

OUTDOOR UNITS

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1. SPECIFICATIONS

DATA G6

Model			PUMY-P100YHMB		PUMY-P125YHMB		
Power source			3-phase 4-wire 380-400-415V 50Hz		3-phase 4-wire 380-400-415V 50Hz		
Cooling capacity (Nominal)	*1	kW	11.2		14.0		
		kcal / h	9,600		12,000		
		BTU / h	38,200		47,800		
		Power input	kW	3.30		4.27	
		Current input	A	5.28-5.02-4.84		6.83-6.49-6.26	
		COP	kW / kW	3.39		3.28	
Temp. range of cooling	Indoor	W.B.	15 to 24degC(59 to 75degF)		15 to 24degC(59 to 75degF)		
	Outdoor	D.B.	-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.		-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.		
Heating capacity (Nominal)	*2	kW	12.5		16.0		
		kcal / h	10,800		13,800		
		BTU / h	42,700		54,600		
		Power input	kW	3.63		4.29	
		Current input	A	5.81-5.52-5.32		6.87-6.52-6.29	
		COP	kW / kW	3.44		3.73	
Temp. range of heating	Indoor	D.B.	15 to 27degC(59 to 81degF)		15 to 27degC(59 to 81degF)		
	Outdoor	W.B.	-15 to 15degC(5 to 59degF)		-15 to 15degC(5 to 59degF)		
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity		50 to 130 % of outdoor unit capacity		
	Model / Quantity		P15 to P125 / 1 to 8		P15 to P140 / 1 to 10		
Sound pressure level (measured in anechoic room)		dB <A>	49 / 51		50 / 52		
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8) Flare		9.52(3/8) Flare		
	Gas pipe	mm(in.)	15.88(5/8) Flare		15.88(5/8) Flare		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2		
	Air flow rate	m ³ / min	100		100		
		L/s	1,667		1,667		
		cfm	3,532		3,532		
	Control, Driving mechanism		DC-control, Direct-driven by motor		DC-control, Direct-driven by motor		
	Motor output	kW	0.06 x 2		0.06 x 2		
	External static press.		0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		
Compressor	Type x Quantity		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor		
	Manufacture		MITSUBISHI ELECTRIC CORPORATION		MITSUBISHI ELECTRIC CORPORATION		
	Starting method		Inverter		Inverter		
	Motor output	kW	1.9		2.4		
	Case heater	kW	-		-		
	Lubricant		FV50S		FV50S		
External finish			Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>		Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>		
External dimension HxWxD		mm	1,350 x 950 x 330		1,350 x 950 x 330		
		in.	53-3/16 x 37-7/16 x 13		53-3/16 x 37-7/16 x 13		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)		High pressure sensor, High pressure switch at 4.15MPa (601 psi)		
	Inverter circuit (COMP. / FAN)		Over-heat protection,Over-current protection		Over-heat protection,Over-current protection		
	Compressor		Discharge thermo protection,Over-current protection		Discharge thermo protection,Over-current protection		
	Fan motor		Over-heat protection,Voltage protection		Over-heat protection,Voltage protection		
Refrigerant	Type x original charge		R410A x 8.5kg (19lbs)		R410A x 8.5kg (19lbs)		
	Control		LEV circuit		LEV circuit		
Net weight		kg(lbs)	142(312)		142(312)		
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		-		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)		Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External		YHM-BK01-B328		YHM-BK01-B328		
	Wiring		YHM-RG79-V705		YHM-RG79-V705		
Standard attachment	Document		Installation Manual		Installation Manual		
	Accessory		Grounded lead wire x 2		Grounded lead wire x 2		
Optional parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E		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.Nominal cooling conditions(subject to JIS B8615-1)
Indoor : 27degCDB/19degCWB(81degFDB/66degFWB), Outdoor : 35degCDB(95degFDB)
Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)
- *2.Nominal heating conditions(subject to JIS B8615-1)
Indoor : 20degCDB(68degFDB), Outdoor : 7degCDB/6degCWB(45degFDB/43degFWB)
Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)

Unit converter

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

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

DATA G6

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Model			PUMY-P140YHMB		
Power source			3-phase 4-wire 380-400-415V 50Hz		
Cooling capacity (Nominal)	*1	kW	15.5		
	*1	kcal / h	13,300		
	*1	BTU / h	52,900		
	Power input	kW	5.32		
	Current input	A	8.51-8.09-7.80		
	COP	kW / kW	2.91		
Temp. range of cooling	Indoor	W.B.	15 to 24degC(59 to 75degF)		
	Outdoor	D.B.	-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.		
Heating capacity (Nominal)	*2	kW	18.0		
	*2	kcal / h	15,500		
	*2	BTU / h	61,400		
	Power input	kW	5.32		
	Current input	A	8.51-8.09-7.80		
	COP	kW / kW	3.38		
Temp. range of heating	Indoor	D.B.	15 to 27degC(59 to 81degF)		
	Outdoor	W.B.	-15 to 15degC(5 to 59degF)		
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity		
	Model / Quantity		P15 to P140 / 1 to 12		
Sound pressure level (measured in anechoic room)		dB <A>	51 / 53		
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8) Flare		
	Gas pipe	mm(in.)	15.88(5/8) Flare		
FAN	Type x Quantity		Propeller fan x 2		
	Air flow rate	m ³ / min	100		
		L/s	1,667		
		cfm	3,532		
	Control, Driving mechanism		DC-control, Direct-driven by motor		
	Motor output	kW	0.06 x 2		
	External static press.		0 Pa (0 mmH ₂ O)		
Compressor	Type x Quantity		Inverter scroll hermetic compressor		
	Manufacture		MITSUBISHI ELECTRIC CORPORATION		
	Starting method		Inverter		
	Motor output	kW	2.9		
	Case heater	kW	-		
	Lubricant		FV50S		
External finish			Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>		
External dimension HxWxD		mm	1,350 x 950 x 330		
		in.	53-3/16 x 37-7/16 x 13		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)		
	Inverter circuit (COMP. / FAN)		Over-heat protection,Over-current protection		
	Compressor		Discharge thermo protection,Over-current protection		
	Fan motor		Over-heat protection,Voltage protection		
Refrigerant	Type x original charge		R410A x 8.5kg (19lbs)		
	Control		LEV circuit		
Net weight		kg(lbs)	142(312)		
Heat exchanger			Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External		YHM-BK01-B328		
	Wiring		YHM-RG79-V705		
Standard attachment	Document		Installation Manual		
	Accessory		Grounded lead wire x 2		
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.Nominal cooling conditions(subject to JIS B8615-1)
Indoor : 27degCDB/19degCWB(81degFDB/66degFWB), Outdoor : 35degCDB(95degFDB)
Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)
- *2.Nominal heating conditions(subject to JIS B8615-1)
Indoor : 20degCDB(68degFDB), Outdoor : 7degCDB(45degFDB/43degFWB)
Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)

Unit converter

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

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

DATA G6

Model			PUMY-P100VHMB	PUMY-P125VHMB
Power source			1-phase 220-230-240V 50Hz / 1-phase 220V 60Hz	1-phase 220-230-240V 50Hz / 1-phase 220V 60Hz
Cooling capacity (Nominal)	*1	kW	11.2	14.0
	*1	kcal / h	9,600	12,000
	*1	BTU / h	38,200	47,800
	Power input	kW	3.34	4.32
	Current input	A	15.4-14.8-14.1 / 15.4	20.0-19.1-18.3 / 20.0
COP		kW / kW	3.35	3.24
Temp. range of cooling	Indoor	W.B.	15 to 24degC(59 to 75degF)	15 to 24degC(59 to 75degF)
	Outdoor	D.B.	-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.	-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.
Heating capacity (Nominal)	*2	kW	12.5	16.0
	*2	kcal / h	10,800	13,800
	*2	BTU / h	42,700	54,600
	Power input	kW	3.66	4.33
	Current input	A	16.9-16.2-15.5 / 16.9	20.0-19.1-18.3 / 20.0
COP		kW / kW	3.42	3.69
Temp. range of heating	Indoor	D.B.	15 to 27degC(59 to 81degF)	15 to 27degC(59 to 81degF)
	Outdoor	W.B.	-15 to 15degC(5 to 59degF)	-15 to 15degC(5 to 59degF)
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity	50 to 130 % of outdoor unit capacity
	Model / Quantity		P15 to P125 / 1 to 8	P15 to P140 / 1 to 10
Sound pressure level (measured in anechoic room)		dB <A>	49 / 51	50 / 52
Refrigerant	Liquid pipe	mm(in.)	9.52(3/8)	9.52(3/8)
piping diameter	Gas pipe	mm(in.)	15.88(5/8)	15.88(5/8)
FAN	Type x Quantity		Propeller fan x 2	Propeller fan x 2
	Air flow rate	m ³ / min	100	100
		L/s	1,667	1,667
		cfm	3,532	3,532
	Control, Driving mechanism		DC-control, Direct-driven by motor	DC-control, Direct-driven by motor
	Motor output	kW	0.06 x 2	0.06 x 2
	External static press.		0 Pa (0 mmH ₂ O)	0 Pa (0 mmH ₂ O)
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		MITSUBISHI ELECTRIC CORPORATION	MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	2.2	2.9
	Case heater	kW	-	-
	Lubricant		FV50S x 2.3L	FV50S x 2.3L
External finish			Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>	Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>
External dimension HxWxD		mm	1,350 x 950 x 330	1,350 x 950 x 330
		in.	53-3/16 x 37-7/16 x 13	53-3/16 x 37-7/16 x 13
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP. / FAN)		Over-heat protection,Over-current protection	Over-heat protection,Over-current protection
	Compressor		Discharge thermo protection,Over-current protection	Discharge thermo protection,Over-current protection
	Fan motor		Over-heat protection,Voltage protection	Over-heat protection,Voltage protection
Refrigerant	Type x original charge		R410A x 8.5kg (19lbs)	R410A x 8.5kg (19lbs)
	Control		LEV circuit	LEV circuit
Net weight		kg(lbs)	129(284)	129(284)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			-	-
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)	Auto-defrost mode (Reversed refrigerant cycle)
Drawing	External		VHM-BK01-B434	VHM-BK01-B434
	Wiring		VHM-RG79-V708	VHM-RG79-V708
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Grounded lead wire x 2	Grounded lead wire x 2
Optional parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E	Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E
Remarks			* In case of connecting Fresh air intake type indoor unit PEFY-P-VHM-E-F, only one indoor unit can be connected with one PUMY. * 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 :		Unit converter
*1.Nominal cooling conditions(subject to JIS B8615-1) Indoor : 27degCDB/19degCWB(81degFDB/66degFWB), Outdoor : 35degCDB(95degFDB) Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)		kcal =kW x 860 BTU/h =kW x 3,412
*2.Nominal heating conditions(subject to JIS B8615-1) Indoor : 20degCDB(68degFDB), Outdoor : 7degCDB/6degCWB(45degFDB/43degFWB) Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)		cfm =m ³ /min x 35.31 lb =kg / 0.4536
		*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

DATA G6

S

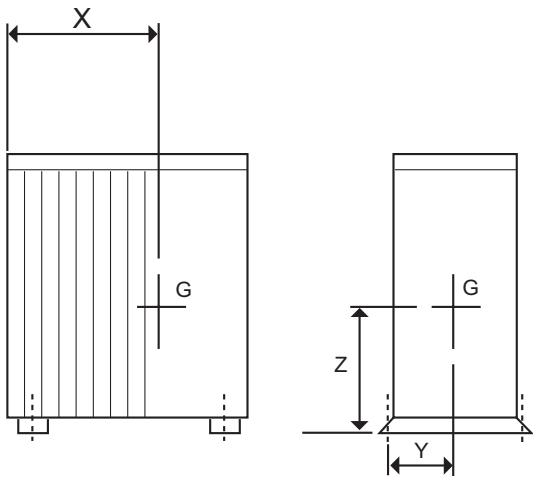
Model			PUMY-P140VHMB		
Power source			1-phase 220-230-240V 50Hz / 1-phase 220V 60Hz		
Cooling capacity (Nominal)	*1	kW	15.5		
	*1	kcal / h	13,300		
	*1	BTU / h	52,900		
	Power input	kW	5.35		
	Current input	A	24.7-23.6-22.7 / 24.7		
	COP	kW / kW	2.9		
Temp. range of cooling	Indoor	W.B.	15 to 24degC(59 to 75degF)		
	Outdoor	D.B.	-5 to 46degC(23 to 115degF) 10 to 46degC(50 to 115degF) : in case of connecting PKFY-P15/P20/P25 type indoor unit.		
Heating capacity (Nominal)	*2	kW	18.0		
	*2	kcal / h	15,500		
	*2	BTU / h	61,400		
	Power input	kW	5.58		
	Current input	A	25.8-24.7-23.6 / 25.8		
	COP	kW / kW	3.23		
Temp. range of heating	Indoor	D.B.	15 to 27degC(59 to 81degF)		
	Outdoor	W.B.	-15 to 15degC(5 to 59degF)		
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity		
	Model / Quantity		P15 to P140 / 1 to 12		
Sound pressure level (measured in anechoic room)		dB <A>	51 / 53		
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8)		
	Gas pipe	mm(in.)	15.88(5/8)		
FAN	Type x Quantity		Propeller fan x 2		
	Air flow rate	m ³ / min	100		
		L/s	1,667		
		cfm	3,532		
	Control, Driving mechanism		DC-control, Direct-driven by motor		
	Motor output	kW	0.06 x 2		
	External static press.		0 Pa (0 mmH ₂ O)		
Compressor	Type x Quantity		Inverter scroll hermetic compressor		
	Manufacture		MITSUBISHI ELECTRIC CORPORATION		
	Starting method		Inverter		
	Motor output	kW	3.3		
	Case heater	kW	-		
	Lubricant		FV50S x 2.3L		
	External finish		Galvanized steel sheets <MUNSELL 3Y 7.8/1.1>		
External dimension HxWxD		mm	1,350 x 950 x 330		
		in.	53-3/16 x 37-7/16 x 13		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)		
	Inverter circuit (COMP. / FAN)		Over-heat protection,Over-current protection		
	Compressor		Discharge thermo protection,Over-current protection		
	Fan motor		Over-heat protection,Voltage protection		
Refrigerant	Type x original charge		R410A x 8.5kg (19lbs)		
	Control		LEV circuit		
Net weight		kg(lbs)	129(284)		
Heat exchanger			Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External		VHM-BK01-B434		
	Wiring		VHM-RG79-V708		
Standard attachment	Document		Installation Manual		
	Accessory		Grounded lead wire x 2		
Optional parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E		
Remarks			* In case of connecting Fresh air intake type indoor unit PEFY-P-VHM-E-F, only one indoor unit can be connected with one PUMY. * 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 :	Unit converter
*1.Nominal cooling conditions(subject to JIS B8615-1) Indoor : 27degCDB/19degCWB(81degFDB/66degFWB), Outdoor : 35degCDB(95degFDB) Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)	kcal =kW x 860 BTU/h =kW x 3,412 cfm =m ³ /min x 35.31 lb =kg / 0.4536
*2.Nominal heating conditions(subject to JIS B8615-1) Indoor : 20degCDB(68degFDB), Outdoor : 7degCDB/6degCWB(45degFDB/43degFWB) Pipe length : 7.5m(24-9/16ft.), Level difference : 0m(0ft.)	
	*Above specification data is subject to rounding variation.

Unit : mm



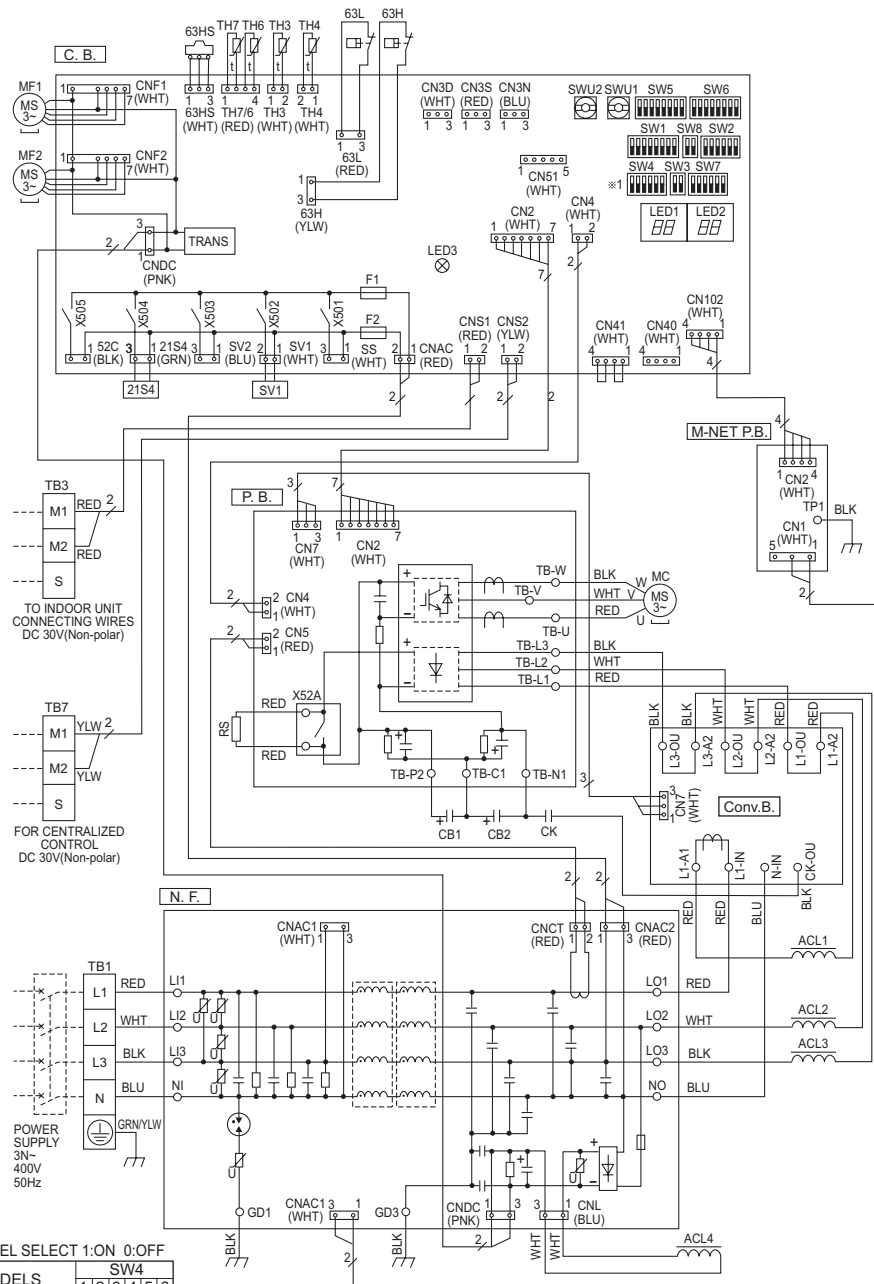
PUMY-P100,125,140YHMB
PUMY-P100,125,140VHMB



Model	W	D	H	X	Y	Z
PUMY-P100VHMB-E PUMY-P125VHMB-E PUMY-P140VHMB-E PUMY-P100YHMB-E PUMY-P125YHMB-E PUMY-P140YHMB-E	950	330	1350	620	185	500

PUMY-P100,125,140YHMB

SYMBOL	NAME
TB1	Terminal Block <Power Supply>
TB3	Terminal Block <Communication Line>
TB7	Terminal Block <Centralized Control Line>
MC	Motor For Compressor
MF1,MF2	Fan Motor
21S4	Solenoid Valve<Four-Way Valve>
63H	High Pressure Switch
63L	Low Pressure Switch
63HS	High Pressure Sensor
SV1	Solenoid Valve<Bypass Valve>
TH3	Thermistor<Outdoor Pipe>
TH4	Thermistor<Discharge>
TH6	Thermistor<Low Pressure Saturated>
TH7	Thermistor<Outdoor>
RS	Rush Current Protect Resistor
ACL1-ACL4	Reactor
CB1,CB2	Main Smoothing Capacitor
CK	Capacitor
P.B.	Power Circuit Board
TB-U/V/W	Connection Terminal<U/V/W-Phase>
TB-L1/L2/L3	Connection Terminal<L1/L2/L3-Power Supply>
TB-P2	Connection Terminal
TB-C1	Connection Terminal
TB-N1	Connection Terminal
X52A	Relay
N.F.	Noise Filter Circuit Board
LO1,LO2,LO3,NO	Connection Terminal<L1/L2/L3-Power Supply>
LI1,LI2,LI3,NI	Connection Terminal<L1/L2/L3-Power Supply>
GD1,GD3	Connection Terminal<Ground>
CONV.B.	Converter Circuit Board
L1-A1/IN	Connection Terminal<L1-Power Supply>
L1-A2/OU	Connection Terminal<L1-Power Supply>
L2-A2/OU	Connection Terminal<L2-Power Supply>
L3-A2/OU	Connection Terminal<L3-Power Supply>
N-IN	Connection Terminal
CK-OU	Connection Terminal
C.B.	Controller Circuit Board
SW1	Switch<Display Selection>
SW2	Switch<Function Selection>
SW3	Switch<Test Run>
SW4	Switch<Model Selection>
SW5	Switch<Function Selection>
SW6	Switch<Function Selection>
SW7	Switch<Function Selection>
SW8	Switch<Function Selection>
SWU1	Switch<Unit Address Selection, 1s digit>
SWU2	Switch<Unit Address Selection, 10ths digit>
SS	Connector<Connection For Option>
CN3D	Connector<Connection For Option>
CN3S	Connector<Connection For Option>
CN3N	Connector<Connection For Option>
CN51	Connector<Connection For Option>
LED1,LED2	LED<Operation Inspection Display>
LED3	LED<Power Supply to Main Microcomputer>
F1,F2	Fuse<T6.3AL250V>
X501-X505	Relay
M-NET P.B.	M-NET Power Circuit Board
TP1	Connection Terminal<Ground>



Cautions when Servicing

- ⚠ WARNING: When the main supply is turned off, the voltage [570 V] in the main capacitor will drop to 20 V in approx. 5 minutes (input voltage: 400 V). When servicing, make sure that LED1 and LED2 on the outdoor circuit board goes out, and then wait for at least 5 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:

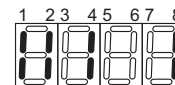
- Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
- Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch (SW1). LED1 and LED2 (LED indication) found on the multi-controller of the outdoor unit.
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

- 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.

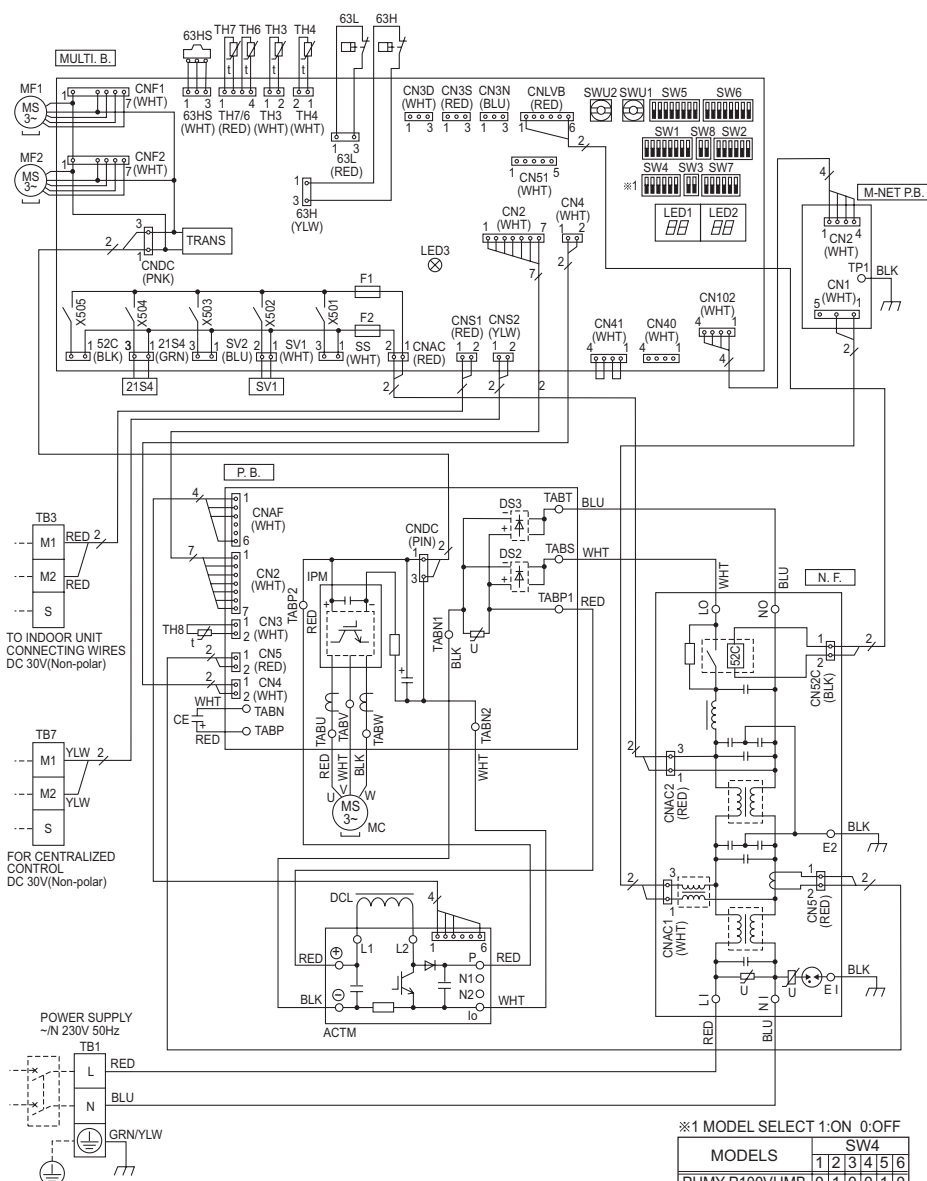
[Example]

When the compressor and SV1 are turned on during cooling operation.



PUMY-P100,125,140VHMB

SYMBOL	NAME
TB1	Terminal Block <Power Supply>
TB3	Terminal Block <Communication Line>
TB7	Terminal Block <Centralized Control Line>
MC	Motor For Compressor
MF1,MF2	Fan Motor
21S4	Solenoid Valve<Four-Way Valve>
63H	High Pressure Switch
63L	Low Pressure Switch
63HS	High Pressure Sensor
SV1	Solenoid Valve<Bypass valve>
TH3	Thermistor<Outdoor Pipe>
TH4	Thermistor<Discharge>
TH6	Thermistor<Low Pressure Saturated>
TH7	Thermistor<Outdoor>
TH8	Thermistor<Heatsink>
DCL	Reactor
ACTM	Active Filter Module
CE	Main Smoothing Capacitor
P.B.	Power Circuit Board
TABU/V/W	Connection Terminal<U/V/W-Phase>
TABS/T	Connection Terminal<L/N-Phase>
TABP1/P2/P	Connection Terminal<DC Voltage>
TABN1/N2/N	Connection Terminal<DC Voltage>
DS2,DS3	Diode Bridge
IPM	Power Module
N.F.	Noise Filter Circuit Board
LI/LO	Connection Terminal<L-Phase>
NI/NO	Connection Terminal<N-Phase>
E1,E2	Connection Terminal<Ground>
52C	52C Relay
C.B.	Controller Circuit Board
SW1	Switch<Display Selection>
SW2	Switch<Function Selection>
SW3	Switch<Test Run>
SW4	Switch<Model Selection>
SW5	Switch<Function Selection>
SW6	Switch<Function Selection>
SW7	Switch<Function Selection>
SW8	Switch<Function Selection>
SWU1	Switch<Unit Address Selection, 1s digit>
SWU2	Switch<Unit Address Selection, 10ths digit>
CNLVB	Connector<To N.F. Board CN52C> (Symbol of Board is CNLVB)
SS	Connector<Connection For Option>
CN3D	Connector<Connection For Option>
CN3S	Connector<Connection For Option>
CN3N	Connector<Connection For Option>
CN51	Connector<Connection For Option>
LED1,LED2	LED<Operation Inspection Display>
LED3	LED<Power Supply to Main Microcomputer>
F1,F2	Fuse<T6,3AL250V>
X501~505	Relay
M-NET P.B.	M-NET Power Circuit Board
TP1	Connection Terminal<Ground>



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.

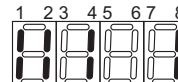
Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	(SV2)	—	—	Always lit

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.

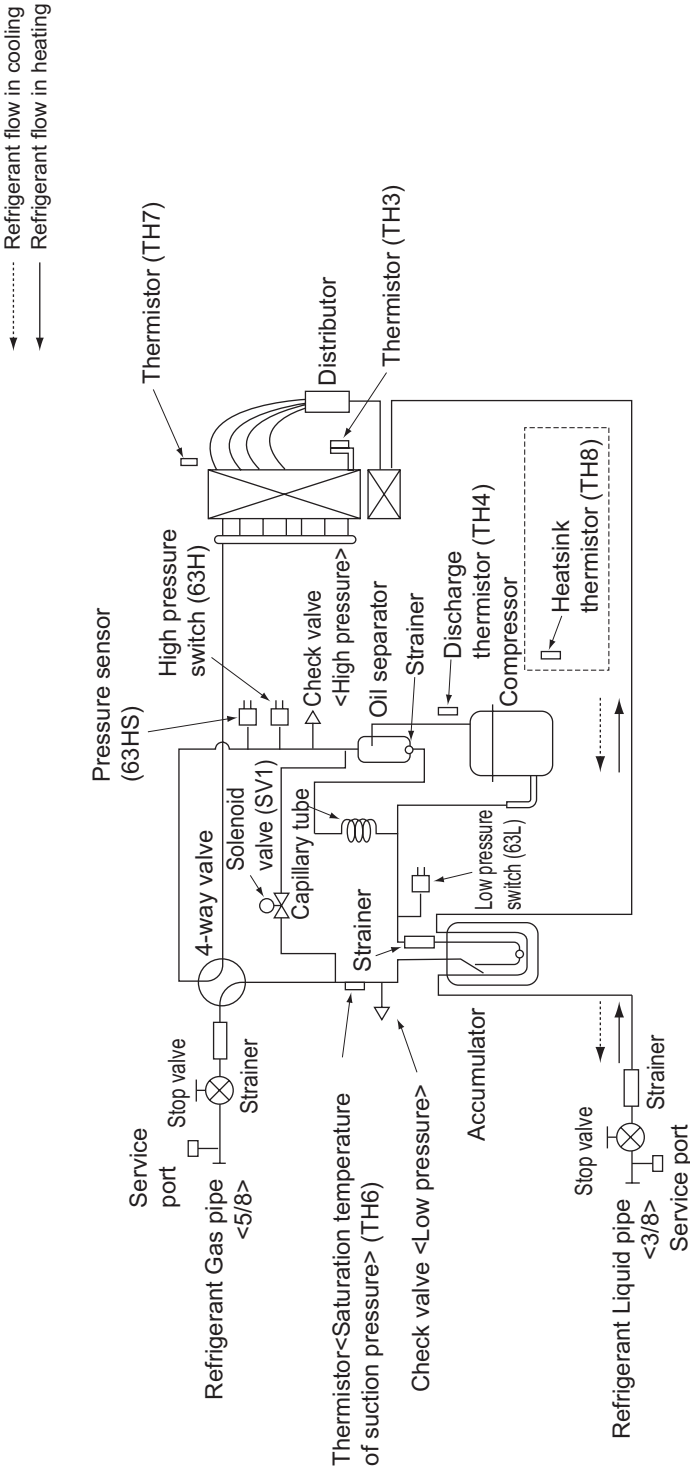
[Example]

When the compressor and SV1 are turned on during cooling operation.



S

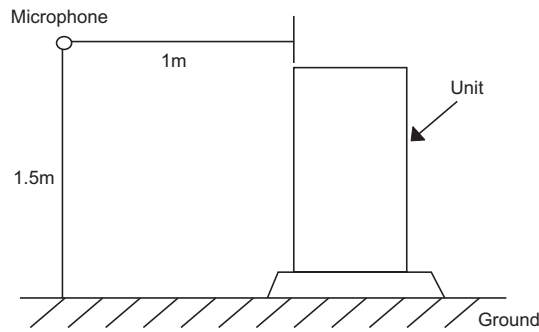
PUMY-P100,125,140YHMB
PUMY-P100,125,140VHMB



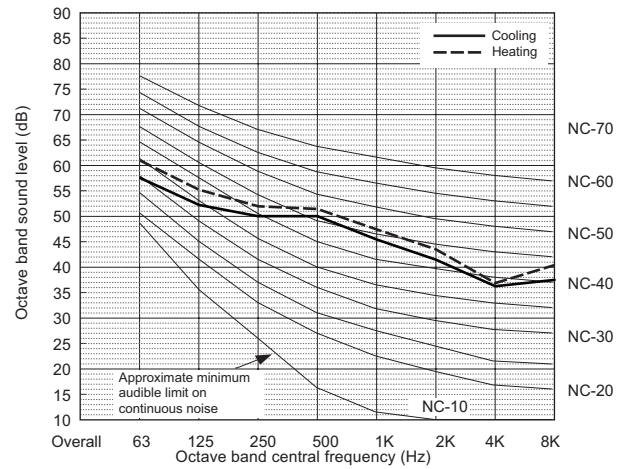
Refrigerant piping specifications <dimensions of flared connector>

Capacity	Item	Liquid piping	Gas piping
Indoor unit	P20, P25, P32, P40, P50	ø 6.35 <1/4">Flare	ø 12.7 <1/2">Flare
	P63, P80, P100 P125, P140	ø 9.52 <3/8">Flare	ø 15.88 <5/8">Flare
	P100, P125, P140	ø 9.52 <3/8">Flare	ø 15.88 <5/8">Flare

Measurement condition PUMY-P100,125,140YHMB PUMY-P100,125,140VHMB



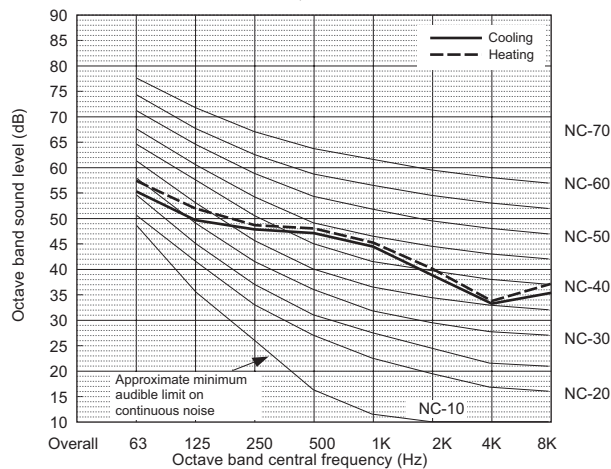
Sound level of PUMY-P140YHMB,VHMB



	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)
Cooling	57.2	51.7	49.9	49.8	45.5	41.1	35.9	37.1	51.0
Heating	60.9	55.4	52.1	51.4	47.5	43.2	37.1	40.3	53.0
Low Noise Mode 50/60Hz	-	-	-	-	-	-	-	-	-

* When Low Noise Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low Noise Mode automatically in the case that the operation condition is severe.

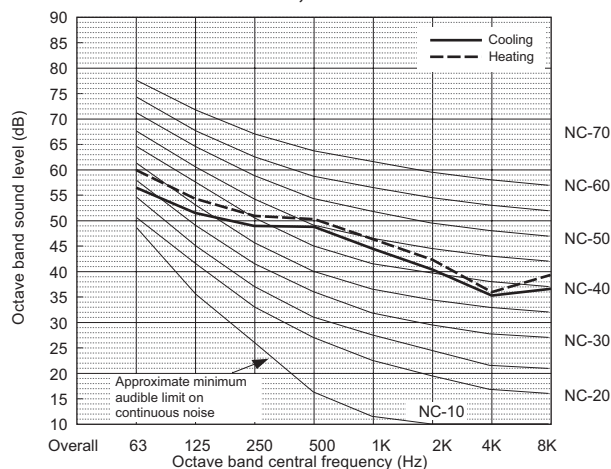
Sound level of PUMY-P100YHMB,VHMB



	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)
Cooling	55.2	49.7	47.9	47.8	43.5	39.1	33.9	35.1	49.0
Heating	58.9	53.4	50.1	49.4	45.5	41.2	35.1	38.3	51.0
Low Noise Mode 50/60Hz	-	-	-	-	-	-	-	-	-

* When Low Noise Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low Noise Mode automatically in the case that the operation condition is severe.

Sound level of PUMY-P125YHMB,VHMB



	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)
Cooling	56.2	50.7	48.9	48.8	44.5	40.1	34.9	36.1	50.0
Heating	59.9	54.4	51.1	50.4	46.5	42.2	36.1	39.3	52.0
Low Noise Mode 50/60Hz	-	-	-	-	-	-	-	-	-

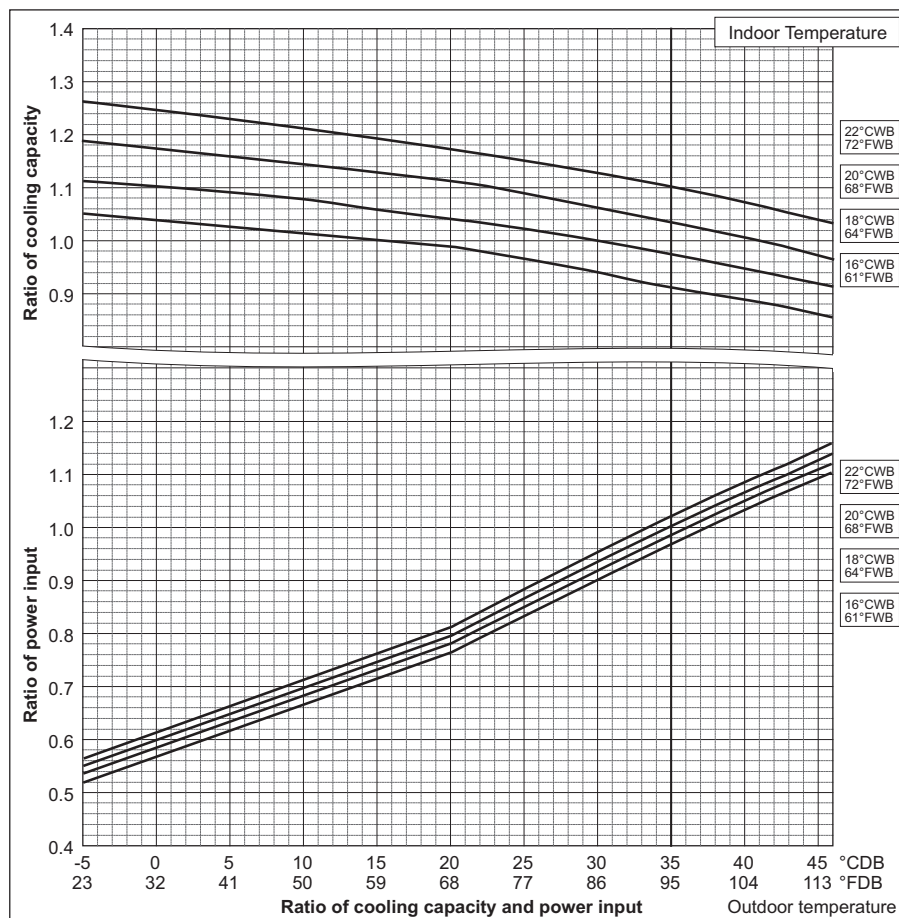
* When Low Noise Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low Noise Mode automatically in the case that the operation condition is severe.

7-1. Correction by temperature

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.

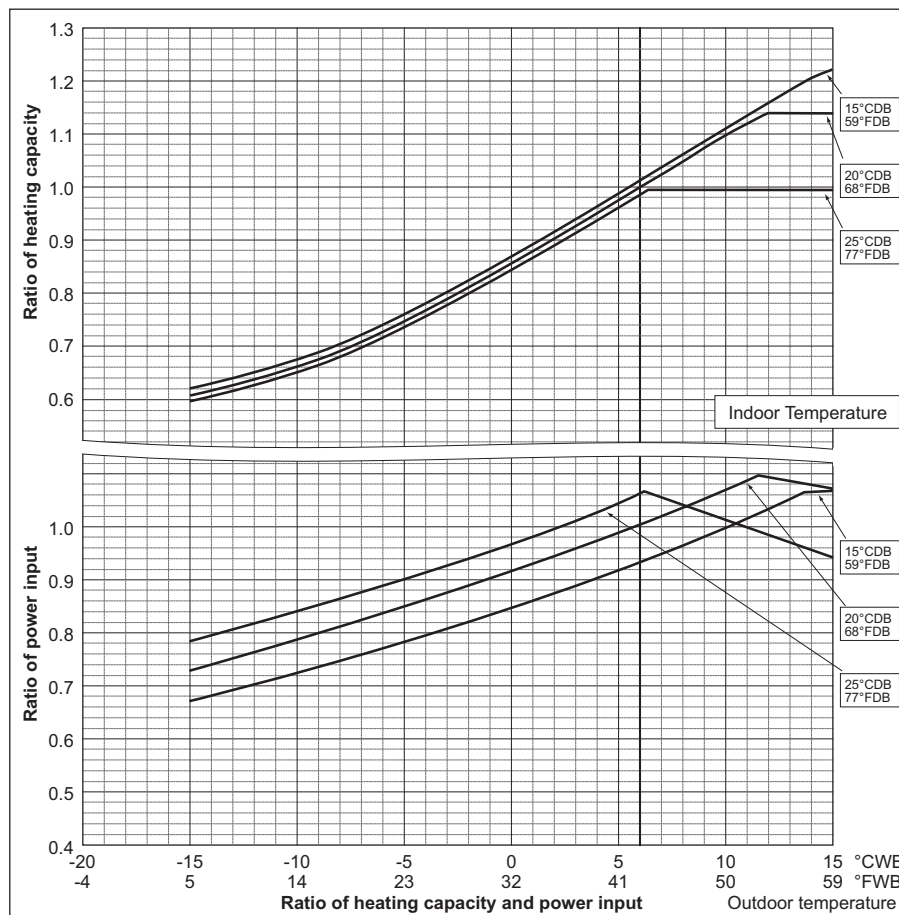
PUMY-		P100YHMB	P125YHMB
Nominal Cooling Capacity	kW	11.2	14.0
	kcal/h	9,600	12,000
	Btu/h	38,200	47,800
Input	kW	3.30	4.27

PUMY-		P140YHMB
Nominal Cooling Capacity	kW	15.5
	kcal/h	13,300
	Btu/h	52,900
Input	kW	5.32



PUMY-		P100YHMB	P125YHMB
Nominal Heating Capacity	kW	12.5	16.0
	kcal/h	10,800	13,800
	Btu/h	42,700	54,600
Input	kW	3.63	4.29

PUMY-		P140YHMB
Nominal Heating Capacity	kW	18.0
	kcal/h	15,500
	Btu/h	61,400
Input	kW	5.32

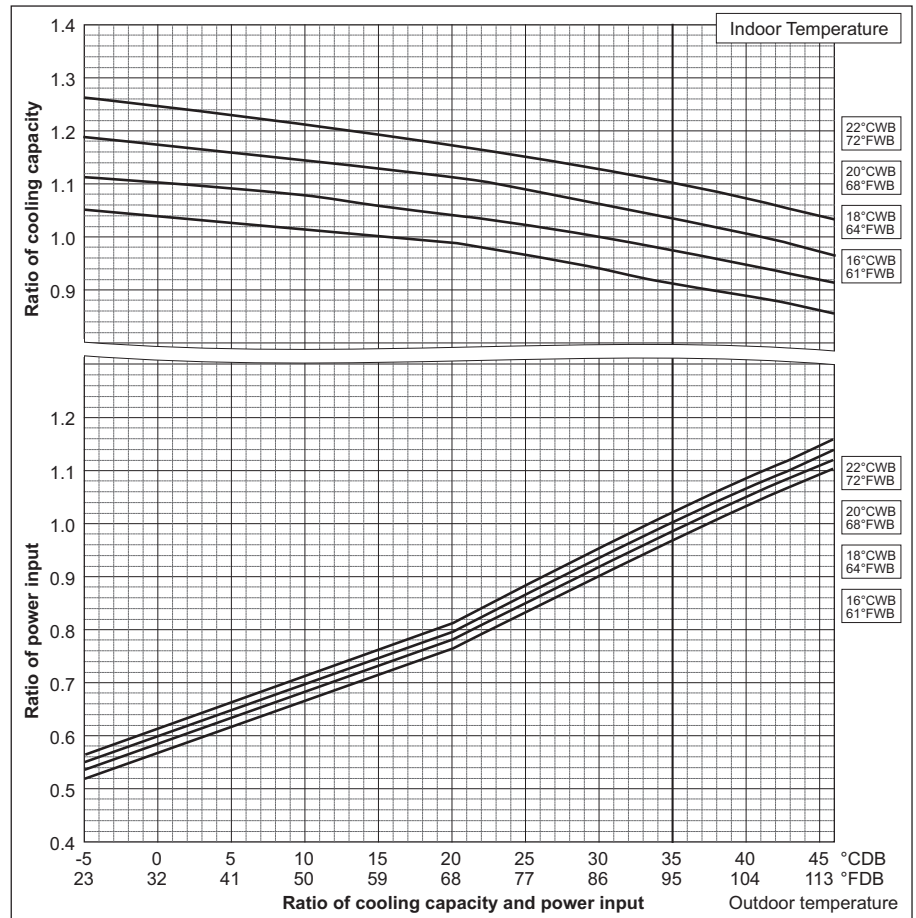


7. CAPACITY TABLES

DATA G6

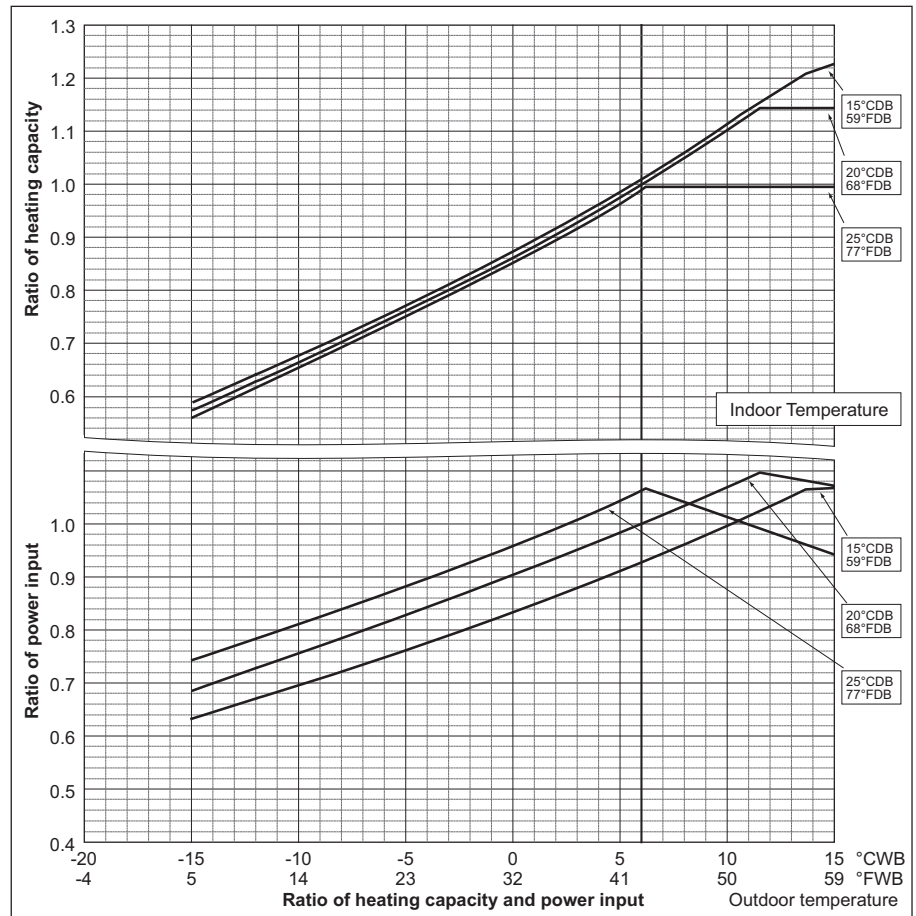
	PUMY-	P100VHMB	P125VHMB
Nominal Cooling Capacity	kW	11.2	14.0
	kcal/h	9,600	12,000
	Btu/h	38,200	47,800
Input	kW	3.34	4.32

	PUMY-	P140VHMB
Nominal Cooling Capacity	kW	15.5
	kcal/h	13,300
	Btu/h	52,900
Input	kW	5.35



	PUMY-	P100VHMB	P125VHMB
Nominal Heating Capacity	kW	12.5	16.0
	kcal/h	10,800	13,800
	Btu/h	42,700	54,600
Input	kW	3.66	4.33

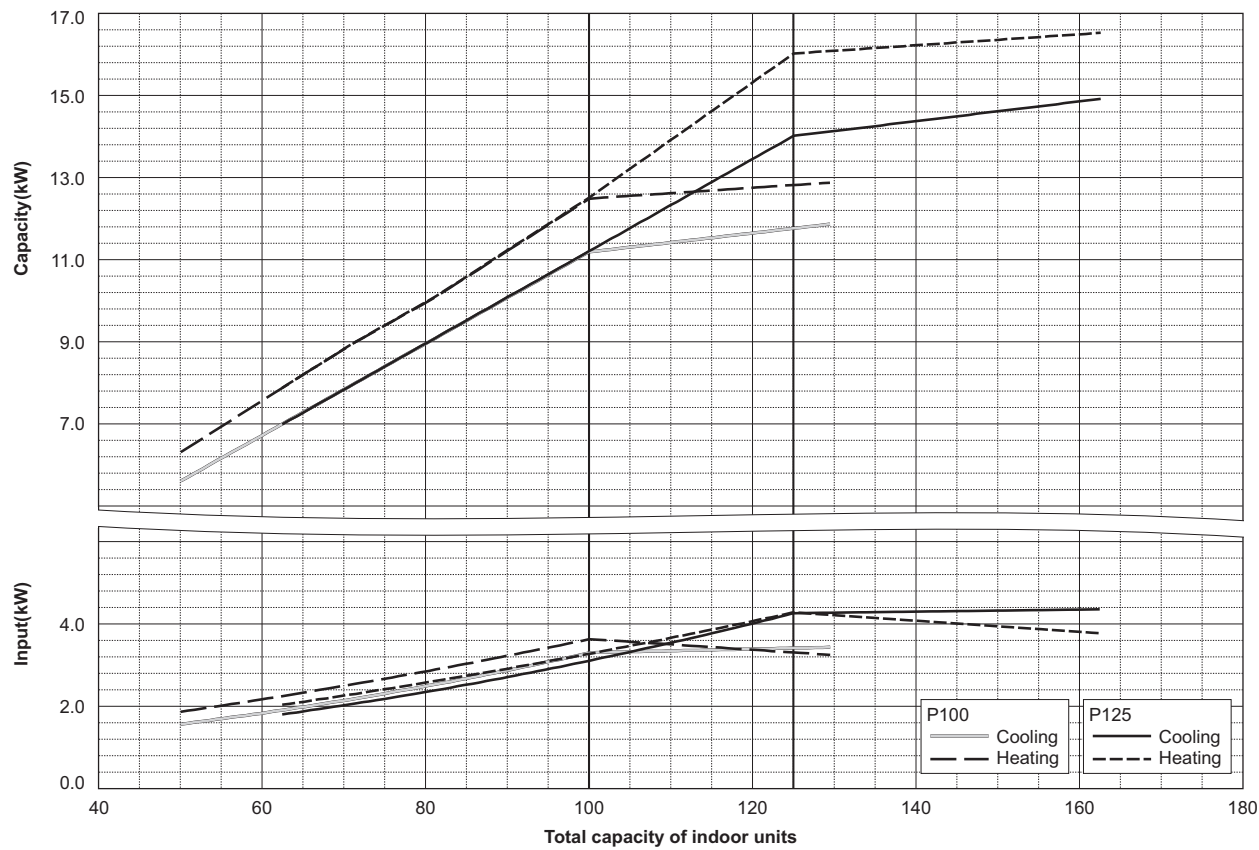
	PUMY-	P140VHMB
Nominal Heating Capacity	kW	18.0
	kcal/h	15,500
	Btu/h	61,400
Input	kW	5.58



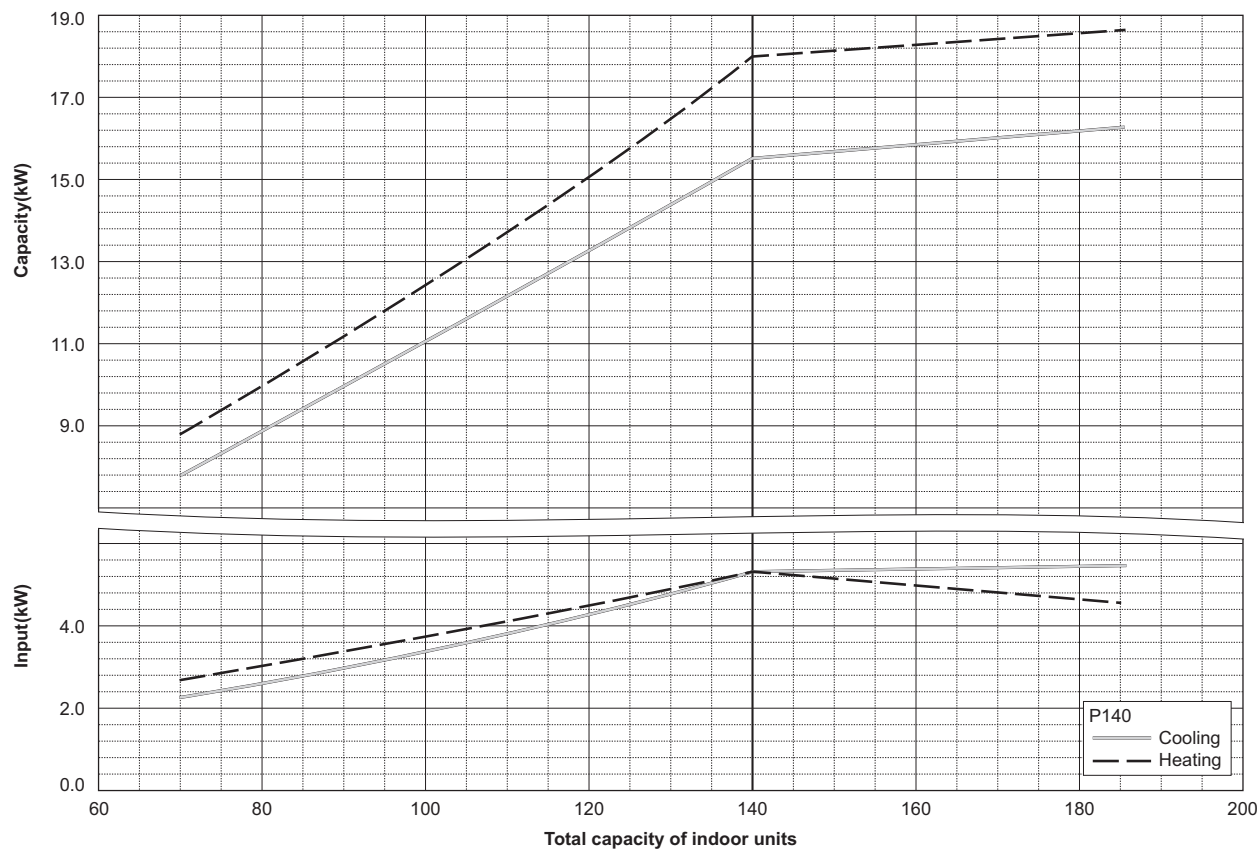
7-2. Correction by total indoor

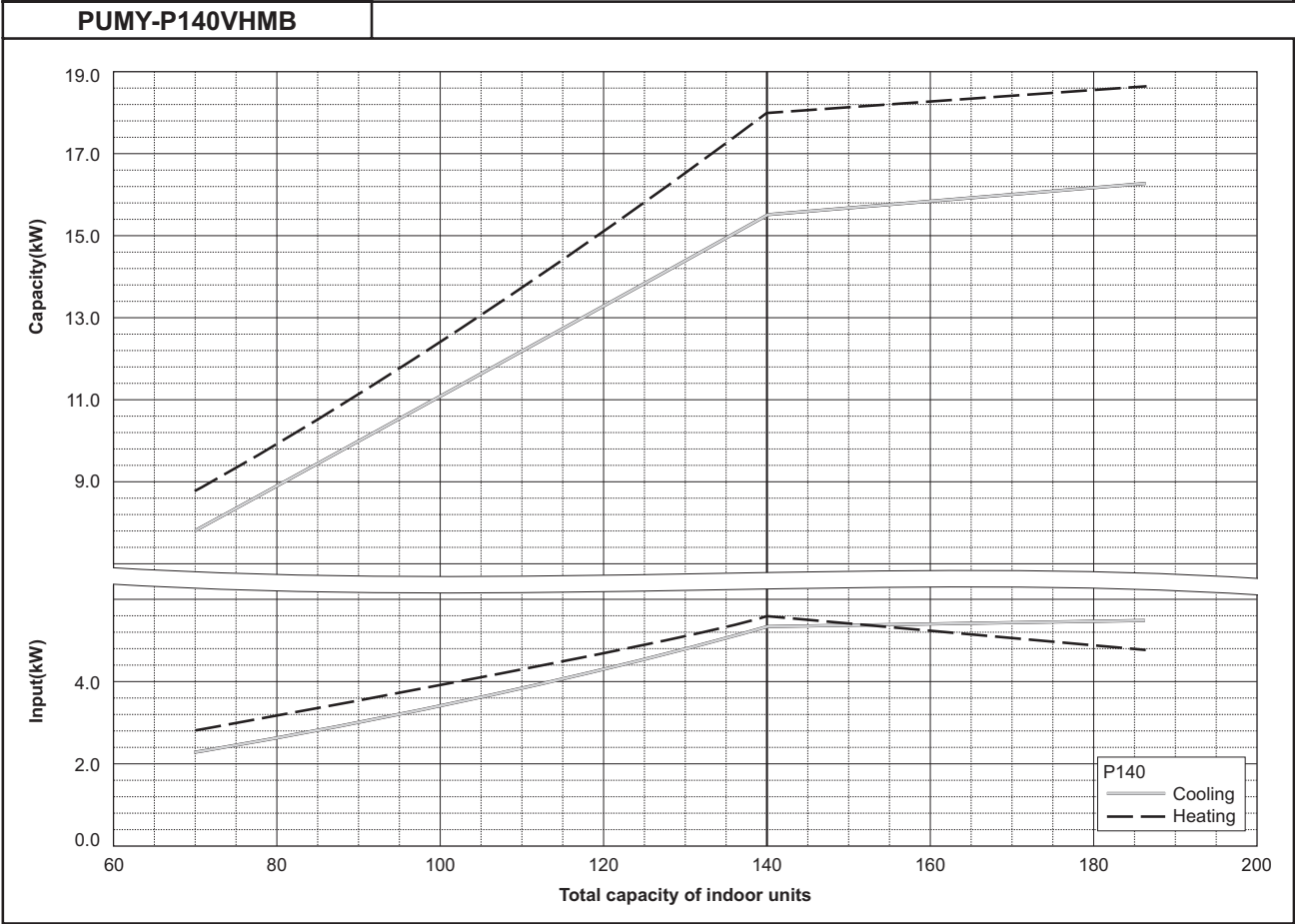
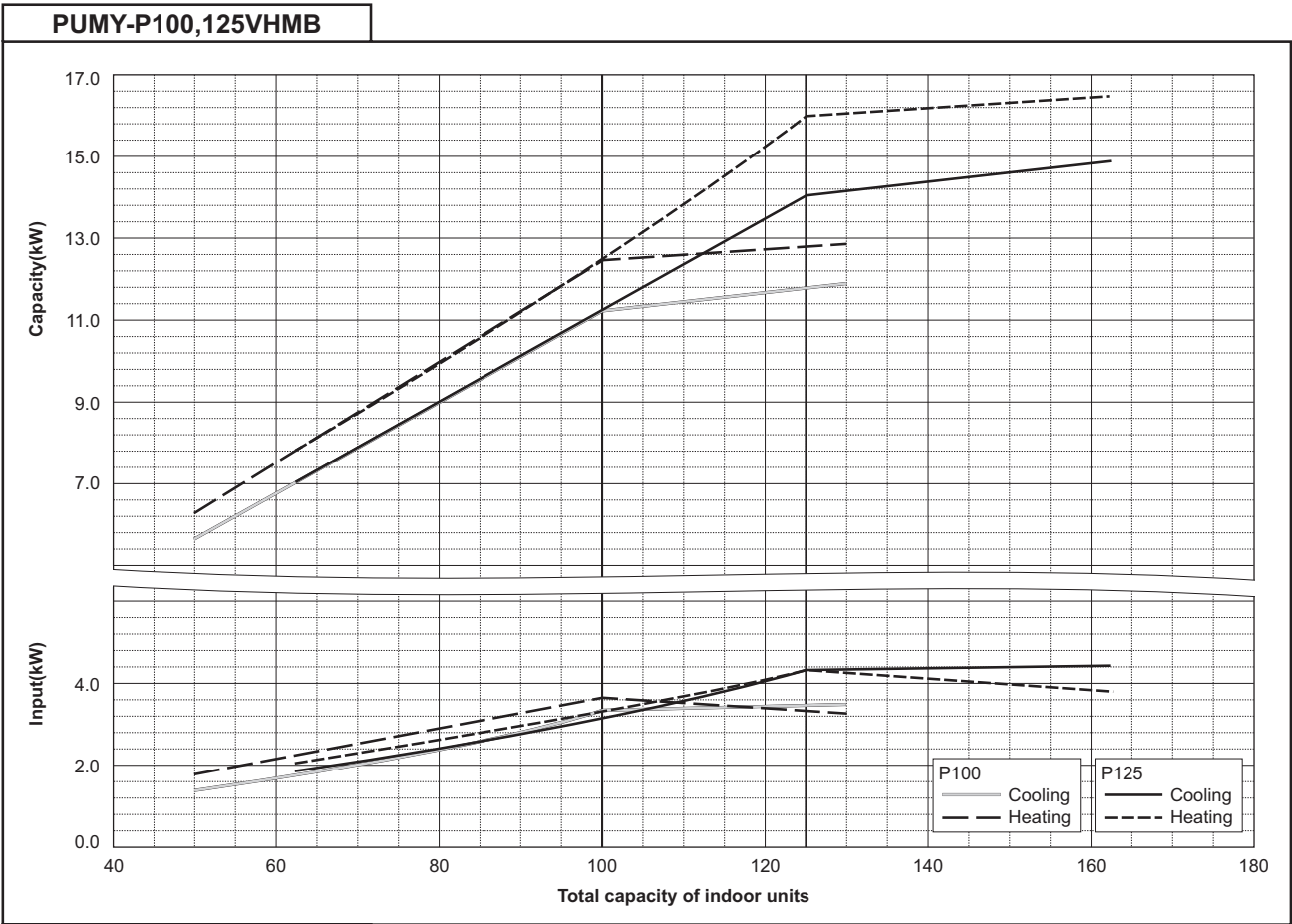
CITY MULTI system have different capacities and inputs when many combinations of indoor units with different total capacities are connected. Using following tables, the maximum capacity can be found to ensure the system is installed with enough capacity for a particular application.

PUMY-P100,125YHMB



PUMY-P140YHMB



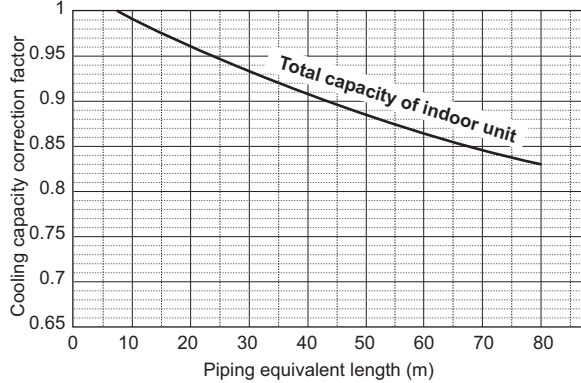


7-3. Correction by refrigerant piping length

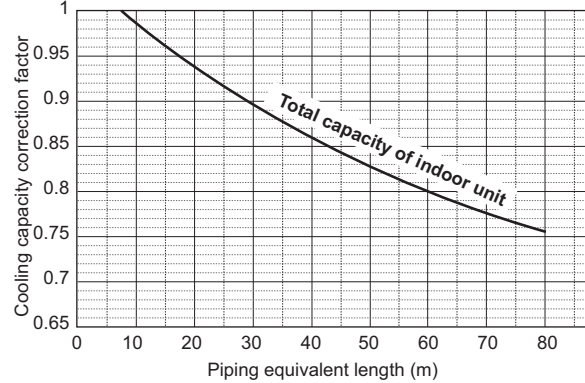
CITY MULTI systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 7-3-1 and 7-3-2, capacity can be found. 7-3-3 shows how to obtain the equivalent piping length.

7-3-1. Cooling capacity correction

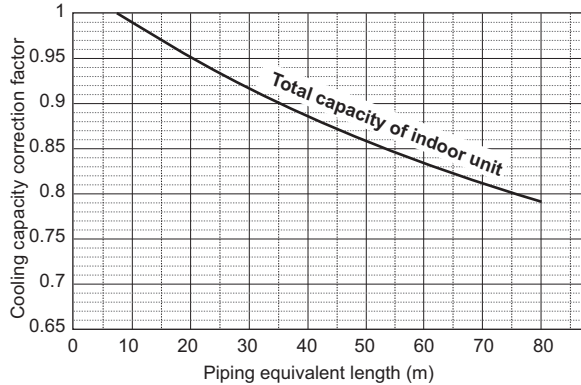
PUMY-P100YHMB,VHMB



PUMY-P140YHMB,VHMB

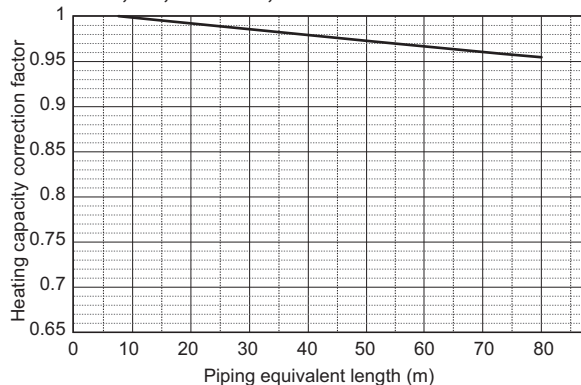


PUMY-P125YHMB,VHMB



7-3-2. Heating capacity correction

PUMY-P100,125,140YHMB,VHMB



7-3-3. How to obtain the equivalent piping length

1. PUMY-P100, 125, 140YHMB, VHMB

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.30 x number of bends on the piping) m

7-4. Correction at frost and defrost

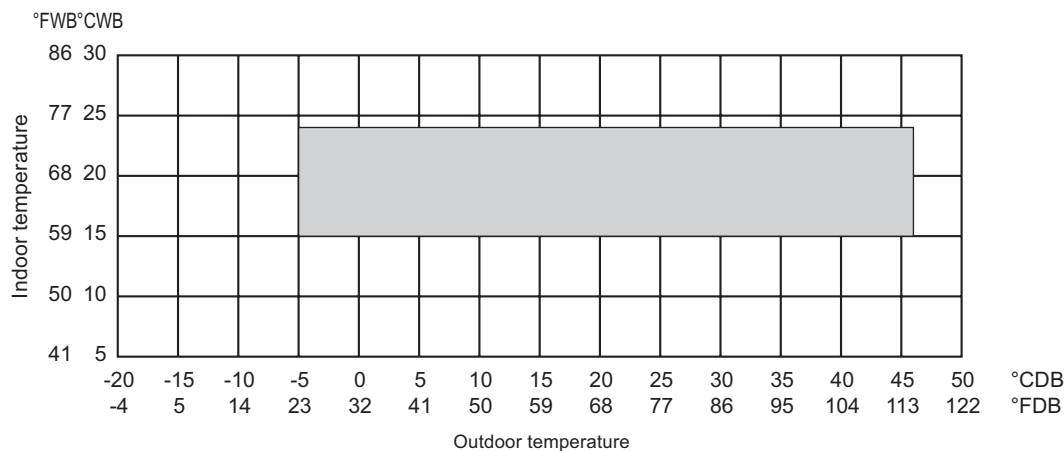
Due to frost at the outdoor heat exchanger and the automatical defrosting operation, the heating capacity of the outdoor unit should be considered by multiplying the correction factor which shown in the table below.

Table of correction factor at frosting and defrosting

Outdoor inlet air temp. °C	6	4	2	1	0	-2	-4	-6	-8	-10	-20
Outdoor inlet air temp. °F	43	39	36	34	32	28	25	21	18	14	-4
PUMY-P100, 125, 140YHMB	1.0	0.98	0.855	0.85	0.845	0.89	0.90	0.95	0.95	0.95	-
PUMY-P100, 125, 140VHMB	1.0	0.98	0.855	0.85	0.845	0.89	0.90	0.95	0.95	0.95	-

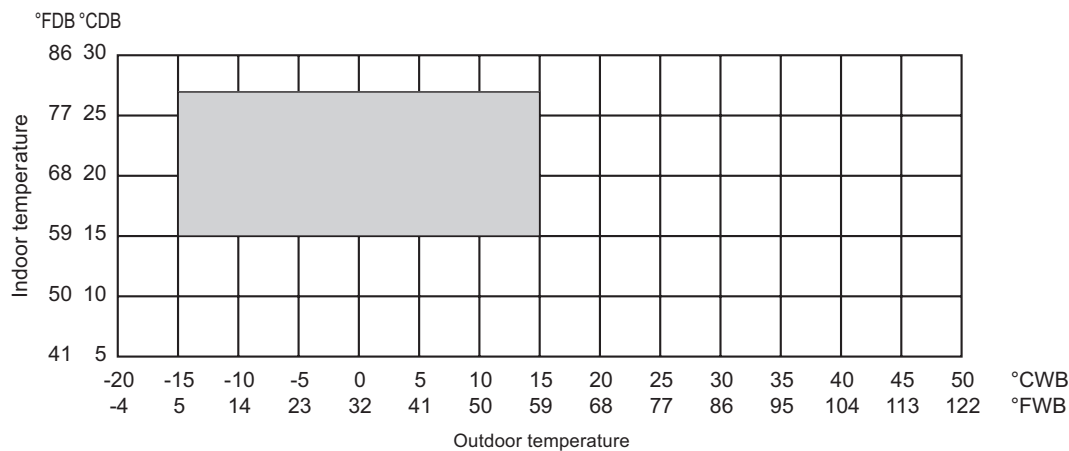
7-5. Operation temperature range

• Cooling



* 10 to 40°CDB (50 to 115°FDB): in case of connecting PKFY-P15/P20/P25 type indoor unit.

• Heating



8-1. JOINT

CITY MULTI piping can be easily installed with joints and headers provided by MITSUBISHI ELECTRIC CORP.. There is one set of piping joints. Details for installing the joint sets are found in System Design 3, or their own Installation Manual.

CMY-Y62-G-E

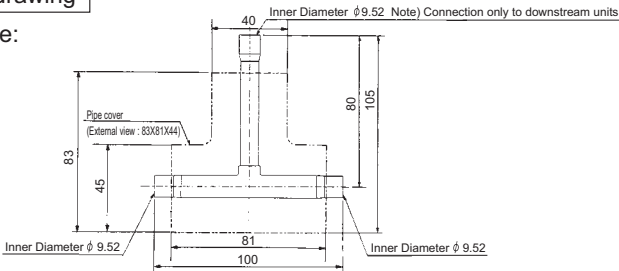
mm

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):

Diagram of a reducer showing inner diameter ϕA and outer diameter ϕB with a length of 80mm.

A (Inner Diameter)	B (Outer Diameter)	Number of reducers
$\phi 12.7$	$\phi 9.52$	2
$\phi 19.05$	$\phi 15.88$	1
$\phi 22.22$	$\phi 19.05$	1

For gas pipe:

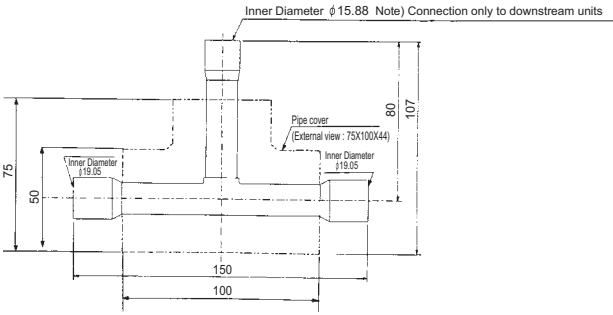


Diagram of a reducer showing inner diameter ϕC and outer diameter ϕD with a length of 80mm.

C (Inner Diameter)	D (Outer Diameter)	Number of reducers
$\phi 6.35$	$\phi 9.52$	2
$\phi 12.7$	$\phi 15.88$	1
$\phi 12.7$	$\phi 19.05$	1
$\phi 15.88$	$\phi 19.05$	2

8-2. HEADER

CITY MULTI piping can be easily installed with joints and headers provided by MITSUBISHI ELECTRIC CORP.. There are two sets of headers for piping. Details for installing the header sets are found in System Design 3, or their own Installation Manual.

CMY-Y64-G-E

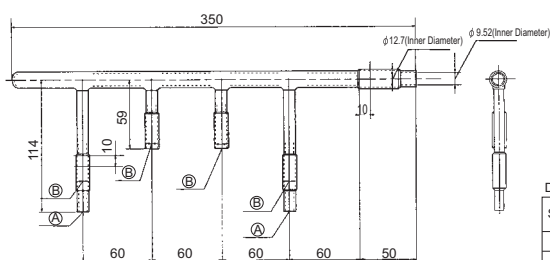
mm

1. Specification

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

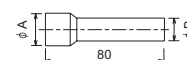
2. External drawing

For liquid pipe:



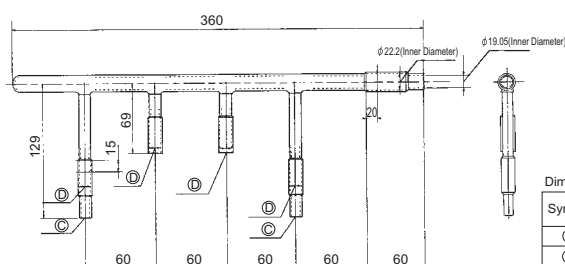
Symbol	Inner Diameter (mm)
(A)	φ 6.35
(B)	φ 9.52

Reducer (Accessory):

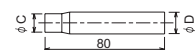


A (Inner Diameter)	B (Outer Diameter)	Number of reducers
φ 19.05	φ 15.88	1
φ 15.88	φ 12.7	2
φ 9.52	φ 6.35	2

For gas pipe:



Symbol	Inner Diameter (mm)
(C)	φ 12.7
(D)	φ 15.88



C (Inner Diameter)	D (Outer Diameter)	Number of reducers
φ 15.88	φ 19.05	1
φ 9.52	φ 12.7	1

CMY-Y68-G-E

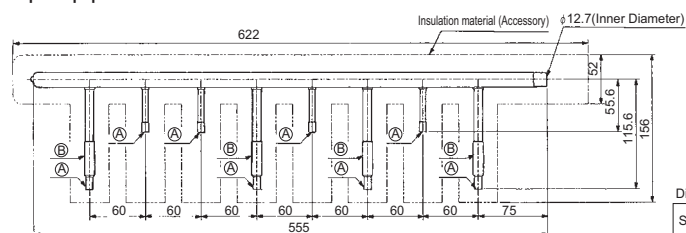
mm

1. Specification

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

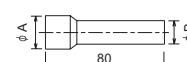
2. External drawing

For liquid pipe:



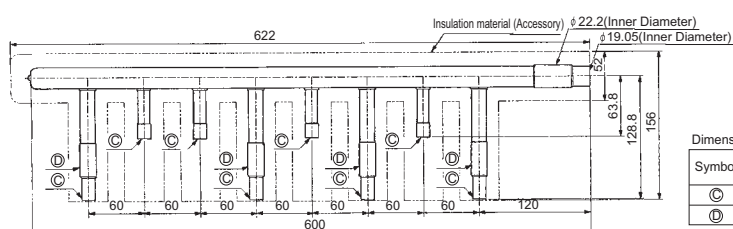
Symbol	Inner Diameter (mm)
(A)	φ 6.35
(B)	φ 9.52

Reducer (Accessory):

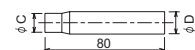


A (Inner Diameter)	B (Outer Diameter)	Number of reducers
φ 19.05	φ 15.88	1
φ 12.7	φ 9.52	1

For gas pipe:



Symbol	Inner Diameter (mm)
(C)	φ 12.7
(D)	φ 15.88



C (Inner Diameter)	D (Outer Diameter)	Number of reducers
φ 15.88	φ 19.05	1

