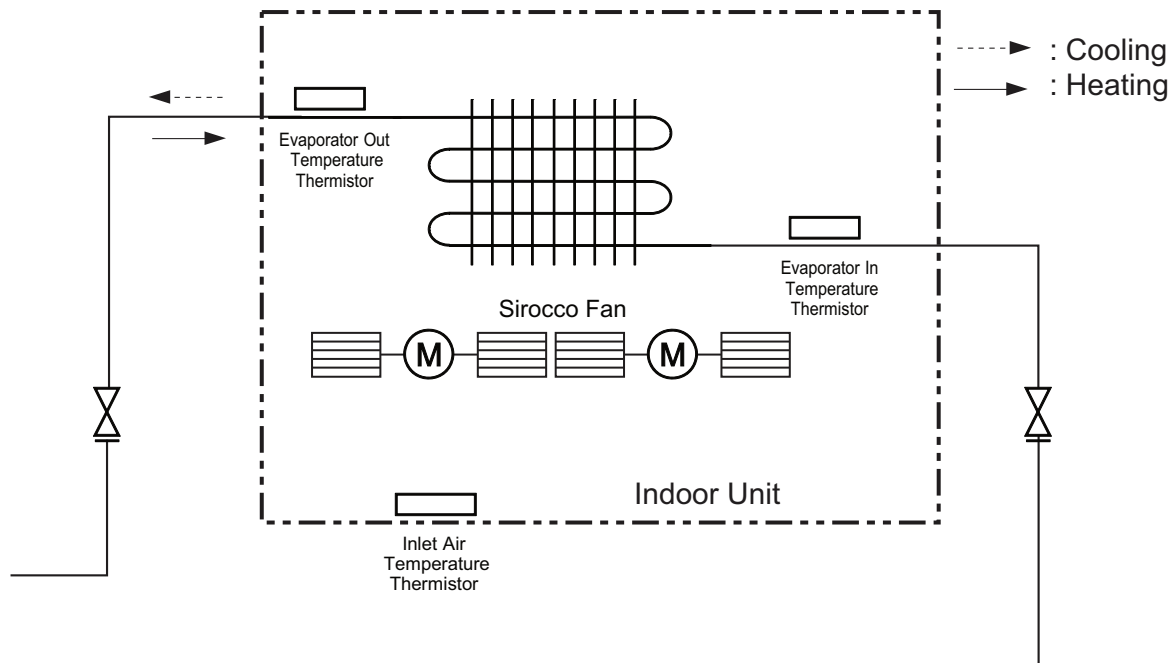
### ◆ Refrigerant pipe connection port diameters

Model	Gas [mm]	Liquid [mm]
ZBNW09GL2A0 [CL09R N20]	Ø9.52	Ø6.35
ZBNW12GL2A0 [CL12R N20]	Ø9.52	
ZBNW18GL2A0 [CL18R N20]	Ø12.7	

## 4. Piping diagrams

### ■ L3 Chassis

ZBNW24GL3A0 [CL24R N30]



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

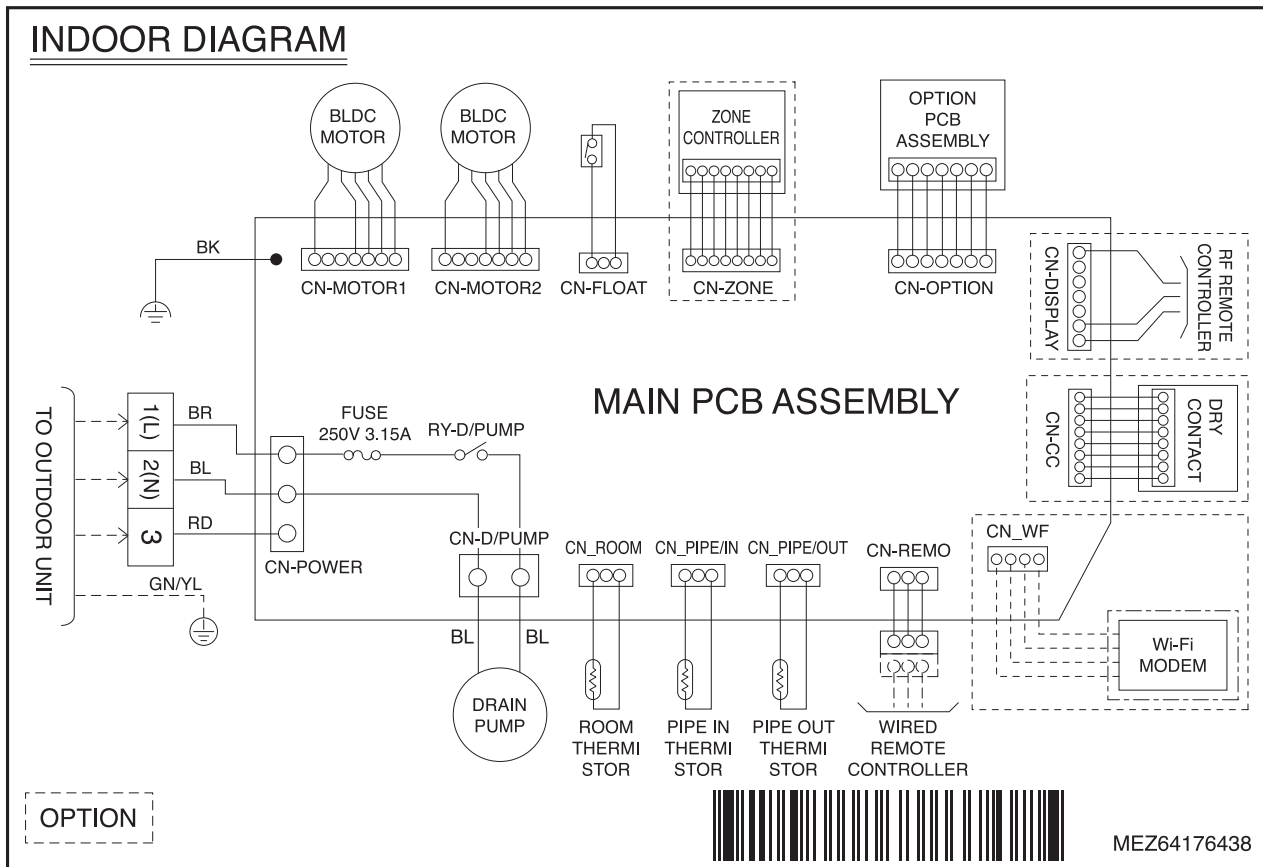
### ◆ Refrigerant pipe connection port diameters

Model	Gas [mm]	Liquid [mm]
ZBNW24GL3A0 [CL24R N30]	Ø15.88	Ø9.52
	Ø 12.7 (1/2)*	Ø 6.35 (1/4)*

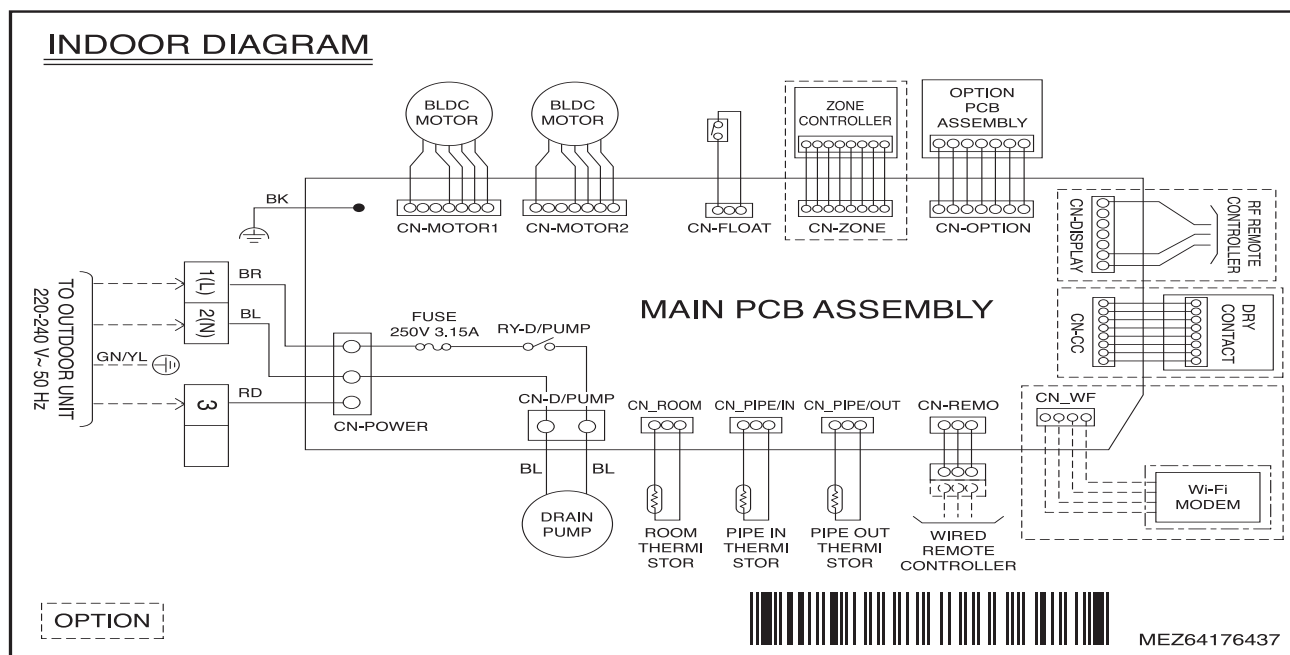
\* : For combined with Multi system, socket provided with indoor units should be connected.

## 5. Wiring Diagrams

### Models: ZBNW09GL2A0 [CL09R N20] / ZBNW12GL2A0 [CL12R N20] ZBNW18GL2A0 [CL18R N20]



### Model : ZBNW24GL3A0 [CL24R N30]

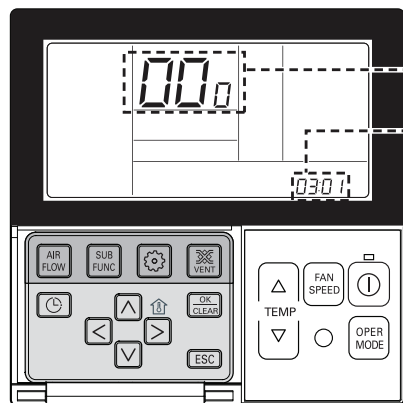




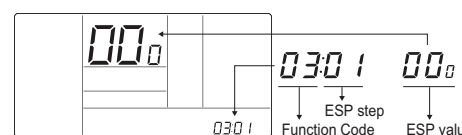
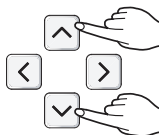
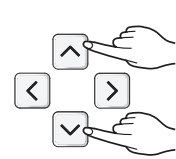

## 6. External Static Pressure & Air Flow

### ■ 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.



<p><b>1</b> If pressing  button long for 3 seconds, it enters into remote controller setter setup mode. - If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.</p> 	<p><b>4</b> Move to ESP value setting by pressing  button. (It is 000 when delivering from the warehouse.)</p> 
<p><b>2</b> If entering into ESP setup mode by using  button, it indicates as the picture below.</p> 	<p><b>5</b> Press   button to setup ESP value. (It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)</p> 
<p><b>3</b> Select ESP fan step by pressing   button. (01: very low, 02: low, 03: medium, 04: high, 05: very high)</p> 	<p><b>6</b> Select ESP fan step again by using   button and setup ESP value, as No. 4 and 5, that corresponds each wind flow</p> <p><b>7</b> Press  button to save.</p> 
	<p><b>8</b> Press  button to exit. * After setup, it automatically gets out of setup mode if there is no button input for 25 seconds. * When exiting without pressing set button, the manipulated value is not reflected.</p>

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

## 6. External Static Pressure & Air Flow

### ◆ ZBNW09GL2A0 [CL09R N20] / ZBNW12GL2A0 [CL12R N20] / ZBNW18GL2A0 [CL18R N20]

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
	Air Flow Rate [m³/min]					
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

### ◆ ZBNW24GL3A0 [CL24R N30]

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
	Air Flow Rate [m³/min]					
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

#### Note

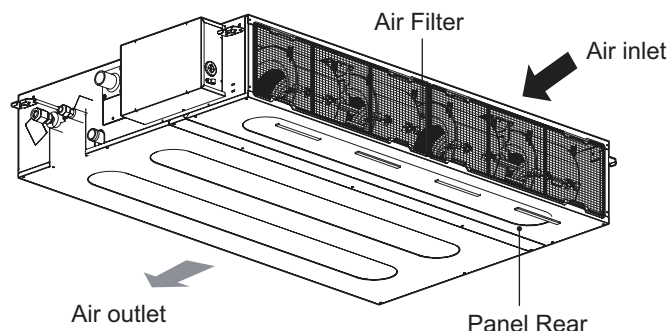
1. The above table shows the correlation between the air rates and E.S.P.

## 7. Installation

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

### L1/L2/L3 Chassis

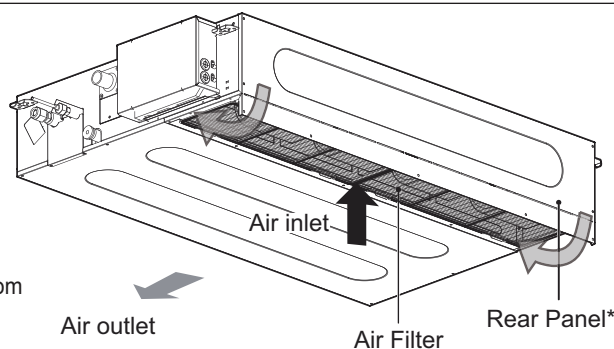
In case of air suction from back side



### L1/L2/L3 Chassis

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

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



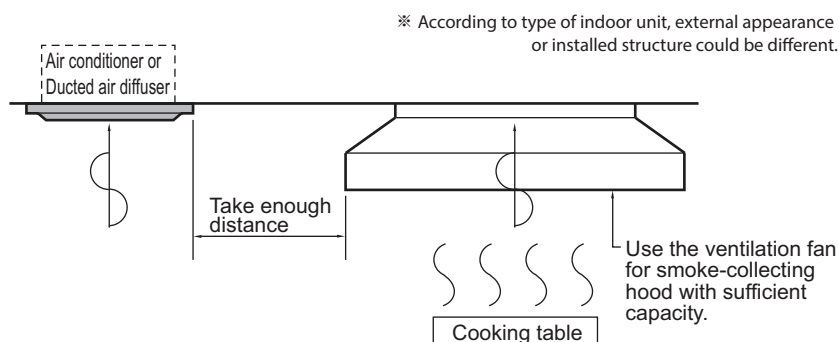
## 7.1 Selection of the best location

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



## 7. Installation

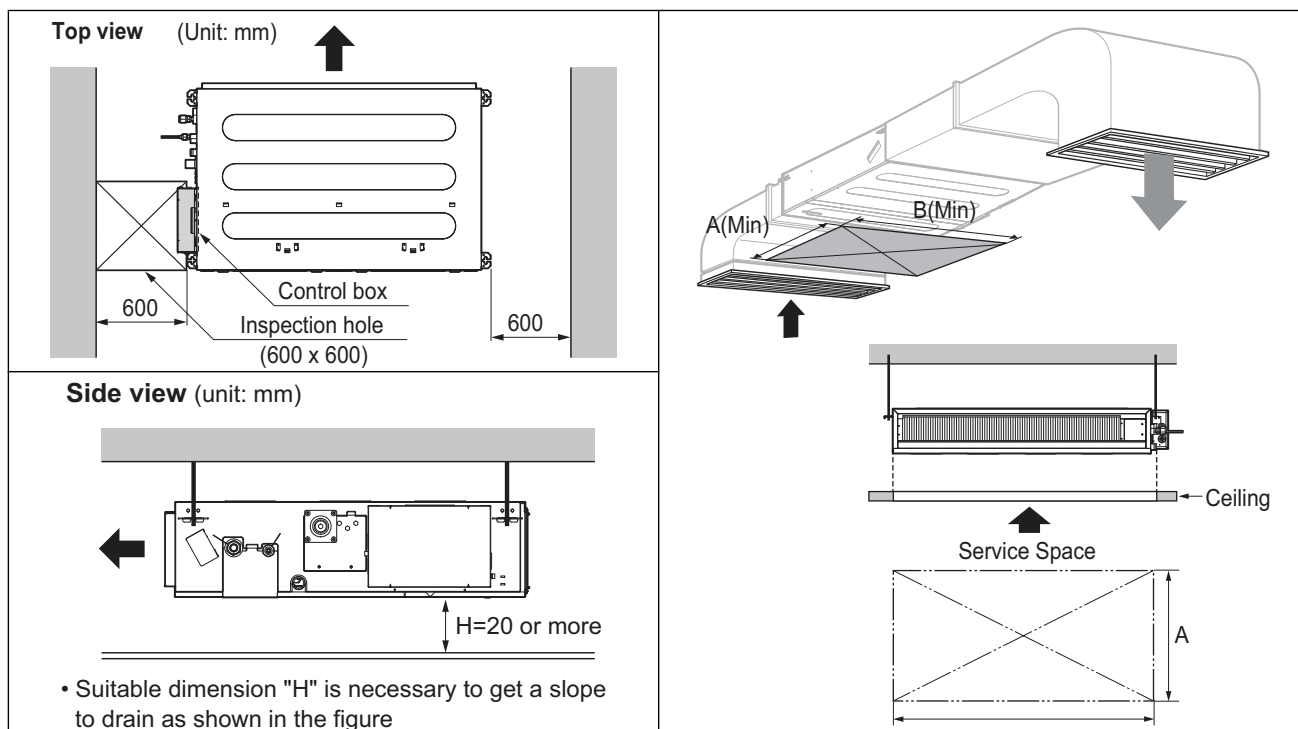
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

### ⚠ CAUTION

- If the temperature rise above 30°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.



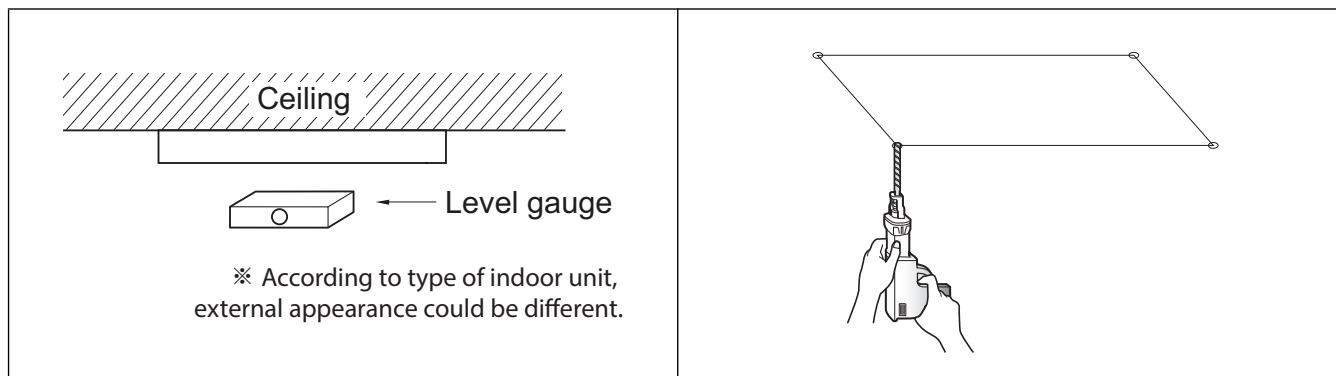
Chassis code	A [mm]	B [mm]
L1	800	800
L2	800	1,000
L3	800	1,200

## 7. Installation

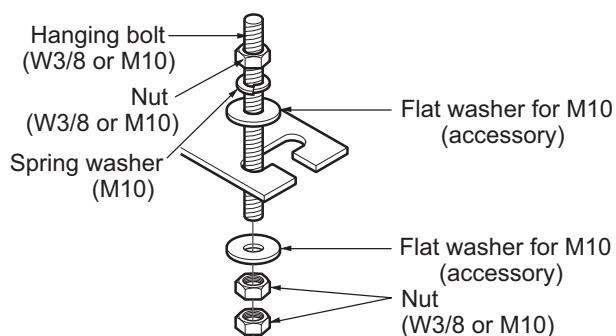
### 7.2 Ceiling dimension and hanging bolt location

#### ⚠ CAUTION

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



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

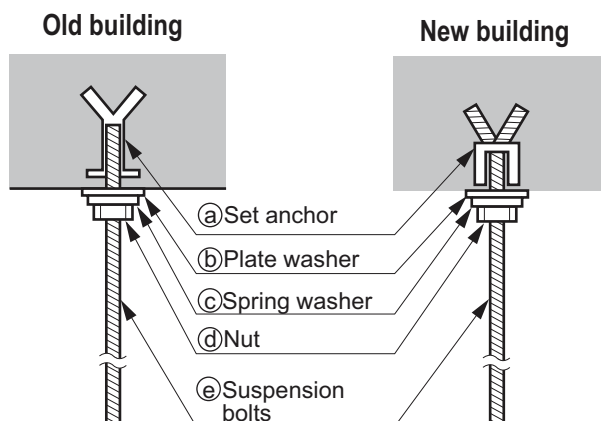


- The following parts are local purchasing.

1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

#### ⚠ CAUTION

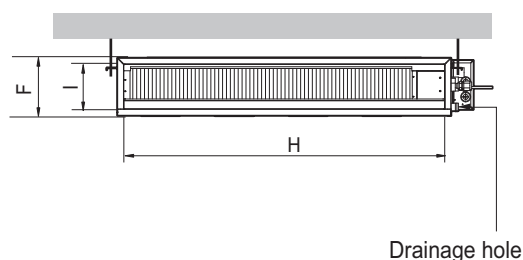
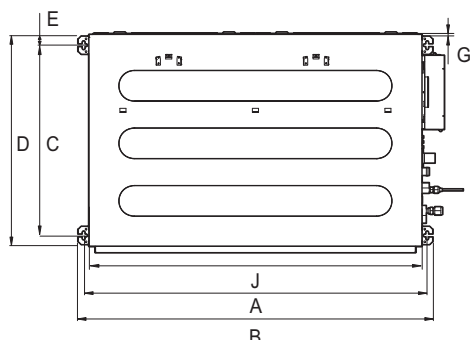
- Tighten the nut and bolt to prevent the unit from falling.



## 7. Installation

### ■ Installation of Unit

Install the unit above the ceiling correctly.



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

## 7.3 Connecting cables between Indoor Unit and Outdoor Unit

### 7.3.1 General instructions

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

### ⚠ CAUTION

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

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

## 7. Installation

### 7.3.2 Wiring connection

- Connect the wires to the terminals on the control board and visually 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.

### 7.3.3 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.

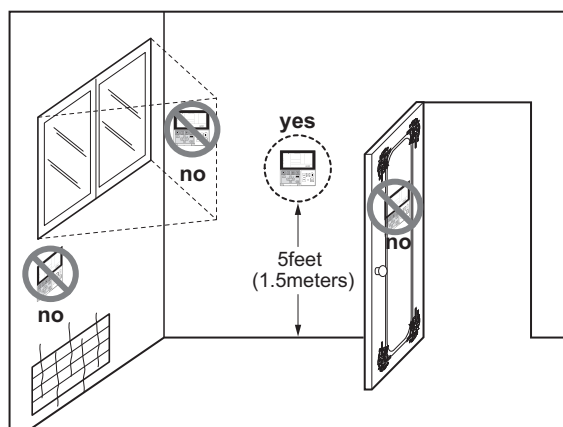
#### WARNING

- 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.

### 7.3.4 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 :

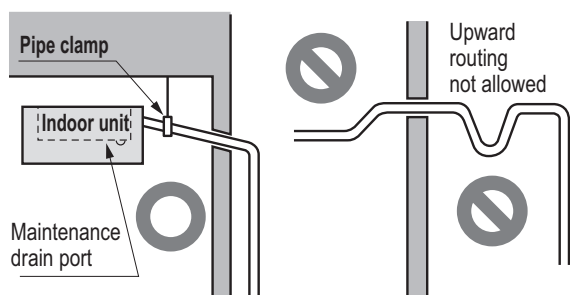
- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. 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.)

## 7. Installation

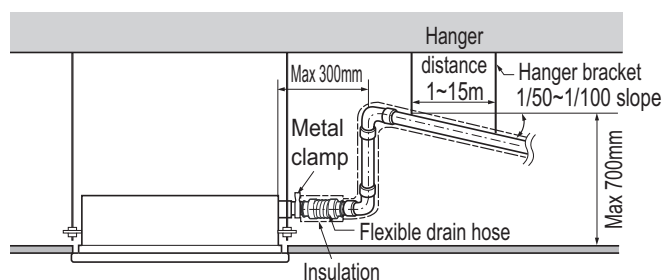
### 7.4 Indoor Unit Drain Piping

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

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

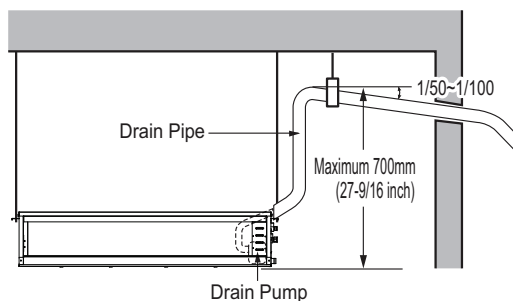


※ According to type of indoor unit, external appearance could be different.

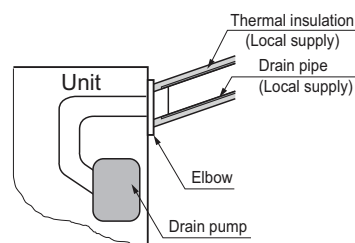


※ According to type of indoor unit, external appearance could be different.

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



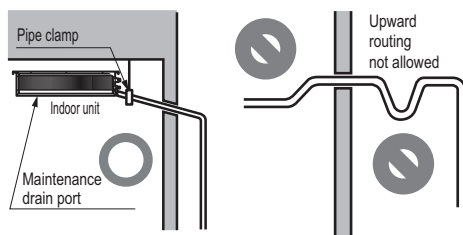
※ According to type of indoor unit, external appearance could be different.



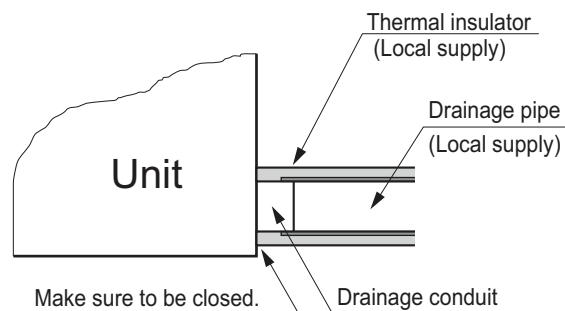
## 7. Installation

### 7.4.2 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)



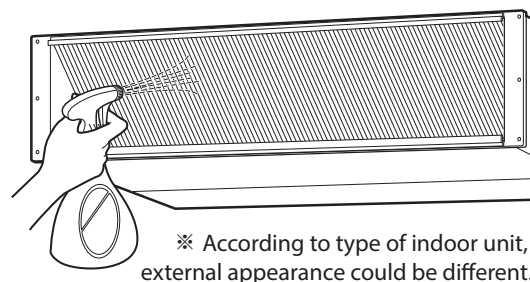
## 7. Installation

### 7.4.3 Method of Drainage test

#### ◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

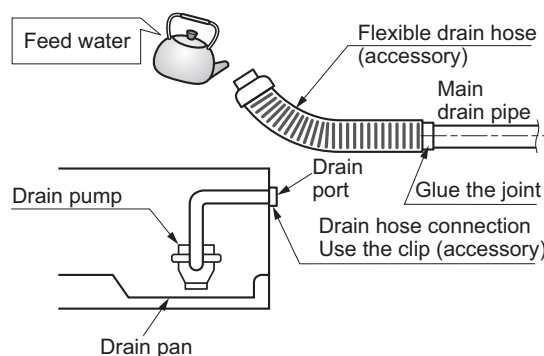
1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



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

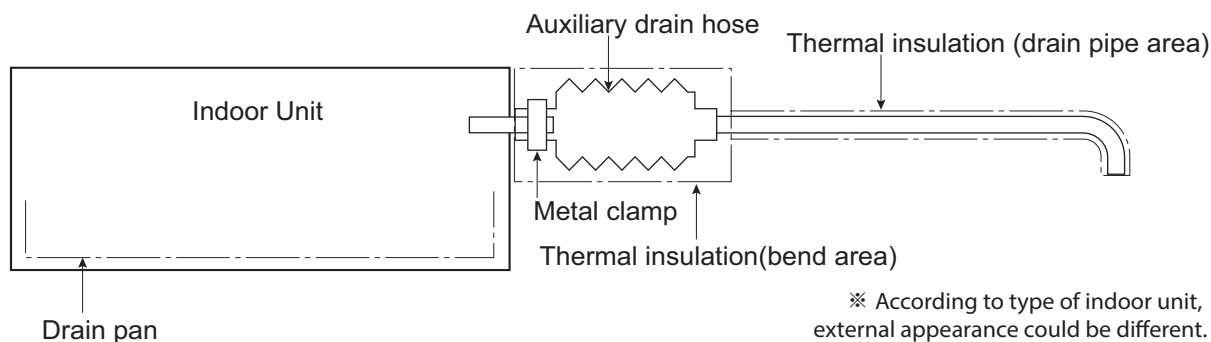
Use the following procedure to test the drain pump operation.

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.



### 7.4.4 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.



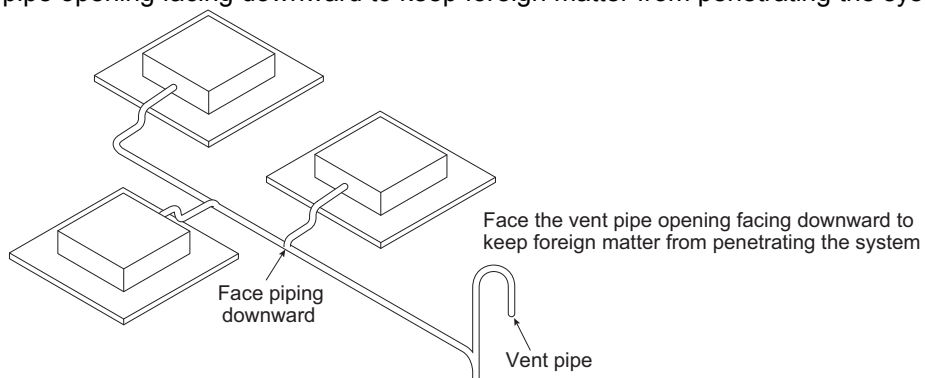
#### ⚠ CAUTION

- 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.

## 7. Installation

### 7.4.5 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 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

## ◆ Basic functions of Indoor Unit

Category	Functions	ZVNW18GM1A0 [UV18R N10] ZVNW24GM1A0 [UV24R N10] ZVNW36GM2A0 [UV36R N20] ZVNW42GM2A0 [UV42R N20] ZVNW48GM2A0 [UV48R N20] ZVNW60GM2A0 [UV60R N20]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	4 / 5 / 5
	Chaos wind(auto wind)	X
	Jet cool/heat	O / O
Air purifying	Swirl wind	X
	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
Installation	Long-life prefilter (washable / anti-fungus)	O
	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
Reliability	High ceiling operation*	X
	Hot start	O
Convenience	Self diagnosis	O
	Auto changeover	O
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
Special Functions	Auto Elevation Grille	X
	Wi-Fi	O (Accessory)
Comes with product	Humidity Control	O
	Wireless Remote Controller	O**
Wired Remote Controller		X
Network Solution (LGAP)		O

### Note

1. O : Applied, X : Not applied

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

2. Some functions can be limited by remote controller.

3. In case of 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

## ◆ Network solution Accessory List

Category		Product	Remark	ZVNW18GM1A0 [UV18R N10] ZVNW24GM1A0 [UV24R N10] ZVNW36GM2A0 [UV36R N20] ZVNW42GM2A0 [UV42R N20] ZVNW48GM2A0 [UV48R N20] ZVNW60GM2A0 [UV60R N20]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	X
		PQRCHCA0Q(W)	for Hotel	X
	Standard	PREMTB001	Standard (White)	X
		PREMTBB01	Standard (Black)	X
		PREMTB100**	New Standard (White)	X
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
		PDRYCB400	2 Points Dry Contact (For Setback)	O
	Communication type	PDRYCB300	-	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O

### Note

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

## 2. Specifications

Model Name			Unit	ZVNW18GM1A0 [UV18R N10]	ZVNW24GM1A0 [UV24R N10]
Power Supply			V , Ø , Hz	220-240 / 1 / 50	220-240 / 1 / 50
				220 / 1 / 60	220 / 1 / 60
Casing				Morning Fog	Morning Fog
Dimensions	W x H x D	mm		1,200 x 235 x 690	1,200 x 235 x 690
Net Weight			kg	27.3	28.0
Shipping Weight			kg	34.0	34.5
Heat Exchanger	Rows x Columns x FPI			(2 x 18 x 18) x 1	(3 x 18 x 18) x 1
	Face Area		m²	0.27	0.46
Fan Type				Cross flow Fan	Cross flow Fan
Air Flow Rate	H / M / L	m³/min		13.0 / 12.0 / 11.0	16.0 / 15.0 / 14.0
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output	W x No.		105.4 x 1	105.4 x 1
	Power Input	H / M / L	W	26 / 23 / 19	33 / 26 / 19
	FLA (Full Load Ampere)		A	1.0	1.0
Dehumidification Rate			ℓ/h	1.9	3.0
Safety Device				Fuse / Thermal Protector for Fan Motor	
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Sound Pressure Level	Cooling	H / M / L	dB(A)	42 / 40 / 39	46 / 45 / 43
Sound Power Level	Cooling	Max.	dB(A)	55	61
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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

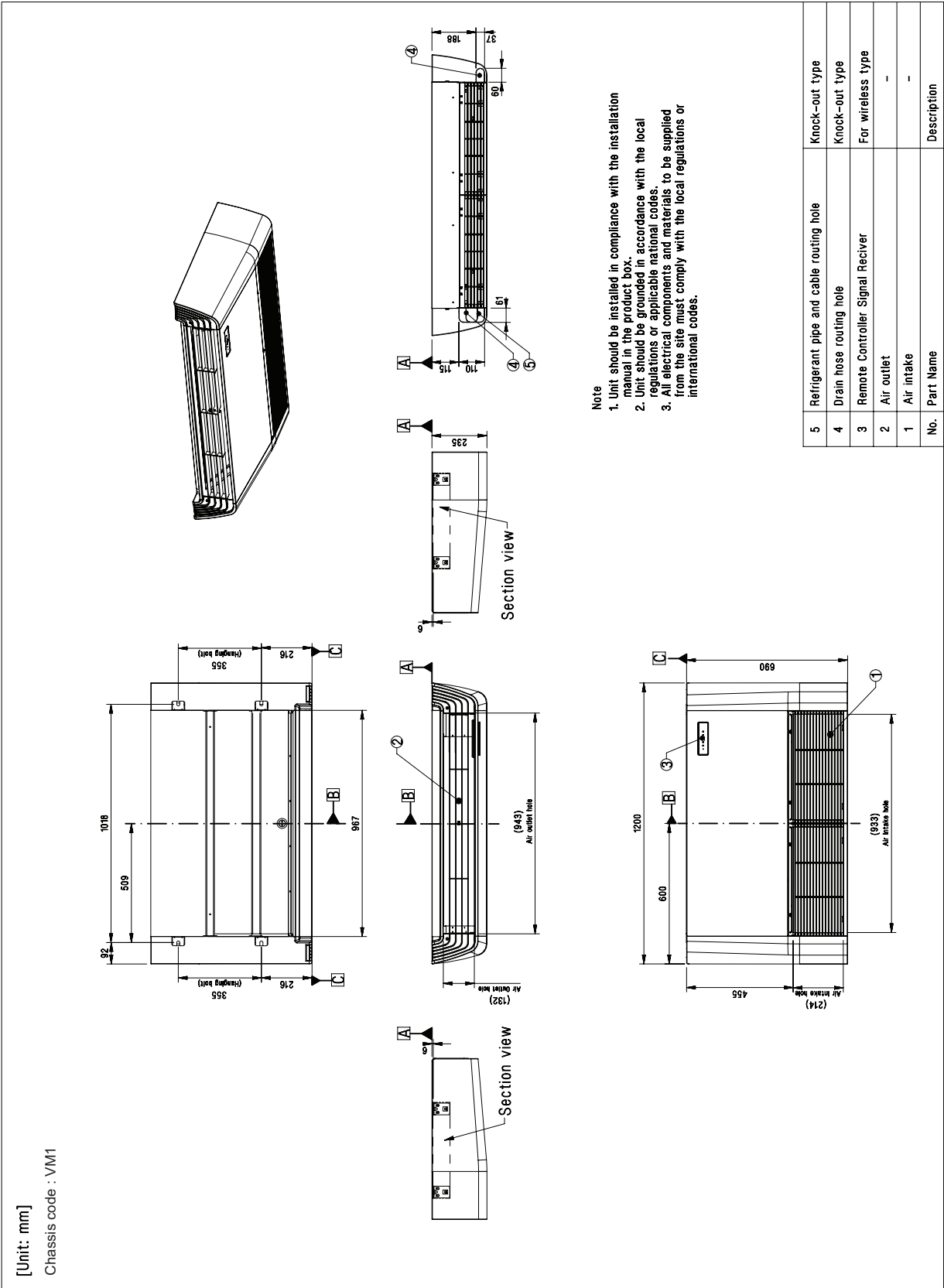
Model Name			Unit	ZVNW36GM2A0 [UV36R N20]	ZVNW42GM2A0 [UV42R N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Morning Fog	Morning Fog
Dimensions		W x H x D	mm	1,600 x 235 x 690	1,600 x 235 x 690
Net Weight			kg	36.5	36.5
Shipping Weight			kg	45.0	45.0
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 18	3 x 18 x 18
	Face Area		m²	0.46	0.46
Fan Type				Cross Flow Fan	Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	28 / 24 / 20	28 / 24 / 20
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	124 x 1	124 x 1
	Power Input	H / M / L	W	50 / 35 / 28	50 / 35 / 28
	FLA (Full Load Ampere)		A	0.47	0.47
Dehumidification Rate			ℓ/h	3.8	5.8
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	46 / 43 / 40	46 / 43 / 40
Sound Power Level	Cooling	Max.	dB(A)	63	63
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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 Name			Unit	ZVNW48GM2A0 [UV48R N20]	ZVNW60GM2A0 [UV60R N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Casing				Morning Fog	Morning Fog
Dimensions		W x H x D	mm	1,600 x 235 x 690	1,600 x 235 x 690
Net Weight			kg	36.5	36.5
Shipping Weight			kg	45.0	45.0
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 18	3 x 18 x 18
	Face Area		m²	0.46	0.46
Fan Type				Cross Flow Fan	Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	30 / 25 / 20	30 / 25 / 20
Fan Motor	Type			BLDC	BLDC
	Drive			Direct	Direct
	Output		W x No.	124 x 1	124 x 1
	Power Input	H / M / L	W	59 / 40 / 28	59 / 40 / 28
	FLA (Full Load Ampere)		A	0.47	0.47
Dehumidification Rate			ℓ/h	6.3	7.1
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	48 / 44 / 40	48 / 44 / 40
Sound Power Level	Cooling	Max.	dB(A)	63	63
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
<b>Note</b>					
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.					

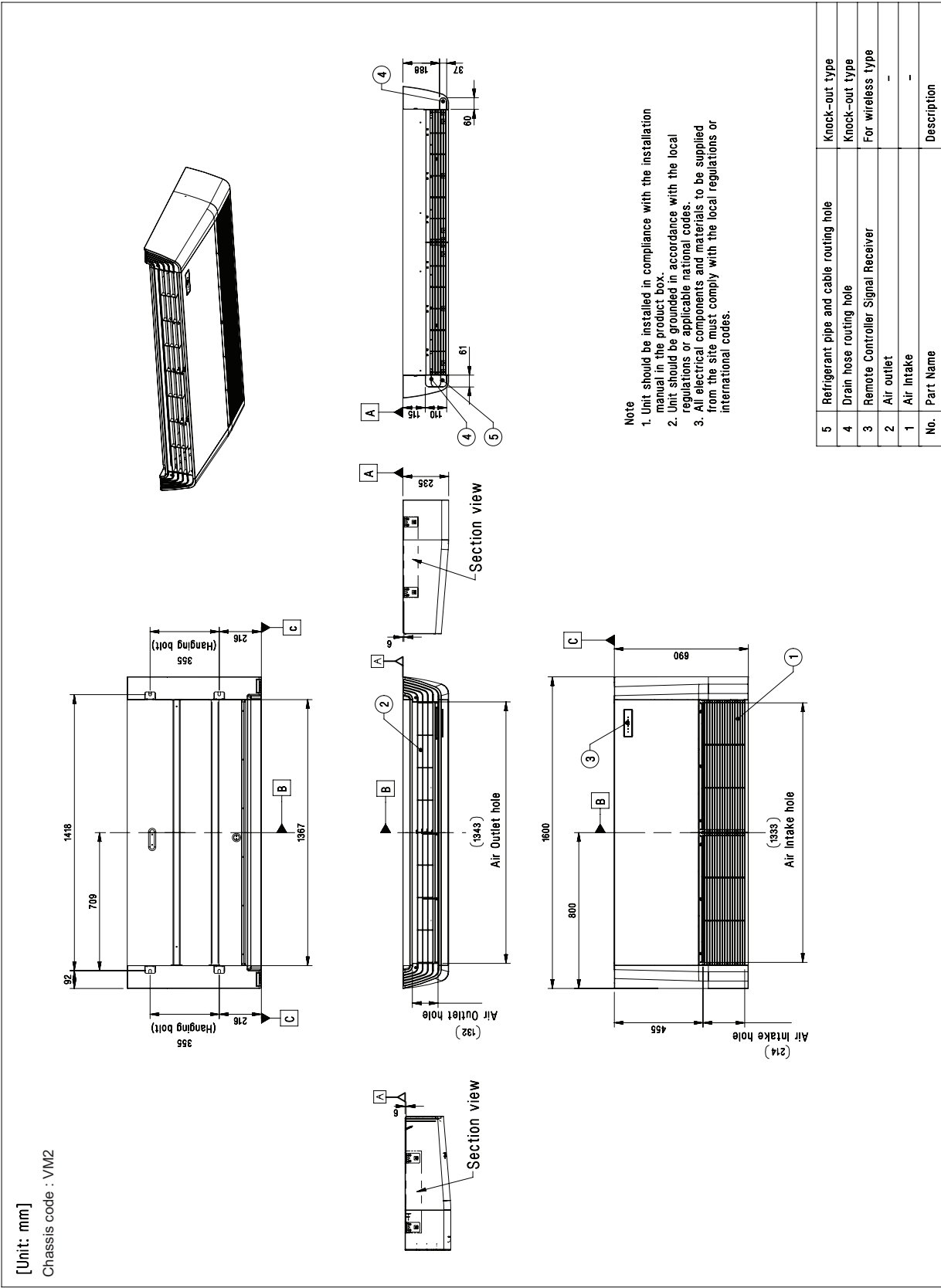
3. Dimensions

ZVNW18GM1A0 [UV18R N10] / ZVNW24GM1A0 [UV24R N10]



3. Dimensions

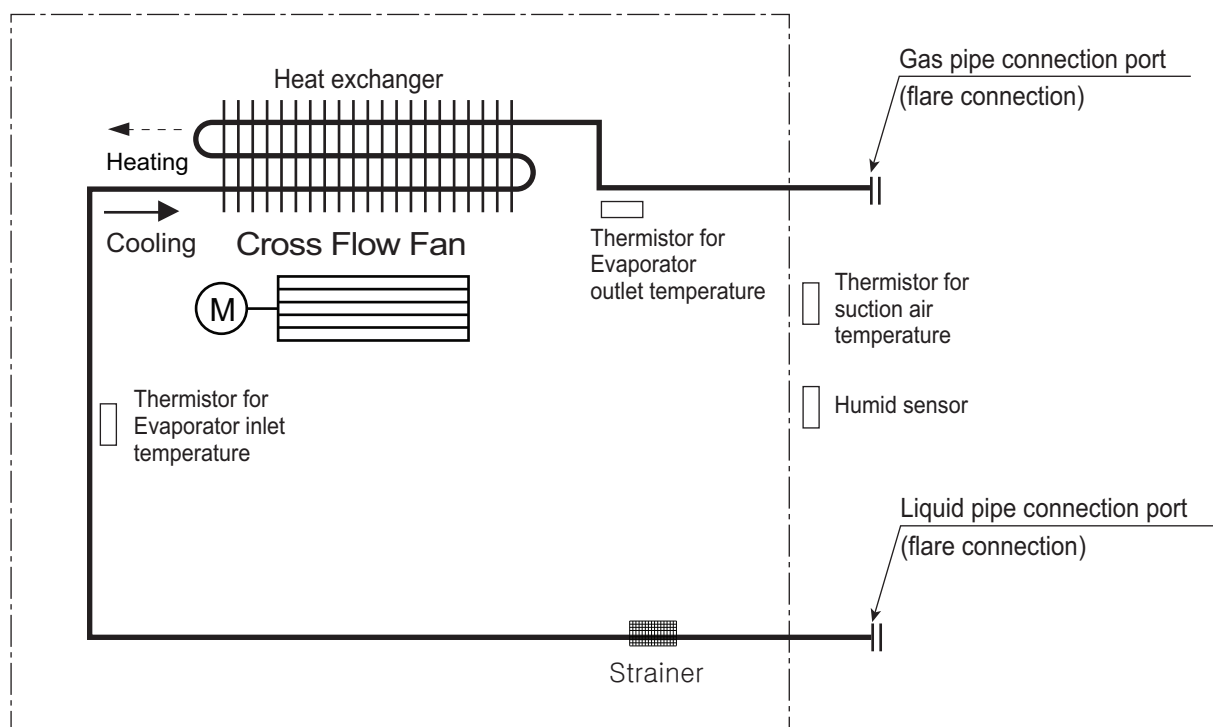
ZVNW36GM2A0 [UV36R N20] / ZVNW42GM2A0 [UV42R N20]  
ZVNW48GM2A0 [UV48R N20] / ZVNW60GM2A0 [UV60R N20]





## 4. Piping diagrams

### ■ Models : ZVNW18GM1A0 [UV18R N10], ZVNW24GM1A0 [UV24R N10]



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

### ◆ Refrigerant pipe connection port diameters

[Unit : mm]

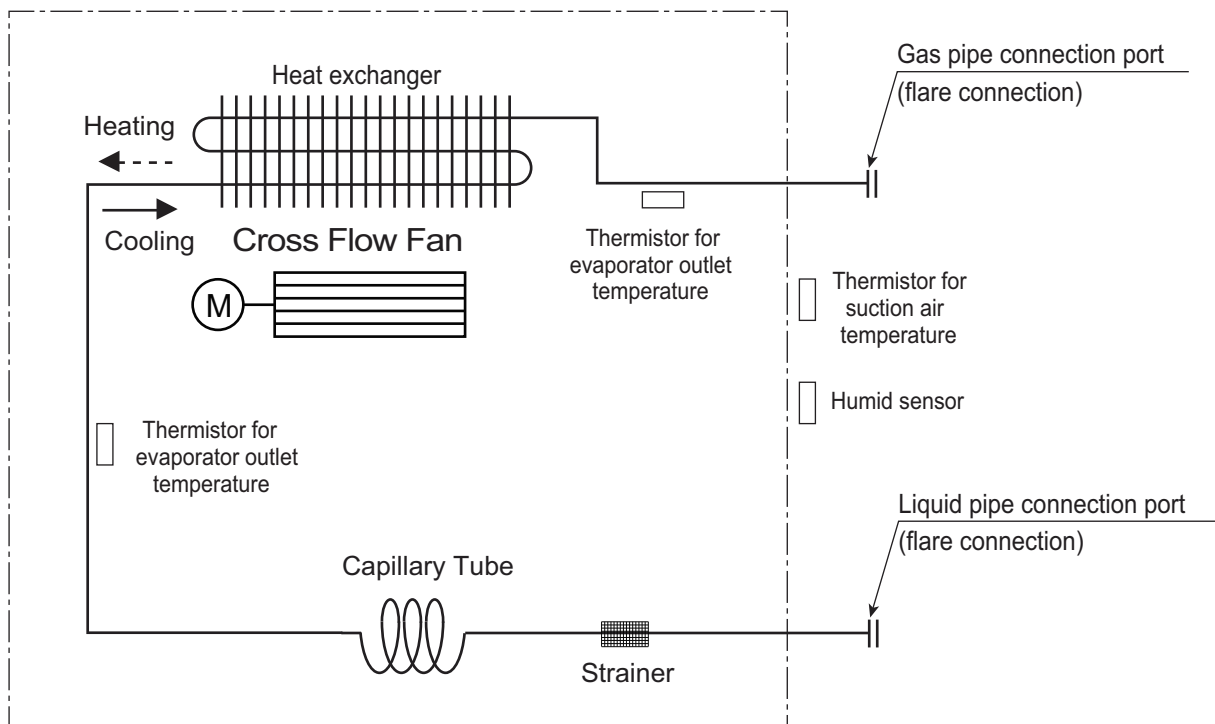
Model	Gas	Liquid
ZVNW18GM1A0 [UV18R N10]	Ø12.7	Ø6.35
ZVNW24GM1A0 [UV24R N10]	Ø15.88	Ø9.52
	* Ø12.7	* Ø6.35

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

## 4. Piping diagrams

[Unit : mm]

- **Models :** ZVNW36GM2A0 [UV36R N20], ZVNW42GM2A0 [UV42R N20],  
ZVNW48GM2A0 [UV48R N20], ZVNW60GM2A0 [UV60R N20]



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

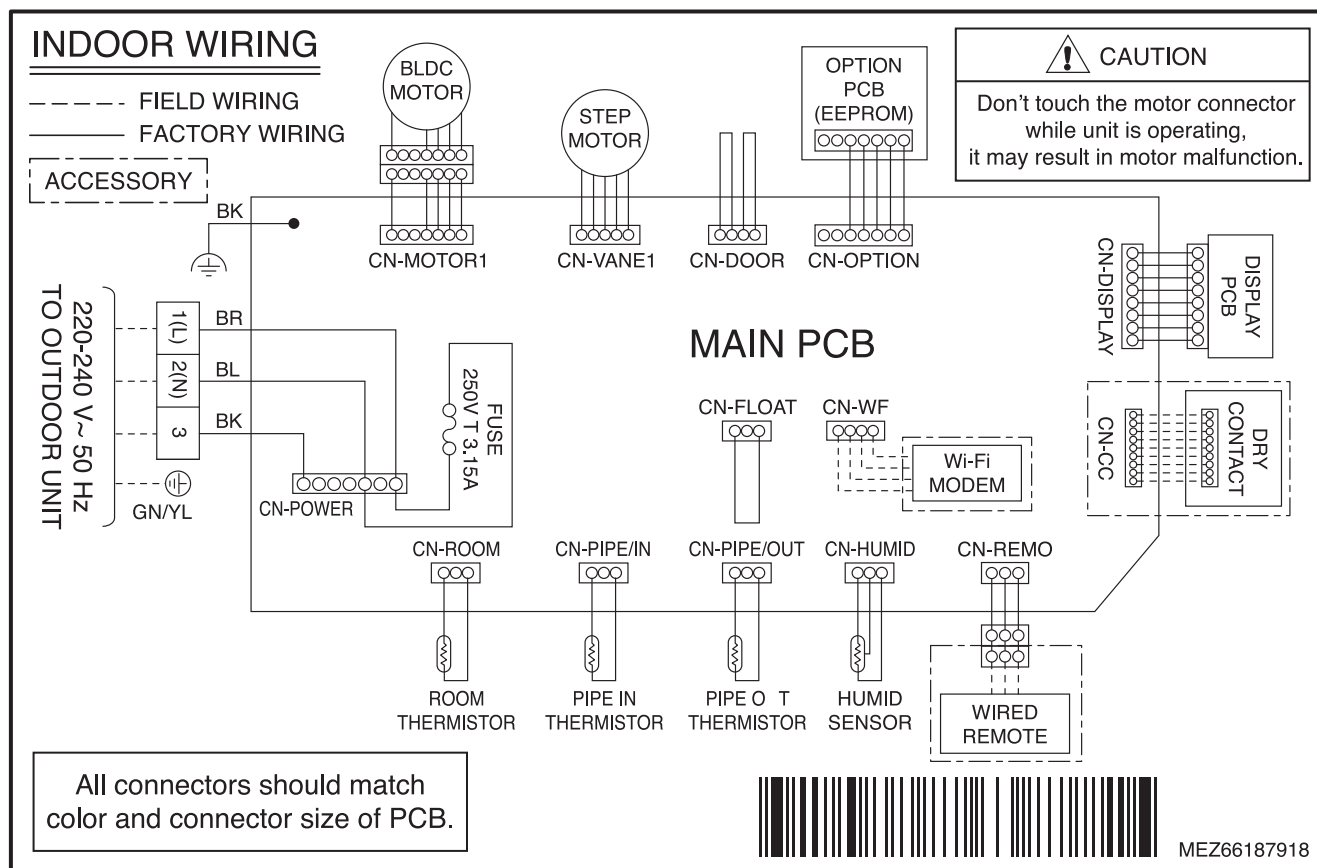
### ◆ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
ZVNW36GM2A0 [UV36R N20] ZVNW42GM2A0 [UV42R N20] ZVNW48GM2A0 [UV48R N20] ZVNW60GM2A0 [UV60R N20]	Ø15.88	Ø9.52

## 5. Wiring Diagrams

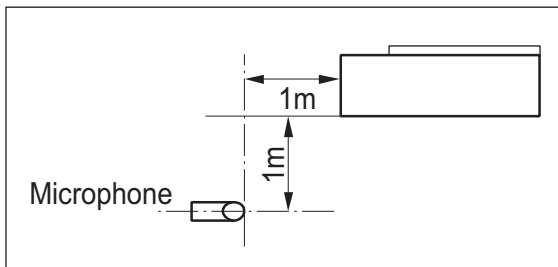
- Models : ZVNW18GM1A0 [UV18R N10], ZVNW24GM1A0 [UV24R N10],  
ZVNW36GM2A0 [UV36R N20], ZVNW42GM2A0 [UV42R N20],  
ZVNW48GM2A0 [UV48R N20], ZVNW60GM2A0 [UV60R N20]



## 6. Sound levels

### 6.1 Sound pressure level

#### Overall

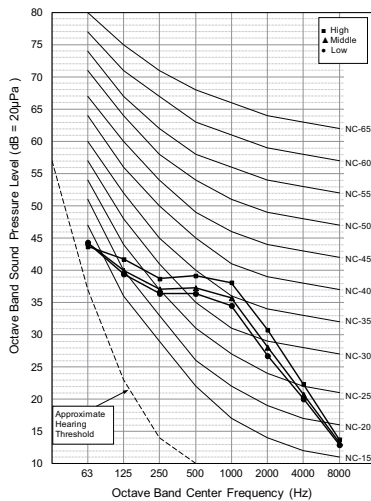


#### Note

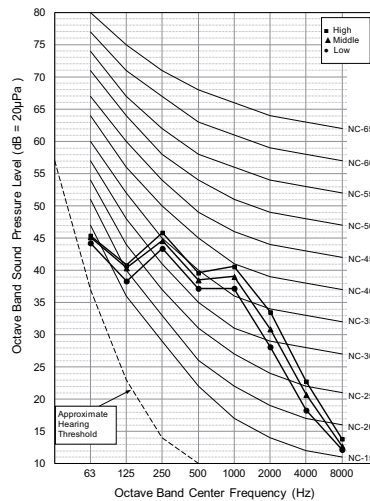
- Data is valid at nominal operation condition.
- Reference acoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
ZVNW18GM1A0 [UV18R N10]	42	40	39
ZVNW24GM1A0 [UV24R N10]	46	45	43
ZVNW36GM2A0 [UV36R N20]	46	43	40
ZVNW42GM2A0 [UV42R N20]	46	43	40
ZVNW48GM2A0 [UV48R N20]	48	44	40
ZVNW60GM2A0 [UV60R N20]	48	44	40

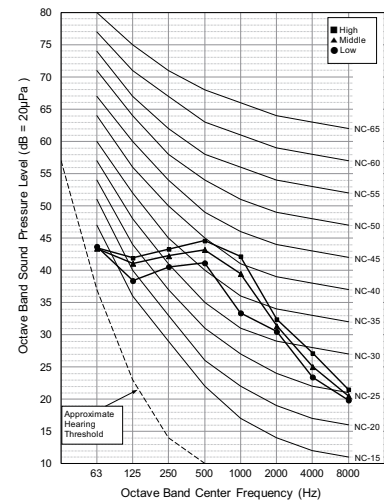
ZVNW18GM1A0 [UV18R N10]



ZVNW24GM1A0 [UV24R N10]

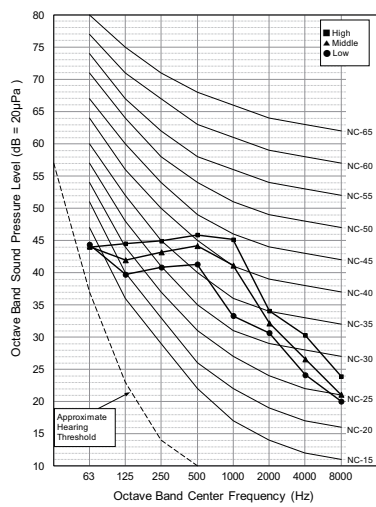


ZVNW36GM2A0 [UV36R N20]  
ZVNW42GM2A0 [UV42R N20]



## 6. Sound levels

ZVNW48GM2A0 [UV48R N20]  
ZVNW60GM2A0 [UV60R N20]



## 6. Sound levels

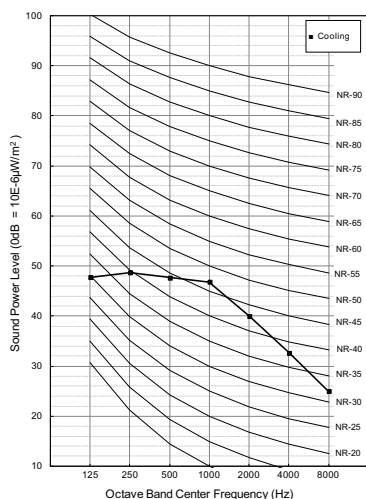
### 6.2 Sound power level

#### Note

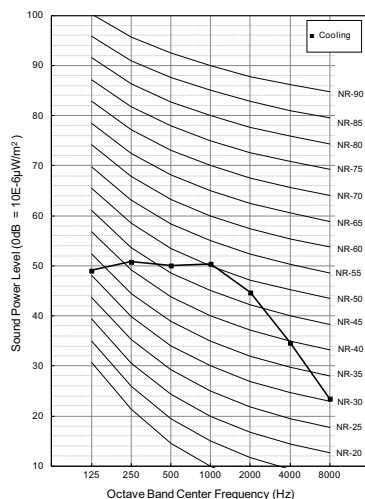
1. Reference acoustic intensity 0dB =  $10E-6\mu W/m^2$
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
ZVNW18GM1A0 [UV18R N10]	55
ZVNW24GM1A0 [UV24R N10]	61
ZVNW36GM2A0 [UV36R N20]	63
ZVNW42GM2A0 [UV42R N20]	63
ZVNW48GM2A0 [UV48R N20]	63
ZVNW60GM2A0 [UV60R N20]	63

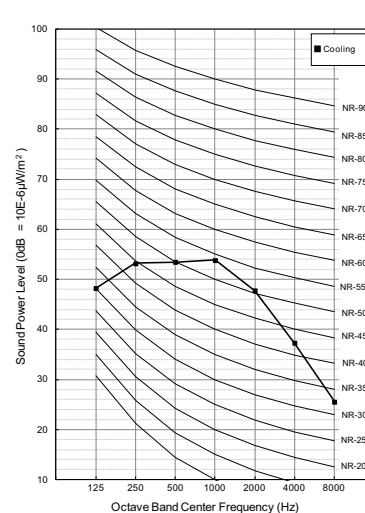
ZVNW18GM1A0 [UV18R N10]



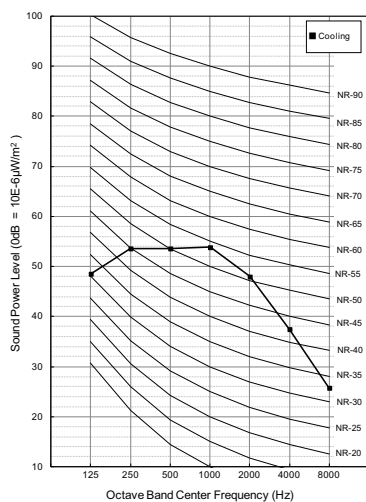
ZVNW24GM1A0 [UV24R N10]



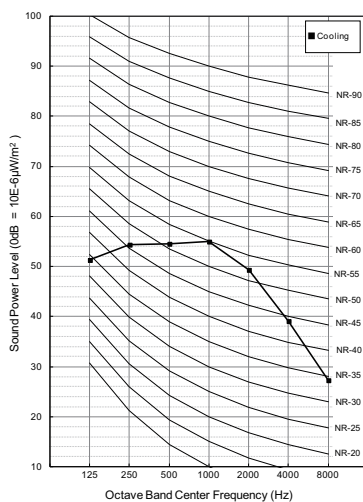
ZVNW36GM2A0 [UV36R N20]



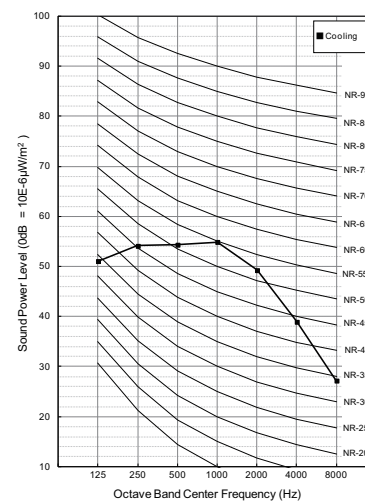
ZVNW42GM2A0 [UV42R N20]



ZVNW48GM2A0 [UV48R N20]



ZVNW60GM2A0 [UV60R N20]

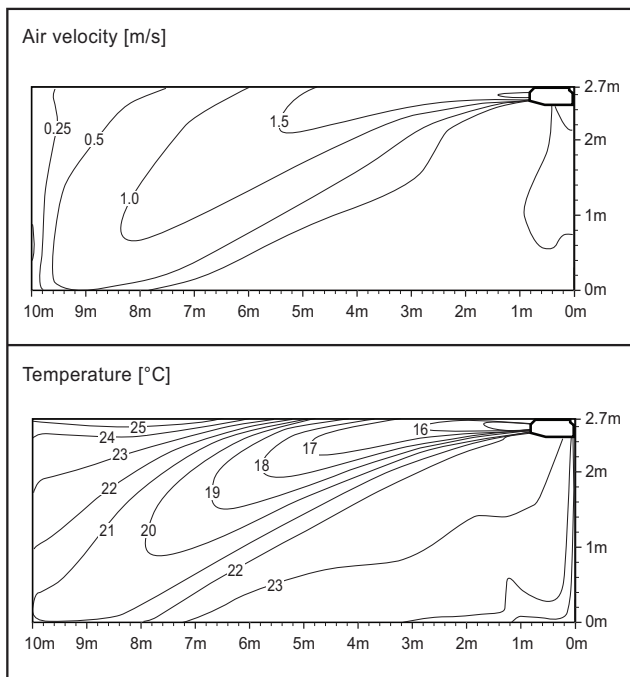


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZVNW18GM1A0 [UV18R N10]

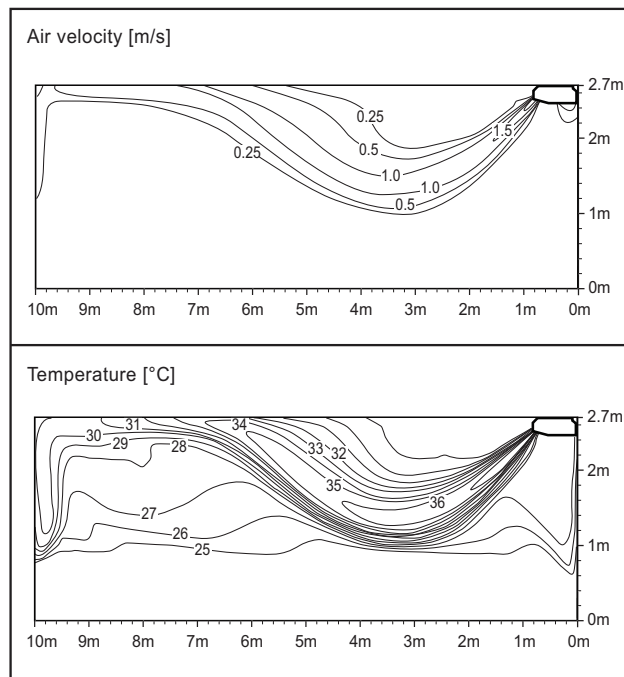
#### Cooling

Discharge angle: 0°



#### Heating

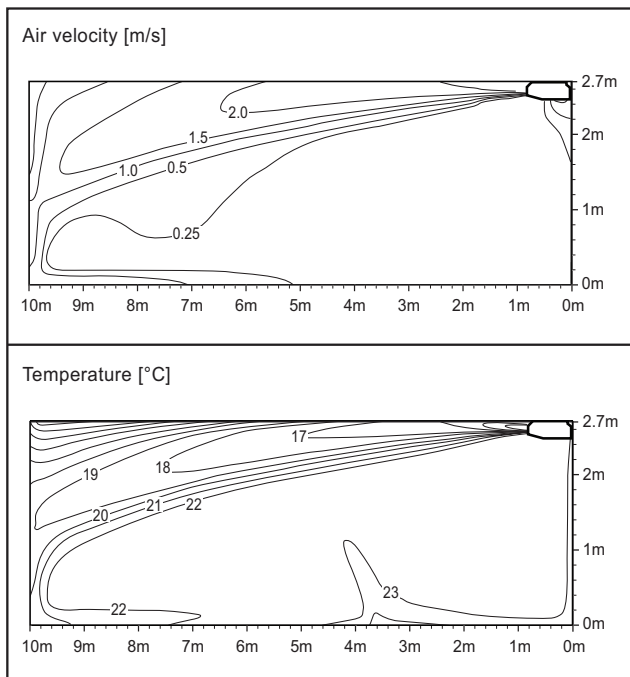
Discharge angle: 40°



### ■ Model : ZVNW24GM1A0 [UV24R N10]

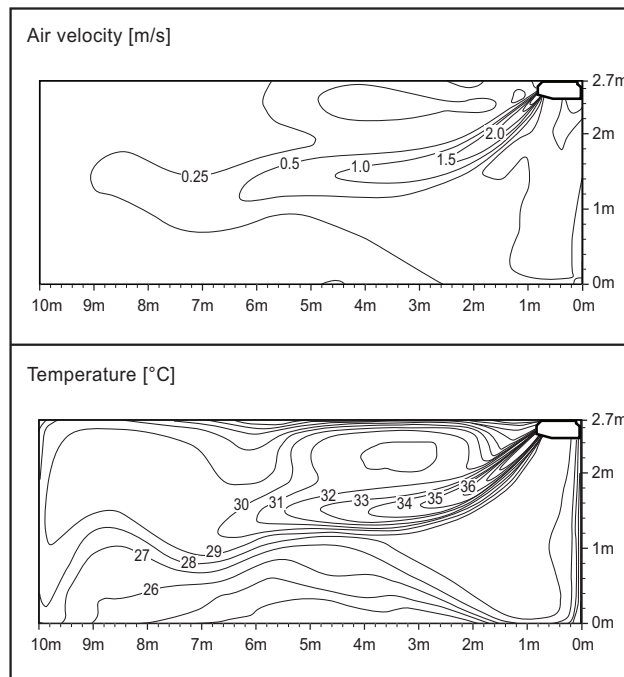
#### Cooling

Discharge angle: 0°



#### Heating

Discharge angle: 40°

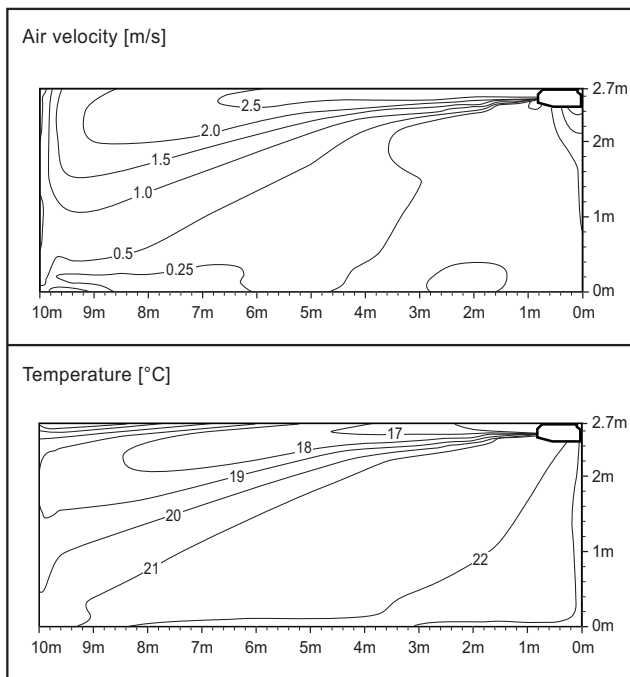


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZVNW36GM2A0 [UV36R N20]

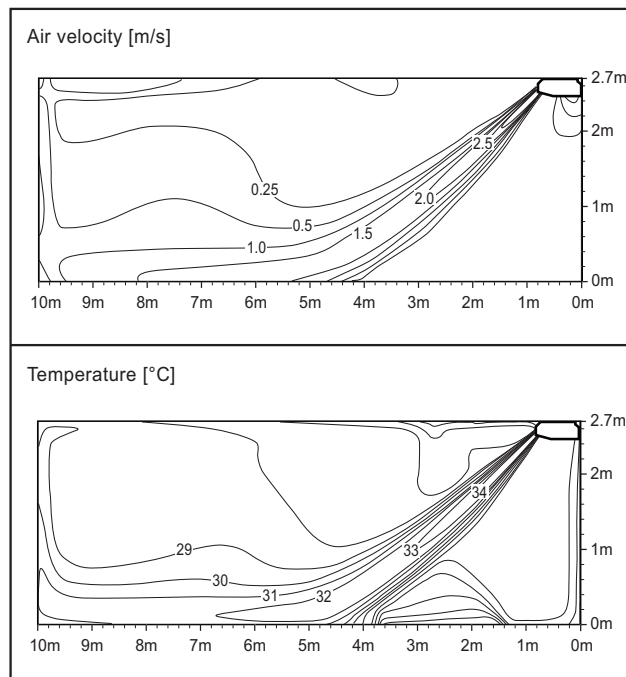
#### Cooling

Discharge angle: 0°



#### Heating

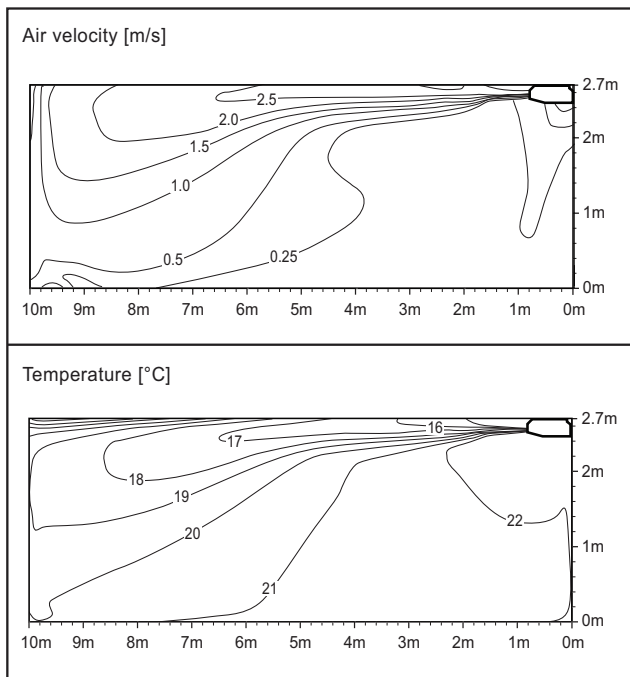
Discharge angle: 40°



### ■ Model : ZVNW42GM2A0 [UV42R N20]

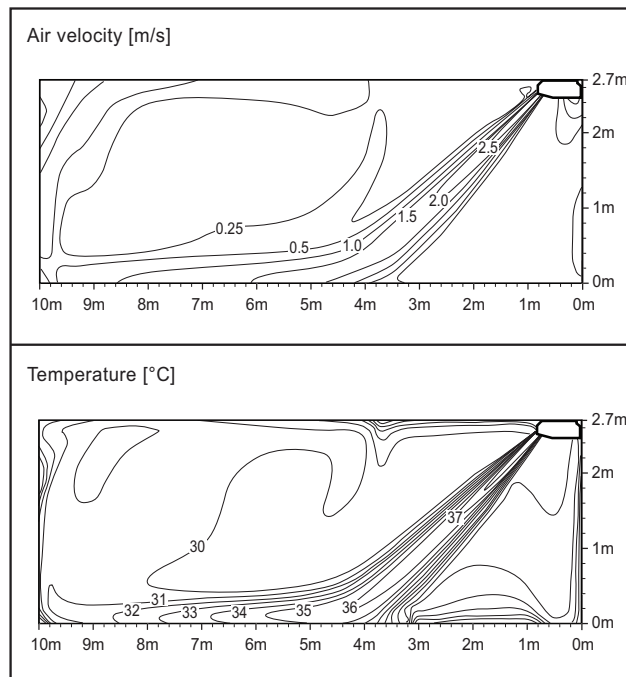
#### Cooling

Discharge angle: 0°



#### Heating

Discharge angle: 40°



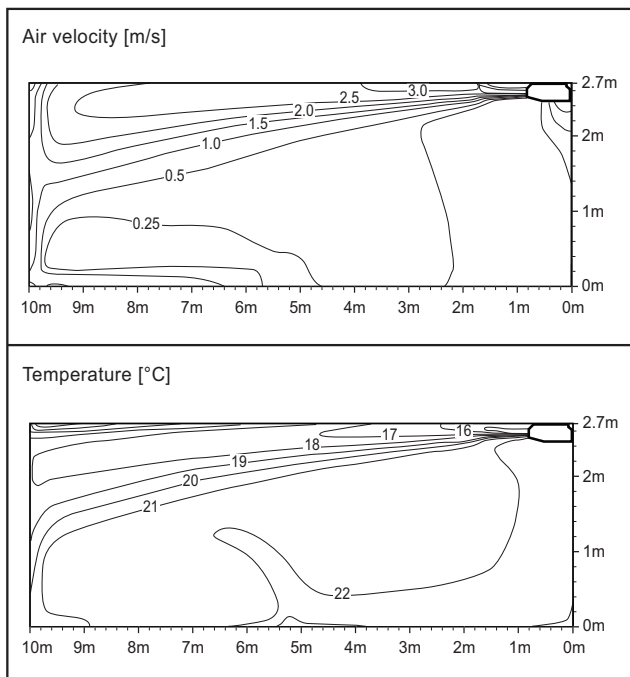


## 7. Air flow and temperature distributions (reference data)

### ■ Model : ZVNW48GM2A0 [UV48R N20]

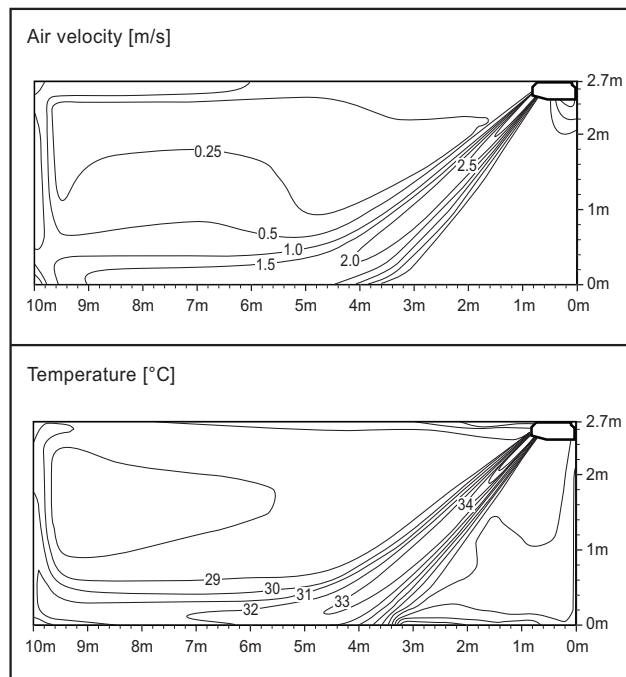
#### Cooling

Discharge angle: 0°



#### Heating

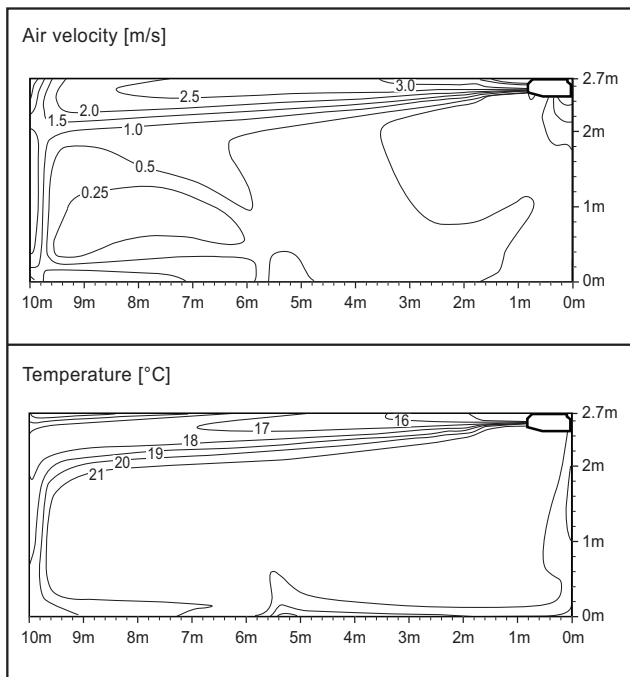
Discharge angle: 40°



### ■ Model : ZVNW60GM2A0 [UV60R N20]

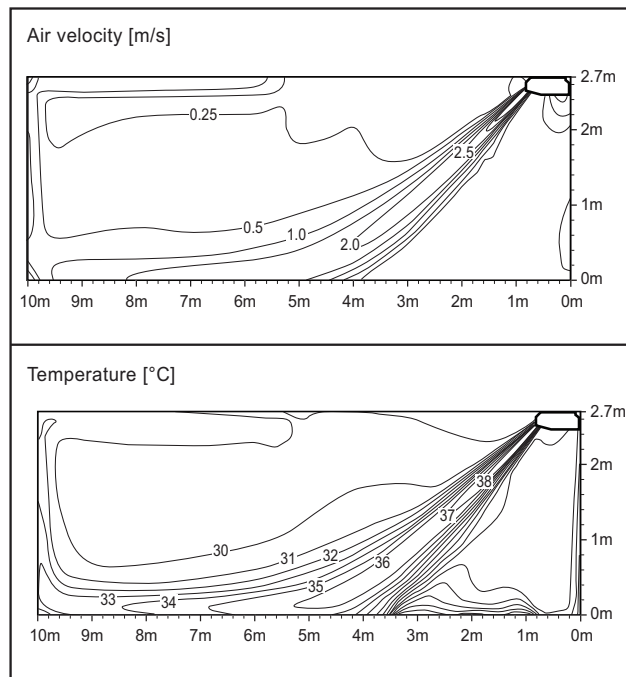
#### Cooling

Discharge angle: 0°



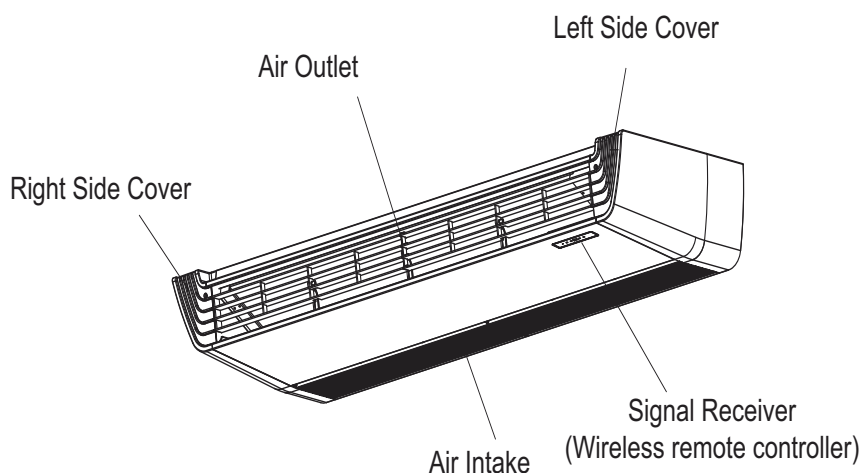
#### Heating

Discharge angle: 40°



## 8. Installation

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

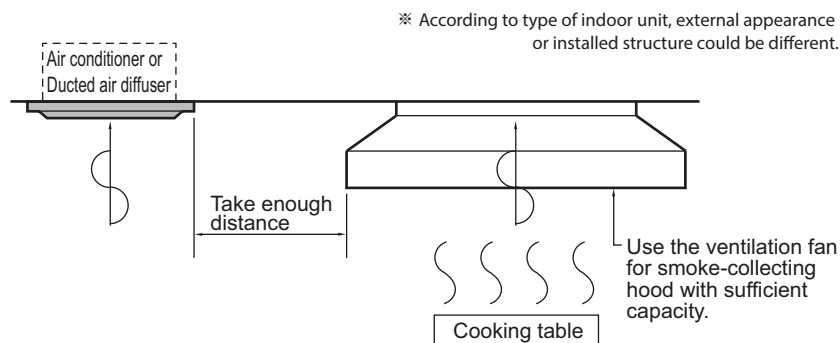


### 8.1 Selection of the best location

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

## 8. Installation

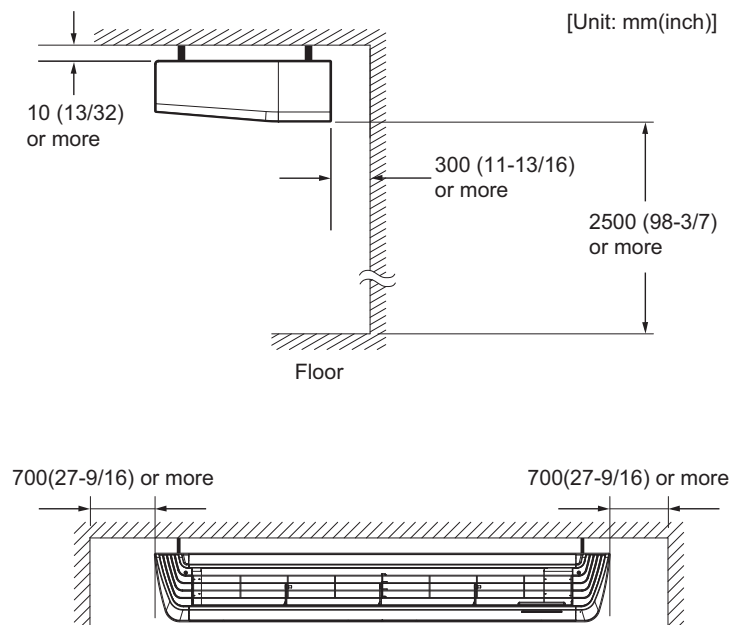
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

### ⚠ CAUTION

- If the temperature rise above 30°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.



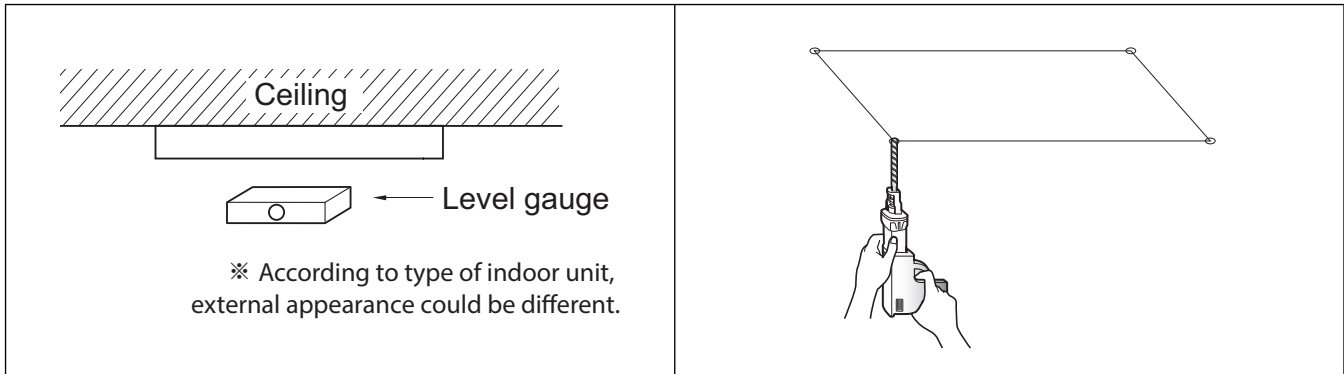
## 8. Installation

### 8.2 Installation of indoor units

#### 8.2.1 Ceiling dimension and hanging bolt location

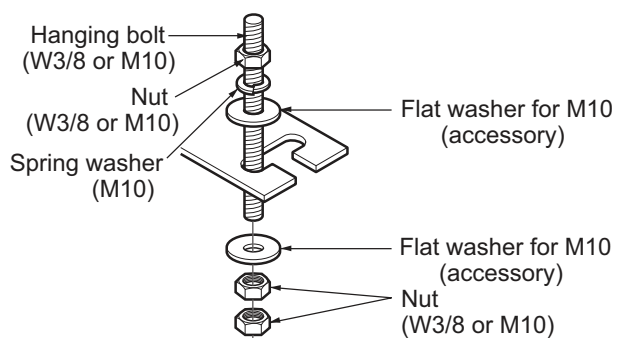
##### CAUTION

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



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

## 8. Installation

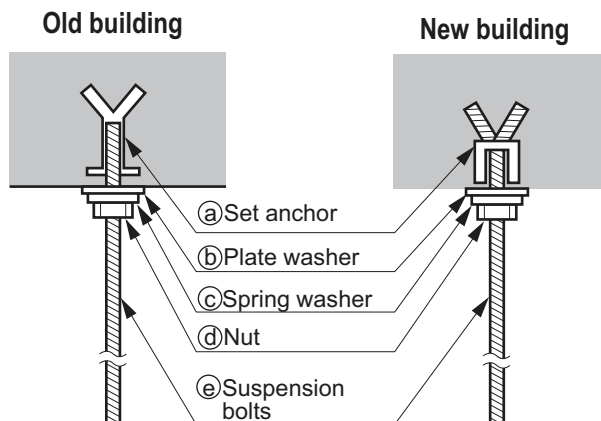


- The following parts are local purchasing.

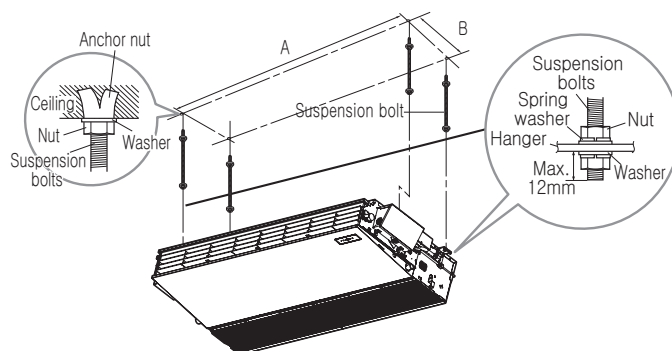
1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

### ⚠ CAUTION

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



### ◆ Hanging bolts dimensions



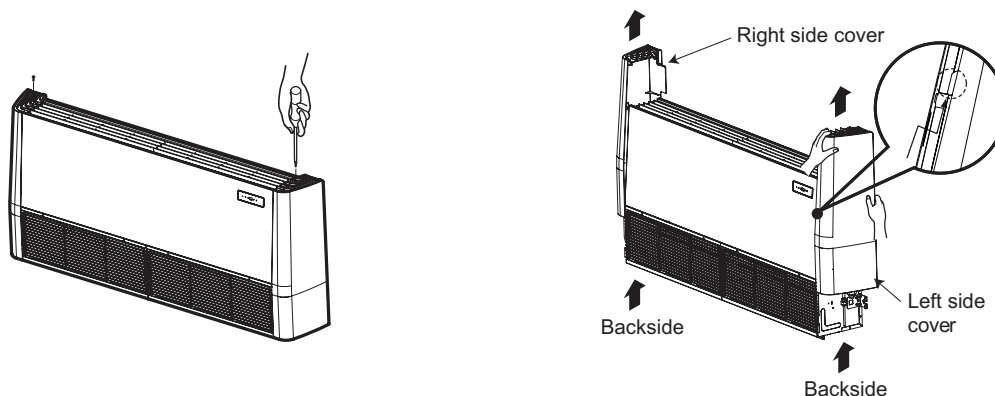
Chassis	Bolt lactions [ Unit: mm ]	
	A	B
VM1	1,018	355
VM2	1,418	355

## 8. Installation

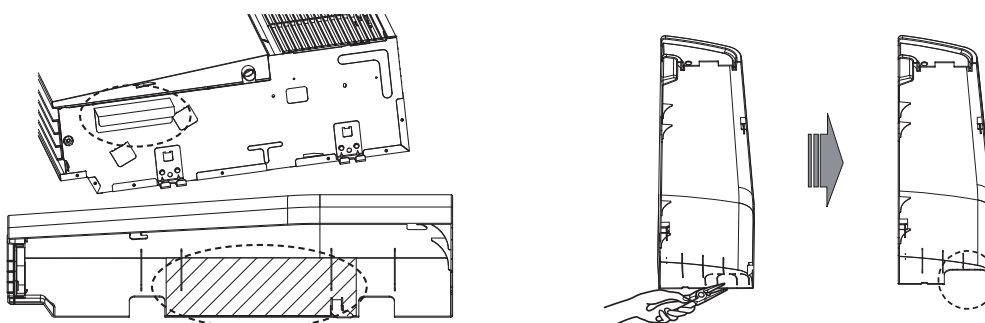
### 8.2.2 Preparing work for Installation

#### ■ Open side cover

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



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



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

#### **Important**

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

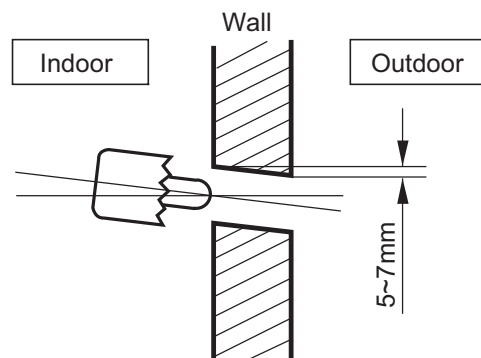
#### **CAUTION**

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

## 8. Installation

### ■ Drill a hole in the wall

- Drill the piping hole with a  $\varnothing 70\text{mm}$  hole core drill.
- Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



### 8.2.3 Indoor unit installation

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

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

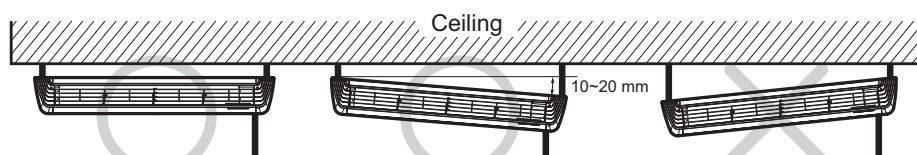
### ■ Installation Information For Declination

#### ⚠ CAUTION

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

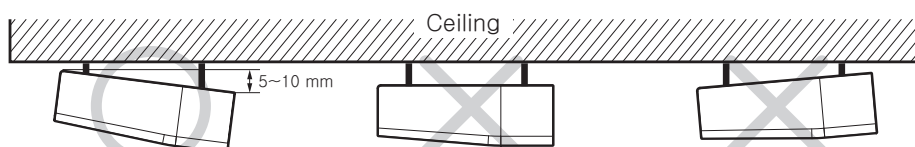
#### [ Front of view ]

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



#### [ Side of view ]

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

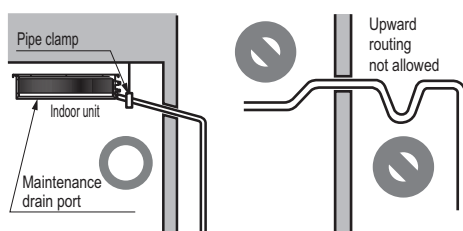


## 8. Installation

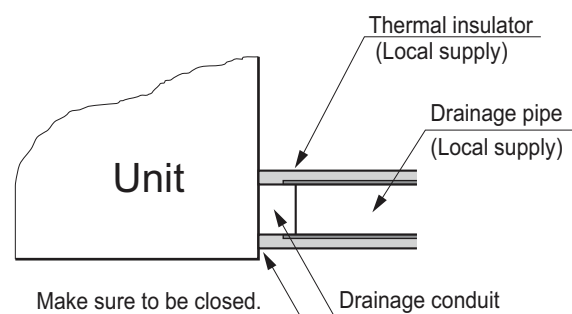
### 8.3 Indoor Unit Drain Piping

#### 8.3.1 Drain piping of indoor unit

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



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

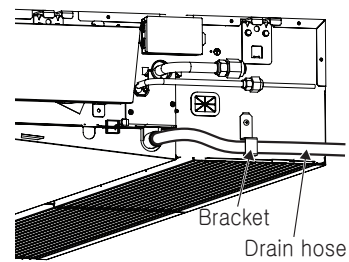




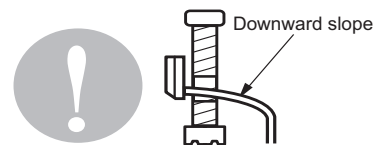
## 8. Installation

### Important

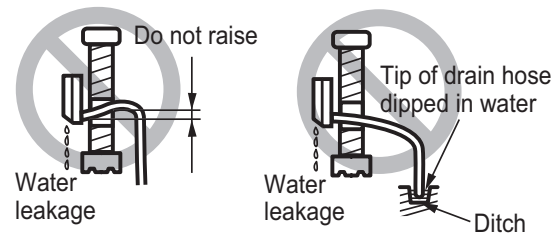
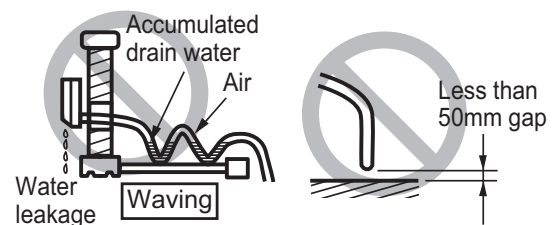
- Hook on the bracket after connecting the drain hose as shown figure.



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



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



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

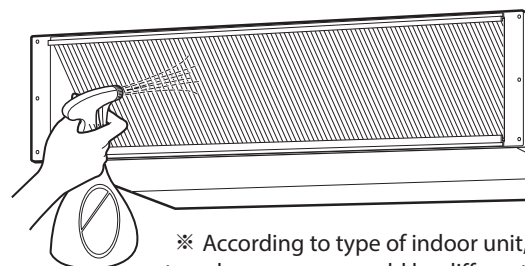
## 8. Installation

### 8.3.2 Drain test

#### ◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

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



## 8.4 Connecting Cables between Indoor Unit and Outdoor Unit

### 8.4.1 General instructions

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

#### ⚠ CAUTION

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

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

## 8. Installation

### 8.4.2 Wiring connection

- Connect the wires to the terminals on the control board and visually 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.

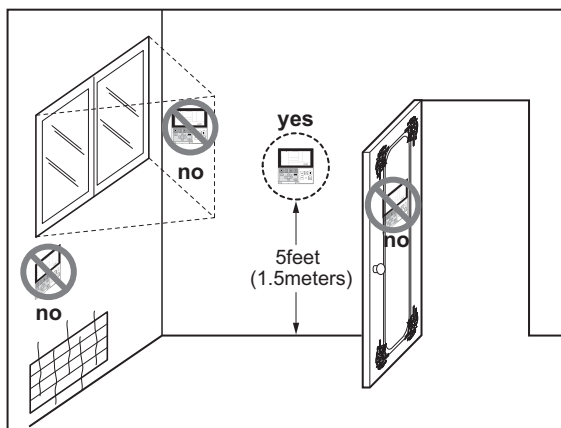
#### WARNING

- 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 (Accessory)

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

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



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

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



**Air Solution**

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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.