

AIR CONDITIONING SYSTEMS

SMART MULTI



DATA BOOK

MODEL

MXZ-SM36/48/60NAM-U1

MXZ-SM36/42/48NAMHZ-U1



MXZ-SM model

Type(Btu/h)	36,000	48,000	60,000
Model Name	MXZ-SM36NAM-U1	MXZ-SM48NAM-U1	MXZ-SM60NAM-U1

H2i MXZ-SM model

Type(Btu/h)	36,000	42,000	48,000
Model Name	MXZ-SM36NAMHZ-U1	MXZ-SM42NAMHZ-U1	MXZ-SM48NAMHZ-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

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1. SPECIFICATIONS

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Service Ref.		MXZ-SM36NAM-U1			MXZ-SM48NAM-U1			
Indoor type		Non-Ducted	Mix	Ducted	Non-Ducted	Mix	Ducted	
Cooling	Capacity Rated*1	Btu/h	36,000	36,000	36,000	48,000	48,000	48,000
	Rated power consumption*1	W	2,400	2,610	2,855	3,665	3,930	4,245
	Current input (208/230V)	A	11.7/10.6	12.7/11.5	13.9/12.6	17.9/16.2	19.2/17.3	20.7/18.7
	EER	Btu/h/W	15.00	13.80	12.60	13.10	12.20	11.30
	SEER	-	23.0	20.7	18.3	23.0	19.8	16.5
Heating	Capacity Rated 47°F*1	Btu/h	42,000	42,000	42,000	54,000	54,000	54,000
	Capacity Max. 17°F*2	Btu/h	36,000	36,000	36,000	43,000	43,000	43,000
	Capacity Max. 5°F	Btu/h	29,000	29,000	29,000	36,800	36,800	36,800
	Rated power consumption 47°F*1	W	3,080	3,200	3,325	3,955	4,335	4,795
	Current input (208/230V)	A	15.0/13.6	15.6/14.1	16.2/14.7	19.3/17.5	21.2/19.1	23.4/21.2
	COP 47°F*1	W/W	4.00	3.85	3.70	4.00	3.65	3.30
	HSPF IV/V	-	12.5/9.2	11.8/8.9	11.2/8.6	12.0/9.0	11.5/8.6	11.0/8.3
Power supply		1 Phase 208/230 V, 60 Hz						
Breaker Size/Max. fuse size		30 A/40 A (When power is supplied separately) 40 A/50 A (When power is supplied from the outdoor unit)						
Min. circuit ampacity		29 A (When power is supplied separately) 35 A (When power is supplied from the outdoor unit)						
Indoor unit connectable	Total capacity	50 to 130% of outdoor unit capacity						
	Model/Quantity *3	City multi	04 - 36/11			04 - 54/12		
		Branch box	06 - 36/4			06 - 36/8		
Sound pressure level (measured in anechoic room)		dB <A>	49/53			51/54		
Refrigerant piping diameter	Liquid pipe	inch (mm)	ø3/8 (9.52)					
	Gas pipe	inch (mm)	ø5/8 (15.88)					
Fan	Type × Quantity		Propeller fan × 2					
	Airflow rate	m³/min	110					
		L/s	1,834					
		cfm	3,885					
	Control, Driving mechanism		DC control					
	Motor output	kW	0.074 + 0.074					
External static press.		0						
Compressor	Type × Quantity		Scroll hermetic compressor × 1					
	Manufacture		Mitsubishi Electric Corporation					
	Starting method		Inverter					
	Motor output	kW	2.8		3.4			
	Case heater	kW	0					
	Lubricant		FV50S 78oz. (2.3L)					
External finish		Galvanized Steel Sheet <Munsell 3Y 7.8/ 1.1>						
External dimension H × W × D		mm	1,338 × 1,050 × 330 (+40)					
		inch	52-11/16 × 41-11/32 × 13 (+1-9/16)					
Protection devices	High pressure protection		HP switch					
	Inverter circuit (COMP./FAN)		Overcurrent detection, Overheat detection (Heat sink thermistor)					
	Compressor protection		Compressor thermo, Overcurrent detection					
	Fan motor protection		Overheating/Voltage protection					
Refrigerant	Type × original charge		R410A 10 lbs. 9 oz. (4.8kg)					
	Control		Linear Expansion Valve					
Net weight		lb (kg)	271 (123)					
Heat exchanger		Cross fin and tube						
HIC circuit (HIC: Heat Inter-Changer)		HIC circuit						
Defrosting method		Reversed refrigerant circuit						
Guaranteed operation range		(Cooling)	D.B 23 to 115°F [D.B.-5 to 46°C] *4*5*6					
		(Heating)	D.B.-13 to 70°F [D.B. -25 to 21°C]					
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.						

*1 Rating conditions Cooling Indoor : D.B. 80°F/W.B. 67 °F [D.B.26.7°C/W.B. 19.4°C]
Outdoor : D.B. 95°F [D.B. 35.0°C]

Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 47°F/W.B. 43°F [D.B. 8.3°C/W.B. 6.1°C]

*2 Conditions Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 17°F/W.B. 15°F [D.B. -8.3°C/W.B. -9.4°C]

*3 It can not be connected mixed city multi indoor unit and branch box indoor unit.

*4 D.B. 5 to 115°F [D.B. -15 to 46°C], when an optional Air Outlet Guide is installed.

However, this condition does not apply to the indoor units listed in *5.

*5 50 to 115°F (10 to 46°C) D.B.: When connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.

*6 When the temperature is below D.B. 50°F [D.B. 10°C] with branch box system, noise could potentially occur.

Note: Refer to the indoor unit's service manual for the indoor units specifications.

Conversion formula:	kcal/h = kW × 860
	Btu/h = kW × 3412
	CFM = m³/min × 35.31

1. SPECIFICATIONS

S-Series

Service Ref.		MXZ-SM36NAMHZ-U1			MXZ-SM42NAMHZ-U1			MXZ-SM48NAMHZ-U1				
Indoor type		Non-Ducted	Mix	Ducted	Non-Ducted	Mix	Ducted	Non-Ducted	Mix	Ducted		
Cooling	Capacity Rated*1	Btu/h	36,000	36,000	36,000	42,000	42,000	42,000	48,000	48,000	48,000	
	Rated power consumption*1	W	2,400	2,610	2,855	3,135	3,440	3,820	3,665	3,930	4,245	
	Current input (208/230V)	A	11.7/10.6	12.7/11.5	13.9/12.6	15.3/13.8	16.8/15.2	18.6/16.9	17.9/16.2	19.2/17.3	20.7/18.7	
	EER	Btu/h/W	15.00	13.80	12.60	13.40	12.20	11.00	13.10	12.20	11.30	
	SEER	-	23.0	20.7	18.3	22.0	20.0	18.0	23.0	19.8	16.5	
Heating	Capacity Rated 47°F*1	Btu/h	42,000	42,000	42,000	48,000	48,000	48,000	54,000	54,000	54,000	
	Capacity Max. 17°F*2	Btu/h	42,000	42,000	42,000	48,000	48,000	48,000	54,000	54,000	54,000	
	Capacity Max. 5°F	Btu/h	42,000	42,000	42,000	48,000	48,000	48,000	54,000	54,000	54,000	
	Rated power consumption 47°F*1	W	3,080	3,200	3,325	3,430	3,750	4,140	3,955	4,335	4,795	
	Current input (208/230V)	A	15.0/13.6	15.6/14.1	16.2/14.7	16.7/15.1	18.3/16.6	20.2/18.3	19.3/17.5	21.2/19.1	23.4/21.2	
	COP 47°F*1	W/W	4.00	3.85	3.70	4.10	3.75	3.40	4.00	3.65	3.30	
	HSPF IV/V	-	12.5/10.3	12.1/9.9	11.7/9.5	12.0/9.5	11.5/9.5	11.0/9.5	12.0/9.4	11.5/9.2	11.0/9.0	
Power supply	1 Phase 208/230 V, 60 Hz											
Breaker Size/Max. fuse size	40 A/40 A (When power is supplied separately) 45 A/50 A (When power is supplied from the outdoor unit)											
Min. circuit ampacity	36 A (When power is supplied separately) 42 A (When power is supplied from the outdoor unit)											
Indoor unit connectable	Total capacity	50 to 130% of outdoor unit capacity										
	Model/Quantity *3	City multi	04 - 36/11			04 - 54/12			04 - 54/12			
		Branch box	06 - 36/4			06 - 36/5			06 - 36/8			
Sound pressure level (measured in anechoic room)	dB <A>	49/53			50/54			51/54				
Refrigerant piping diameter	Liquid pipe	inch (mm)	ø3/8 (9.52)									
	Gas pipe	inch (mm)	ø5/8 (15.88)									
Fan	Type × Quantity	Propeller fan × 2										
	Airflow rate	m ³ /min	110									
		L/s	1,834									
		cfm	3,885									
	Control, Driving mechanism	DC control										
	Motor output	kW	0.074 + 0.074									
External static press.	0											
Compressor	Type × Quantity	Scroll hermetic compressor × 1										
	Manufacture	Mitsubishi Electric Corporation										
	Starting method	Inverter										
	Motor output	kW	2.8			2.9			3.4			
	Case heater	kW	0									
	Lubricant	FV50S 78oz. (2.3L)										
External finish	Galvanized Steel Sheet <Munsell 3Y 7.8/ 1.1>											
External dimension H × W × D	mm	1,338 × 1,050 × 330 (+40)										
	inch	52-11/16 × 41-11/32 × 13 (+1-9/16)										
Protection devices	High pressure protection	HP switch										
	Inverter circuit (COMP./FAN)	Overcurrent detection, Overheat detection (Heat sink thermistor)										
	Compressor protection	Compressor thermo, Overcurrent detection										
	Fan motor protection	Overheating/Voltage protection										
Refrigerant	Type x original charge	R410A 10 lbs. 9 oz. (4.8kg)										
	Control	Linear Expansion Valve										
Net weight	lb (kg)	278 (126)										
Heat exchanger	Cross fin and tube											
HIC circuit (HIC: Heat Inter-Changer)	HIC circuit											
Defrosting method	Reversed refrigerant circuit											
Guaranteed operation range	(Cooling)	D.B 23 to 115°F [D.B.-5 to 46°C] *4*5*6										
	(Heating)	D.B. -13 to 70°F [D.B. -25 to 21°C]										
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.											

- *1 Rating conditions Cooling Indoor : D.B. 80°F/W.B. 67 °F [D.B.26.7°C/W.B. 19.4°C]
Outdoor : D.B. 95°F [D.B. 35.0°C]
Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 47°F/W.B. 43°F [D.B. 8.3°C/W.B. 6.1°C]
- *2 Conditions Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 17°F/W.B. 15°F [D.B. -8.3°C/W.B. -9.4°C]
- *3 It can not be connected mixed city multi indoor unit and branch box indoor unit.
- *4 D.B. 5 to 115°F [D.B. -15 to 46°C], when an optional Air Outlet Guide is installed.
However, this condition does not apply to the indoor units listed in *5.
- *5 50 to 115°F (10 to 46°C)D.B.: When connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.
- *6 When the temperature is below D.B. 50°F [D.B. 10°C] with branch box system, noise could potentially occur.

Note: Refer to the indoor unit's service manual for the indoor units specifications.

Conversion formula:	kcal/h = kW × 860
	Btu/h = kW × 3412
	CFM = m ³ /min × 35.31

1. SPECIFICATIONS

S-Series

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Service Ref.		MXZ-SM60NAM-U1			
Indoor type		Non-Ducted	Mix	Ducted	
Cooling	Capacity Rated*1	Btu/h	60,000	60,000	60,000
	Rated power consumption*1	W	4,510	4,920	5,405
	Current input (208/230V)	A	21.9/19.8	23.9/21.6	26.3/23.8
	EER	Btu/h/W	13.30	12.20	11.10
	SEER	-	20.0	18.9	17.8
Heating	Capacity Rated 47°F*1	Btu/h	66,000	66,000	66,000
	Capacity Max. 17°F*2	Btu/h	65,000	65,000	65,000
	Capacity Max. 5°F	Btu/h	57,000	57,000	57,000
	Rated power consumption 47°F*1	W	4,720	4,960	5,230
	Current input (208/230V)	A	22.9/20.7	24.1/21.8	25.4/23.0
	COP 47°F*1	W/W	4.10	3.90	3.70
	HSPF IV/V	-	12.0/8.8	11.3 / 8.3	10.7/7.8
Power supply		1 Phase 208/230 V, 60 Hz			
Breaker Size/Max. fuse size		40 A/50 A (When power is supplied separately) 50 A/55 A (When power is supplied from the outdoor unit)			
Min. circuit ampacity		36A (When power is supplied separately) 46A (When power is supplied from the outdoor unit)			
Indoor unit connectable	Total capacity		50 to 130% of outdoor unit capacity		
	Model/Quantity*3	City multi	04 - 72 / 12		
		Branch box	06 - 36 / 8		
Sound pressure level (measured in anechoic room)		dB <A>	58/59		
Refrigerant piping diameter	Liquid pipe	inch (mm)	ø3/8 (9.52)		
	Gas pipe	inch (mm)	ø3/4 (19.05)		
Fan	Type x Quantity		Propeller fan x 2		
	Airflow rate	m³/min	138		
		L/s	2,300		
		cfm	4,879		
	Control, Driving mechanism		DC control		
Motor output	kW	0.2 + 0.2			
External static press.		0			
Compressor	Type x Quantity		Scroll hermetic compressor x 1		
	Manufacture		Mitsubishi Electric Corporation		
	Starting method		Inverter		
	Motor output	kW	3.9		
	Case heater	kW	0		
Lubricant		FVC68D 78oz. (2.3L)			
External finish		Galvanized Steel Sheet <Munsell 3Y 7.8/ 1.1>			
External dimension H x W x D		mm	1,338 x 1,050 x 330 (+40)		
		inch	52-11/16 x 41-11/32 x 13 (+1-9/16)		
Protection devices	High pressure protection		HP switch		
	Inverter circuit (COMP./FAN)		Overcurrent detection, Overheat detection(Heat sink thermistor)		
	Compressor protection		Compressor thermo, Overcurrent detection		
	Fan motor protection		Overheating/Voltage protection		
Refrigerant	Type x original charge		R410A 11 lbs. 4 oz. (5.1kg)		
	Control		Linear Expansion Valve		
Net weight	lb (kg)	302 (137)			
Heat exchanger		Cross fin and tube			
HIC circuit (HIC: Heat Inter-Changer)		HIC circuit			
Defrosting method		Reversed refrigerant circuit			
Guaranteed operation range	(Cooling)	D.B 23 to 115°F [D.B.-5 to 46°C] *4*5*6			
	(Heating)	D.B. -13 to 70°F [D.B. -25 to 21°C]			
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.			

*1 Rating conditions Cooling Indoor : D.B. 80°F/W.B. 67 °F [D.B.26.7°C/W.B. 19.4°C]
Outdoor : D.B. 95°F [D.B. 35.0°C]
Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 47°F/W.B. 43°F [D.B. 8.3°C/W.B. 6.1°C]

Conversion formula:	kcal/h = kW × 860
	Btu/h = kW × 3412
	CFM = m³/min × 35.31

*2 Conditions Heating Indoor : D.B. 70°F [D.B. 21.1°C]
Outdoor : D.B. 17°F/W.B. 15°F [D.B. -8.3°C/W.B. -9.4°C]

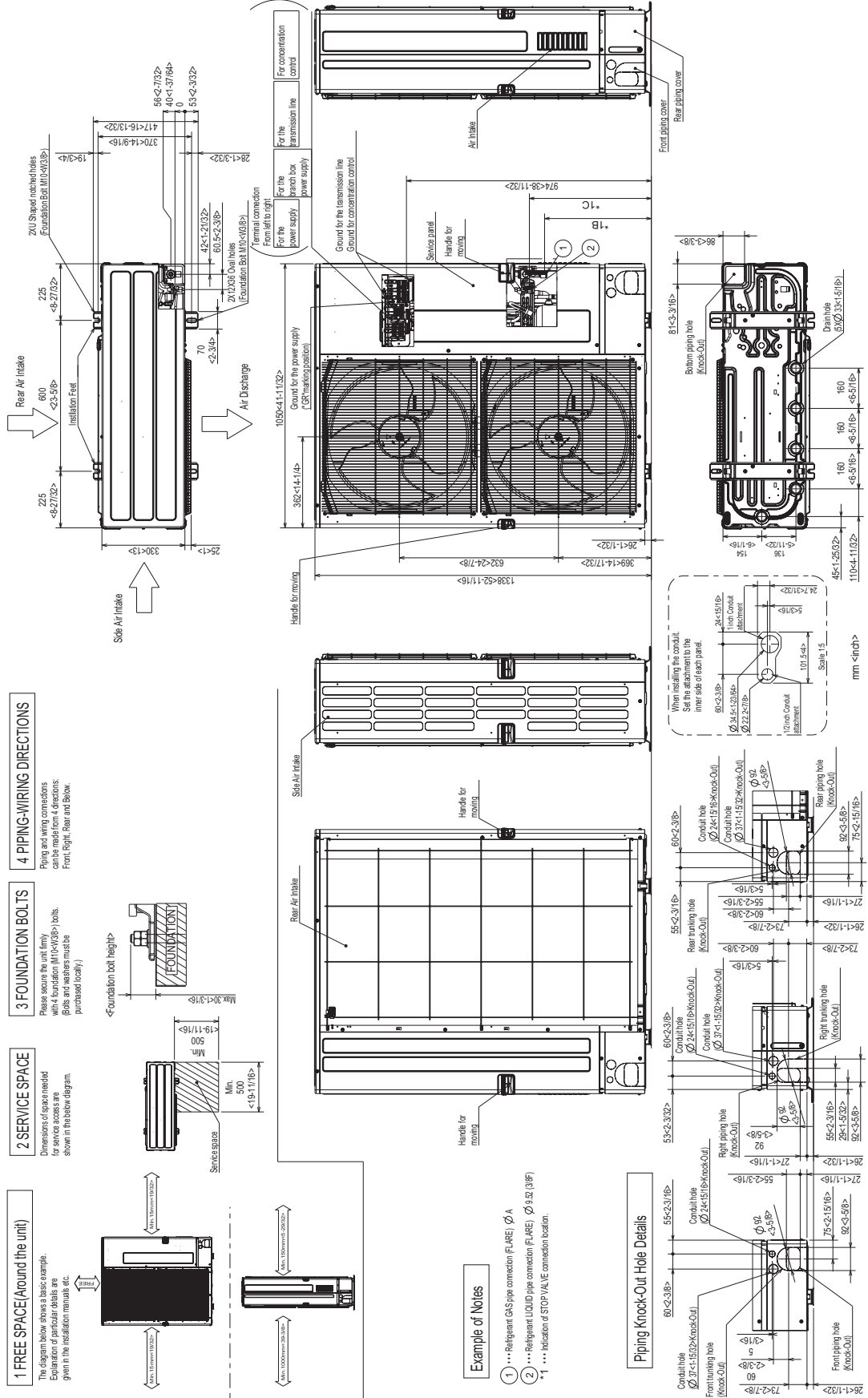
*3 It can not be connected mixed city multi indoor unit and branch box indoor unit.
*4 D.B. 5 to 115°F [D.B. -15 to 46°C], when an optional Air Outlet Guide is installed.
However, this condition does not apply to the indoor units listed in *5.

*5 50 to 115°F (10 to 46°C) D.B.: When connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.

*6 When the temperature is below D.B. 50°F [D.B. 10°C] with branch box system, noise could potentially occur.
Note: Refer to the indoor unit's service manual for the indoor units specifications.

MXZ-SM36, 48, 60NAM-U1
MXZ-SM36, 42, 48NAMHZ-U1

Unit: mm[in.]



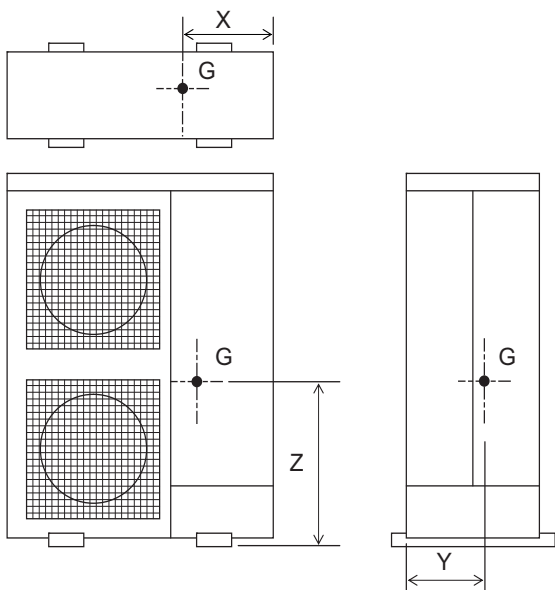
MODEL NAME	DIMENSION A	DIMENSION B	DIMENSION C
MXZ-SM36NAMHZ	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MXZ-SM42NAMHZ	19.05 (3/4F)	393 <15-15/32>	450 <17-23/32>
MXZ-SM48NAM	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>

MXZ-SM36NAMHZ, MXZ-SM42NAMHZ, MXZ-SM48NAM

MXZ-SM36/48/60NAM-U1
 MXZ-SM36/42/48NAMHZ-U1

Unit: mm[in.]

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

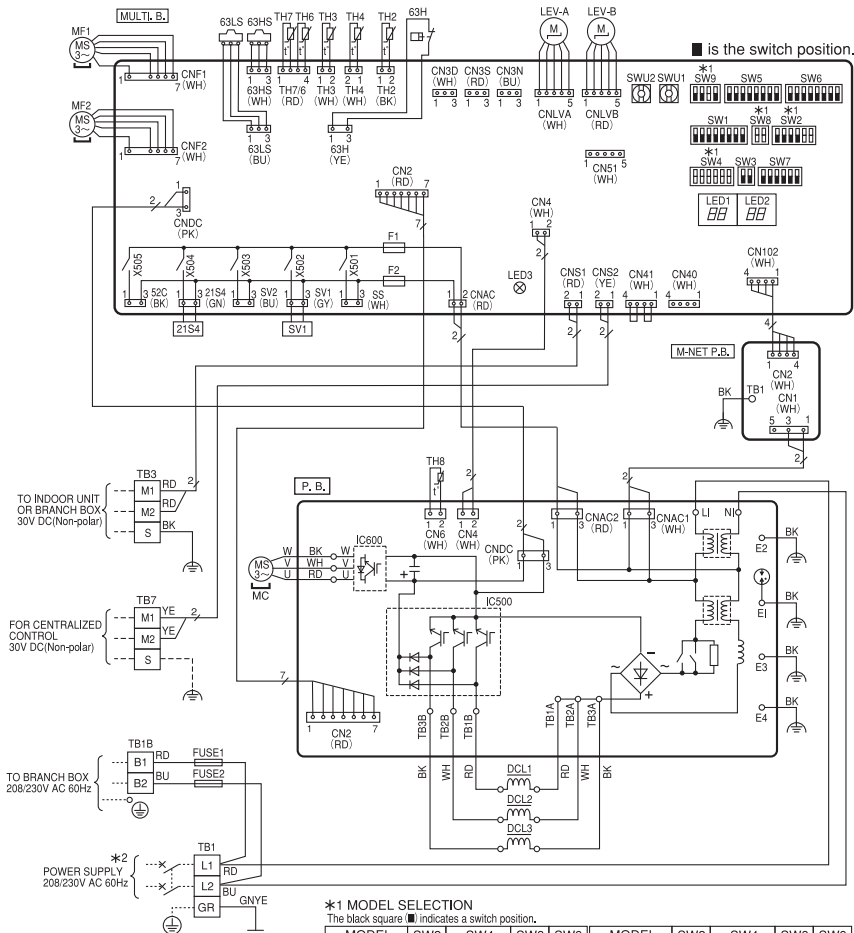


Model	X	Y	Z
MXZ-SM36/48NAM-U1	370 [14-9/16]	160[6-19/64]	565[22-7/32]
MXZ-SM60NAM-U1	410 [16-9/64]	175[6-57/64]	560[22-3/64]
MXZ-SM36/42/48NAMHZ-U1	380[15]	165[6-1/2]	575[22-41/64]

MXZ-SM36, 48NAM-U1

[LEGEND]

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block (Power Supply)	TH7	Thermistor (Ambient)	SW5	Switch (Function Selection)
TB1B	Terminal Block (Branch Box)	TH8	Thermistor (Heat Sink)	SW6	Switch (Function Selection)
TB3	Terminal Block (Indoor/Outdoor, Branch Box/Outdoor Transmission Line)	LEV-A, LEV-B	Linear Expansion Valve	SW7	Switch (Function Selection)
TB7	Terminal Block (Centralized Control Transmission Line)	DCL1, DCL2, DCL3	Reactor	SW8	Switch (Model Selection)
FUSE1, FUSE2	Fuse (T20A L250V)	P.B.	Power Circuit Board	SW9	Switch (Function/Model Selection)
MC	Motor for Compressor	U/V/W	Connection Terminal (U/V/W-Phase)	SWU1	Switch (Unit Address Selection, ones digit)
MF1, MF2	Fan Motor	L1	Connection Terminal (L1-Phase)	SWU2	Switch (Unit Address Selection, tens digit)
21S4	Solenoid Valve Coil (4-Way Valve)	NI	Connection Terminal (L2-Phase)	SS	Connector (Connection for Option)
63H	High Pressure Switch	TB1A, TB2A, TB3A	Connection Terminal (Reactor)	CN3D	Connector (Connection for Option)
63HS	High Pressure Sensor	TB1B, TB2B, TB3B	Connection Terminal (Reactor)	CN3S	Connector (Connection for Option)
63LS	Low Pressure Sensor	IC500	Converter	CN3N	Connector (Connection for Option)
SV1	Solenoid Valve Coil (Bypass Valve)	IC600	Inverter	CN51	Connector (Connection for Option)
TH2	Thermistor (Hic Pipe)	E1, E2, E3, E4	Connection Terminal (Electrical Parts Box)	LED1, LED2	LED (Operation Inspection Display)
TH3	Thermistor (Outdoor Liquid Pipe)	MULTI.B.	Multi Controller Circuit Board	LED3	LED (Power Supply to Main Microcomputer)
TH4	Thermistor (Compressor)	SW1	Switch (Display Selection)	F1, F2	Fuse (T6.3A L250V)
TH6	Thermistor (Suction Pipe)	SW2	Switch (Function/Model Selection)	X501~X505	Relay
		SW3	Switch (Test Run)	M-NET P.B.	M-NET Power Circuit Board
		SW4	Switch (Model Selection)	TB1	Connection Terminal (Electrical Parts Box)



*1 MODEL SELECTION
The black square ■ indicates a switch position.

MODEL	SW2	SW4	SW8	SW9	MODEL	SW2	SW4	SW8	SW9
MXZ-SM36NAM	ON OFF	ON OFF	ON OFF	ON OFF	MXZ-SM48NAM	ON OFF	ON OFF	ON OFF	ON OFF

*2 Use copper supply wires.
Utiliser des fils d'alimentation en cuivre.

*3 When a branch box is connected, SW2-5 should be ON.

Cautions when Servicing

- ⚠ WARNING: When the main supply is turned off, the voltage in the main capacitor will drop to 20 VDC in approx. 2 minutes. When servicing, make sure that LED1, LED2 on the outdoor multi controller circuit board goes out, and then wait for at least 1 minute.
- Components other than the outdoor circuit boards may be faulty: Check and take corrective action, referring to the service manual. Do not replace the outdoor circuit boards 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) and LED indication (LED1, LED2) found on the outdoor multi controller circuit board.
LED indication : Set all contacts of SW1 to OFF.

- During normal operation
The LED indicates the drive state of 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 check code and the address of the unit in which the fault has occurred.

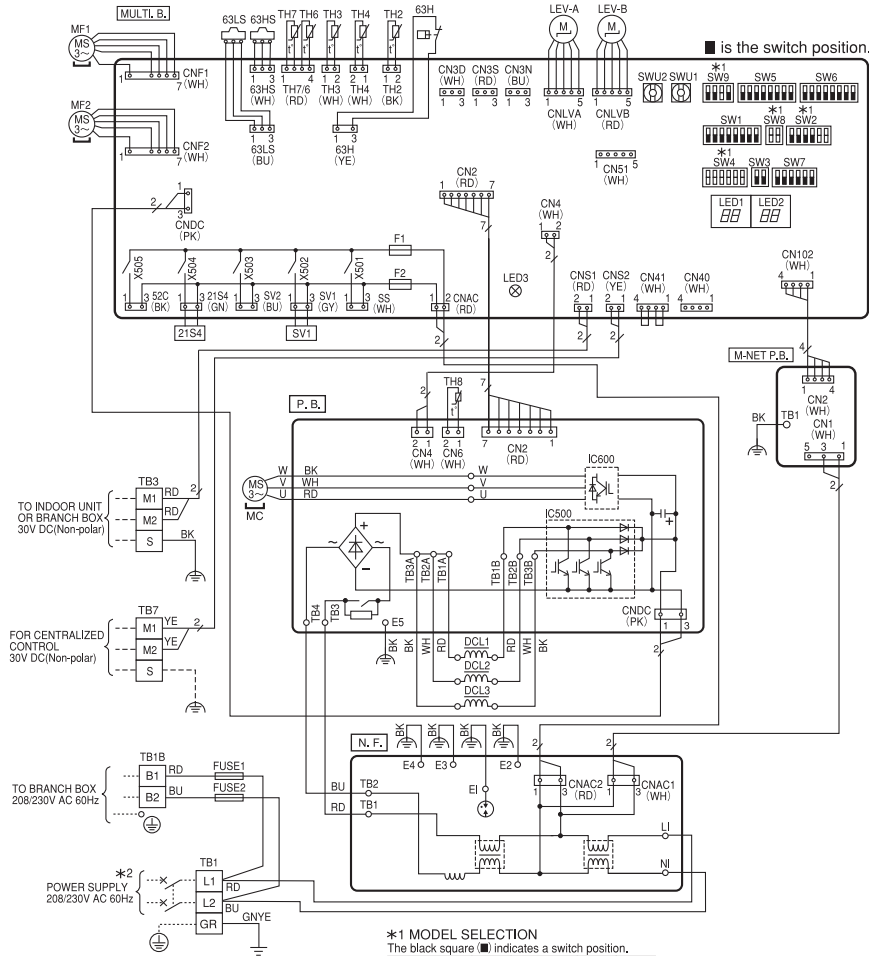
(Example)
When the compressor and SV1 are on during cooling operation.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM60NAM-U1

(LEGEND)

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block (Power Supply)	LEV-A, LEV-B	Linear Expansion Valve	SW5	Switch (Function Selection)
TB1B	Terminal Block (Branch Box)	DCL1, DCL2, DCL3	Reactor	SW6	Switch (Function Selection)
TB3	Terminal Block (Indoor/Outdoor, Branch Box/Outdoor Transmission Line)	N.F.	Noise Filter Board	SW7	Switch (Function Selection)
TB7	Terminal Block (Centralized Control Transmission Line)	LI	Connection Terminal (L1-Phase)	SW8	Switch (Model Selection)
FUSE1, FUSE2	Fuse (T20A L250V)	NI	Connection Terminal (L2-Phase)	SW9	Switch (Function/Model Selection)
MC	Motor for Compressor	TB1, TB2	Connection Terminal (Power Circuit Board)	SWU1	Switch (Unit Address Selection, ones digit)
MF1, MF2	Fan Motor	E1, E2, E3, E4	Connection Terminal (Electrical Parts Box)	SWU2	Switch (Unit Address Selection, tens digit)
21S4	Solenoid Valve Coil (4-Way Valve)	P.B.	Power Circuit Board	SS	Connector (Connection for Option)
63H	High Pressure Switch	TB3, TB4	Connection Terminal (Noise Filter Board)	CN3D	Connector (Connection for Option)
63HS	High Pressure Sensor	U/V/W	Connection Terminal (U/V/W-Phase)	CN3S	Connector (Connection for Option)
63LS	Low Pressure Sensor	TB1A, TB2A, TB3A, TB1B, TB2B, TB3B	Connection Terminal (Reactor)	CN3N	Connector (Connection for Option)
SV1	Solenoid Valve Coil (Bypass Valve)	E5	Connection Terminal (Electrical Parts Box)	CN51	Connector (Connection for Option)
TH2	Thermistor (Hic Pipe)	IC500	Converter	LED1, LED2	LED (Operation Inspection Display)
TH3	Thermistor (Outdoor Liquid Pipe)	IC600	Inverter	LED3	LED (Power Supply to Main Microcomputer)
TH4	Thermistor (Compressor)	MULTI.B.	Multi Controller Circuit Board	F1, F2	Fuse (T6.3A L250V)
TH6	Thermistor (Suction Pipe)	SW1	Switch (Display Selection)	X501~X505	Relay
TH7	Thermistor (Ambient)	SW2	Switch (Function/Model Selection)	M-NET P.B.	M-NET Power Circuit Board
TH8	Thermistor (Heat Sink)	SW3	Switch (Test Run)	TB1	Connection Terminal (Electrical Parts Box)
		SW4	Switch (Model Selection)		



*1 MODEL SELECTION
The black square ■ indicates a switch position.

MODEL	SW2	SW4	SW8	SW9
MXZ-SM60NAM	ON	ON	ON	ON

*2 Use copper supply wires. Utiliser des fils d'alimentation en cuivre.
*3 When a branch box is connected, SW2-5 should be ON.

Cautions when Servicing

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

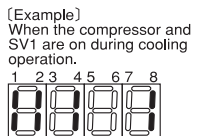
NOTES:

- 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) and LED indication (LED1, LED2) found on the outdoor multi controller circuit board.
LED indication : Set all contacts of SW1 to OFF.

• During normal operation
The LED indicates the drive state of 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 check code and the address of the unit in which the fault has occurred.

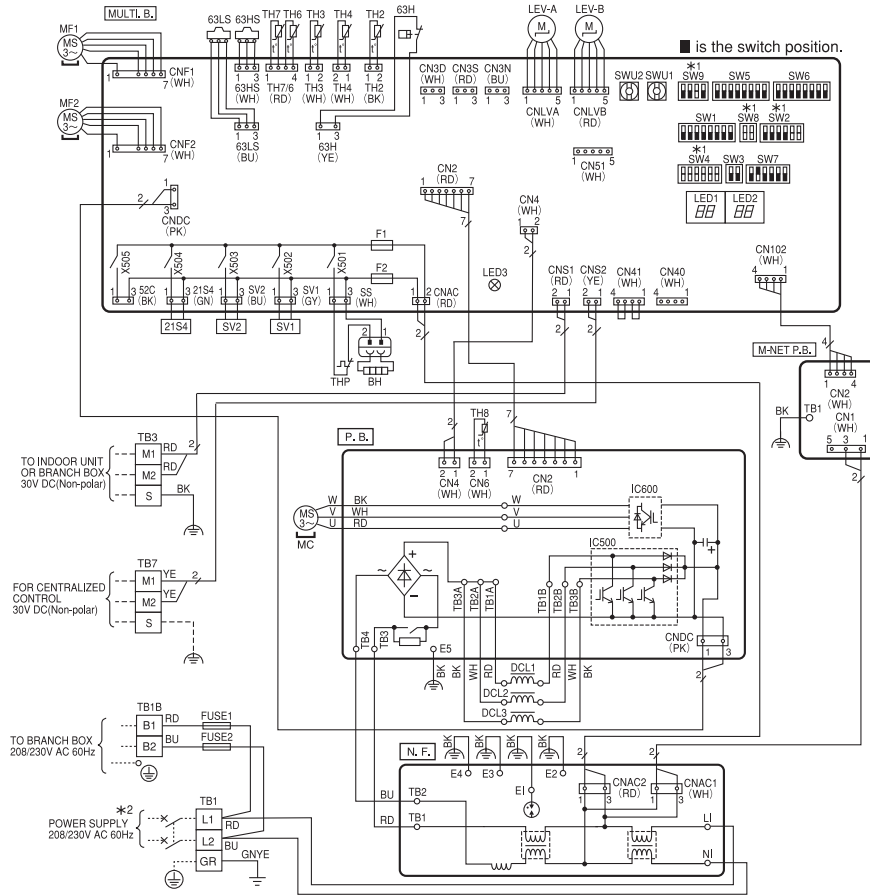


MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM36, 42, 48NAMHZ-U1

[LEGEND]

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block (Power Supply)	TH7	Thermistor (Ambient)	SW4	Switch (Model Selection)
TB1B	Terminal Block (Branch Box)	TH8	Thermistor (Heat Sink)	SW5	Switch (Function Selection)
TB3	Terminal Block (Indoor/Outdoor, Branch Box/Outdoor Transmission Line)	LEV-A, LEV-B	Linear Expansion Valve	SW6	Switch (Function Selection)
TB7	Terminal Block (Centralized Control Transmission Line)	DCL1, DCL2, DCL3	Reactor	SW7	Switch (Function Selection)
FUSE1, FUSE2	Fuse (T20A L250V)	N.F.	Noise Filter Board	SW8	Switch (Model Selection)
MC	Motor for Compressor	LI	Connection Terminal (L1-Phase)	SW9	Switch (Function/Model Selection)
MF1, MF2	Fan Motor	NI	Connection Terminal (L2-Phase)	SWU1	Switch (Unit Address Selection, ones digit)
21S4	Solenoid Valve Coil (4-Way Valve)	TB1, TB2	Connection Terminal (Power Circuit Board)	SWU2	Switch (Unit Address Selection, tens digit)
63H	High Pressure Switch	E1, E2, E3, E4	Connection Terminal (Electrical Parts Box)	SS	Connector (Connection for Option)
63HS	High Pressure Sensor	P.B.	Power Circuit Board	CN3D	Connector (Connection for Option)
63LS	Low Pressure Sensor	TB3, TB4	Connection Terminal (Noise Filter Board)	CN3S	Connector (Connection for Option)
SV1	Solenoid Valve Coil (Bypass Valve)	U/V/W	Connection Terminal (U/V/W-Phase)	CN3N	Connector (Connection for Option)
SV2	Solenoid Valve Coil (Switching Valve)	TB1A, TB2A, TB3A	Connection Terminal (Reactor)	CN51	Connector (Connection for Option)
BH	Base Heater	TB1B, TB2B, TB3B	Connection Terminal (Reactor)	LED1, LED2	LED (Operation Inspection Display)
THP	Thermal Protector	E5	Connection Terminal (Electrical Parts Box)	LED3	LED (Power Supply to Main Microcomputer)
TH2	Thermistor (Hic Pipe)	IC500	Converter	F1, F2	Fuse (T6.3A L250V)
TH3	Thermistor (Outdoor Liquid Pipe)	IC600	Inverter	X501~X505	Relay
TH4	Thermistor (Compressor)	MULTI.B.	Multi Controller Circuit Board	M-NET P.B.	M-NET Power Circuit Board
TH6	Thermistor (Suction Pipe)	SW1	Switch (Display Selection)	TB1	Connection Terminal (Electrical Parts Box)
		SW2	Switch (Function/Model Selection)		
		SW3	Switch (Test Run)		



*1 MODEL SELECTION
The black square (■) indicates a switch position.

MODEL	SW2	SW4	SW8	SW9	MODEL	SW2	SW4	SW8	SW9	MODEL	SW2	SW4	SW8	SW9
MXZ-SM36NAMHZ	ON	OFF	OFF	OFF	MXZ-SM42NAMHZ	ON	OFF	OFF	OFF	MXZ-SM48NAMHZ	ON	OFF	OFF	OFF

*2 Use copper supply wires. Utiliser des fils d'alimentation en cuivre.
*3 When a branch box is connected, SW2-5 should be ON.

Cautions when Servicing

- ⚠ WARNING: When the main supply is turned off, the voltage in the main capacitor will drop to 20 VDC in approx. 2 minutes. When servicing, make sure that LED1, LED2 on the outdoor multi controller circuit board goes out, and then wait for at least 1 minute.
- Components other than the outdoor circuit boards may be faulty: Check and take corrective action, referring to the service manual. Do not replace the outdoor circuit boards 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) and LED indication (LED1, LED2) found on the outdoor multi controller circuit board.
LED indication : Set all contacts of SW1 to OFF.

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

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

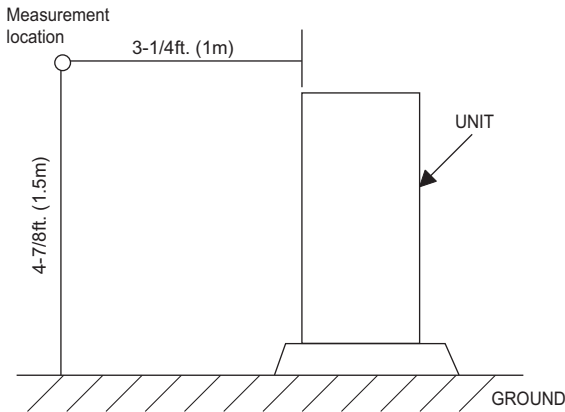
- When fault requiring inspection has occurred
The LED alternately indicates the check code and the address of the unit in which the fault has occurred.

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

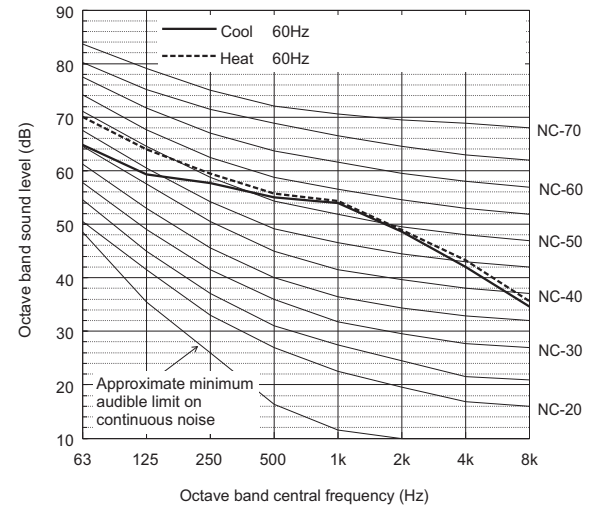


MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Measurement condition
MXZ-SM36/48/60NAM-U1
MXZ-SM36/42/48NAMHZ-U1

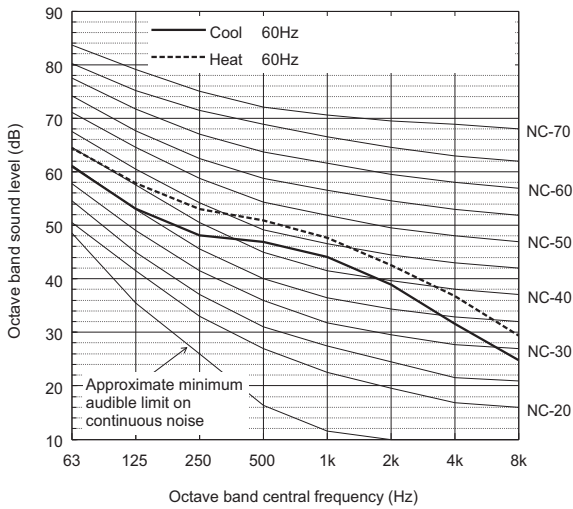


Sound level of MXZ-SM60NAM-U1



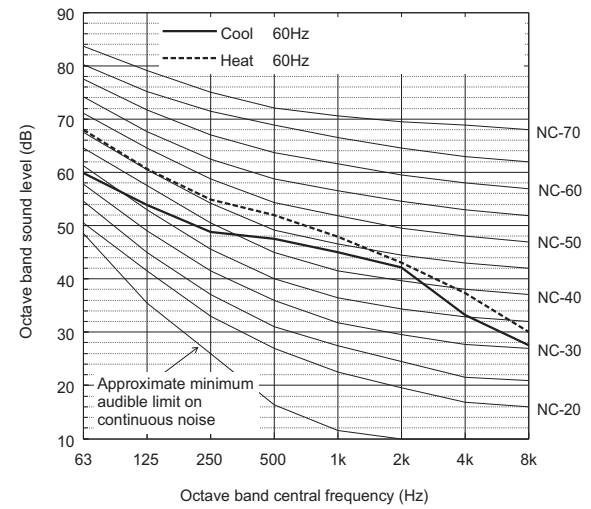
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	64.9	59.4	57.7	55.1	54.0	48.7	42.1	34.7	58.0
Standard Heating	60Hz	70.1	64.0	59.5	55.8	54.4	49.0	43.3	35.7	59.0

Sound level of MXZ-SM36NAM-U1, MXZ-SM36NAMHZ-U1



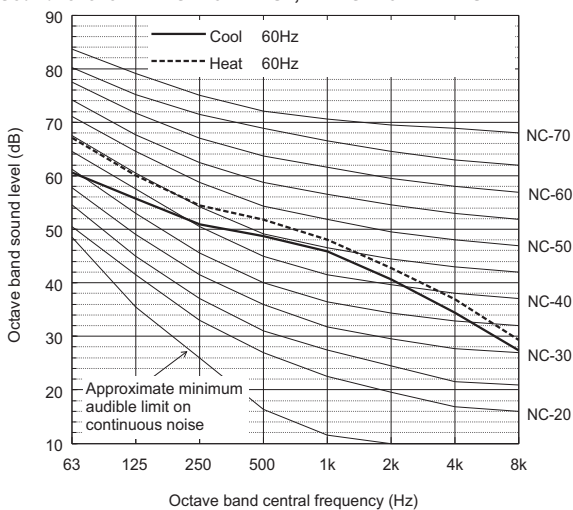
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	61.1	53.1	48.2	46.9	44.1	39.0	31.6	24.9	49.0
Standard Heating	60Hz	64.5	57.9	53.1	51.0	47.7	42.6	36.8	29.4	53.0

Sound level of MXZ-SM42NAMHZ-U1



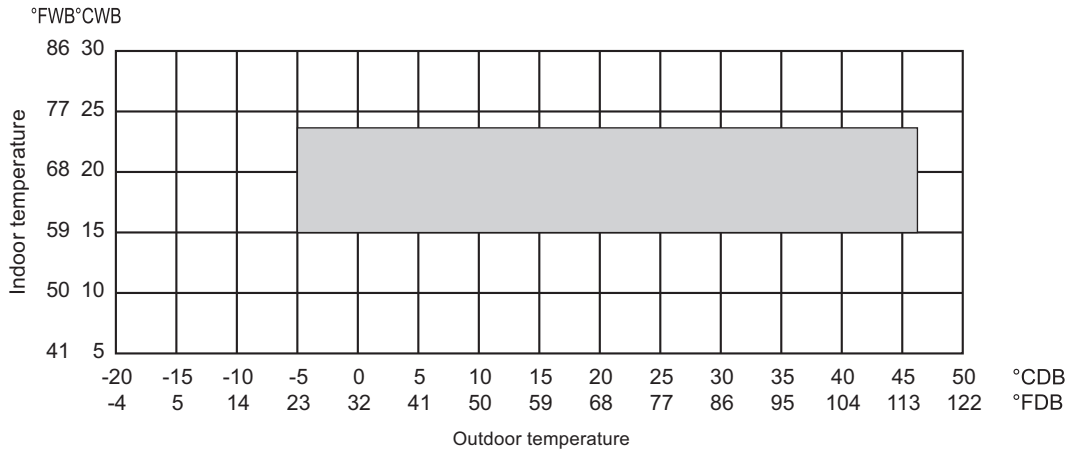
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	59.7	53.8	48.7	47.4	44.9	42.1	33.2	27.5	50.0
Standard Heating	60Hz	67.8	60.5	54.8	51.9	47.8	43.0	37.3	30.0	54.0

Sound level of MXZ-SM48NAM-U1, MXZ-SM48NAMHZ-U1



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	60.7	55.9	51.0	48.8	46.0	40.7	34.5	27.5	51.0
Standard Heating	60Hz	67.3	60.2	54.6	51.9	48.2	42.9	37.1	29.4	54.0

• Cooling

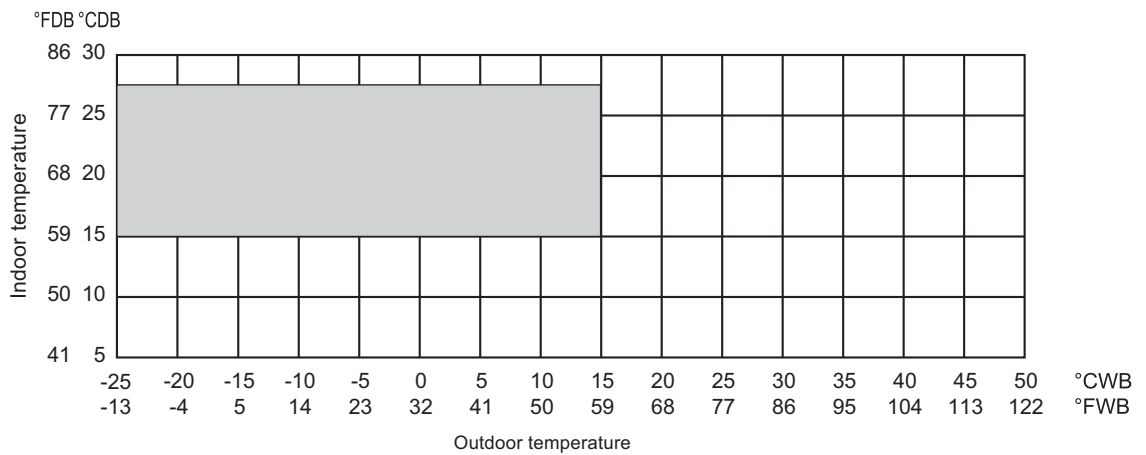


*50 to 115 °F [10 to 46 °C] D.B.: When connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.

*5 to 115 °F (-15 to 46 °C) D.B.: When using an optional front wind baffle.

However, this condition does not apply to the indoor units listed in the above note.

• Heating



7-1. Selection of Cooling/Heating Units

How to determine the capacity when less than or equal 100% indoor model size units are connected in total:

The purpose of this flow chart is to select the indoor and outdoor units. For other purposes, this flow chart is intended only for reference.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

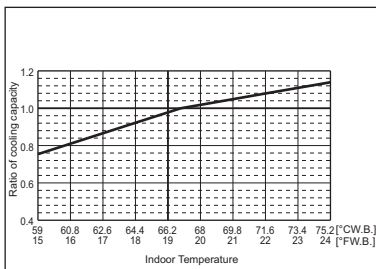
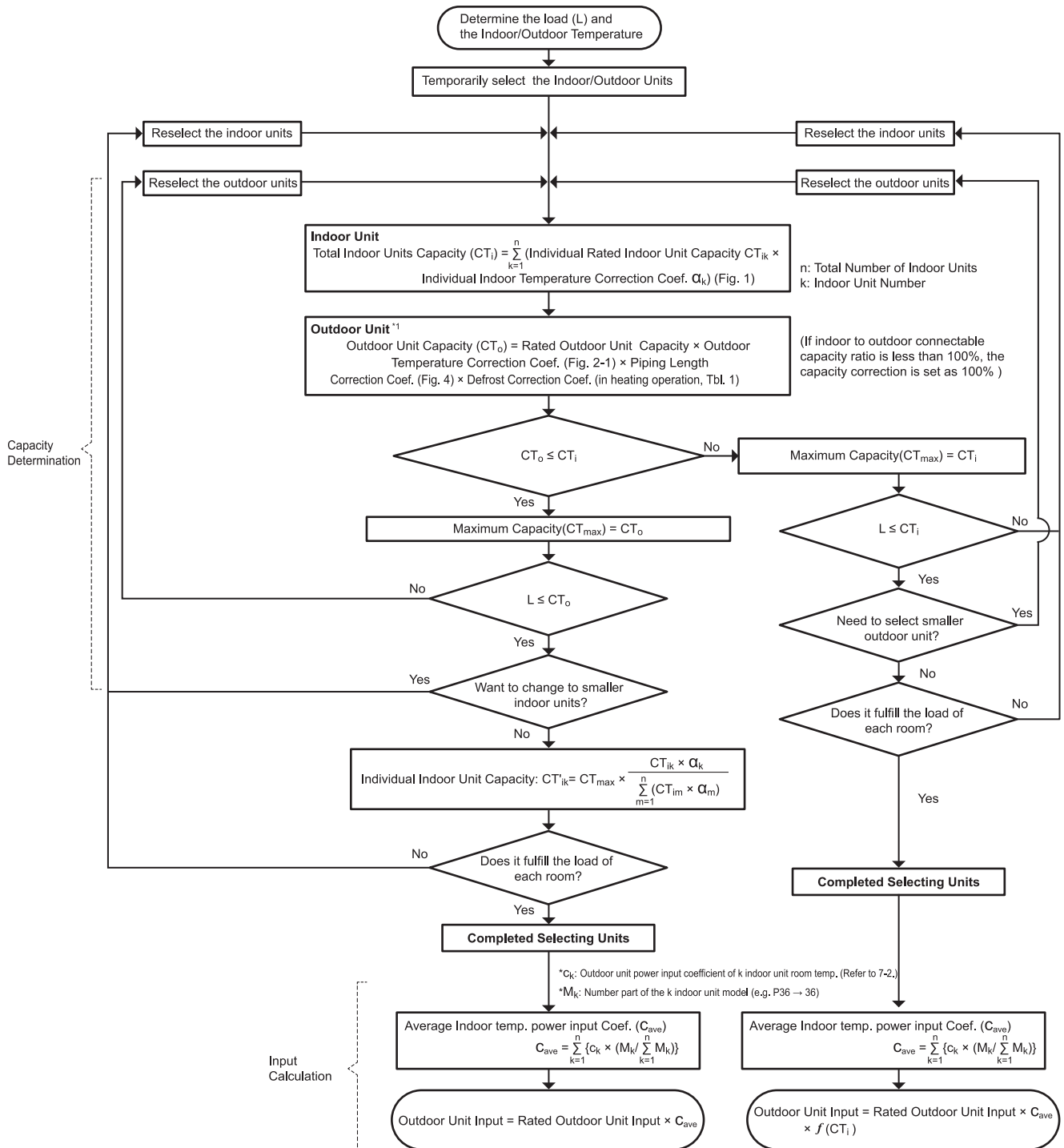


Fig.1 Indoor unit temperature correction

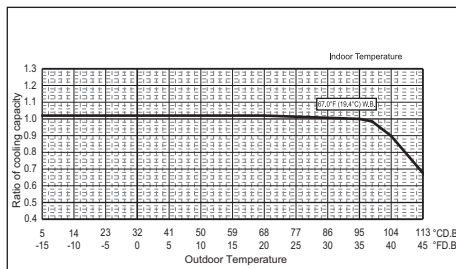


Fig.2-1 Outdoor unit temperature correction (capacity)

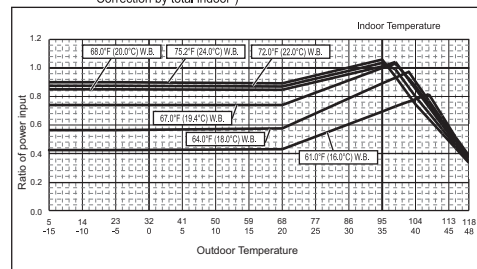


Fig.2-2 Outdoor unit temperature correction (power input)

How to determine the capacity when greater than 100% indoor model size units are connected in total:

The purpose of this flow chart is to select the indoor and outdoor units. For other purposes, this flow chart is intended only for reference.

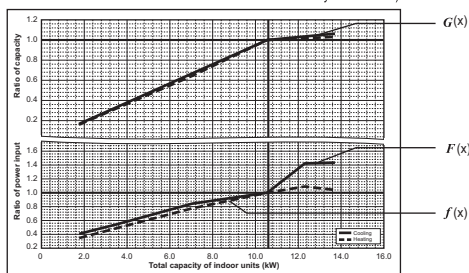
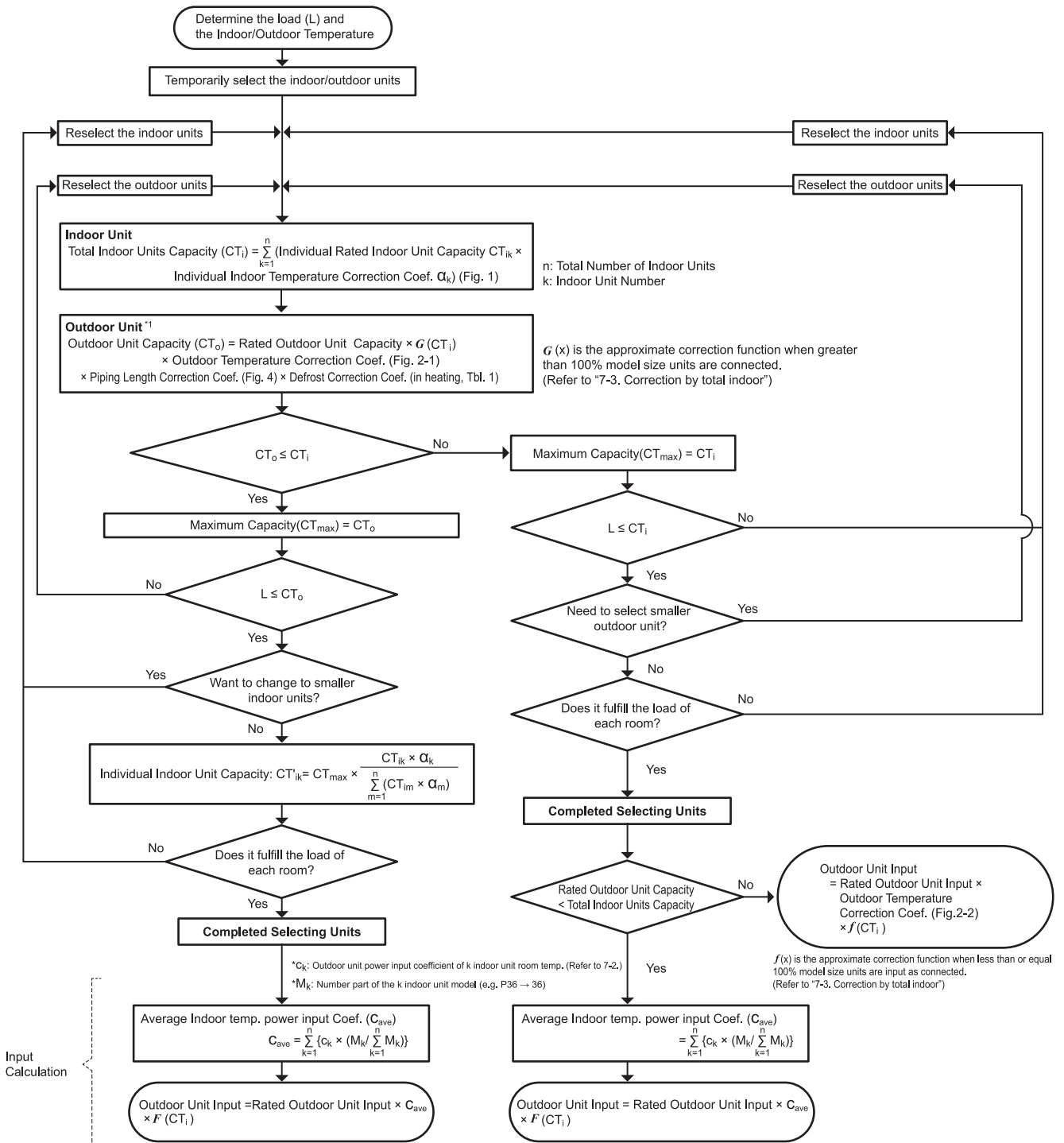


Fig.3 Correction by total indoor

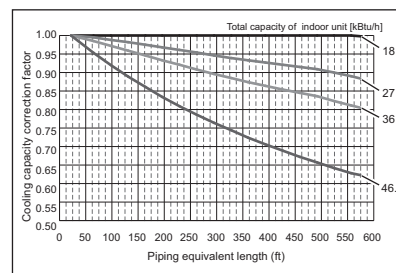


Fig.4 Correction of refrigerant piping length

(7) Comparison with Essential Load

Against the essential load 30.3 kBtu/h, the maximum system capacity is 32.4 kBtu/h: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTi, thus, calculate by the calculation below

Room1

Indoor Unit Rating × Indoor Design Temperature Correction
 = 15.0 × 1.02
 = 15.3 kBtu/h **OK: fulfills the load 13.6 kBtu/h**

Room2

Indoor Unit Rating × Indoor Design Temperature Correction
 = 18.0 × 0.95
 = 17.1 kBtu/h **OK: fulfills the load 16.7 kBtu/h**

Go on to the heating trial calculation since the selected units fulfill the cooling loads of Room 1, 2.

<Heating>

Design Condition	
Outdoor Design Wet Bulb Temperature	35.6°F (2.0°C)
Total Heating Load	34.4 kBtu/h
Room1	
Indoor Design Dry Bulb Temperature	69.8°F (21.0°C)
Heating Load	16.3 kBtu/h
Room2	
Indoor Design Dry Bulb Temperature	73.4°F (23.0°C)
Heating Load	18.1 kBtu/h
<Other>	
Indoor/Outdoor Equivalent Piping Length	328 ft

Capacity of indoor unit

(kBtu/h)

Model Number for indoor unit	Model 04	Model 05	Model 06	Model 08	Model 12	Model 15	Model 18	Model 24	Model 27	Model 30	Model 36	Model 48	Model 54
Model Capacity	4.5	5.6	6.7	9.0	13.5	17.0	20.0	27.0	30.0	34.0	40.0	54.0	60.0

Model name	Capacity class							
	06	09	12	15	18	24	30	36
SVZ	-	-	12.0	-	18.0	27.0	34.0	40.0
SLZ-KF	-	10.2	13.7	17.1	-	-	-	-
SEZ-KD	-	10.9	13.6	18.0	17.2	-	-	-
MFZ-KJ	-	10.9	13.0	18.0	21.0	-	-	-
MLZ-KP	-	10.9	13.0	-	21.0	-	-	-
MSZ-FH	6.0	10.9	13.6	18.0	20.3	-	-	-
MSZ-FS	6.0	10.9	13.6	18.0	20.3	-	-	-
MSZ-GL	6.0	10.9	14.4	18.0	21.6	27.6	-	-
MSZ-EF	-	10.9	13.0	18.0	21.0	-	-	-
PEAD	-	10.9	13.5	15.7	18.0	26.0	34.0	40.0
PLA	-	-	13.5	-	18.0	26.0	34.0	40.0

2. Heating Calculation

(1) Temporary Selection of Indoor Units

Room1
PEFY-P15 **17.0 kBtu/h (Rated)**

Room2
PEFY-P18 **20.0 kBtu/h (Rated)**

(2) Total Indoor Units Capacity

P15 + P18 = P33

(3) Selection of Outdoor Unit

The P36 outdoor unit is selected as total indoor units capacity is P33

MXZ-SM36NAM **42.0 kBtu/h**

(4) Total Indoor Units Capacity Correction Calculation

Room1
Indoor Design Dry Bulb Temperature Correction (69.8°F) **1.00 (Refer to Figure 4)**

Room2
Indoor Design Dry Bulb Temperature Correction (73.4°F) **0.92 (Refer to Figure 4)**

Total Indoor Units Capacity (CTi)

CTi = Σ (Indoor Unit Rating × Indoor Design Temperature Correction)
 = 17.0 × 1.00 + 20.0 × 0.92
 = 35.4 kBtu/h

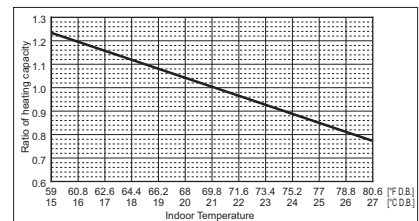


Figure 4 Indoor unit temperature correction
To be used to correct indoor unit only

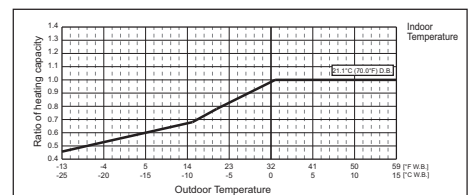


Figure 5 Outdoor unit temperature correction
To be used to correct outdoor unit only

(5) Outdoor Unit Correction Calculation

Outdoor Design Wet Bulb Temperature Correction (35.6°F) 1.0 (Refer to Figure 5)
 Piping Length Correction (328 ft) 0.94 (Refer to Figure 6)
 Defrost Correction 0.89 (Refer to Table 1)

Total Outdoor Unit Capacity (CTo)

$$CTo = \text{Outdoor Unit Rating} \times G(CTi)^{*1} \times \text{Outdoor Design Temperature Correction} \times \text{Piping Length Correction} \times \text{Defrost Correction}$$

$$= 42.0 \times 1.0 \times 0.94 \times 0.89$$

$$= 35.1 \text{ kBtu/h}$$

*1 G(CTi) is used only when greater than 100% indoor model size are connected in total, refer to STANDARD CAPACITY DIAGRAM.

Table 1 Table of correction factor at frost and defrost

Outdoor Intake temperature <W.B.°F (°C)>	43(6)	37(4)	36(2)	32(0)	28(-2)	25(-4)	21(-6)	18(-8)	14(-10)	5(-15)	-4(-20)	-13(-25)
Correction factor	1.0	0.98	0.89	0.88	0.89	0.9	0.95	0.95	0.95	0.95	0.95	0.95

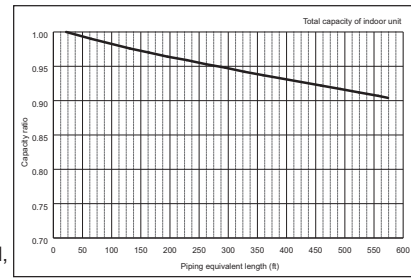


Figure 6 Correction of refrigerant piping length

(6) Determination of Maximum System Capacity

Comparison of Capacity between Total Indoor Units Capacity (CTi) and Total Outdoor Unit Capacity (CTo)

$$CTi = 35.4 > CTo = 35.1, \text{ thus, select } CTo.$$

$$CTx = CTo = 35.1 \text{ kBtu/h}$$

(7) Comparison with Essential Load

Against the essential load 34.4 kBtu/h, the maximum system capacity is 35.1 kBtu/h: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTo, thus, calculate by the calculation below

Room1

$$\text{Maximum Capacity} \times \text{Room1 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction})$$

$$= 35.1 \times (17.0 \times 1.00) / (17.0 \times 1.00 + 20.0 \times 0.92)$$

$$= 16.9 \text{ kBtu/h} \quad \text{OK: fulfills the load 16.3 kBtu/h}$$

Room2

$$\text{Maximum Capacity} \times \text{Room1 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction})$$

$$= 35.1 \times (20.0 \times 0.92) / (17.0 \times 1.00 + 20.0 \times 0.92)$$

$$= 18.2 \text{ kBtu/h} \quad \text{OK: fulfills the load 18.1 kBtu/h}$$

Completed selecting units since the selected units fulfill the heating loads of Room 1, 2.

3. Power input of outdoor unit

Outdoor unit: MXZ-SM36NAM

Indoor unit 1: PEFY-P15

Indoor unit 2: PEFY-P18

<Cooling>

(1) Rated power input of outdoor unit 2.31 kW

(2) Calculation of the average indoor temperature power input coefficient

Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 98.6°F [37.0°C] D.B., Indoor temp. 68.0°F [20.0°C] W.B.)
 1.04 (Refer to "7-2. CORRECTION BY TEMPERATURE".)

Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 98.6°F [37.0°C] D.B., Indoor temp. 64.4°F [18.0°C] W.B.)
 0.85 (Refer to "7-2. CORRECTION BY TEMPERATURE".)

$$\text{Average indoor temp. power input coefficient } (C_{ave}) = \sum_{k=1}^n \{c_k \times (M_k / \sum_{k=1}^n M_k)\}$$

n: Total number of the indoor units

k: Number of the indoor unit

c_k: Outdoor unit power input coefficient of k indoor unit room temp.

M_k: Number part of the k indoor unit model (e.g. P80 → 80)

$$\text{Correction Coefficient of Indoor temperature} = 1.04 \times 15 / (15 + 18) + 0.85 \times 18 / (15 + 18)$$

$$= 0.94$$

(3) Coefficient of the partial load f(CTi)

Total Indoor units capacity

15 + 18 = 33, thus, f(CTi) = 0.9 (Refer to the tables in "7-3. Correction by total indoor".)

(4) Outdoor power input (Plo)

Maximum System Capacity (CTx) = Total Outdoor unit Capacity (CTo), so use the following formula

$$Plo = \text{Outdoor unit Cooling Rated Power Input} \times \text{Correction Coefficient of Indoor temperature} \times f(CTi)$$

$$= 2.31 \times 0.94 \times 0.9$$

$$= 1.95 \text{ kW}$$

<Heating>

(1) Rated power input of outdoor unit **3.02 kW****(2) Calculation of the average indoor temperature power input coefficient**

Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 26.6°F [-3°C] W.B., Indoor temp. 70°F [21.1°C] D.B.)
1.16 (Refer to "7-2. CORRECTION BY TEMPERATURE".)

Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 26.6°F [-3°C] W.B., Indoor temp. 78.8°F [26°C] D.B.)
1.09 (Refer to "7-2. CORRECTION BY TEMPERATURE".)

Average indoor temp. power input coefficient (C_{ave}) = $\sum_{k=1}^n \{C_k \times (M_k / \sum_{k=1}^n M_k)\}$

n: Total number of the indoor units

k: Number of the indoor unit

C_k : Outdoor unit power input coefficient of k indoor unit room temp.

M_k : Number part of the k indoor unit model (e.g. P80 → 80)

Correction Coefficient of Indoor temperature = $1.16 \times 15 / (15 + 18) + 1.09 \times 18 / (15 + 18)$
= 1.12

(3) Coefficient of the partial load $f(CTi)$

Total indoor units capacity

15 + 18 = 33, thus, $f(CTi) = 0.9$ (Refer to the tables in "7-3. Correction by total indoor".)

(4) Outdoor power input (Plo)

Maximum System Capacity (CTx) = Total Indoor unit Capacity (CTi), so use the following formula

Plo = Outdoor unit Heating Rated Power Input × Correction Coefficient of Indoor temperature × $f(CTi)$

= $3.02 \times 1.12 \times 0.9$

= 3.04 kW

7-2. Correction by temperature

CITY MULTI indoor unit 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.

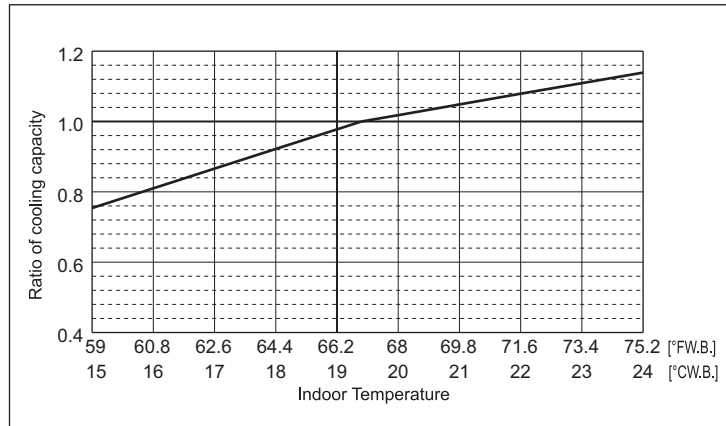
MXZ-		SM36NAM-U1	SM48NAM-U1
Nominal Cooling capacity	Btu/h	36,000	48,000
	kW	10.6	14.1
	Input *1 kW	2.400/2.855	3.665/4.245

MXZ-		SM60NAM-U1
Nominal Cooling capacity	Btu/h	60,000
	kW	17.6
	Input *1 kW	4.510/5.405

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

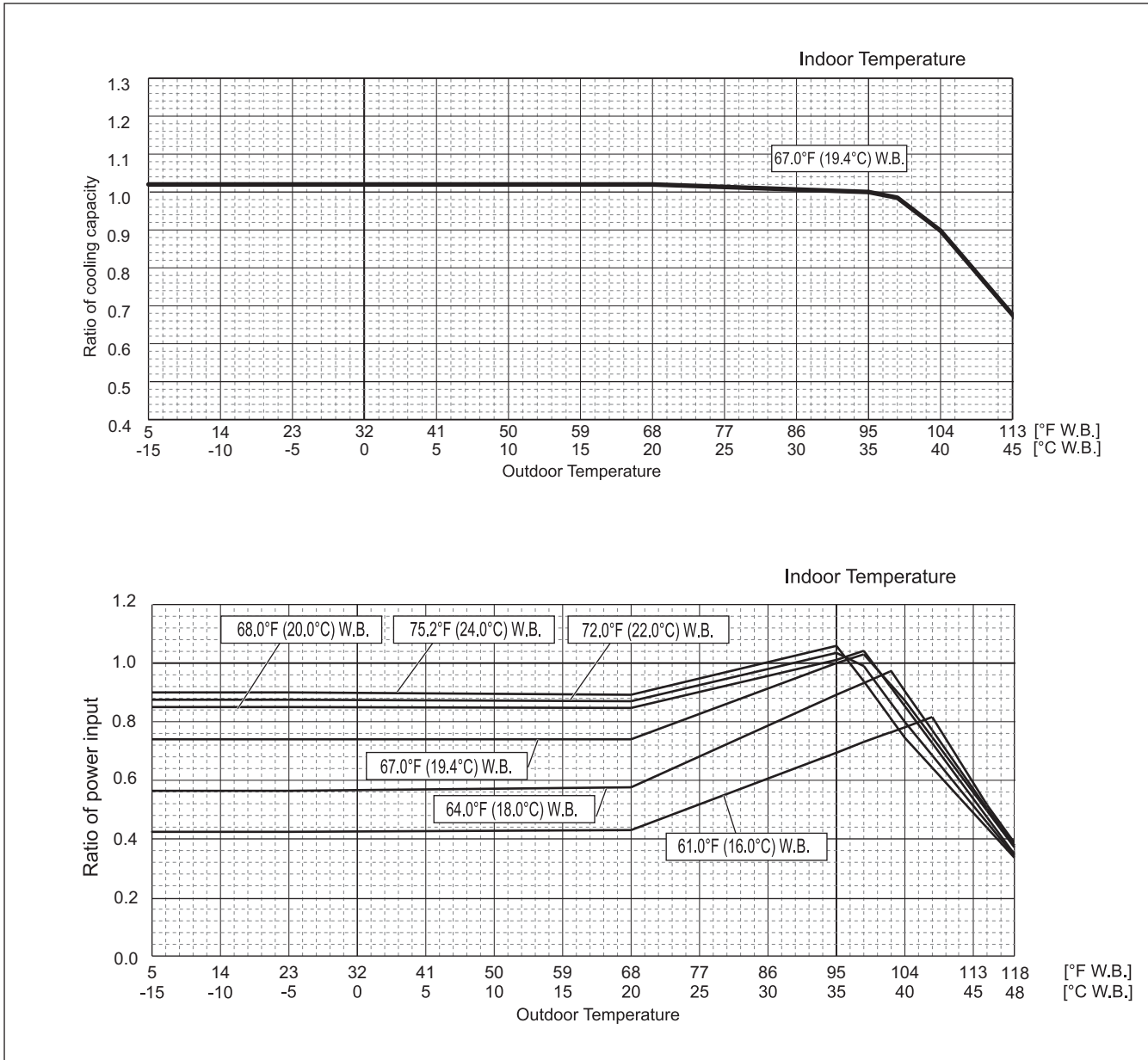


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

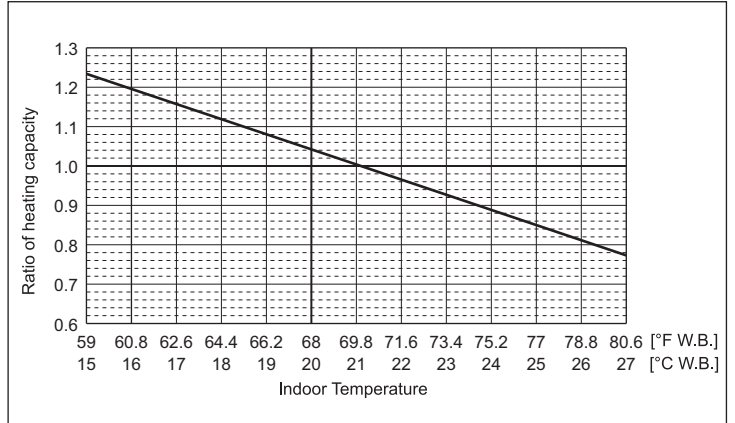
MXZ-		SM36NAM-U1	SM48NAM-U1
Nominal Heating capacity	Btu/h	42,000	54,000
	kW	12.3	15.8
	Input *1 kW	3.080/3.325	3.955/4.795

MXZ-		SM60NAM-U1
Nominal Heating capacity	Btu/h	66,000
	kW	19.3
	Input *1 kW	4.720/5.230

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

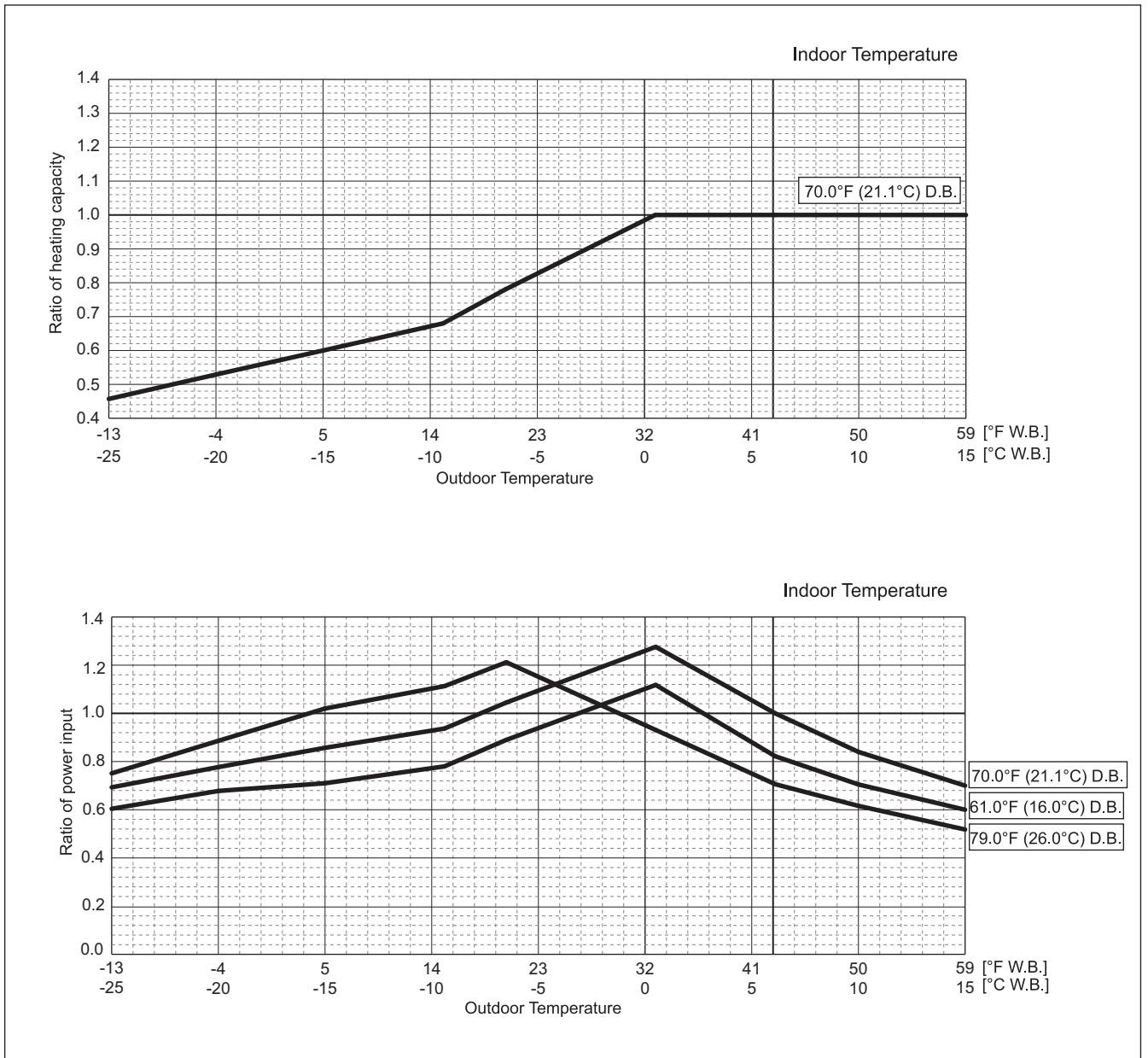


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

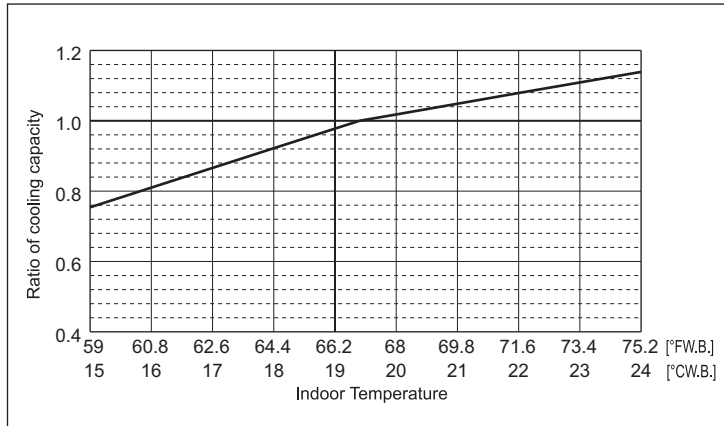
MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-		SM36NAMHZ-U1	SM42NAMHZ-U1
Nominal Cooling capacity	Btu/h	36,000	42,000
	kW	10.6	12.3
	Input *1 kW	2.400/2.855	3.135/3.820

MXZ-		SM48NAMHZ-U1
Nominal Cooling capacity	Btu/h	48,000
	kW	14.1
	Input *1 kW	3.665/4.245

*1 non-ducted/ducted

Indoor unit temperature correction
To be used to correct indoor unit capacity only

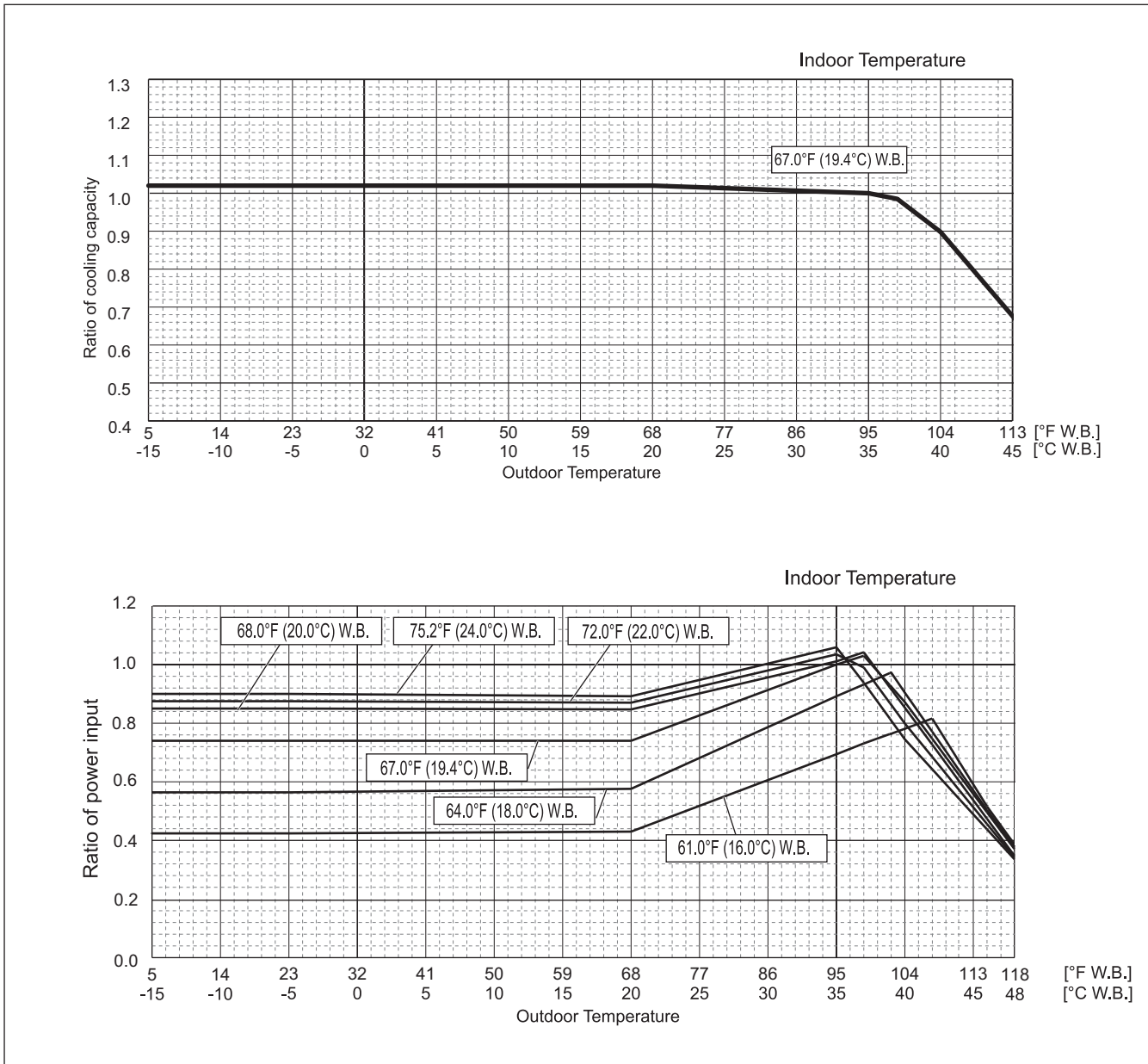


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



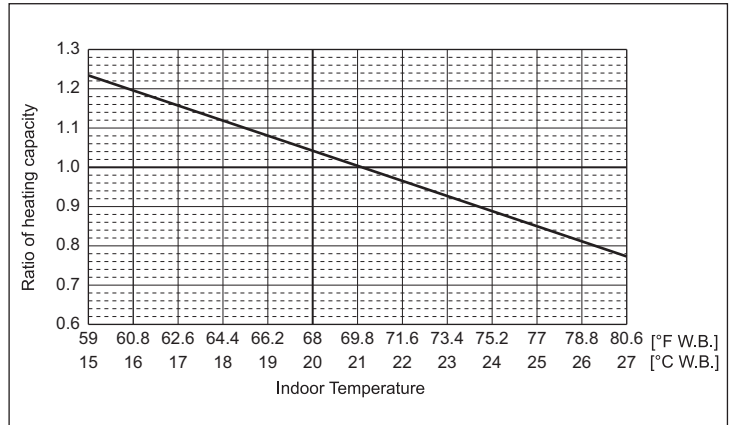
MXZ-		SM36NAMHZ-U1	SM42NAMHZ-U1
Nominal Heating capacity	Btu/h	42,000	48,000
	kW	12.3	14.1
	Input *1 kW	3.080/3.325	3.430/4.140

MXZ-		SM48NAMHZ-U1
Nominal Heating capacity	Btu/h	54,000
	kW	15.8
	Input *1 kW	3.955/4.795

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

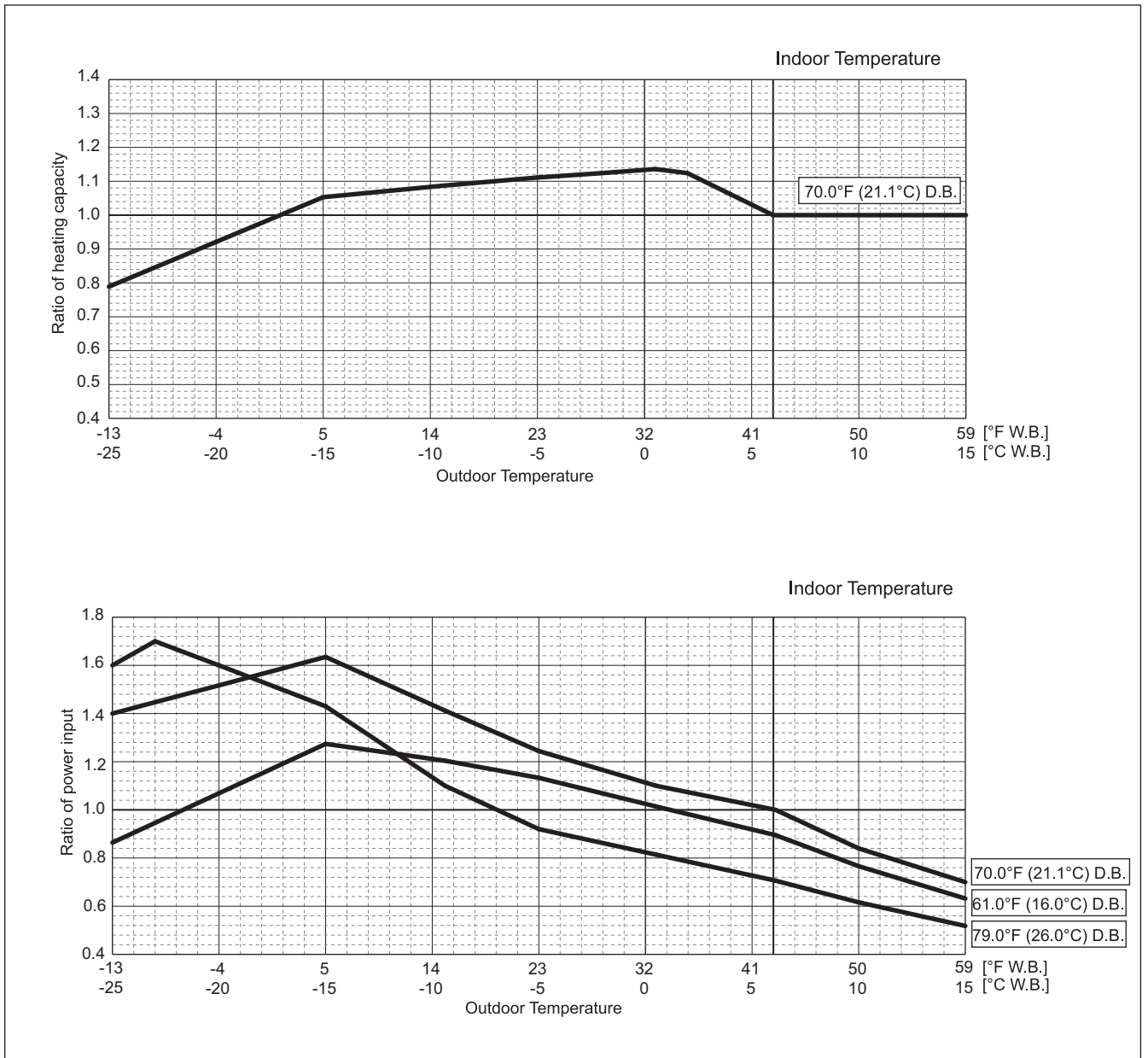


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



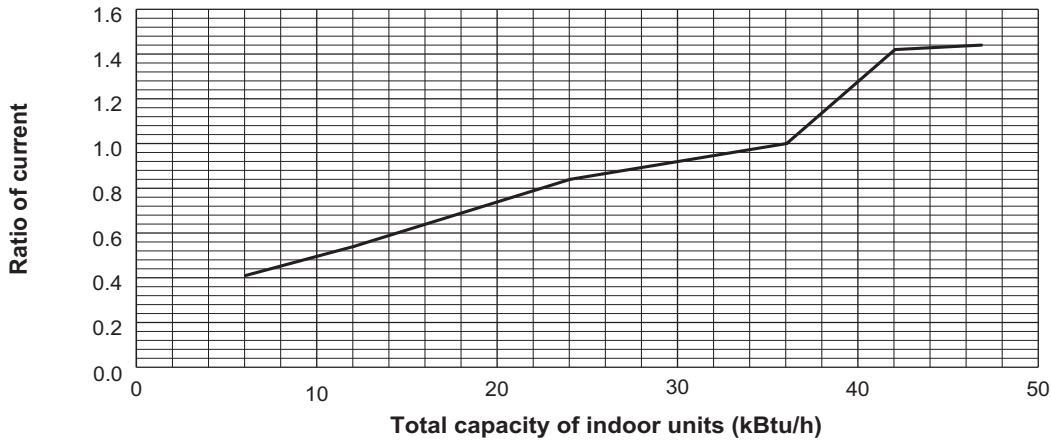
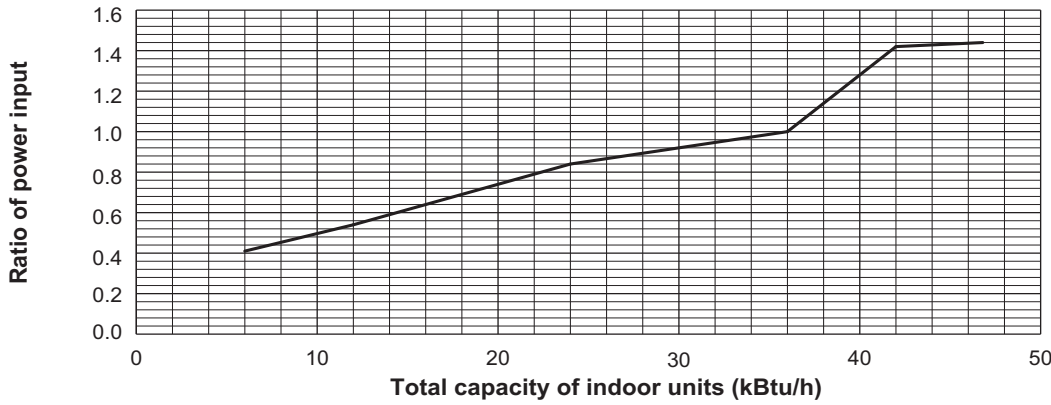
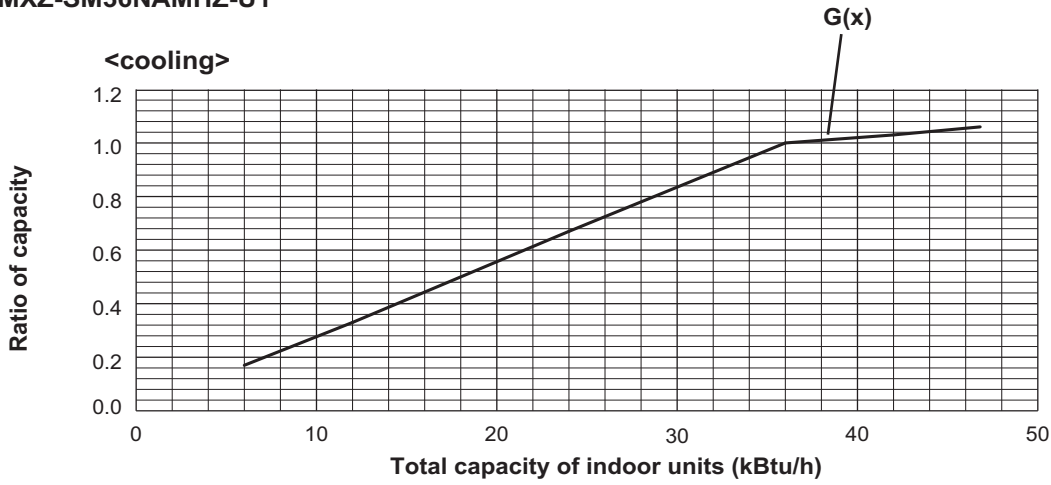
MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

7-3. Correction by total indoor

CITY MULTI indoor unit systems 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.

MXZ-SM36NAM-U1
MXZ-SM36NAMHZ-U1

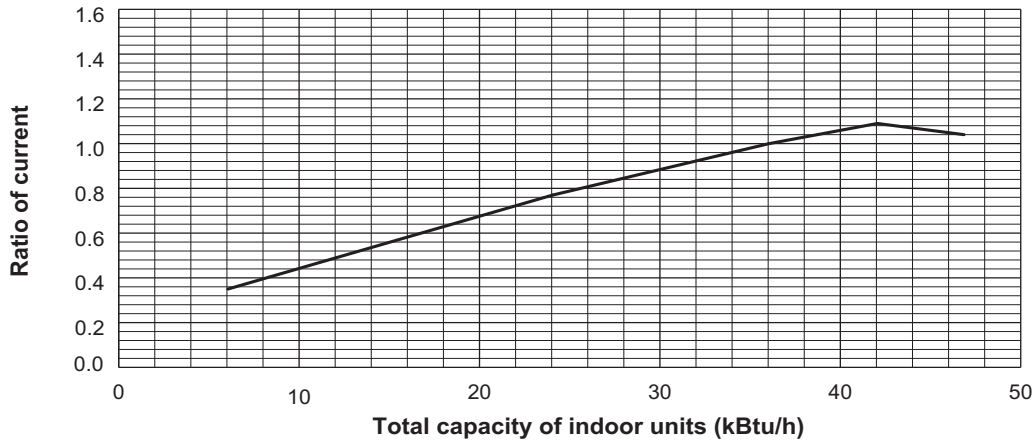
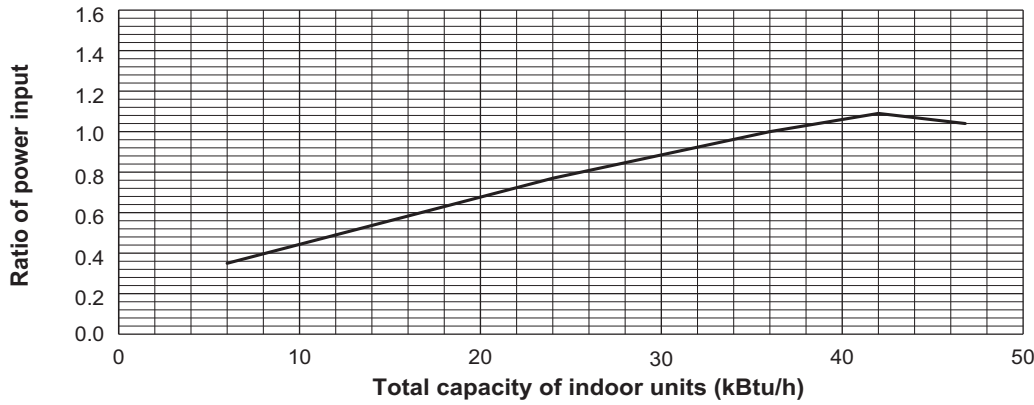
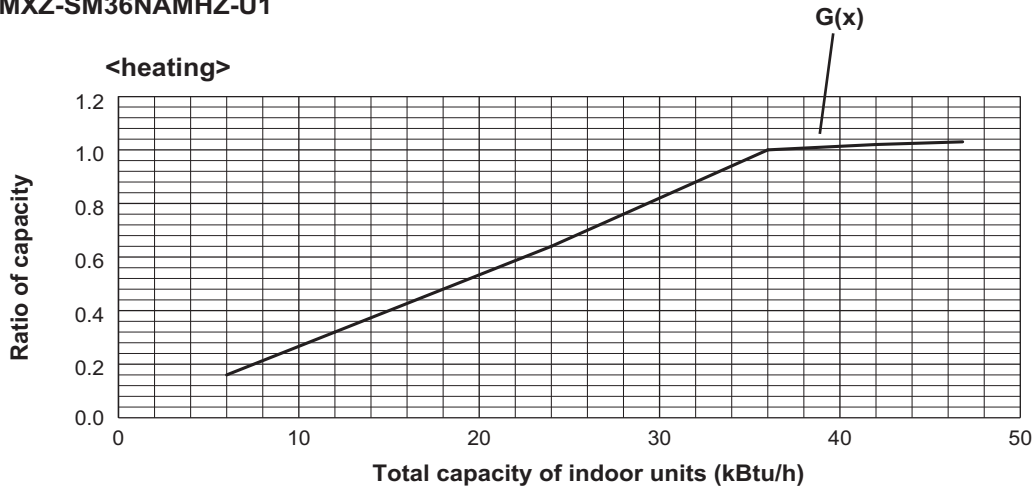
MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



— 208, 230 V

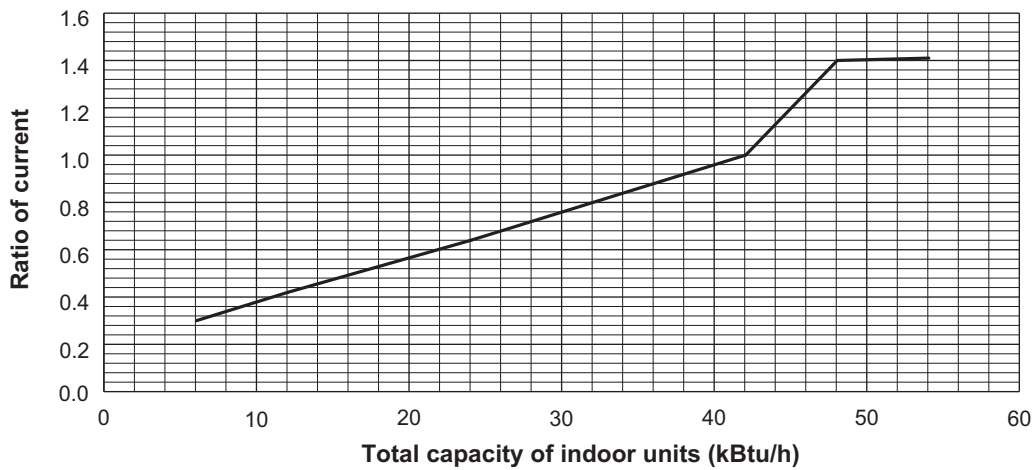
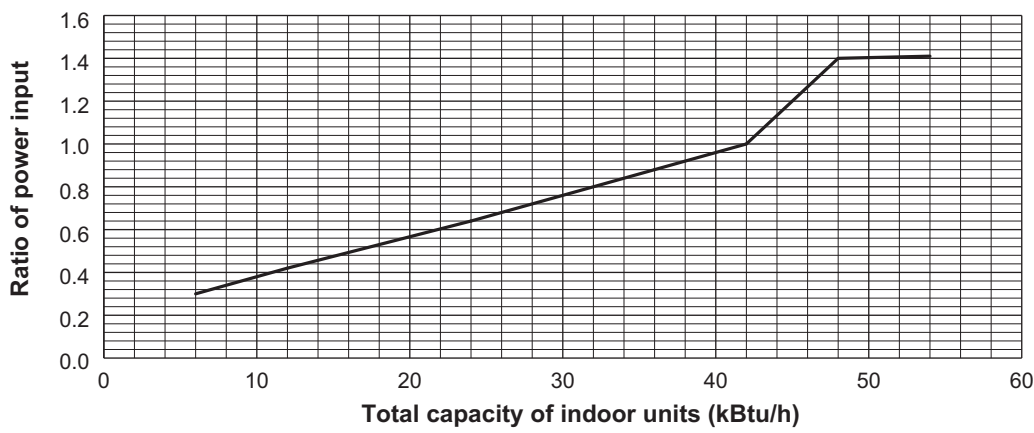
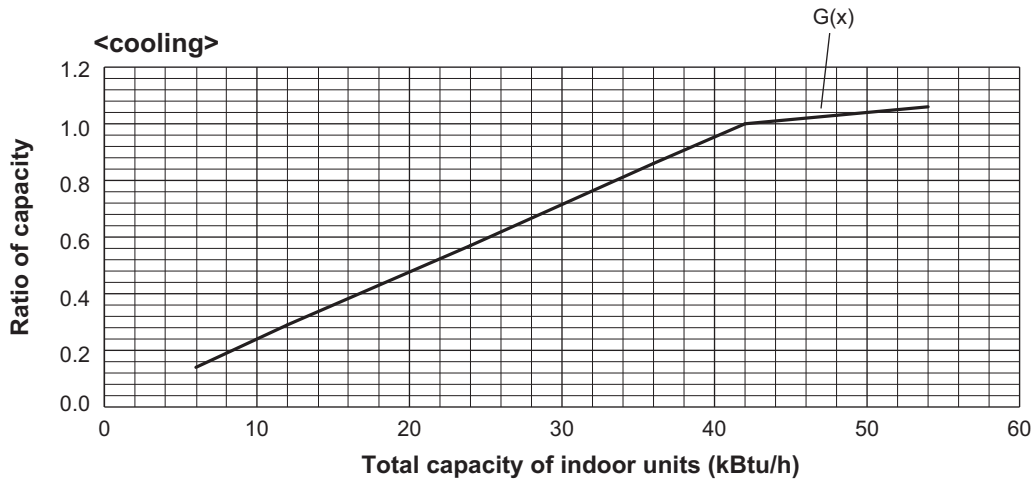
MXZ-SM36NAM-U1
MXZ-SM36NAMHZ-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



MXZ-SM42NAMHZ-U1

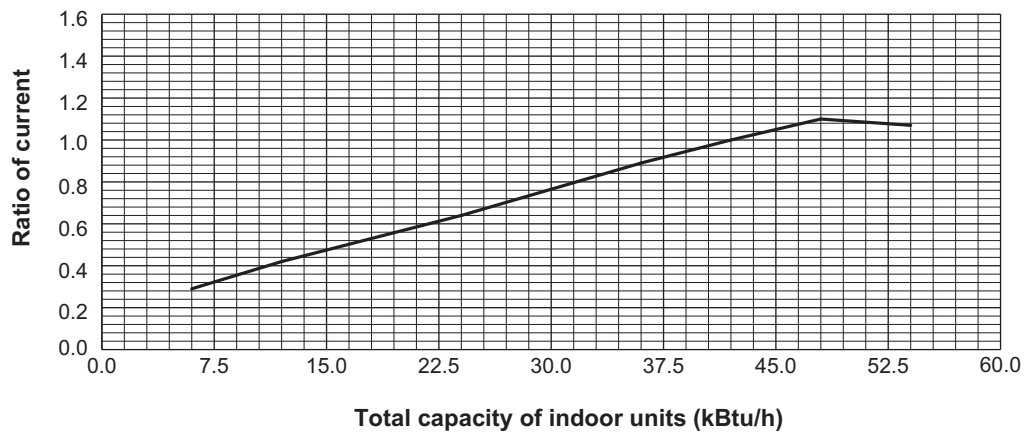
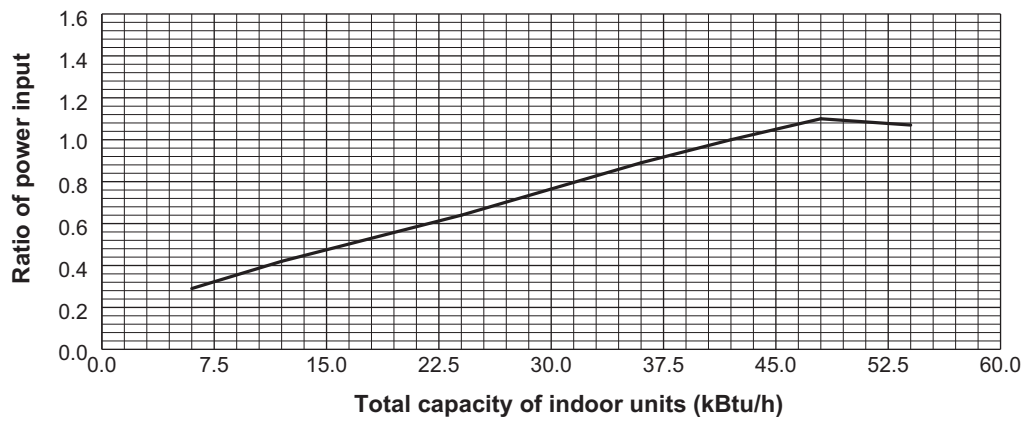
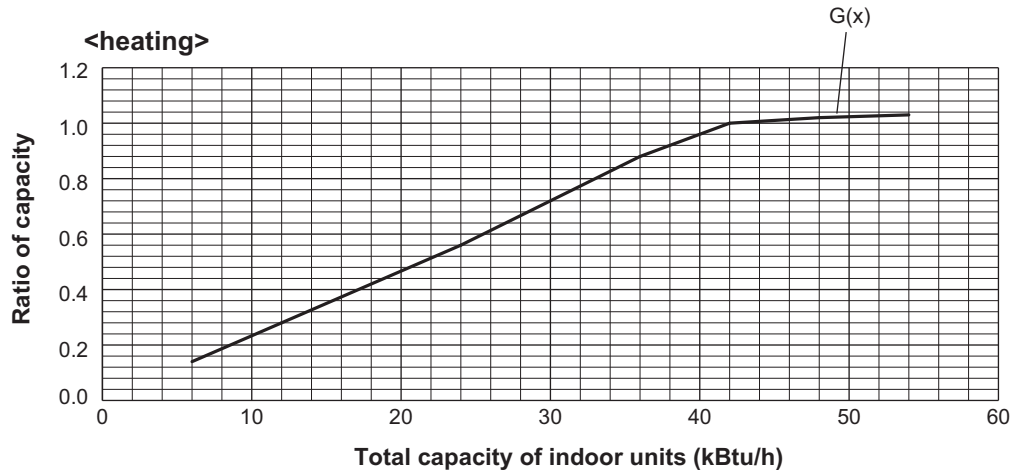
MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



— 208, 230 V

MXZ-SM42NAMHZ-U1

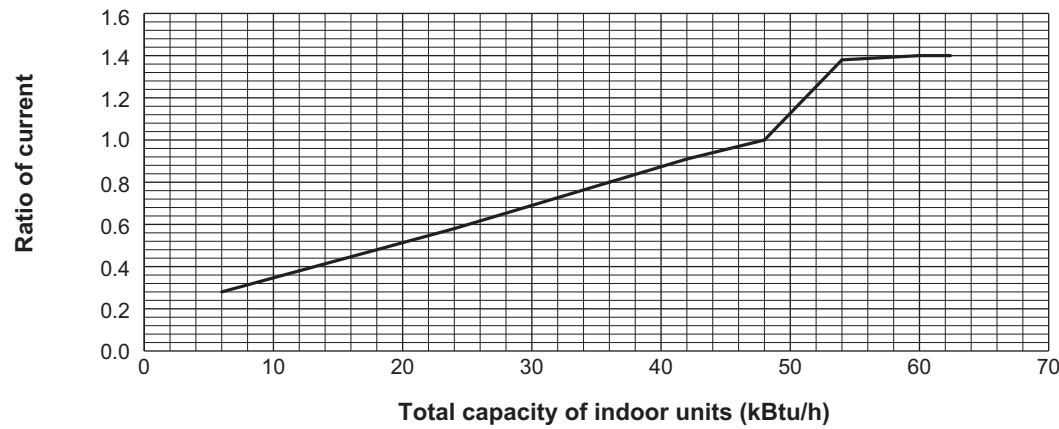
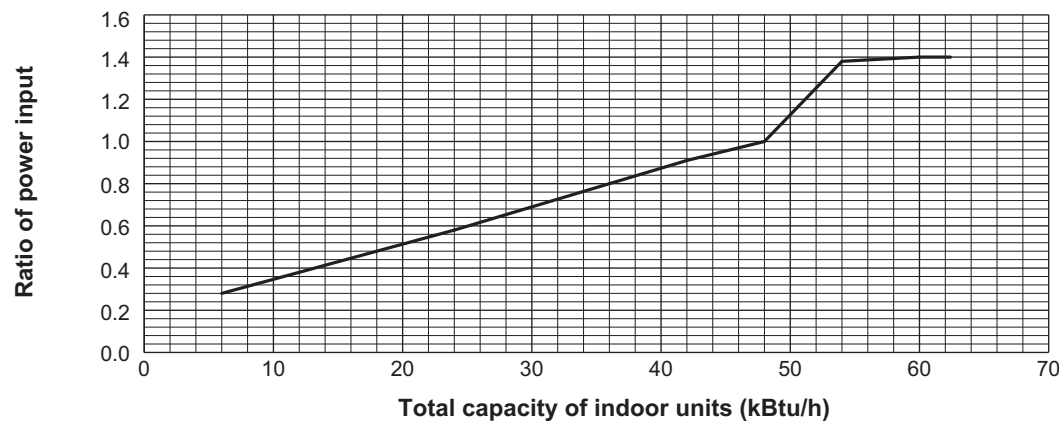
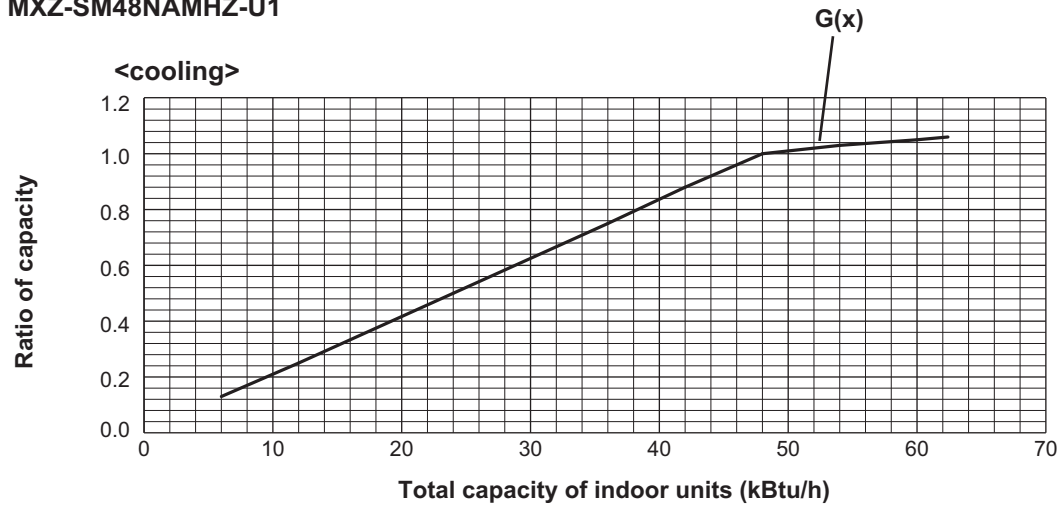
MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



— 208, 230 V

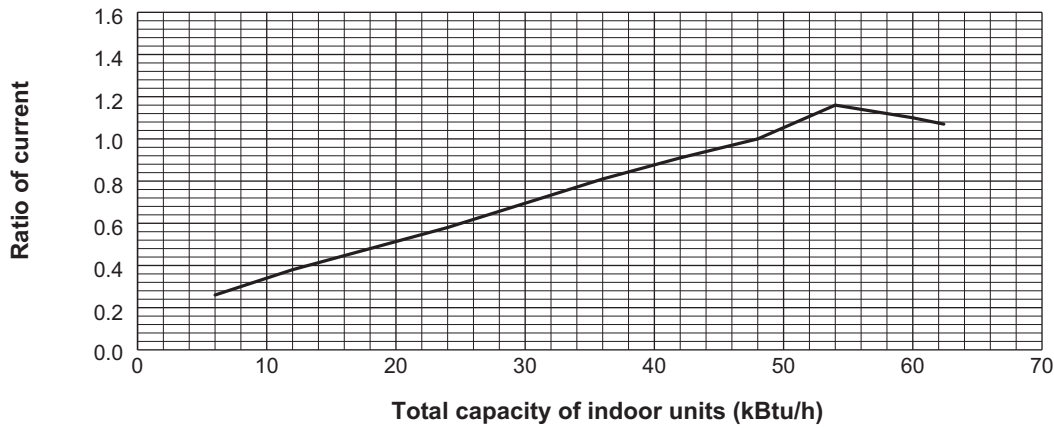
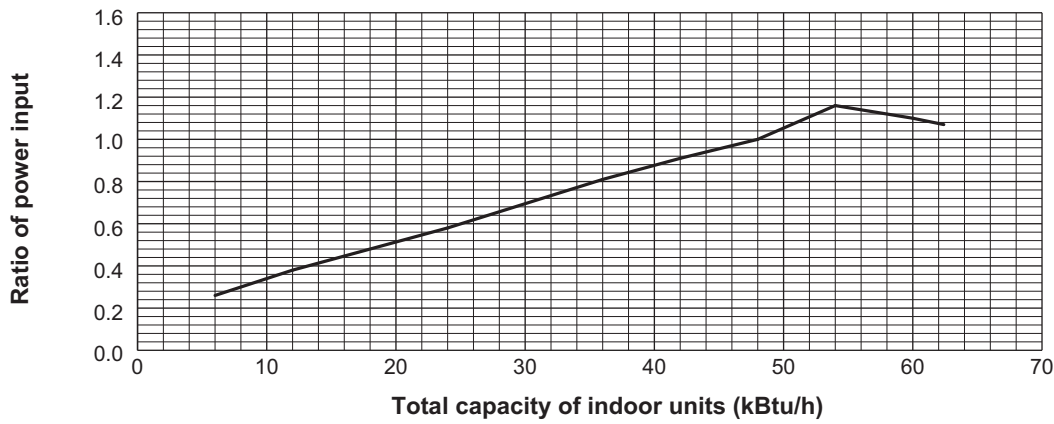
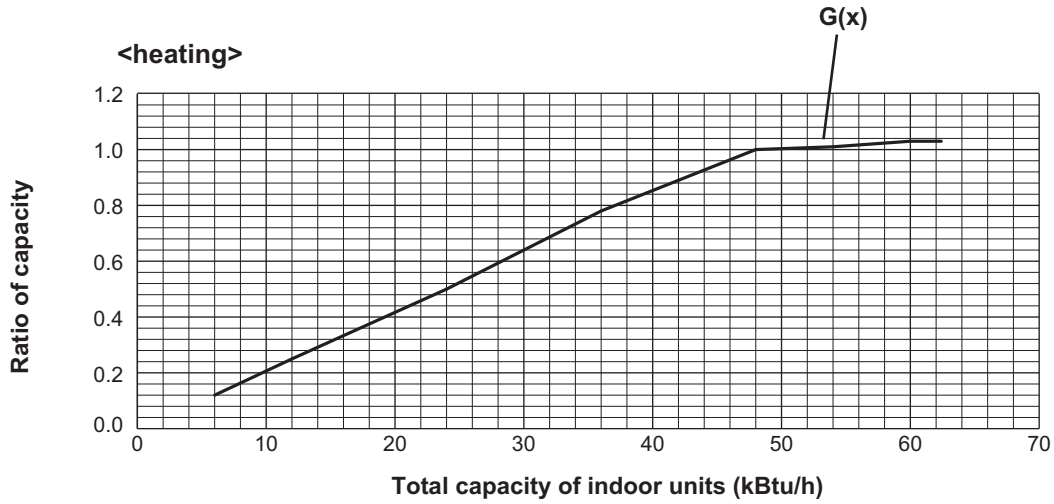
MXZ-SM48NAM-U1
MXZ-SM48NAMHZ-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



— 208, 230 V

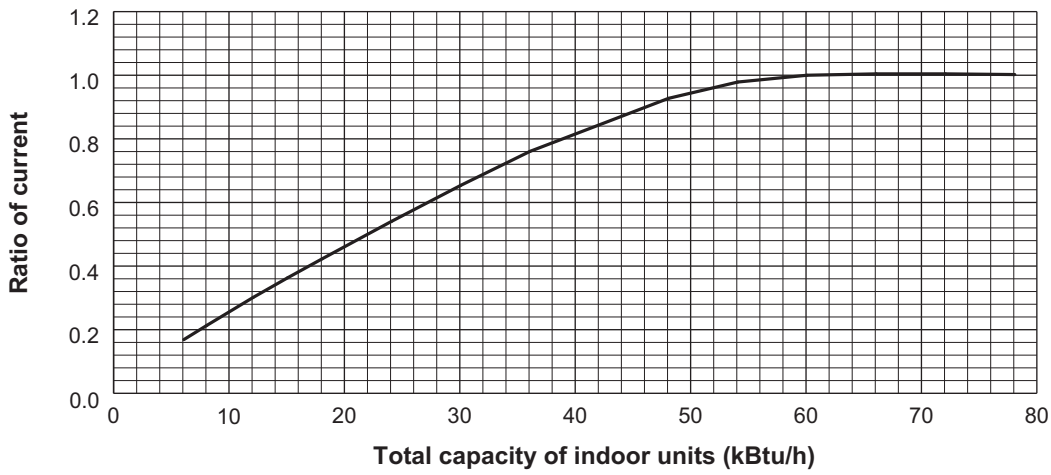
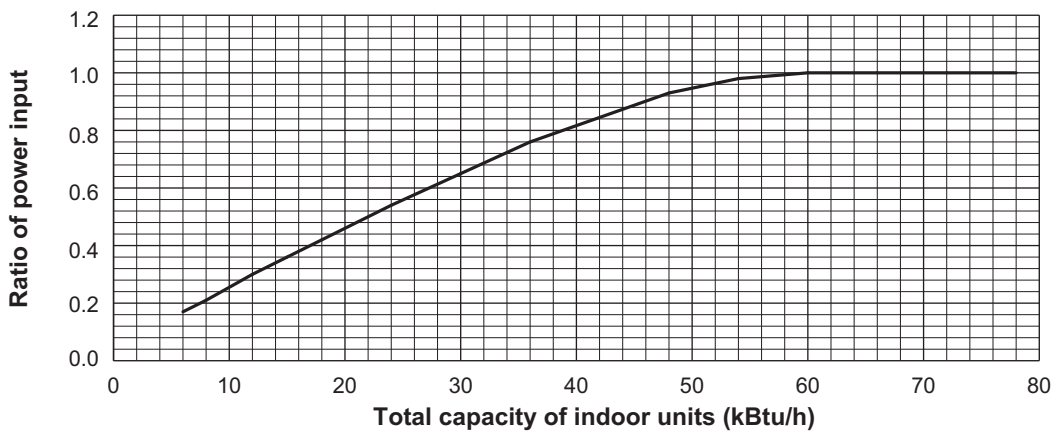
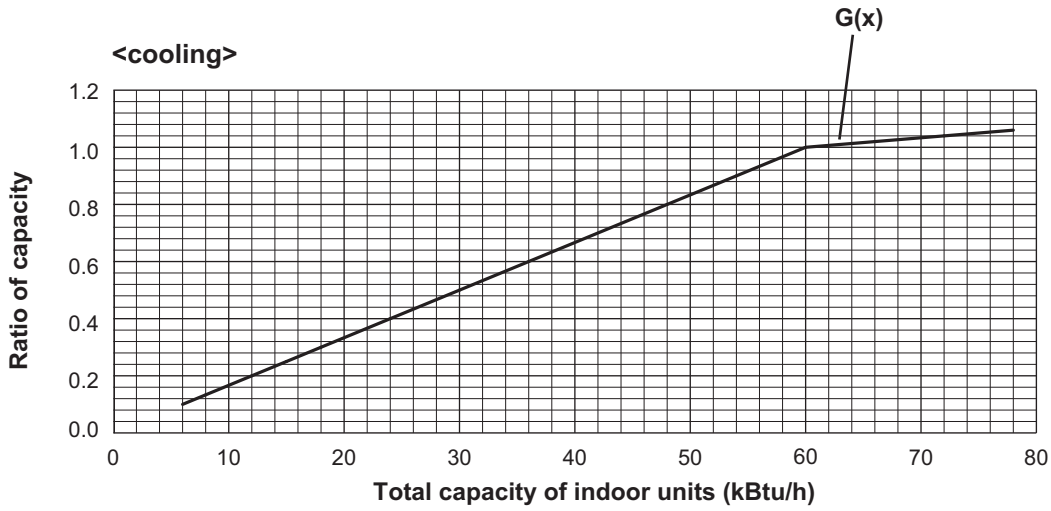
MXZ-SM48NAM-U1
MXZ-SM48NAMHZ-U1



MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

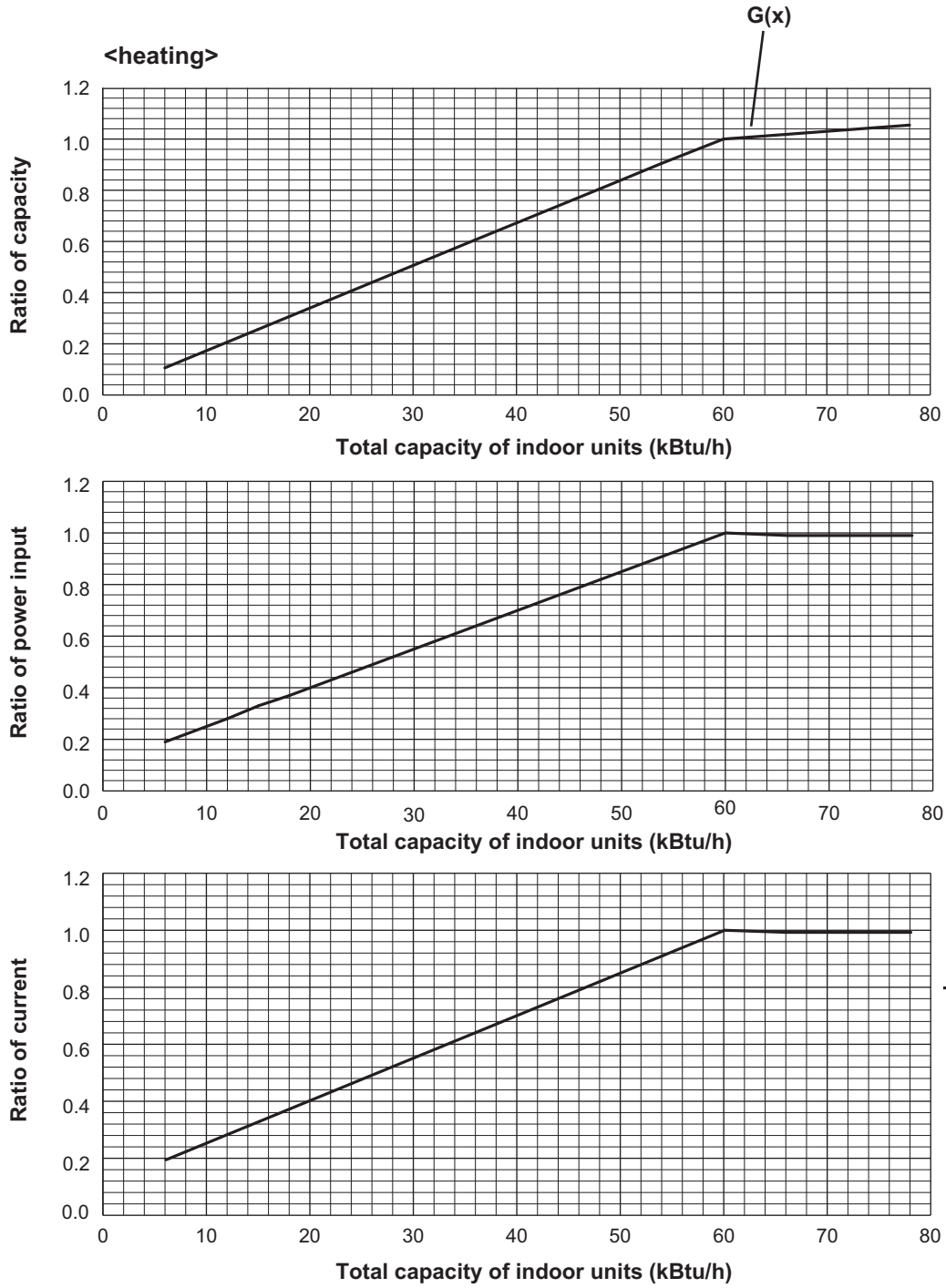
MXZ-SM60NAM-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



— 208, 230 V

MXZ-SM60NAM-U1

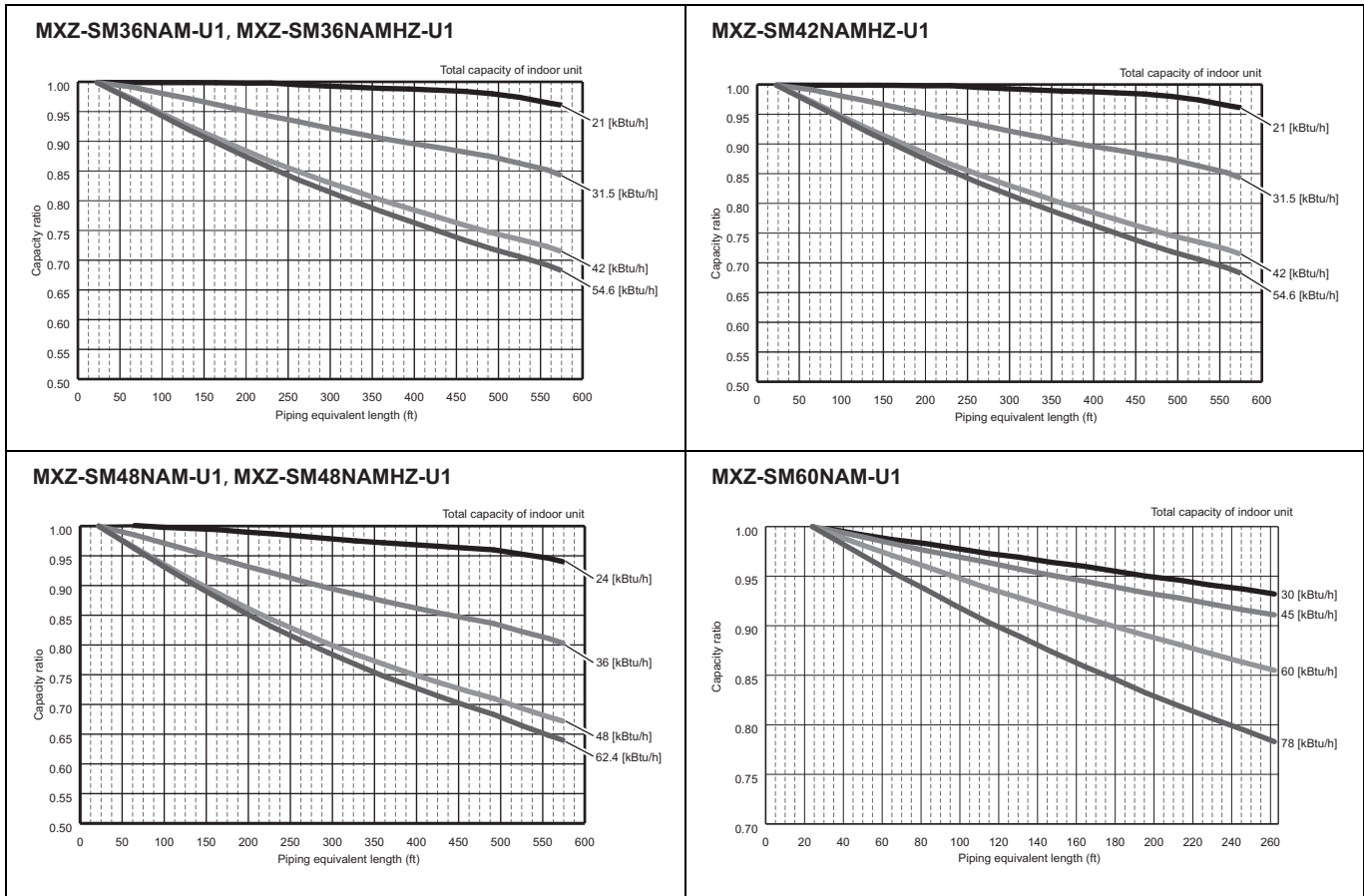


7-4. Correction by refrigerant piping length

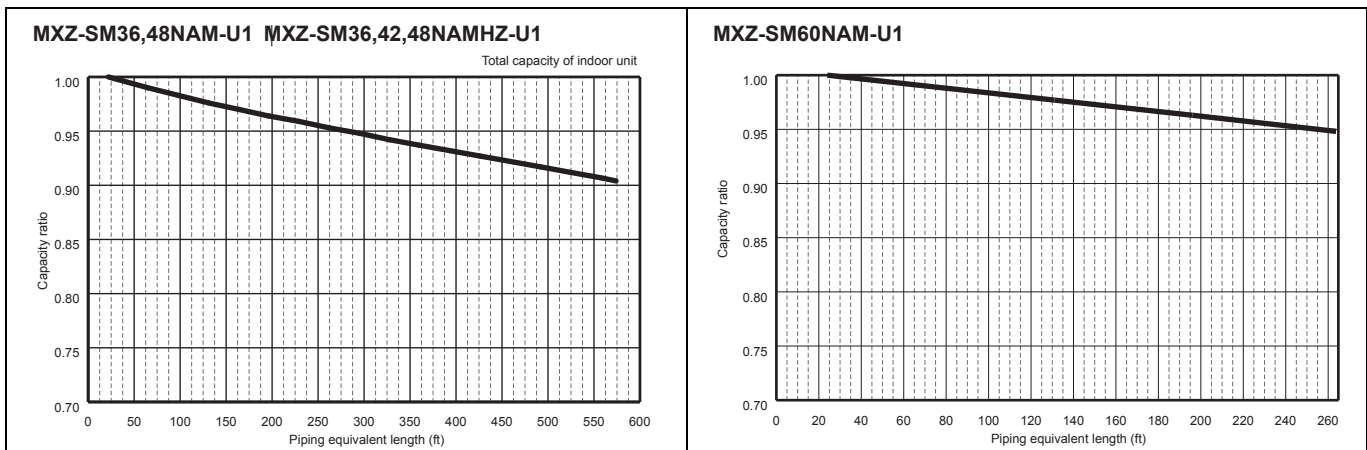
CITY MULTI indoor unit systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 7-4-1 and 7-4-2, capacity can be found. 7-4-3 shows how to obtain the equivalent piping length.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

7-4-1. Cooling capacity correction



7-4-2. Heating capacity correction



7-4-3. How to obtain the equivalent piping length

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)

7-5. 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. °FWB	43	39	36	32	28	25	21	18	14	5	-4	-13
Outdoor inlet air temp. °CWB	6	4	2	0	-2	-4	-6	-8	-10	-15	-20	-25
Correction factor	1.00	0.98	0.89	0.88	0.89	0.90	0.95	0.95	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

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

8-1. JOINT

CITY MULTI indoor 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 "Piping Design" or the Installation Manual that comes with the Joint set for how to install the Joint set.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

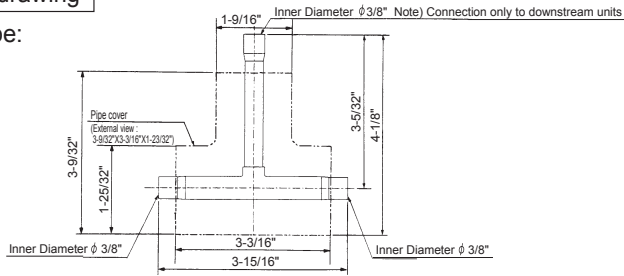
CMY-Y62-G

1. Specification

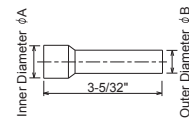
	Items	Details
Main	Number of ports	2 ports
	Number of branch joints	One for each liquid and gas pipe
	Pipe material	Phosphorus deoxidized copper C1220T-OL (JIS H3300)
Accessory	Insulation material	Foamed polyethylene (one for each liquid and gas pipe)
	Reducer	10 reducers of 7 types (Refer to the external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

2. External drawing

For liquid pipe:

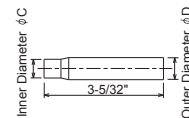
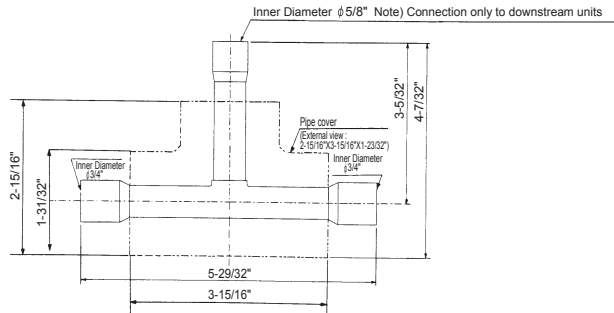


Reducer (Accessory):



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

8-2. HEADER

CITY MULTI indoor units can be easily connected by copper using Joint sets and Header sets provided by Mitsubishi Electric. Two kinds of Header sets are available for use. Refer to section "Piping 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:

For gas pipe:

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

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

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

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

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:

For gas pipe:

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

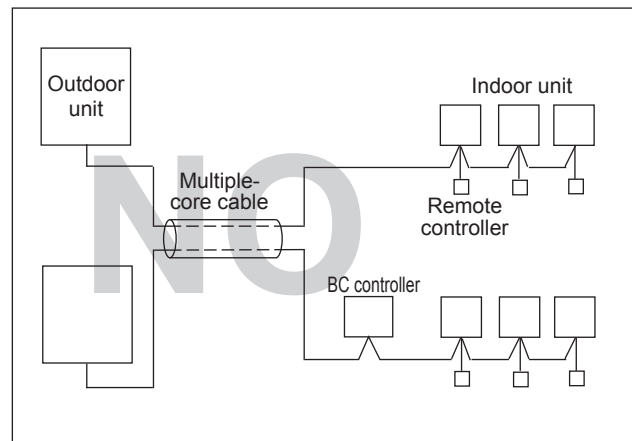
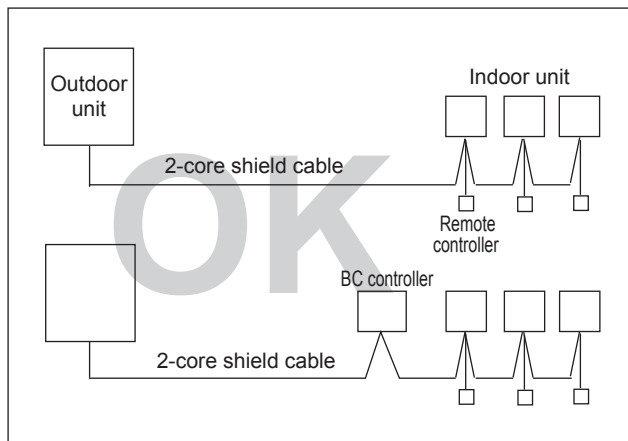
Symbol	Inner Diameter (mm)
(A)	φ 1/4"
(B)	φ 3/8"

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

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

9-1. General cautions

- ① Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations, and guidance of each electric power company.
- ② Wiring for control (hereinafter referred to as transmission cable) shall be (50mm[1-5/8in] or more) apart from power source wiring so that it is not influenced by electric noise from power source wiring. (Do not insert transmission cable and power source wire in the same conduit.)
- ③ Be sure to provide designated grounding work to outdoor unit.
- ④ Give some allowance to wiring for electrical part box of indoor and outdoor units, because the box is sometimes removed at the time of service work.
- ⑤ Never connect 100V, 208~230V power source to terminal block of transmission cable. If connected, electrical parts will be damaged.
- ⑥ Use 2-core shield cable for transmission cable. If transmission cables of different systems are wired with the same multiplecore cable, the resultant poor transmitting and receiving will cause erroneous operations.
- ⑦ When extending the transmission line, make sure to extend the shield cable as well.



9-2. Power cable specifications

Thickness of Wire for Main Power Supply and On/Off Capacities

<When power is supplied separately>

Model	Power Supply	Minimum Wire Thickness (mm ² [AWG])		Breaker for Wiring*1	Breaker for Current Leakage (if you use)	Minimum circuit ampacity	Maximum rating of over current protector device	
		Main cable *2	Ground					
Outdoor Unit	36/48NAM	208/230 VAC, 60 Hz	5.3 [AWG10]	5.3 [AWG10]	30 A	30A 30mA 0.1sec. or less	29 A	40 A
	36/42/48NAMHZ		8.4 [AWG8]	8.4 [AWG8]	40 A	40A 30mA 0.1sec. or less	36 A	40 A
	60NAM		8.4 [AWG8]	8.4 [AWG8]	40 A	40A 30mA 0.1sec. or less	36 A	45 A
Branch Box		Refer to installation manual of indoor unit.						

<When power is supplied from the outdoor unit>

Model	Power Supply	Minimum Wire Thickness (mm ² [AWG])		Breaker for Wiring*1	Breaker for Current Leakage (if you use)	Minimum circuit ampacity	Maximum rating of over current protector device	
		Main cable *2	Ground					
Outdoor Unit	36/48NAM	208/230 VAC, 60 Hz	8.4 [AWG10]	8.4 [AWG10]	40 A	40A 30mA 0.1sec. or less	35 A	50 A
	36/42/48NAMHZ		13.3 [AWG8]	13.3 [AWG8]	45 A	45A 30mA 0.1sec. or less	42 A	50 A
	60NAM		13.3 [AWG8]	13.3 [AWG8]	50 A	50A 30mA 0.1sec. or less	46 A	50 A
Branch Box		Refer to installation manual of indoor unit.						

*1 Please follow applicable federal, state, or local codes to prevent potential leakage/electric shock. Or install a ground fault interrupter for the prevention of leakage and electric shock.

IMPORTANT

If a current leakage breaker is used, it should be compatible with higher harmonics as this unit is equipped with an inverter. The use of an inadequate breaker can cause the incorrect operation of inverter.

*2 Use copper supply wires. Use the electric wires over the rating voltage 300 V.

*3 Although the conduit size is larger than the size specified for the wire thickness according to UL standards, use a conduit size of 3/4 inch.

Total operating current of the indoor unit	Minimum Wire Thickness (mm ² [AWG])			Ground-fault interrupter *1 (if you use)	Local switch (A)		Breaker for wiring (NFB)
	Main cable	Branch	Ground		Capacity	Fuse	
F0 = 15 or less *2	2.1/14	2.1/14	2.1/14	15A current sensitivity *3	15	15	15
F0 = 20 or less *2	3.3/12	3.3/12	3.3/12	20A current sensitivity *3	20	20	20
F0 = 30 or less *2	5.3/10	5.3/10	5.3/10	30A current sensitivity *3	30	30	30

Apply to IEC61000-3-3 about max. permissive system impedance.

*1 The Ground-fault interrupter should support inverter circuit.

The Ground-fault interrupter should combine using of local switch or wiring breaker.

*2 Please take the larger of F1 or F2 as the value for F0.

F1 = Total operating maximum current of the indoor units × 1.2

F2 = {V1 × (Quantity of Type1)/C} + {V1 × (Quantity of Type2)/C} + {V1 × (Quantity of Type3)/C} + {V1 × (Quantity of Type4)/C} + ... + {V1 × (Quantity of Type13)/C}

Indoor unit		V1	V2
Type 1	PEAD-A-AA, SVZ-A-AA	26.9	2.4
Type 2	PLA-A-EA7, SEZ-KD-NA	19.8	
Type 3	SLZ-KF-NA	17.1	
Type 4	MLZ-KP-NA (2)	9.9	
Type 5	MFZ-KJ-NA, MSZ-GL-NA, MSZ-FS-NA	7.4	
Type 6	MSZ-FH-NA, MSZ-FH-NA2, MSZ-EF-NAW (B) (S)-U1	6.8	
Type 7	Branch box	5.1	3.0
Type 8	PEFY-P-NMAU-E3, PVFY-P-NAMU	38.0	1.6
Type 9	PKFY-P-NHMU, PKFY-P-NKMU, PEFY-P-NMSU, PCFY-P-NKMU, PLFY-EP-NEMU, PLFY-P-NFMU, PMFY-P-NBMU, PKFY-P-NLMU	19.8	2.4
Type 10	PKFY-P-NBMU, PLFY-P-NCMU	3.5	2.4
Type 11	PEFY-P-NMHU, PFFY-P-NEMU, PFFY-P-NRMU	0.0	0.0
Type 12	PEFY-P-NMHSU (connected to MXZ-SM60 only)	13.8	4.8
Type 13	PEFY-P-NMAU-E4	18.6	3.0

C: Multiple of tripping current at tripping time 0.01s

Please pick up "C" from the tripping characteristic of the breaker.

<Example of "F2" calculation>

* Condition PEFY-NMSU × 4 + PEFY-NMAU × 1, C = 8 (refer to right sample chart)

$$F2 = 19.8 \times 4/8 + 38 \times 1/8 = 14.65$$

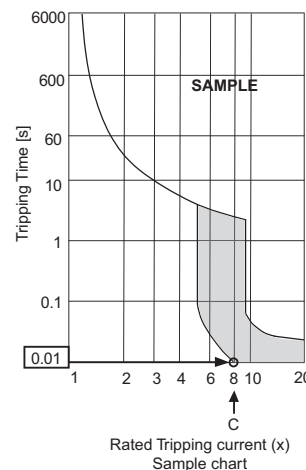
→ 16 A breaker (Tripping current = 8 × 16 A at 0.01 s)

*3 Current sensitivity is calculated using the following formula.

$$G1 = V2 \times (\text{Quantity of Type1}) + V2 \times (\text{Quantity of Type2}) + V2 \times (\text{Quantity of Type3}) + \dots + V2 \times (\text{Quantity of Type13}) + V3 \times (\text{Wire length [km]})$$

G1	Current sensitivity
30 or less	30 mA 0.1sec or less
100 or less	100 mA 0.1sec or less

Wire thickness (mm ² /AWG)	V3
2.1/14	48
3.3/12	56
5.3/10	66



1. Use a separate power supply for the outdoor unit and indoor unit.
2. Bear in mind ambient conditions (ambient temperature, direct sunlight, rain water, etc.) when proceeding with the wiring and connections.
3. The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker consideration of voltage drops. Make sure the power-supply voltage does not drop more than 10%.
4. Specific wiring requirements should adhere to the wiring regulations of the region.
5. Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (design 60245 IEC57). For example, use wiring such as YZW.
6. Install an earth longer than other cables.

⚠ WARNING

- ◆ Be sure to use specified wires to connect so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.
- ◆ Be sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.
- ◆ Turn on main power when the ambient temperature is -20 °C (-4 °F) or higher.
- ◆ In below -20 °C (-4 °F), it needs at least 12hr stand by before the units operate in order to warm the electrical parts.

⚠ CAUTION

- ◆ Some installation site may require attachment of an earth leakage breaker. If no earth leakage breaker is installed, it may cause an electric shock.
- ◆ Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.

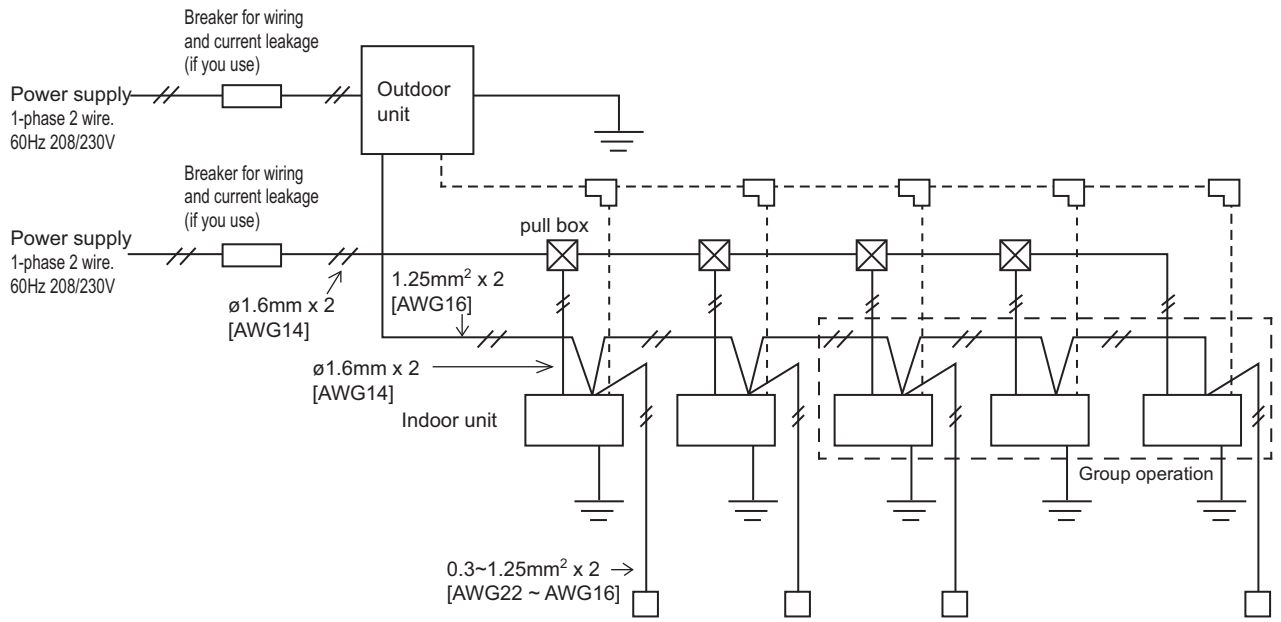
IMPORTANT

Make sure that the current leakage breaker is one compatible with higher harmonics.
Always use a current leakage breaker that is compatible with higher harmonics as this unit is equipped with an inverter.
The use of an inadequate breaker can cause the incorrect operation of inverter.

Never splice the power cable or the indoor-outdoor connection cable, otherwise it may result in a smoke, a fire or communication failure.

9-3. Power supply examples

The local standards and/or regulations is applicable at a higher priority.



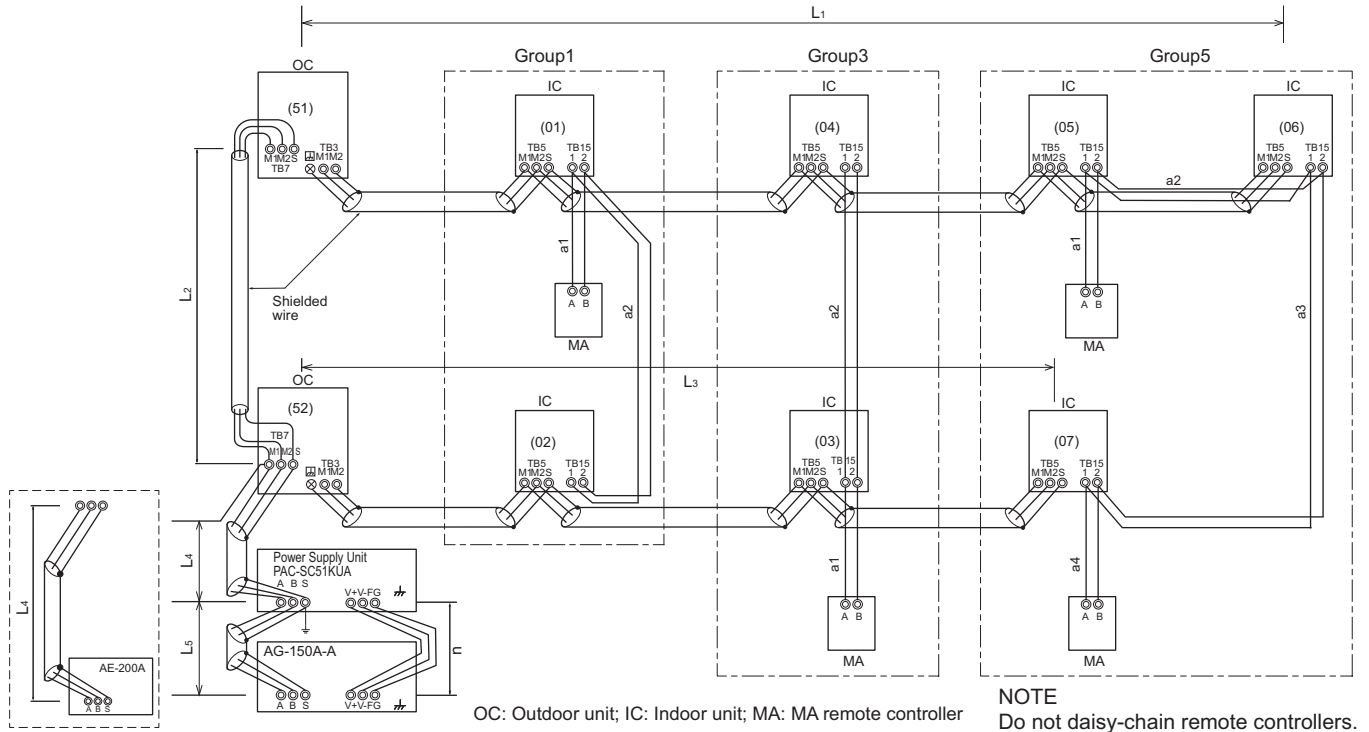
10-1. Transmission cable length limitation

10-1-1. Using MA Remote controller

MA remote controller refers to Simple MA remote controller and wireless remote controller.

Applicable to Outdoor as follows Long transmission cable causes voltage down, therefore, the length limitation should be obeyed to secure proper transmission.

MXZ-SM NAM(HZ)-U1	Max. length via Outdoor (M-NET cable)	$L1+L2+L3, L1+L2+L4+L5, L3+L4+L5$	$\leq 500\text{m}[1640\text{ft}]$	1.25mm^2 [AWG16] or thicker
	Max. length to Outdoor (M-NET cable)	$L1, L3, L2+L4, L5$	$\leq 200\text{m}[656\text{ft}]$	1.25mm^2 [AWG16] or thicker
	Max. length from MA to Indoor for each group	$a1+a2, a1+a2+a3+a4$	$\leq 200\text{m}[656\text{ft}]$	$0.3-1.25\text{mm}^2$ [AWG22-16]
	24VDC to AG-150A-A	n	$\leq 50\text{m}[164\text{ft}]$	$0.75-2.0\text{mm}^2$ [AWG18-14]



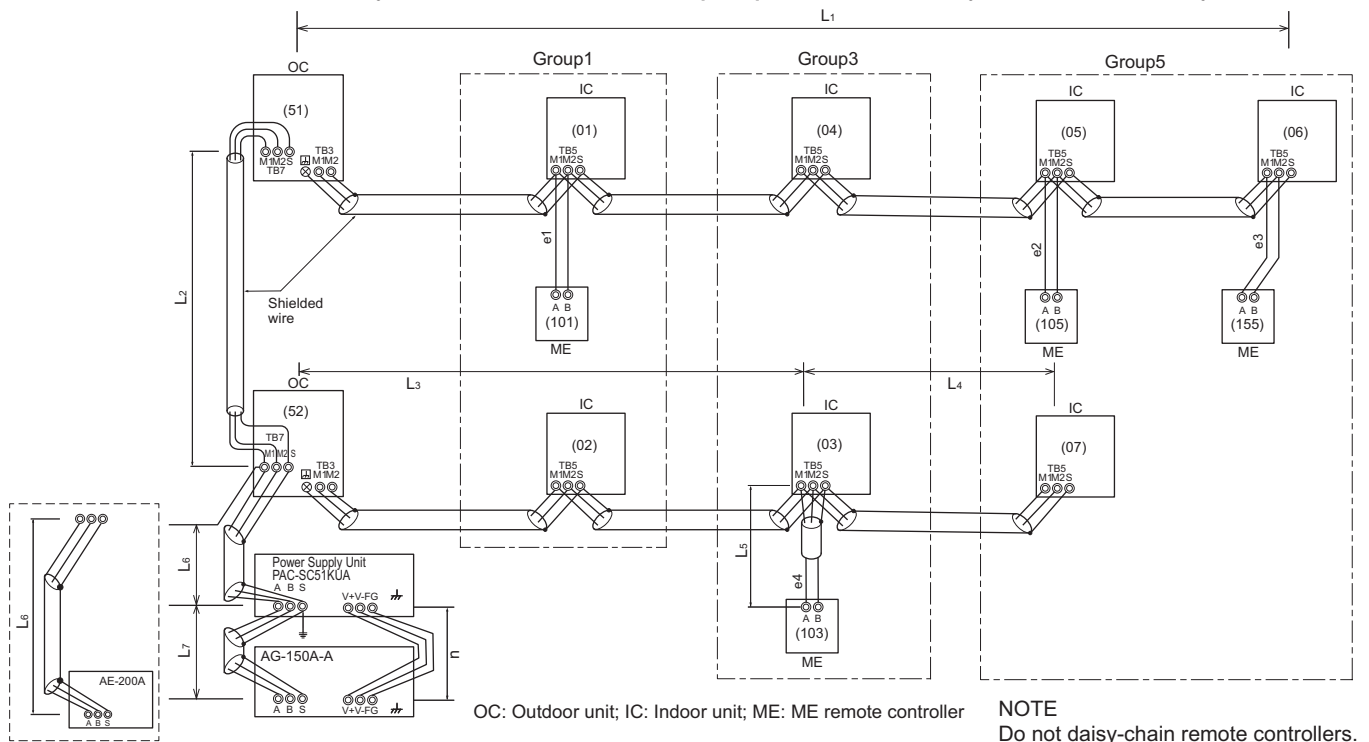
10-1-2. Using ME Remote controller

ME remote controller refers to Smart ME controller.

Applicable to Outdoor as follows Long transmission cable causes voltage down, therefore, the length limitation should be obeyed to secure proper transmission.

MXZ-SM NAM(HZ)-U1	Max. length via Outdoor (M-NET cable)	$L1+L2+L3+L4, L1+L2+L6+L7, L1+L2+L3+L5, L3+L4+L6+L7, L3+L5+L6+L7, L4+L5$	$\leq 500\text{m}[1640\text{ft}]$	1.25mm^2 [AWG16] or thicker
	Max. length to Outdoor (M-NET cable)	$L1, L3+L4, L2+L6, L7, L3+L5$	$\leq 200\text{m}[656\text{ft}]$	1.25mm^2 [AWG16] or thicker
	Max. length from ME to Indoor	$e1, e2, e3, e4$	$\leq 10\text{m}[32\text{ft}]$ *1	$0.3-1.25\text{mm}^2$ [AWG22-16] *1
	24VDC to AG-150A-A	n	$\leq 50\text{m}[164\text{ft}]$	$0.75-2.0\text{mm}^2$ [AWG18-14]

*1. If the length from ME to Indoor exceed 10m, use 1.25mm^2 [AWG16] shielded cable, but the total length should be counted into Max. length via Outdoor.



MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

10-2. Transmission cable specifications

	Transmission cables (Li)	ME Remote controller cables	MA Remote controller cables
Type of cable	Shielding wire (2-core) CVVS, CPEVS or MVVS	Sheathed 2-core cable (unshielded) CVV	
Cable size	More than 1.25mm ² [AWG16]	0.3 ~ 1.25mm ² [AWG22~16]	0.3 ~ 1.25mm ² [AWG22~16]*1
Remarks	—	When 10m [32ft] is exceeded, use cables with the same specification as transmission cables.	Max length : 200m [656ft]

*1 To wire PAR-CT01MAU, PAR-40MAAU, and PAC-YT53CRAU, use a wire with a diameter of 0.3 mm² [AWG22]

CVVS, MVVS: PVC insulated PVC sheathed shielded control cable
CPEVS: PE insulated PVC sheathed shielded communication cable
CVV: PVC insulated PVC sheathed control cable

10-3. System configuration restrictions

10-3-1. Common restrictions for the CITY MULTI indoor unit system

For each Outdoor/Heat source unit, the maximum connectable quantity of Indoor unit is specified at its Specifications table.

- A) 1 Group of Indoor units can have 1-16 Indoor units;
- B) Maximum 2 remote controllers for 1 group;
 - *MA/ME remote controllers cannot be present together in 1group.
 - *When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.
 - *To wire PAR-CT01MAU and PAC-YT53CRAU, use a wire with a diameter of 0.3 mm² [AWG22]
- C) 1 Lossnay unit can interlock maximum 16 Indoor units; 1 Indoor unit can interlock only 1 Lossnay unit.
- D) Maximum 3 System controllers are connectable when connecting to TB3 of the Outdoor/Heat source unit.
- E) A maximum of 6 system controller are connectable to TB3 and TB7 of Outdoor/Heat source unit.
- F) 4 System controllers or more are connectable when connecting to TB7 of the Outdoor/Heat source unit, if the transmission power is supplied by the power supply unit PAC-SC51KUA.
 - *System controller connected as described in D) would have a risk that the failure of connected Outdoor/Heat source unit would stop power supply to the System controller.

10-3-2. Ensuring proper communication power and the number of connected units for M-NET

In order to ensure proper communication among Outdoor/Heat source unit, Indoor unit, Lossnay, and Controllers, the transmission power situation for the M-NET should be observed. In some cases, Transmission booster should be used.

Taking the power consumption of Indoor unit as 1, the equivalent power consumption or supply of others are listed at Table 1 and Table 2.

Both the transmission line for centralized controller and indoor-outdoor transmission line must meet the conditions listed below. (Both conditions a) and b) must be met.)

- a) [Total equivalent power consumption] ≤ [The equivalent power supply]
- b) [Total equivalent number of units (Table1)] ≤ [40]

Table 1 The equivalent power consumption and the equivalent number of units

Category	Model	The equivalent power consumption	The equivalent number of units
Indoor unit	Sized P05-P96, PEFY-AF1200CFM-E	1	1
	PEFY-AF1200CFMR-E	2	2
BC controller	CMB	2	1
PWFY *1	P36NMU-E-BU	6	1
	P36NMU-E2-AU	1	1
	P72NMU-E2-AU	5	1
MA remote controller/Lossnay	PAR-CT01MAU PAR-40MAAU PAC-YT53CRAU PAR-FA32MA LGH-F-RX ₅ -E1 PZ-60DR-E PZ-43SMF-E	0	0
ME remote controller	PAR-U01MEDU	0.5	1
System controller	AE-200A AE-50A EW-50A LM-AP	0	0
	AG-150A-A EB-50GU-A PAC-IF01AHC-J	0.5	1
	TC-24B	1.5	5
	PAC-YG60MCA PAC-YG66DCA PAC-YG63MCA	0.25	1
ON/OFF controller	PAC-YT40ANRA	1	1
MN converter	CMS-MNG-E	2	1
Outdoor/Heat source unit	TB7 power consumption	0	0
System control interface	MAC-333IF-E	0	0
A-M converter	PAC-IF01MNT-E	1	2

*1 PWFY cannot be connected to MXZ-SM model.

Table 2 The equivalent power supply

Category	Model	The equivalent power supply		
Transmission Booster	PAC-SF46EPA-G	25 *1		
Power supply unit	PAC-SC51KUA	5		
Expansion controller	PAC-YG50ECA	6		
BM ADAPTER	BAC-HD150	6		
System controller	AE-200A/AE-50A	0.75		
	EW-50A	1.5		
	LM-AP	0		
Outdoor/Heat source unit		TB3 and TB7 total	TB7 only	TB3 only
	Outdoor unit other than the following units *2	32 *1	6	32*1 - equivalent power supplied to TB7
	S-Series outdoor unit	12 *1	0	12 *1
	TLMU/TKMU outdoor unit	32 *1	- *3	32 *1

*1 When one or more indoor units listed below is connected, subtract 3 from the equivalent power supply.

Table 3

Category	Model
Indoor unit	Sized P72, P96 PEFY-AF1200CFM(R)-E

*2 If PAC-SC51KUA is used to supply power at TB7 side, no power supply need from Outdoor/Heat source unit at TB7, Connector TB3 itself will therefore have 32.

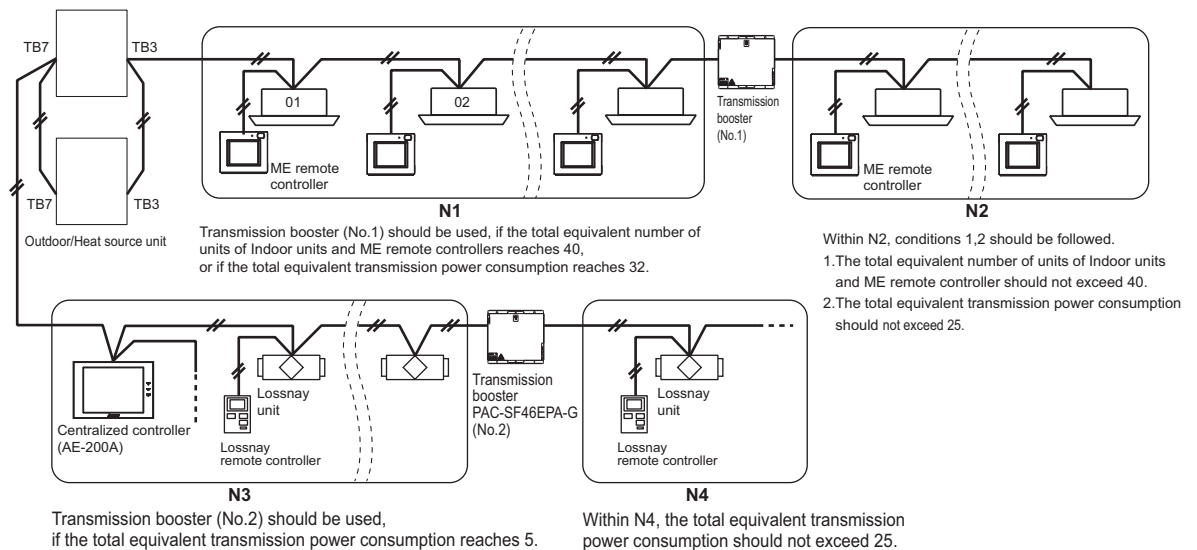
With the equivalent power consumption values and the equivalent number of units in Table 1 and Table 2, PAC-SF46EPA-G can be designed into the air-conditioner system to ensure proper system communication according to (A), (B), (C).

- (A) Firstly, count from TB3 at TB3 side the total equivalent number of units of Indoor units, ME remote controller, and System controllers. If the total equivalent number of units reaches 40, a PAC-SF46EPA-G should be set.
- (B) Secondly, count from TB7 side to TB3 side the total transmission power consumption. If the total equivalent power supply reaches 32, a PAC-SF46EPA-G should be set. Yet, if a PAC-SC51KUA or another controller with a built-in power supply, such as PAC-YG50ECA, is used to supply power at TB7 side, count from TB3 side only.
- (C) Thirdly, count from TB7 at TB7 side the total transmission power consumption, If the total equivalent power supply for only TB7 reaches 6, a PAC-SF46EPA-G should be set. Also, count from TB7 at TB7 side the total equivalent number of units of System controllers, and so on. If the total equivalent number of units reaches 40, a PAC-SF46EPA-G should be set.

* The equivalent power supply of S-Series outdoor unit is 12.

* When one or more indoor units listed in Table 3 is connected, subtract 3 from the equivalent power supply.

■ System example



MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

10-3-3. Ensuring proper power supply to System controller

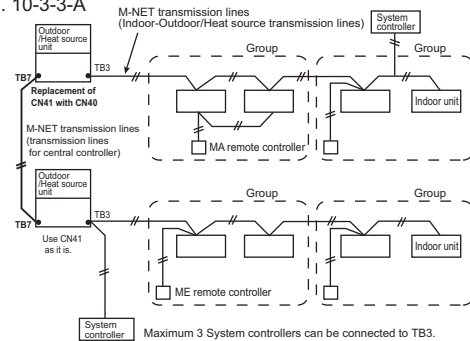
The power to System controller (excluding AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) is supplied via M-NET transmission line. M-NET transmission line at TB7 side is called Centralized control transmission line while one at TB3 side is called Indoor-Outdoor/Heat source transmission line. There are 3 ways to supply power to the System controller .

- A) Connecting to TB3 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.
- B) Connecting to TB7 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.
(Not applicable to the MXZ-SM model and PUHY/PURY-TLMU/TKMU model)
- C) Connecting to TB7 of the Outdoor/Heat source unit but receiving power from power supply unit PAC-SC51KUA.
* System controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) have a built-in function to supply power to the M-NET transmission lines, so no power needs to be supplied to the M-NET transmission lines from the Outdoor/Heat source units or from PAC-SC51KUA.

10-3-3-A. When connecting to TB3 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.

Maximum 3 System controllers can be connected to TB3.
If there is more than 1 Outdoor/Heat source unit, it is necessary to replace power supply switch connector CN41 with CN40 on one Outdoor/Heat source unit.

Fig. 10-3-3-A

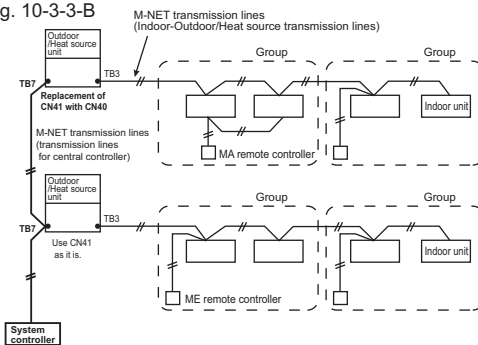


Maximum 3 System controllers can be connected to TB3.

10-3-3-B. When connecting to TB7 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit. (Not applicable to the MXZ-SM model and PUHY/PURY-TLMU/TKMU model)

Maximum 6 System controllers can be connected to TB7 and receiving power from the Outdoor/Heat source unit.
(Not applicable to the MXZ-SM model and PUHY/PURY-TLMU/TKMU model)
It is necessary to replace power supply switch connector CN41 with CN40 on one Outdoor/Heat source unit.

Fig. 10-3-3-B



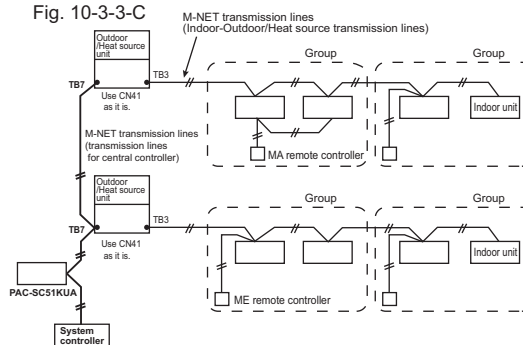
Note (only for PUHY/PURY model)

- When YLMU/YKMU Outdoor unit model is used, the male power supply connector can be connected to CN40, and the System controller can be connected to TB7 side.
- When the male power supply connector is connected from TLMU/TKMU Outdoor unit to CN40, the power is supplied to TB7 side even when the main power of the TLMU/TKMU outdoor unit is switched off, and the System controller may store an error in the error history and emit an alarm signal.
- If only LOSSNAY units or outdoor units in different refrigerant circuits are connected to TB7 side, the male power supply connector can be connected from TLMU/TKMU outdoor unit to CN40.

10-3-3-C. When connecting to TB7 of the Outdoor/Heat source unit but receiving power from PAC-SC51KUA.

When using PAC-SC51KUA to supply transmission power, the power supply connector CN41 on the Outdoor/Heat source units should be kept as it is. It is also a factory setting.
1 PAC-SC51KUA supports maximum 1 AG-150A-A or 1 EB-50GU-A unit due to the limited power 24VDC at its TB3.
However, 1 PAC-SC51KUA supplies transmission power at its TB2 equal to 5 Indoor units, which is referable at Table 2.
If System controller, ON/OFF controller connected to TB7 consume transmission power more than 5 (Indoor units), Transmission booster PAC-SF46EPA is needed. PAC-SF46EPA supplies transmission power equal to 25 Indoor units.

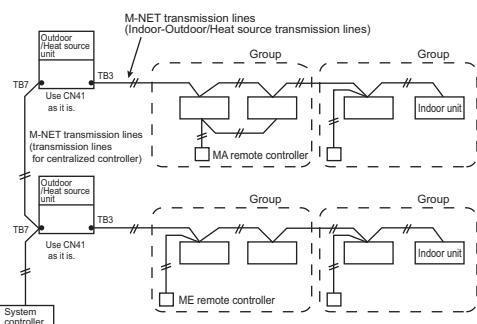
Fig. 10-3-3-C



CAUTION

- AG-150A-A/EB-50GU-A*1 are recommended to connect to TB7 because it performs back-up to a number of data.
In an air conditioner system has more than 1 Outdoor/Heat source units, AG-150A-A/EB-50GU-A receiving transmission power through TB3 or TB7 on one of the Outdoor/Heat source units would have a risk that the connected Outdoor/Heat source unit failure would stop power supply to AG-150A-A/EB-50GU-A and disrupt the whole system.
When applying apportioned electric power function, AG-150A-A/EB-50GU-A are necessary to connected to TB7 and has its own power supply unit PAC-SC51KUA.
Note: Power supply unit PAC-SC51KUA is for AG-150A-A/EB-50GU-A.
*1: AG-150A-A is an example model of system controllers.
- How to connect system controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) to a given system
System controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) have a built-in function to supply power to the M-NET transmission lines, so no power needs to be supplied to the M-NET transmission lines from the Outdoor/Heat source units or from PAC-SC51KUA.
Leave the power supply connector on the Outdoor/Heat source unit connected to CN41 as it is.
Refer to 10-3-2 for information about the power-supply capacity of each system controller (EW-50A, BAC-HD150, LM-AP) to the low-level system controllers.

Fig. 10-3-3-D



10-3-4. Power supply to LM-AP

1-phase 208-230VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary when connecting only the LM-AP. Yet, make sure to change the power supply changeover connector CN41 to CN40 on the LM-AP.

10-3-5. Power supply to expansion controller

1-phase 100-240VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary.

The expansion controller supplies power through TB3, which equals 6 indoor units. (refer to Table 2)

10-3-6. Power supply to BM ADAPTER

1-phase 100-240VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary when only BM ADAPTER is connected.

Yet, make sure to move the power jumper from CN41 to CN40 on the BM ADAPTER.

10-3-7. Power supply to AE-200A/AE-50A/EW-50A

1-phase 100-240VAC power supply is needed.

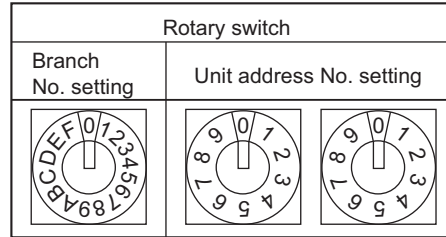
The power supply unit PAC-SC51KUA is not necessary when connecting only the AE-200A/AE-50A/EW-50A.

10-4. Address setting

10-4-1. Switch operation

In order to constitute CITY MULTI indoor units in a complete system, switch operation for setting the unit address No. and connection No. is required.

- ① Address No. of outdoor unit, indoor unit and ME remote controller.
The address No. is set at the address setting board.
In the case of R2 system, it is necessary to set the same No. at the branch No. switch of indoor unit as that of the BC controller connected. (When connecting two or more branches, use the lowest branch No.)



- ② Caution for switch operations

- Be sure to shut off power source before switch setting. If operated with power source on, switch can not operate properly.
- No units with identical unit address shall exist in one whole air conditioner system. If set erroneously, the system can not operate.

- ③ MA remote controller

- When connecting only one remote controller to one group, it is always the main remote controller.
When connecting two remote controllers to one group, set one remote controller as the main remote controller and the other as the sub remote controller.
- The factory setting is "Main".

PAR-CT01MAU

The MA remote controller does not have the switches listed above.
Refer to the installation manual for the function setting.





































PAC-YT53CRAU

Setting the dip switches

There are switches on the back of the top case. Remote controller Main/Sub and other function settings are performed using these switches. Ordinarily, only change the Main/Sub setting of SW1.
(The factory settings are ON for SW1, 3, and 4 and OFF for SW2.)

SW No	SW contents Main	ON	OFF	Comment
1	Remote controller Main/Sub setting	Main	Sub	Set one of the two remote controllers at one group to "ON".
2	Temperature display units setting	Celsius	Fahrenheit	When the temperature is displayed in [Fahrenheit], set to "OFF".
3	Cooling/heating display in AUTO mode	Yes	No	When you do not want to display "Cooling" and "Heating" in the AUTO mode, set to "OFF".
4	Indoor temperature display	Yes	No	When you do not want to display the indoor temperature, set to "OFF".

10-4-2. Rule of setting address

Unit	Address setting	Example	Note
Indoor unit System control interface (MAC-333IF-E) A-M converter (PAC-IF01MNT-E)	01 ~ 50	 	Use the most recent address within the same group of indoor units. Make the indoor units address connected to the BC controller (Sub) larger than the indoor units address connected to the BC controller (Main). If applicable, set the sub BC controllers in an PURY system in the following order: (1) Indoor unit to be connected to the BC controller (Main) (2) Indoor unit to be connected to the BC controller (No.1 Sub) (3) Indoor unit to be connected to the BC controller (No.2 Sub) Set the address so that (1)<(2)<(3)
Outdoor unit	51 ~ 99, 100 (Note1)	 	The smallest address of indoor unit in same refrigerant system + 50 Assign sequential address numbers to the outdoor units in one refrigerant circuit system. OC and OS are automatically detected. (Note 2) *Please reset one of them to an address between 51 and 99 when two addresses overlap. *The address automatically becomes "100" if it is set as "01~ 50"
BC controller (Main)	52 ~ 99, 100	 	The address of outdoor unit + 1 *Please reset one of them to an address between 51 and 99 when two addresses overlap. *The address automatically becomes "100" if it is set as "01~ 50"
BC controller (Sub)	52 ~ 99, 100	 	Lowest address within the indoor units connected to the BC controller (Sub) plus 50.
Local remote controller	ME, Lossnay Remote controller (Main)	1 Fixed  	The smallest address of indoor unit in the group + 100 *The place of "100" is fixed to "1"
	ME, Lossnay Remote controller (Sub)	1 Fixed  	The address of main remote controller + 50 *The address automatically becomes "200" if it is set as "00"
System controller	ON/OFF remote controller	  	The smallest group No. to be managed + 200 * The smallest group No. to be managed is changeable.
	AE-200A/AE-50A AG-150A-A EB-50GU-A EW-50A TC-24B	0, 2  0-5  0-9 	* TC-24B cannot be set to "000".
	PAC-YG50ECA	0, 2  0-5  0-9 	* Settings are made on the initial screen of AG-150A-A.
	BAC-HD150	0, 2  0-5  0-9 	* Settings are made with setting tool of BM ADAPTER.
	LMAP04U-E	2 Fixed  	
P, AI, DIDO	PAC-YG60MCA	 	
	PAC-YG63MCA	 	
	PAC-YG66DCA	 	
Lossnay	01 ~ 50	 	After setting the addresses of all the indoor units, assign an arbitrary address.
PAC-IF01AHC-J	201 ~ 250	2 Fixed  	

Note1: To set the address to "100", set it to "50"

Note2: Outdoor units OC and OS in one refrigerant circuit system are automatically detected.
OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.

10-4-3. System example

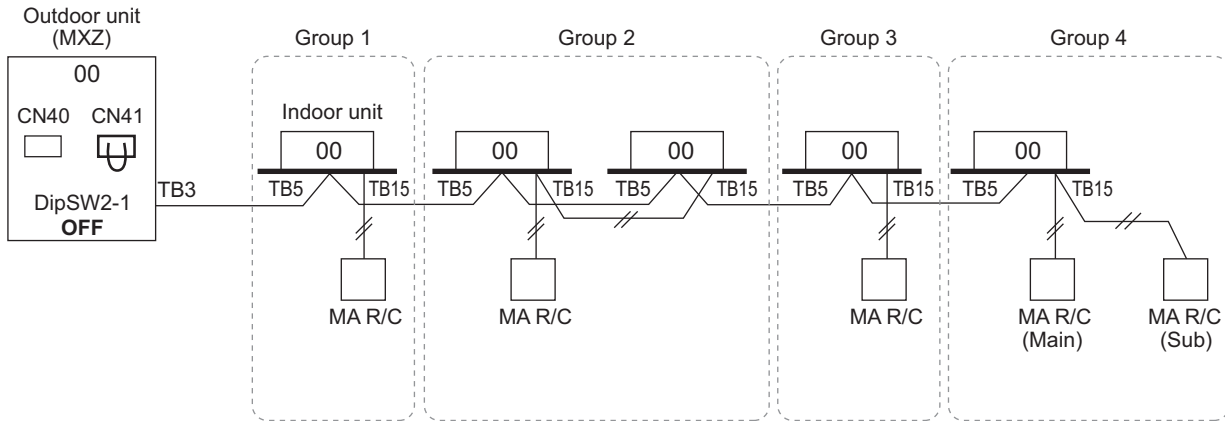
Factory setting

Original switch setting of the outdoors, indoors, controllers, LM-AP, and BM ADAPTER at shipment is as follows.

- Outdoor unit : Address: 00, CN41: ON (Jumper), DipSW2-1: OFF
- Indoor unit : Address: 00
- ME remote controller : Address: 101
- LM-AP : Address: 247, CN41: ON (Jumper), DipSW1-2: OFF
- BM ADAPTER : Address: 000, CN41: ON (Jumper)

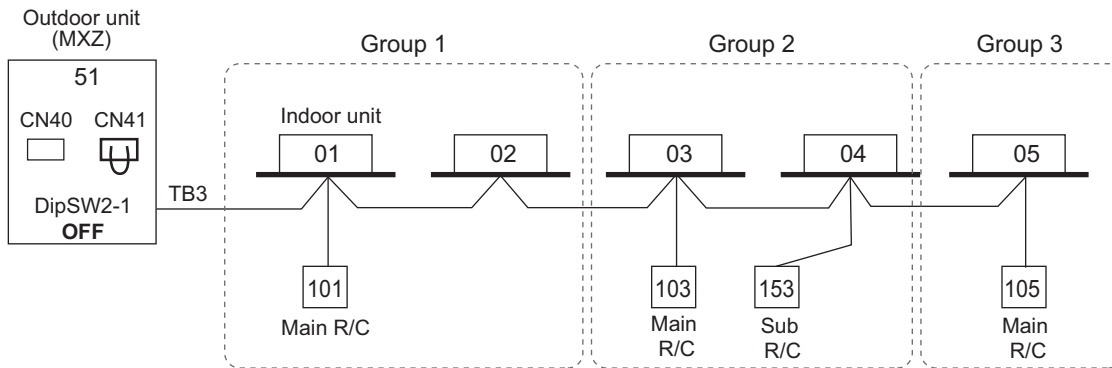
10-4-3-1. Example: Basic (No address setting)

MA R/C: PAC-YT53CRAU

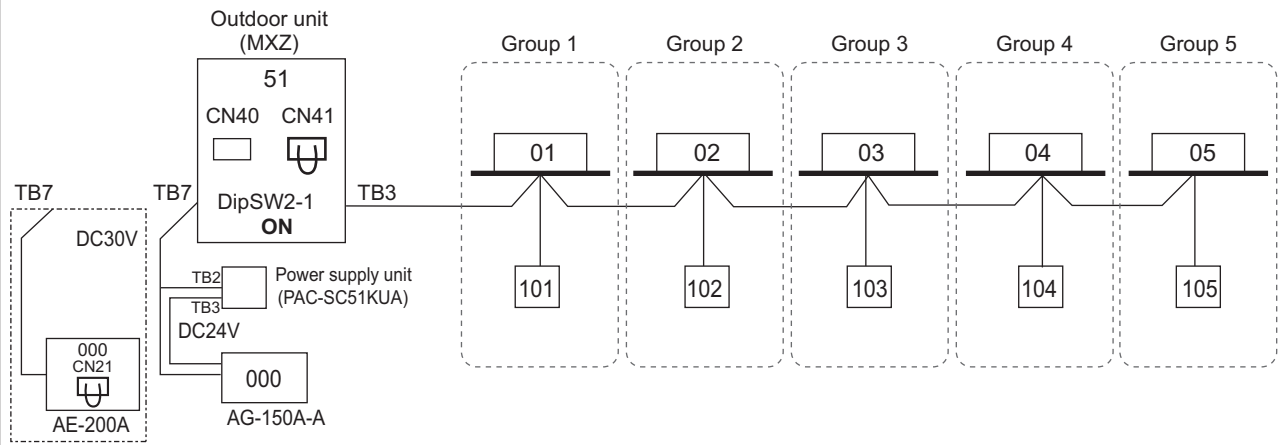


10-4-3-2. Example: Basic, Sub/main ME remote controller

Main R/C: PAR-U01MEDU
Sub R/C: PAR-U01MEDU



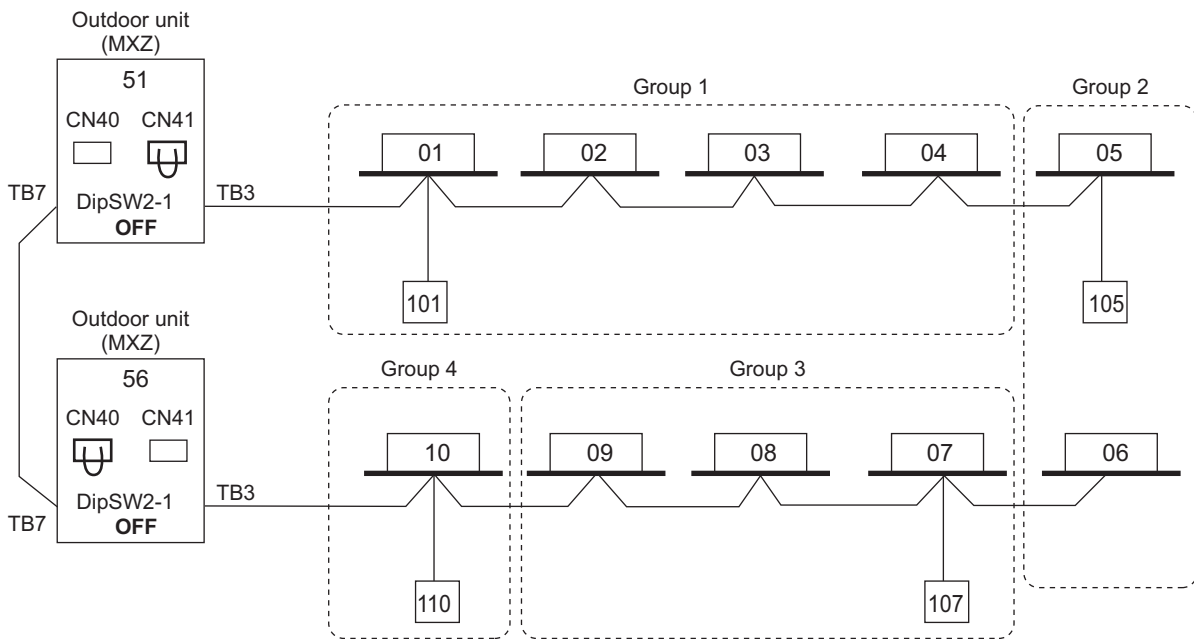
10-4-3-3. Example: AG-150A-A, AE-200A, TB7



NOTE

- It is necessary to turn on the DipSW 2-1 on the outdoor unit control board when the central controller is connected.

10-4-3-4. Example: Grouping in different refrigerant system

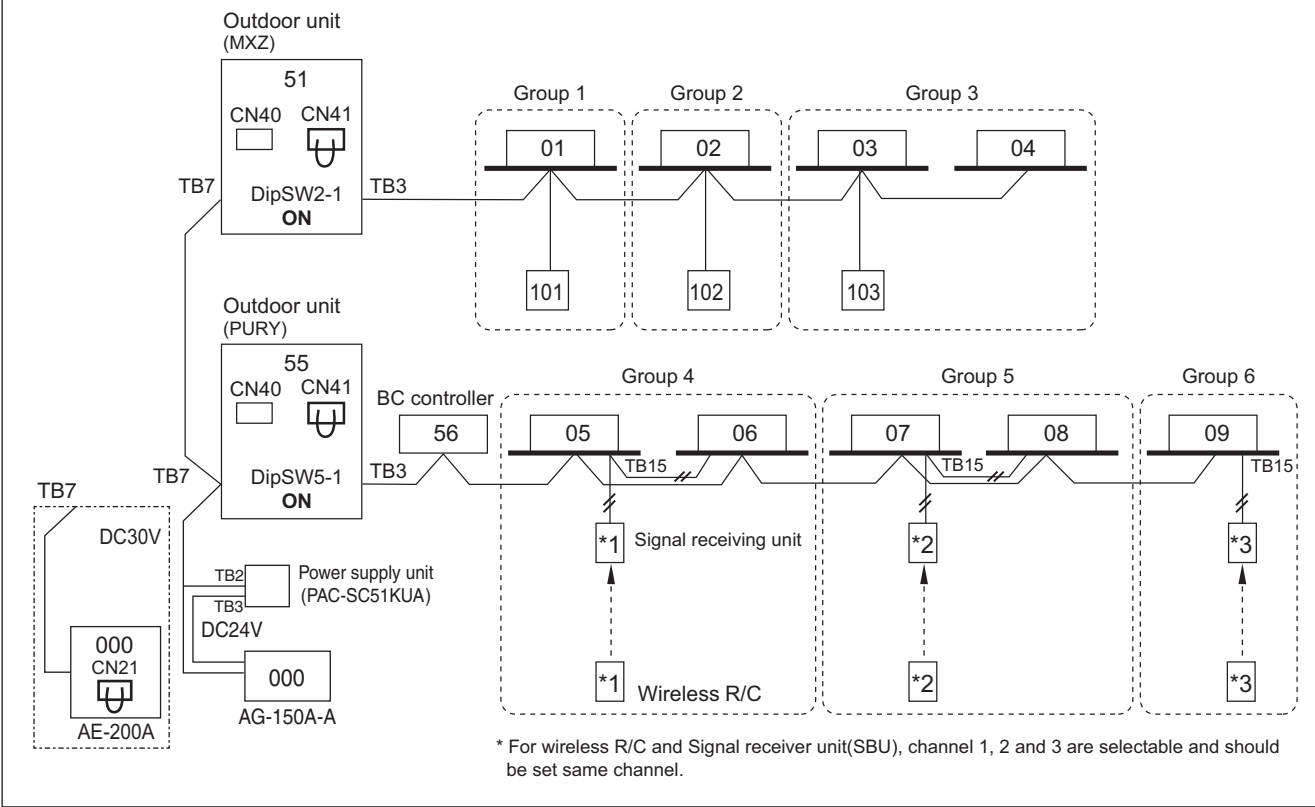


NOTE

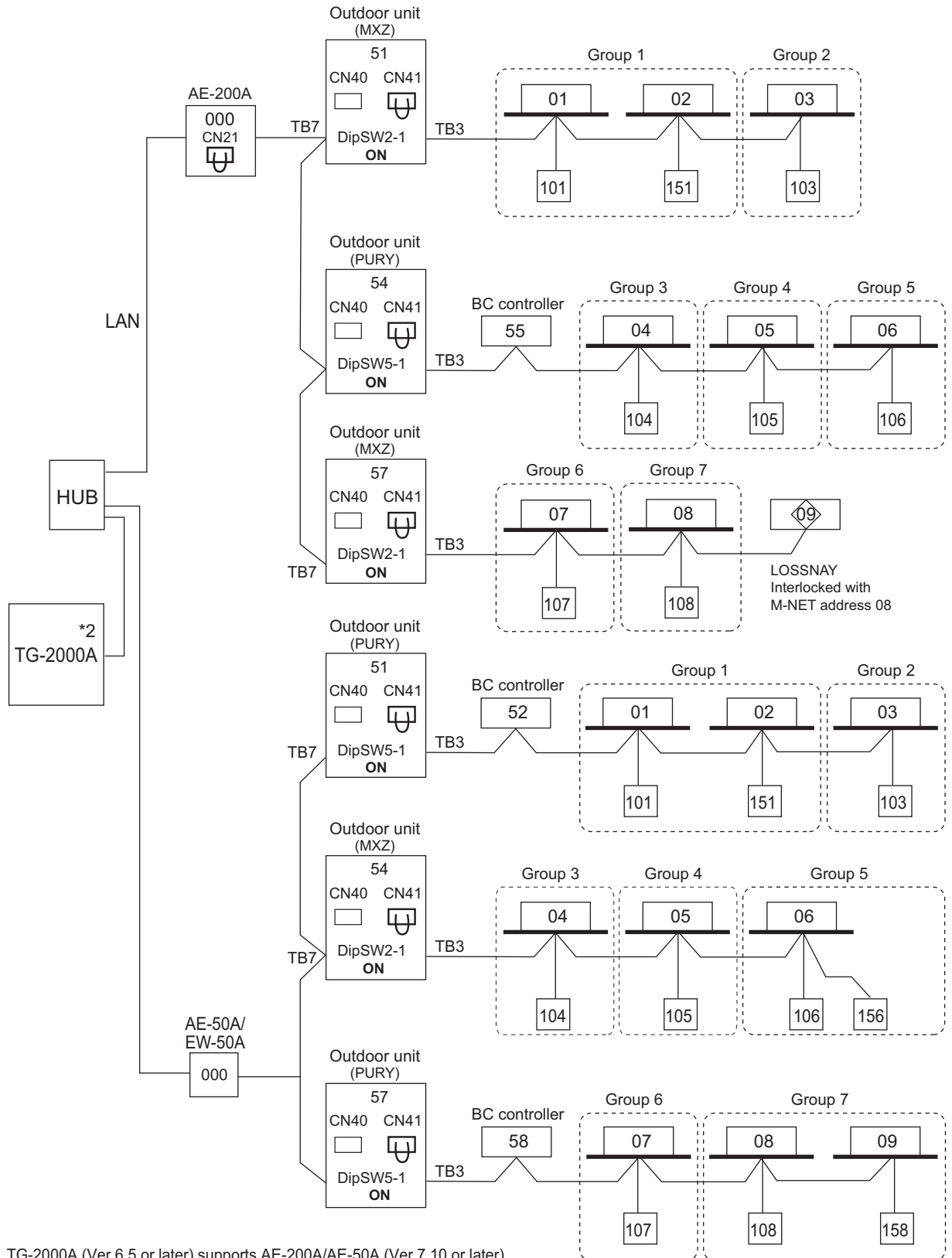
- It is necessary to change the connector to CN40 on the outdoor unit control board (only one Outdoor unit) when the group is set between other refrigerant systems.
- It is necessary to set on the remote controller by manual when group sets on the different refrigerant system. Please refer to remote controller installation manual.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

10-4-3-5. Example: 2 Outdoor unit, AG-150A-A, AE-200A, MA



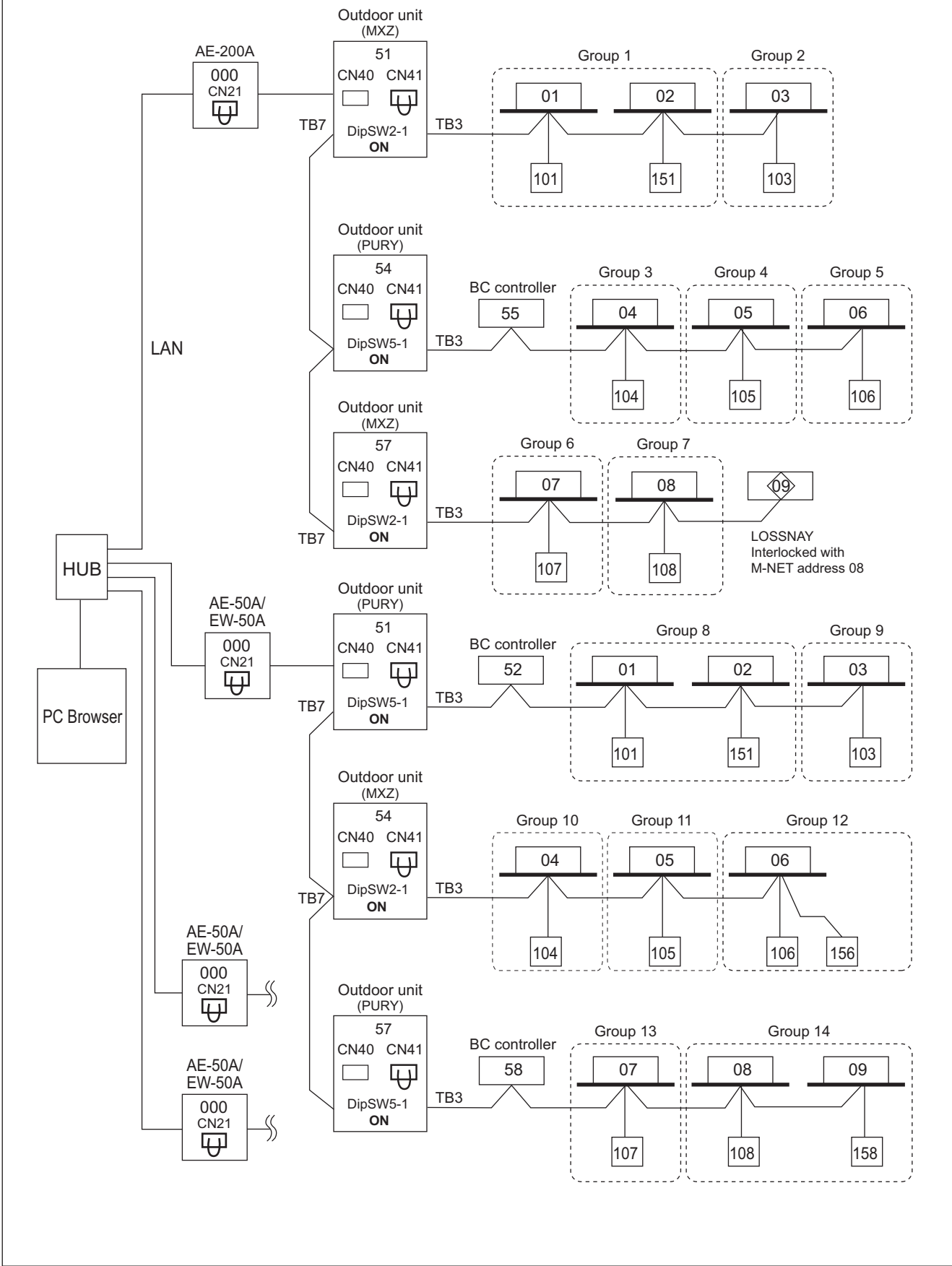
10-4-3-6. Example: TG-2000A(*1)+AE-200A/AE-50A/EW-50A
 AE-200A can control max. 50 indoor units;
 TG-2000A can control max. 40 of AE-200A/AE-50A/EW-50A;*2
 TG-2000A can control max. 2000 indoor units.



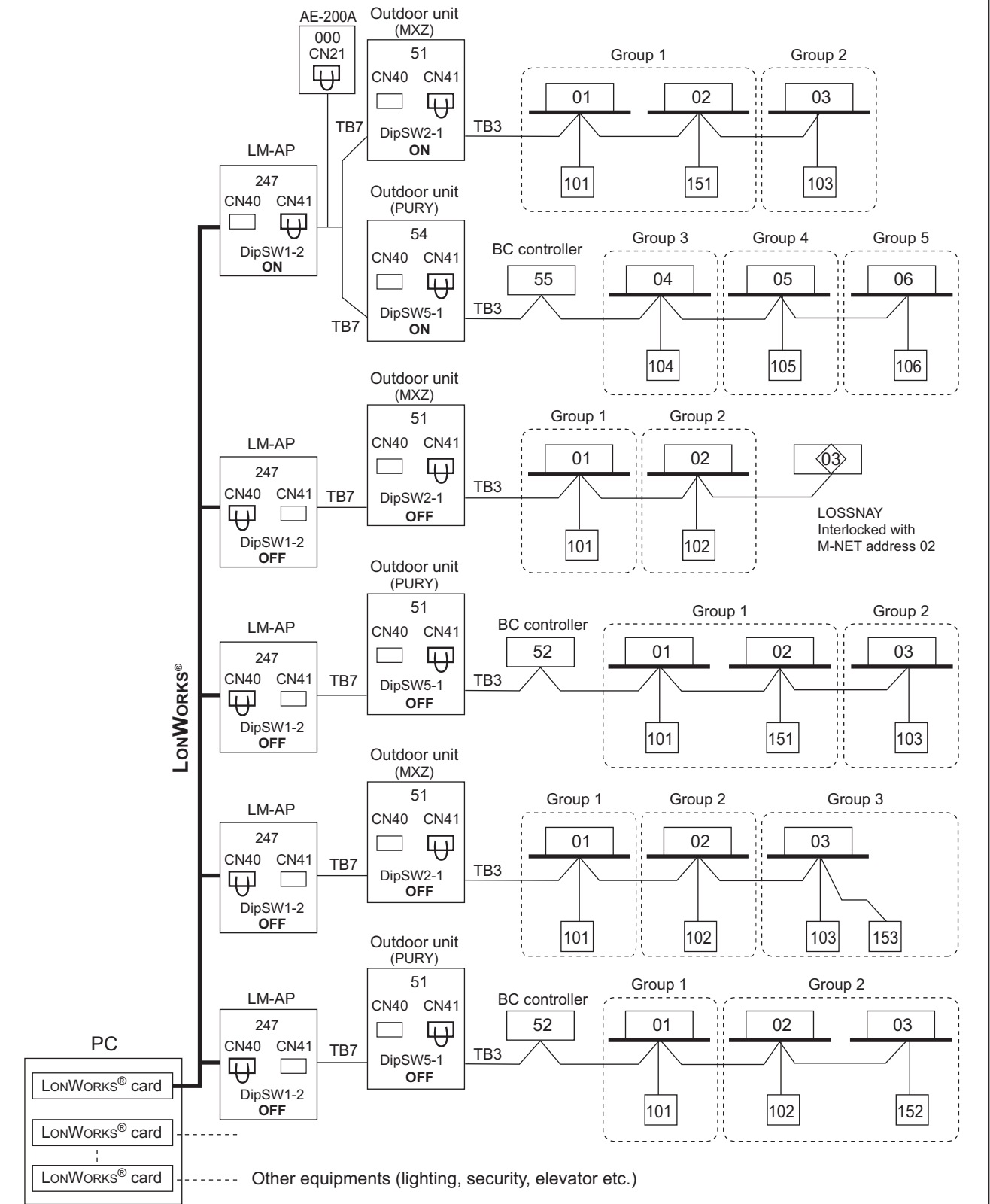
*1 TG-2000A (Ver.6.5 or later) supports AE-200A/AE-50A (Ver.7.10 or later).
 TG-2000A (Ver.6.60 or later) supports EW-50A.
 *2 When AE-200A connected with AE-50A/EW-50A is connected, the number of AE-50A/EW-50A will be the maximum controllable number.
 TG-2000A can control up to 40 AE-200A/AE-50A/EW-50A or AE-200A without AE-50A/EW-50A connection.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

10-4-3-7. AE-200A + AE-50A/EW-50A
 AE-200A can control max. 200 indoor units/via AE-50A/EW-50A.



10-4-3-8. LM-AP



NOTE

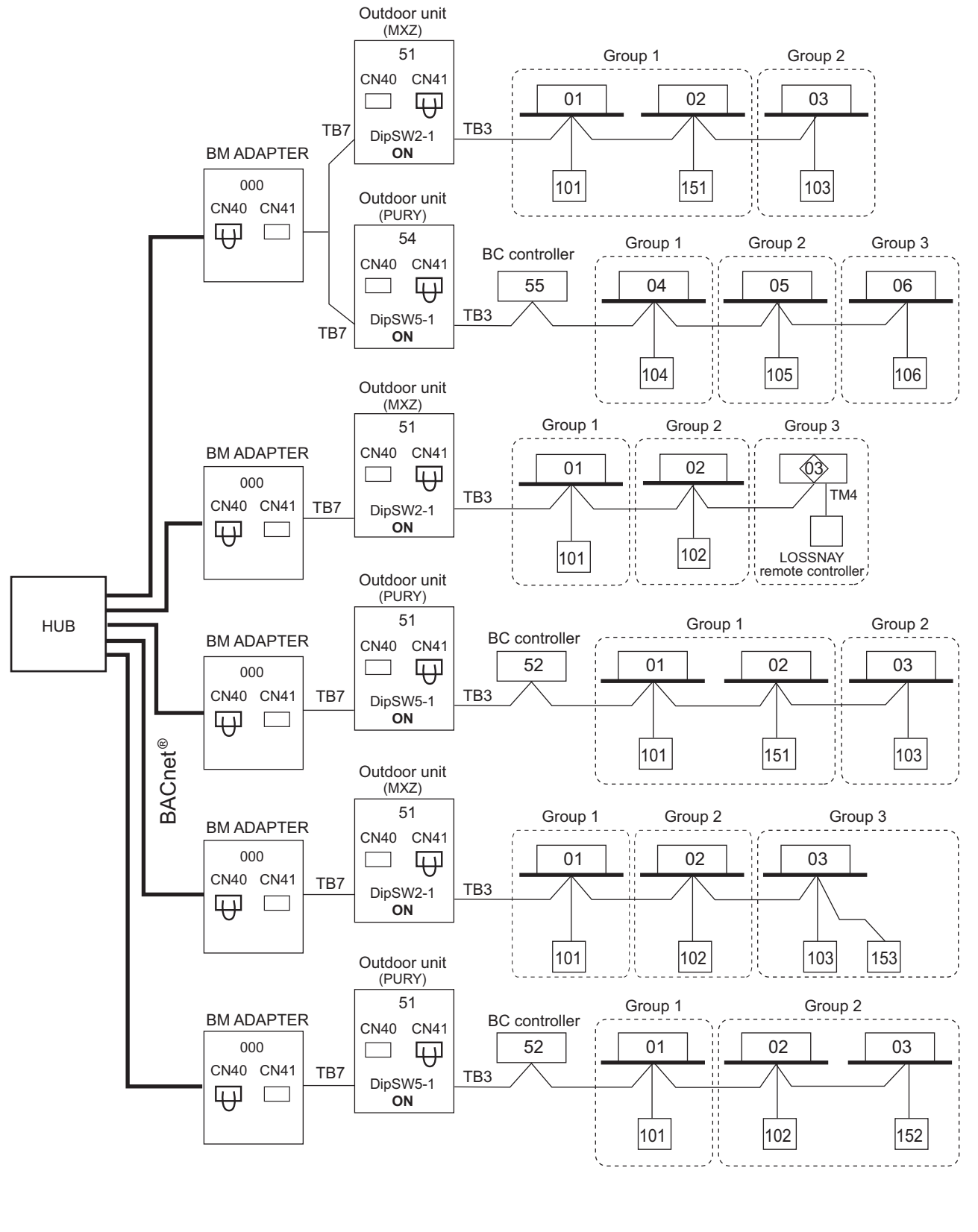
- LM-AP can control 50 indoor units.
- It is necessary to turn on the DipSW1-2 on the LM-AP control board and the DipSW2-1 on the outdoor unit control board with central controllers (Power supply unit).
- It is necessary to change the connector to CN40 on the LM-AP control board without central controllers (Power supply unit).

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

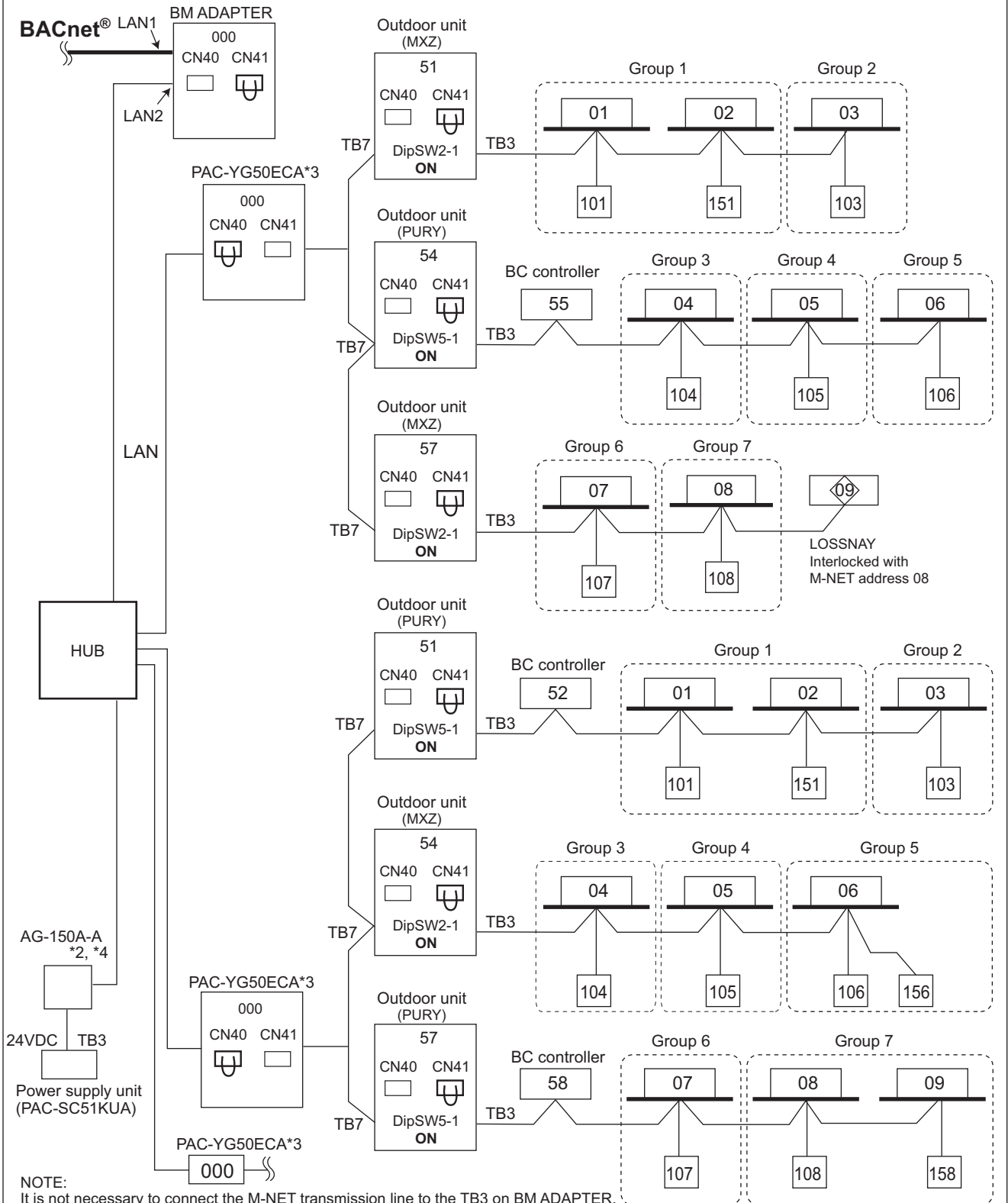
10-4-3-9. BM ADAPTER

BM ADAPTER can transmit max. 50 indoor units;
 Change Jumper from CN41 to CN40 to activate power supply to BM ADAPTER itself for those BM ADAPTER connected without the power supply unit.



10-4-3-10. BM ADAPTER + PAC-YG50ECA (Expansion controller)

BM ADAPTER*1 can transmit max. 150 indoor units via expansion controllers (PAC-YG50ECA).
 When the dual-set-point function is used, no expansion controllers can be connected, and only up to 50 units can be controlled from each BAC-HD150.



NOTE:
 It is not necessary to connect the M-NET transmission line to the TB3 on BM ADAPTER.
 Leave the power jumper of BM ADAPTER connected to CN41.

- *1 BM ADAPTER (Ver. 2.00 or later) supports the expansion controller.
- *2 AG-150A-A (Ver. 2.30 or later) supports the BM ADAPTER.
- *3 PAC-YG50ECA (Ver. 1.30 or later) supports the BM ADAPTER.
- *4 Consult your dealer for restrictions when connecting both AG-150A-A and BM ADAPTER to PAC-YG50ECA.

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

11-1. R410A Piping material

The maximum operation pressure of R410A air conditioner is 4.15 MPa [601 psi]. The refrigerant piping should ensure the safety under the maximum operation pressure. You shall follow the local industrial standard.

11-2. Piping Design

11-2-1. MXZ-SM36/48NAM-U1/MXZ-SM36/42/48NAMHZ-U1

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

<p>Line-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>																
Permissible Length	Total Piping Length	$A+B+C+a+b+c+d \leq 984 \text{ ft [300 meters]}$														
	Farthest Piping Length (L)	$A+B+C+d \leq 492 \text{ ft [150 meters]}$														
	Farthest Piping Length After First Branch (l)	$B+C+d \leq 98 \text{ ft [30 meters]}$														
Permissible High/Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	The outdoor unit is upper: 164ft [50m] or less The outdoor unit is lower: 131ft [40m] or less (98ft [30m] or less if PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU are included.)														
	High/Low Difference in Indoor/Indoor Section (h)	49 ft [15 meters]														
<p>■ Selecting the Refrigerant Branch Kit</p>		Use an optional branch piping kit (CMY-Y62-G-E).														
<p>■ Select Each Section of Refrigerant Piping</p> <p>(1) Section From Outdoor Unit to First Branch (A) (2) Sections From Branch to Indoor Unit (a,b,c,d) (3) Section From Branch to Branch (B,C)</p> <p style="text-align: right;">} Each Section of Piping</p> <p>Select the size from the table to the right.</p>		<p>(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)</p> <table border="1"> <thead> <tr> <th>Model</th> <th>Piping Diameter (inch [mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MXZ-SM36/42/48</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 5/8 [ø15.88]</td> </tr> </tbody> </table>	Model	Piping Diameter (inch [mm])	MXZ-SM36/42/48	Liquid Line 3/8 [ø9.52]	Gas Line 5/8 [ø15.88]	<p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</p> <table border="1"> <thead> <tr> <th>Model number</th> <th>Piping Diameter (inch [mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">- 18</td> <td>Liquid Line 1/4 [ø6.35]</td> </tr> <tr> <td>Gas Line 1/2 [ø12.7]</td> </tr> <tr> <td rowspan="2">24 - 54</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 5/8 [ø15.88]</td> </tr> </tbody> </table>	Model number	Piping Diameter (inch [mm])	- 18	Liquid Line 1/4 [ø6.35]	Gas Line 1/2 [ø12.7]	24 - 54	Liquid Line 3/8 [ø9.52]	Gas Line 5/8 [ø15.88]
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<p>■ Additional refrigerant charge</p>		Refer to "11-3. Refrigerant charging calculation".														

<p>Header-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>				<p>Ⓐ Outdoor Unit Ⓑ First Branch Ⓒ Indoor unit</p>																				
		<p>Permissible Length</p>	<p>Total Piping Length</p>	<p>$A+a+b+c+d \leq 984 \text{ ft [300 meters]}$</p>																				
<p>Permissible Length</p>	<p>Farthest Piping Length (L)</p>	<p>$A+d \leq 492 \text{ ft [150 meters]}$</p>																						
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	<p>High/Low Difference in Indoor/Indoor Section (h)</p>	<p>49 ft [15 meters]</p>																						
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MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

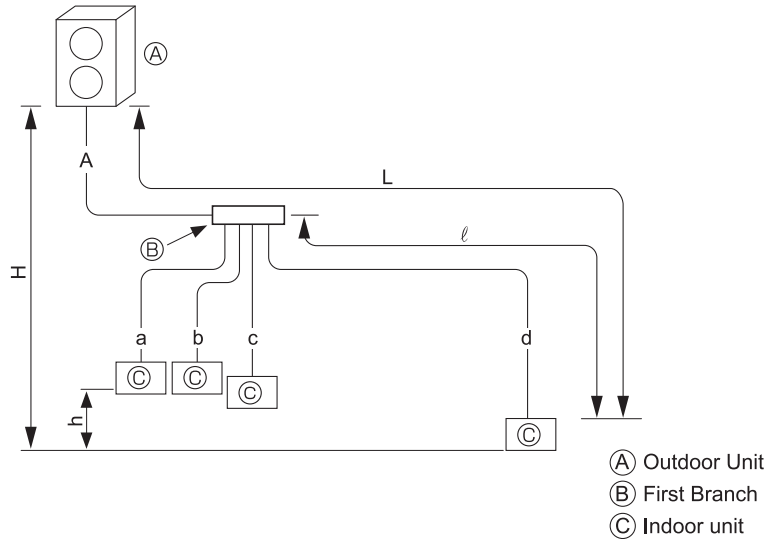
<p>Method of Combined Branching of Lines and Headers Connection Examples (Connecting to 5 Indoor Units)</p>		<p>Note: Pipe re-branching after the header branching is not possible.</p> <p> (A) Outdoor unit (B) First branching (branching joint) (C) Branching joint (D) Indoor unit (E) Branching header (F) Blind caps </p>																		
Permissible Length	Total Piping Length	A+B+C+a+b+c+d+e is 984 ft [300 meters]																		
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11-2-2. MXZ-SM60NAM-U1

<p>Line-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>																													
		<p>Ⓐ Outdoor Unit Ⓑ First Branch Ⓒ Indoor unit</p>																											
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MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Header-Branch Method
 Connection Examples
 (Connecting to 4 Indoor Units)



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11-3. Refrigerant charging calculation

11-3-1. MXZ-SM36, 48NAM-U1/MXZ-SM36/42/48NAMHZ-U1

Additional refrigerant charge

Refrigerant for the extended piping is not included in the outdoor unit when the unit is shipped from the factory.

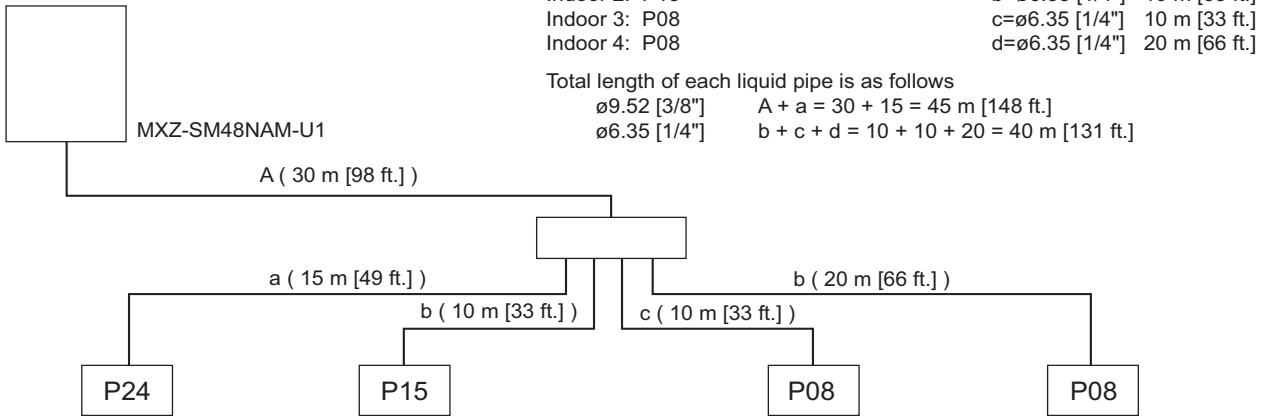
Therefore, charge each refrigerant piping system with additional refrigerant at the installation site. In addition, in order to carry out service, enter the size and length of each liquid pipe and additional refrigerant charge amounts in the spaces provided on the "Refrigerant amount" plate on the outdoor unit.

Calculation of additional refrigerant charge

- Calculate the additional charge using the liquid pipe size and length of the extended piping.
- Calculate the additional refrigerant charge using the procedure shown to the right, and charge with the additional refrigerant.
- For amounts less than 0.1 kg, round up the calculated additional refrigerant charge.
(For example, if the calculated charge is 10.92 kg, round up the charge to 11.0 kg.)

Additional refrigerant charge	=	Pipe size Liquid pipe ø6.35	+	Pipe size Liquid pipe ø9.52	+	Total capacity of connected indoor units	Pipe size Liquid pipe ø9.52
(kg)		(m) x 0.019 (kg/m)		(m) x 0.05 (kg/m)		- 27 kBtu/h	1.5 kg (53 oz)
[oz]		0.21 [oz/ft.]		x 0.55 [oz/ft.]		28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

Example:



Additional refrigerant charge	=	Total length of liquid pipe sized ø9.52 x 0.05 (kg/m)	+	Total length of liquid pipe sized ø6.35 x 0.019 (kg/m)	+	Total capacity of connected indoor units	Pipe size Liquid pipe ø9.52
(kg)		45 (m) x 0.05 (kg/m)		40 (m) x 0.019 (kg/m)		- 27 kBtu/h	1.5 kg (53 oz)
						28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

$$= 2.25 + 0.76 + 3.00$$

$$= 6.01$$

$$\approx 6.1 \text{ kg (round-up)}$$

Additional refrigerant charge	=	Total length of liquid pipe sized ø3/8" x 0.55 [oz/ft.]	+	Total length of liquid pipe sized ø1/4" x 0.21 [oz/ft.]	+	Total capacity of connected indoor units	Pipe size Liquid pipe ø9.52
(oz)		147 (ft.) x 0.55 [oz/ft.]		129 (ft.) x 0.21 [oz/ft.]		- 27 kBtu/h	1.5 kg (53 oz)
						28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

$$= 80.85 + 27.09 + 106$$

$$= 213.94$$

$$\approx 214 \text{ [oz] (round-up)}$$

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

11-3-2. MXZ-SM60NAMHZ-U1

Additional refrigerant charge

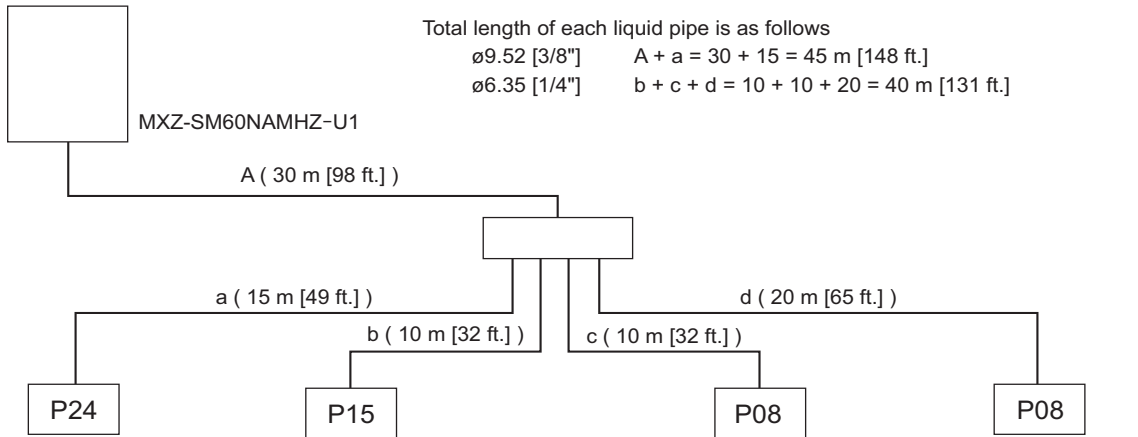
Refrigerant for the extended piping is not included in the outdoor unit when the unit is shipped from the factory. Therefore, charge each refrigerant piping system with additional refrigerant at the installation site. In addition, in order to carry out service, enter the size and length of each liquid pipe and additional refrigerant charge amounts in the spaces provided on the "Refrigerant amount" plate on the outdoor unit.

Calculation of additional refrigerant charge

- Calculate the additional charge using the liquid pipe size and length of the extended piping.
- Calculate the additional refrigerant charge using the procedure shown to the right, and charge with the additional refrigerant.
- For amounts less than 0.1 kg, round up the calculated additional refrigerant charge.
(For example, if the calculated charge is 32.92 kg, round up the charge to 33.0 kg.)

Additional refrigerant charge	=	Pipe size Liquid pipe ø6.35	+	Pipe size Liquid pipe ø9.52	+	Total capacity of connected indoor units	Amount for the indoor units
		(m) × 0.027 (kg/m) 0.29 (oz/ft)		(m) × 0.07 (kg/m) 0.75 (oz/ft)		- 27 kBtu/h	1.5 kg (53 oz)
(kg) [oz]						28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

Example:



Additional refrigerant charge	=	Total length of liquid pipe sized ø9.52 x 0.07 (kg/m)	+	Total length of liquid pipe sized ø6.35 x 0.027 (kg/m)	+	Total capacity of connected indoor units	Amount for the indoor units
		45 (m) x 0.07 (kg/m)		40 (m) x 0.027 (kg/m)		- 27 kBtu/h	1.5 kg (53 oz)
(kg)						28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

= 3.15 + 1.08 + 3.0

= 7.23

≈ 7.3 kg (round-up)

Additional refrigerant charge	=	Total length of liquid pipe sized ø3/8" x 0.75 [oz/ft.]	+	Total length of liquid pipe sized ø1/4" x 0.29 [oz/ft.]	+	Total capacity of connected indoor units	Amount for the indoor units
		148 (ft.) x 0.75 [oz/ft.]		131 (ft.) x 0.29 [oz/ft.]		- 27 kBtu/h	1.5 kg (53 oz)
(oz)						28 - 54 kBtu/h	2.5 kg (88 oz)
						55 - kBtu/h	3.0 kg (106 oz)

= 111.00 + 37.99 + 106

= 254.99

≈ 255 [oz] (round-up)

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

12-1. Requirement on installation site

12-1-1. General caution

- A. Avoid locations exposed to direct sunlight or other sources of heat.
- B. Select a location from which noise emitted by the unit will not inconvenience the neighbors.
- C. Select a location permitting easy wiring and pipe access to the power source and indoor unit.
- D. Avoid locations where combustible gases may leak, be produced, flow, or accumulate.
- E. Note that water may drain from the unit during operation.
- F. Select a level location that can bear the weight and vibration of the unit.
- G. Avoid locations where the unit can be covered by snow. In areas where heavy snow fall is anticipated, special precautions such as raising the installation location or installing a hood on the air intake must be taken to prevent the snow from blocking the air intake or blowing directly against it. This can reduce the airflow and a malfunction may result.
- H. Avoid locations exposed to oil, steam, or sulfuric gas.
- I. Use the transportation handles of the outdoor unit to transport the unit. If the unit is carried from the bottom, hands or fingers may be pinched.

12-1-2. Installation at windy location.

When installing the outdoor unit on a rooftop or other location unprotected from the wind, situate the air outlet of the unit so that it is not directly exposed to strong winds. Strong wind entering the air outlet may impede the normal airflow and a malfunction may result.

The following shows two examples of precautions against strong winds.

- ① Install an optional air guide if the unit is installed in a location where strong winds from a typhoon, etc. may directly enter the air outlet. (Fig. 12-1-2a)
 - Ⓐ Front wind baffle
- ② Position the unit so that the air outlet blows perpendicularly to the seasonal wind direction, if possible. (Fig. 12-1-2b)
 - Ⓑ Wind direction

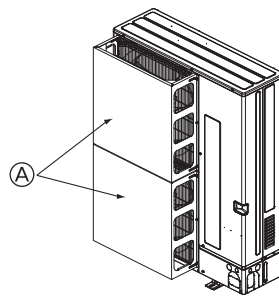


Fig. 12-1-2a

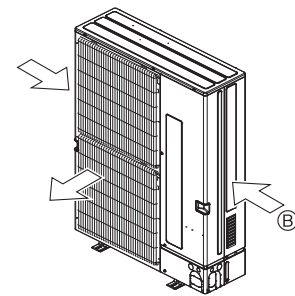


Fig. 12-1-2b

12-1-3. Foundation

- A. Be sure to install the unit in a sturdy, level surface to prevent rattling noises during operation. (see Fig. 12-1-3)
- B. Foundation specifications are as follows.

Thickness of concrete	Weight-bearing capacity	Foundation bolt	Bolt length
120 [4-23/32"]	320 kg [705lbs]	M10 [3/8"]	70 [2-3/4"]
- C. Make sure that the length of the foundation bolt is within 30 mm [1-3/16"] of the bottom surface of the base.
- D. Secure the base of the unit firmly with four-M10 [3/8"] foundation bolts in sturdy locations.

⚠ Warning:

- A. The foundation base should be strong enough to support the outdoor unit, otherwise, it may fall down and cause damage or injuries.
- B. The unit must be installed according to the instructions in order to minimize the risk of damage from earthquakes, typhoons, or strong winds.

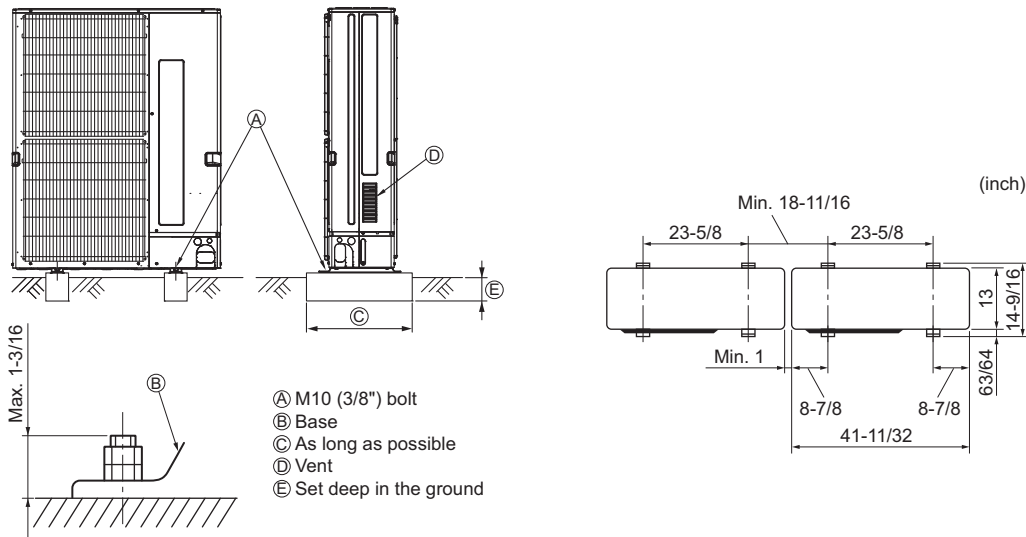


Fig. 12-1-3

12-2. Spacing

External dimension.

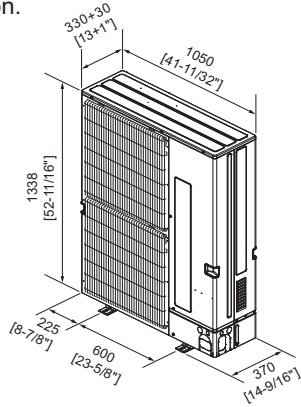


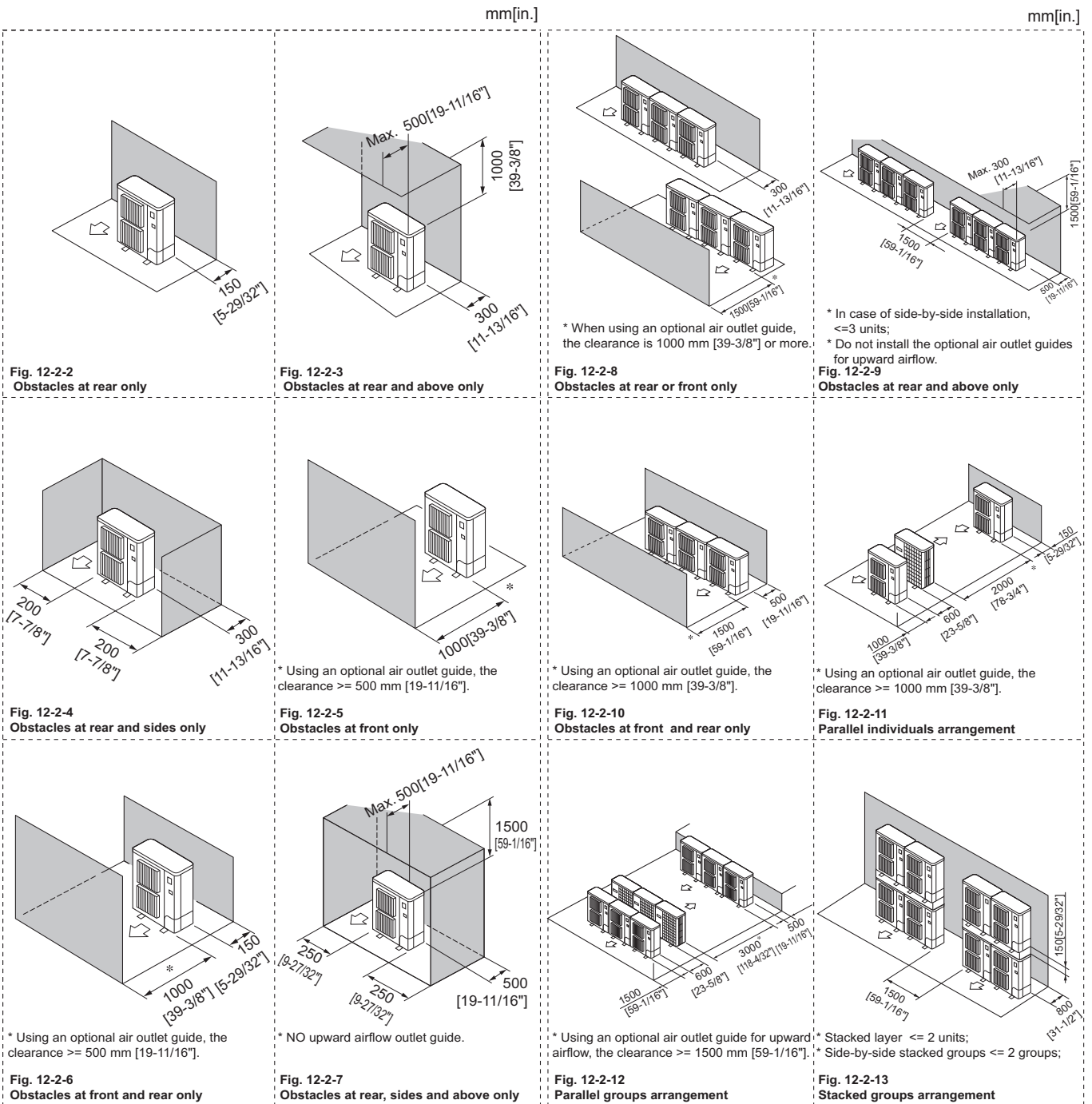
Fig. 12-2-1

12-2-1. Spacing individual

Follow Fig. 12-2-2~7 to space individual at the installation site.

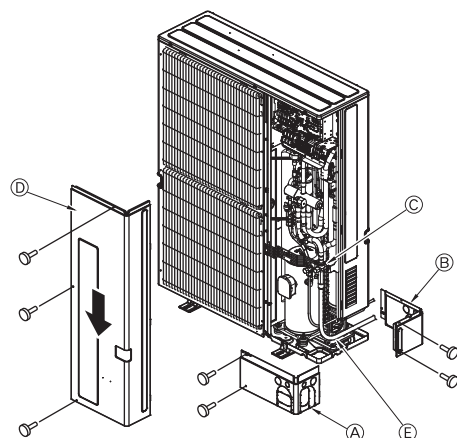
12-2-2. Spacing grouped

Follow Fig. 12-2-8~13 to space grouped at the installation site. Leave 10 mm [13/32"] space or more between units.



12-3. Piping direction

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1



- (A) Front piping cover
- (B) Piping cover
- (C) Stop valve
- (D) Service panel
- (E) Bend radius : 100 mm [3-15/16"] - 150 mm [5-7/8"]

MXZ-SM36NAM-U1

1) COOLING

Rated
Q(Btu/h): 36000
W: 2400

Indoor W.B. Outdoor D.B. (F) (C)	Max	Rated	72F / 22.2C				67F / 19.4C				64F / 17.8C				61F / 16.1C									
			75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min						
115 46.1 Q(Btu/h) W	24494	24494	18371	12247	-	8289	22680	22680	17010	11340	-	7675	20639	20639	15479	10319	-	6984	18598	18598	13948	9299	-	6293
110 43.3 Q(Btu/h) W	29160	29160	21870	14580	-	8594	27000	27000	20250	13500	-	7957	24570	24570	18428	12285	-	7241	22140	22140	16605	11070	-	6525
106 41.1 Q(Btu/h) W	33048	33048	24786	16524	-	8837	30600	30600	22950	15300	-	8182	27846	27846	20885	13923	-	7446	25092	25092	18819	12546	-	6709
102 38.9 Q(Btu/h) W	36158	36158	27119	18079	-	9081	33480	33480	25110	16740	-	8409	30467	30467	22850	15233	-	7652	27454	27454	20590	13727	-	6895
98 36.7 Q(Btu/h) W	38491	38491	28868	19246	-	9321	35640	35640	26730	17820	-	8631	32432	32432	24324	16216	-	7854	29225	29225	21919	14612	-	7077
94 34.4 Q(Btu/h) W	38880	38880	29160	19440	-	9560	36000	36000	27000	18000	-	8852	32760	32760	24570	16380	-	8055	29520	29520	22140	14760	-	7259
90 32.2 Q(Btu/h) W	39074	39074	29306	19537	-	9798	36180	36180	27135	18090	-	9072	32924	32924	24693	16462	-	8255	29668	29668	22251	14834	-	7439
86 30.0 Q(Btu/h) W	39074	39074	29306	19537	-	10034	36180	36180	27135	18090	-	9291	32924	32924	24693	16462	-	8454	29668	29668	22251	14834	-	7618
82 27.8 Q(Btu/h) W	39074	39074	29306	19537	-	10269	36180	36180	27135	18090	-	9508	32924	32924	24693	16462	-	8652	29668	29668	22251	14834	-	7797
78 25.6 Q(Btu/h) W	39580	39580	29685	19790	-	10502	36648	36648	27486	18324	-	9724	33350	33350	25012	16675	-	8849	30051	30051	22539	15026	-	7974
74 23.3 Q(Btu/h) W	39580	39580	29685	19790	-	10735	36648	36648	27486	18324	-	9939	33350	33350	25012	16675	-	9045	30051	30051	22539	15026	-	8150
70 21.1 Q(Btu/h) W	39619	39619	29714	19809	-	10966	36684	36684	27513	18342	-	10153	33382	33382	25037	16691	-	9240	30081	30081	22561	15040	-	8326
66 18.9 Q(Btu/h) W	39658	39658	29743	19829	-	11080	36720	36720	27540	18360	-	10259	33415	33415	25061	16708	-	9336	30110	30110	22583	15055	-	8412
62 16.7 Q(Btu/h) W	39658	39658	29743	19829	-	11308	36720	36720	27540	18360	-	10470	33415	33415	25061	16708	-	9528	30110	30110	22583	15055	-	8586
58 14.4 Q(Btu/h) W	39658	39658	29743	19829	-	11428	36720	36720	27540	18360	-	10582	33415	33415	25061	16708	-	9629	30110	30110	22583	15055	-	8677
54 12.2 Q(Btu/h) W	39658	39658	29743	19829	-	11654	36720	36720	27540	18360	-	10791	33415	33415	25061	16708	-	9820	30110	30110	22583	15055	-	8848
50 10.0 Q(Btu/h) W	39658	39658	29743	19829	-	11402	36720	36720	27540	18360	-	10557	33415	33415	25061	16708	-	9607	30110	30110	22583	15055	-	8657
46 7.8 Q(Btu/h) W	39658	39658	29743	19829	-	11260	36720	36720	27540	18360	-	10426	33415	33415	25061	16708	-	9488	30110	30110	22583	15055	-	8549
42 5.6 Q(Btu/h) W	39658	39658	29743	19829	-	11481	36720	36720	27540	18360	-	10630	33415	33415	25061	16708	-	9674	30110	30110	22583	15055	-	8717
38 3.3 Q(Btu/h) W	39658	39658	29743	19829	-	11702	36720	36720	27540	18360	-	10835	33415	33415	25061	16708	-	9860	30110	30110	22583	15055	-	8885
34 1.1 Q(Btu/h) W	39658	39658	29743	19829	-	11922	36720	36720	27540	18360	-	11039	33415	33415	25061	16708	-	10046	30110	30110	22583	15055	-	9052
30 -1.1 Q(Btu/h) W	39658	39658	29743	19829	-	12143	36720	36720	27540	18360	-	11244	33415	33415	25061	16708	-	10232	30110	30110	22583	15055	-	9220
26 -3.3 Q(Btu/h) W	39658	39658	29743	19829	-	12364	36720	36720	27540	18360	-	11448	33415	33415	25061	16708	-	10418	30110	30110	22583	15055	-	9387
23 -5.0 Q(Btu/h) W	39658	39658	29743	19829	-	12585	36720	36720	27540	18360	-	11652	33415	33415	25061	16708	-	10604	30110	30110	22583	15055	-	9555
18 -7.8 Q(Btu/h) W	39658	39658	29743	19829	-	12805	36720	36720	27540	18360	-	11857	33415	33415	25061	16708	-	10790	30110	30110	22583	15055	-	9723
14 -10.0 Q(Btu/h) W	39658	39658	29743	19829	-	13026	36720	36720	27540	18360	-	12061	33415	33415	25061	16708	-	10976	30110	30110	22583	15055	-	9890
10 -12.2 Q(Btu/h) W	39658	39658	29743	19829	-	13247	36720	36720	27540	18360	-	12266	33415	33415	25061	16708	-	11162	30110	30110	22583	15055	-	10058
6 -14.4 Q(Btu/h) W	39658	39658	29743	19829	-	13468	36720	36720	27540	18360	-	12470	33415	33415	25061	16708	-	11348	30110	30110	22583	15055	-	10226

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM36NAM-U1

2) HEATING

Rated
Q(Btu/h): 42000
W: 3080

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B. Outdoor W.B. (F) (C)	Max	Rated	80F / 26.7C				70F / 21.1C				60F / 15.6C							
			75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60 15.6 Q(Btu/h) W	32760	32760	24570	16380	-	11332	42000	42000	31500	21000	-	14529	50820	50820	38115	25410	-	17580
	1540	1540	1232	893	-	417	2094	2094	1676	1215	-	567	1848	1848	1478	1072	-	500
55 12.8 Q(Btu/h) W	32760	32760	24570	16380	-	10696	42000	42000	31500	21000	-	13713	50820	50820	38115	25410	-	16593
	1725	1725	1380	1000	-	421	2341	2341	1873	1358	-	571	1971	1971	1577	1143	-	481
50 10.0 Q(Btu/h) W	32760	32760	24570	16380	-	10067	42000	42000	31500	21000	-	12907	50820	50820	38115	25410	-	15617
	1910	1910	1528	1108	-	422	2587	2587	2070	1501	-	572	2156	2156	1725	1250	-	477
47 8.3 Q(Btu/h) W	32760	32760	24570	16380	-	9692	42000	42000	31500	21000	-	12426	50820	50820	38115	25410	-	15035
	2033	2033	1626	1179	-	419	2772	2772	2218	1608	-	572	2341	2341	1873	1358	-	483
42 5.6 Q(Btu/h) W	32760	32760	24570	16380	-	9098	42000	42000	31500	21000	-	11665	50820	50820	38115	25410	-	14114
	2218	2218	1774	1286	-	394	3203	3203	2563	1858	-	569	2618	2618	2094	1518	-	465
35 1.7 Q(Btu/h) W	32760	32760	24570	16380	-	9023	42000	42000	31500	21000	-	11568	50820	50820	38115	25410	-	13998
	2710	2710	2168	1572	-	565	3758	3758	3006	2179	-	783	3265	3265	2612	1894	-	681
32 0.0 Q(Btu/h) W	32432	32432	24324	16216	-	8534	41580	41580	31185	20790	-	10942	50312	50312	37734	25156	-	13239
	2957	2957	2365	1715	-	589	3881	3881	3105	2251	-	773	3388	3388	2710	1965	-	675
27 -2.8 Q(Btu/h) W	29484	29484	22113	14742	-	7856	37800	37800	28350	18900	-	10071	43470	43470	32603	21735	-	12186
	3265	3265	2612	1894	-	681	3573	3573	2858	2072	-	745	3080	3080	2464	1786	-	642
22 -5.6 Q(Btu/h) W	26536	26536	19902	13268	-	7554	34020	34020	25515	17010	-	9684	41164	41164	30873	20582	-	11718
	3634	3634	2908	2108	-	776	3326	3326	2661	1929	-	710	2772	2772	2218	1608	-	592
17 -8.3 Q(Btu/h) W	23587	23587	17690	11794	-	7054	30240	30240	22680	15120	-	9044	36590	36590	27443	18295	-	10943
	3511	3511	2809	2036	-	778	3018	3018	2415	1751	-	669	2402	2402	1922	1393	-	533
12 -11.1 Q(Btu/h) W	21622	21622	16216	10811	-	6124	27720	27720	20790	13860	-	7852	33541	33541	25156	16771	-	9500
	3265	3265	2612	1894	-	746	2710	2710	2168	1572	-	619	2094	2094	1676	1215	-	478
5 -15.0 Q(Btu/h) W	19656	19656	14742	9828	4914	4868	25200	25200	18900	12600	6300	6242	30492	30492	22869	15246	7623	7552
	2834	2834	2267	1643	1077	685	2218	2218	1774	1286	843	536	1602	1602	1281	929	609	387
2 -16.7 Q(Btu/h) W	18837	18837	14128	9419	4709	4335	24150	24150	18113	12075	6038	5558	29222	29222	21916	14611	7305	6725
	2649	2649	2119	1536	1007	645	2033	2033	1626	1179	772	495	1386	1386	1109	804	527	338
-3 -19.4 Q(Btu/h) W	17690	17690	13268	8845	4423	3734	22680	22680	17010	11340	5670	4787	27443	27443	20582	13721	6861	5792
	2402	2402	1922	1393	913	619	1725	1725	1380	1000	655	445	1047	1047	838	607	398	270
-8 -22.2 Q(Btu/h) W	16380	16380	12285	8190	4095	2844	21000	21000	15750	10500	5250	3646	25410	25410	19058	12705	6353	4412
	2094	2094	1676	1215	796	524	1417	1417	1133	822	538	354	678	678	542	393	257	169
-13 -25.0 Q(Btu/h) W	15070	15070	11302	7535	3767	1977	19320	19320	14490	9660	4830	2535	23377	23377	17533	11689	5844	3067
	1817	1817	1454	1054	691	416	1109	1109	887	643	421	254	370	370	296	214	140	85

MXZ-SM48NAM-U1

1) COOLING

Rated
Q(Btu/h): 48000
W: 3665

Indoor W.B. Outdoor D.B. (F) (C)		72F / 22.2C						67F / 19.4C						64F / 17.8C						61F / 16.1C						
		Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	
115	46.1	Q(Btu/h) W	32659 1759	32659 1759	24494 1407	16330 1020	-	11052 1015	30240 1833	30240 1833	22680 1466	15120 1063	-	10233 1058	27518 1823	27518 1823	20639 1458	13759 1057	-	9312 1052	24797 1907	24797 1907	18598 1526	12398 1106	-	8391 1101
110	43.3	Q(Btu/h) W	38880 2346	38880 2346	29160 1876	19440 1360	-	11458 951	36000 2492	36000 2492	27000 1994	18000 1445	-	10609 1010	32760 2499	32760 2499	24570 1999	16380 1449	-	9655 1013	29520 2531	29520 2531	22140 2025	14760 1468	-	8700 1026
106	41.1	Q(Btu/h) W	44064 2712	44064 2712	33048 2170	22032 1573	-	11782 888	40800 2969	40800 2969	30600 2375	20400 1722	-	10910 972	37128 3042	37128 3042	27846 2433	18564 1764	-	9928 996	33456 2168	33456 2168	25092 1734	16728 1257	-	8946 710
102	38.9	Q(Btu/h) W	48211 3152	48211 3152	36158 2522	24106 1828	-	12109 873	44640 3372	44640 3372	33480 2697	22320 1966	-	11212 934	40622 3649	40622 3649	30467 2919	20311 2117	-	10203 1011	36605 2080	36605 2080	27454 1664	18302 1207	-	9194 576
98	36.7	Q(Btu/h) W	51322 3665	51322 3665	38491 2932	25661 2126	-	12429 871	47520 3775	47520 3775	35640 3020	23760 2189	-	11508 897	43243 3431	43243 3431	32432 2745	21622 1990	-	10472 815	38966 1994	38966 1994	29225 1595	19483 1156	-	9436 474
94	34.4	Q(Btu/h) W	51840 3775	51840 3775	38880 3020	25920 2189	-	12747 894	48000 3628	48000 3628	36000 2903	24000 2104	-	11803 859	43680 3225	43680 3225	32760 2580	21840 1870	-	10740 764	39360 1891	39360 1891	29520 1513	19680 1097	-	9678 448
90	32.2	Q(Btu/h) W	52099 3665	52099 3665	39074 2932	26050 2126	-	13064 865	48240 3482	48240 3482	36180 2785	24120 2019	-	12096 822	43898 3053	43898 3053	32924 2443	21949 1771	-	11007 721	39557 1794	39557 1794	29668 1435	19778 1041	-	9919 424
86	30.0	Q(Btu/h) W	52099 3592	52099 3592	39074 2873	26050 2083	-	13378 845	48240 3335	48240 3335	36180 2668	24120 1934	-	12387 785	43898 2882	43898 2882	32924 2306	21949 1672	-	11272 678	39557 2080	39557 2080	29668 1664	19778 1358	-	10158 400
82	27.8	Q(Btu/h) W	52099 3518	52099 3518	39074 2815	26050 2041	-	13692 816	48240 3225	48240 3225	36180 2580	24120 1871	-	12678 748	43898 3191	43898 3191	32924 2169	21949 1572	-	11537 629	39557 1601	39557 1601	29668 1280	19778 978	-	10396 371
78	25.6	Q(Btu/h) W	52773 3372	52773 3372	39580 2697	26387 1956	-	14003 779	48864 3079	48864 3079	36648 2463	24432 1786	-	12966 711	44466 2539	44466 2539	33350 2031	22233 1473	-	11799 587	40068 1504	40068 1504	30051 1203	20034 872	-	10632 347
74	23.3	Q(Btu/h) W	52773 3299	52773 3299	39580 2639	26387 1913	-	14313 759	48864 2932	48864 2932	36648 2346	24432 1701	-	13253 675	44466 2368	44466 2368	33350 1894	22233 1373	-	12060 545	40068 1407	40068 1407	30051 1125	20034 816	-	10867 324
70	21.1	Q(Btu/h) W	52825 3592	52825 3592	39619 2873	26412 1871	-	14621 739	48912 2785	48912 2785	36684 2228	24456 1616	-	13538 638	44510 2197	44510 2197	33382 1757	22255 1274	-	12319 503	40108 1310	40108 1310	30081 1048	20054 760	-	11101 300
66	18.9	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	14773 656	48960 2712	48960 2712	36720 2170	24480 1573	-	13679 551	44554 2109	44554 2109	33415 1687	22277 1223	-	12448 429	40147 1259	40147 1259	30110 1007	20074 730	-	11217 256
62	16.7	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15077 613	48960 2712	48960 2712	36720 2170	24480 1573	-	13960 515	44554 2105	44554 2105	33415 1684	22277 1221	-	12704 400	40147 1255	40147 1255	30110 1004	20074 728	-	11448 238
58	14.4	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15238 559	48960 2712	48960 2712	36720 2170	24480 1573	-	14109 470	44554 2101	44554 2101	33415 1681	22277 1218	-	12839 364	40147 1250	40147 1250	30110 1000	20074 725	-	11569 217
54	12.2	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15539 517	48960 2712	48960 2712	36720 2170	24480 1573	-	14388 434	44554 2097	44554 2097	33415 1677	22277 1216	-	13093 336	40147 1246	40147 1246	30110 997	20074 722	-	11798 200
50	10.0	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15203 557	48960 2712	48960 2712	36720 2170	24480 1573	-	14077 468	44554 2093	44554 2093	33415 1674	22277 1214	-	12810 361	40147 1241	40147 1241	30110 993	20074 720	-	11543 214
46	7.8	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15013 578	48960 2712	48960 2712	36720 2170	24480 1573	-	13901 486	44554 2089	44554 2089	33415 1671	22277 1211	-	12650 374	40147 1237	40147 1237	30110 989	20074 717	-	11399 222
42	5.6	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15308 536	48960 2712	48960 2712	36720 2170	24480 1573	-	14174 451	44554 2085	44554 2085	33415 1668	22277 1209	-	12898 347	40147 1232	40147 1232	30110 986	20074 715	-	11622 205
38	3.3	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15602 535	48960 2712	48960 2712	36720 2170	24480 1573	-	14446 450	44554 2081	44554 2081	33415 1664	22277 1207	-	13146 345	40147 1228	40147 1228	30110 982	20074 712	-	11846 204
34	1.1	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	15896 535	48960 2712	48960 2712	36720 2170	24480 1573	-	14719 450	44554 2077	44554 2077	33415 1661	22277 1204	-	13394 345	40147 1223	40147 1223	30110 978	20074 709	-	12070 203
30	-1.1	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	16191 535	48960 2712	48960 2712	36720 2170	24480 1573	-	14991 450	44554 2073	44554 2073	33415 1658	22277 1202	-	13642 344	40147 1218	40147 1218	30110 975	20074 707	-	12293 202
26	-3.3	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	16485 535	48960 2712	48960 2712	36720 2170	24480 1573	-	15264 450	44554 2069	44554 2069	33415 1655	22277 1200	-	13890 343	40147 1214	40147 1214	30110 971	20074 704	-	12517 201
23	-5.0	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	16780 535	48960 2712	48960 2712	36720 2170	24480 1573	-	15537 450	44554 2065	44554 2065	33415 1652	22277 1198	-	14138 343	40147 1211	40147 1211	30110 968	20074 702	-	12740 201
18	-7.8	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	17074 535	48960 2712	48960 2712	36720 2170	24480 1573	-	15809 450	44554 2065	44554 2065	33415 1652	22277 1198	-	14386 343	40147 1211	40147 1211	30110 968	20074 702	-	12964 201
14	-10.0	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	17368 535	48960 2712	48960 2712	36720 2170	24480 1573	-	16082 450	44554 2065	44554 2065	33415 1652	22277 1198	-	14634 343	40147 1211	40147 1211	30110 968	20074 702	-	13187 201
10	-12.2	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	17663 535	48960 2712	48960 2712	36720 2170	24480 1573	-	16354 450	44554 2065	44554 2065	33415 1652	22277 1198	-	14882 343	40147 1211	40147 1211	30110 968	20074 702	-	13411 201
6	-14.4	Q(Btu/h) W	52877 3225	52877 3225	39658 2580	26438 1871	-	17957 535	48960 2712	48960 2712	36720 2170	24480 1573	-	16627 450	44554 2065	44554 2065	33415 1652	22277 1198	-	15130 343	40147 1211	40147 1211	30110 968	20074 702	-	13634 201

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM48NAM-U1

2) HEATING

Rated
Q(Btu/h): 54000
W: 3955

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B. Outdoor W.B. (F) (C)	Max	Rated	80F / 26.7C				70F / 21.1C						60F / 15.6C					
			75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60 15.6 Q(Btu/h) W	42120	42120	31590	21060	-	14570	54000	54000	40500	27000	-	18680	65340	65340	49005	32670	-	22602
	1978	1978	1582	1147	-	571	2689	2689	2152	1560	-	777	2373	2373	1898	1376	-	685
55 12.8 Q(Btu/h) W	42120	42120	31590	21060	-	13752	54000	54000	40500	27000	-	17631	65340	65340	49005	32670	-	21334
	2215	2215	1772	1285	-	576	3006	3006	2405	1743	-	782	2531	2531	2025	1468	-	659
50 10.0 Q(Btu/h) W	42120	42120	31590	21060	-	12943	54000	54000	40500	27000	-	16594	65340	65340	49005	32670	-	20079
	2452	2452	1962	1422	-	579	3322	3322	2658	1927	-	784	2769	2769	2215	1606	-	653
47 8.3 Q(Btu/h) W	42120	42120	31590	21060	-	12461	54000	54000	40500	27000	-	15976	65340	65340	49005	32670	-	19331
	2610	2610	2088	1514	-	575	3560	3560	2848	2065	-	784	3006	3006	2405	1743	-	662
42 5.6 Q(Btu/h) W	42120	42120	31590	21060	-	11698	54000	54000	40500	27000	-	14997	65340	65340	49005	32670	-	18147
	2848	2848	2278	1652	-	540	4113	4113	3291	2386	-	780	3362	3362	2689	1950	-	638
35 1.7 Q(Btu/h) W	42120	42120	31590	21060	-	11601	54000	54000	40500	27000	-	14874	65340	65340	49005	32670	-	17997
	3480	3480	2784	2019	-	774	4825	4825	3860	2799	-	1073	4192	4192	3354	2432	-	932
32 0.0 Q(Btu/h) W	41699	41699	31274	20849	-	10973	53460	53460	40095	26730	-	14068	64687	64687	48515	32343	-	17022
	3797	3797	3037	2202	-	807	4983	4983	3987	2890	-	1059	4351	4351	3480	2523	-	925
27 -2.8 Q(Btu/h) W	37908	37908	28431	18954	-	10100	48600	48600	36450	24300	-	12949	55890	55890	41918	27945	-	15668
	4192	4192	3354	2432	-	933	4588	4588	3670	2661	-	1021	3955	3955	3164	2294	-	880
22 -5.6 Q(Btu/h) W	34117	34117	25588	17059	-	9712	43740	43740	32805	21870	-	12451	52925	52925	39694	26463	-	15066
	4667	4667	3734	2707	-	1063	4271	4271	3417	2477	-	973	3560	3560	2848	2065	-	811
17 -8.3 Q(Btu/h) W	30326	30326	22745	15163	-	9070	38880	38880	29160	19440	-	11628	47045	47045	35284	23522	-	14070
	4509	4509	3607	2615	-	1066	3876	3876	3101	2248	-	917	3085	3085	2468	1789	-	730
12 -11.1 Q(Btu/h) W	27799	27799	20849	13900	-	7874	35640	35640	26730	17820	-	10095	43124	43124	32343	21562	-	12215
	4192	4192	3354	2432	-	1022	3480	3480	2784	2019	-	848	2689	2689	2152	1560	-	655
5 -15.0 Q(Btu/h) W	25272	25272	18954	12636	6318	6259	32400	32400	24300	16200	8100	8025	39204	39204	29403	19602	9801	9710
	3639	3639	2911	2110	1383	939	2848	2848	2278	1652	1082	735	2057	2057	1645	1193	782	531
2 -16.7 Q(Btu/h) W	24219	24219	18164	12110	6055	5574	31050	31050	23288	15525	7763	7146	37571	37571	28178	18785	9393	8647
	3401	3401	2721	1973	1292	884	2610	2610	2088	1514	992	679	1780	1780	1424	1032	676	463
-3 -19.4 Q(Btu/h) W	22745	22745	17059	11372	5686	4801	29160	29160	21870	14580	7290	6155	35284	35284	26463	17642	8821	7447
	3085	3085	2468	1789	1172	849	2215	2215	1772	1285	842	609	1345	1345	1076	780	511	370
-8 -22.2 Q(Btu/h) W	21060	21060	15795	10530	5265	3657	27000	27000	20250	13500	6750	4688	32670	32670	24503	16335	8168	5673
	2689	2689	2152	1560	1022	717	1819	1819	1455	1055	691	485	870	870	696	505	331	232
-13 -25.0 Q(Btu/h) W	19375	19375	14531	9688	4844	2542	24840	24840	18630	12420	6210	3259	30056	30056	22542	15028	7514	3943
	2333	2333	1867	1353	887	570	1424	1424	1139	826	541	348	475	475	380	275	180	116

MXZ-SM60NAM-U1

1) COOLING

Rated
Q(Btu/h): 60000
W: 4510

Indoor W.B. Outdoor D.B. (F) (C)	Max	Rated	72F / 22.2C		25%	Min	Max	Rated	67F / 19.4C		25%	Min	Max	Rated	64F / 17.8C		25%	Min	Max	Rated	61F / 16.1C		25%	Min
			75%	50%					75%	50%					75%	50%					75%	50%		
115 46.1 Q(Btu/h) W	40824	40824	30618	20412	-	13815	37800	37800	28350	18900	-	12791	34398	34398	25799	17199	-	11640	30996	30996	23247	15498	-	10489
110 43.3 Q(Btu/h) W	48600	48600	36450	24300	-	14323	45000	45000	33750	22500	-	13262	40950	40950	30713	20475	-	12068	36900	36900	27675	18450	-	10875
106 41.1 Q(Btu/h) W	55080	55080	41310	27540	-	14728	51000	51000	38250	25500	-	13637	46410	46410	34808	23205	-	12410	41820	41820	31365	20910	-	11182
102 38.9 Q(Btu/h) W	60264	60264	45198	30132	-	15136	55800	55800	41850	27900	-	14015	50778	50778	38084	25389	-	12753	45756	45756	34317	22878	-	11492
98 36.7 Q(Btu/h) W	64152	64152	48114	32076	-	15536	59400	59400	44550	29700	-	14385	54054	54054	40541	27027	-	13090	48708	48708	36531	24354	-	11796
94 34.4 Q(Btu/h) W	64800	64800	48600	32400	-	15934	60000	60000	45000	30000	-	14753	54600	54600	40950	27300	-	13426	49200	49200	36900	24600	-	12098
90 32.2 Q(Btu/h) W	65124	65124	48843	32562	-	16330	60300	60300	45225	30150	-	15120	54873	54873	41155	27437	-	13759	49446	49446	37085	24723	-	12398
86 30.0 Q(Btu/h) W	65124	65124	48843	32562	-	16723	60300	60300	45225	30150	-	15844	54873	54873	41155	27437	-	14091	49446	49446	37085	24723	-	12697
82 27.8 Q(Btu/h) W	65124	65124	48843	32562	-	17115	60300	60300	45225	30150	-	15847	54873	54873	41155	27437	-	14421	49446	49446	37085	24723	-	12994
78 25.6 Q(Btu/h) W	65966	65966	49475	32983	-	17504	61080	61080	45810	30540	-	16207	55583	55583	41687	27791	-	14749	50086	50086	37564	25043	-	13290
74 23.3 Q(Btu/h) W	65966	65966	49475	32983	-	17891	61080	61080	45810	30540	-	16566	55583	55583	41687	27791	-	15075	50086	50086	37564	25043	-	13584
70 21.1 Q(Btu/h) W	66031	66031	49523	33016	-	18276	61140	61140	45855	30570	-	16922	55637	55637	41728	27819	-	15399	50135	50135	37601	25067	-	13876
66 18.9 Q(Btu/h) W	66096	66096	49572	33048	-	18466	61200	61200	45900	30600	-	17098	55692	55692	41769	27846	-	15559	50184	50184	37638	25092	-	14021
62 16.7 Q(Btu/h) W	66096	66096	49572	33048	-	18847	61200	61200	45900	30600	-	17451	55692	55692	41769	27846	-	15880	50184	50184	37638	25092	-	14309
58 14.4 Q(Btu/h) W	66096	66096	49572	33048	-	19047	61200	61200	45900	30600	-	17636	55692	55692	41769	27846	-	16049	50184	50184	37638	25092	-	14462
54 12.2 Q(Btu/h) W	66096	66096	49572	33048	-	19423	61200	61200	45900	30600	-	17985	55692	55692	41769	27846	-	16366	50184	50184	37638	25092	-	14747
50 10.0 Q(Btu/h) W	66096	66096	49572	33048	-	19803	61200	61200	45900	30600	-	17596	55692	55692	41769	27846	-	16012	50184	50184	37638	25092	-	14428
46 7.8 Q(Btu/h) W	66096	66096	49572	33048	-	18767	61200	61200	45900	30600	-	17377	55692	55692	41769	27846	-	15813	50184	50184	37638	25092	-	14249
42 5.6 Q(Btu/h) W	66096	66096	49572	33048	-	19135	61200	61200	45900	30600	-	17717	55692	55692	41769	27846	-	16123	50184	50184	37638	25092	-	14528
38 3.3 Q(Btu/h) W	66096	66096	49572	33048	-	19503	61200	61200	45900	30600	-	18058	55692	55692	41769	27846	-	16433	50184	50184	37638	25092	-	14808
34 1.1 Q(Btu/h) W	66096	66096	49572	33048	-	19871	61200	61200	45900	30600	-	18399	55692	55692	41769	27846	-	16743	50184	50184	37638	25092	-	15087
30 -1.1 Q(Btu/h) W	66096	66096	49572	33048	-	20239	61200	61200	45900	30600	-	18739	55692	55692	41769	27846	-	17053	50184	50184	37638	25092	-	15366
26 -3.3 Q(Btu/h) W	66096	66096	49572	33048	-	20606	61200	61200	45900	30600	-	19080	55692	55692	41769	27846	-	17363	50184	50184	37638	25092	-	15646
23 -5.0 Q(Btu/h) W	66096	66096	49572	33048	-	20974	61200	61200	45900	30600	-	19421	55692	55692	41769	27846	-	17673	50184	50184	37638	25092	-	15925
18 -7.8 Q(Btu/h) W	66096	66096	49572	33048	-	21342	61200	61200	45900	30600	-	19761	55692	55692	41769	27846	-	17983	50184	50184	37638	25092	-	16204
14 -10.0 Q(Btu/h) W	66096	66096	49572	33048	-	21710	61200	61200	45900	30600	-	20102	55692	55692	41769	27846	-	18293	50184	50184	37638	25092	-	16484
10 -12.2 Q(Btu/h) W	66096	66096	49572	33048	-	22078	61200	61200	45900	30600	-	20443	55692	55692	41769	27846	-	18603	50184	50184	37638	25092	-	16763
6 -14.4 Q(Btu/h) W	66096	66096	49572	33048	-	22446	61200	61200	45900	30600	-	20784	55692	55692	41769	27846	-	18913	50184	50184	37638	25092	-	17043

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM60NAM-U1

2) HEATING

Rated
Q(Btu/h): 66000
W: 4720

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B. Outdoor W.B. (F) (C)	Max	Rated	80F / 26.7C				70F / 21.1C						60F / 15.6C					
			75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60 15.6 Q(Btu/h) W	51480	51480	38610	25740	-	17808	66000	66000	49500	33000	-	22831	79860	79860	59895	39930	-	27625
	2360	2360	1888	1227	-	639	3210	3210	2568	1669	-	869	2832	2832	2266	1473	-	766
55 12.8 Q(Btu/h) W	51480	51480	38610	25740	-	16808	66000	66000	49500	33000	-	21549	79860	79860	59895	39930	-	26075
	2643	2643	2115	1374	-	645	3587	3587	2870	1865	-	875	3021	3021	2417	1571	-	737
50 10.0 Q(Btu/h) W	51480	51480	38610	25740	-	15820	66000	66000	49500	33000	-	20282	79860	79860	59895	39930	-	24541
	2926	2926	2341	1522	-	647	3965	3965	3172	2062	-	877	3304	3304	2643	1718	-	731
47 8.3 Q(Btu/h) W	51480	51480	38610	25740	-	15230	66000	66000	49500	33000	-	19526	79860	79860	59895	39930	-	23626
	3115	3115	2492	1620	-	643	4248	4248	3398	2209	-	876	3587	3587	2870	1865	-	740
42 5.6 Q(Btu/h) W	51480	51480	38610	25740	-	14297	66000	66000	49500	33000	-	18330	79860	79860	59895	39930	-	22179
	3398	3398	2719	1767	-	604	4909	4909	3927	2553	-	873	4012	4012	3210	2086	-	713
35 1.7 Q(Btu/h) W	51480	51480	38610	25740	-	14180	66000	66000	49500	33000	-	18179	79860	79860	59895	39930	-	21996
	4154	4154	3323	2160	-	866	5758	5758	4607	2994	-	1200	5003	5003	4003	2602	-	1043
32 0.0 Q(Btu/h) W	50965	50965	38224	25483	-	13411	65340	65340	49005	32670	-	17194	79061	79061	59296	39531	-	20805
	4531	4531	3625	2356	-	903	5947	5947	4758	3093	-	1185	5192	5192	4154	2700	-	1034
27 -2.8 Q(Btu/h) W	46332	46332	34749	23166	-	12345	59400	59400	44550	29700	-	15826	68310	68310	51233	34155	-	19150
	5003	5003	4003	2602	-	1043	5475	5475	4380	2847	-	1142	4720	4720	3776	2454	-	984
22 -5.6 Q(Btu/h) W	41699	41699	31274	20849	-	11870	53460	53460	40095	26730	-	15218	64687	64687	48515	32343	-	18414
	5570	5570	4456	2896	-	1189	5098	5098	4078	2651	-	1088	4248	4248	3398	2209	-	907
17 -8.3 Q(Btu/h) W	37066	37066	27799	18533	-	11086	47520	47520	35640	23760	-	14212	57499	57499	43124	28750	-	17197
	5381	5381	4305	2798	-	1193	4626	4626	3700	2405	-	1025	3682	3682	2945	1914	-	816
12 -11.1 Q(Btu/h) W	33977	33977	25483	16988	-	9624	43560	43560	32670	21780	-	12338	52708	52708	39531	26354	-	14929
	5003	5003	4003	2602	-	1143	4154	4154	3323	2160	-	949	3210	3210	2568	1669	-	733
5 -15.0 Q(Btu/h) W	30888	30888	23166	15444	7722	7650	39600	39600	29700	19800	9900	9808	47916	47916	35937	23958	11979	11868
	4342	4342	3474	2258	1303	1050	3398	3398	2719	1767	1020	822	2454	2454	1964	1276	736	594
2 -16.7 Q(Btu/h) W	29601	29601	22201	14801	7400	6812	37950	37950	28463	18975	9488	8734	45920	45920	34440	22960	11480	10568
	4059	4059	3247	2111	1218	989	3115	3115	2492	1620	935	759	2124	2124	1699	1104	637	517
-3 -19.4 Q(Btu/h) W	27799	27799	20849	13900	6950	5868	35640	35640	26730	17820	8910	7523	43124	43124	32343	21562	10781	9102
	3682	3682	2945	1914	1104	949	2643	2643	2115	1374	793	682	1605	1605	1284	834	481	414
-8 -22.2 Q(Btu/h) W	25740	25740	19305	12870	6435	4469	33000	33000	24750	16500	8250	5730	39930	39930	29948	19965	9983	6933
	3210	3210	2568	1669	963	802	2171	2171	1737	1129	651	543	1038	1038	831	540	312	260
-13 -25.0 Q(Btu/h) W	23681	23681	17761	11840	5920	3107	30360	30360	22770	15180	7590	3983	36736	36736	27552	18368	9184	4819
	2785	2785	2228	1448	835	638	1699	1699	1359	884	510	389	566	566	453	295	170	130

13. PART LOAD CAPACITY CHART

MXZ-SM36NAMHZ-U1

1) COOLING

Rated
Q(Btu/h): 36000
W: 2400

Indoor W.B. Outdoor D.B. (F) (C)	Max	Rated	72F / 22.2C				Max	Rated	67F / 19.4C				Max	Rated	64F / 17.8C				Max	Rated	61F / 16.1C			
			75%	50%	25%	Min			75%	50%	25%	Min			75%	50%	25%	Min			75%	50%	25%	Min
115 46.1 Q(Btu/h) W	24494	24494	18371	12247	-	8289	22680	22680	17010	11340	-	7675	20639	20639	15479	10319	-	6984	18598	18598	13948	9299	-	6293
110 43.3 Q(Btu/h) W	29160	29160	21870	14580	-	8594	27000	27000	20250	13500	-	7957	24570	24570	18428	12285	-	7241	22140	22140	16605	11070	-	6525
106 41.1 Q(Btu/h) W	33048	33048	24786	16524	-	8837	30600	30600	22950	15300	-	8182	27846	27846	20885	13923	-	7446	25092	25092	18819	12546	-	6709
102 38.9 Q(Btu/h) W	36158	36158	27119	18079	-	9081	33480	33480	25110	16740	-	8409	30467	30467	22850	15233	-	7652	27454	27454	20590	13727	-	6895
98 36.7 Q(Btu/h) W	38491	38491	28868	19246	-	9321	35640	35640	26730	17820	-	8631	32432	32432	24324	16216	-	7854	29225	29225	21919	14612	-	7077
94 34.4 Q(Btu/h) W	38880	38880	29160	19440	-	9560	36000	36000	27000	18000	-	8852	32760	32760	24570	16380	-	8055	29520	29520	22140	14760	-	7259
90 32.2 Q(Btu/h) W	39074	39074	29306	19537	-	9798	36180	36180	27135	18090	-	9072	32924	32924	24693	16462	-	8255	29668	29668	22251	14834	-	7439
86 30.0 Q(Btu/h) W	39074	39074	29306	19537	-	10034	36180	36180	27135	18090	-	9291	32924	32924	24693	16462	-	8454	29668	29668	22251	14834	-	7618
82 27.8 Q(Btu/h) W	2472	2472	2175	1706	-	524	2376	2376	2091	1639	-	516	2112	2112	1858	1457	-	458	1112	1112	978	767	-	240
78 25.6 Q(Btu/h) W	39074	39074	29306	19537	-	10269	36180	36180	27135	18090	-	9508	32924	32924	24693	16462	-	8652	29668	29668	22251	14834	-	7797
74 23.3 Q(Btu/h) W	39580	39580	29685	19790	-	10502	36648	36648	27486	18324	-	9724	33350	33350	25012	16675	-	8849	30051	30051	22539	15026	-	7974
70 21.1 Q(Btu/h) W	2208	2208	1943	1524	-	468	2016	2016	1774	1391	-	427	1663	1663	1463	1147	-	352	985	985	867	679	-	208
66 18.9 Q(Btu/h) W	39580	39580	29685	19790	-	10735	36648	36648	27486	18324	-	9939	33350	33350	25012	16675	-	9045	30051	30051	22539	15026	-	8150
62 16.7 Q(Btu/h) W	2160	2160	1901	1490	-	456	1920	1920	1690	1325	-	405	1551	1551	1365	1070	-	327	921	921	811	636	-	194
58 14.4 Q(Btu/h) W	39619	39619	29714	19809	-	10966	36684	36684	27513	18342	-	10153	33382	33382	25037	16691	-	9240	30081	30081	22561	15040	-	8326
54 12.2 Q(Btu/h) W	2112	2112	1859	1457	-	444	1824	1824	1605	1259	-	383	1438	1438	1266	992	-	302	858	858	755	592	-	180
50 10.0 Q(Btu/h) W	39658	39658	29743	19829	-	11080	36720	36720	27540	18360	-	10259	33415	33415	25061	16708	-	9336	30110	30110	22583	15055	-	8412
46 7.8 Q(Btu/h) W	2112	2112	1859	1457	-	393	1776	1776	1563	1225	-	331	1381	1381	1215	953	-	257	825	825	726	569	-	154
42 5.6 Q(Btu/h) W	39658	39658	29743	19829	-	11308	36720	36720	27540	18360	-	10470	33415	33415	25061	16708	-	9528	30110	30110	22583	15055	-	8586
38 3.3 Q(Btu/h) W	2112	2112	1859	1457	-	368	1776	1776	1563	1225	-	309	1378	1378	1213	951	-	240	822	822	723	567	-	143
34 1.1 Q(Btu/h) W	39658	39658	29743	19829	-	11428	36720	36720	27540	18360	-	10582	33415	33415	25061	16708	-	9629	30110	30110	22583	15055	-	8677
30 -1.1 Q(Btu/h) W	2112	2112	1859	1457	-	336	1776	1776	1563	1225	-	282	1376	1376	1211	949	-	219	819	819	720	565	-	130
26 -3.3 Q(Btu/h) W	39658	39658	29743	19829	-	11654	36720	36720	27540	18360	-	10791	33415	33415	25061	16708	-	9820	30110	30110	22583	15055	-	8848
23 -5.0 Q(Btu/h) W	2112	2112	1859	1457	-	310	1776	1776	1563	1225	-	261	1373	1373	1208	947	-	202	816	816	718	563	-	120
18 -7.8 Q(Btu/h) W	39658	39658	29743	19829	-	11805	36720	36720	27540	18360	-	10957	33415	33415	25061	16708	-	9967	30110	30110	22583	15055	-	9022
14 -10.0 Q(Btu/h) W	2112	2112	1859	1457	-	334	1776	1776	1563	1225	-	281	1370	1370	1206	946	-	217	813	813	715	561	-	129
10 -12.2 Q(Btu/h) W	39658	39658	29743	19829	-	12061	36720	36720	27540	18360	-	11162	33415	33415	25061	16708	-	10148	30110	30110	22583	15055	-	9387
6 -14.4 Q(Btu/h) W	2112	2112	1859	1457	-	321	1776	1776	1563	1225	-	270	1355	1355	1192	935	-	206	795	795	700	549	-	121
						11080	36720	36720	27540	18360	-	10835	33415	33415	25061	16708	-	9860	30110	30110	22583	15055	-	8885
						11260	36720	36720	27540	18360	-	11039	33415	33415	25061	16708	-	10046	30110	30110	22583	15055	-	9052
						11448	36720	36720	27540	18360	-	11244	33415	33415	25061	16708	-	10232	30110	30110	22583	15055	-	9220
						11652	36720	36720	27540	18360	-	11448	33415	33415	25061	16708	-	10418	30110	30110	22583	15055	-	9387
						11857	36720	36720	27540	18360	-	11652	33415	33415	25061	16708	-	10604	30110	30110	22583	15055	-	9555
						12061	36720	36720	27540	18360	-	11857	33415	33415	25061	16708	-	10790	30110	30110	22583	15055	-	9723
						12266	36720	36720	27540	18360	-	12061	33415	33415	25061	16708	-	10976	30110	30110	22583	15055	-	9890
						12470	36720	36720	27540	18360	-	12266	33415	33415	25061	16708	-	11162	30110	30110	22583	15055	-	10058
						1270	1776	1776	1563	1225	-	270	1353	1353	1190	933	-	206	793	793	698	547	-	121
						12470	36720	36720	27540	18360	-	12470	33415	33415	25061	16708	-	11348	30110	30110	22583	15055	-	10226
						1270	1776	1776	1563	1225	-	270	1353	1353	1190	933	-	206	793	793	698	547	-	121

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM36NAMHZ-U1

2) HEATING

Rated
Q(Btu/h): 42000
W: 3080

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B. Outdoor W.B. (F) (C)		Max	Rated	80F / 26.7C				70F / 21.1C				60F / 15.6C							
				75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60 15.6	Q(Btu/h)	32760	32760	24242	15725	-	11332	42000	42000	31080	20160	-	14529	50820	50820	37607	24394	-	17580
	W	1848	1848	1534	1164	-	486	2156	2156	1789	1358	-	567	1540	1540	1278	970	-	405
55 12.8	Q(Btu/h)	32760	32760	24242	15725	-	10696	42000	42000	31080	20160	-	13713	50820	50820	37607	24394	-	16593
	W	2156	2156	1789	1358	-	516	2387	2387	1981	1504	-	571	1694	1694	1406	1067	-	405
50 10.0	Q(Btu/h)	32760	32760	24242	15725	-	10067	42000	42000	31080	20160	-	12907	50820	50820	37607	24394	-	15617
	W	2310	2310	1917	1455	-	505	2618	2618	2173	1649	-	572	1848	1848	1534	1164	-	404
47 8.3	Q(Btu/h)	32760	32760	24242	15725	-	9692	42000	42000	31080	20160	-	12426	50820	50820	37607	24394	-	15035
	W	2541	2541	2109	1601	-	524	2772	2772	2301	1746	-	572	2002	2002	1662	1261	-	413
42 5.6	Q(Btu/h)	33210	33210	24575	15941	-	9098	42577	42577	31507	20437	-	11665	51518	51518	38123	24729	-	14114
	W	2772	2772	2301	1746	-	512	3080	3080	2556	1940	-	569	2156	2156	1789	1358	-	399
35 1.7	Q(Btu/h)	36902	36902	27307	17713	-	9023	47310	47310	35010	22709	-	11568	57245	57245	42362	27478	-	13998
	W	3080	3080	2556	1940	-	725	3326	3326	2761	2096	-	783	2464	2464	2045	1552	-	580
32 0.0	Q(Btu/h)	37367	37367	27651	17936	8968	8534	47906	47906	35450	22995	11497	10942	57966	57966	42895	27824	13912	13239
	W	3234	3234	2684	2037	1358	738	3388	3388	2812	2134	1423	773	2541	2541	2109	1601	1067	580
27 -2.8	Q(Btu/h)	36703	36703	27160	17617	8809	7856	47055	47055	34821	22586	11293	10071	56937	56937	42133	27330	13665	12186
	W	3326	3326	2761	2096	1397	682	3634	3634	3017	2290	1526	745	2695	2695	2237	1698	1132	553
22 -5.6	Q(Btu/h)	36300	36300	28862	17424	8712	7554	46539	46539	34439	22339	11169	9684	56312	56312	41671	27030	13515	11718
	W	3634	3634	3017	2290	1526	657	3927	3927	3259	2474	1649	710	2926	2926	2429	1843	1229	529
17 -8.3	Q(Btu/h)	35801	35801	26492	17184	8592	7054	45898	45898	33965	22031	11016	9044	55537	55537	41097	26658	13329	10943
	W	3773	3773	3132	2377	1585	596	4235	4235	3515	2668	1779	669	3265	3265	2710	2057	1371	516
12 -11.1	Q(Btu/h)	35265	35265	26096	16927	8464	6124	45212	45212	33457	21702	10851	7852	54706	54706	40483	26259	13129	9500
	W	3850	3850	3196	2426	1617	516	4620	4620	3835	2911	1940	619	3773	3773	3132	2377	1585	506
5 -15.0	Q(Btu/h)	34484	34484	25518	16552	8276	4868	44211	44211	32716	21221	10611	6242	53495	53495	39586	25677	12839	7552
	W	3927	3927	3259	2474	1649	426	4943	4943	4103	3114	2076	536	4389	4389	3643	2765	1843	476
2 -16.7	Q(Btu/h)	33047	33047	24455	15863	7931	4335	42368	42368	31353	20337	10168	5558	51266	51266	37937	24608	12304	6725
	W	3696	3696	3068	2328	1552	371	4928	4928	4090	3105	2070	495	4620	4620	3835	2911	1940	464
-3 -19.4	Q(Btu/h)	30653	30653	22683	14713	7357	3734	39298	39298	29081	18863	9432	4787	47551	47551	35188	22824	11412	5792
	W	3388	3388	2812	2134	1423	321	4697	4697	3899	2959	1973	445	4851	4851	4026	3056	2037	459
-8 -22.2	Q(Btu/h)	28258	28258	20911	13564	6782	2844	36228	36228	26809	17389	8695	3646	43836	43836	32439	21041	10521	4412
	W	3003	3003	2492	1892	1261	238	4466	4466	3707	2814	1876	354	5159	5159	4282	3250	2167	409
-13 -25.0	Q(Btu/h)	25863	25863	19139	12414	6207	1977	33158	33158	24537	15916	7958	2535	40121	40121	29690	19258	9629	3067
	W	2618	2618	2173	1649	1100	154	4312	4312	3579	2717	1811	254	4928	4928	4090	3105	2070	290

MXZ-SM42NAMHZ-U1

1) COOLING

Rated
Q(Btu/h): 42000
W: 3135

Indoor W.B. Outdoor D.B. (F) (C)	Max	Rated	72F / 22.2C				Max	Rated	67F / 19.4C				Max	Rated	64F / 17.8C				Max	Rated	61F / 16.1C			
			75%	50%	25%	Min			75%	50%	25%	Min			75%	50%	25%	Min			75%	50%	25%	Min
115 46.1 Q(Btu/h) W	28577 1505	28577 1505	21433 1174	14288 873	-	9670 796	26460 1568	26460 1568	19845 1223	13230 909	-	8954 829	24079 1559	24079 1559	18059 1216	12039 904	-	8148 825	21697 1631	21697 1631	16273 1273	10849 946	-	7342 863
110 43.3 Q(Btu/h) W	34020 2006	34020 2006	25515 1565	17010 1164	-	10026 745	31500 2132	31500 2132	23625 1236	15750 1236	-	9283 792	28665 2137	28665 2137	21499 1667	14333 1240	-	8448 794	25830 2165	25830 2165	19373 1689	12915 1256	-	7612 804
106 41.1 Q(Btu/h) W	38556 2320	38556 2320	28917 1810	19278 1346	-	10310 696	35700 2539	35700 2539	26775 1981	17850 1473	-	9546 762	32487 2602	32487 2602	24365 2029	16244 1509	-	8687 781	29274 1854	29274 1854	21956 1446	14637 1076	-	7828 557
102 38.9 Q(Btu/h) W	42185 2696	42185 2696	31639 2103	21092 1564	-	10595 684	39060 2884	39060 2884	29295 2250	19530 1673	-	9810 732	35545 3122	35545 3122	26658 2435	17772 1811	-	8927 792	32029 1779	32029 1779	24022 1388	16015 1032	-	8044 452
98 36.7 Q(Btu/h) W	44906 3135	44906 3135	33680 2445	22453 1818	-	10875 682	41580 3229	41580 3229	31185 2519	20790 1873	-	10069 703	37838 2935	37838 2935	28378 2289	18919 1702	-	9163 639	34096 1705	34096 1705	25572 1330	17048 989	-	8257 371
94 34.4 Q(Btu/h) W	45360 3229	45360 3229	34020 2519	22680 1873	-	11154 701	42000 3104	42000 3104	31500 2421	21000 1800	-	10327 674	38220 2841	38220 2841	28665 2152	19110 1600	-	9398 599	34440 1618	34440 1618	25830 1388	17220 1032	-	8468 351
90 32.2 Q(Btu/h) W	45587 3135	45587 3135	34190 2445	22793 1818	-	11431 678	42210 2978	42210 2978	31658 2323	21105 1727	-	10584 644	38411 2612	38411 2612	28808 2037	19206 1515	-	9631 565	34612 1535	34612 1535	25959 1197	17306 890	-	8679 332
86 30.0 Q(Btu/h) W	45587 3072	45587 3072	34190 2396	22793 1782	-	11706 663	42210 2853	42210 2853	31658 2225	21105 1655	-	10839 615	38411 2465	38411 2465	28808 1923	19206 1430	-	9863 532	34612 1452	34612 1452	25959 1133	17306 842	-	8888 313
82 27.8 Q(Btu/h) W	45587 3010	45587 3010	34190 2347	22793 1746	-	11980 640	42210 2759	42210 2759	31658 2152	21105 1600	-	11093 586	38411 2319	38411 2319	28808 1809	19206 1345	-	10094 493	34612 1369	34612 1369	25959 1068	17306 794	-	9096 291
78 25.6 Q(Btu/h) W	46176 2884	46176 2884	34632 2250	23088 1673	-	12253 611	42756 2633	42756 2633	32067 2054	21378 1527	-	11345 558	38908 2172	38908 2172	29181 1694	19454 1260	-	10324 460	35060 1286	35060 1286	26295 1003	17530 746	-	9303 272
74 23.3 Q(Btu/h) W	46176 2822	46176 2822	34632 2201	23088 1636	-	12524 595	42756 2508	42756 2508	32067 1956	21378 1455	-	11596 529	38908 2025	38908 2025	29181 1580	19454 1175	-	10552 427	35060 1203	35060 1203	26295 939	17530 698	-	9509 254
70 21.1 Q(Btu/h) W	46222 2759	46222 2759	34666 2152	23111 1600	-	12793 579	42798 2383	42798 2383	32099 1858	21399 1382	-	11846 500	38946 1879	38946 1879	29210 1466	19473 1090	-	10779 395	35094 1121	35094 1121	26321 874	17547 650	-	9713 235
66 18.9 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	12926 514	42840 2320	42840 2320	32130 1810	21420 1346	-	11969 432	38984 1804	38984 1804	29238 1407	19492 1046	-	10892 336	35129 1077	35129 1077	26347 840	17564 625	-	9814 201
62 16.7 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13193 480	42840 2320	42840 2320	32130 1810	21420 1346	-	12215 404	38984 1800	38984 1800	29238 1404	19492 1044	-	11116 313	35129 1073	35129 1073	26347 837	17564 622	-	10017 187
58 14.4 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13333 438	42840 2320	42840 2320	32130 1810	21420 1346	-	12345 369	38984 1797	38984 1797	29238 1402	19492 1042	-	11234 285	35129 1069	35129 1069	26347 834	17564 620	-	10123 170
54 12.2 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13596 405	42840 2320	42840 2320	32130 1810	21420 1346	-	12589 341	38984 1794	38984 1794	29238 1399	19492 1040	-	11456 263	35129 1066	35129 1066	26347 831	17564 618	-	10323 156
50 10.0 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13302 437	42840 2320	42840 2320	32130 1810	21420 1346	-	12317 367	38984 1790	38984 1790	29238 1396	19492 1038	-	11208 283	35129 1062	35129 1062	26347 828	17564 616	-	10100 168
46 7.8 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13137 453	42840 2320	42840 2320	32130 1810	21420 1346	-	12164 381	38984 1787	38984 1787	29238 1394	19492 1036	-	11069 293	35129 1058	35129 1058	26347 825	17564 614	-	9974 174
42 5.6 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13394 420	42840 2320	42840 2320	32130 1810	21420 1346	-	12402 353	38984 1783	38984 1783	29238 1391	19492 1034	-	11286 272	35129 1054	35129 1054	26347 822	17564 611	-	10170 161
38 3.3 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13652 419	42840 2320	42840 2320	32130 1810	21420 1346	-	12641 353	38984 1780	38984 1780	29238 1388	19492 1032	-	11503 271	35129 1050	35129 1050	26347 819	17564 609	-	10365 160
34 1.1 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	13909 419	42840 2320	42840 2320	32130 1810	21420 1346	-	12879 353	38984 1776	38984 1776	29238 1385	19492 1030	-	11720 270	35129 1046	35129 1046	26347 816	17564 607	-	10561 159
30 -1.1 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	14167 419	42840 2320	42840 2320	32130 1810	21420 1346	-	13118 353	38984 1773	38984 1773	29238 1383	19492 1028	-	11937 270	35129 1042	35129 1042	26347 813	17564 605	-	10756 158
26 -3.3 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	14425 419	42840 2320	42840 2320	32130 1810	21420 1346	-	13356 353	38984 1769	38984 1769	29238 1380	19492 1026	-	12154 269	35129 1038	35129 1038	26347 810	17564 602	-	10952 158
23 -5.0 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	14682 419	42840 2320	42840 2320	32130 1810	21420 1346	-	13595 353	38984 1767	38984 1767	29238 1378	19492 1025	-	12371 269	35129 1035	35129 1035	26347 808	17564 601	-	11148 157
18 -7.8 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	14940 419	42840 2320	42840 2320	32130 1810	21420 1346	-	13833 353	38984 1767	38984 1767	29238 1378	19492 1025	-	12588 269	35129 1035	35129 1035	26347 808	17564 601	-	11343 157
14 -10.0 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	15197 419	42840 2320	42840 2320	32130 1810	21420 1346	-	14072 353	38984 1767	38984 1767	29238 1378	19492 1025	-	12805 269	35129 1035	35129 1035	26347 808	17564 601	-	11539 157
10 -12.2 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	15455 419	42840 2320	42840 2320	32130 1810	21420 1346	-	14310 353	38984 1767	38984 1767	29238 1378	19492 1025	-	13022 269	35129 1035	35129 1035	26347 808	17564 601	-	11734 157
6 -14.4 Q(Btu/h) W	46267 2759	46267 2759	34700 2152	23134 1600	-	15712 419	42840 2320	42840 2320	32130 1810	21420 1346	-	14549 353	38984 1767	38984 1767	29238 1378	19492 1025	-	13239 269	35129 1035	35129 1035	26347 808	17564 601	-	11930 157

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM42NAMHZ-U1

2) HEATING

Rated
Q(Btu/h): 48000
W: 3430

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B.	Outdoor W.B.		80F / 26.7C						70F / 21.1C						60F / 15.6C					
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60	15.6	Q(Btu/h)	37440	37440	28454	18346	-	12951	48000	48000	36480	23520	-	16604	58080	58080	44141	28459	-	20091
		W	2058	2058	1646	1194	-	541	2401	2401	1921	1393	-	631	1715	1715	1372	995	-	451
55	12.8	Q(Btu/h)	37440	37440	28454	18346	-	12224	48000	48000	36480	23520	-	15672	58080	58080	44141	28459	-	18963
		W	2401	2401	1921	1393	-	574	2658	2658	2127	1542	-	636	1887	1887	1509	1094	-	451
50	10.0	Q(Btu/h)	37440	37440	28454	18346	-	11505	48000	48000	36480	23520	-	14750	58080	58080	44141	28459	-	17848
		W	2573	2573	2058	1492	-	562	2916	2916	2332	1691	-	637	2058	2058	1646	1194	-	450
47	8.3	Q(Btu/h)	37440	37440	28454	18346	-	11077	48000	48000	36480	23520	-	14201	58080	58080	44141	28459	-	17183
		W	2830	2830	2264	1641	-	584	3087	3087	2470	1790	-	637	2230	2230	1784	1293	-	460
42	5.6	Q(Btu/h)	37954	37954	28845	18598	-	10398	48659	48659	36981	23843	-	13331	58878	58878	44747	28850	-	16130
		W	3087	3087	2470	1790	-	571	3430	3430	2744	1989	-	634	2401	2401	1921	1393	-	444
35	1.7	Q(Btu/h)	42174	42174	32052	20665	-	10312	54069	54069	41092	26494	-	13221	65423	65423	49722	32057	-	15997
		W	3430	3430	2744	1989	-	808	3704	3704	2964	2149	-	872	2744	2744	2195	1592	-	646
32	0.0	Q(Btu/h)	42705	42705	32456	20925	10249	9754	54750	54750	41610	26827	13140	12505	66247	66247	50348	32461	15899	15131
		W	3602	3602	2881	2089	1369	822	3773	3773	3018	2188	1434	861	2830	2830	2264	1641	1075	646
27	-2.8	Q(Btu/h)	41946	41946	31879	20554	10067	8978	53777	53777	40871	26351	12907	11510	65070	65070	49454	31885	15617	13927
		W	3704	3704	2964	2149	1408	759	4047	4047	3238	2347	1538	830	3001	3001	2401	1741	1140	615
22	-5.6	Q(Btu/h)	41486	41486	31529	20328	9957	8633	53187	53187	40422	26062	12765	11068	64356	64356	48911	31535	15445	13392
		W	4047	4047	3238	2347	1538	732	4373	4373	3499	2536	1662	791	3259	3259	2607	1890	1238	589
17	-8.3	Q(Btu/h)	40915	40915	31095	20048	9820	8062	52455	52455	39866	25703	12589	10336	63471	63471	48238	31101	15233	12507
		W	4202	4202	3361	2437	1597	664	4716	4716	3773	2735	1792	745	3636	3636	2909	2109	1382	574
12	-11.1	Q(Btu/h)	40303	40303	30630	19748	9673	6999	51670	51670	39270	25319	12401	8973	62521	62521	47516	30635	15005	10858
		W	4288	4288	3430	2487	1629	575	5145	5145	4116	2984	1955	689	4202	4202	3361	2437	1597	563
5	-15.0	Q(Btu/h)	39411	39411	29952	19311	9459	5564	50526	50526	38400	24758	12126	7133	61137	61137	46464	29957	14673	8631
		W	4373	4373	3499	2536	1662	474	5505	5505	4404	3193	2092	597	4888	4888	3910	2835	1857	530
2	-16.7	Q(Btu/h)	37768	37768	28704	18507	9064	4955	48421	48421	36800	23726	11621	6352	58589	58589	44528	28709	14061	7686
		W	4116	4116	3293	2387	1564	414	5488	5488	4390	3183	2085	551	5145	5145	4116	2984	1955	517
-3	-19.4	Q(Btu/h)	35032	35032	26624	17165	8408	4267	44912	44912	34133	22007	10779	5471	54344	54344	41301	26628	13043	6620
		W	3773	3773	3018	2188	1434	357	5231	5231	4185	3034	1988	495	5402	5402	4322	3133	2053	511
-8	-22.2	Q(Btu/h)	32295	32295	24544	15824	7751	3250	41404	41404	31467	20288	9937	4167	50098	50098	38075	24548	12024	5042
		W	3344	3344	2675	1940	1271	265	4974	4974	3979	2885	1890	394	5745	5745	4596	3332	2183	456
-13	-25.0	Q(Btu/h)	29558	29558	22464	14483	7094	2259	37895	37895	28800	18568	9095	2897	45853	45853	34848	22468	11005	3505
		W	2916	2916	2332	1691	1108	172	4802	4802	3842	2785	1825	283	5488	5488	4390	3183	2085	323

MXZ-SM48NAMHZ-U1

1) COOLING

Rated
Q(Btu/h): 48000
W: 3665

Indoor W.B. Outdoor D.B. (F) (C)	Max	Rated	72F / 22.2C				67F / 19.4C				64F / 17.8C				61F / 16.1C									
			75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min						
115 46.1 Q(Btu/h) W	32659	32659	24494	16330	-	11052	30240	30240	22680	15120	-	10233	27518	27518	20639	13759	-	9312	24797	24797	18598	12398	-	8391
110 43.3 Q(Btu/h) W	38880	38880	29160	19440	-	11458	36000	36000	27000	18000	-	10609	32760	32760	24570	16380	-	9655	29520	29520	22140	14760	-	8700
106 41.1 Q(Btu/h) W	44064	44064	33048	22032	-	11782	40800	40800	30600	20400	-	10910	37128	37128	27846	18564	-	9928	33456	33456	25092	16728	-	8946
102 38.9 Q(Btu/h) W	48211	48211	36158	24106	-	12109	44640	44640	33480	22320	-	11212	40622	40622	30467	20311	-	10203	36605	36605	27454	18302	-	9194
98 36.7 Q(Btu/h) W	51322	51322	38491	25661	-	12429	47520	47520	35640	23760	-	11508	43243	43243	32432	21622	-	10472	38966	38966	29225	19483	-	9436
94 34.4 Q(Btu/h) W	51840	51840	38880	25920	-	12747	48000	48000	36000	24000	-	11803	43680	43680	32760	21840	-	10740	39360	39360	29520	19680	-	9678
90 32.2 Q(Btu/h) W	52099	52099	39074	26050	-	13064	48240	48240	36180	24120	-	12096	43898	43898	32924	21949	-	11007	39557	39557	29668	19778	-	9919
86 30.0 Q(Btu/h) W	52099	52099	39074	26050	-	13378	48240	48240	36180	24120	-	12387	43898	43898	32924	21949	-	11272	39557	39557	29668	19778	-	10158
82 27.8 Q(Btu/h) W	52099	52099	39074	26050	-	13692	48240	48240	36180	24120	-	12678	43898	43898	32924	21949	-	11537	39557	39557	29668	19778	-	10396
78 25.6 Q(Btu/h) W	52773	52773	39580	26387	-	14003	48864	48864	36648	24432	-	12966	44466	44466	33350	22233	-	11799	40068	40068	30051	20034	-	10632
74 23.3 Q(Btu/h) W	52773	52773	39580	26387	-	14313	48864	48864	36648	24432	-	13253	44466	44466	33350	22233	-	12060	40068	40068	30051	20034	-	10867
70 21.1 Q(Btu/h) W	52825	52825	39619	26412	-	14621	48912	48912	36684	24456	-	13538	44510	44510	33382	22255	-	12319	40108	40108	30081	20054	-	11101
66 18.9 Q(Btu/h) W	52877	52877	39658	26438	-	14773	48960	48960	36720	24480	-	13679	44554	44554	33415	22277	-	12448	40147	40147	30110	20074	-	11217
62 16.7 Q(Btu/h) W	52877	52877	39658	26438	-	15077	48960	48960	36720	24480	-	13960	44554	44554	33415	22277	-	12704	40147	40147	30110	20074	-	11448
58 14.4 Q(Btu/h) W	52877	52877	39658	26438	-	15238	48960	48960	36720	24480	-	14109	44554	44554	33415	22277	-	12839	40147	40147	30110	20074	-	11569
54 12.2 Q(Btu/h) W	52877	52877	39658	26438	-	15539	48960	48960	36720	24480	-	14388	44554	44554	33415	22277	-	13093	40147	40147	30110	20074	-	11798
50 10.0 Q(Btu/h) W	52877	52877	39658	26438	-	15203	48960	48960	36720	24480	-	14077	44554	44554	33415	22277	-	12810	40147	40147	30110	20074	-	11543
46 7.8 Q(Btu/h) W	52877	52877	39658	26438	-	15013	48960	48960	36720	24480	-	13901	44554	44554	33415	22277	-	12650	40147	40147	30110	20074	-	11399
42 5.6 Q(Btu/h) W	52877	52877	39658	26438	-	15308	48960	48960	36720	24480	-	14174	44554	44554	33415	22277	-	12898	40147	40147	30110	20074	-	11622
38 3.3 Q(Btu/h) W	52877	52877	39658	26438	-	15602	48960	48960	36720	24480	-	14446	44554	44554	33415	22277	-	13146	40147	40147	30110	20074	-	11846
34 1.1 Q(Btu/h) W	52877	52877	39658	26438	-	15896	48960	48960	36720	24480	-	14719	44554	44554	33415	22277	-	13394	40147	40147	30110	20074	-	12070
30 -1.1 Q(Btu/h) W	52877	52877	39658	26438	-	16191	48960	48960	36720	24480	-	14991	44554	44554	33415	22277	-	13642	40147	40147	30110	20074	-	12293
26 -3.3 Q(Btu/h) W	52877	52877	39658	26438	-	16485	48960	48960	36720	24480	-	15284	44554	44554	33415	22277	-	13890	40147	40147	30110	20074	-	12517
23 -5.0 Q(Btu/h) W	52877	52877	39658	26438	-	16780	48960	48960	36720	24480	-	15537	44554	44554	33415	22277	-	14138	40147	40147	30110	20074	-	12740
18 -7.8 Q(Btu/h) W	52877	52877	39658	26438	-	17074	48960	48960	36720	24480	-	15809	44554	44554	33415	22277	-	14386	40147	40147	30110	20074	-	12964
14 -10.0 Q(Btu/h) W	52877	52877	39658	26438	-	17368	48960	48960	36720	24480	-	16082	44554	44554	33415	22277	-	14634	40147	40147	30110	20074	-	13187
10 -12.2 Q(Btu/h) W	52877	52877	39658	26438	-	17663	48960	48960	36720	24480	-	16354	44554	44554	33415	22277	-	14882	40147	40147	30110	20074	-	13411
6 -14.4 Q(Btu/h) W	52877	52877	39658	26438	-	17957	48960	48960	36720	24480	-	16627	44554	44554	33415	22277	-	15130	40147	40147	30110	20074	-	13634

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

MXZ-SM48NAMHZ-U1
2) HEATING

Rated
Q(Btu/h): 54000
W: 3955

MXZ-SM-NAM-U1, MXZ-SM-NAMHZ-U1

Indoor D.B.	Outdoor W.B.	(F)	(C)	80F / 26.7C						70F / 21.1C						60F / 15.6C					
				Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60	15.6	Q(Btu/h)	W	42120	42120	31590	21060	-	14570	54000	54000	40500	27000	-	18680	65340	65340	49005	32670	-	22602
				2373	2373	1898	1376	-	666	2769	2769	2215	1606	-	777	1978	1978	1582	1147	-	555
55	12.8	Q(Btu/h)	W	42120	42120	31590	21060	-	13752	54000	54000	40500	27000	-	17631	65340	65340	49005	32670	-	21334
				2769	2769	2215	1606	-	706	3065	3065	2452	1778	-	782	2175	2175	1740	1262	-	555
50	10.0	Q(Btu/h)	W	42120	42120	31590	21060	-	12943	54000	54000	40500	27000	-	16594	65340	65340	49005	32670	-	20079
				2966	2966	2373	1720	-	692	3362	3362	2689	1950	-	784	2373	2373	1898	1376	-	553
47	8.3	Q(Btu/h)	W	42120	42120	31590	21060	-	12461	54000	54000	40500	27000	-	15976	65340	65340	49005	32670	-	19331
				3263	3263	2610	1892	-	718	3560	3560	2848	2065	-	784	2571	2571	2057	1491	-	566
42	5.6	Q(Btu/h)	W	42698	42698	32024	21349	-	11698	54742	54742	41056	27371	-	14997	66237	66237	49678	33119	-	18147
				3560	3560	2848	2065	-	702	3955	3955	3164	2294	-	780	2769	2769	2215	1606	-	546
35	1.7	Q(Btu/h)	W	47445	47445	35584	23723	11861	11601	60827	60827	45621	30414	15207	14874	73601	73601	55201	36801	18400	17997
				3955	3955	3164	2294	1503	994	4271	4271	3417	2477	1623	1073	3164	3164	2531	1835	1202	795
32	0.0	Q(Btu/h)	W	48043	48043	36032	24021	12011	10973	61593	61593	46195	30797	15398	14068	74528	74528	55896	37264	18632	17022
				4153	4153	3322	2409	1578	1011	4351	4351	3480	2523	1653	1059	3263	3263	2610	1892	1240	794
27	-2.8	Q(Btu/h)	W	47190	47190	35392	23595	11797	10100	60499	60499	45375	30250	15125	12949	73204	73204	54903	36602	18301	15668
				4271	4271	3417	2477	1623	934	4667	4667	3734	2707	1773	1021	3461	3461	2769	2007	1315	757
22	-5.6	Q(Btu/h)	W	46672	46672	35004	23336	11668	9712	59835	59835	44876	29918	14959	12451	72401	72401	54301	36200	18100	15066
				4667	4667	3734	2707	1773	900	5043	5043	4034	2925	1916	973	3757	3757	3006	2179	1428	725
17	-8.3	Q(Btu/h)	W	46029	46029	34522	23015	11507	9070	59012	59012	44259	29506	14753	11628	71404	71404	53553	35702	17851	14070
				4845	4845	3876	2810	1841	817	5438	5438	4351	3154	2066	917	4192	4192	3354	2432	1593	707
12	-11.1	Q(Btu/h)	W	45341	45341	34006	22670	11335	7874	58129	58129	43597	29065	14532	10095	70336	70336	52752	35168	17584	12215
				4944	4944	3955	2867	1879	707	5933	5933	4746	3441	2254	848	4845	4845	3876	2810	1841	693
5	-15.0	Q(Btu/h)	W	44337	44337	33253	22168	11084	6259	56842	56842	42632	28421	14211	8025	68779	68779	51584	34389	17195	9710
				5043	5043	4034	2925	1916	584	6348	6348	5078	3682	2412	735	5636	5636	4509	3269	2142	652
2	-16.7	Q(Btu/h)	W	42489	42489	31867	21245	10622	5574	54474	54474	40855	27237	13618	7146	65913	65913	49435	32957	16478	8647
				4746	4746	3797	2753	1803	509	6328	6328	5062	3670	2405	679	5933	5933	4746	3441	2254	636
-3	-19.4	Q(Btu/h)	W	39411	39411	29558	19705	9853	4801	50526	50526	37895	25263	12632	6155	61137	61137	45853	30568	15284	7447
				4351	4351	3480	2523	1653	440	6031	6031	4825	3498	2292	609	6229	6229	4983	3613	2367	629
-8	-22.2	Q(Btu/h)	W	36332	36332	27249	18166	9083	3657	46579	46579	34934	23289	11645	4688	56361	56361	42270	28180	14090	5673
				3856	3856	3085	2237	1465	326	5735	5735	4588	3326	2179	485	6625	6625	5300	3842	2517	561
-13	-25.0	Q(Btu/h)	W	33253	33253	24939	16626	8313	2542	42632	42632	31974	21316	10658	3259	51584	51584	38688	25792	12896	3943
				3362	3362	2689	1950	1277	211	5537	5537	4430	3211	2104	348	6328	6328	5062	3670	2405	398

⚠ Warning

- Do not use refrigerant other than the type indicated in the manuals provided with the unit and on the nameplate.
 - Doing so may cause the unit or pipes to burst, or result in explosion or fire during use, repair, or at the time of disposal of the unit.
 - It may also be in violation of applicable laws.
 - MITSUBISHI ELECTRIC CORPORATION cannot be held responsible for malfunctions or accidents resulting from the use of the wrong type of refrigerant.
- Our air conditioning equipment and heat pumps contain a fluorinated greenhouse gas, R410A.

MITSUBISHI ELECTRIC CORPORATION

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