

PUHY-P400YMF-B, PUHY-P500YMF-B

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1. Specifications

Y-16,20(R407C)

Model name		PUHY-P400YMF-B	
		Cooling	Heating
Capacity	kcal/h	40,000	45,000
	kW	46.5	52.3
	BTU/h	158,800	178,600
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	16.9	15.9
Current	A	28.2/26.8/25.8	26.5/25.2/24.3
Fan	TypeX Quantity	Propeller fan X2	
	Airflow rate	m ³ /min	370
	Motor output	kW	0.35 X 2
Compressor	Type	Hermetic	
	Motor output	kW	4.5 + 7.5
	Crankcase heater	kW	0.045 + 0.056
Refrigerant / Lubricant		R407C / MEL32	
External finish		Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension	mm	1715(H)X 1990(W) X 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	Liquid / Gas	φ□ 5.88 flare / φ□ 4.93 Flange	
Indoor unit	Total capacity		50 ~ 130% of outdoor unit capacity
	Model / Quantity		Model 25 ~ 250 / 1 ~ 20
Noise level	dB<A>	60 / 61	
Net weight	kg	455	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (10°CDB ~ 43°CDB with outdoor unit at lower position, or with indoor unit 25 type only is working.)	Indoor:15°CDB ~ 27°CDB Outdoor:-12°CWB ~ 15.5°CWB (-12°CWB~10°CWB with indoor unit 25 type only is working)

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

Cooling Indoor : 27°CDB/19.5°CWB Outdoor : 35°CDB
Heating Indoor : 21°CDB Outdoor : 7°CDB/6°CWB
 Pipe length : 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-P500YMF-B	
		Cooling	Heating
Capacity	kcal/h	50,000	56,000
	kW	58.2	65.1
	BTU/h	198,500	222,300
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	21.3	19.65
Current	A	35.1/33.4/32.2	32.8/31.1/30.0
Fan	TypeX Quantity	Propeller fanX 2	
	Airflow rate	m ³ /min	370
	Motor output	kW	0.35 X 2
Compressor	Type	Hermetic	
	Motor output	kW	7.5 + 7.5
	Crankcase heater	kW	0.045 + 0.056
Refrigerant / Lubricant		R407C / Polyester oil (POE)	
External finish		Steel plate painting with polyester powder <MUNSELL 5Y8/1 or similar>	
External dimension	mm	1715(H)X 1990(W) X 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	Liquid / Gas	∅□5.88 flare / ∅□4.93 Flange	
Indoor unit	Total capacity	50 ~ 130% of outdoor unit capacity	
	Model / Quantity	Model 25 ~ 250 / 1 ~ 20	
Noise level	dB<A>	60 / 61	
Net weight	kg	475	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (10°CDB ~43°CDB with outdoor unit at lower position, or with indoor unit 25 type only is working.)	Indoor:15°CDB ~ 27°CDB Outdoor:-12°CWB ~ 15.5°CWB (-12°CWB~10°CWB with indoor unit 25 type only is working)

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

Cooling Indoor : 27°CDB/19.5°CWB Outdoor : 35°CDB
Heating Indoor : 21°CDB Outdoor : 7°CDB/6°CWB
 Pipe length : 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 tables

2-1. Correction by temperature

Cooling

•Standard Specifications

		PUHY-P400YMF-B	PUHY-P500YMF-B
Capacity	kcal/h	40,000	50,000
	kW	46.5	58.2
	BTU/h	158,800	198,500
Input	kW	16.9	21.3
Source	V	380/400/415	
Current	A	28.2/26.8/25.8	35.1/33.4/32.2

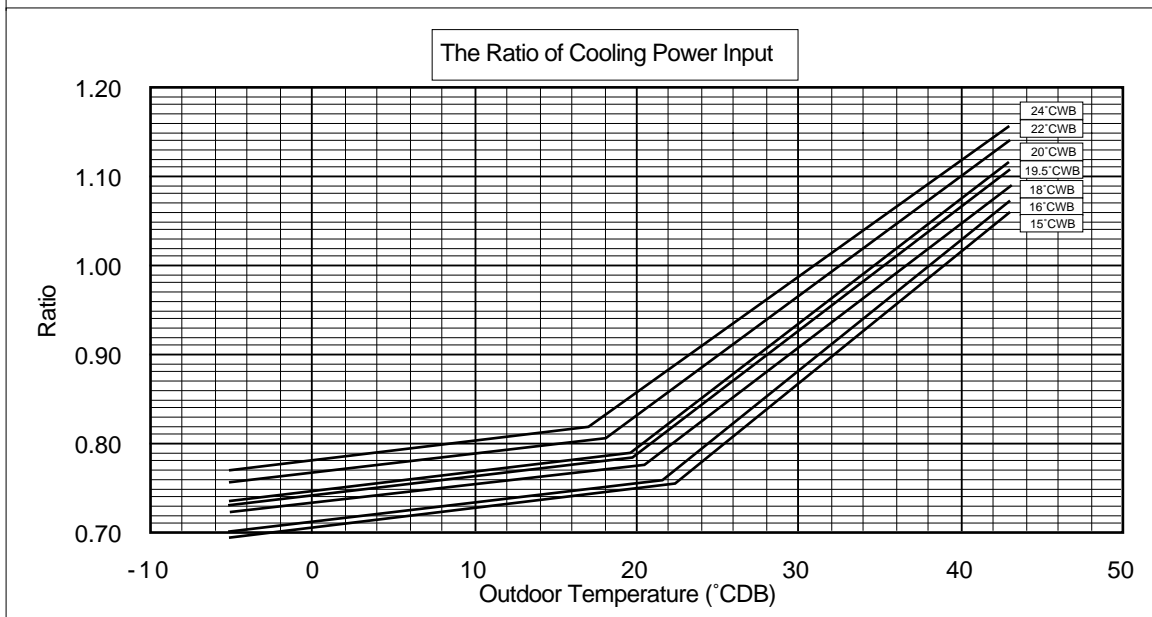
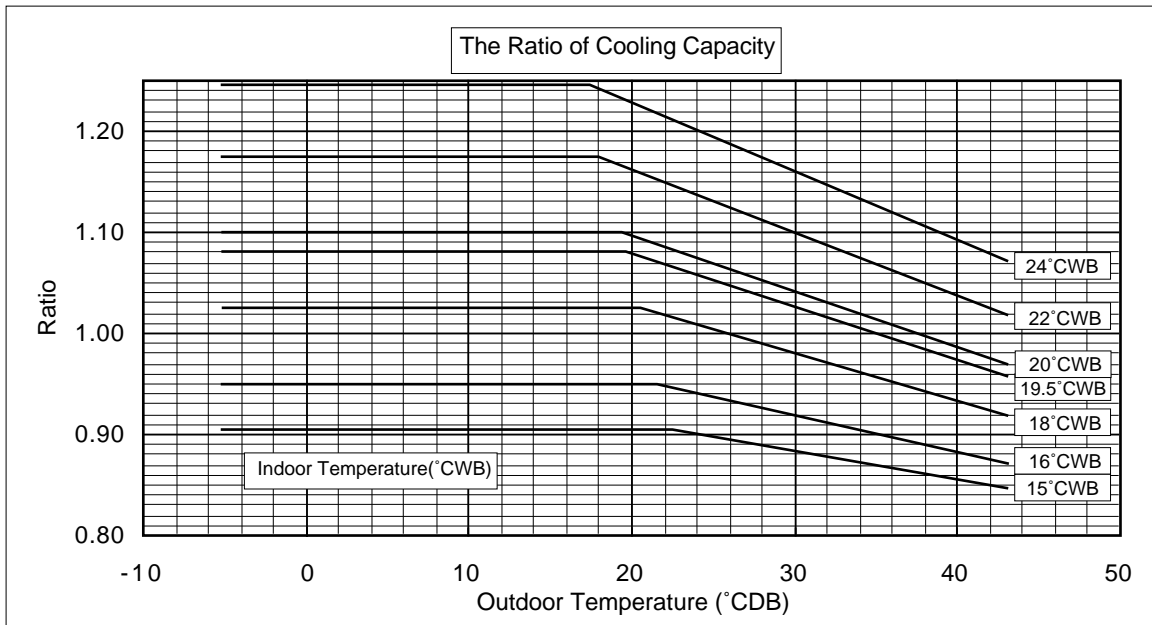
•Calculation

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

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

$$\text{Current}' = \frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times \begin{matrix} 0.91(\text{:PUHY-P400YMF-B}) \\ 0.92(\text{:PUHY-P500YMF-B}) \end{matrix}}$$

✳Capacity'
Input'
Current' } After correction



Y-16,20(R407C)

Heating

•Standard Specifications

		PUHY-P400YMF-B	PUHY-P500YMF-B
Capacity	kcal/h	45,000	56,000
	kW	52.3	65.1
	BTU/h	178,600	222,300
Input	kW	15.9	19.65
Source	V	380/400/415	
Current	A	26.5/25.2/24.3	32.8/31.1/30.0

•Calculation

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

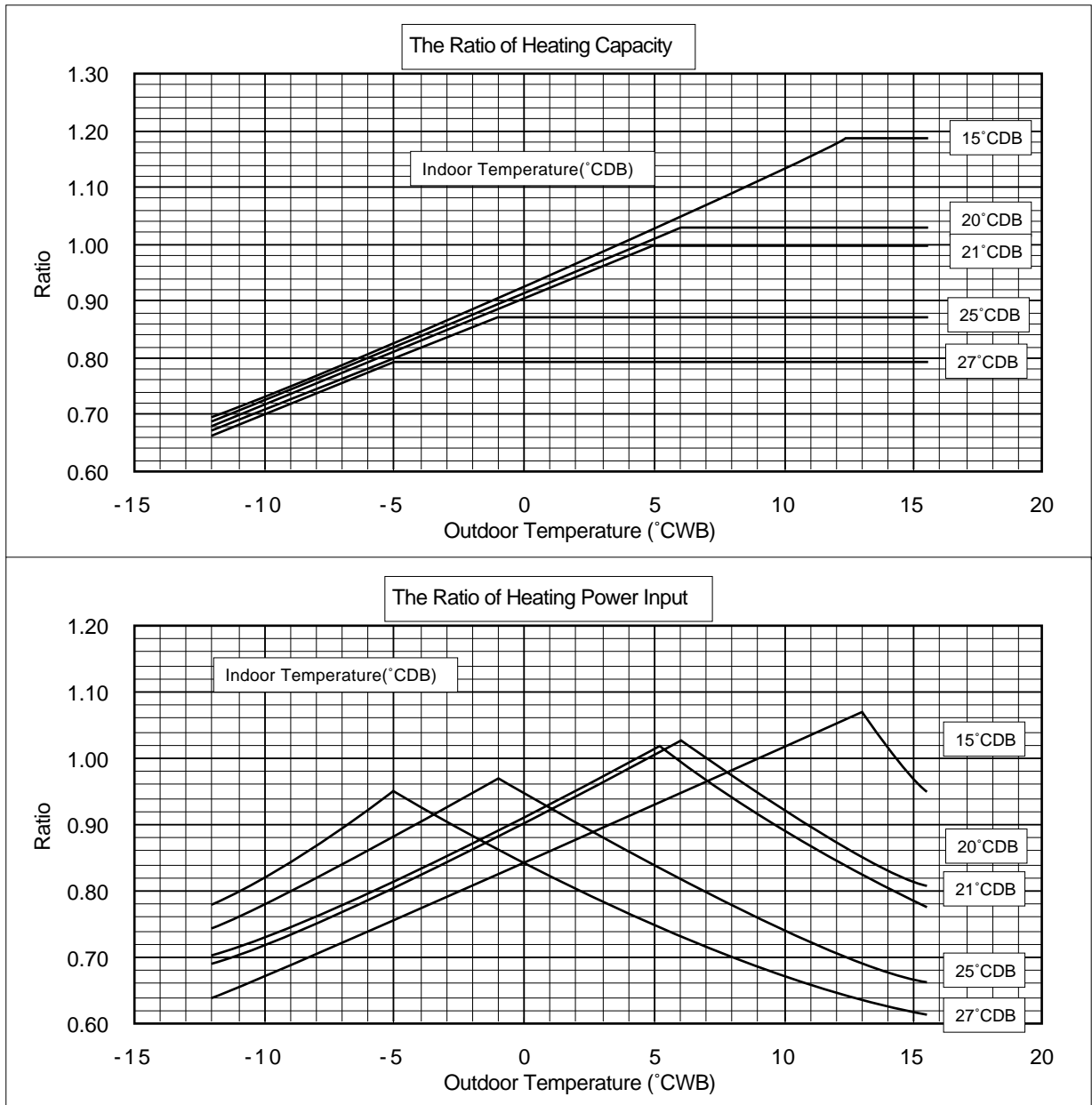
$$\text{Input}' = \text{Input} \times \text{Ratio}$$

$$\text{Current}' = \frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times 0.91} \quad (\text{:PUHY-P400-500YMF-B})$$

※Capacity'
Input'
Current'

} After correction

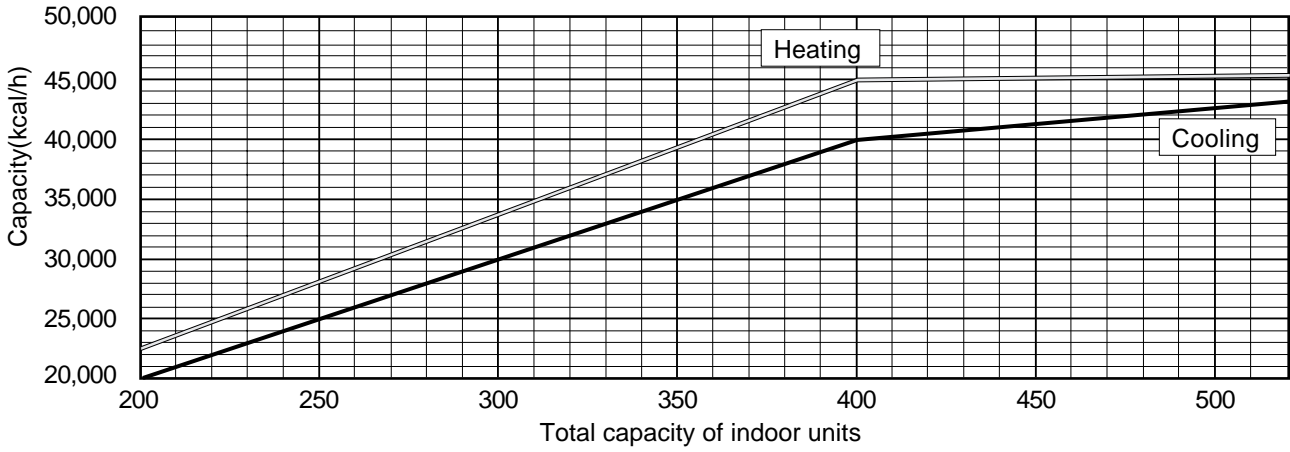
Y-16.20(R407C)



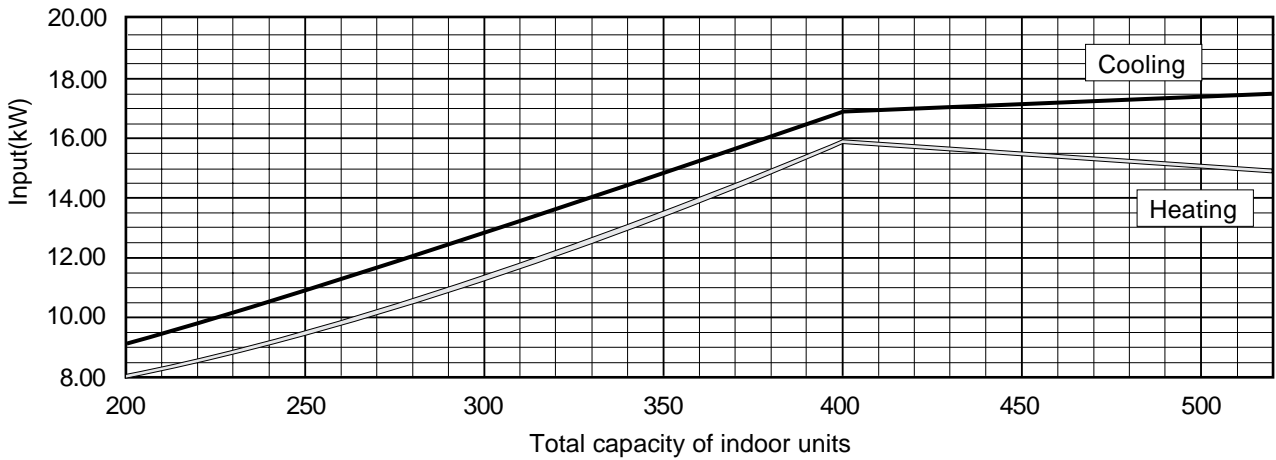
2-2. Correction by total indoor

PUHY-P400YMF-B

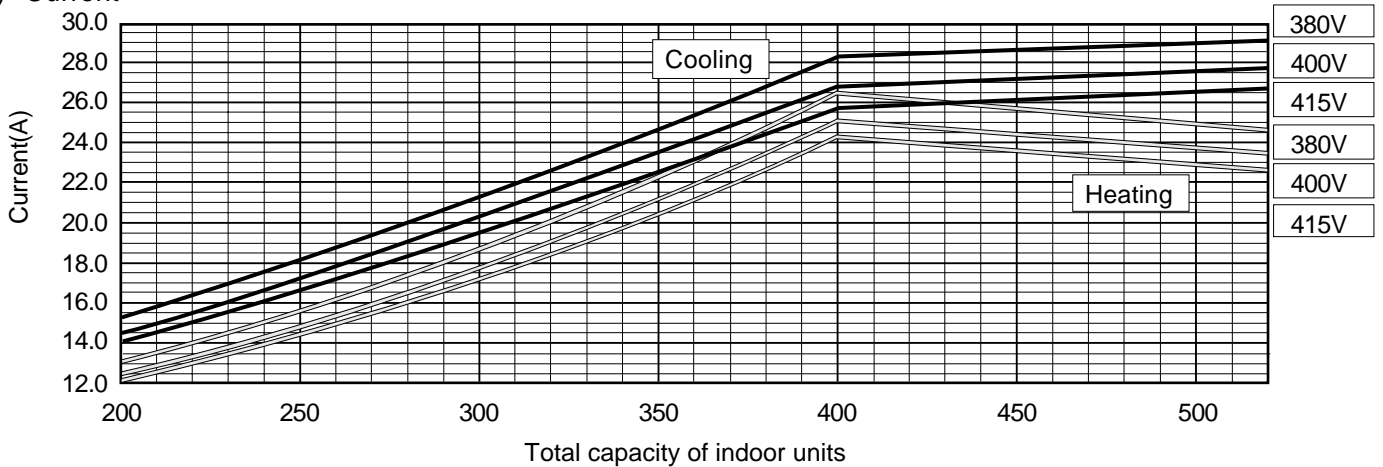
1) Capacity



2) Input

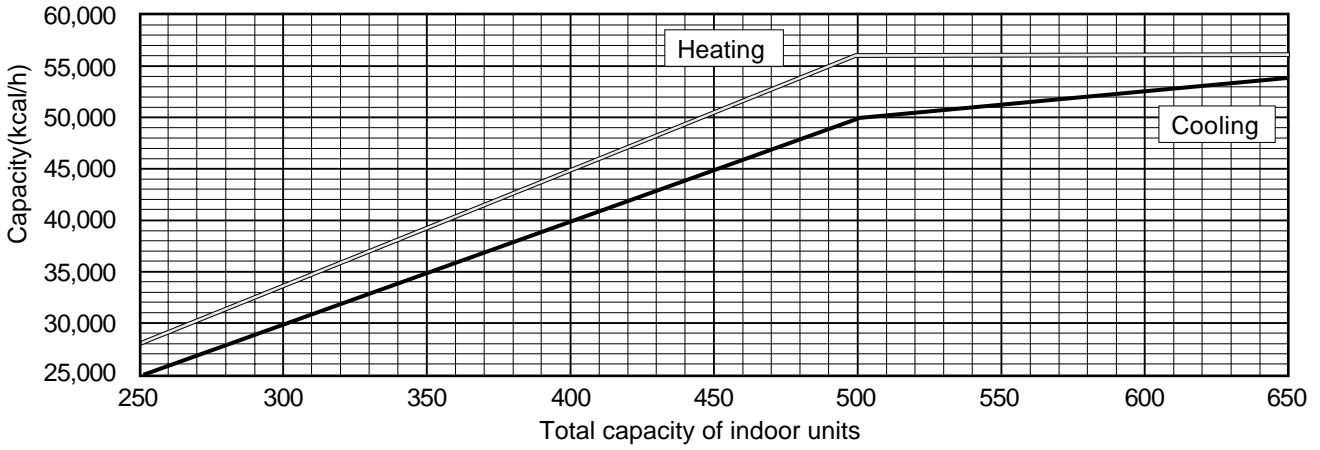


3) Current



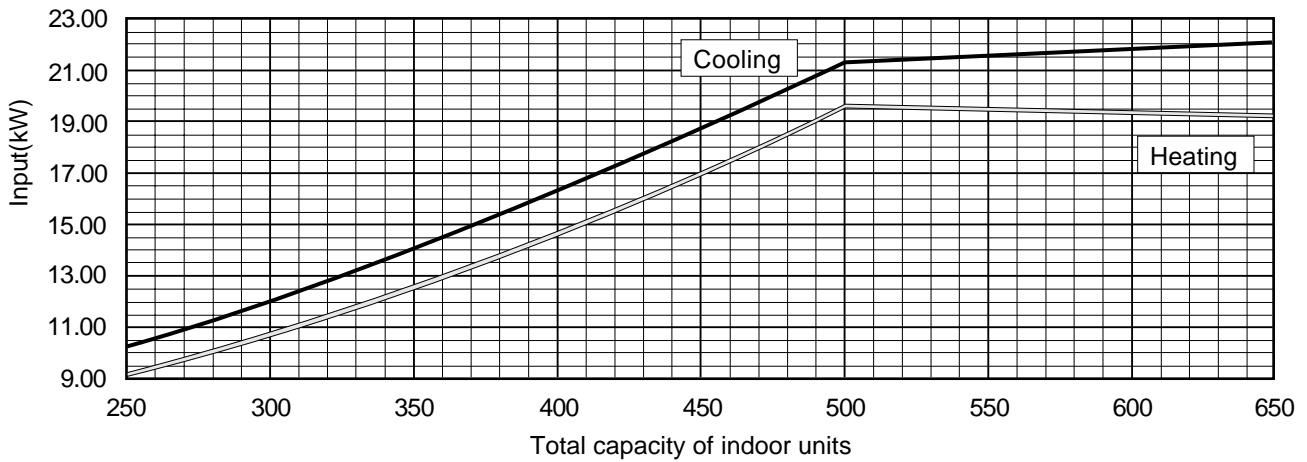
PUHY-P500YMF-B

1) Capacity

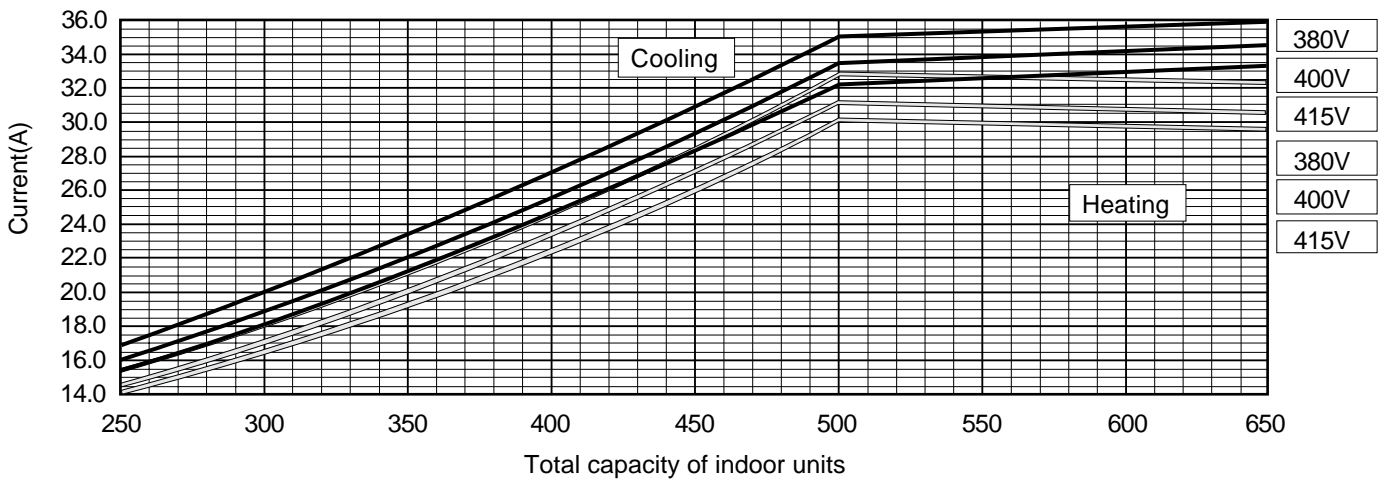


Y-16.20(R407C)

2) Input



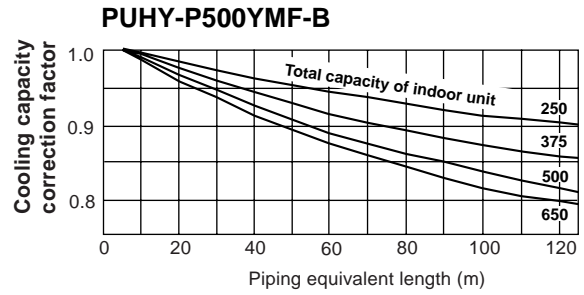
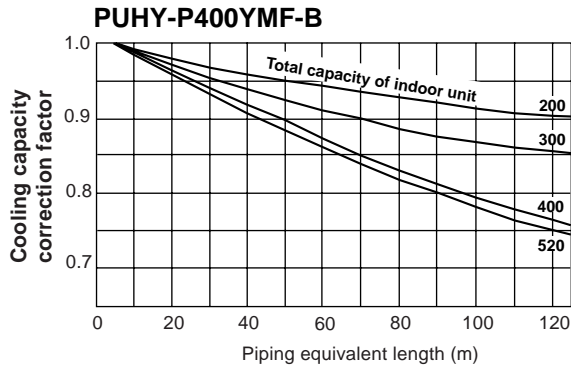
3) Current



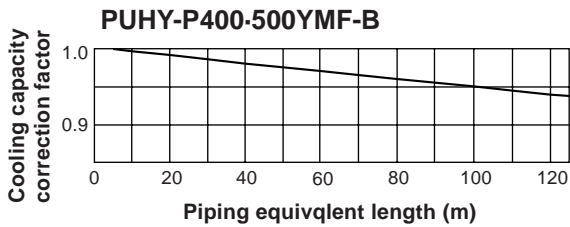
2-3 Correction by refrigerant piping length

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



• Heating capacity correction



• How to obtain piping equivalent length

① PUHY-P400YMF-B

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.70 × number of bent on the piping)m

② PUHY-P500YMF-B

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

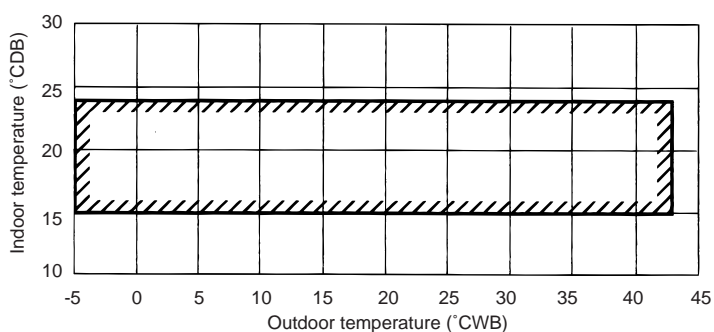
When a decrease in heating capacity due to frosted and defrosting operations is considered, the value multiplied by the correction factor in the table below represents the heating capacity.

Correction factor table

Outdoor inlet air temp (°CWB)	6	4	2	0	-2	-4	-6	-8	-10
Correction factor	1.0	0.98	0.89	0.89	0.90	0.92	0.95	0.95	0.95

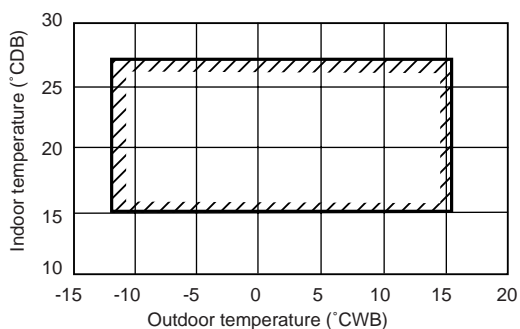
2-5 Operation limit

• Cooling



When the indoor unit is located above the outdoor unit for 4m or more, or indoor unit 25type only is working, the outdoor unit inlet air temperature becomes 10~43°CDB.

• Heating



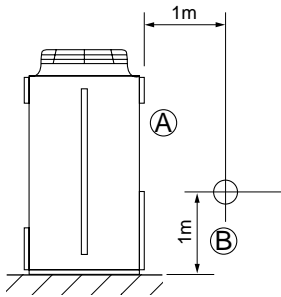
When the indoor unit 25type only is working, the outdoor unit inlet air temperature becomes -12~10°CWB.

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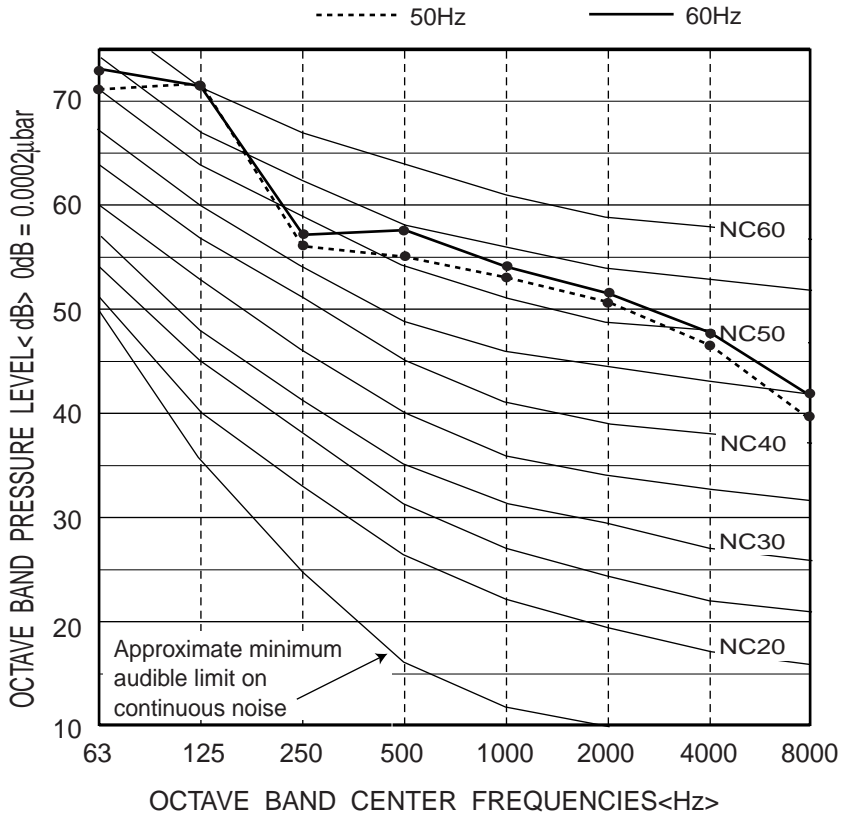
3. Sound levels

PUHY-P400YMF-B

Measurement condition

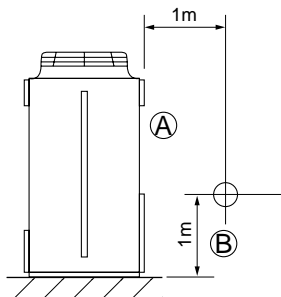


Sound pressure level in anechoic room
60 / 61 dB (A)

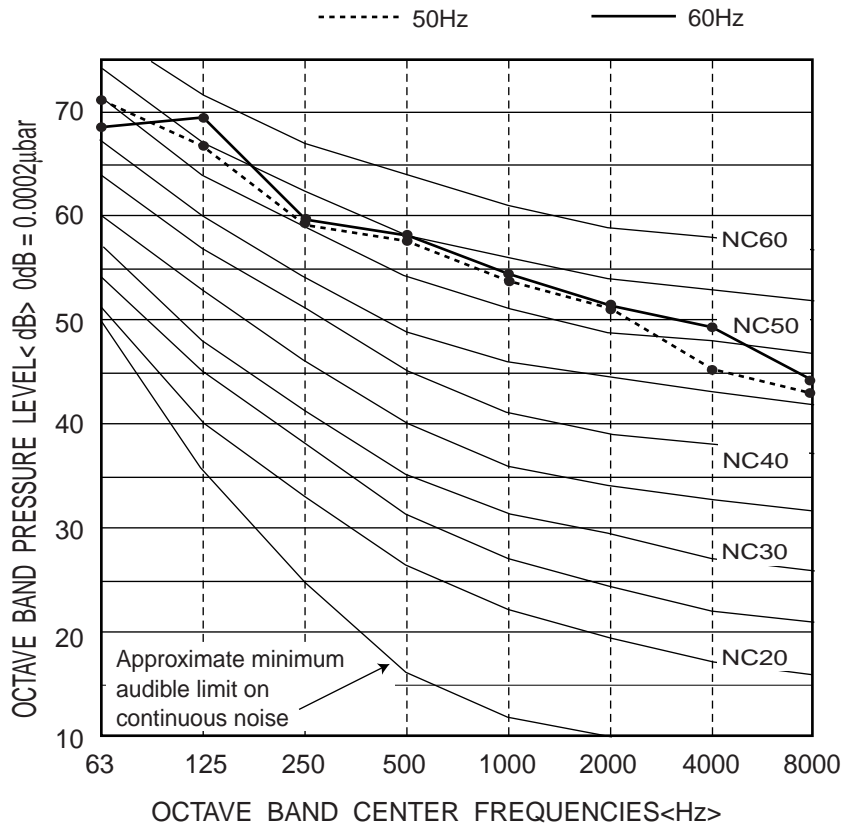


PUHY-P500YMF-B

Measurement condition

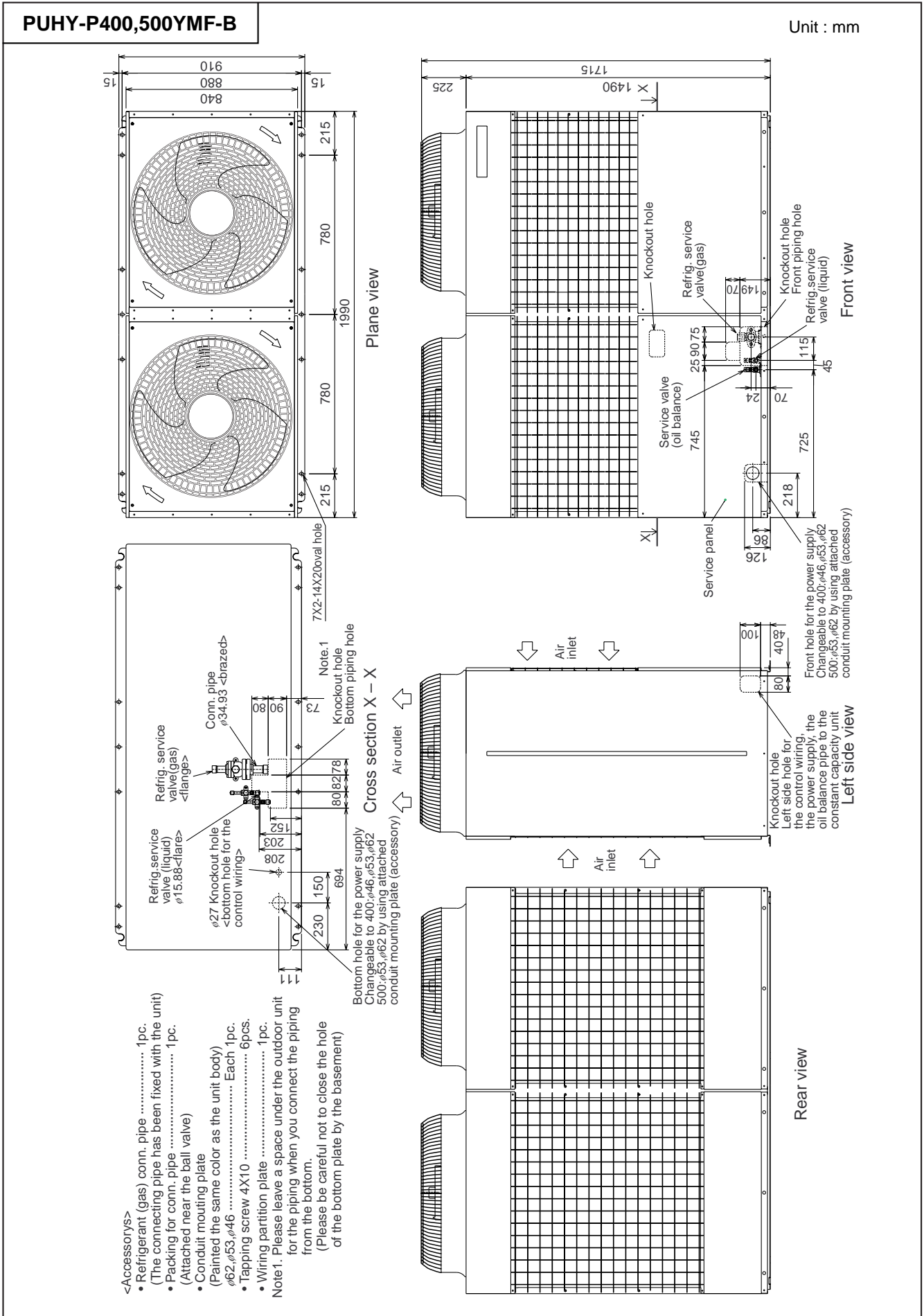


Sound pressure level in anechoic room
60 / 61 dB (A)



Y-16,20(R407C)

4. External dimensions



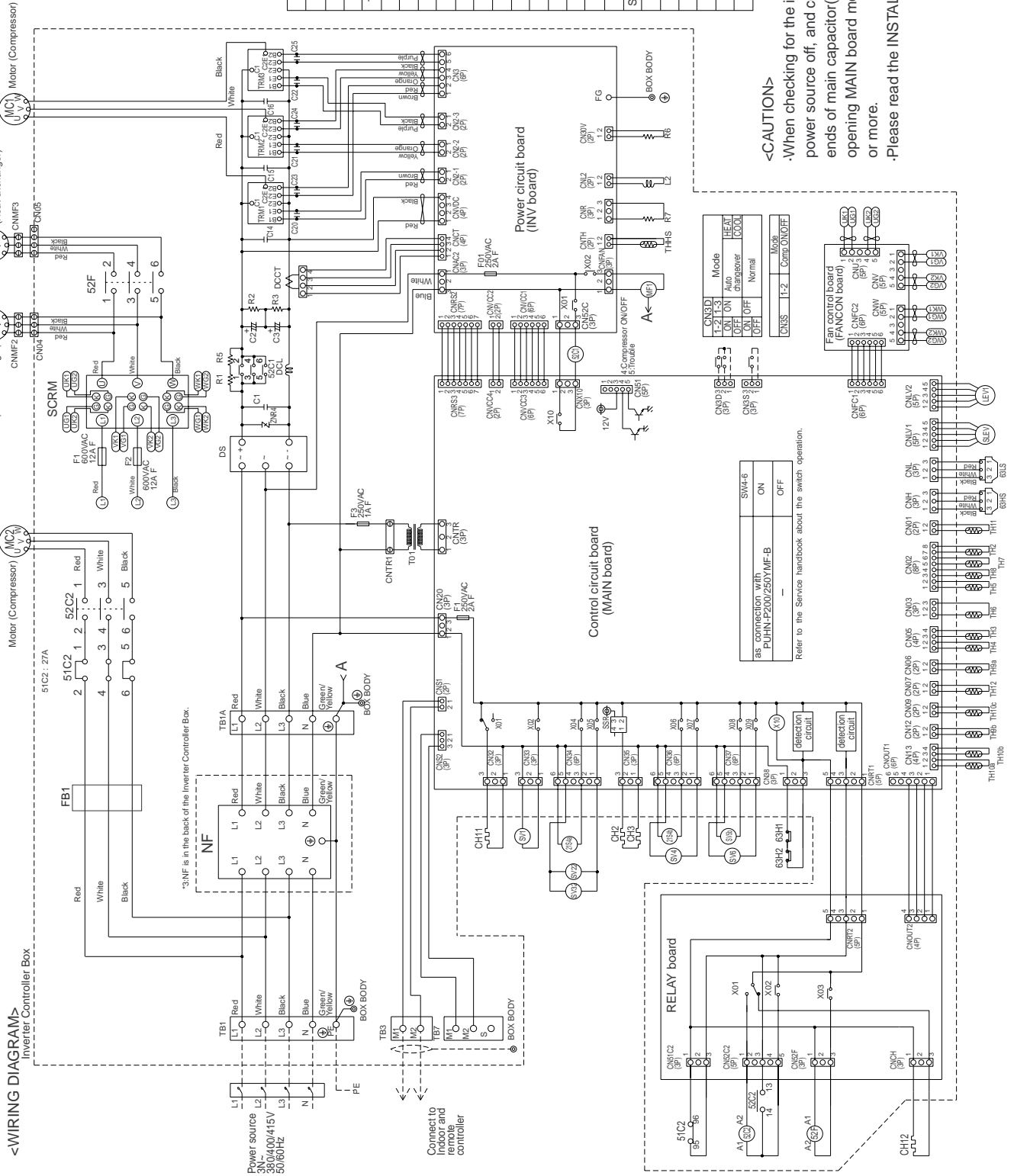
Y-16.20(R407C)

5. Electrical Wiring Diagram

PUHY-P400-500YMF-B

Y-16,20(R407C)

<WIRING DIAGRAM>



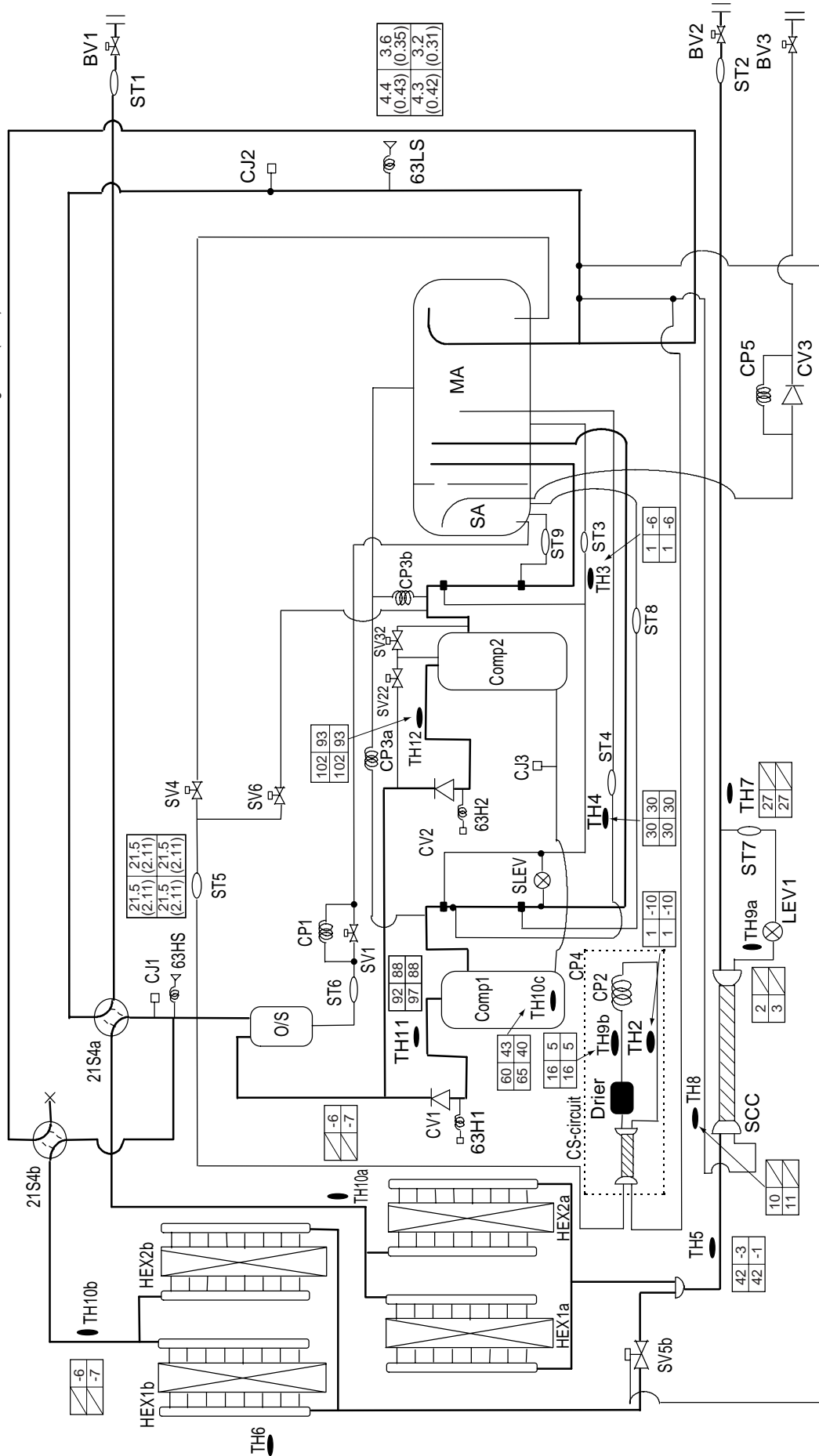
<SYMBOL EXPLANATION>

Symbol	Name
TB1, 1A, 3, 7	Terminal block
DS	Diode stack
NF	Noise Filter
TH2-12, THHS	Thermistor
CH11, 12	Crank case heater(Compressor)
CH2, CH3	Cond heater
63H1, 2	High pressure switch
DOL	DC reactor (Power factor improvement)
CCCT	Current Sensor
ZNR4	Varistor
52C1	Magnetic contactor (Inverter main circuit)
52C2	Magnetic contactor
51C2	Overload Relay
52F	Magnetic contactor
MF1	Fan (Radiator panel)
SSR	Solid state relay
21S4a,b	4-way valve
SV1, 22, 32, 4, 5b, 6	Solenoid valve
LEV1, SLEV	Electronic expansion valve
63HS, 63LS	High pressure sensor
L2	Choke coil(Transmission)
TRM1-3	Power transistor module
FB1	Ferrite core
Ⓧ	Earth terminal

<CAUTION>
 When checking for the inside control box, be sure to turn the power source off, and confirm that the voltage at the both ends of main capacitor(C2, C3) is being sufficiently low by opening MAIN board mounting plate after leaving 10minutes or more.
 -Please read the INSTALLATION MANUAL carefully.

6. Refrigerant circuit diagram and Thermal sensor

* Standard operation data
 Model 400 in cooling mode →
 Model 500 in cooling mode ←
 Model 400 in heating mode →
 Model 500 in heating mode ←
 * Value: TH1~TH10c: °C
 63HS, 63LS: kg/cm²(MPa)



Y-16.20(R407C)

