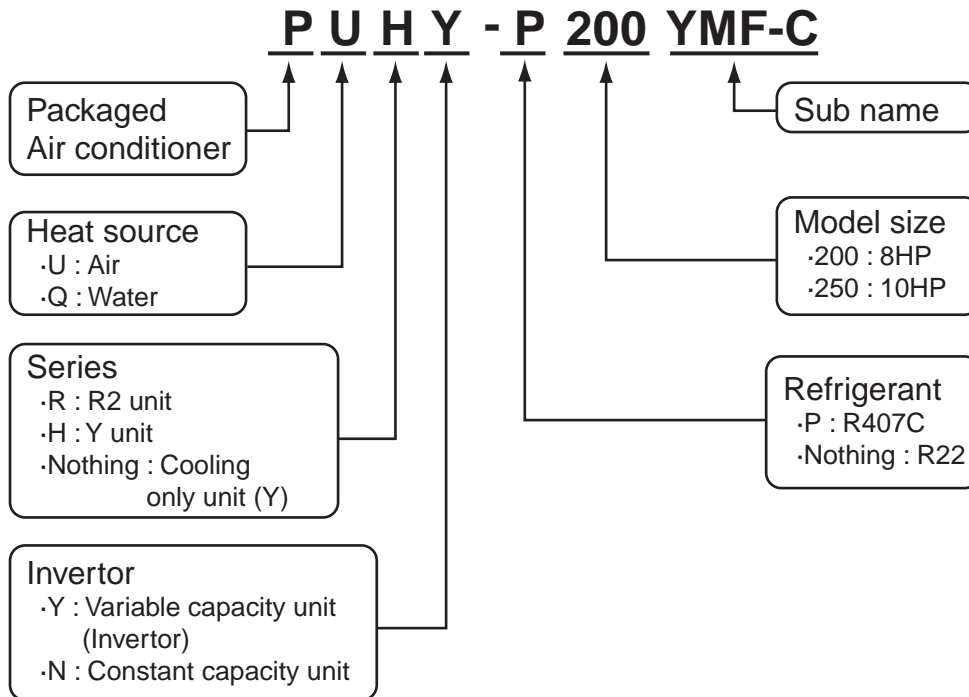


# Introduction

## CITY MULTI OUTDOOR UNITS

Refrigerant	Series	Model Name	200	250
R407C	Y series (Heat Pump)	PUHY-P-YMF-C	●	●
	R2 series (Air-cooling)	PURY-P-YMF-C	●	●
	Y series (Cooling Only)	PUY-P-YMF-C	●	●
R22	Y series (Heat Pump)	PUHY-YMF-C	●	●
	R2 series (Air-cooling)	PURY-YMF-C	●	●
	Y series (Cooling Only)	PUY-YMF-C	●	●

### Meaning of model name



# PUHY-P200YMF-C, PUHY-P250YMF-C

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And Thermal Sensor	

# 1. Specifications

Model name		PUHY-P200YMF-C	
		Cooling	Heating
Capacity	kW	*1 22.4	25.0
	kcal/h	*2 20,000	-
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	8.64	7.98
Current	A	14.5/13.8/13.3	13.4/12.7/12.3
Fan	Type X Quantity		Propeller fan X 1
	Airflow rate	m <sup>3</sup> /min	185
	Motor output	kW	0.38
Compressor	Type		Hermetic
	Motor output	kW	5.5
	Crankcase heater	kW	0.062(240V)
Refrigerant / Lubricant		R407C/Polyol ester oil (POE)	
External finish		Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension		mm	1715(H)X990(W)X840(L)
Protection devices	High pressure protection		2.94MPa
	Compressor / Fan		Over current protection / Thermal switch
	Inverter		DC bus current protection, thermal switch
Refrigerant piping diameter		Liquid / Gas	φ12.7 flare / φ25.4 Flange
Indoor unit	Total capacity		50 ~ 130% of outdoor unit capacity
	Model / Quantity		Model 20 ~ 250 / 1 ~ 13
Noise level	dB<A>	56	
Net weight	kg	225	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (0°CDB ~ 43°CDB with outdoor unit at lower position)	Indoor:15°CDB ~ 27°CDB Outdoor:-15°CWB ~ 15.5°CWB

Note: 1.Cooling/heating capacity indicates the maximum value at operation under the following condition.

\*1 **Cooling** Indoor : 27°CDB/19°CWB Outdoor : 35°CDB      \*2 **Cooling** Indoor : 27°CDB/19.5°CWB Outdoor : 35°CDB  
**Heating** Indoor : 20°CDB      Outdoor : 7°CDB/6°CWB      Pipe length : 5m      Height difference : 0m  
Pipe length : 7.5m      Height difference : 0m

2.Works not included : Installation/foundation work, electrical connection work, duct work, insulation work, power source switch and other items not specified in this specification.

Model name		PUHY-P250YMF-C	
		Cooling	Heating
Capacity	kW	*1 28.0	31.5
	kcal/h	*2 25,000	-
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	10.89	10.15
Current	A	18.3/17.4/16.8	17.1/16.2/15.6
Fan	Type X Quantity	Propeller fan X 1	
	Airflow rate	m <sup>3</sup> /min	185
	Motor output	kW	0.38
Compressor	Type	Hermetic	
	Motor output	kW	7.5
	Crankcase heater	kW	0.062(240V)
Refrigerant / Lubricant		R407C/Polyol ester oil (POE)	
External finish		Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension	mm	1715(H)X990(W)X840(L)	
Protection devices	High pressure protection	2.94MPa	
	Compressor / Fan	Over current protection / Thermal switch	
	Inverter	DC bus current protection, thermal switch	
Refrigerant piping diameter	Liquid / Gas	φ12.7 flare / φ28.58 Flange	
Indoor unit	Total capacity	50 ~ 130% of outdoor unit capacity	
	Model / Quantity	Model 20 ~ 250 / 1 ~ 16	
Noise level	dB<A>	57	
Net weight	kg	231	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (0°CDB ~ 43°CDB with outdoor unit at lower position)	Indoor:15°CDB ~ 27°CDB Outdoor:-15°CWB~15.5°CWB

Note: 1.Cooling/heating capacity indicates the maximum value at operation under the following condition.

\*1 **Cooling** Indoor : 27°CDB/19°CWB Outdoor : 35°CDB      \*2 **Cooling** Indoor : 27°CDB/19.5°CWB Outdoor : 35°CDB  
**Heating** Indoor : 20°CDB      Outdoor : 7°CDB/6°CWB      Pipe length : 5m      Height difference : 0m  
 Pipe length : 7.5m      Height difference : 0m

2.Works not included : Installation/foundation work, electrical connection work, duct work, insulation work, power source switch and other items not specified in this specification.

# 2. Capacity table

## 2-1. Correction by temperature

### Cooling

- Standard Specifications

		PUHY-P200YMF-C	PUHY-P250YMF-C
Capacity	kW	22.4	28.0
Input	kW	8.64	10.89
Source	V	380/400/415	
Current	A	14.5/13.8/13.3	18.3/17.4/16.8

- Calculation

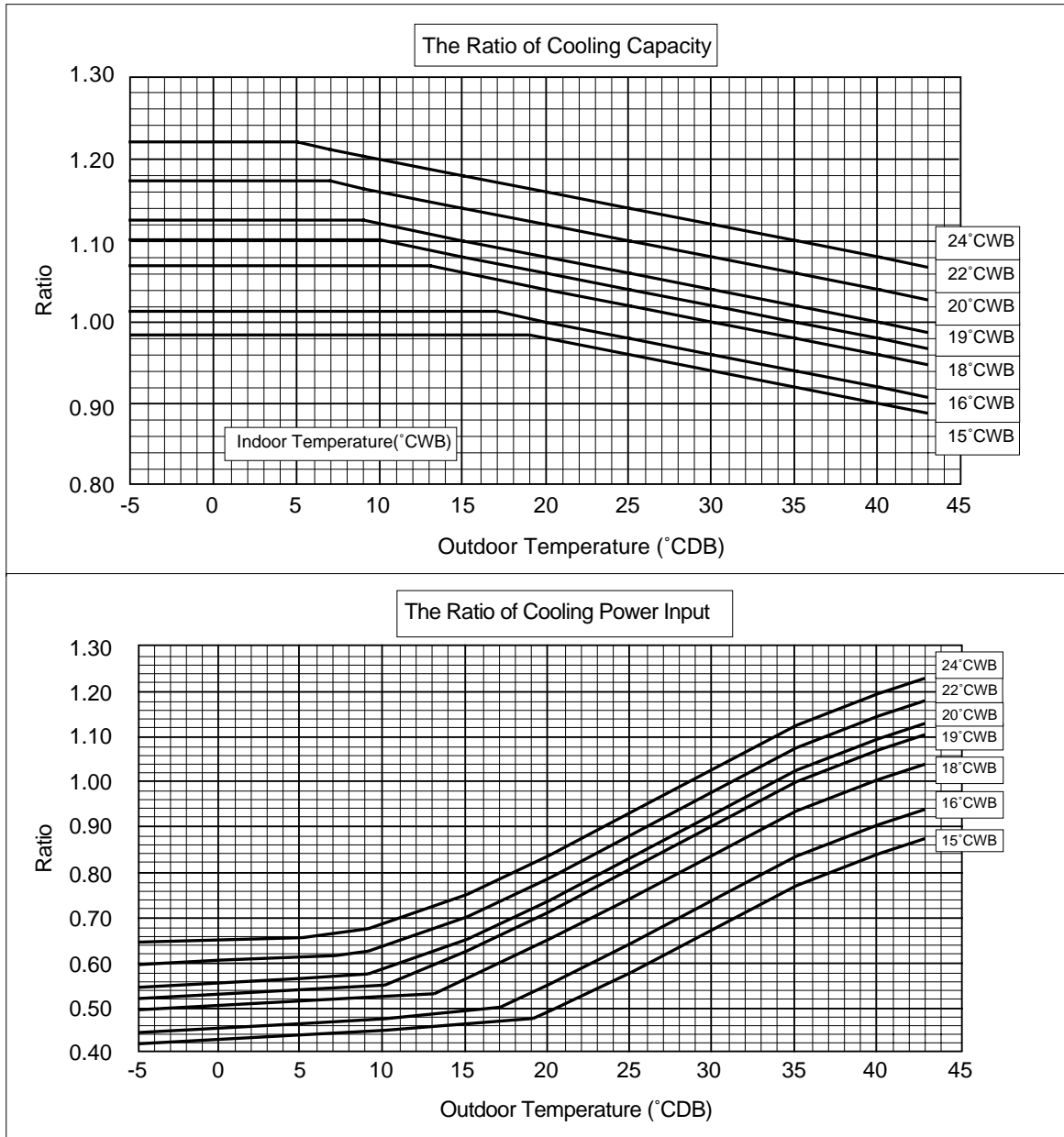
$$\text{Capacity}' = \text{Capacity} \times \text{Ratio}$$

$$\text{Input}' = \text{Input} \times \text{Ratio}$$

$$\text{Current}' = \frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times 0.90}$$

\* Capacity'  
 Input'  
 Current'

} After correction



## Heating

• Standard Specifications

		PUHY-P200YMF-C	PUHY-P250YMF-C
Capacity	kW	25.0	31.5
Input	kW	7.89	10.15
Source	V	380/400/415	
Current	A	13.4/12.7/12.3	17.1/16.2/15.6

• Calculation

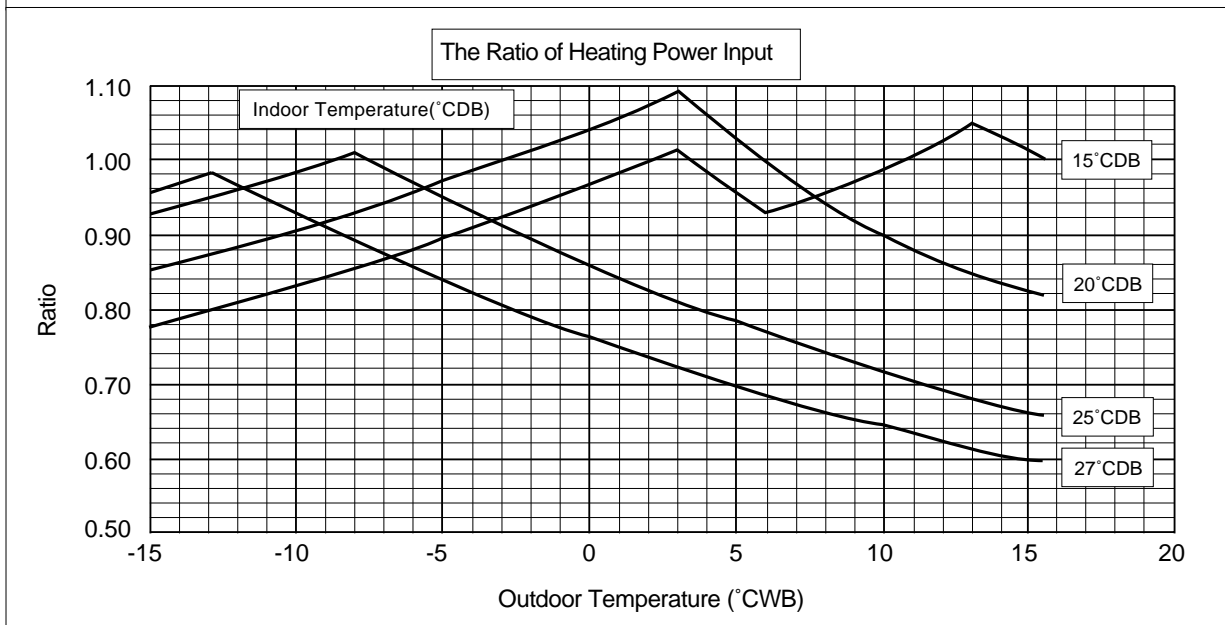
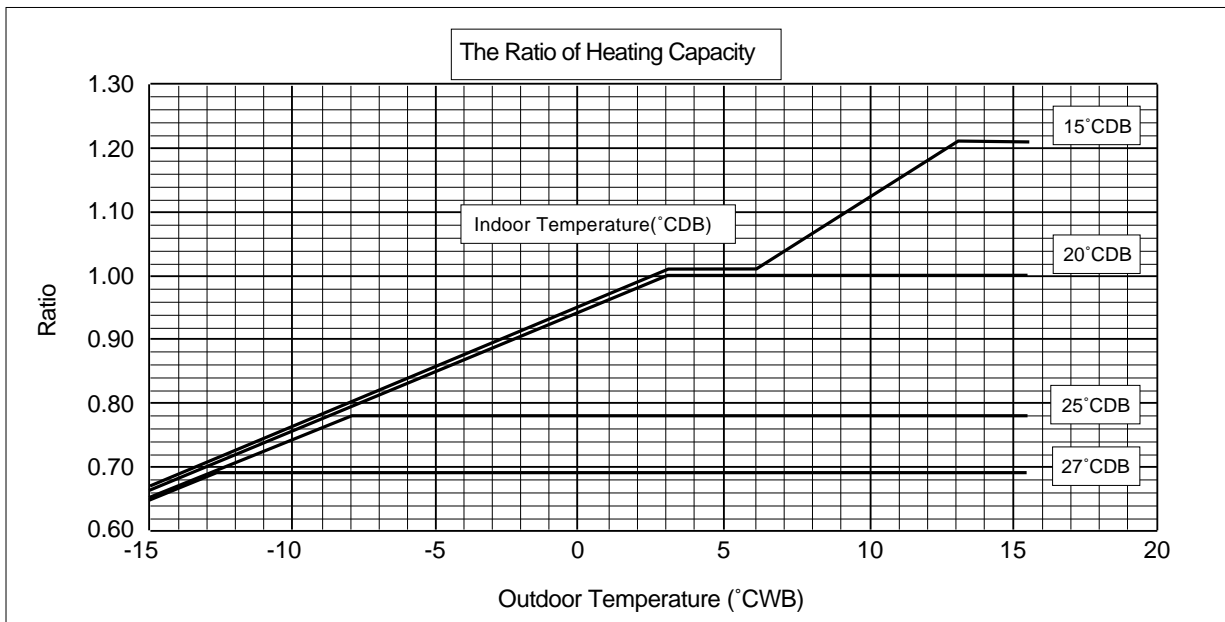
Capacity' = Capacity X Ratio

Input' = Input X Ratio

$$\text{Current}' = \frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times 0.90}$$

\*Capacity'  
 Input'  
 Current'

} After correction

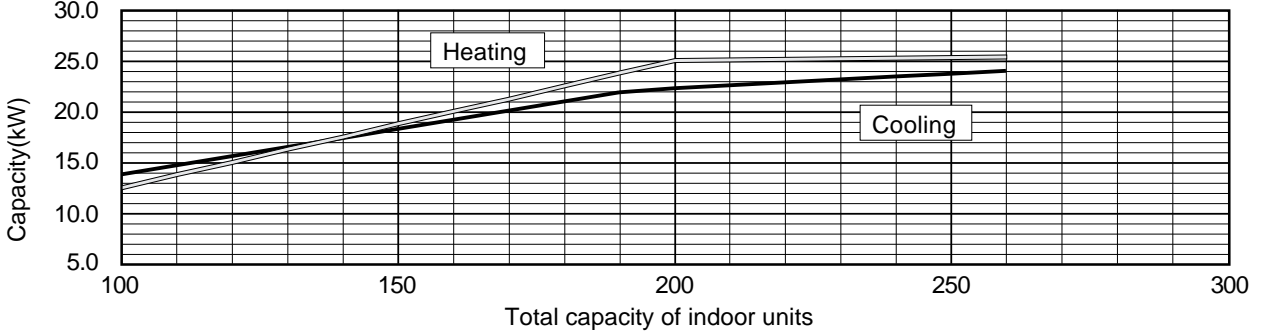


PUHY-P

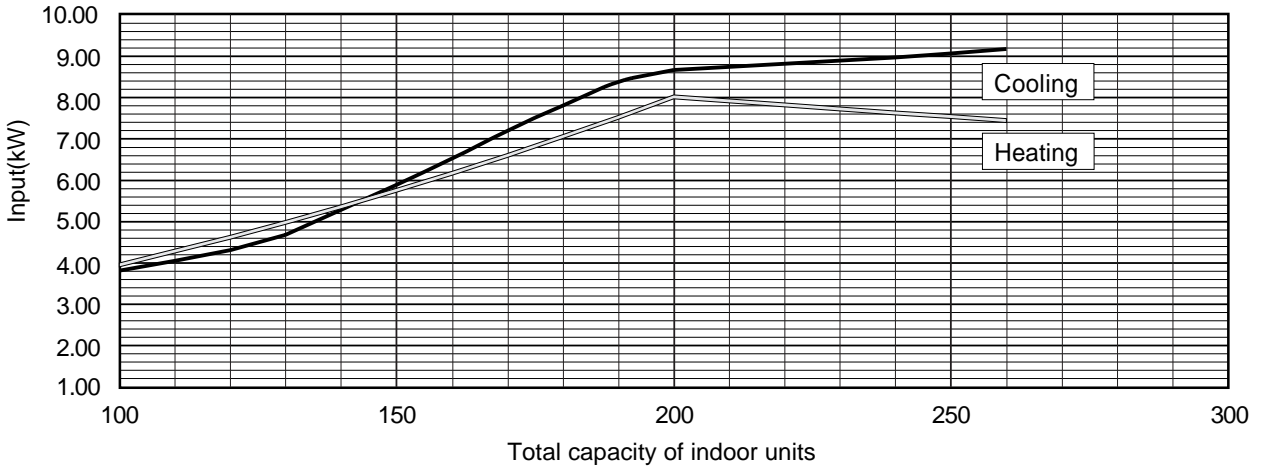
## 2-2. Correction by total indoor

### PUHY-P200YMF-C

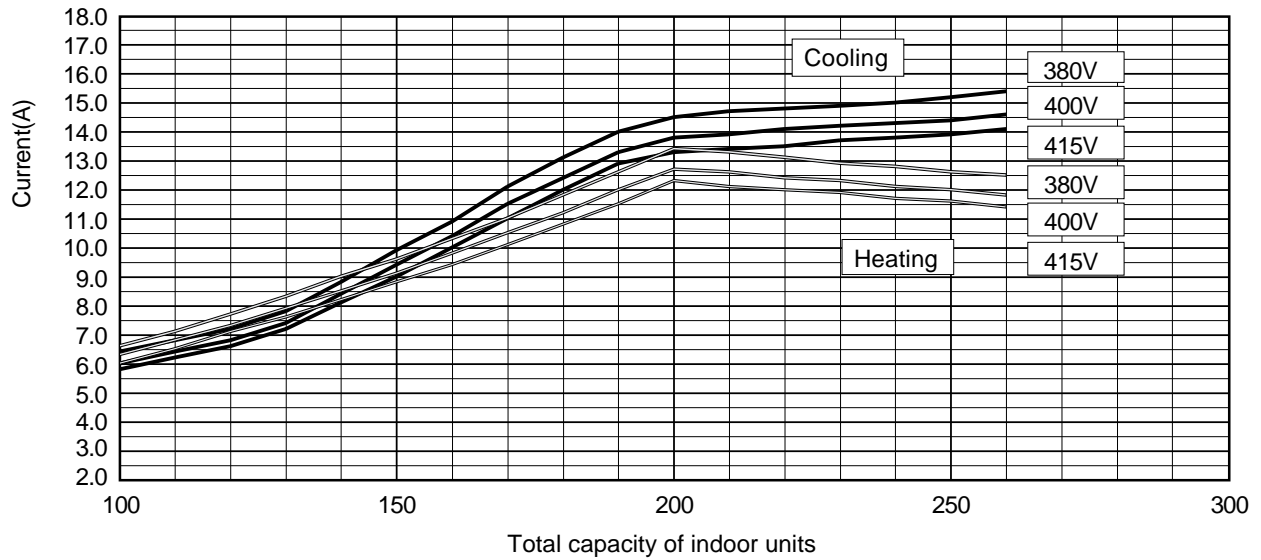
#### 1) Capacity



#### 2) Input

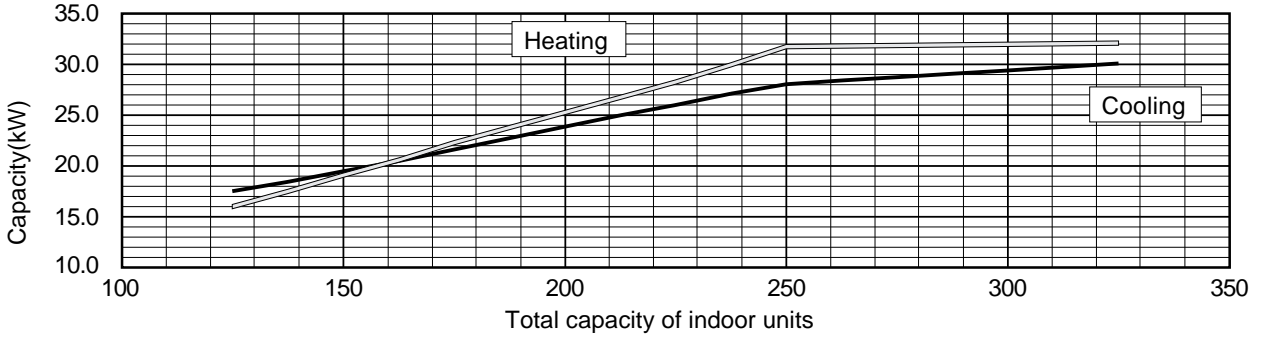


#### 3) Current

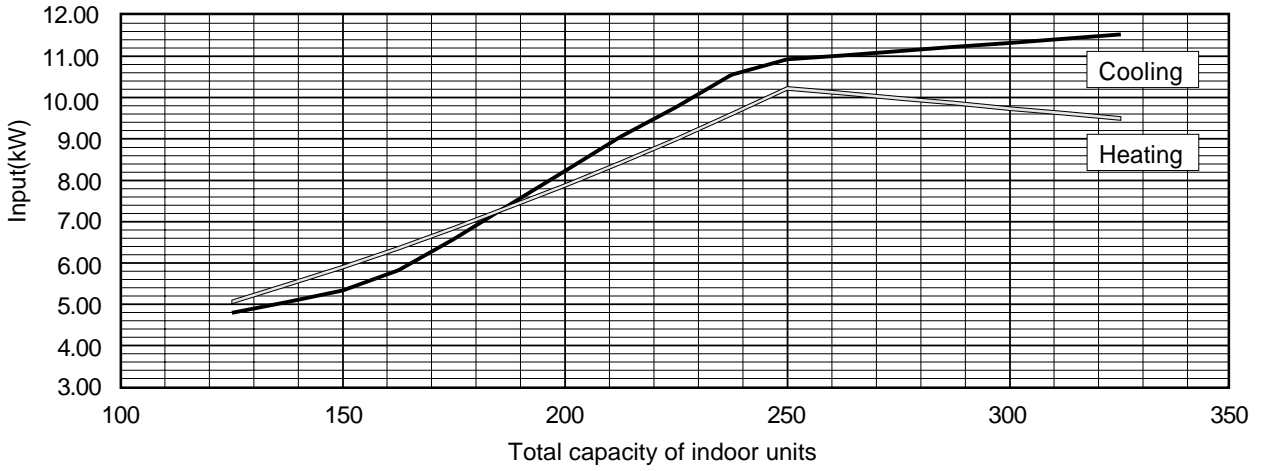


**PUHY-P250YMF-C**

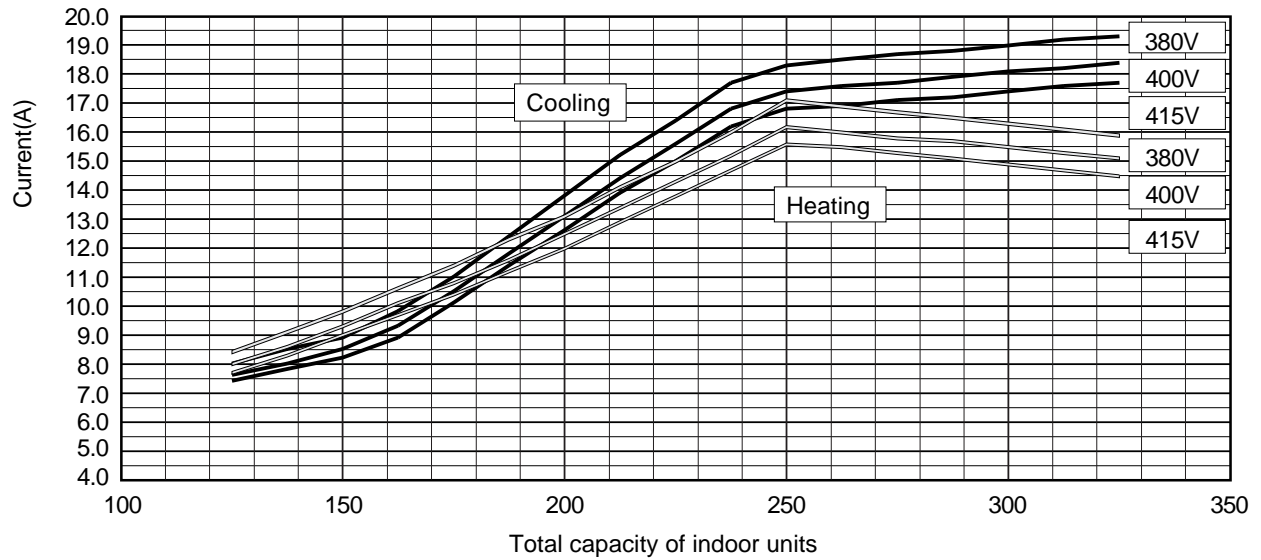
1) Capacity



2) Input



3) Current



**PUHY-P**

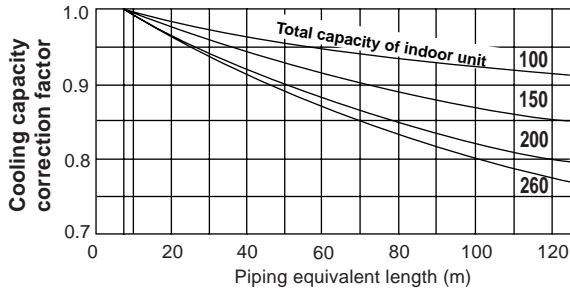


## 2-3 Correction by refrigerant piping length

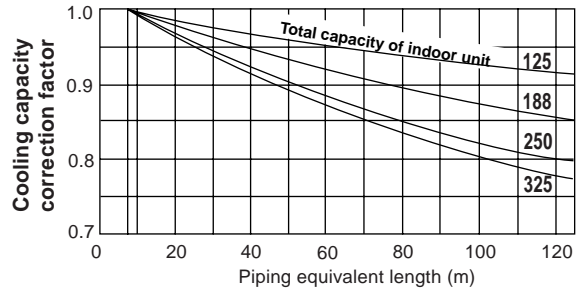
To obtain a decrease in cooling/heating capacity due to refrigerant piping extension, multiply by the capacity correction factor based on the refrigerant piping equivalent length in the table below.

### • Cooling capacity correction

PUHY-P200YMF-C

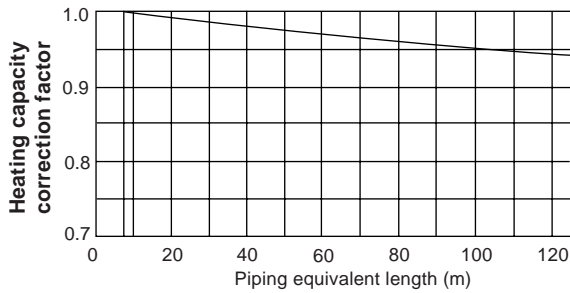


PUHY-P250YMF-C

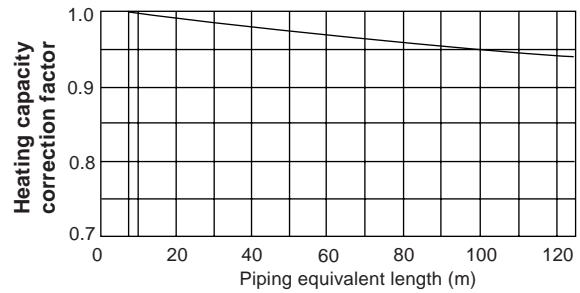


### • Heating capacity correction

PUHY-P200YMF-C



PUHY-P250YMF-C



### • How to obtain piping equivalent length

#### ① PUHY-P200YMF-C

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.47 × number of bent on the piping)m

#### ② PUHY-P250YMF-C

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 × number of bent on the piping)m

## 2-4 Correction at frosting and defrosting

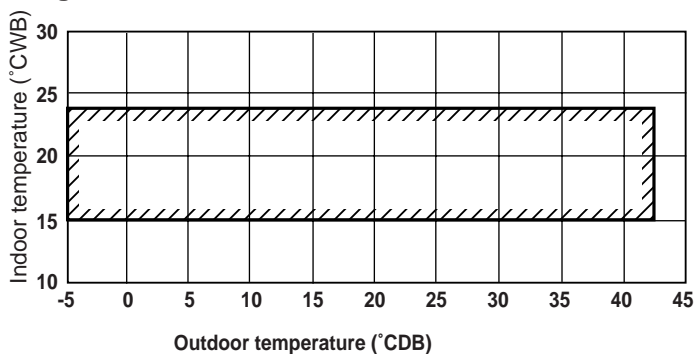
When a decrease in heating capacity due to frosted and defrosting operations is considered, the value multiplied by the correction factor in the table below represents the heating capacity.

Correction factor table

Outdoor inlet air temp (°CWB)	6	4	2	0	-2	-4	-6	-8	-10
Correction factor	1.0	0.95	0.84	0.83	0.87	0.9	0.95	0.95	0.95

## 2-5 Operation limit

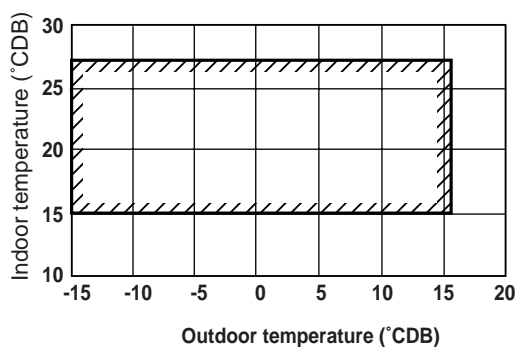
### • Cooling



(Outdoor door temperature :0°CDB-43°CDB with outdoor unit at lower position in cooling mode.)

**PUHY-P**

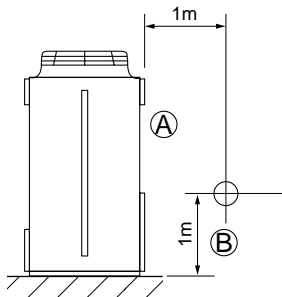
### • Heating



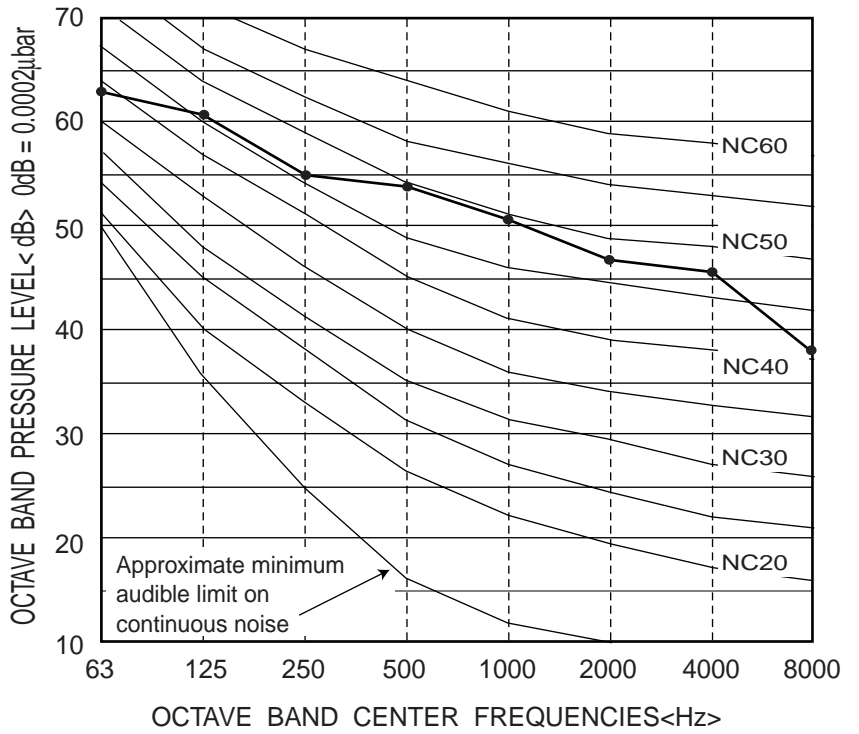
### 3. Sound levels

#### PUHY-P200YMF-C

Measurement condition

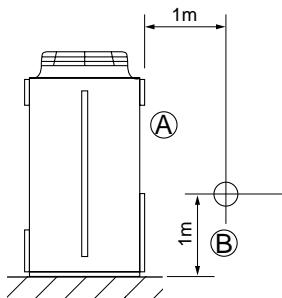


Sound pressure level in anechoic room
56 dB (A)

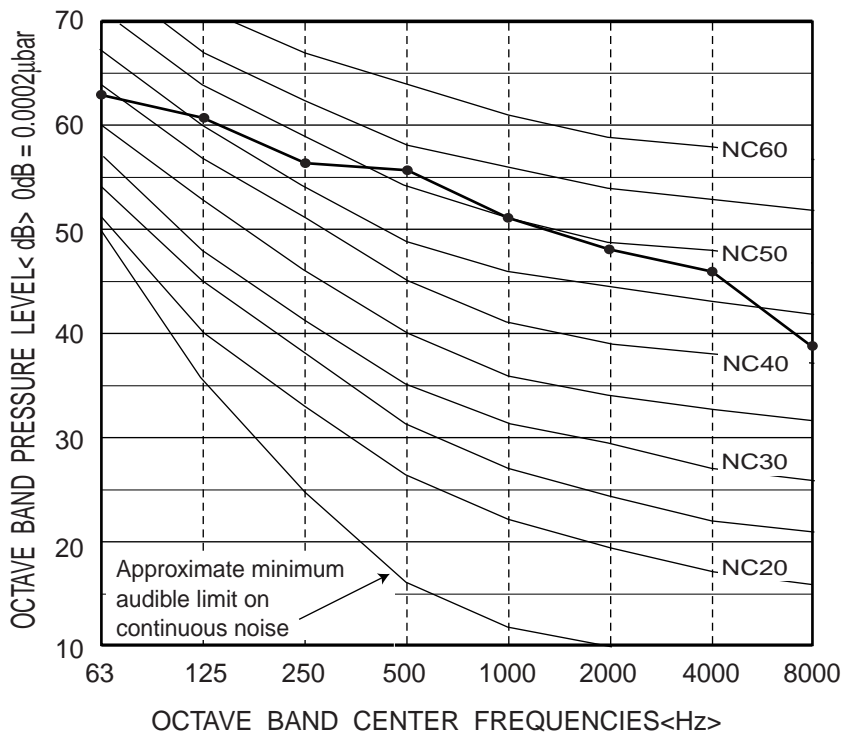


#### PUHY-P250YMF-C

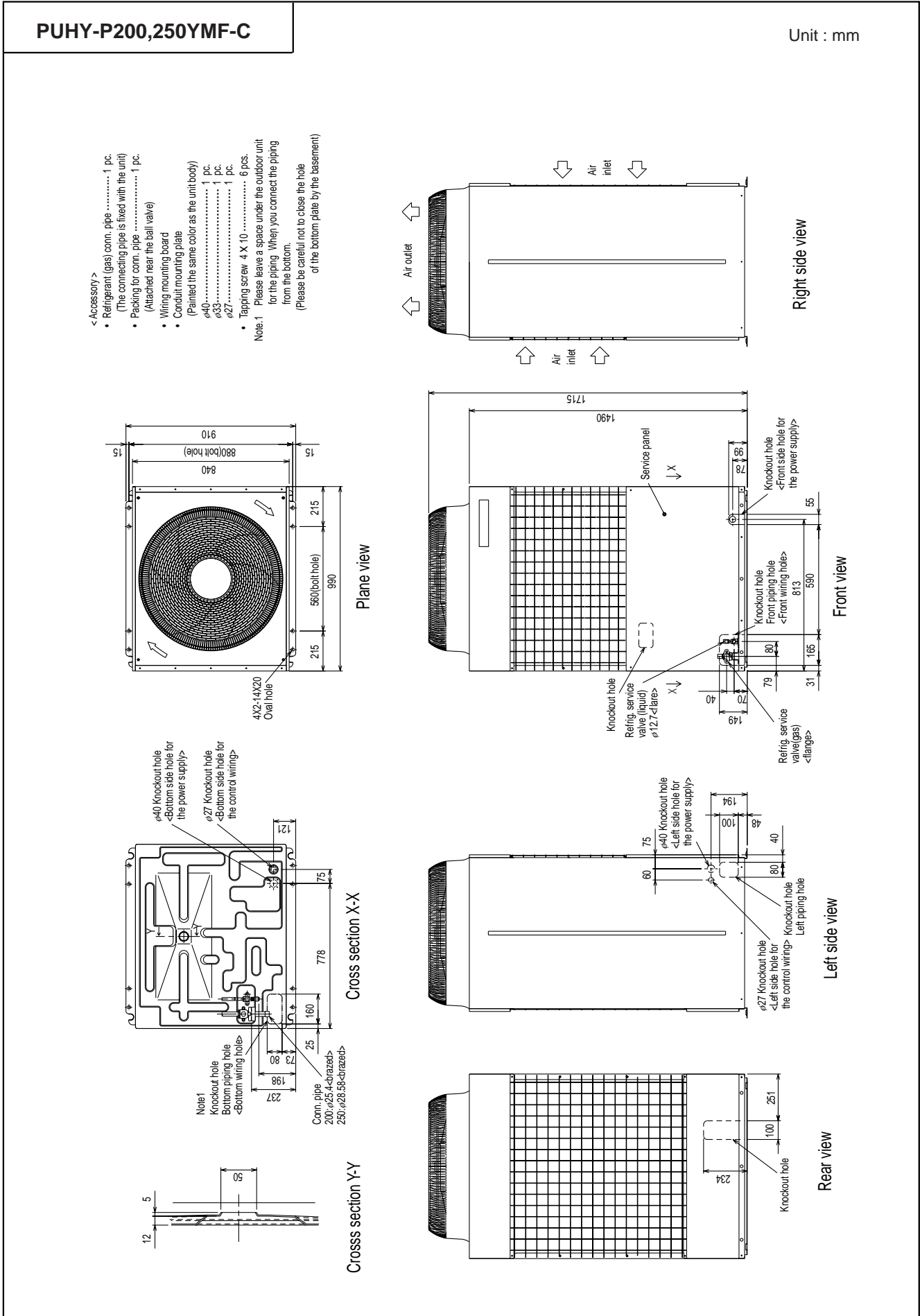
Measurement condition



Sound pressure level in anechoic room
57 dB (A)

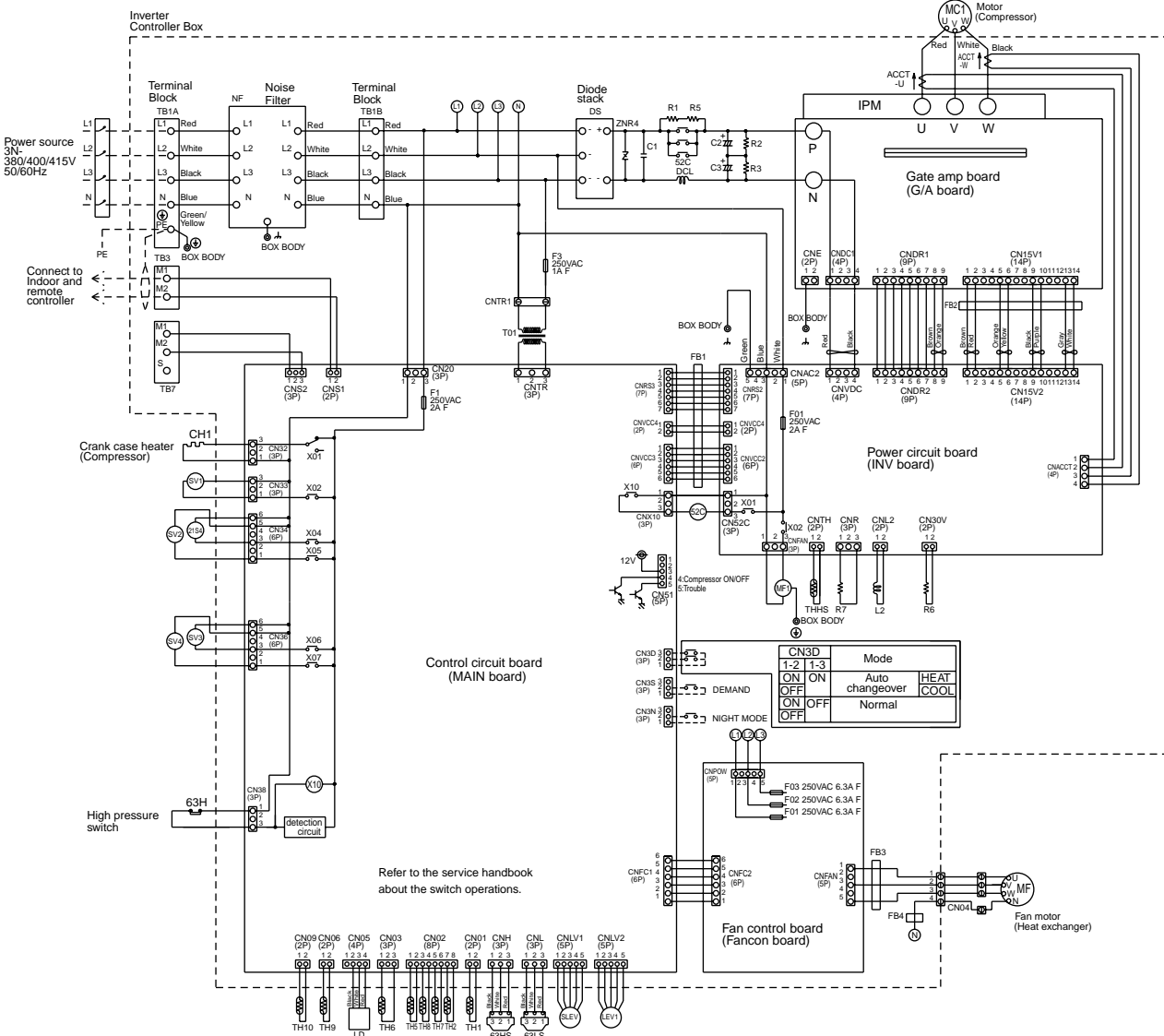


# 4. External dimensions



# 5. Electrical Wiring Diagram

## PUHY-P200, 250YMF-C

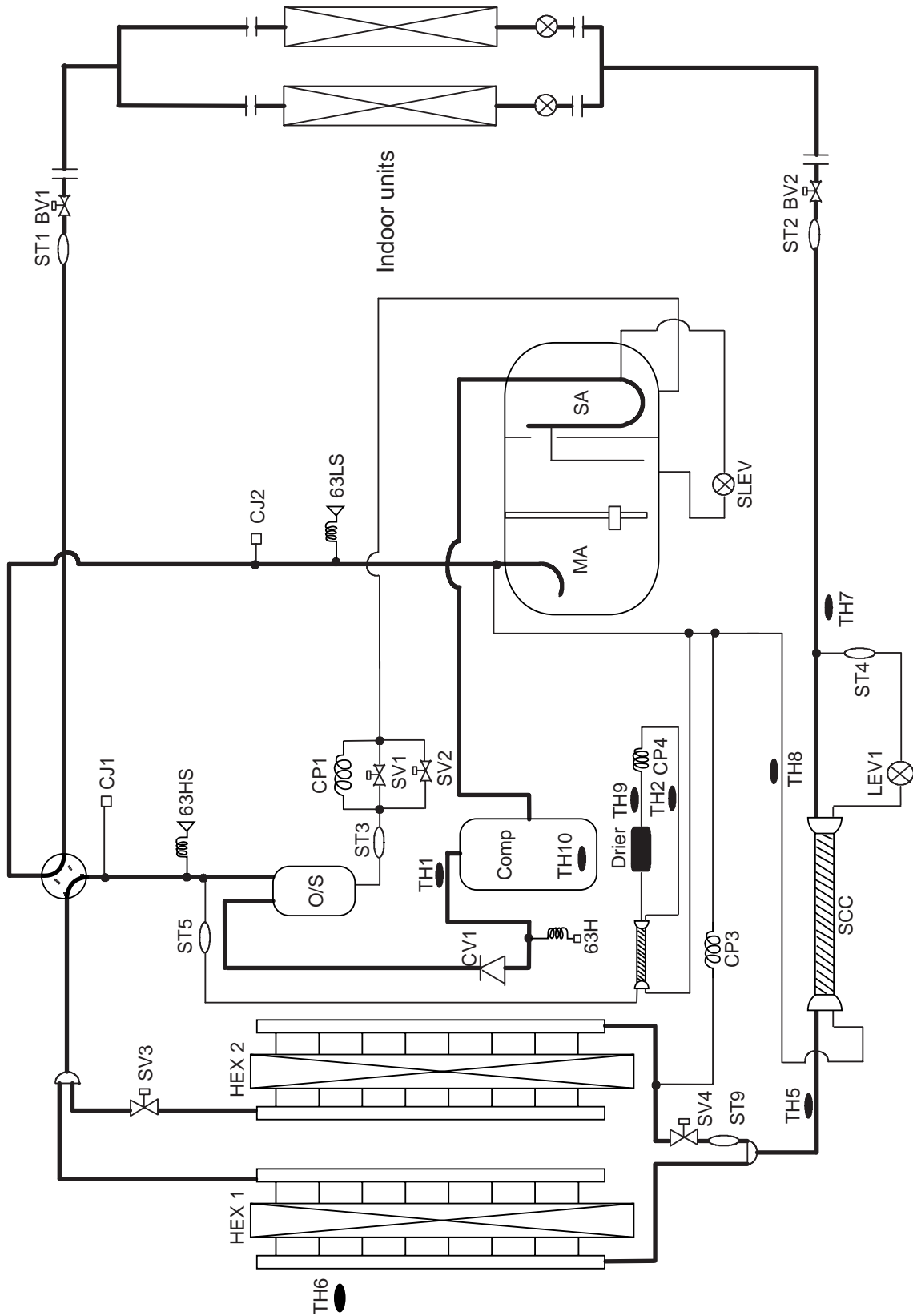


### <SYMBOL EXPLANATION>

Symbol	N a m e	Symbol	N a m e	Symbol	N a m e	Symbol	N a m e
DCL	DC reactor (Power factor improvement)	SV4	Solenoid valve (Heat exchanger capacity control)	TH1	Thermistor	TH10	Compressor shell temp.
ACCT-U,W	Current Sensor	LEV1	Electronic expansion valve (Sub-cool coil bypass)	TH2		THHS	Radiator panel temp. detect
ZNR4	Varistor	SLEV	Electronic expansion valve(Oil return)	TH5		LD	Accumulator liquid level detect
52C	Magnetic contactor (Inverter main circuit)	63HS	High pressure sensor	TH6		X1-10	Aux. relay
MF1	Fan motor (Radiator panel)	63LS	Low pressure sensor	TH7		FB1-4	Ferrite core
21S4	4-way valve	L2	Choke coil (Transmission)	TH8		⊕	Earth terminal
SV1,SV2	Solenoid valve (Discharge-suction bypass)	IPM	Intelligent power module	TH9			
SV3	Solenoid valve (Heat exchanger capacity control)						

## 6. Refrigerant circuit diagram and Thermal sensor

PUHY-P200, 250YMF-C



**PUHY-P**







