OUTDOOR UNITS

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Model			PUMY-P36NHMU(-BS)	PUMY-P48NHMU(-BS)
Power source			1-phase 208-230 V 60Hz	
Cooling capacity (Nominal)	*1	BTU / h	36,000	48,000
	*1	kW	10.6	14.1
	Power input	kW	3.22	4.97
	Current input(208-230)	A	14.23-15.74	24.0-21.7
	COP (kW / kW)		3.29	2.83
Temp. range of cooling	Indoor		59 to 75 degFW.B. (15 to 24 degCW.B.)	
	Outdoor		23 to 115 degFD.B. (-5 to 46 degCD.B.) 50 to 115 degFD.B.(10 to 46 degCD.B.) : in case of connecting PKFY-P06/P08 type indoor unit.	
Heating capacity (Nominal)	*2	BTU / h	40,000	54,000
	*2	kW	11.7	15.8
	Power input	kW	2.93	4.88
	Current input(208-230)	A	12.88-14.24	23.6-21.3
	COP (kW / kW)		3.99	3.23
Temp. range of heating	Indoor		59 to 81 degFD.B. (15 to 27 degCD.B.)	
	Outdoor		0 to 60 degFW.B. (-18 to 15.5 degCW.B.)	
Indoor unit connectable	Total capacity		50-130% of outdoor unit capacity	50-130% of outdoor unit capacity
	Model / Quantity		P06-P36 / 1-6	P06-P54 / 1-8
Sound pressure level (measured in anechoic room)		dB <A>	49 / 51	50 / 52
Diameter of refrigerant pipe (O.D.)	Liquid (High press.)	in. (mm)	3/8 (9.52) Flare (total length>=393ft. (120m))	3/8 (9.52) Flare (total length>=393ft. (120m))
	Gas (Low press.)	in. (mm)	5/8 (15.88) Flare	5/8 (15.88) Flare
External finish			Galvanized sheets(+power coating for -BS type) <MUNSELL 3Y 7.8/1.1>	
External dimension H x W x D		in.	53-5/32 x 37-13/32 x 13	53-5/32 x 37-13/32 x 13
		mm	1,350 x 950 x 330	1,350 x 950 x 330
Net weight		lbs(kg)	287 (130)	287 (130)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Compressor	Type		Inverter scroll hermetic comp.	Inverter scroll hermetic comp.
	Manufacturer		SHIZUOKA Works,MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	2.4	2.4
	Case heater	kW	-	-
	Lubricant		FV50S	FV50S
FAN	Airflow rate	cfm	3,530	3,530
		m3 / min	100	100
		L / s	1,667	1,667
	External static press.	in.WG(Pa)	0 (0)	0 (0)
	Type x Quantity		Propeller fan x 2	Propeller fan x 2
	Control, Driving mechanism		DC-control , Direct-driven	DC-control , Direct-driven
	Motor output	kW	0.086 x 2	0.086 x 2
HIC circuit (HIC: Heat Inter-Changer)			-	
Protection	High pressure protection		High pressure sensor, High pressure switch 601 psi (4.15 MPa)	
	Inverter circuit (COMP. , FAN)		Over-current protection,Over-heat protection	
	Compressor		Discharge thermo protection,Over-current protection	
	Fan motor		Over-heat protection,Voltege protection	
Defrosting method			Auto-defrost mode (Reversed refrigerant circle)	
Refrigerant	Type x Original charge	lbs + oz (kg)	R410A x (18 lbs + 12 oz) (8.5kg)	R410A x (18 lbs + 12 oz) (8.5kg)
	Control		indoor LEV	
Drawing	External		BK01B409	
	Wiring		RG79V166	
	Refrigerant cycle		-	
Standard attachment	Document		Installation Manual	
	Accessory		Grounded lead wire x 2 , Conduit plate	
Optional parts			Joint : CMY-Y62-G-E Header:CMY-Y64/68-G-E	
Remark			1.Details on foundation work,duct work,insulation work,electrical wiring,power source switch,and other items shall be referred to the Installation Manual. 2.Only one indoor unit of Fresh Air type is connected with one outdoor unit.	

Note :

	*1 Nominal cooling conditions	*2 Nominal heating conditions
Indoor :	80degF D.B. / 67degF W.B.	70degF D.B.
	(26.7degC D.B. / 19.4degC W.B.)	(21.1degC D.B.)
Outdoor :	95degF D.B.	47degF D.B. / 43degF W.B.
	(35degC D.B.)	(8.3degC D.B. / 6.1degC W.B.)
Pipe length :	25 ft. (7.6 m)	25 ft. (7.6 m)
Level difference :	0 ft. (0 m)	0 ft. (0 m)

2. Works not included :

Installation/foundation work, electrical connection work,duct work, insulation work, power source switch, and other items are not specified in this specifications.

Unit converter

kcal/h = kW x 860
BTU/h = kW x 3,412
cfm = m3/min x 35.31
lbs = kg / 0.4536

*Above specification data is subject to rounding variation.

Ref.: PUMY_NHMU_SPC_P36-48

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Outdoor Model			PUMY-P60NKMU(-BS)
Power source			1-phase 208-230 V -5%~+10% 60 Hz
Cooling capacity	*1	BTU/h	60,000
(Nominal)	*1	kW	17.5
	Power input	kW	4.80
	Current input	A	21.5
	COP	BTU/h/kW	12.5
Temp. range of	Indoor	W.B.	59~75°F (15~24°C)
cooling	Outdoor	D.B.	23~115°F (-5~46°C)
Heating capacity	*2	BTU/h	66,000
(Nominal)	*2	kW	19.3
	Power input	kW	6.15
	Current input	A	27.6
	COP	BTU/h/kW	3.14
Temp. range of	Indoor	D.B.	59~81°F (15~27°C)
heating	Outdoor	W.B.	-4~60°F (-20~15.5°C)
Indoor unit	Total capacity		50~130% of outdoor unit capacity
connectable	Model/Quantity		P06~P72/1~12
Sound pressure level (measured in anechoic room)		dB <A>	58.0/59.0
Refrigerant	Liquid pipe	in. (mm)	3/8 (9.52) Flare
piping diameter	Gas pipe	in. (mm)	3/4 (19.05) Flare
Minimum Circuit Ampacity		A	35
Maximum Overcurrent Protection		A	42
FAN	Type x Quantity		Propeller fan x 2
	Airflow rate	cfm	4,940
		m^3/min	140
		L/s	2,340
	Control, Driving mechanism		DC-control, Direct-driven by motor
	Motor output	kW	0.16+0.16
*3	External static press.		0 in.WG (0 Pa)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1
	Manufacture		SHIZUOKA Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	3.0
	Case heater	kW	-
	Lubricant		FV50S
External finish			Galvanized steel sheets(+power coating for -BS type) <MUNSELL 3Y 7.8/1.1>
External dimension H x W x D		in.	52-11/16 × 41-11/32 × 13 (+1-3/16)
		mm	1,338 × 1,050 × 330 (+30)
Protection devices	High pressure protection		High pressure switch at 4.14 MPa (600 psi)
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
	Fan motor		Over-heat protection, Voltage protection
Refrigerant	Type x original charge		R410A x 11.2 lbs (5.1 kg)
	Control		LEV and HIC circuit
Net weight		lbs (kg)	313 (142)
Heat exchanger			Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)
Drawing	External		NKM-BK01-J606
	Wiring		NKM-BH79-B597
Standard	Document		Installation Manual
attachment	Accessory		Grounded lead wire × 2, Conduit plate
Optional parts			joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Due to continuing improvement, above specifications may be subject to change without notice.

Notes:

1.Cooling conditions (Test conditions are based on AHRI 210/240)
Indoor: 80°FD.B./67°FW.B. (26.7°CD.B./19.4°CW.B.), Outdoor: 95°FD.B. (35°CD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2.Heating conditions (Test conditions are based on AHRI 210/240)
Indoor: 70°FD.B. (21.1°CD.B.), Outdoor: 47°FD.B./43°FW.B. (8.3°CD.B./6.1°CW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
3.External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

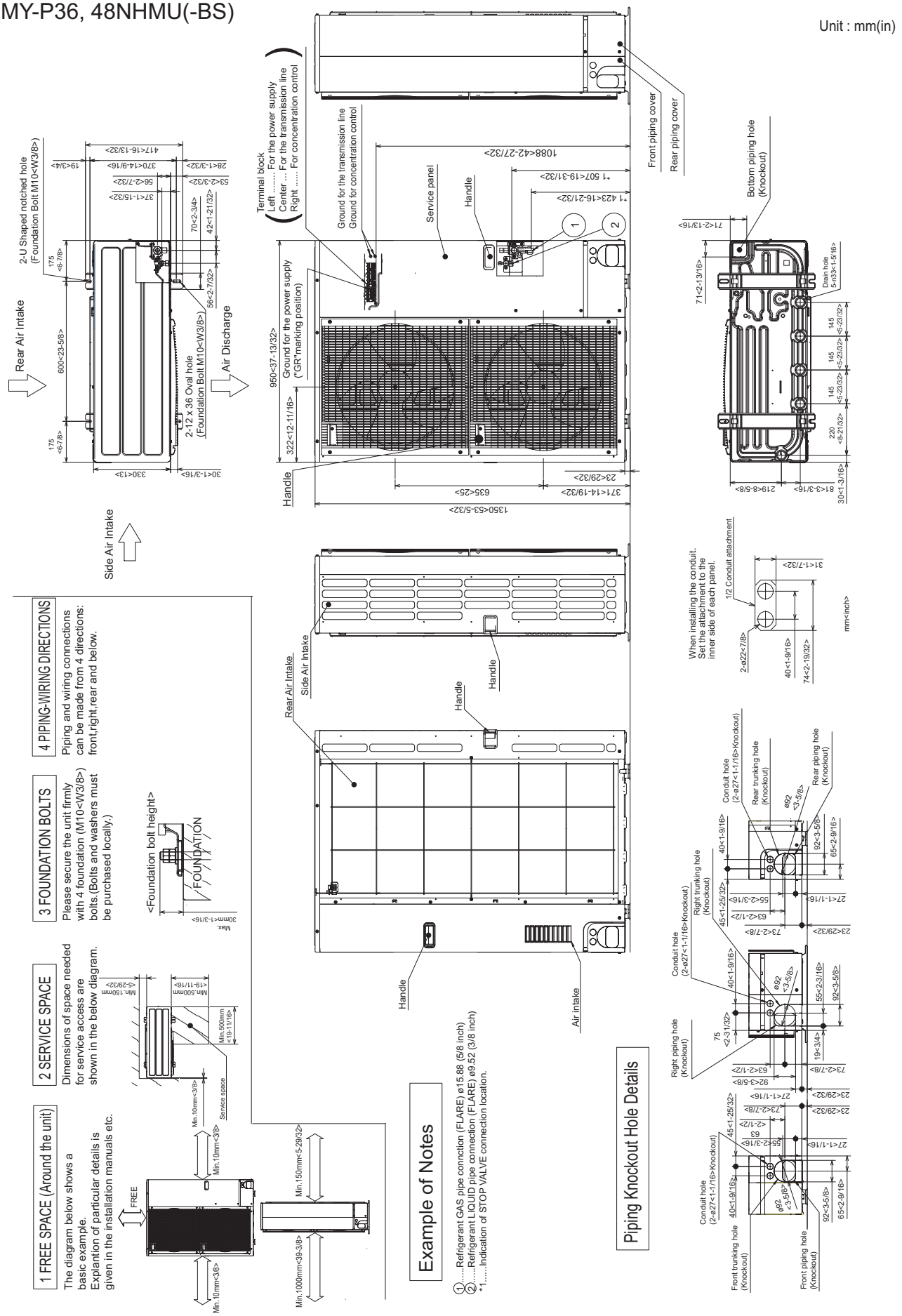
Unit converter

BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lbs	=kg /0.4536

*Above specification data is subject to rounding variation.

PUMY-P36, 48NHMU(-BS)

Unit : mm(in)



1 FREE SPACE (Around the unit)

The diagram below shows a basic example. Explantion of particular details is given in the installation manuals etc.

2 SERVICE SPACE

Dimensions of space needed for service access are shown in the below diagram.

3 FOUNDATION BOLTS

Please secure the unit firmly with 4 foundation (M10<W3/8>) bolts.(Bolts and washers must be purchased locally.)

4 PIPING-WIRING DIRECTIONS

Piping and wiring connections can be made from 4 directions: front,right,rear and below.

Example of Notes

①.....Refrigerant GAS pipe connction (FLARE) ø15.88 (5/8 inch)
②.....Refrigerant LIQUID pipe connection (FLARE) ø9.52 (3/8 inch)
*1.....Indication of STOP VALVE connection location.

Piping Knockout Hole Details

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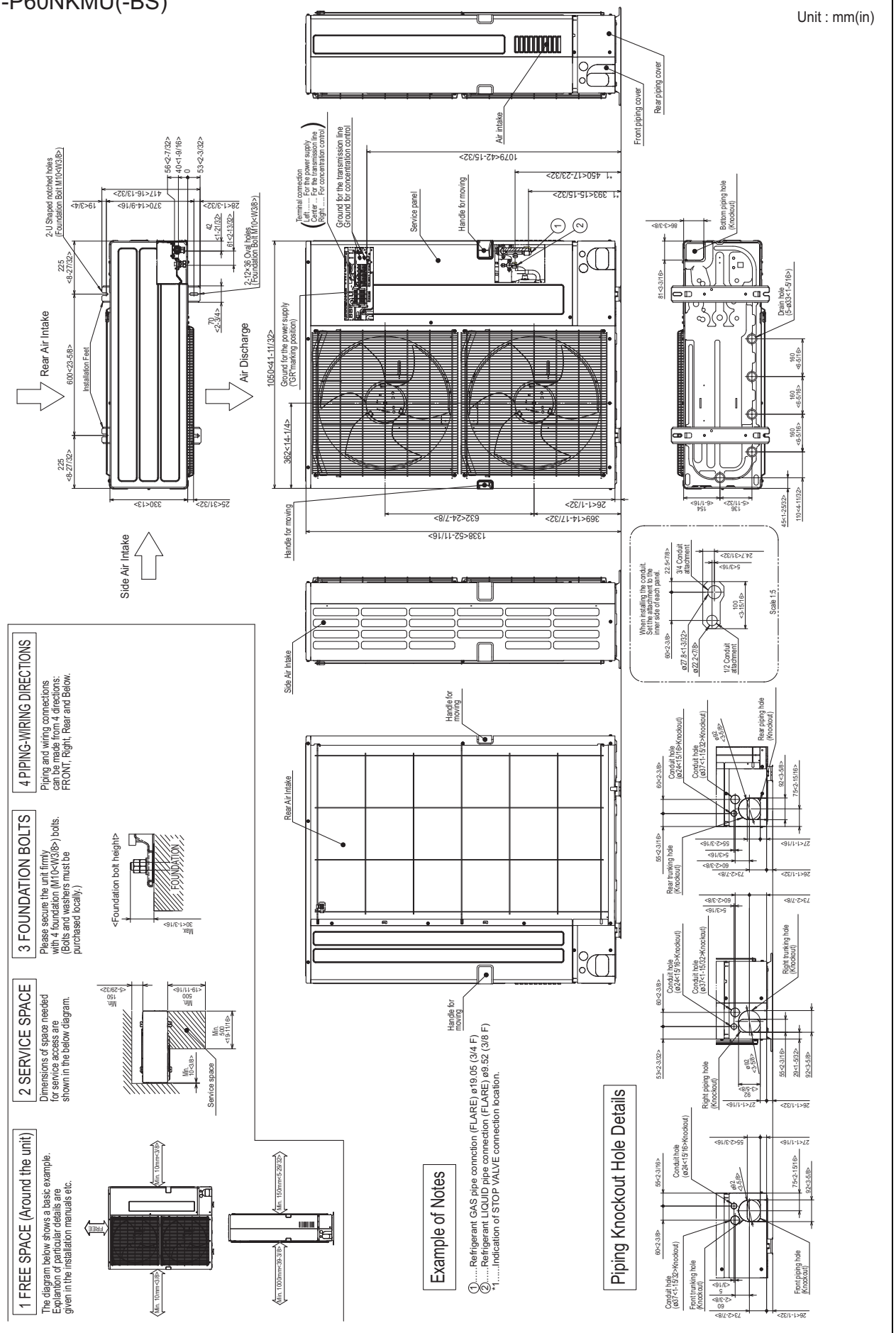
PUMY-P60NKMU(-BS)

Unit : mm(in)



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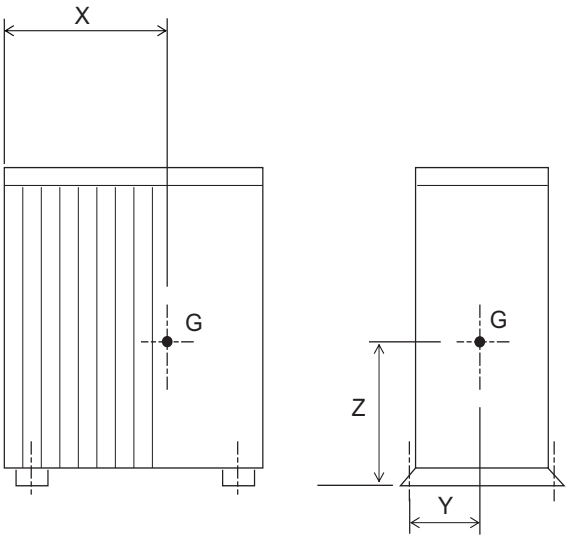
PUMY-P36, 48NHMU(-BS)

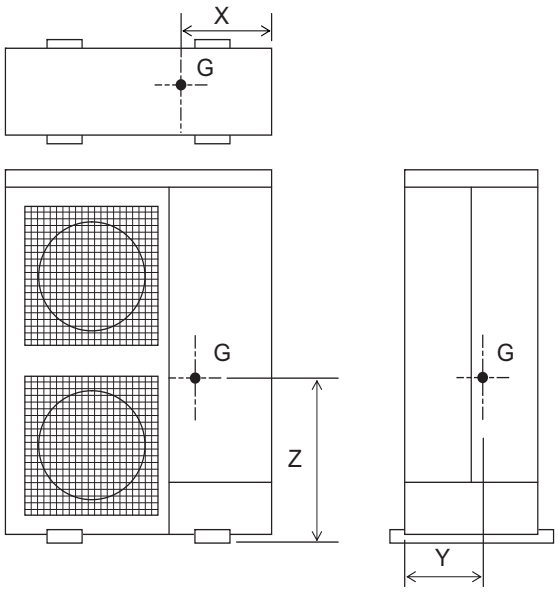
Unit : mm[in.]



Model	X	Y	Z
PUMY-P36NHMU	590(23-1/4)	185(7-5/16)	500(19-11/16)
PUMY-P48NHMU	590(23-1/4)	185(7-5/16)	500(19-11/16)

PUMY-P60NKMU(-BS)

Unit : mm[in.]



Model	X	Y	Z
PUMY-P60NKMU	385(15-3/16)	175(6-15/16)	507(20)

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PUMY-P36, 48NHMU(-BS)

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block <Power Supply>	P.B.	Power Circuit Board	SW6	Switch<Function Selection>
TB3	Terminal Block <Comunication Line>	TABU/V/W	Connection Terminal<U/V/W-Phase>	SW7	Switch<Function Selection>
TB7	Terminal Block <Centralized Control Line>	TABS/T	Connection Terminal<L/N-Phase>	SW8	Switch<Function Selection>
MC	Motor For Compressor	TABP1/P2/P	Connection Terminal<DC Voltage>	SWU1	Switch<Unit Address Selection, 1st digit>
MF1,MF2	Fan Motor	TABN1/N2/N	Connection Terminal<DC Voltage>	SWU2	Switch<Unit Address Selection, 2nd digit>
21S4	Solenoid Valve<Four-Way Valve>	DS2,DS3	Diode Bridge	CNLVB	Connector<To N.F. Board CN52C> (Symbol of Board is CNLVB)
63H	High Pressure Switch	IPM	Power Module		
63L	Low Pressure Switch	N.F.	Noise Filter Circuit Board	SS	Connector<Connection For Option>
63HS	High Pressure Sensor	LI/LO	Connection Terminal<L-Phase>	CN3D	Connector<Connection For Option>
SV1	Solenoid Valve<Bypass valve>	NI/NO	Connection Terminal<N-Phase>	CN3S	Connector<Connection For Option>
TH3	Thermistor<Outdoor Pipe>	EI,E2	Connection Terminal<Ground>	CN3N	Connector<Connection For Option>
TH4	Thermistor<Discharge>	52C	52C Relay	CN51	Connector<Connection For Option>
TH6	Thermistor<Low Pressure Saturated>	C.B.	Controller Circuit Board	LED1,LED2	LED<Operation Inspection Display>
TH7	Thermistor<Outdoor>	SW1	Switch<Display Selection>	LED3	LED<Power Supply to Main Microcomputer>
TH8	Thermistor<Heatsink>	SW2	Switch<Function Selection>	F1,F2	Fuse<T6,3AL250V>
DCL	Reactor	SW3	Switch<Test Run>	X501~505	Relay
ACTM	Active Filter Module	SW4	Switch<Model Selection>	M-NET P.B.	M-NET Power Circuit Board
CE	Main Smoothing Capacitor	SW5	Switch<Function Selection>	TP1	ConnectionTerminal<Ground>

Caution for electrical work

Use copper supply wires.

Cautions when Servicing

- ⚠WARNING: When the main supply is turned off, the voltage [340 V] in the main capacitor will drop to 20 V in approx. 2 minutes (input voltage: 240 V). When servicing, make sure that LED1, LED2 on the outdoor circuit board goes out, and then wait for at least 1 minute.
- Components other than the outdoor board may be faulty: Check and take corrective action, referring to the service manual. Do not replace the outdoor board without checking.

NOTES:

1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.

Self-diagnosis function

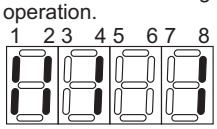
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch (SW1) and LED1, LED2 (LED indication) found on the multi-controller of the outdoor unit.

LED indication : Set all contacts of SW1 to OFF.

- During normal operation
- The LED indicates the drive state of the controller in the outdoor unit.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	(SV2)	-	-	Always lit

[Example]
When the compressor and SV1 are turned during cooling operation.



- When fault requiring inspection has occurred

The LED alternately indicates the inspection code and the location of the unit in which the fault has occurred.

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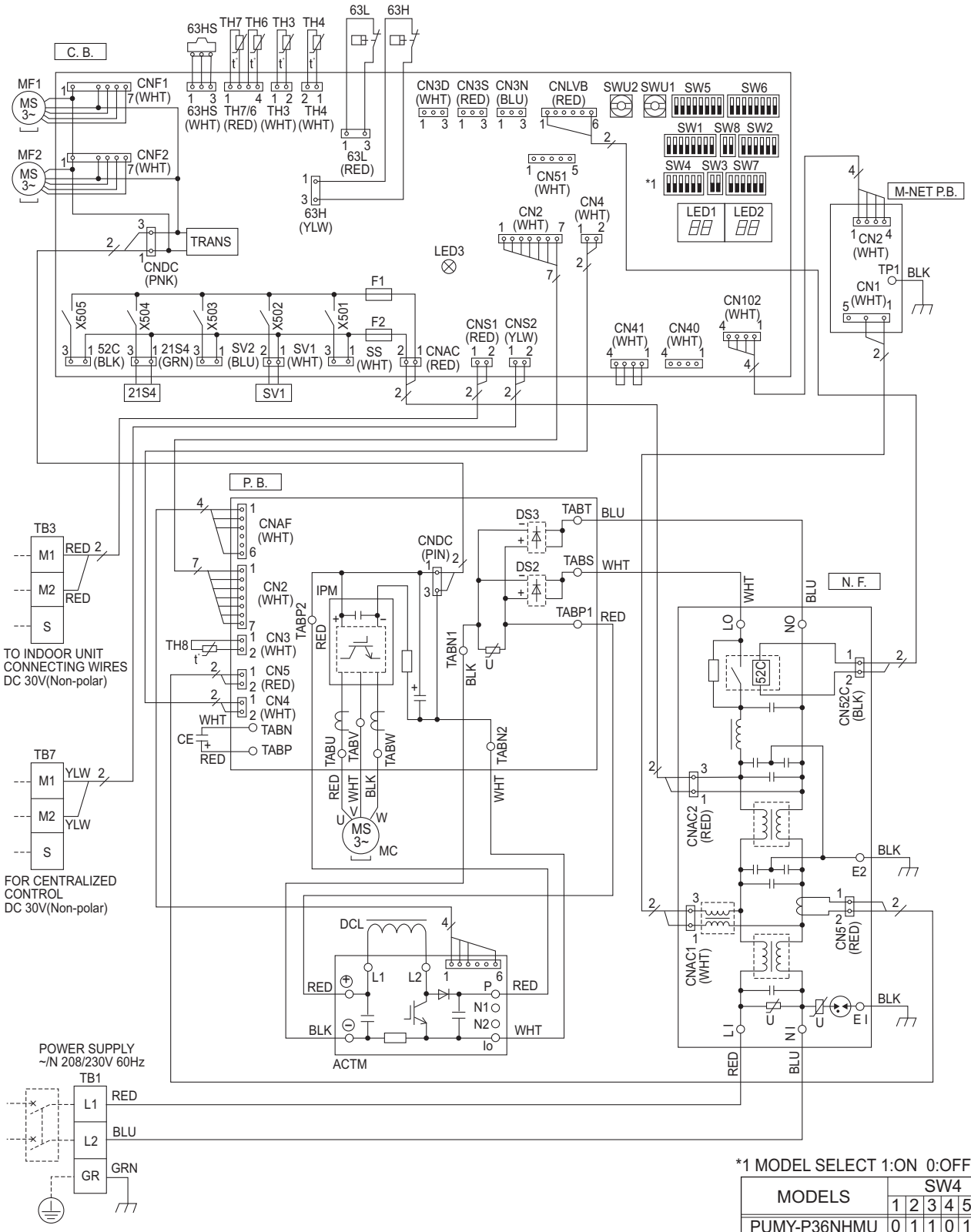
PUMY-P36, 48NHMU(-BS)



*1 MODEL SELECT 1:ON 0:OFF

MODELS	SW4					
	1	2	3	4	5	6
PUMY-P36NHMU	0	1	1	0	1	0
PUMY-P48NHMU	0	1	1	0	0	1

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PUMY-P60NKMU(-BS)

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block 〈Power Supply〉	DCL	Reactor	SW7	Switch 〈Function Selection〉
TB3	Terminal Block 〈Comunication Line〉	CB	Main Smoothing Capacitor	SW8	Switch 〈Model Selection〉
TB7	Terminal Block 〈Centralized Control Line〉	P.B.	Power Circuit Board	SWU1	Switch 〈Unit Address Selection, 1st digit〉
MC	Motor For Compressor	TABU/V/W	Connection Terminal 〈U/V/W-Phase〉	SWU2	Switch 〈Unit Address Selection, 2nd digit〉
MF1,MF2	Fan Motor	TABLI/NI	Connection Terminal 〈L/N-Phase〉	SS	Connector 〈Connection For Option〉
21S4	Solenoid Valve 〈Four-Way Valve〉	TABP2	Connection Terminal 〈DC Voltage〉	CN3D	Connector 〈Connection For Option〉
63H	High Pressure Switch	TABN2	Connection Terminal 〈DC Voltage〉	CN3S	Connector 〈Connection For Option〉
63HS	High Pressure Sensor	DCL1,DCL2	Connection Terminal 〈Reactor〉	CN3N	Connector 〈Connection For Option〉
63LS	Low Pressure Sensor	IGBT	Power Module	CN51	Connector 〈Connection For Option〉
SV1	Solenoid Valve 〈Bypass Valve〉	EI,E2,E3,E4	Connection Terminal 〈Ground〉	LED1,LED2	LED 〈Operation Inspection Display〉
TH2	Thermistor 〈HIC Pipe〉	MULTI.B.	Controller Circuit Board	LED3	LED 〈Power Supply to Main Microcomputer〉
TH3	Thermistor 〈Outdoor Pipe〉	SW1	Switch 〈Display Selection〉	F1,F2	Fuse 〈T6. 3AL250V〉
TH4	Thermistor 〈Compressor〉	SW2	Switch 〈Function Selection〉	X501～505	Relay
TH6	Thermistor 〈Low Pressure Saturated〉	SW3	Switch 〈Test Run〉	M-P.B.	M-NET Power Circuit Board
TH7	Thermistor 〈Outdoor〉	SW4	Switch 〈Model Selection〉	TP1	ConnectionTerminal 〈Ground〉
TH8	Thermistor 〈Heat Sink〉	SW5	Switch 〈Function Selection〉		
LEV-A,LEV-B	Electronic Expansion Valve	SW6	Switch 〈Function Selection〉		

Caution for electrical work

- Use copper supply wires.

Cautions when servicing

- ⚠ WARNING: When the main supply is turned off, the voltage [340 V] in the main capacitor will drop to 20 V in approx. 2 minutes (input voltage: 230 V). When servicing, make sure that LED1, LED2 on the outdoor circuit board goes out, and then wait for at least 1 minute.
- Components other than the outdoor board may be faulty: Check and take corrective action, referring to the service manual. Do not replace the outdoor board without checking.

NOTES:

1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.

Self-diagnosis function

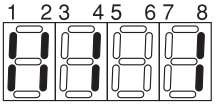
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch (SW1) and LED1, LED2 (LED indication) found on the multi-controller of the outdoor unit.

LED indication : Set all contacts of SW1 to OFF.

- During normal operation
- The LED indicates the drive state of the controller in the outdoor unit.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	(SV2)	—	—	Always lit

〔Example〕
When the compressor and SV1 are turned during cooling operation.



- When fault requiring inspection has occurred

The LED alternately indicates the inspection code and the location of the unit in which the fault has occurred.

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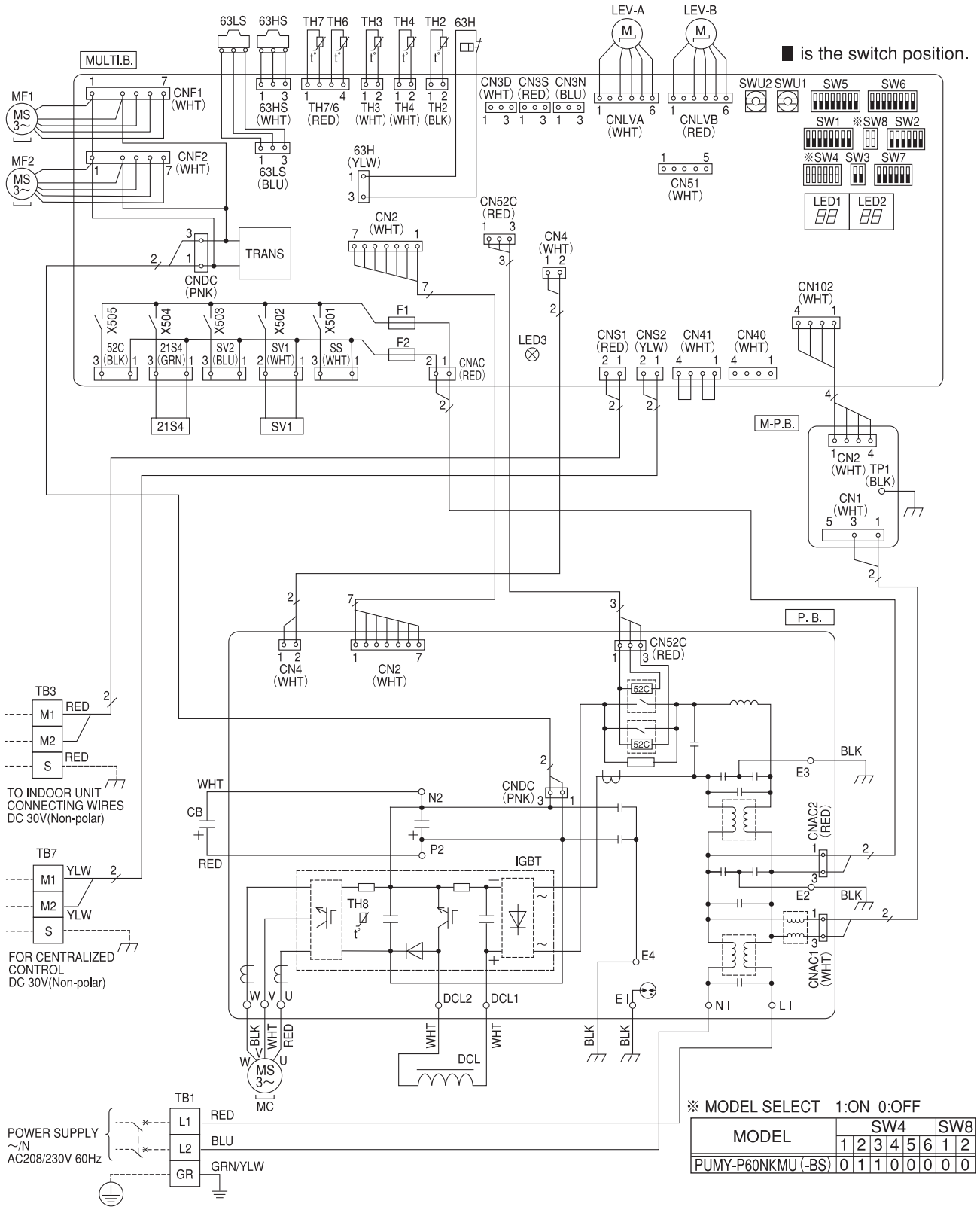
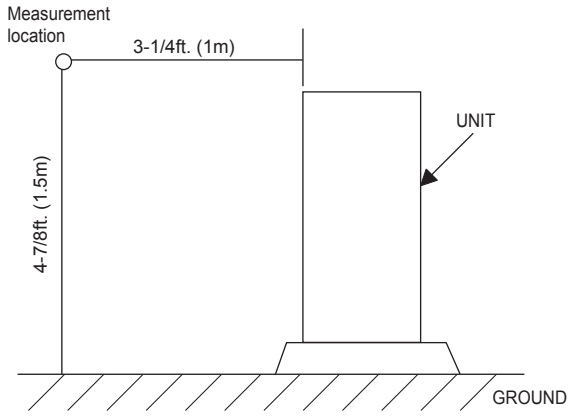
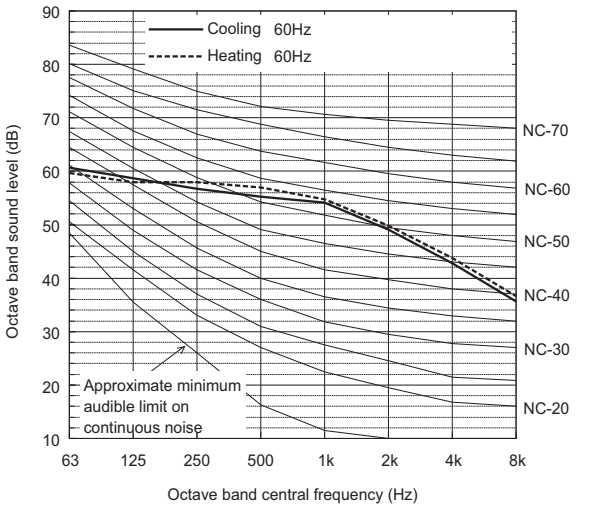
PUMY-P60NKMU(-BS)



Measurement condition
PUMY-P36,48NHMU(-BS)/P60NKMU(-BS)

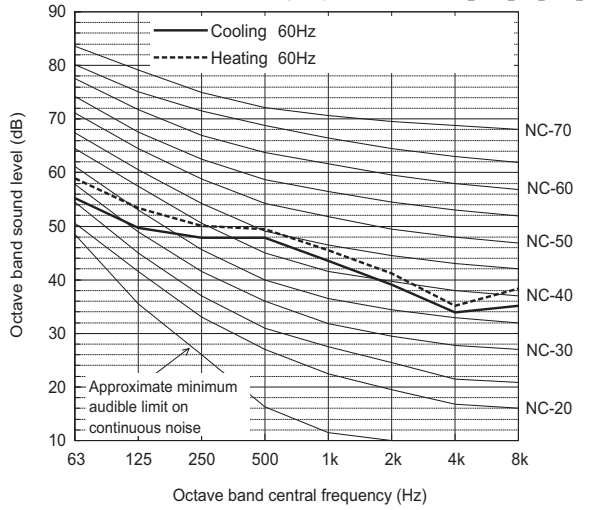


Sound level of PUMY-P60NKMU(-BS)



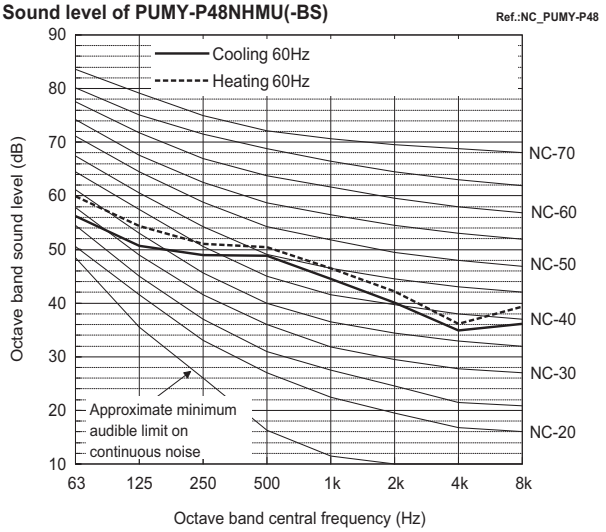
		63	125	250	500	1k	2k	4k	8k	dB(A)
Cooling	60Hz	60.7	58.7	56.7	55.2	54.1	49.1	42.8	35.6	58.0
Heating	60Hz	59.7	58.0	58.0	56.9	54.7	49.8	43.8	36.6	59.0

Sound level of PUMY-P36NHMU(-BS) Ref.:PUMY_NHMU_NCC_USDB_P36



		63	125	250	500	1k	2k	4k	8k	dB(A)
Cooling	60Hz	55.2	49.7	47.9	47.8	43.5	39.1	33.9	35.1	49.0
Heating	60Hz	58.9	53.4	50.1	49.4	45.5	41.2	35.1	38.3	51.0

Sound level of PUMY-P48NHMU(-BS) Ref.:NC_PUMY-P48

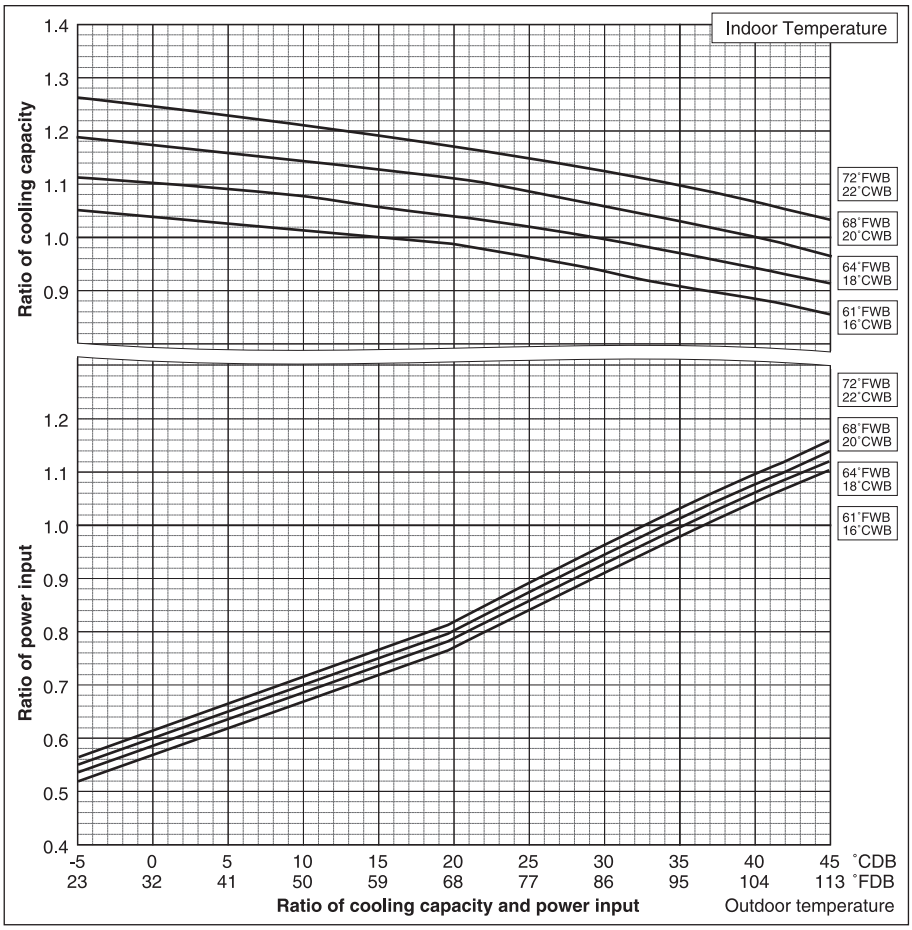


		63	125	250	500	1k	2k	4k	8k	dB(A)
Cooling	60Hz	56.2	50.7	48.9	48.8	44.5	40.1	34.9	36.1	50.0
Heating	60Hz	59.9	54.4	51.1	50.4	46.5	42.2	36.1	39.3	52.0

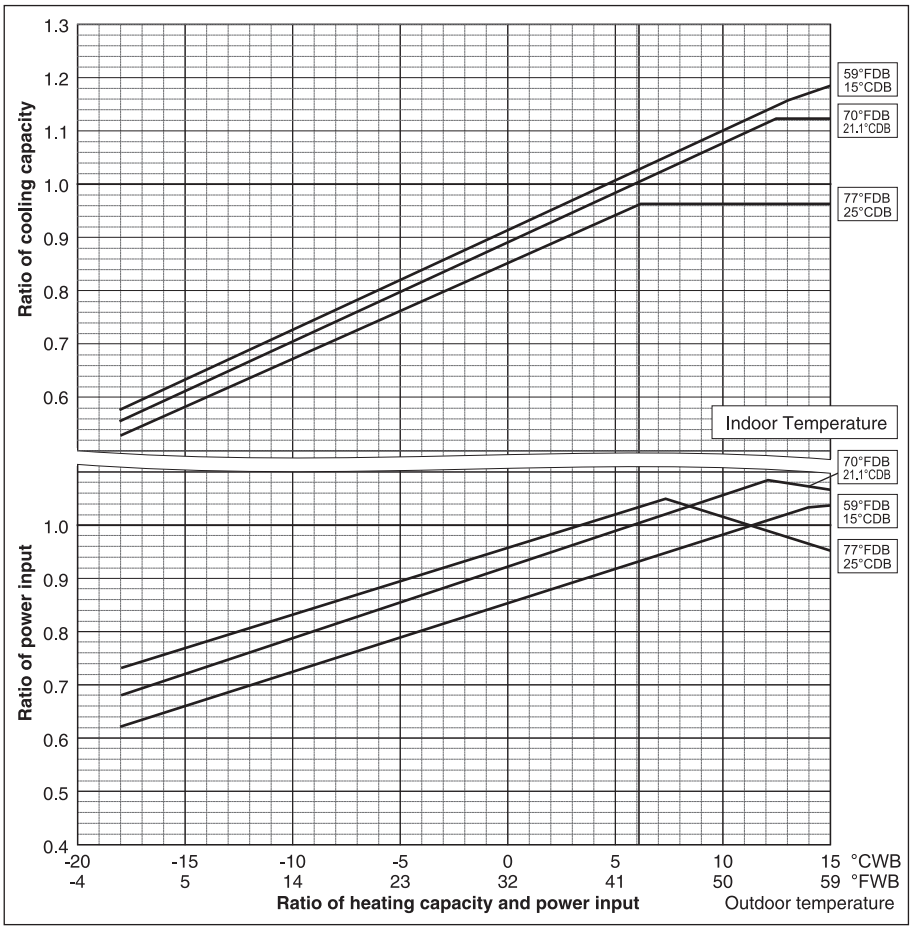
6-1. Correction by temperature

CITY MULTI could have varied capacity at different designing temperature. Using the nominal cooling/heating capacity value and the ratio below, the capacity can be observed at various temperature.

PUMY-		P36NHMU	P48NHMU
Nominal Cooling Capacity	kW	10.6	14.1
	BTU/h	36,000	48,000
Input	kW	3.22	4.97

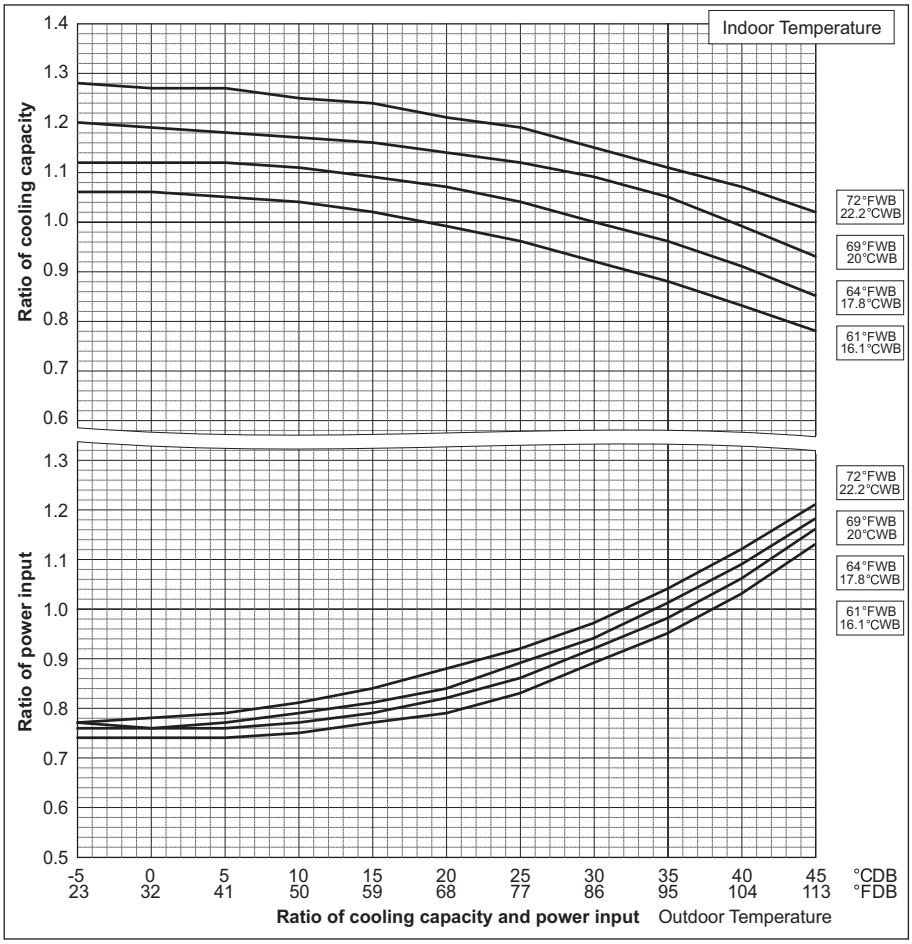


PUMY-		P36NHMU	P48NHMU
Nominal Heating Capacity	kW	11.7	15.8
	BTU/h	40,000	54,000
Input	kW	2.93	4.88

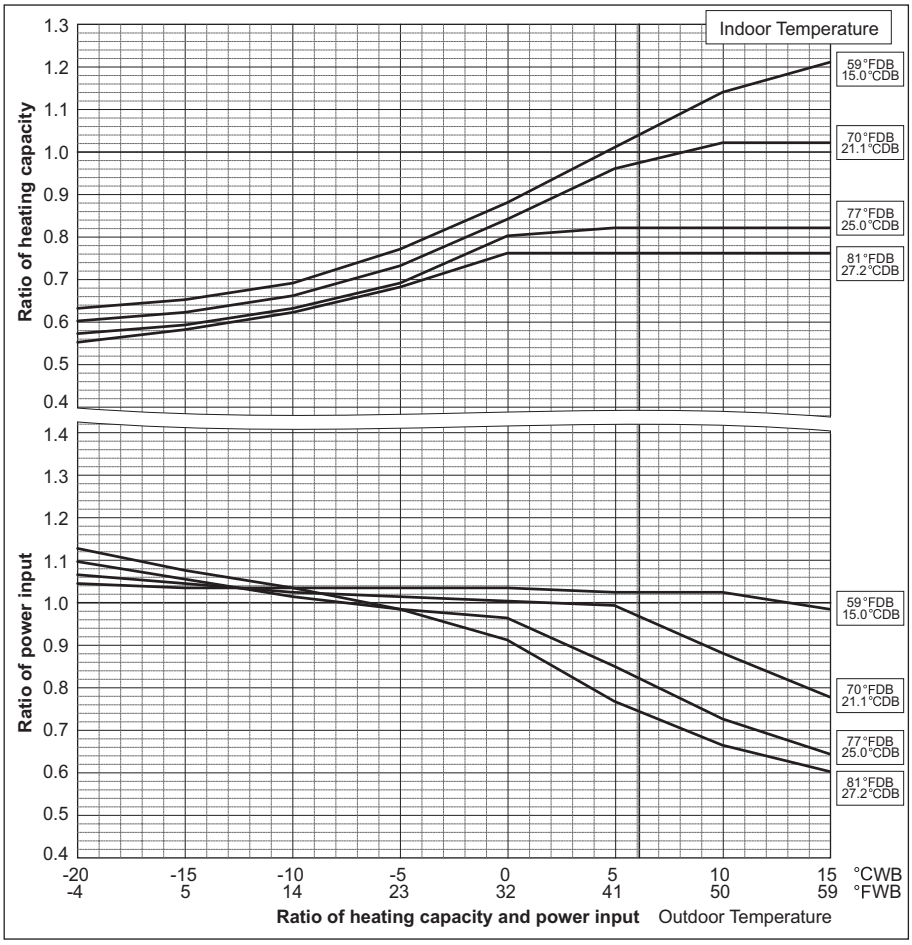


Ref:cbt_p100-140

PUMY-			P60NKMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	60,000	
		kW	17.5	
	Input	kW	4.80	5.30



PUMY-			P60NKMU	
			Non-Ducted	Ducted
Nominal heating capacity		BTU/h	66,000	
		kW	19.3	
	Input	kW	6.15	5.23



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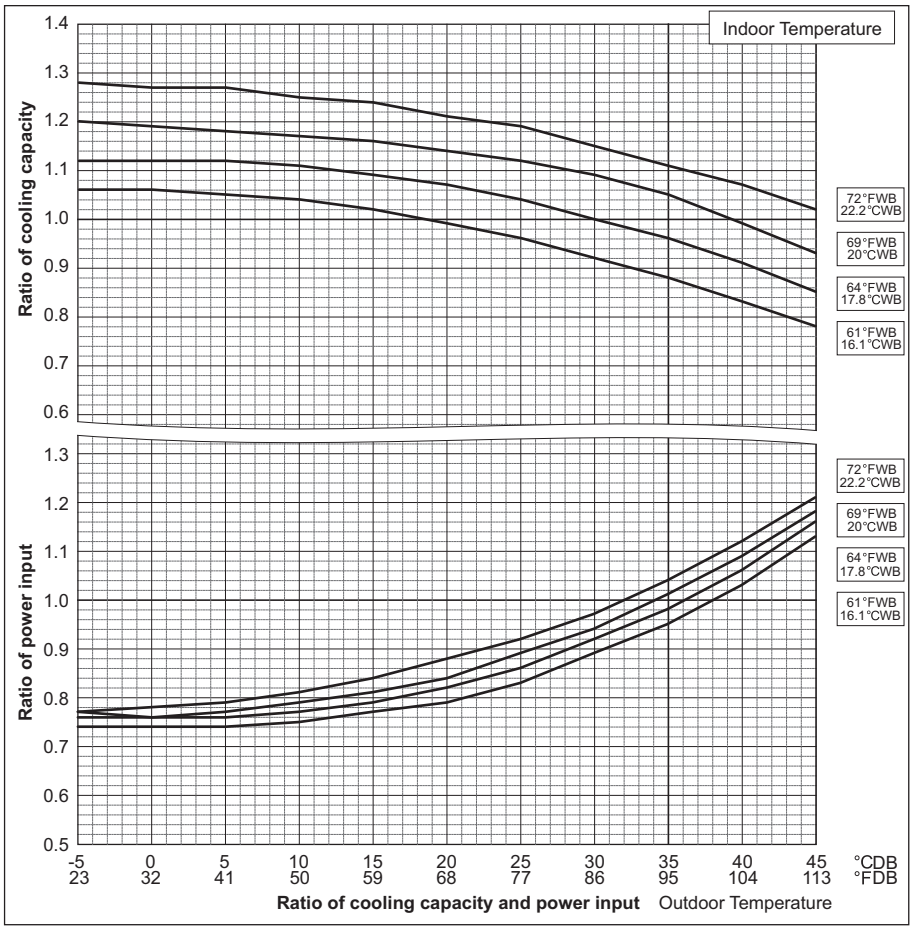
Correction by temperature (High Heating Performance Mode)

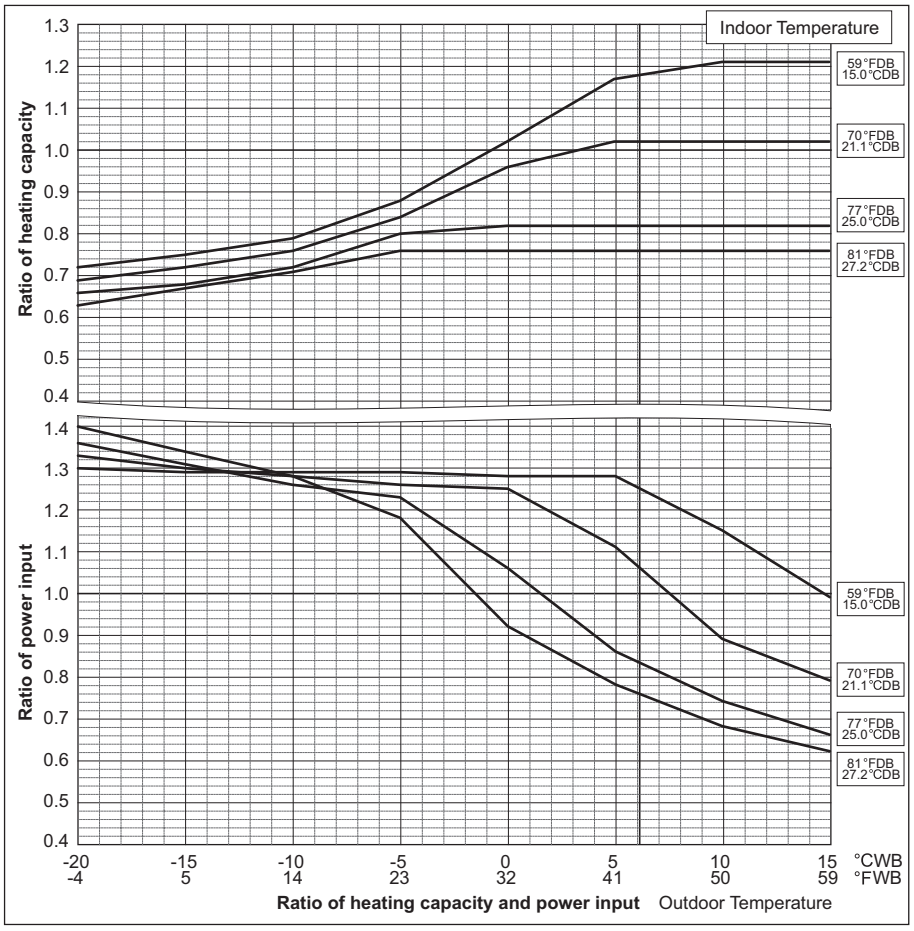
CITY MULTI could have various capacities at different designing temperatures. Using the nominal cooling/heating capacity values and the ratios below, the capacity can be found for various temperatures.

To select high heating performance mode, DipSW 7-3 must be set to ON. (In the low ambient temperature, heating capacity and power input become higher than those under standard mode.)

PUMY-			P60NKMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	60,000	
		kW	17.5	
	Input	kW	4.80	5.30



PUMY-			P60NKMU	
			Non-Ducted	Ducted
Nominal heating capacity		BTU/h	66,000	
		kW	19.3	
	Input	kW	6.15	5.23



6-2. Correction by total indoor

CITY MULTI system have different capacities and inputs when many combinations of indoor units with different total capacities are connected. Using following tables, the maximum capacity can be found to ensure the system is installed with enough capacity for a particular application.

6-2-1.PUMY-P36NHMU(-BS)

Total capacity of Indoor units*	Capacity(Btu/h)		Power Consumption(kW)		Current(A)/230V		Current(A)/208V	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
18	18,000	20,200	1.38	1.45	6.1	6.4	6.8	7.1
19	19,000	21,300	1.45	1.52	6.4	6.7	7.1	7.4
20	20,000	22,400	1.52	1.60	6.7	7.0	7.4	7.8
21	21,000	23,500	1.60	1.67	7.1	7.4	7.8	8.1
22	22,000	24,700	1.68	1.75	7.4	7.7	8.2	8.5
23	23,000	25,800	1.76	1.83	7.8	8.0	8.6	8.9
24	24,000	26,900	1.85	1.91	8.2	8.4	9.0	9.3
25	25,000	28,000	1.94	1.98	8.6	8.7	9.5	9.6
26	26,000	29,200	2.04	2.06	9.0	9.1	9.9	10.0
27	27,000	30,300	2.14	2.15	9.4	9.4	10.4	10.4
28	28,000	31,400	2.24	2.23	9.9	9.8	10.9	10.8
29	29,000	32,500	2.35	2.31	10.4	10.2	11.5	11.2
30	30,000	33,700	2.46	2.40	10.9	10.5	12.0	11.7
31	31,000	34,800	2.58	2.48	11.4	10.9	12.6	12.1
32	32,000	35,900	2.70	2.57	11.9	11.3	13.2	12.5
33	33,000	37,000	2.82	2.66	12.5	11.7	13.8	12.9
34	34,000	38,200	2.95	2.75	13.0	12.1	14.4	13.4
35	35,000	39,300	3.08	2.84	13.6	12.5	15.1	13.8
36	36,000	40,000	3.22	2.93	14.2	12.9	15.7	14.2
37	36,200	40,200	3.23	2.92	14.3	12.9	15.8	14.2
38	36,400	40,400	3.25	2.89	14.3	12.7	15.9	14.1
39	36,600	40,700	3.26	2.86	14.4	12.6	15.9	13.9
40	36,900	40,900	3.27	2.84	14.5	12.5	16.0	13.8
41	37,100	41,100	3.28	2.81	14.5	12.3	16.0	13.6
42	37,300	41,300	3.30	2.78	14.6	12.2	16.1	13.5
43	37,500	41,600	3.31	2.75	14.6	12.1	16.2	13.4
44	37,700	41,800	3.32	2.72	14.7	11.9	16.2	13.2
45	37,900	42,000	3.34	2.69	14.7	11.8	16.3	13.1
46	38,100	42,200	3.35	2.66	14.8	11.7	16.4	12.9

Note)

1. In some combination patterns, numerical value of the heating data may differ slightly (CAPACITY : about several hundred Btu/h)
2. *. Indoor capacity is described by its model size. For example, PEFY-P08NMSU-E, its capacity is P08.

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6-2-2.PUMY-P48NHMU(-BS)

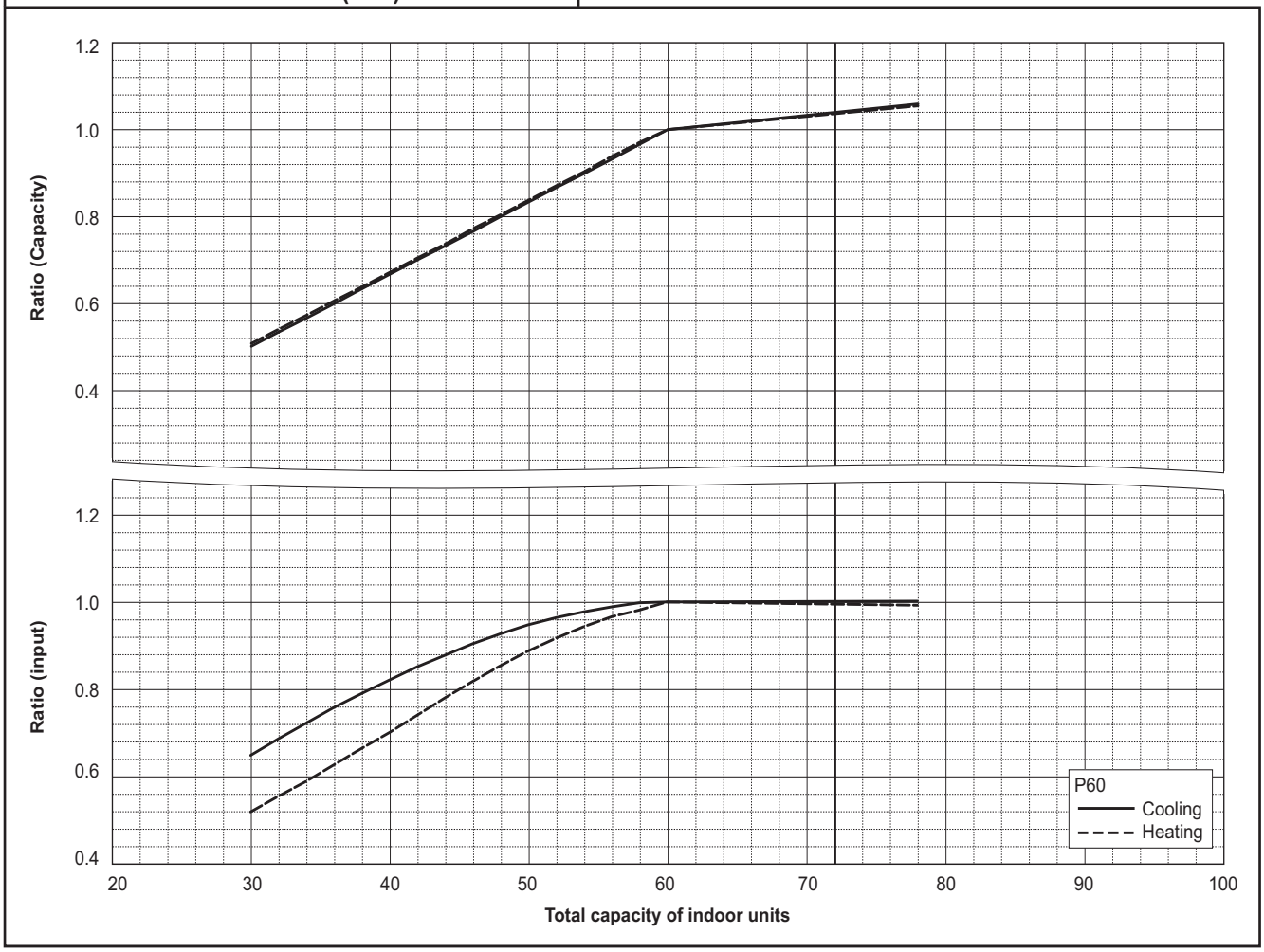
Total capacity of Indoor units*	Capacity(Btu/h)		Power Consumption(kW)		Current(A)/230V		Current(A)/208V	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
24	24,000	26,900	2.11	2.32	9.2	10.2	10.2	11.2
25	25,000	28,000	2.20	2.41	9.6	10.5	10.6	11.6
26	26,000	29,200	2.29	2.50	10.0	10.9	11.1	12.1
27	27,000	30,300	2.38	2.59	10.4	11.3	11.5	12.5
28	28,000	31,400	2.48	2.68	10.8	11.7	12.0	13.0
29	29,000	32,500	2.58	2.78	11.3	12.1	12.4	13.4
30	30,000	33,700	2.68	2.87	11.7	12.6	12.9	13.9
31	31,000	34,800	2.78	2.97	12.2	13.0	13.4	14.4
32	32,000	35,900	2.89	3.07	12.6	13.4	14.0	14.8
33	33,000	37,000	3.00	3.17	13.1	13.9	14.5	15.3
34	34,000	38,200	3.11	3.28	13.6	14.3	15.0	15.8
35	35,000	39,300	3.23	3.38	14.1	14.8	15.6	16.3
36	36,000	40,400	3.35	3.49	14.6	15.2	16.2	16.9
37	37,000	41,500	3.47	3.60	15.2	15.7	16.8	17.4
38	38,000	42,700	3.60	3.71	15.7	16.2	17.4	17.9
39	39,000	43,800	3.72	3.82	16.3	16.7	18.0	18.5
40	40,000	44,900	3.85	3.93	16.8	17.2	18.6	19.0
41	41,000	46,000	3.99	4.05	17.4	17.7	19.3	19.6
42	42,000	47,200	4.12	4.17	18.0	18.2	19.9	20.1
43	43,000	48,300	4.26	4.28	18.6	18.7	20.6	20.7
44	44,000	49,400	4.41	4.41	19.3	19.3	21.3	21.3
45	45,000	50,500	4.55	4.53	19.9	19.8	22.0	21.9
46	46,000	51,700	4.70	4.65	20.5	20.3	22.7	22.5
47	47,000	52,800	4.85	4.78	21.2	20.9	23.4	23.1
48	48,000	54,000	4.97	4.88	21.7	21.3	24.0	23.6
49	48,300	54,200	4.98	4.83	21.8	21.1	24.1	23.3
50	48,500	54,300	4.99	4.79	21.8	20.9	24.1	23.2
51	48,700	54,400	5.00	4.75	21.8	20.8	24.1	23.0
52	48,900	54,500	5.01	4.71	21.9	20.6	24.2	22.8
53	49,100	54,600	5.01	4.67	21.9	20.4	24.2	22.6
54	49,300	54,800	5.02	4.63	21.9	20.2	24.3	22.4
55	49,600	54,900	5.03	4.59	22.0	20.1	24.3	22.2
56	49,800	55,000	5.04	4.55	22.0	19.9	24.3	22.0
57	50,000	55,100	5.04	4.51	22.0	19.7	24.4	21.8
58	50,200	55,200	5.05	4.47	22.1	19.5	24.4	21.6
59	50,400	55,300	5.06	4.43	22.1	19.4	24.4	21.4
60	50,600	55,500	5.07	4.39	22.1	19.2	24.5	21.2
61	50,800	55,600	5.07	4.35	22.2	19.0	24.5	21.0
62	51,100	55,700	5.08	4.31	22.2	18.8	24.6	20.8

Note)

1. In some combination patterns, numerical value of the heating data may differ slightly (CAPACITY : about several hundred Btu/h)
2. *. Indoor capacity is described by its model size. For example, PEFY-P08NMSU-E, its capacity is P08.

6-2-3.PUMY-P60NKMU(-BS)

PUMY-P60NKMU(-BS)



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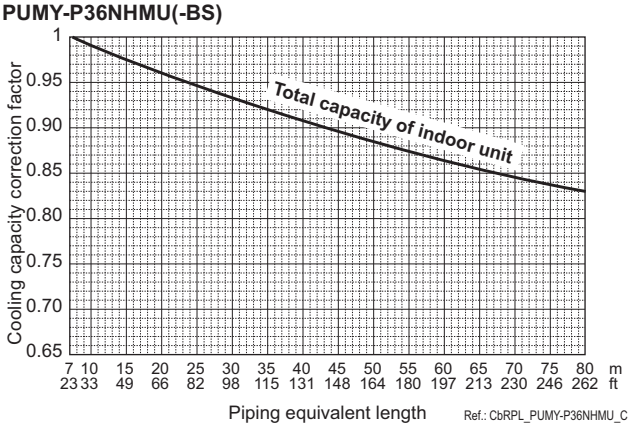
6-3. Correction by refrigerant piping length

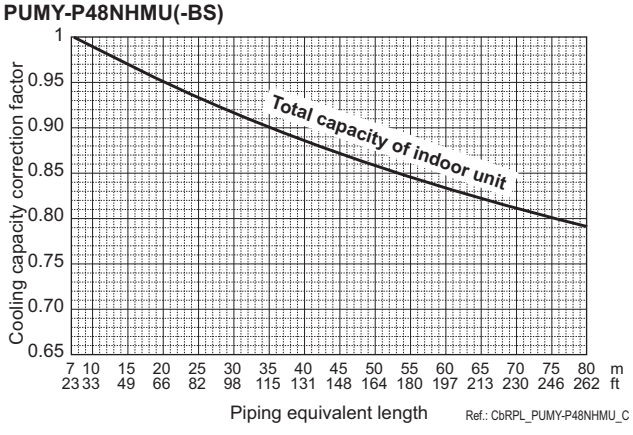
CITY MULTI systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 6-3-1 and 6-3-2, capacity can be found. 6-3-3 shows how to obtain the equivalent piping length.

6-3-1. Cooling capacity correction

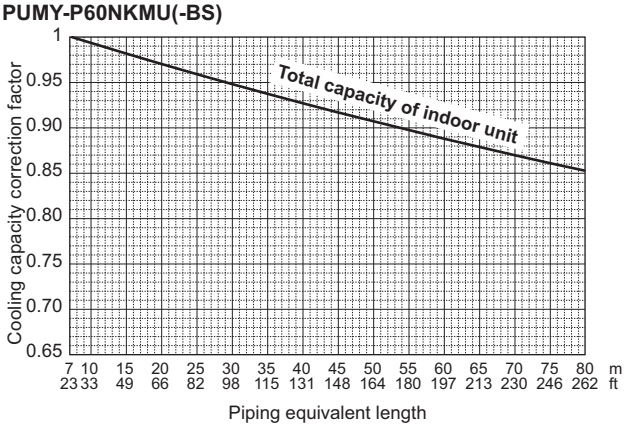
PUMY-P36NHMU(-BS)



PUMY-P48NHMU(-BS)

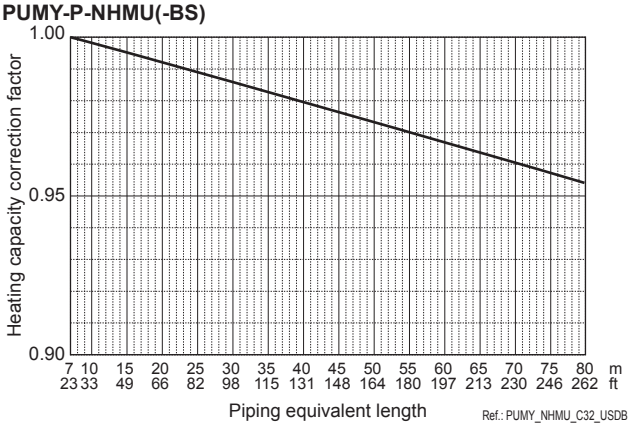


PUMY-P60NKMU(-BS)

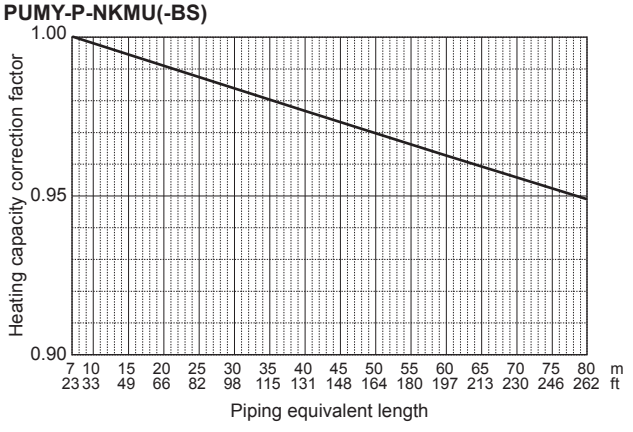


6-3-2. Heating capacity correction

PUMY-P-NHMU(-BS)



PUMY-P-NKMU(-BS)



6-3-3. How to obtain the equivalent piping length

1. PUMY-P-NHMU/NKMU(-BS)

Equivalent length[m]= (Actual piping length to the farthest indoor unit) + (0.30 x number of bends in the piping)
Equivalent length[ft.]= (Actual piping length to the farthest indoor unit) + (0.99 x number of bends in the piping)

6-4. Correction at frost and defrost

Due to frost at the outdoor heat exchanger and the automatic defrost operation, the heating capacity of the outdoor unit can be calculated by multiplying the correction factor shown in the table below.

Table of correction factor at frost and defrost

Outdoor inlet air temp. °F	43	39	36	34	32	28	25	21	18	14	-4
Outdoor inlet air temp. °C	6	4	2	1	0	-2	-4	-6	-8	-10	-20
PUMY-P36, 48NHMU(-BS)	1.0	0.98	0.89	0.88	0.88	0.89	0.9	0.95	0.95	0.95	-
PUMY-P60NKMU(-BS)	1.0	0.98	0.855	0.85	0.845	0.89	0.9	0.95	0.95	0.95	0.95

* The correction factors in the table above are used for a full-load and above.
Use the formula below to calculate the correction factor to use for a partial load.
Correction factor for partial load : K
Correction factor for a full load and above : K_0
Partial load factor : A

$$K = 1 - (1 - K_0) \times A$$

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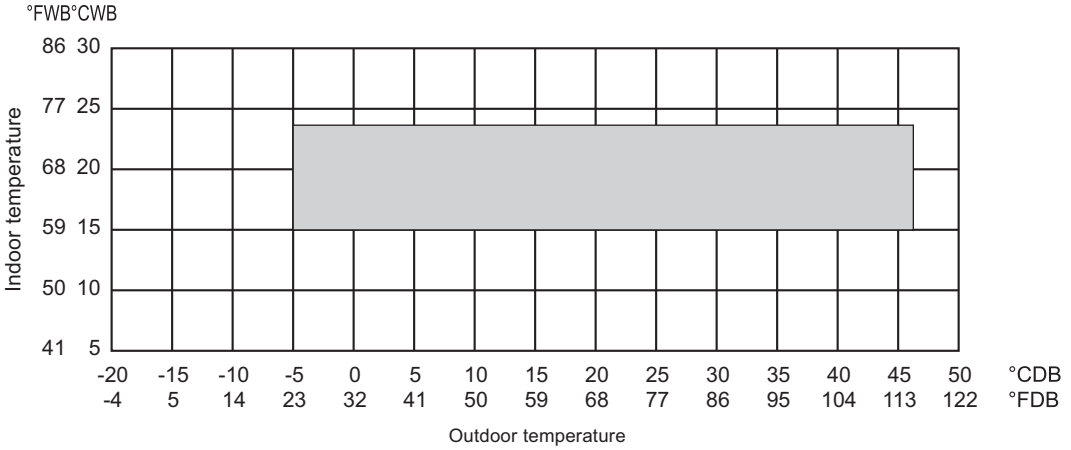
6-5. Operation temperature range

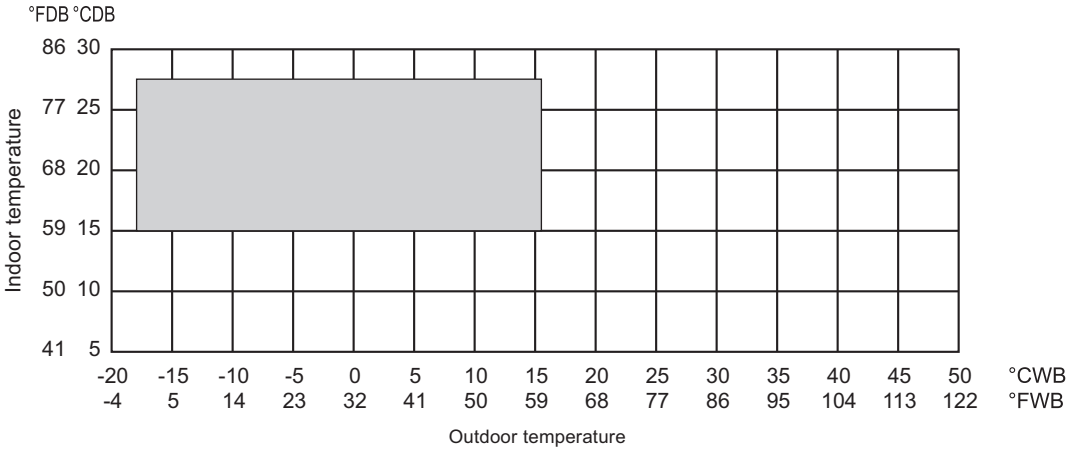
• Cooling



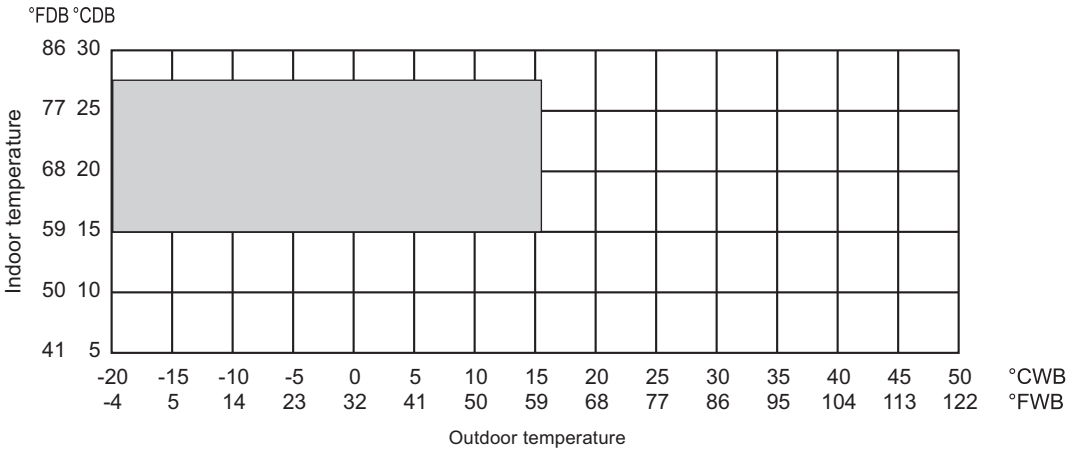
*50 to 115°FD.B.(10 to 46°CD.B.) : in case of connecting PKFY-P06/P08 type indoor unit.

• Heating

PUMY-P-NHMU(-BS)



PUMY-P-NKMU(-BS)



7-1. JOINT

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric. One kind of Joint sets are available for use. Refer to section 3 in "System Design" or the Installation Manual that comes with the Joint set for how to install the Joint set.

CMY-Y62-G

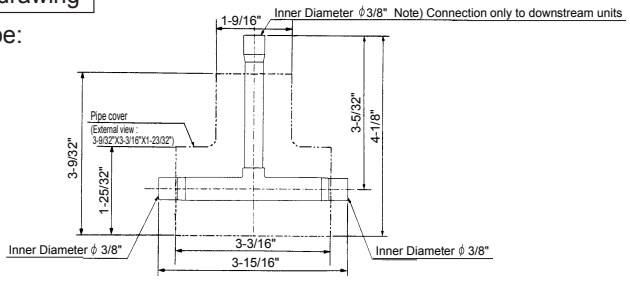
Ref.: 7FAGFA in.

1. Specification

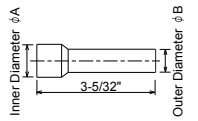
Items		Details
Main	Number of ports	2 ports
	Number of branch joints	One for each liquid and gas pipe
	Pipe material	Phosphorus deoxidized copper C1220T-OL (JIS H3300)
Accessory	Insulation material	Foamed polyethylene (one for each liquid and gas pipe)
	Reducer	10 reducers of 7 types (Refer to the external drawing for details.)

2. External drawing

For liquid pipe:

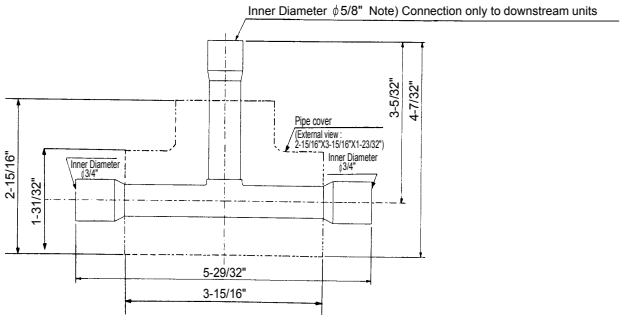


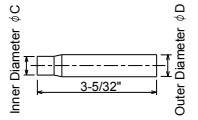
Reducer (Accessory):



A (Inner Diameter)	B (Outer Diameter)	Number of reducers
ϕ 1/2"	ϕ 3/8"	2
ϕ 3/4"	ϕ 5/8"	1
ϕ 7/8"	ϕ 3/4"	1

For gas pipe:





C (Inner Diameter)	D (Outer Diameter)	Number of reducers
ϕ 1/4"	ϕ 3/8"	2
ϕ 1/2"	ϕ 5/8"	1
ϕ 1/2"	ϕ 3/4"	1
ϕ 5/8"	ϕ 3/4"	2

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7-2. HEADER

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric. Two kinds of Header sets are available for use. Refer to section 3 in "System Design" or the Installation Manual that comes with the Header set for how to install the Header set.

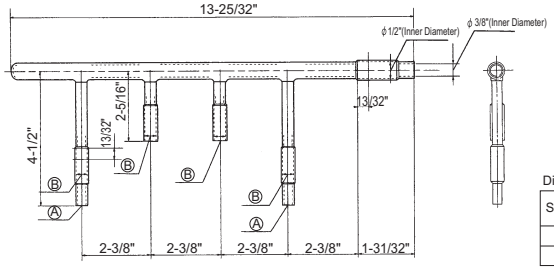
CMY-Y64-G

1. Specification

Items		Details
Main	Number of ports	3 ~ 4 ports
	Number of branch joints	One for each liquid and gas pipe
	Pipe material	Phosphorus deoxidized copper C1220T-OL (JIS H3300)
Accessory	Insulation material	Foamed polyethylene
	Reducer	7 reducers of 5 types
	Cap	2 caps of 2 different types for each liquid and gas pipe ; 4 caps in total

2. External drawing

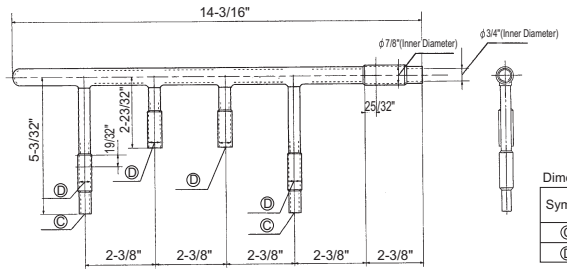
For liquid pipe:



Dimension table

Symbol	Inner Diameter (mm)
Ⓐ	ϕ 1/4"
Ⓑ	ϕ 3/8"

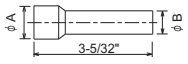
For gas pipe:



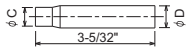
Dimension table

Symbol	Inner Diameter (mm)
Ⓒ	ϕ 1/2"
Ⓓ	ϕ 5/8"

Reducer (Accessory):



A (Inner Diameter)	B (Outer Diameter)	Number of reducers
ϕ 3/4"	ϕ 5/8"	1
ϕ 5/8"	ϕ 1/2"	2
ϕ 3/8"	ϕ 1/4"	2



C (Inner Diameter)	D (Outer Diameter)	Number of reducers
ϕ 5/8"	ϕ 3/4"	1
ϕ 3/8"	ϕ 1/2"	1

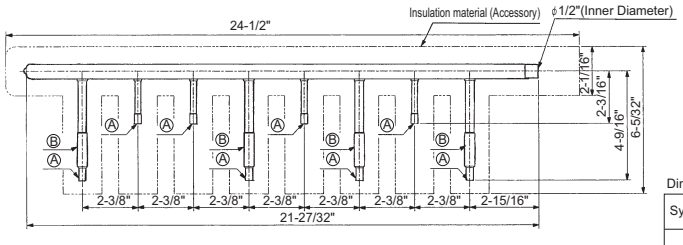
CMY-Y68-G

1. Specification

Items		Details
Main	Number of ports	5 ~ 8 ports
	Number of branch joints	One for each liquid and gas pipe
	Pipe material	Phosphorus deoxidized copper C1220T-OL (JIS H3300)
Accessory	Insulation material	Foamed polyethylene
	Reducer	3 reducers of 3 types
	Cap	3 caps for each liquid and gas pipe ; 6 in total

2. External drawing

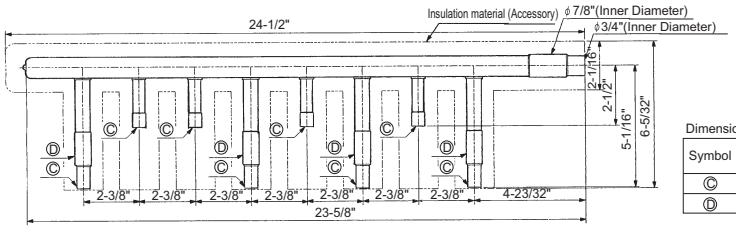
For liquid pipe:



Dimension table

Symbol	Inner Diameter (mm)
Ⓐ	ϕ 1/4"
Ⓑ	ϕ 3/8"

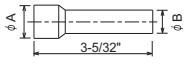
For gas pipe:



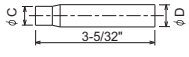
Dimension table

Symbol	Inner Diameter (mm)
Ⓒ	ϕ 1/2"
Ⓓ	ϕ 5/8"

Reducer (Accessory):



A (Inner Diameter)	B (Outer Diameter)	Number of reducers
ϕ 3/4"	ϕ 5/8"	1
ϕ 1/2"	ϕ 3/8"	1



C (Inner Diameter)	D (Outer Diameter)	Number of reducers
ϕ 5/8"	ϕ 3/4"	1