PURY-P400YMF-C, PURY-P500YMF-C

CONTENTS

1. Specifications

Model name			PURY-P400YMF-C	
			Cooling	Heating
Capacity		kW	∗1 45.0	50.0
		kcal/h	∗2 40,000	-
Power source			3N~380/400/415V 50/60Hz	
Power input		kW	16.36	15.20
Current		A	27.6/26.2/25.2	25.6/24.3/23.4
Fan	Type× Quantity		Propeller fan×2	
	Airflow rate	m^3/min	370	
	Motor output	kW	0.35 × 2	
Compressor	Type		Hermetic	
	Motor output	kW	7.5 + 4.5	
	Crankcase heater	kW	0.045 + 0.045	
Refrigerant / Lubricant			R407C/MEL32	
External finish			Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension		mm	1715(H)×1990(W)×840(L)	
Protection devices	High pressure protection		30kg/cm^2 G(2.94MPa)	
	Compressor / Fan		Overcurrent protection / Thermal switch	
	Inverter		DC bus current protection, thermal switch	
Refrigerant piping diameter	High press. / Low press.		ø25.4 Flange /ø34.93 Flange	
Indoor unit	Total capacity		50~150% of outdoor unit capacity	
	Model / Quantity		Model P20~250 / 2~24	
Noise level		dB<A>	∗3 60/61	
Net weight		kg	470	
Operating temperature range			Indoor : 15˚CWB~24˚CWB Outdoor : -5˚CDB~43˚CDB	Indoor : 15˚CDB~27˚CDB Outdoor : -15˚CWB~15.5˚CWB
			-5˚CDB/-6˚CWB ~ 21˚CDB/15.5˚CWB with cooling/heating mixed operation.	

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
Heating Indoor : 20˚CDB Outdoor : 7˚CDB/6˚CWB
Pipe length : 7.5m Height difference : 0m

∗2 **Cooling** Indoor : 27˚CDB/19.5˚CWB Outdoor : 35˚CDB
Pipe length : 5m Height difference : 0m

∗3 It is measured in anechoic room.

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			PURY-P500YMF-C	
			Cooling	Heating
Capacity		kW	∗1 56.0	63.0
		kcal/h	∗2 50,000	-
Power source			3N~380/400/415V 50/60Hz	
Power input		kW	20.51	19.03
Current		A	34.6/32.8/31.7	32.1/30.5/29.4
Fan	Type× Quantity		Propeller fan×2	
	Airflow rate	m^3/min	370	
	Motor output	kW	0.35 × 2	
Compressor	Type		Hermetic	
	Motor output	kW	7.5 + 4.5	
	Crankcase heater	kW	0.045 + 0.045	
Refrigerant / Lubricant			R407C/MEL32	
External finish			Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension		mm	1715(H)×1990(W)×840(L)	
Protection devices	High pressure protection		30kg/cm^2 G(2.94MPa)	
	Compressor / Fan		Overcurrent protection / Thermal switch	
	Inverter		DC bus current protection, thermal switch	
Refrigerant piping diameter	High press. / Low press.		ø25.4 Flange /ø34.93 Flange	
Indoor unit	Total capacity		50~150% of outdoor unit capacity	
	Model / Quantity		Model P20~250 / 2~24	
Noise level		dB<A>	∗3 60/61	
Net weight		kg	500	
Operating temperature range			Indoor : 15˚CWB~24˚CWB Outdoor : -5˚CDB~43˚CDB	Indoor : 15˚CDB~27˚CDB Outdoor : -15˚CWB~15.5˚CWB
			-5˚CDB/-6˚CWB ~ 21˚CDB/15.5˚CWB with cooling/heating mixed operation.	

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

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Heating Indoor : 20˚CDB Outdoor : 7˚CDB/6˚CWB
Pipe length : 7.5m Height difference : 0m

∗2 **Cooling** Indoor : 27˚CDB/19.5˚CWB Outdoor : 35˚CDB
Pipe length : 5m Height difference : 0m

∗3 It is measured in anechoic room.

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 Tables

2-1. Correction by temperature

Cooling

• Standard Specifications

		PURY-P400YMF-C	PURY-P500YMF-C
Capacity	kW	45.0	56.0
Input	kW	16.36	20.51
Source	V	380/400/415	
Current	A	27.6/26.2/25.2	34.6/32.8/31.7

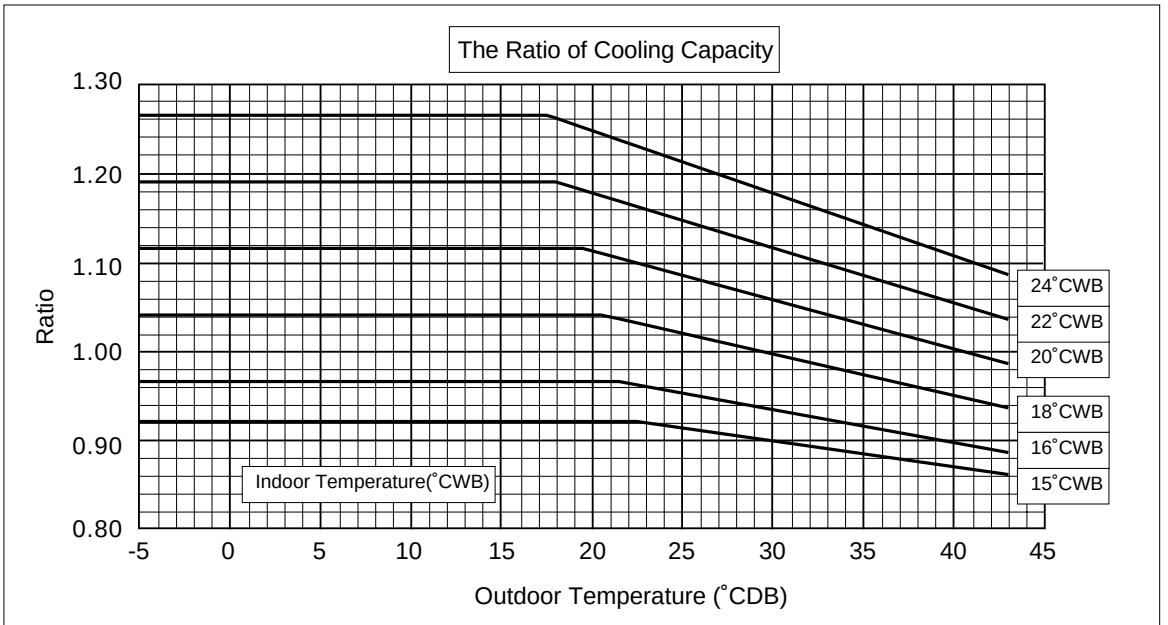
• Calculation

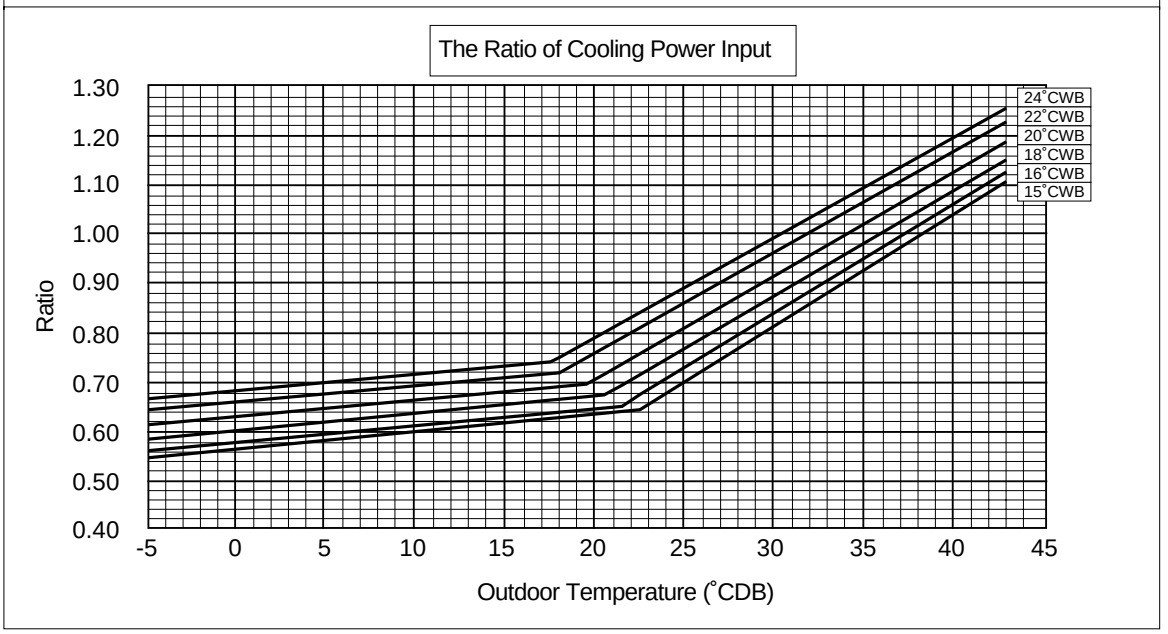
$$\text{Capacity}' = \text{Capacity} \times \text{Ratio}$$

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

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

※ Capacity', Input', Current' — After correction





Heating

• Standard Specifications

		PURY-P400YMF-C	PURY-P500YMF-C
Capacity	kW	50.0	63.0
Input	kW	15.20	19.03
Source	V	380/400/415	
Current	A	25.6/24.3/23.4	32.1/30.5/29.4

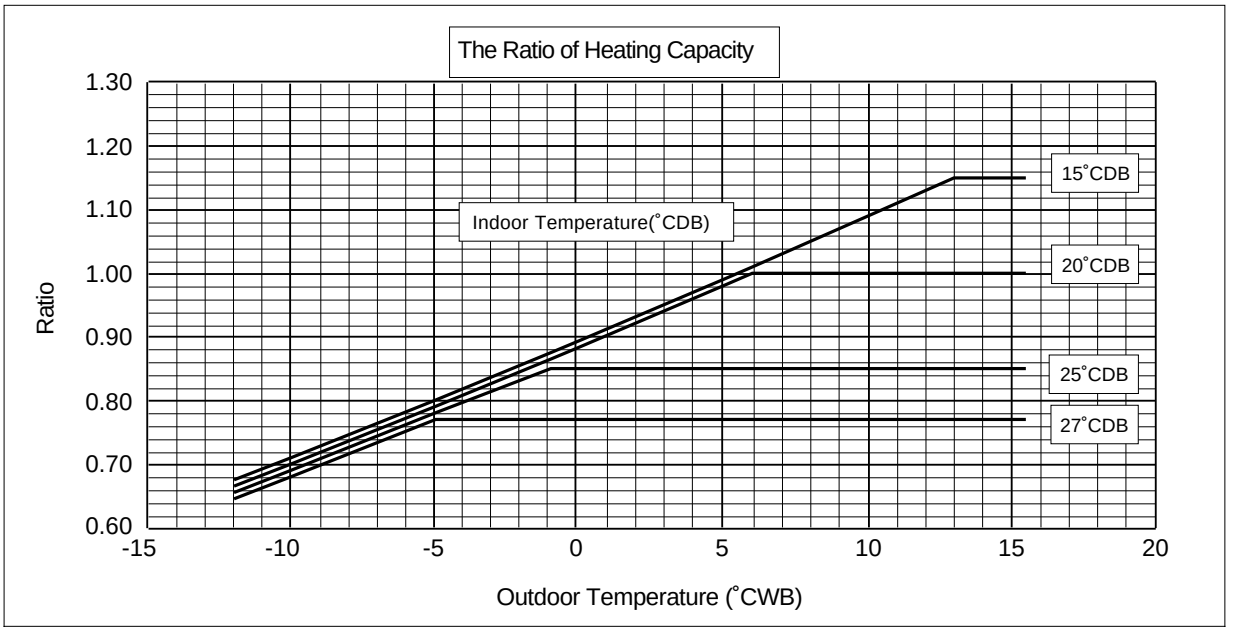
• Calculation

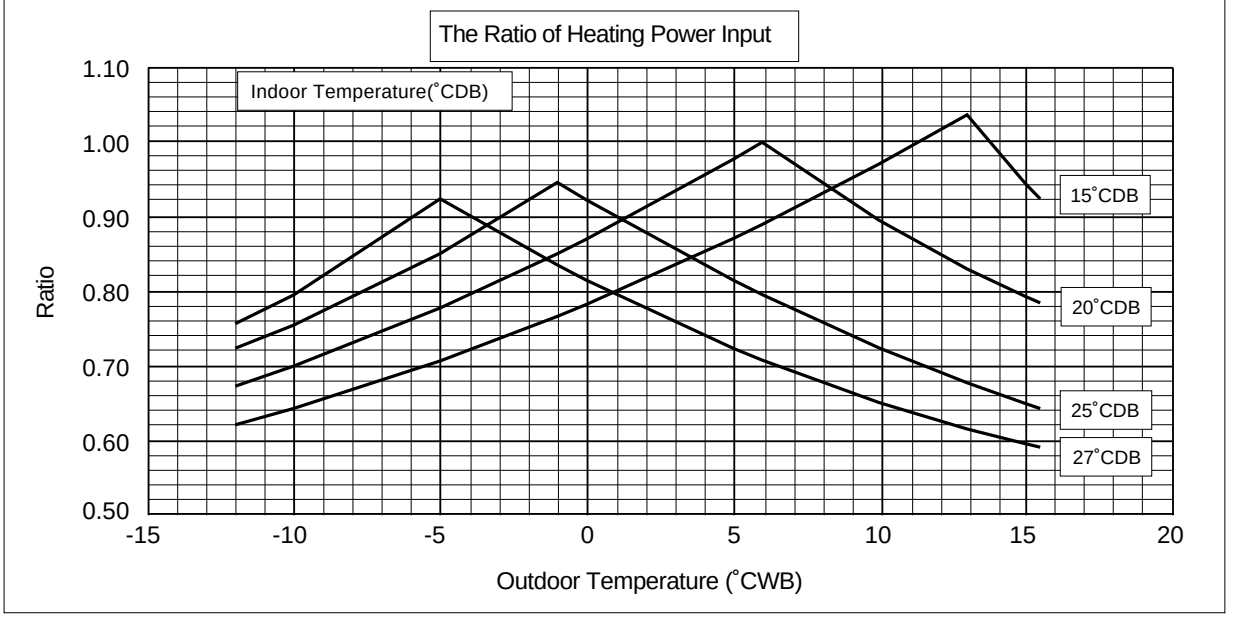
Capacity' = Capacity × Ratio

Input' = Input × Ratio

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

※Capacity'
Input'
Current'
} After correction

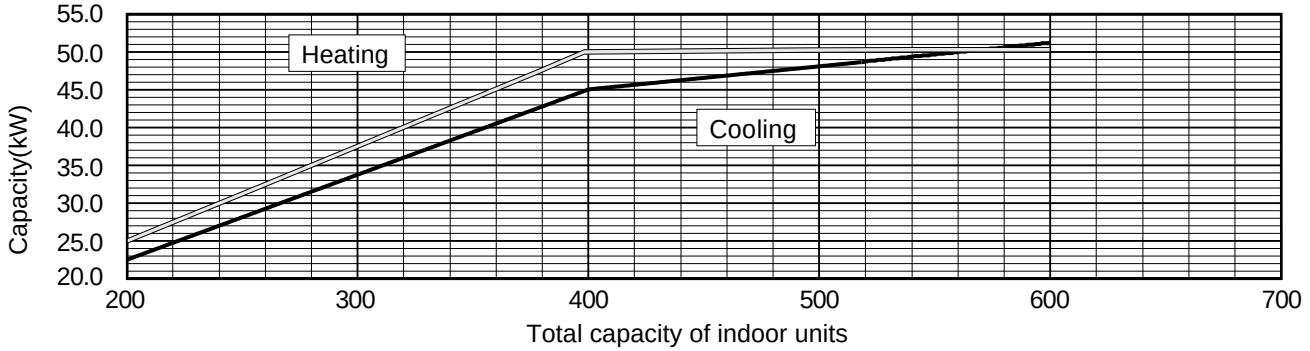




2-2. Correction by total indoor

PURY-P400YMF-C

1) Capacity



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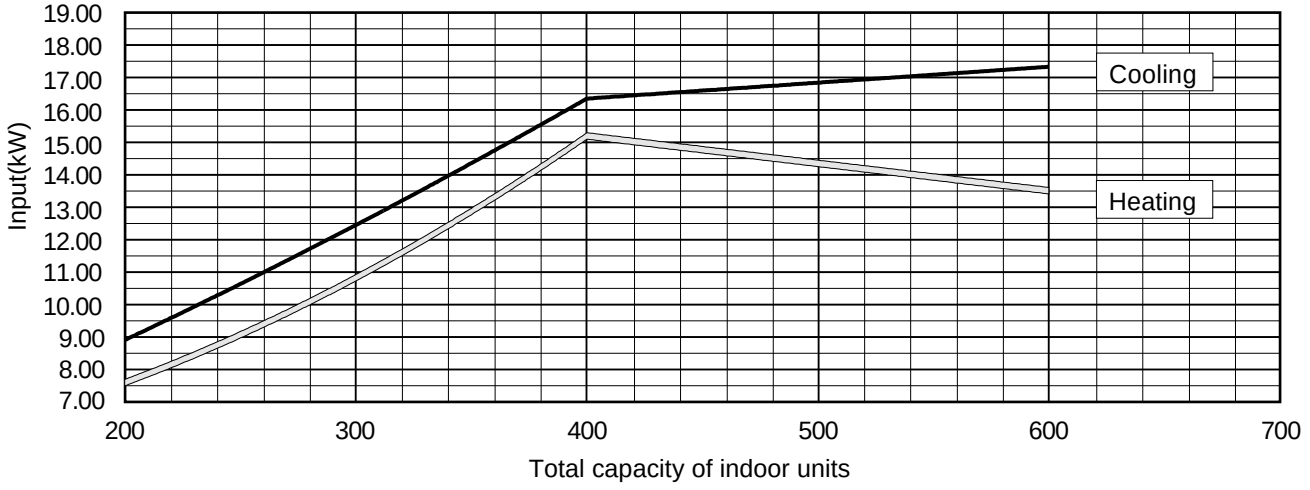
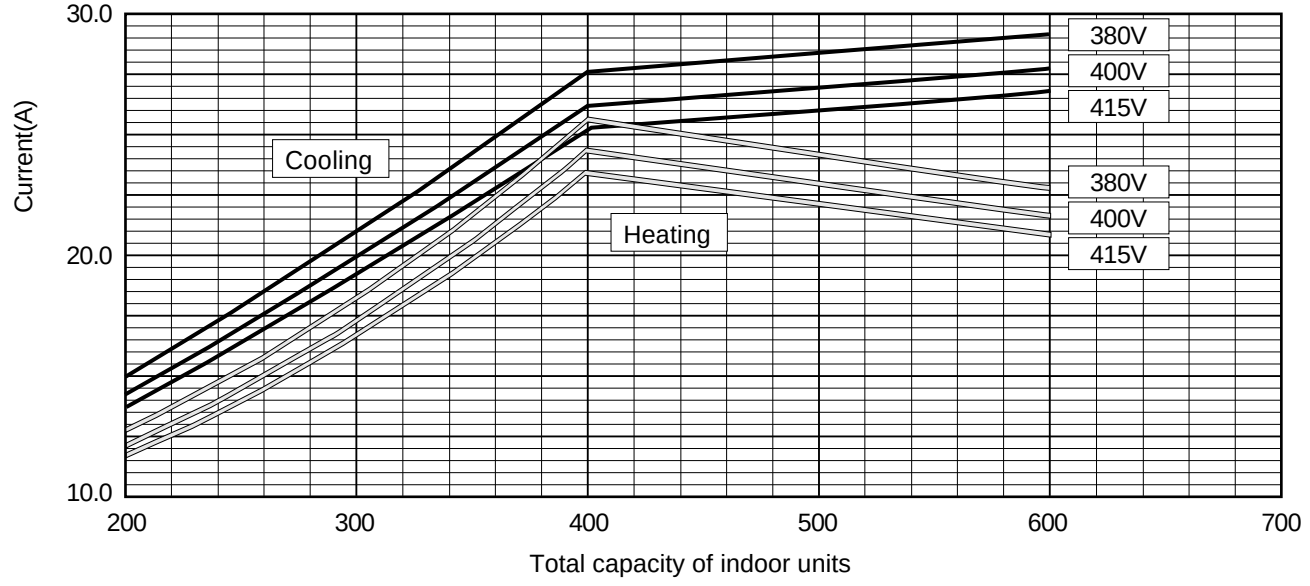
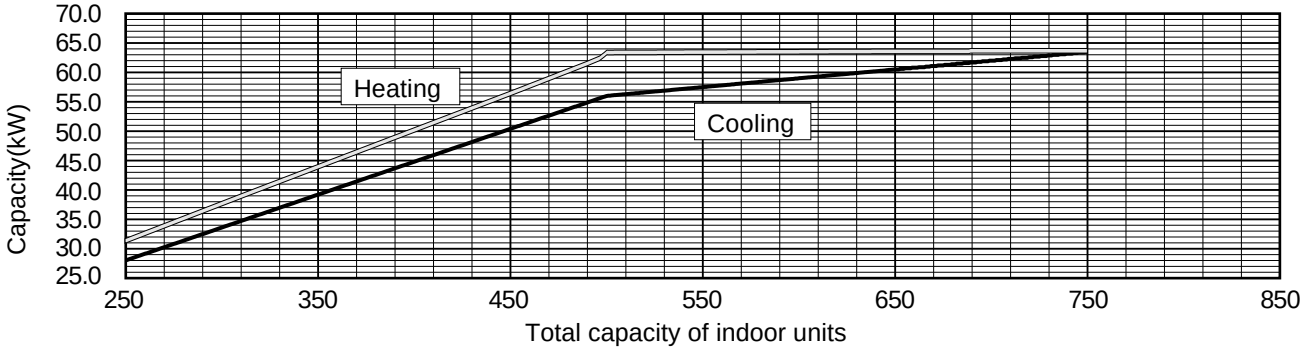


3) Current

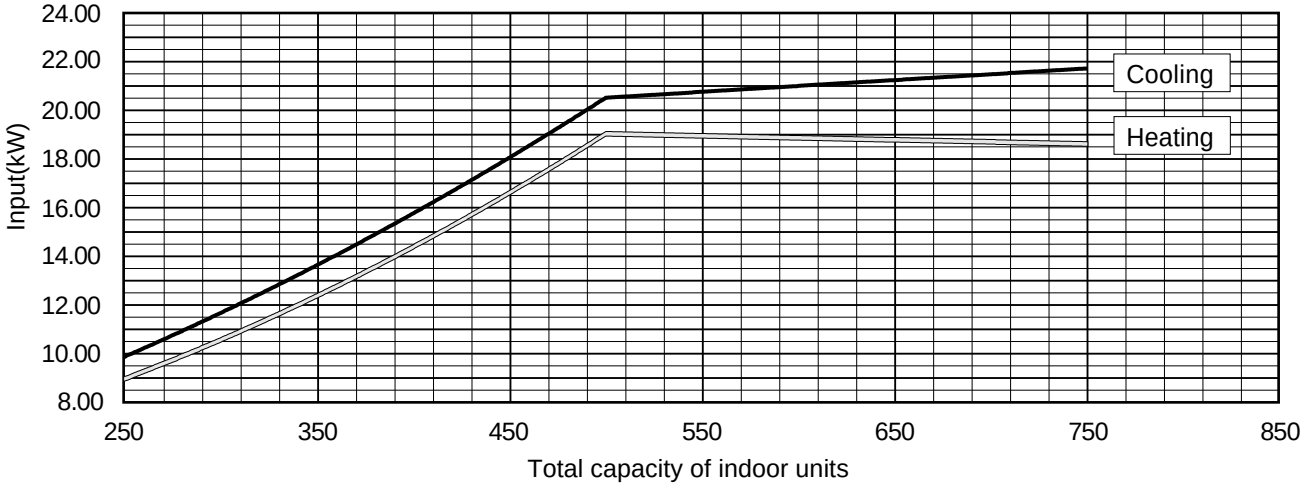


PURY-P500YMF-C

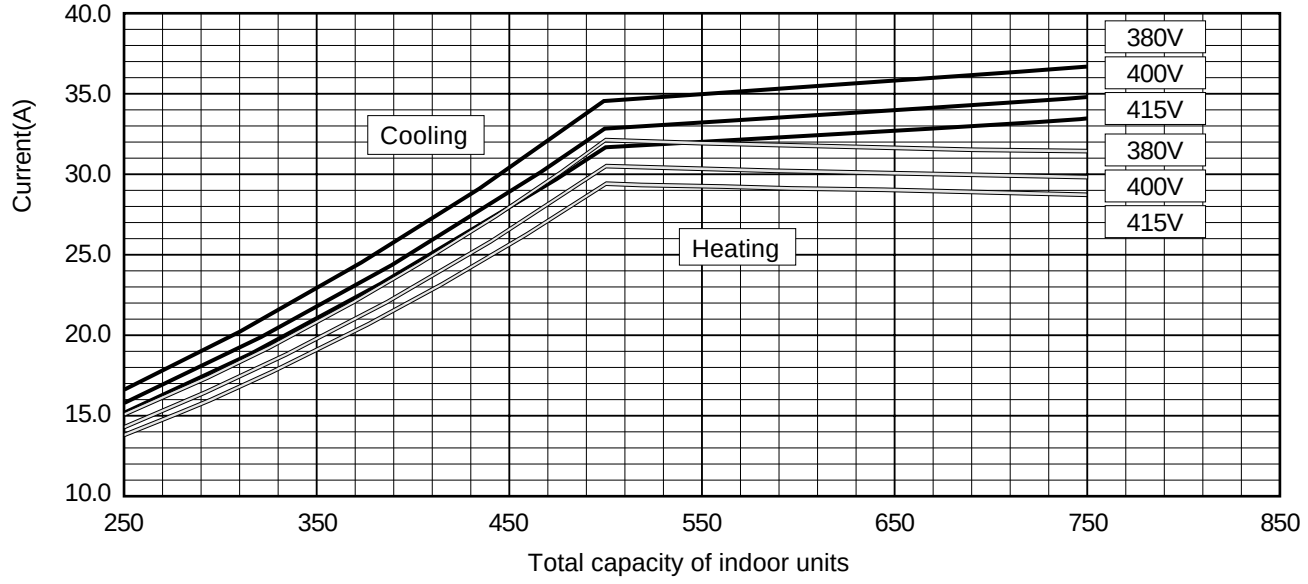
1) Capacity



2) Input



3) Current

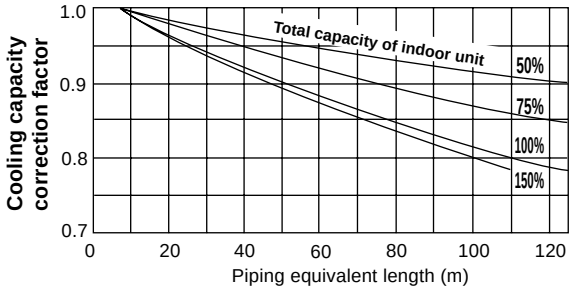


2-3 Correction by refrigerant piping length

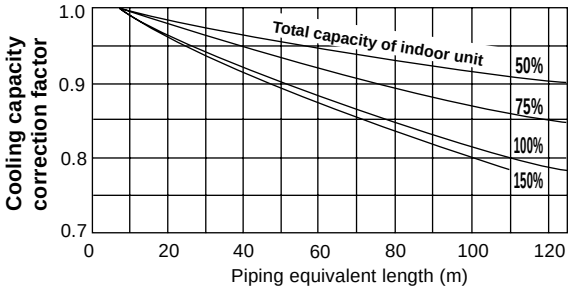
To obtain a decrease in cooling/heating capacity due to refrigerant piping extension, multiply by the capacity correction factor based on the refrigerant piping equivalent length in the table below.

• Cooling capacity correction

PURY-P400YMF-C

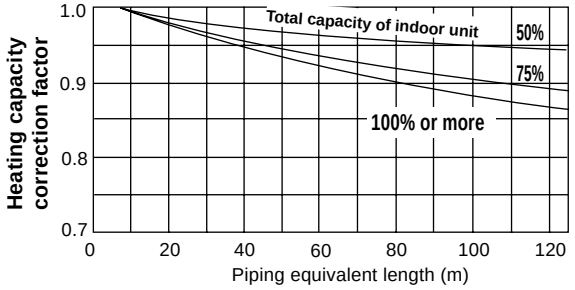


PURY-P500YMF-C

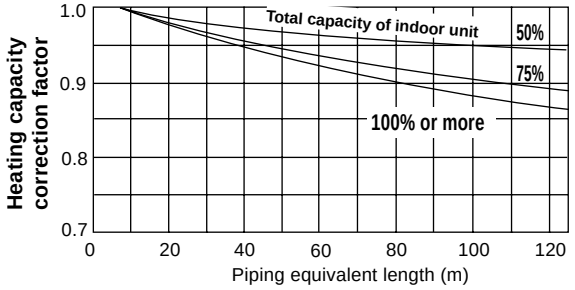


• Heating capacity correction

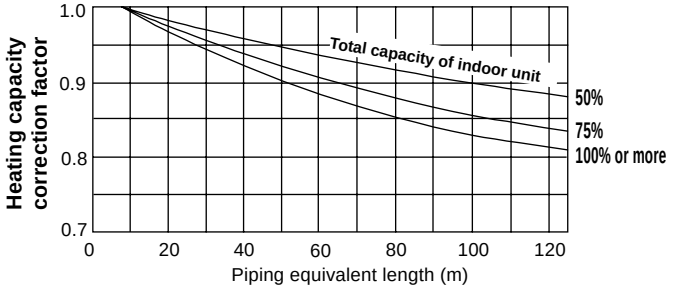
PURY-P400YMF-C



PURY-P500YMF-C



✲ In case of using ø22.22 pipe
PURY-P400, 500YMF-C



• How to obtain piping equivalent length

① **PURY-P400YMF-C**
Equivalent length = (Actual piping length to the farthest indoor unit) + (0.70 × number of bent on the piping)m

② **PURY-P500YMF-C**
Equivalent length = (Actual piping length to the farthest indoor unit) + (0.80× number of bent on the piping)m

2-4 Correction at frosting and defrosting

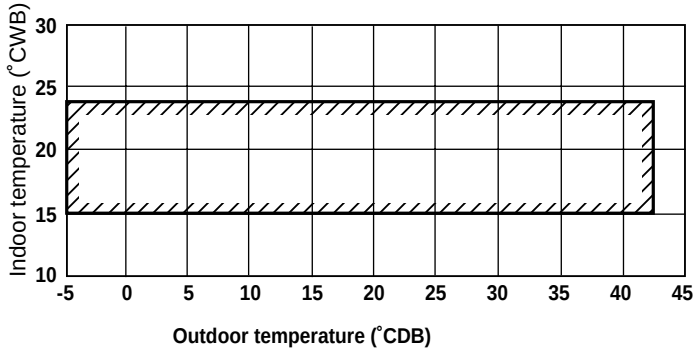
When a decrease in heating capacity due to frosted and defrosting operations is considered, the value multiplied by the correction factor in the table below represents the heating capacity.

Correction factor table

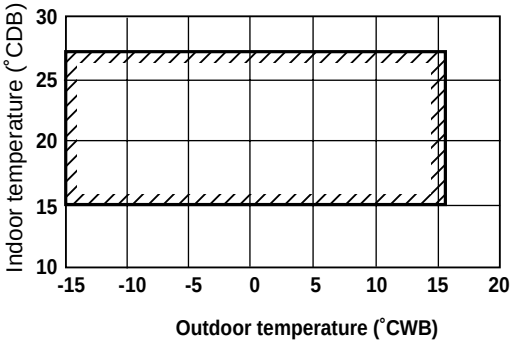
Outdoor inlet air temp (˚CWB)	6	4	2	0	-2	-4	-6	-8	-10
Correction factor	1.0	0.95	0.84	0.83	0.87	0.9	0.95	0.95	0.95

2-5 Operation limit

• Cooling



• Heating

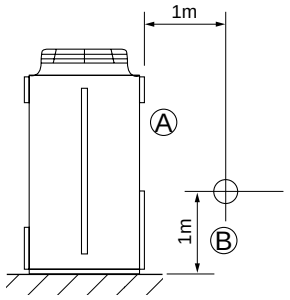


※ **Outdoor temperature : -5˚CDB/-6˚CWB ~ 21˚CDB/15.5˚CWB in cooling/heating mixed mode.**

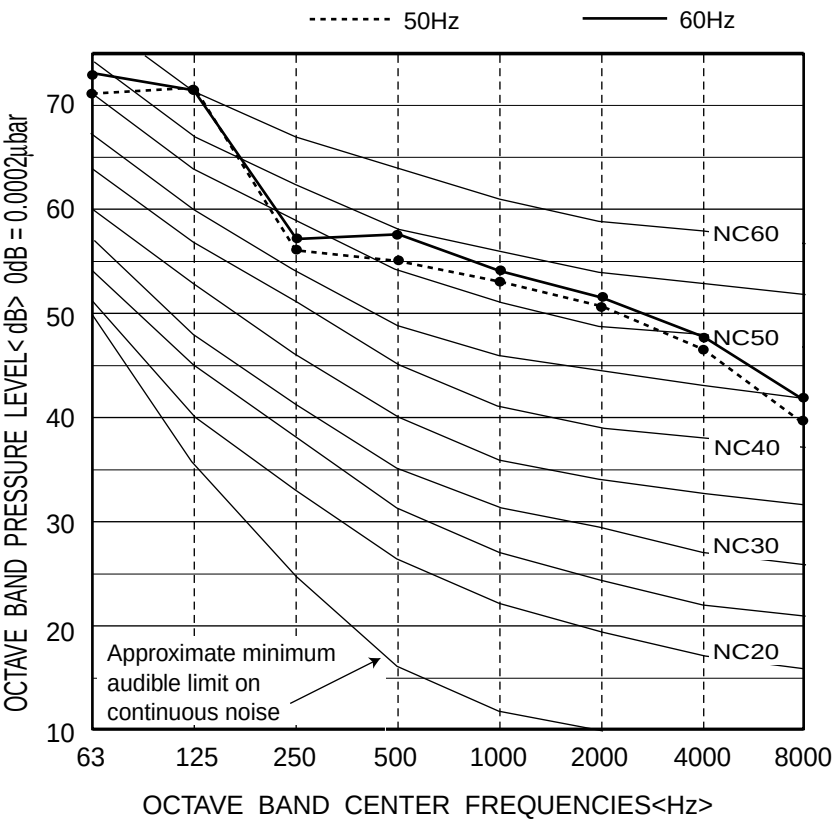
3. Sound Levels

PURY-P400YMF-C

Measurement condition

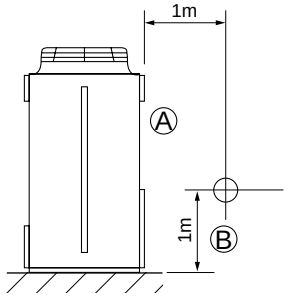


Sound pressure level in anechoic room
60/61 dB (A)

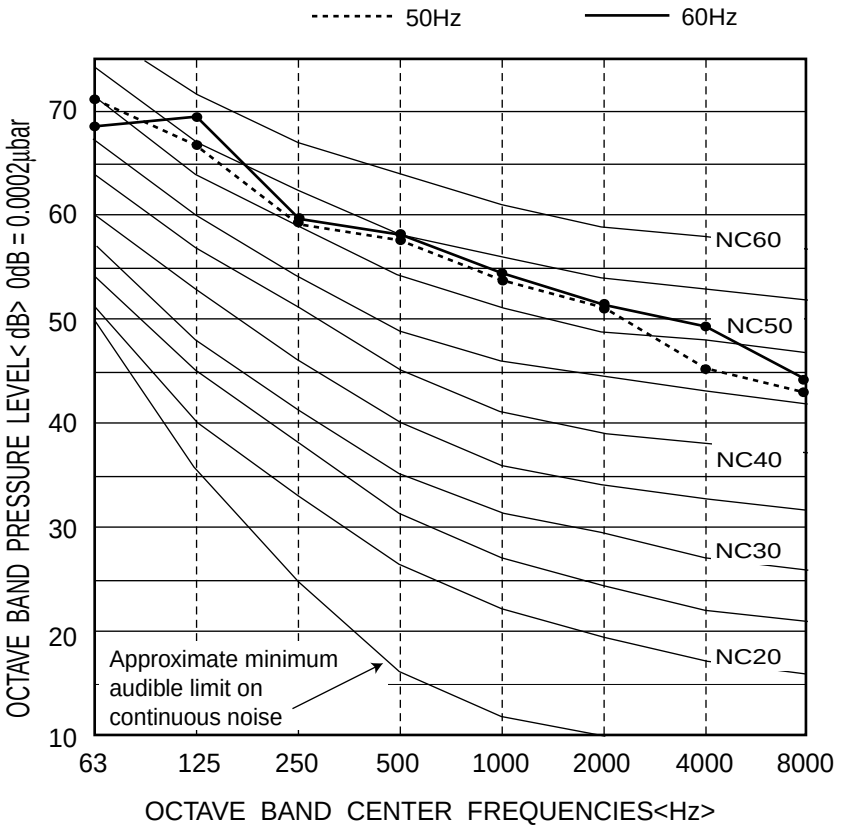


PURY-P500YMF-C

Measurement condition



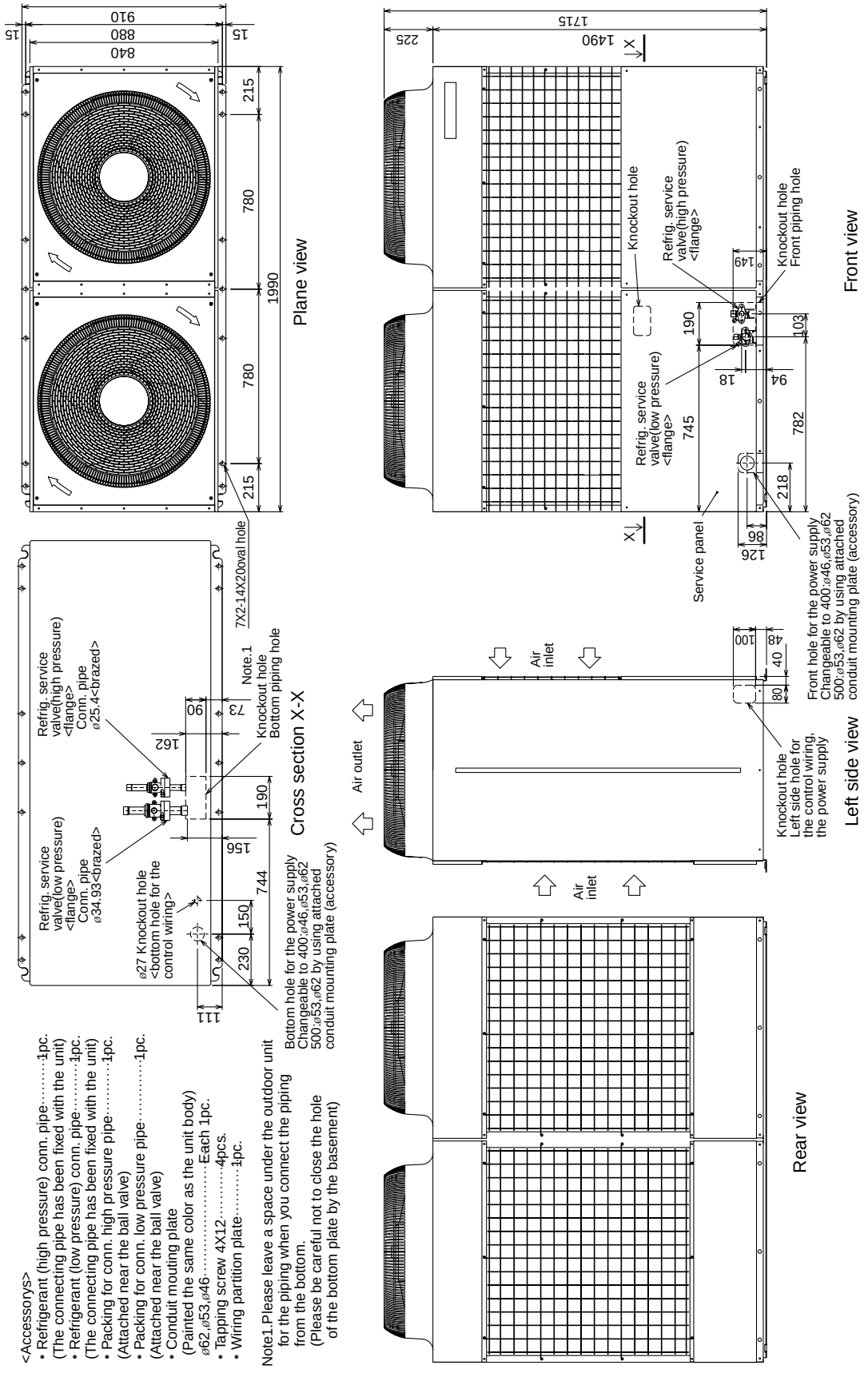
Sound pressure level in anechoic room
60/61 dB (A)



4. External Dimensions

PURY-P400,500YMF-C

Unit : mm

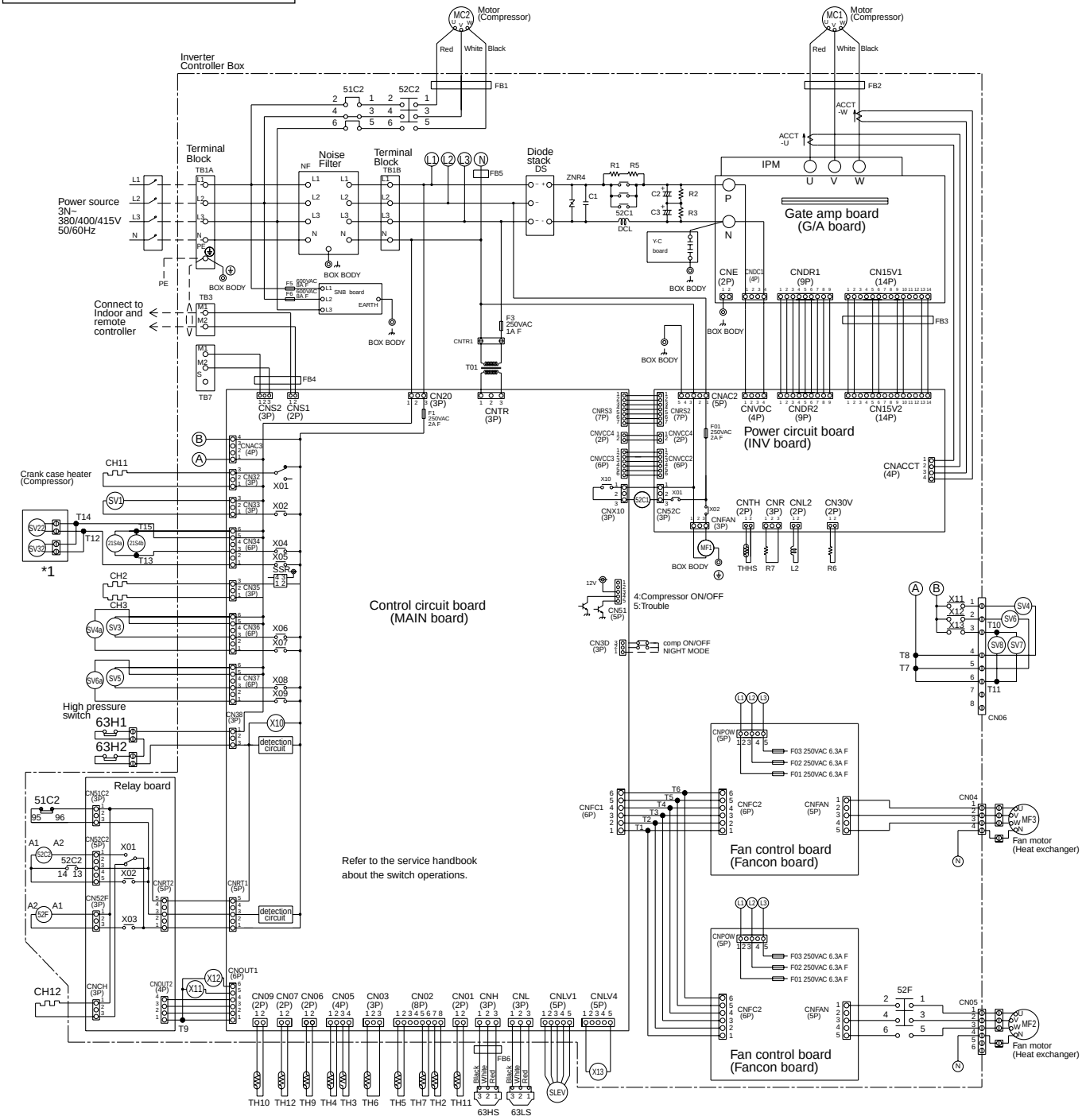


<Accessorys>
- Refrigerant (high pressure) conn. pipe……1pc.
(The connecting pipe has been fixed with the unit)
- Refrigerant (low pressure) conn. pipe……1pc.
(The connecting pipe has been fixed with the unit)
- Packing for conn. high pressure pipe……1pc.
(Attached near the ball valve)
- Packing for conn. low pressure pipe……1pc.
(Attached near the ball valve)
- Conduit mouting plate
(Painted the same color as the unit body)
ø62,ø53,ø46……Each 1pc.
- Tapping screw 4X12……4pcs.
- Wiring partition plate……1pc.

Note1. Please leave a space under the outdoor unit for the piping when you connect the piping from the bottom.
(Please be careful not to close the hole of the bottom plate by the basement)

5. Electrical Wiring Diagram

PURY-P400, 500YMF-C



<Symbol explanation>

Symbol	Name	Symbol	Name	
DCL	DC reactor (Power factor improvement)	IPM	Intelligent power module	
		TH11,12	Thermistor	Discharge pipe temp. detect
ACCT-U,W	Current Sensor	TH2		Saturation evapo. temp. detect
ZNR4	Varistor	TH3		Accumurator liquid temp. detect Lower
52C1	Magnetic contactor (Inverter main circuit)	TH4		Upper
		TH5		Pipe temp. detect(Hex outlet)
52C2	Magnetic contactor	TH6		OA temp. detect
51C2	Overload relay	TH7		Pipe temp.(Hex inlet)
52F	Magnetic contactor(Fan motor)	TH9		High pressure liquid temp.
MF1	Fan motor (Radiator panel)	TH10		Compressor shell temp.
21S4a,4b	4-way valve	THHS		Radiator panel temp. detect
SV1,22,32, 4a,6a	Solenoid valve	LD	Accumulator liquid level detect	
		CH11,12	Crank case heater(Compressor)	
SV3,4,5,6, 7,8	Solenoid valve (Heat exchanger capacity control)	CH2,3	Cord heater	
		SSR	Solid state relay	
SLEV	Electronic expansion valve(Oil return)	X1,2,4~13	Aux. relay	
63HS	High pressure sensor	FB1~6	Ferrite core	
63LS	Low pressure sensor	⏚	Earth terminal	
63H1,2	High pressure switch			
L2	Choke coil(Transmission)	T1~15	Terminal	

NOTE : Mark ○ indicates terminal bed, ▣ connector, ▣ board insertion connector

<Difference of appliance>

Appliance	Name
PURY-P400YMF-C	"*1" are not existed
PURY-P500YMF-C	All exists

6. Refrigerant Circuit Diagram And Thermal Sensor

PURY-P400, 500YMF-C