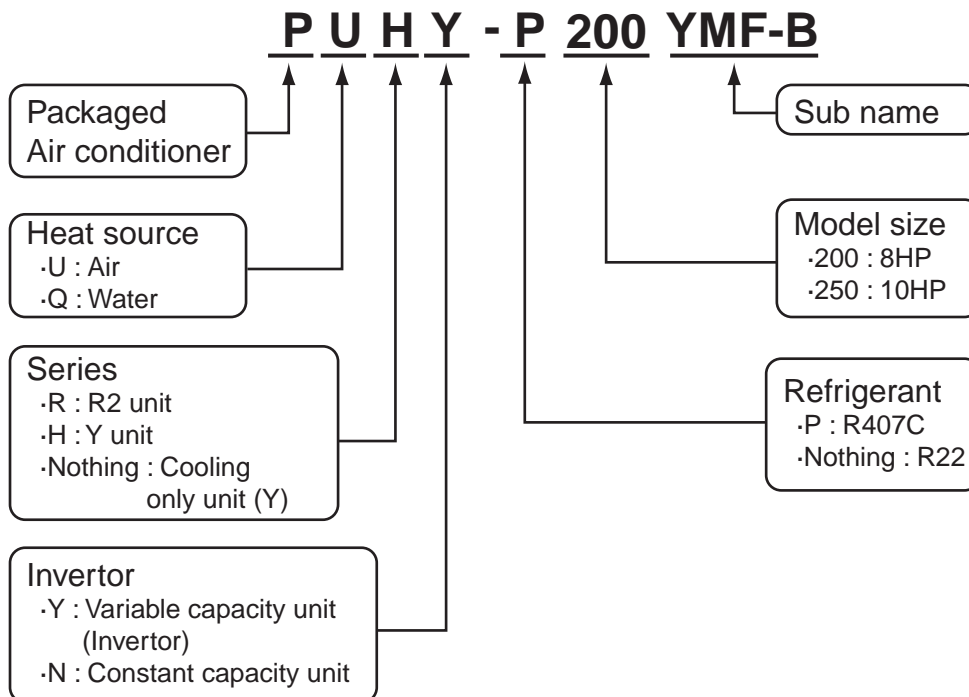


Introduction

CITY MULTI OUTDOOR UNITS

Refrigerant	Series	Model Name	200	250
R407C	Y series (Heat Pump)	PUHY-P-YMF-B	●	●
	R2 series (Air-cooling)	PURY-P-YMF-B	●	●
	WR2 series (Water-cooling)	PQRY-P-YMF-B	●	●
	Y series (Cooling Only)	PUY-P-YMF-B	●	●
R22	Y series (Heat Pump)	PUHY-YMF-B	●	●
	R2 series (Air-cooling)	PURY-YMF-B	●	●
	Y series (Cooling Only)	PUY-YMF-B	●	●

Meaning of model name



PUHY-P200YMF-B, PUHY-P250YMF-B

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PUHY-P

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1. Specifications

PUHY-P

Model name		PUHY-P200YMF-B	
		Cooling	Heating
Capacity	kcal/h	20,000	22,400
	kW	23.3	26.0
	BTU/h	79,400	88,900
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	9.43	8.57
Current	A	15.9/15.1/14.5	14.4/13.7/13.2
Fan	Type X Quantity		Propeller fan X 1
	Airflow rate	m ³ /min	185
	Motor output	kW	0.350
Compressor	Type		Hermetic
	Motor output	kW	5.5
	Crankcase heater	kW	0.045
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		30kg/cm ² G(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>	57	
Net weight	kg	240	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (10°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.

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-P250YMF-B	
		Cooling	Heating
Capacity	kcal/h	25,000	28,000
	kW	29.1	32.6
	BTU/h	99,300	111,200
Power source		3N ~ 380/400/415V 50/60Hz	
Power input	kW	11.8	10.9
Current	A	19.9/18.9/18.2	18.4/17.4/16.8
Fan	Type X Quantity		Propeller fan X 1
	Airflow rate	m ³ /min	185
	Motor output	kW	0.350
Compressor	Type		Hermetic
	Motor output	kW	7.5
	Crankcase heater	kW	0.045
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		30kg/cm ² G(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>	58	
Net weight	kg	255	
Operating temperature range		Indoor:15°CWB ~ 24°CWB Outdoor:-5°CDB ~ 43°CDB (10°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.

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 table

2-1. Correction by temperature

Cooling

- Standard Specifications

		PUHY-P200YMF-B	PUHY-P250YMF-B
Capacity	kcal/h	20,000	25,000
	kW	23.3	29.1
	BTU/h	79,400	99,300
Input	kW	9.43	11.8
Source	V	380/400/415	
Current	A	15.9/15.1/14.5	19.9/18.9/18.2

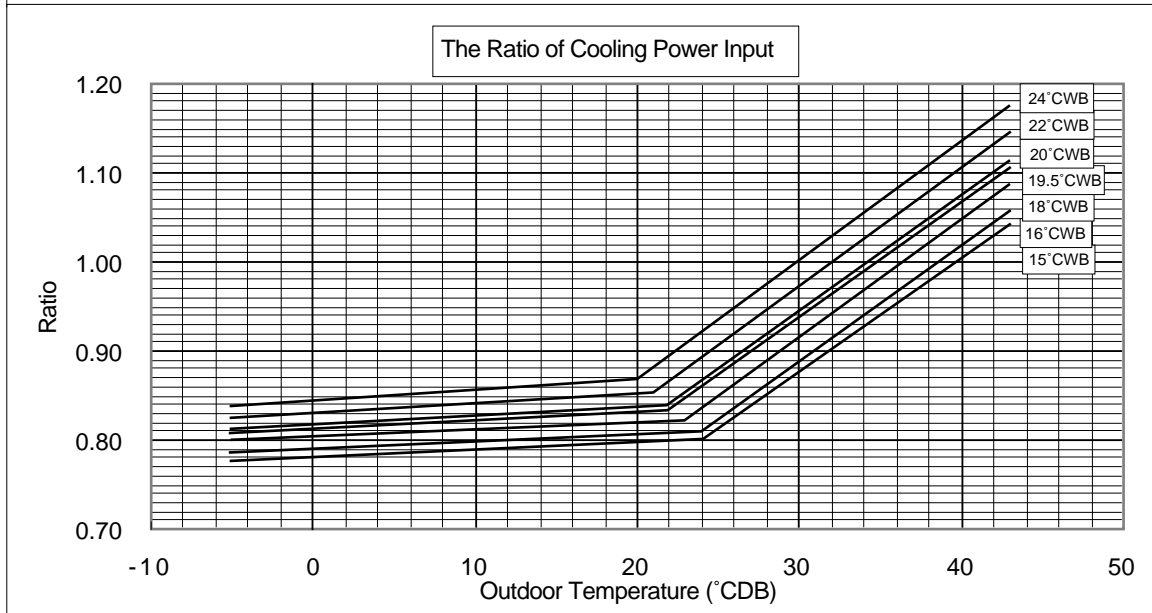
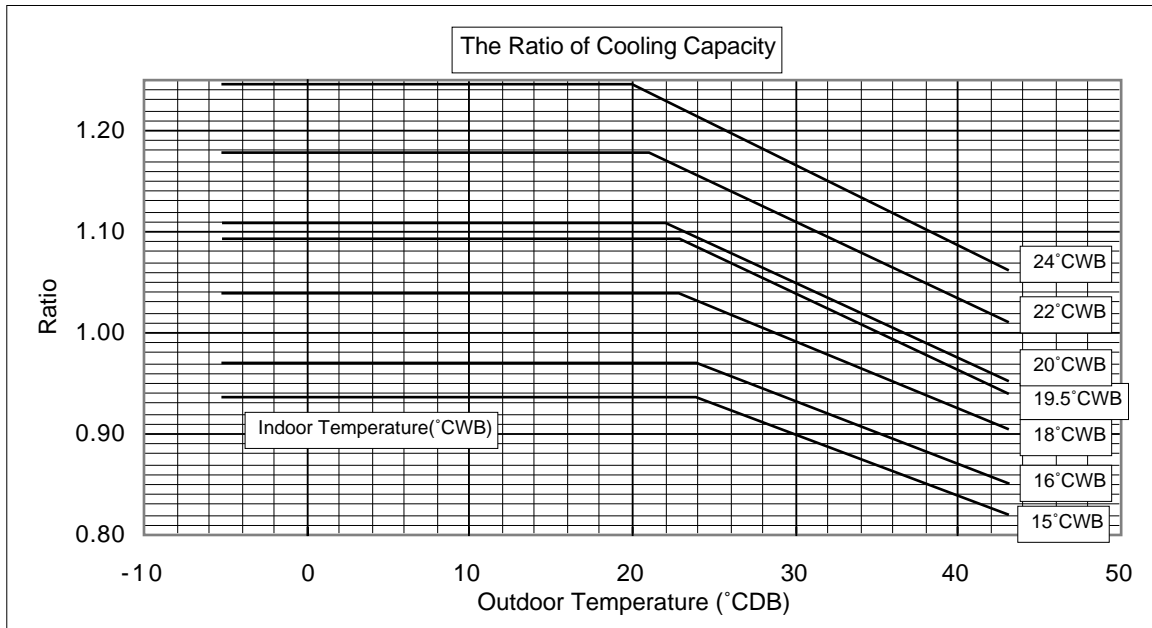
- Calculation

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

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

$$\text{Current}' = \frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times 0.91}$$

※ Capacity'
Input'
Current' } After correction



Heating

• Standard Specifications

		PUHY-P200YMF-B	PUHY-P250YMF-B
Capacity	kcal/h	22,400	28,000
	kW	26.0	32.6
	BTU/h	88,900	111,200
Input	kW	8.57	10.9
Source	V	380/400/415	
Current	A	14.4/13.7/13.2	18.4/17.4/16.8

• Calculation

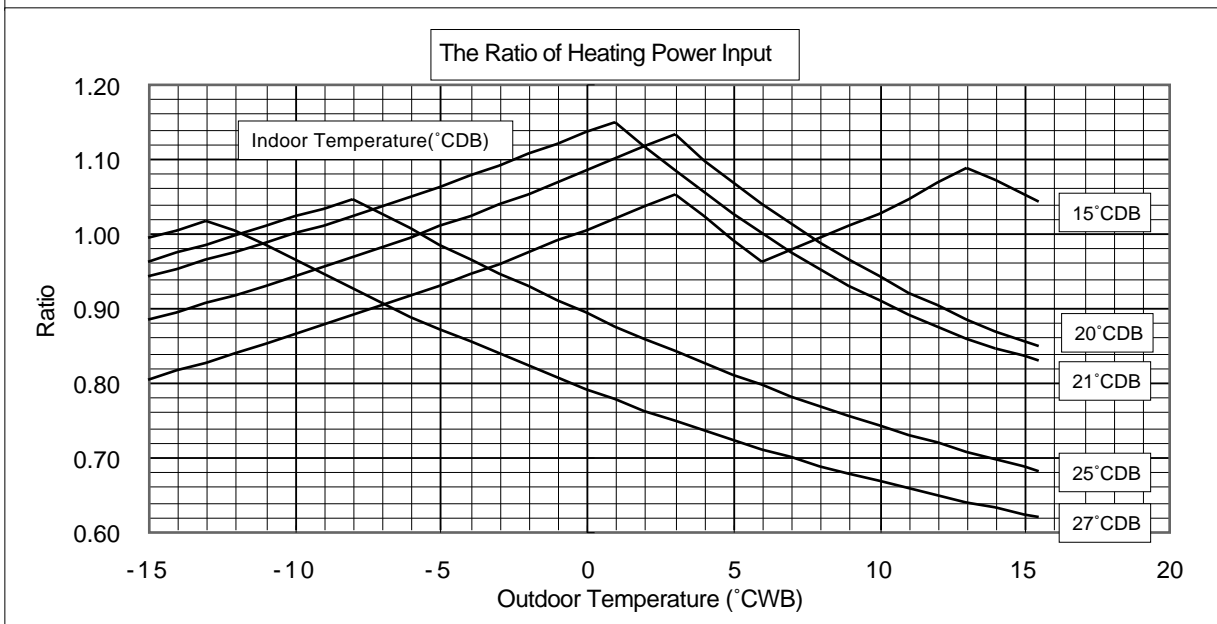
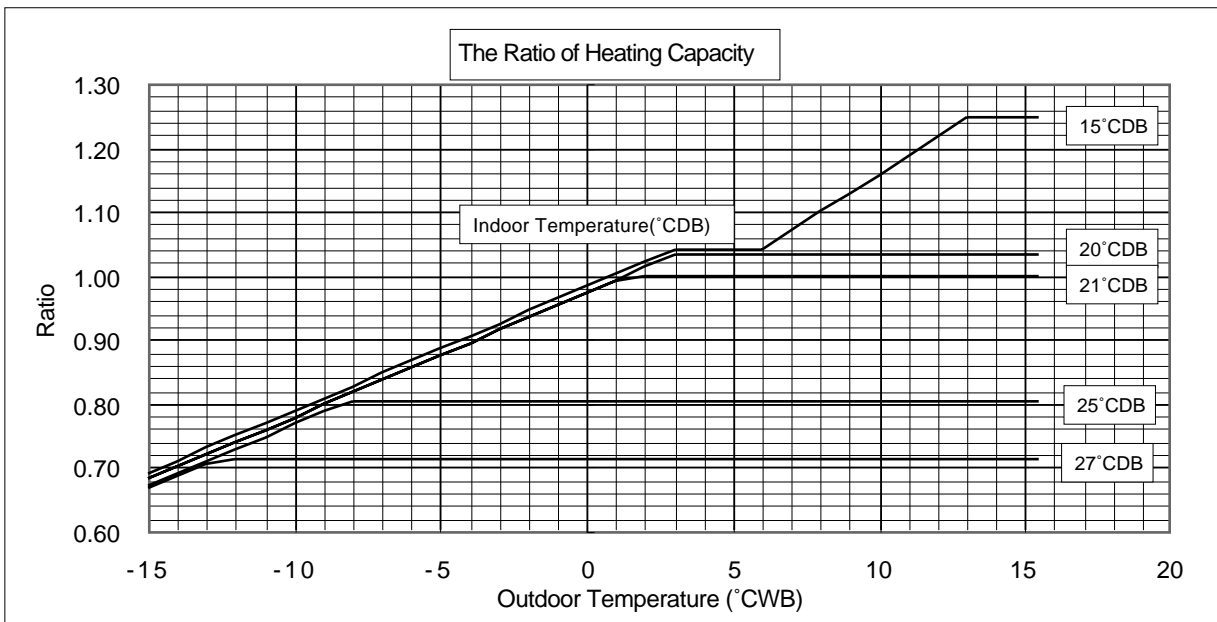
Capacity' = Capacity X Ratio

Input' = Input X Ratio

Current' = $\frac{\text{Input}' \times 1000}{\sqrt{3} \times \text{Source} \times 0.91}$

*Capacity'
 Input'
 Current'

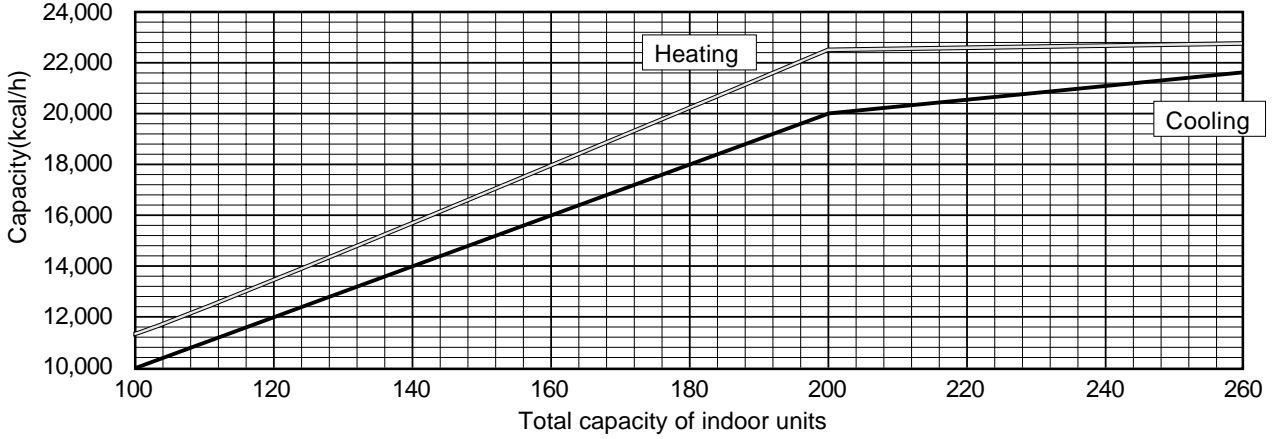
} After correction



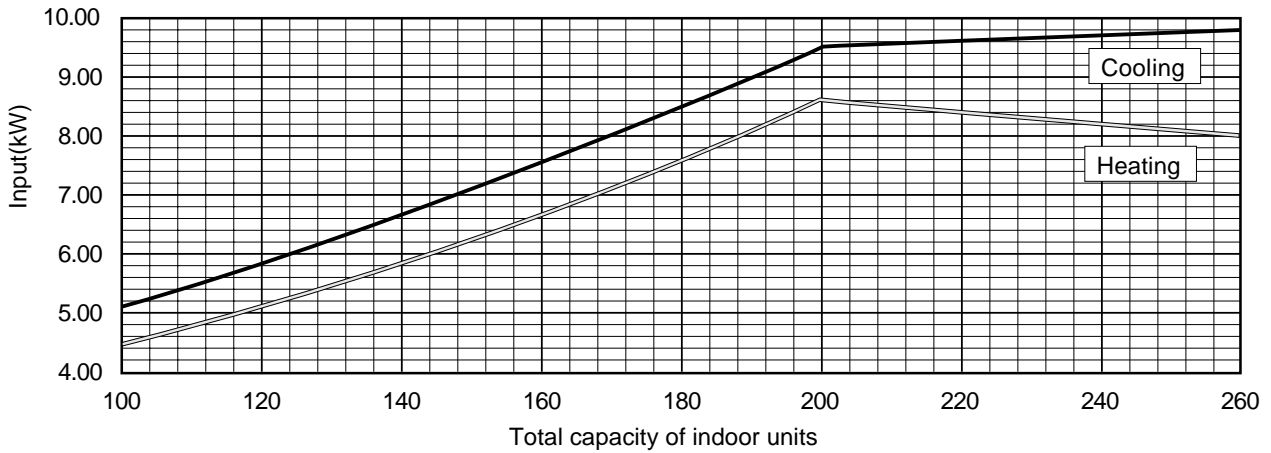
2-2. Correction by total indoor

PUHY-P200YMF-B

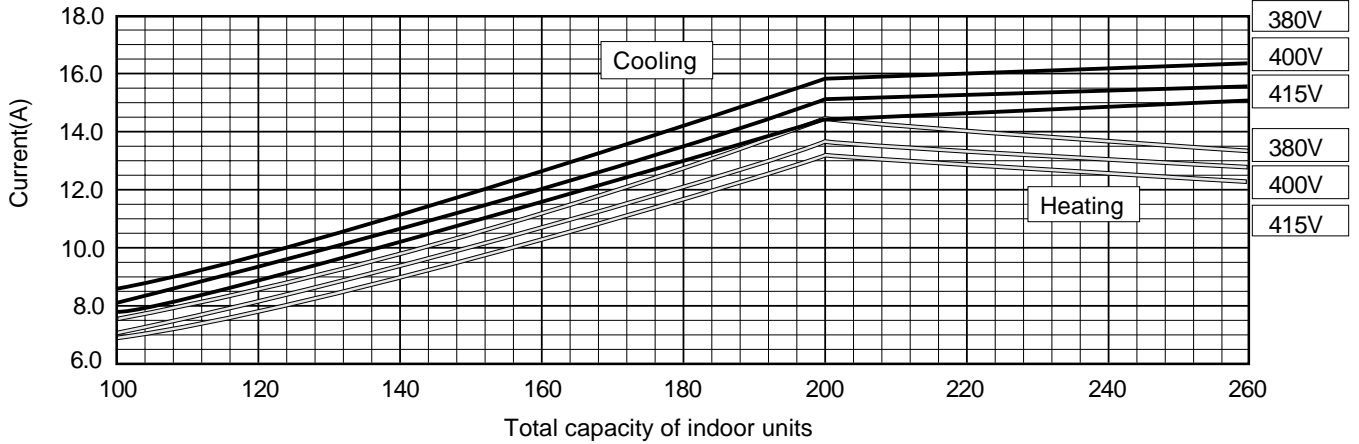
1) Capacity



2) Input

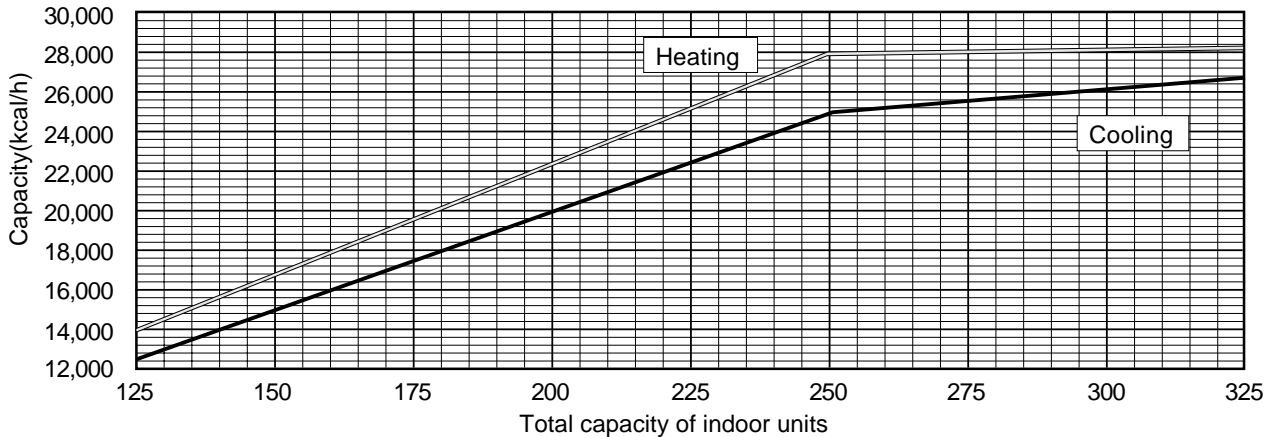


3) Current

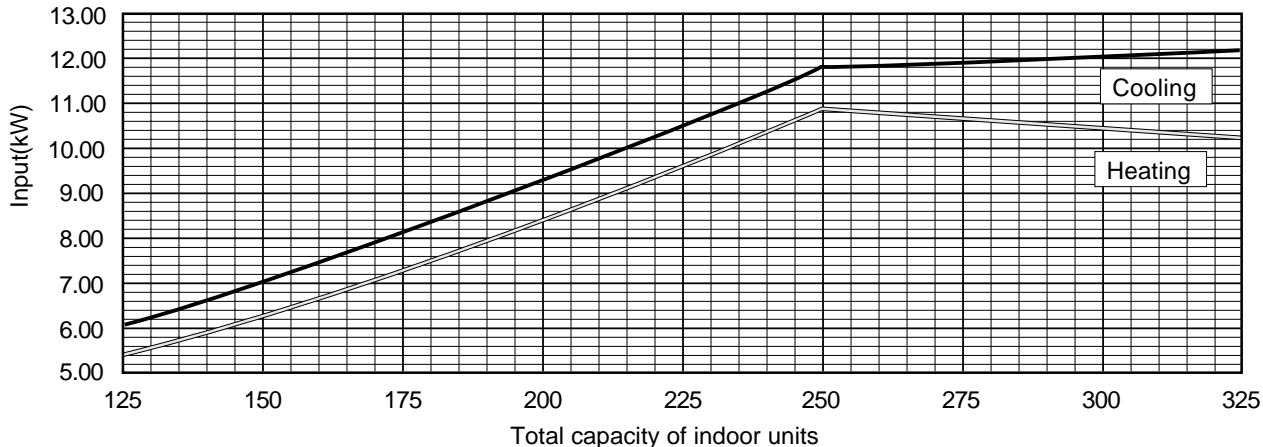


PUHY-P250YMF-B

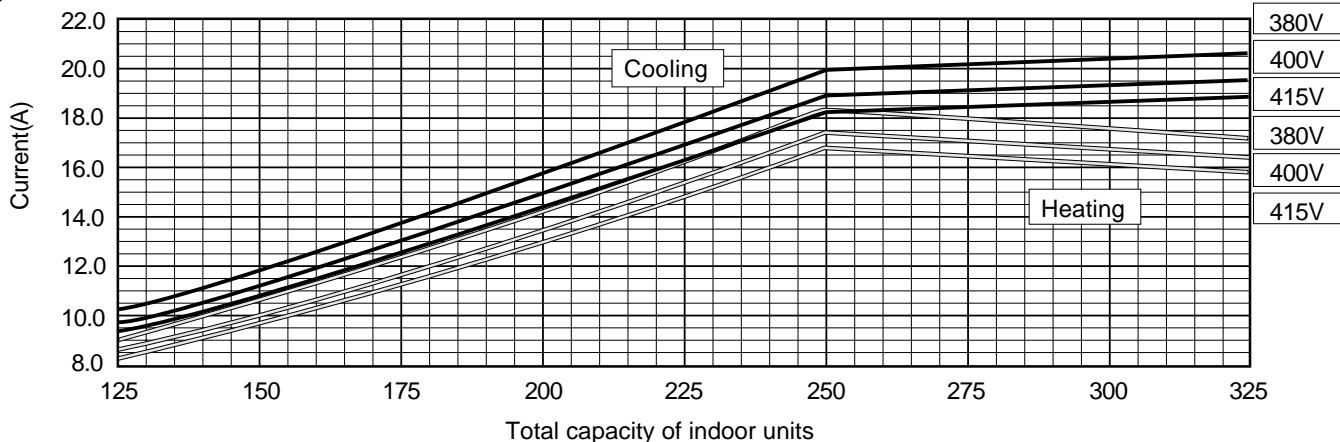
1) Capacity



2) Input



3) Current

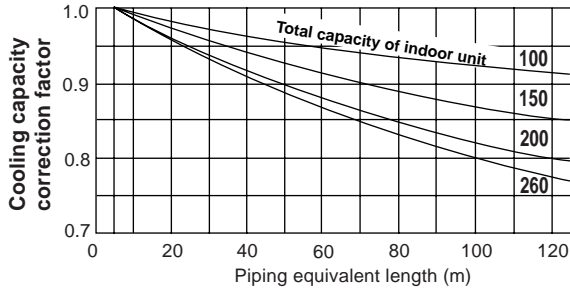


2-3 Correction by refrigerant piping length

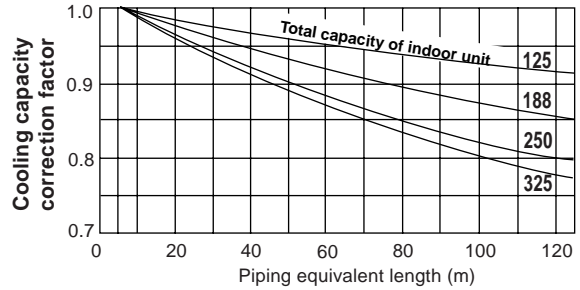
To obtain a decrease in cooling/heating capacity due to refrigerant piping extension, multiply by the capacity correction factor based on the refrigerant piping equivalent length in the table below.

• Cooling capacity correction

PUHY-P200YMF-B

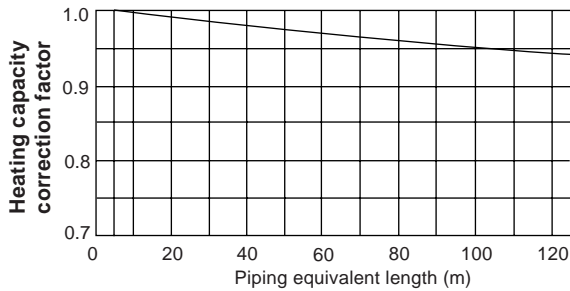


PUHY-P250YMF-B

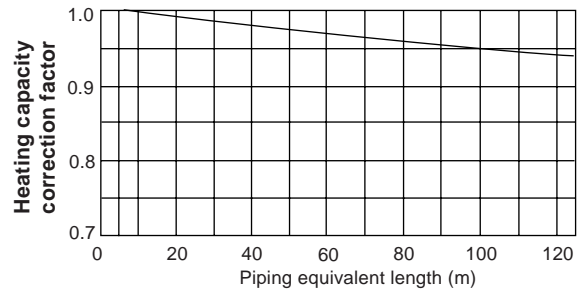


• Heating capacity correction

PUHY-P200YMF-B



PUHY-P250YMF-B



• How to obtain piping equivalent length

① PUHY-P200YMF-B

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

② PUHY-P250YMF-B

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

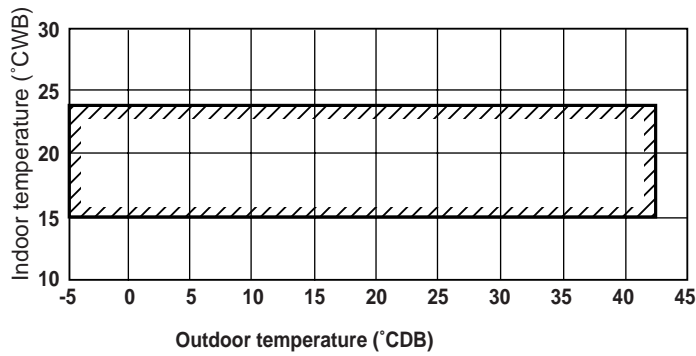
When a decrease in heating capacity due to frosted and defrosting operations is considered, the value multiplied by the correction factor in the table below represents the heating capacity.

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

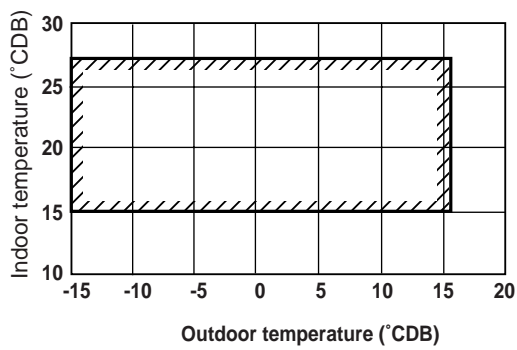
2-5 Operation limit

• Cooling



(Outdoor door temperature : 10°CDB~43°CDB with outdoor unit at lower position in cooling mode.)

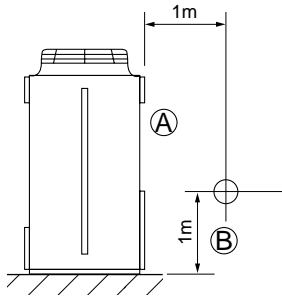
• Heating



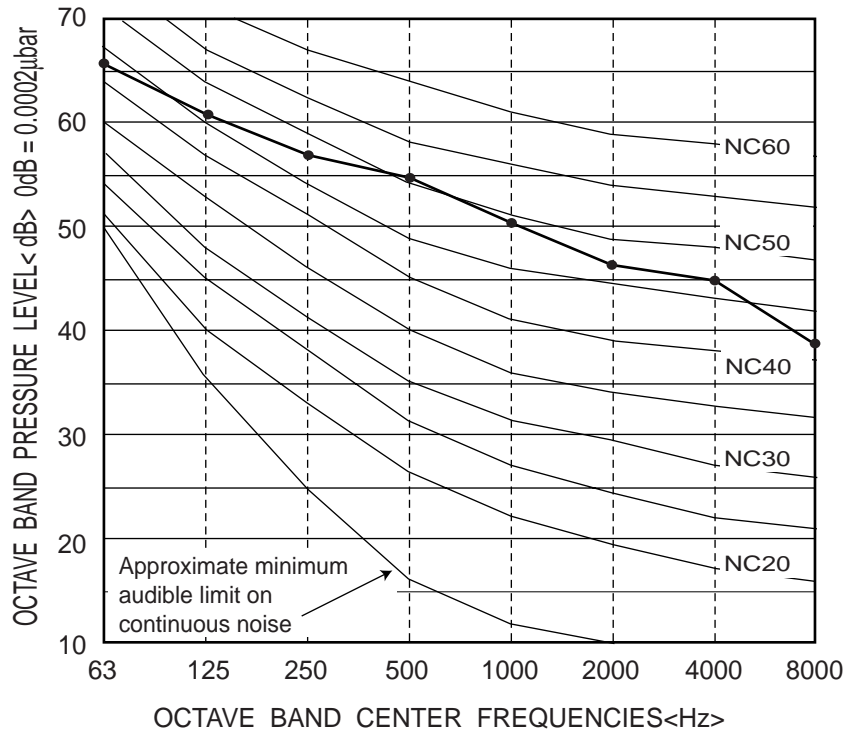
3. Sound levels

PUHY-P200YMF-B

Measurement condition

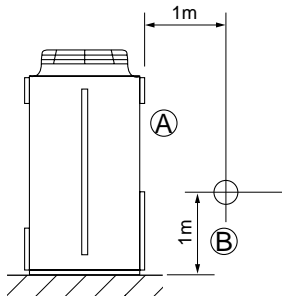


Sound pressure level in anechoic room
57 dB (A)

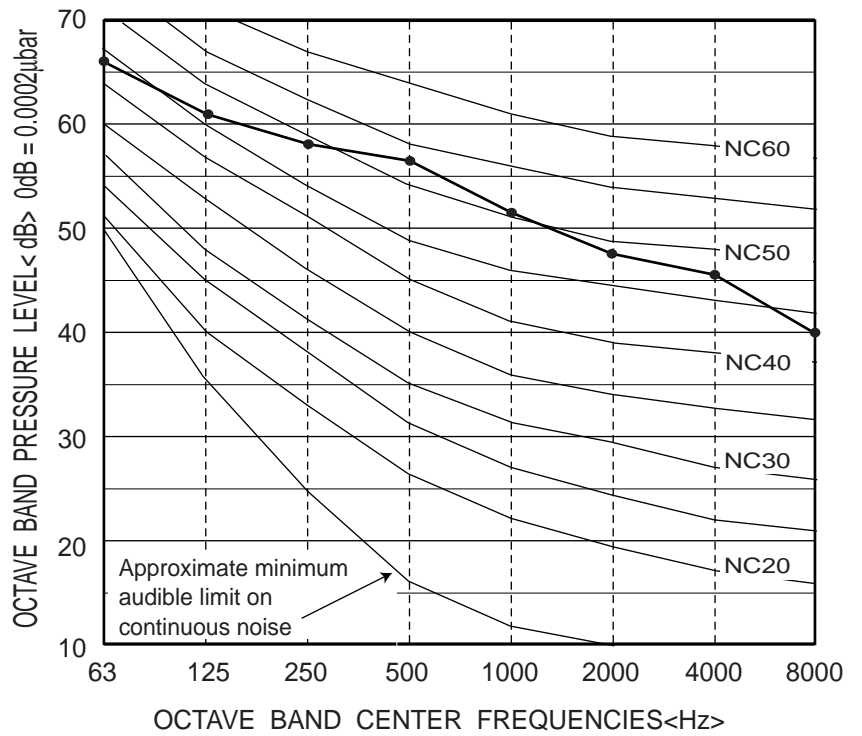


PUHY-P250YMF-B

Measurement condition



Sound pressure level in anechoic room
58 dB (A)

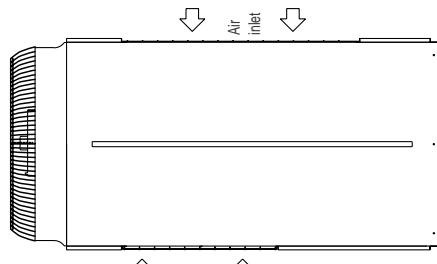
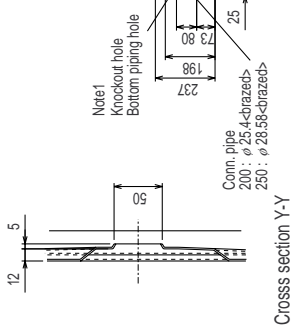
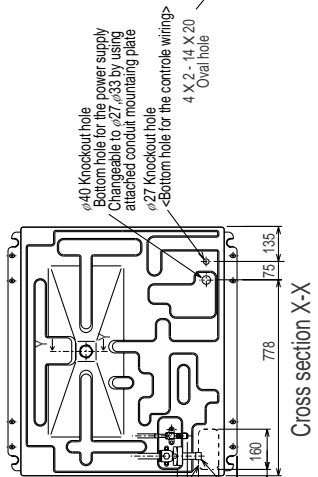
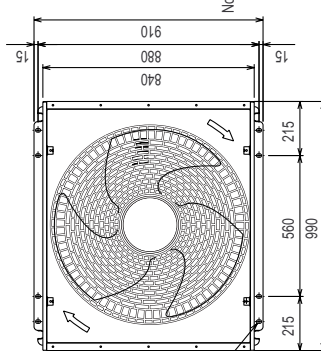


4. External dimensions

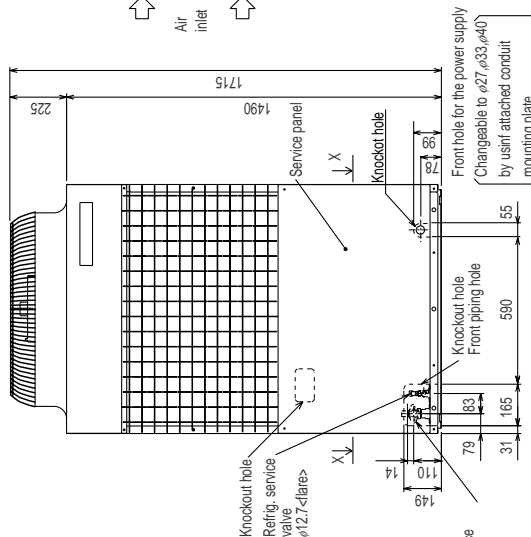
PUHY-P200,250YMF-B

Unit : mm

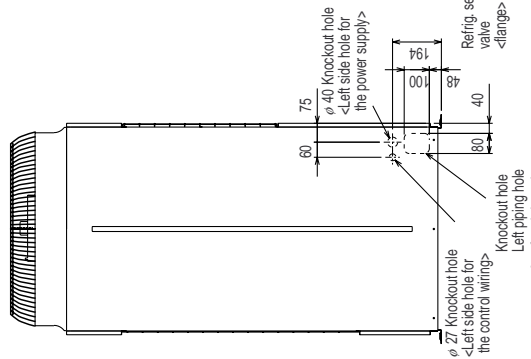
- < Accessory >
- Refrigerant Gas(Low press.) conn. pipe 1 pc.
(The connecting pipe is fixed with the unit)
 - Packing for conn. pipe 1 pc.
(Attached near the ball valve)
 - Conduit mounting plate
(Painted the same color as the unit body)
 - $\phi 40, \phi 33, \phi 27$ each 1 pc.
 - Tapping screw 4 X 10 2 pcs.
 - The wire mounting plate 1 pc.
- Note
- 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)



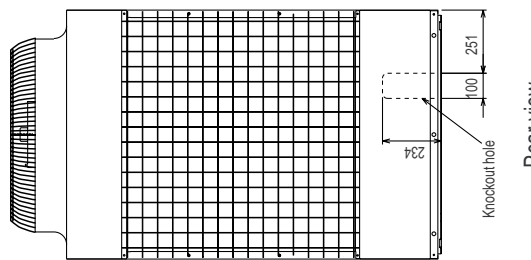
Right side view



Front view



Left side view



Rear view

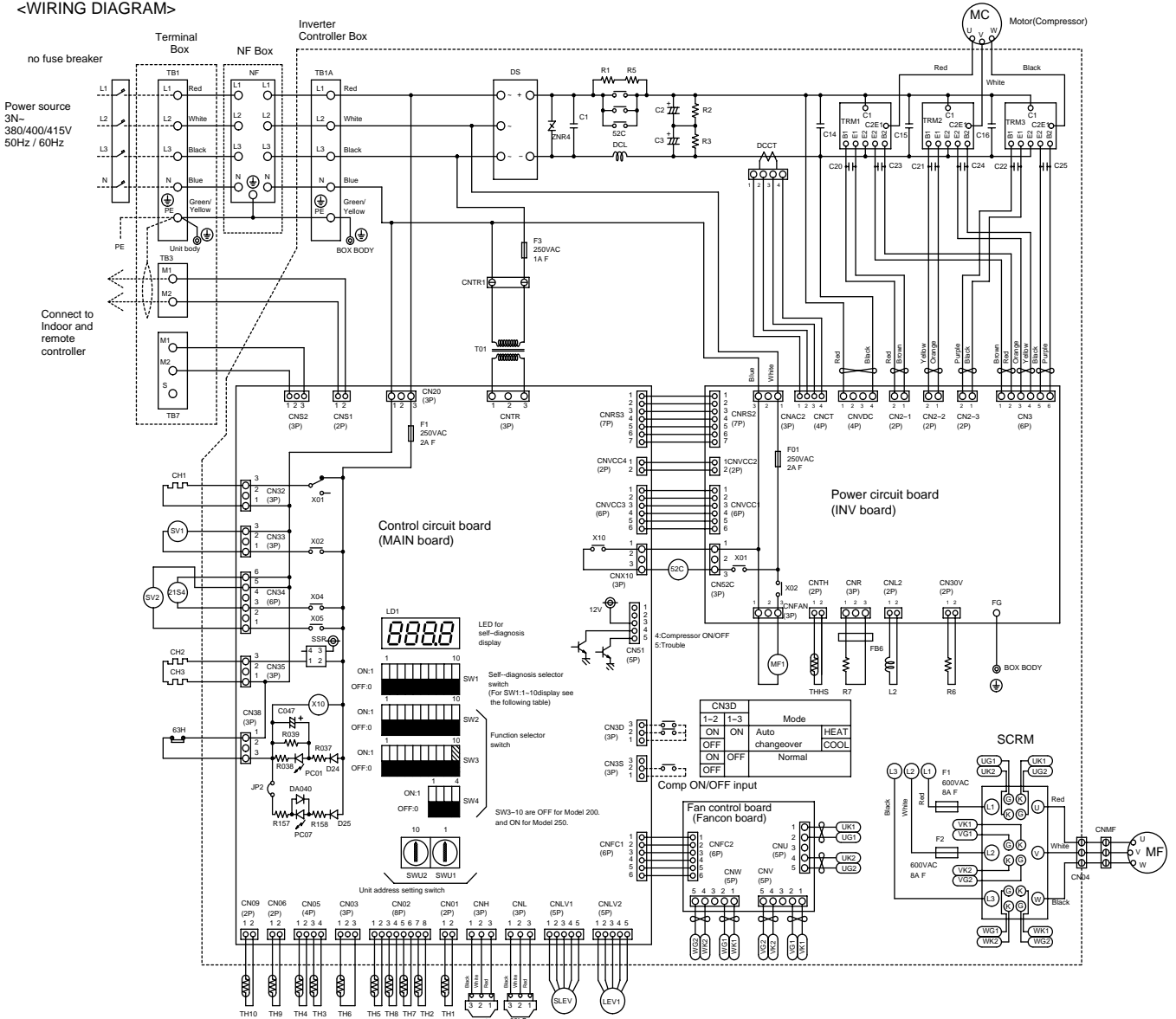
PUHY-P

5. Electrical Wiring Diagram

PUHY-P200, 250YMF-B

PUHY-P

<WIRING DIAGRAM>

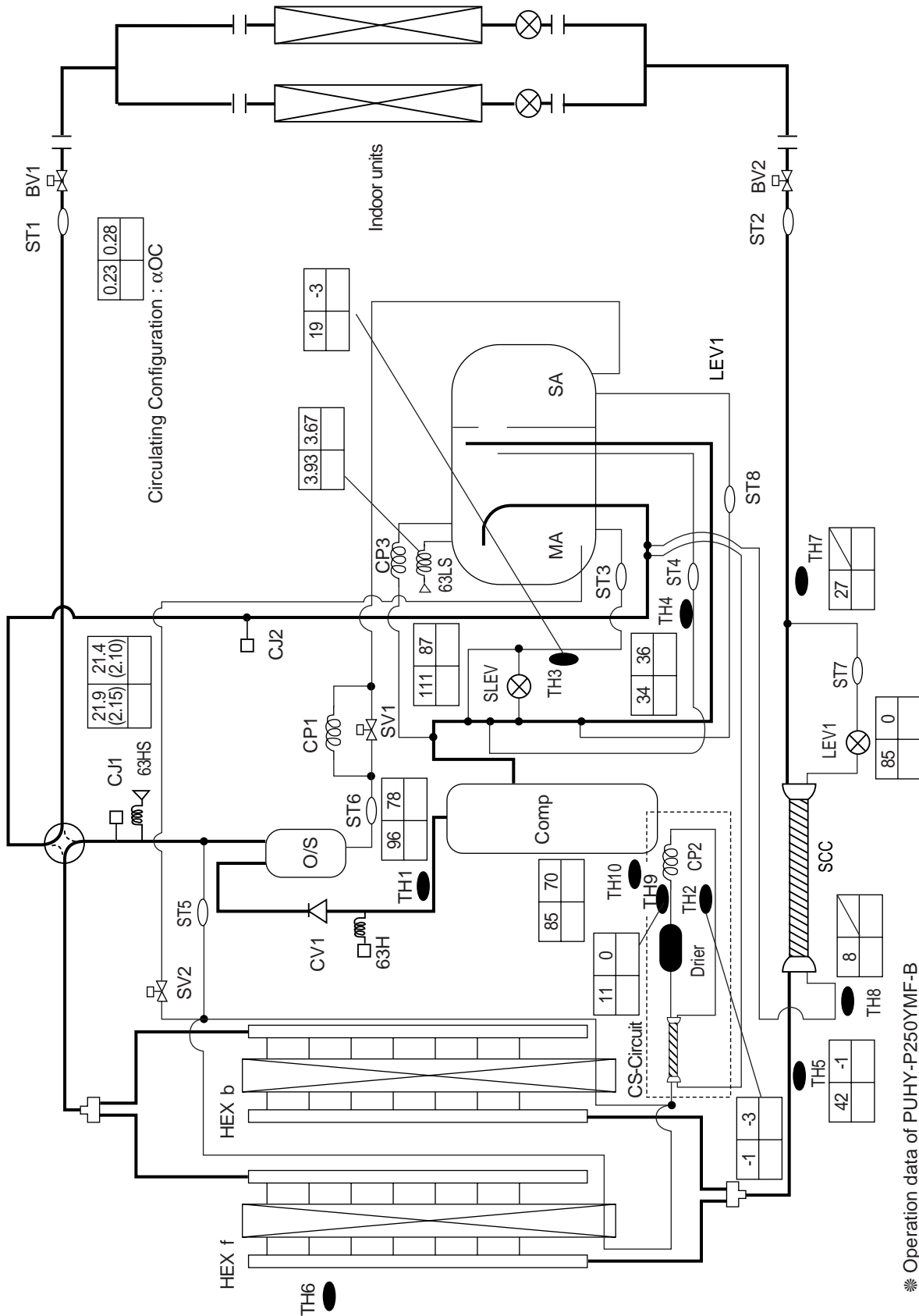


<SYMBOL EXPLANATION>

Symbol	Name	Symbol	Name	Symbol	Name	Symbol	Name
DCL	DC reactor (Power factor improvement)	SSR	Solid state relay	63H	High pressure switch	FB6	Ferrite core
DCCT	Current Sensor	T1	Transformer (Control circuit power source)	TH1	Thermistor	F1-3	Fuse
R1,R5	Resistor	CH1	Crankcase heater(Compressor)	TH2	Discharge pipe temp. detect	SW1	Switch
R2,R3	Resistor	CH2,CH3	Cord heater (Accumulator liquid level detect)	TH3	Saturation evapo. temp. detect	SW2,3,4	Function selection
R6	Resistor	21S4	4-way valve	TH4	Accumulator liquid temp. detect	SWU1-2	Unit address set
R7	Resistor	SV1,SV2	Solenoid valve (Discharge-suction bypass)	TH5	Pipe temp. detect	TB1(A)	Terminal block
ZNR4	Varistor	LEV1	Electronic expansion valve (Sub-cool coil bypass)	TH6	OA temp. detect	TB3	Terminal block
C1,14,15,16	Capacitor	SLEV	Electronic expansion valve (Oil return)	TH7	liquid outlet temp. detect at Sub-cool coil	TB7	Terminal block
C2,C3	Capacitor	63HS	High pressure sensor	TH8	bypass outlet temp. detect at Sub-cool coil	CNCT	Connector
52C	Magnetic contactor (Inverter main circuit)	63LS	Low pressure sensor	TH9	High pressure liquid temp.	CNRS2,3,4	Current
MC	Motor	L2	Choke coil(Transmission)	TH10	Compressor shell temp.	CNVCC2,4	Voltage
MF1	Fan	DS	Diode stack	THHS	Radiator panel temp. detect	CNVCC1,3	Voltage
MF	Heat exchanger (with inner thermostat)	TRM1-3	Power transistor module	X1,2,4,5,10	Aux. relay	CNFC1,2	Phase control signal
		NF	Noise Filter	LD1	Luminous diode	⊕	Earth terminal
				C20-25	Surge killer	⊖	Relay connector

6. Refrigerant circuit diagram and Thermal sensor

PUHY-P200, 250YMF-B



※ Operation data of PUHY-P250YMF-B

Standard operation data are shown for cooling in the C column and for heating in the H column.

TH1~TH5, TH7~TH10 : °C

LEV1, SLEV : pulse

HPS, LPS : kg/cm²G (MPa)

C	H
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PUHY-P

