

AIR CONDITIONING SYSTEMS

SMART MULTI



DATA BOOK

MODEL

MXZ-SM36/48/60NAM2-U1

MXZ-SM36/42/48NAMHZ2-U1



MXZ-SM72/96/120TAM-U1



MXZ-SM model

Type(Btu/h)	36,000	48,000	60,000
Model Name	MXZ-SM36NAM2-U1	MXZ-SM48NAM2-U1	MXZ-SM60NAM2-U1



Type(Btu/h)	72,000	96,000	120,000
Model Name	MXZ-SM72TAM-U1	MXZ-SM96TAM-U1	MXZ-SM120TAM-U1

H2i MXZ-SM model

Type(Btu/h)	36,000	42,000	48,000
Model Name	MXZ-SM36NAMHZ2-U1	MXZ-SM42NAMHZ2-U1	MXZ-SM48NAMHZ2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

1. SPECIFICATIONS	2
2. EXTERNAL DIMENSIONS	6
3. CENTER OF GRAVITY	8
4. ELECTRICAL WIRING DIAGRAMS	9
5. SOUND LEVELS	13
6. OPERATION TEMPERATURE RANGE	15
7. CAPACITY TABLES	16
7-1. Selection of Cooling/Heating Units	16
7-2. Correction by temperature	22
7-3. Correction by total indoor	28
7-4. Correction by refrigerant piping length	42
7-5. Correction at frost and defrost	44
8. OPTIONAL PARTS	45
8-1. JOINT	45
8-2. HEADER	46
9. ELECTRICAL WORK	47
9-1. General cautions	47
9-2. Power cable specifications	48
9-3. Power supply examples	52
10.M-NET CONTROL	53
10-1.Transmission cable length limitation	53
10-2.Transmission cable specifications	54
10-3.System configuration restrictions	55
10-4.Address setting	59
11.PIPING DESIGN	66
11-1.R410A Piping material	66
11-2.Piping Design	66
11-3.Refrigerant charging calculation	76
12.OUTDOOR INSTALLATION	79
12-1.Requirement on installation site	79
12-2.Spacing	81
12-3.Piping direction	83
13.PART LOAD CAPACITY CHART	84

1. SPECIFICATIONS

SMART MULTI

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Service Ref.			MXZ-SM36NAM2-U1			MXZ-SM48NAM2-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	2,670	3,000	3,665	4,070	4,575
	Current input (208/230V)	A	11.7/10.6	13.0/11.8	14.6/13.2	17.9/16.2	19.9/18.0	22.3/20.2
	EER2	Btu/h/W	15.0	13.5	12.0	13.1	11.8	10.5
	SEER2	-	23.0	20.7	18.5	23.0	19.5	16.0
Heating	Capacity Rated 47°F* ¹	Btu/h	41,000	41,000	41,000	50,000	50,000	50,000
	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	35,400	35,400	35,400
	Rated power consumption 47°F* ¹	W	3,005	3,205	3,435	3,665	4,070	4,580
	Current input (208/230V)	A	14.7/13.3	15.6/14.1	16.8/15.2	17.9/16.2	19.9/18.0	22.4/20.2
	COP 47°F* ¹	W/W	4.00	3.75	3.50	4.00	3.60	3.20
	HSPF2	-	11.0	10.5	10.0	10.4	9.65	8.90
Power supply			1-phase 208/230 V, 60 Hz					
Breaker Size/Maximum over current protection			30 A/64 A (When power is supplied separately) 40 A/70 A (When power is supplied from the outdoor unit)					
Minimum 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		
		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)	3/8 (ø9.52)					
	Gas pipe	inch (mm)	5/8 (ø15.88)					
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 × 2					
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 (+25)					
		inch	52-11/16 × 41-11/32 × 13 (+1)					
Protection devices	High pressure protection		High pressure 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)	W.B.-13 to 59°F [W.B.-25 to 15°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 cannot 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-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

Service Ref.		MXZ-SM36NAMHZ2-U1			MXZ-SM42NAMHZ2-U1			MXZ-SM48NAMHZ2-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	2,670	3,000	3,135	3,500	3,965	3,665	4,070	4,575			
	Current input (208/230V)	A	11.7/10.6	13.0/11.8	14.6/13.2	15.3/13.8	17.1/15.4	19.4/17.5	17.9/16.2	19.9/18.0	22.3/20.2			
	EER2	Btu/h/W	15.0	13.5	12.0	13.4	12.0	10.6	13.1	11.8	10.5			
	SEER2	-	23.0	20.8	18.5	21.5	19.8	18.0	23.0	19.5	16.0			
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	38,500	38,500	38,500	44,000	44,000	44,000	47,000	47,000	47,000			
	Rated power consumption 47°F*1	W	3,080	3,285	3,520	3,435	3,805	4,265	3,960	4,400	4,950			
	Current input (208/230V)	A	15.0/13.6	16.0/14.5	17.2/15.5	16.8/15.2	18.6/16.8	20.8/18.8	19.3/17.5	21.5/19.4	24.2/21.8			
	COP 47°F*1	W/W	4.00	3.75	3.50	4.10	3.70	3.30	4.00	3.60	3.20			
HSPF2	-	12.0	11.5	11.0	11.1	10.6	10.0	11.5	10.5	9.50				
Power supply		1-phase 208/230 V, 60 Hz												
Breaker Size/Maximum over current protection		40 A/80 A (When power is supplied separately) 45 A/86 A (When power is supplied from the outdoor unit)												
Minimum circuit ampacity		45 A (When power is supplied separately) 51 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)	3/8 (ø9.52)											
	Gas pipe	inch (mm)	5/8 (ø15.88)											
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 × 2											
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 (+25)											
		inch	52-11/16 × 41-11/32 × 13 (+1)											
Protection devices	High pressure protection		High pressure 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)	W.B.-13 to 59°F [W.B.-25 to 15°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]

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

*3 It cannot 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-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.

1. SPECIFICATIONS

SMART MULTI

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Service Ref.			MXZ-SM60NAM2-U1		
Indoor type			Non-Ducted	Mix	Ducted
Cooling	Capacity Rated*1	Btu/h	60,000	60,000	60,000
	Rated power consumption*1	W	4,515	5,045	5,660
	Current input (208/230V)	A	21.9/19.8	24.5/22.2	27.5/24.9
	EER2	Btu/h/W	13.3	11.9	10.6
	SEER2	-	20.0	18.5	17.0
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	46,500	46,500	46,500
	Rated power consumption 47°F*1	W	4,720	5,160	5,690
	Current input (208/230V)	A	22.9/20.7	25.1/22.7	27.7/25.0
	COP 47°F*1	W/W	4.10	3.75	3.40
	HSPF2	-	10.5	9.75	9.00
Power supply			1-phase 208/230 V, 60 Hz		
Breaker Size/Maximum over current protection			40 A/80 A (When power is supplied separately) 50 A/90 A (When power is supplied from the outdoor unit)		
Minimum circuit ampacity			45 A (When power is supplied separately) 55 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 - 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)	3/8 (ø9.52)		
	Gas pipe	inch (mm)	3/4 (ø19.05)		
Fan	Type × Quantity		Propeller fan × 2		
	Airflow rate	m³/min	138		
		L/s	2,300		
		cfm	4,879		
	Control, Driving mechanism		DC control		
	Motor output	kW	0.200 × 2		
External static press.		0			
Compressor	Type × 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 × W × D		mm	1,338 × 1,050 × 330 (+25)		
		inch	52-11/16 × 41-11/32 × 13 (+1)		
Protection devices	High pressure protection		High pressure 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)	300 (136)			
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)	W.B.-13 to 59°F [W.B.-25 to 15°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 cannot 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-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

Outdoor model		MXZ-SM72TAM-U1		MXZ-SM96TAM-U1		MXZ-SM120TAM-U1				
Indoor Model		Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted			
Cooling capacity (Nominal) ¹	kW	21.1		28.1		35.2				
		Btu/h		72,000		96,000		120,000		
	Power input	5.67		8.16		10.7				
		Current input		16.6-15.0		23.9-21.6		31.3-28.3		
	(Rated)	kW	20.2		27		33.4			
			Btu/h		69,000		92,000		114,000	
		Power input	4.88	5.07	6.93	7.31	9.35	9.53		
	Current input	14.3-12.9		14.8-13.4		20.2-18.3		21.4-19.3		
	Heating capacity (Nominal) ²	kW	23.4		31.7		39.6			
Btu/h			80,000		108,000		135,000			
Power input		5.36		7.61		9.87				
		Current input		15.7-14.2		22.2-20.1		28.8-26.1		
(Rated)		kW	22.6		30.2		37.8			
			Btu/h		77,000		103,000		129,000	
		Power input	4.86	5.12	6.86	7.24	9.11	9.21		
Current input		14.2-12.8		15.0-13.5		20.0-18.1		21.2-19.1		
Power source		3-phase 3-wire 208-230V 60Hz								
Breaker size (ODU only/ODU+IDU)		A		40/60		50/70				
Minimum Circuit Ampacity (ODU only/ODU+IDU)		A		32/50		47/65				
Maximum Overcurrent Protection (ODU only/ODU+IDU)		A		58/76		84/102				
Indoor unit connectable	Total capacity		50 to 130% of outdoor unit cooling rated capacity							
	Model/ Quantity ³	CITY MULTI	04 - 72 / 23		04 - 96 / 30		04 - 96 / 30			
		Branch box	06 - 36 / 12		06 - 36 / 12		06 - 36 / 12			
Sound pressure level (SPL) (measured in anechoic room)		dB <A>		53/54		58/59		61/62		
Refrigerant piping diameter	Liquid pipe	in (mm)		3/8 (9.52) ⁴		3/8 (9.52)				
	Gas pipe	in (mm)		7/8 (22.2)		1-1/8 (28.58)				
Fan ⁵	Type × Quantity		Propeller Fan × 2							
	Airflow rate	m ³ /min	149		169		208			
		L/s	2,480		2,820		3,470			
		cfm	5,260		5,965		7,345			
	Control, Driving mechanism		DC control							
	Motor output		kW		0.285 + 0.285					
External static press.		0 in.WG (0 Pa) / 0.12 in.WG (30 Pa)								
Compressor	Type × Quantity		Scroll hermetic compressor × 1							
	Manufacturer		Siam Compressor Industry Co., Ltd.							
	Starting method		Inverter							
	Motor output		kW		4.1		5.3		7.0	
	Case heater		kW		0					
	Lubricant		FVC68D 101oz. (3.0L)							
External finish		Galvanized Steel Sheet Munsell No. 3Y 7.8/1.1								
External dimension H × W × D	mm		1,662 × 1,050 × 460 (+45)							
	in		65-7/16 × 41-11/32 × 187/64 (+ 1-49/64)							
Protection devices	High pressure protection		High pressure switch							
	Inverter circuit (COMP./FAN)		Overcurrent detection, Overheat detection (Heat sink thermistor)							
	Compressor		Compressor thermistor, Overcurrent detection							
	Fan motor		Overheating, Voltage protection							
Refrigerant	Type × original charge		R410A 9.3 kg							
	Control		Linear expansion valve							
Net weight		lb (kg)		432 (196)						
Heat exchanger		Cross fin and copper tube								
HIC circuit (HIC: Heat Inter-Changer)		Double pipe heat exchanger								
Defrosting method		Reversed refrigerant circuit								
Standard attachment	Document		Installation Manual							
	Accessory		Joint pipe×1 set, Grounding lead wire ×1							
Optional parts		Joint: CMY-Y62-G-E/CMY-Y62-GA-E, Header: CMY-Y64/68-G-E								
Guaranteed operation range	Cooling	D.B.		-5 to 46°C [23 to 115°F] ^{6,7,8}						
	Heating	W.B.		-20 to 15°C [-4 to 59°F]						

Remarks

- *1. Nominal cooling conditions:
Indoor: 80°F D.B. /67 °F W.B. (26.7°C D.B./19.4°C W.B.)
Outdoor: 95°F D.B. (35.0°C D.B.)
- *2. Nominal heating conditions:
Indoor: 70°F D.B. (21.1°C D.B.)
Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- *3. It cannot be connected to mixed CITY MULTI indoor unit and branch box indoor unit.
- *4. Liquid pipe diameter: 12.7mm, when further piping length is longer than 90m, and when PEFY-P72 or P96 is connected.
- *5. It is possible to set the external static pressure to 30 Pa by Dip Switch.
- *6. 5 to 115°F D.B. (-15 to 46°C D.B.), when an optional Air Outlet Guide is installed. However, this condition does not apply to the indoor units listed in *7.
- *7. 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.
- *8. When the temperature is below 50°F D.B. (10 °C D.B.) with branch box system, noise could potentially occur.

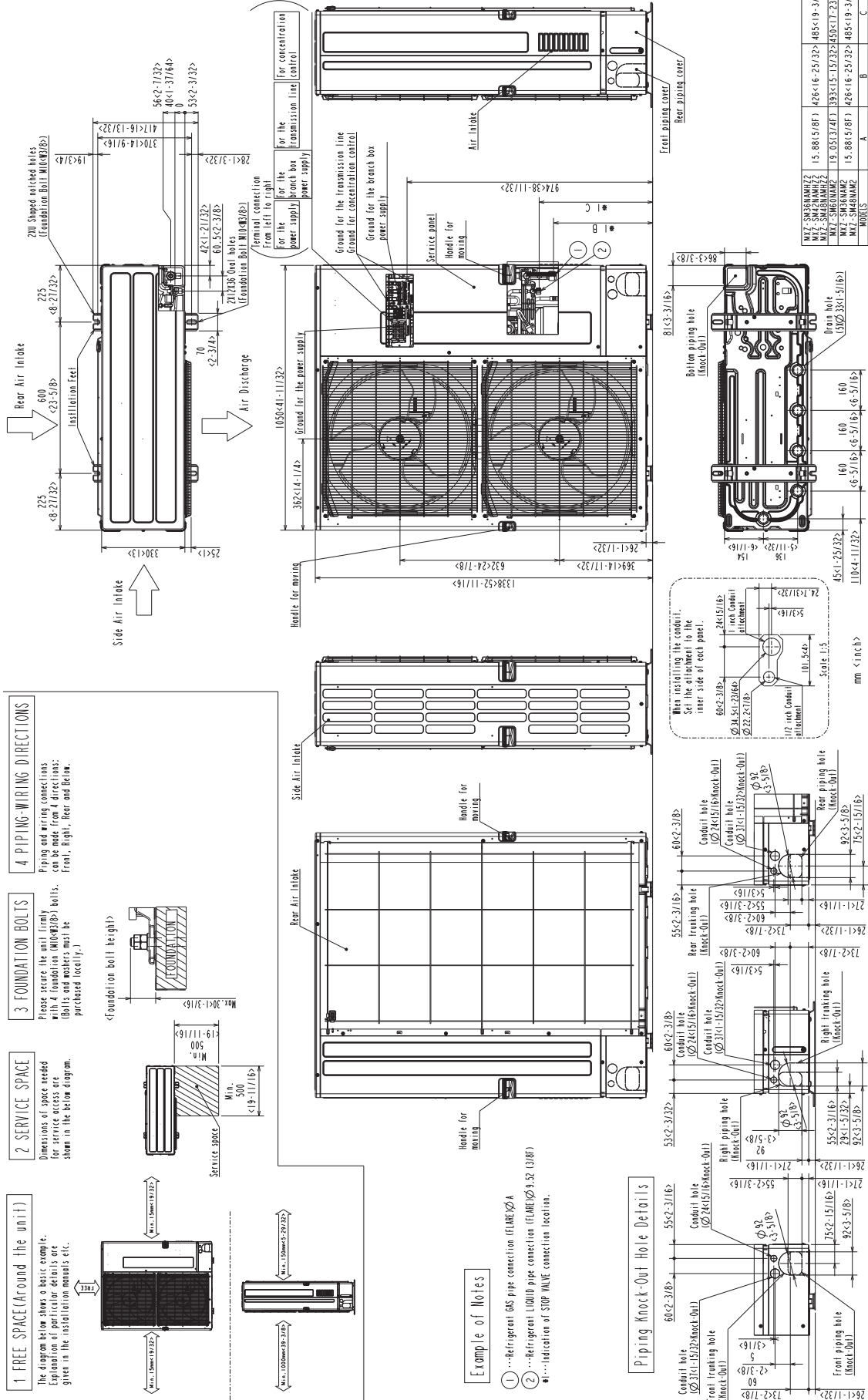
Notes:

- Nominal conditions *1, *2 are subject to AHRI 1230.
- Due to continuing improvement, above specifications are subject to change without notice.
- See the following for unit conversion: kcal/h = kW × 860, Btu/h = kW × 3,412, cfm = m³/min × 35.31, lb = kg × 0.4536
- Above specification data is subject to rounding variation.
- Refer to the indoor unit's service manual for the indoor units specifications.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

MXZ-SM36, 48, 60NAM2-U1
MXZ-SM36, 42, 48NAMHZ2-U1

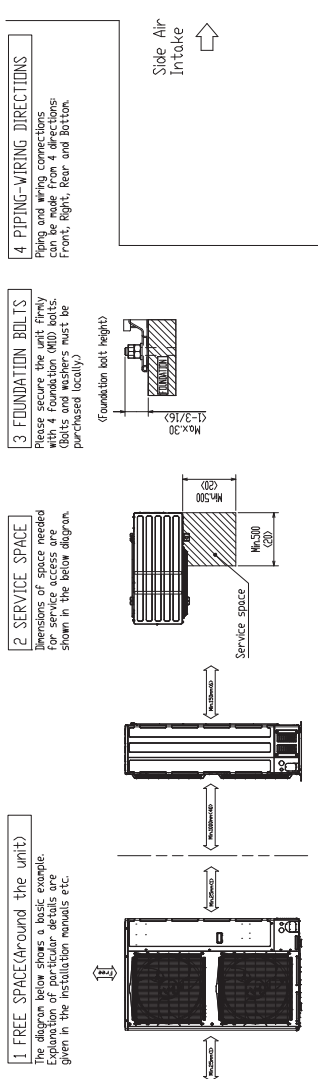
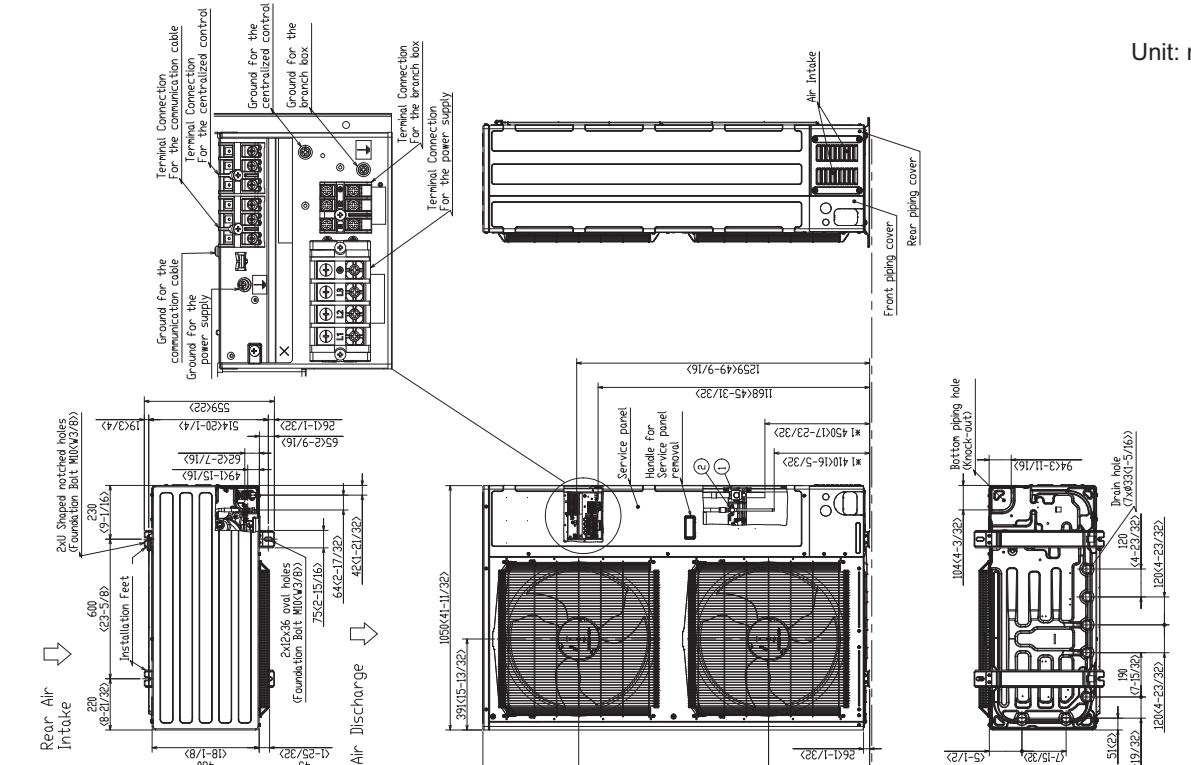
Unit: mm[in.]

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



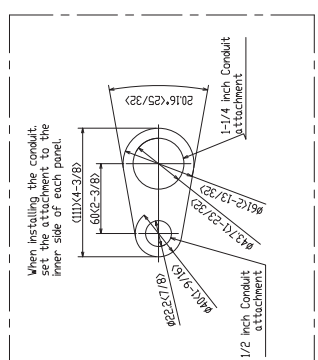
MXZ-SM72, 96, 120TAM-U1

Unit: mm[in.]

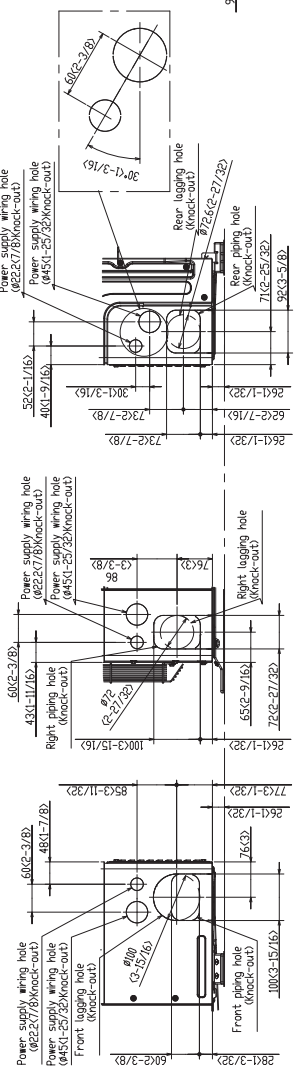


Example of Notes

- ① ... Refrigerant GAS pipe connection (Ø22.2/78F)
- ② ... Refrigerant LIQUID pipe connection (Ø19.3/61F)
- Ⓜ ... Indication of STOP VALVE and BALL VALVE connection location.



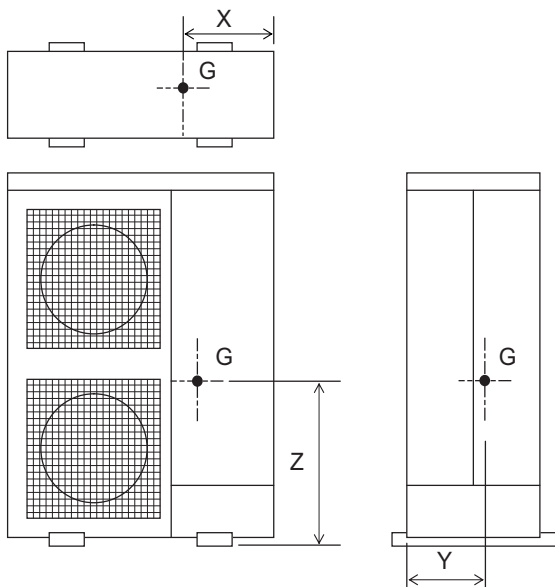
Piping knock-out Hole Details



MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

MXZ-SM36/48/60NAM2-U1
 MXZ-SM36/42/48NAMHZ2-U1
 MXZ-SM72/96/120TAM-U1

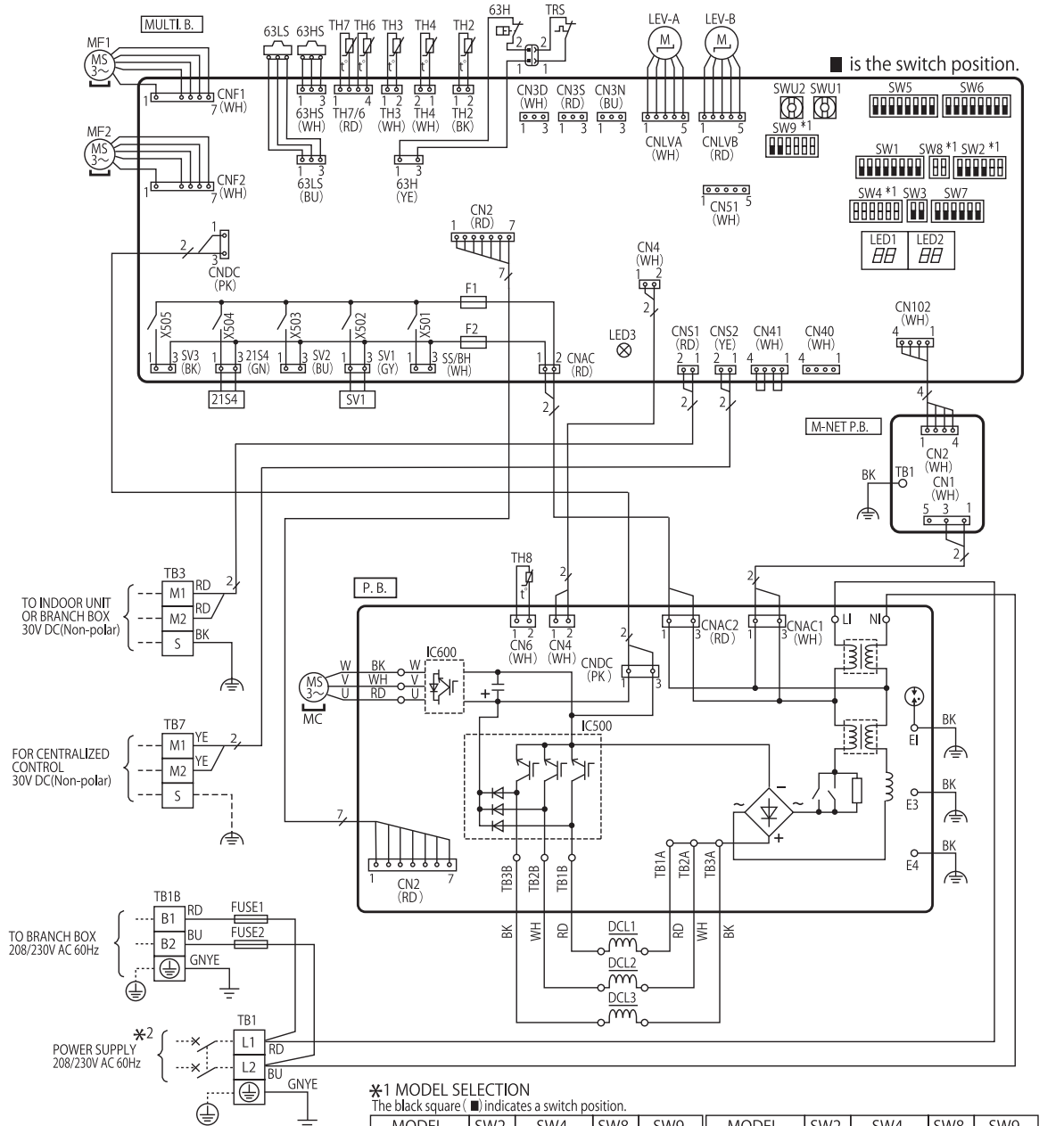
Unit: mm[in.]



Model	X	Y	Z
MXZ-SM36/48NAM2-U1	370 [14-9/16]	160 [6-19/64]	565 [22-7/32]
MXZ-SM60NAM2-U1	410 [16-9/64]	175 [6-57/64]	560 [22-3/64]
MXZ-SM36/42/48NAMHZ2-U1	380 [15]	165 [6-1/2]	575 [22-41/64]
MXZ-SM72/96/120TAM-U1	380 [15]	257 [10-11/32]	750 [29-23/64]

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM36, 48NAM2-U1



*1 MODEL SELECTION

The black square (■) indicates a switch position.

MODEL	SW2	SW4	SW8	SW9	MODEL	SW2	SW4	SW8	SW9
MXZ-SM36NAM2	ON OFF [0.6]	ON OFF [1.2, 3, 4, 5]	ON OFF [2]	ON OFF [3, 4, 5, 6]	MXZ-SM48NAM2	ON OFF [3.8]	ON OFF [2, 3, 4, 5, 6]	ON OFF [2]	ON OFF [3, 4, 5, 6]

*2 Use copper supply wires.

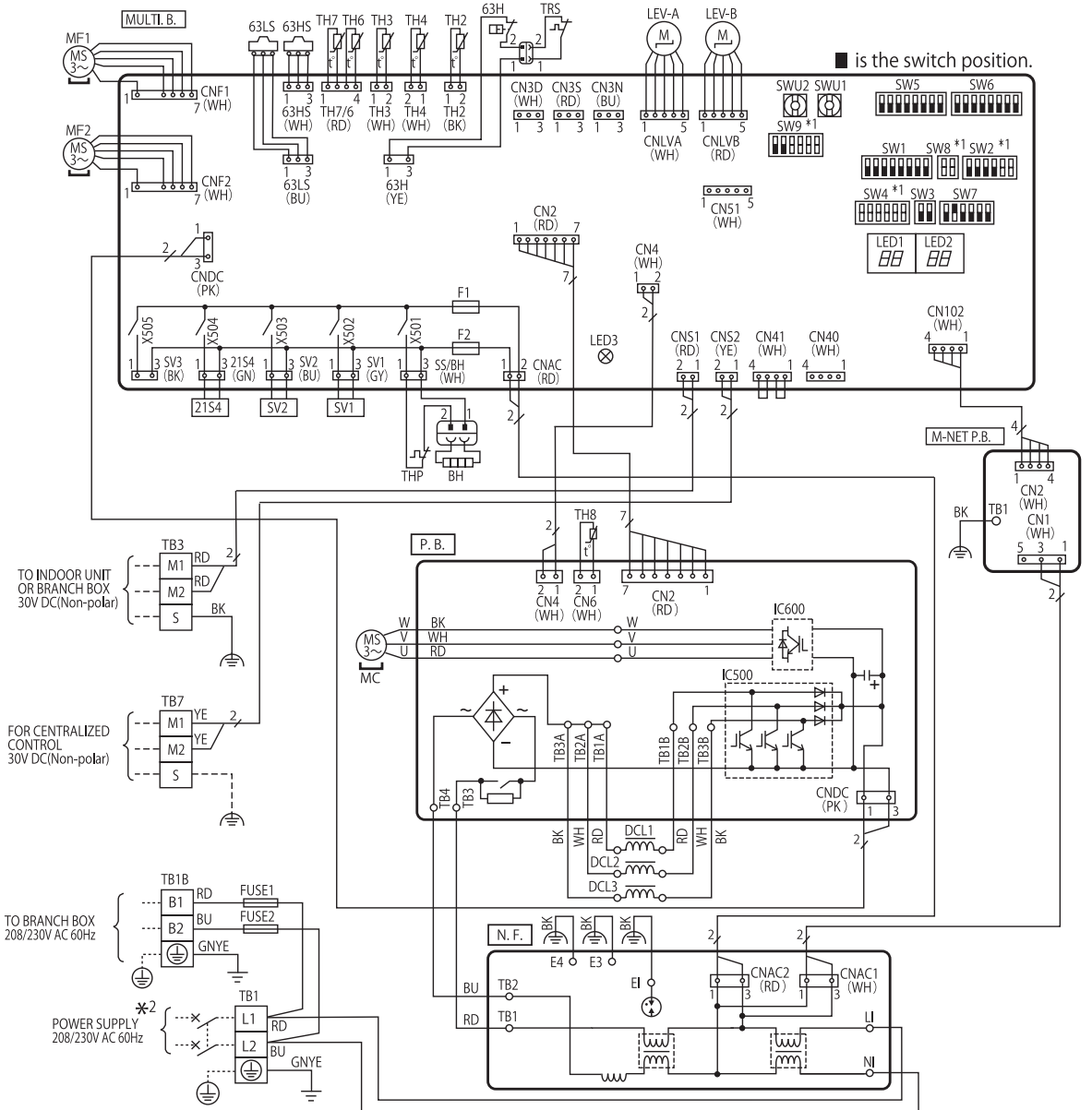
*3 When a Branch box is connected, SW2-5 should be ON.

(LEGEND)

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block (Power Supply)	TH8	Thermistor (Heat Sink)	SW5	Switch (Function Selection)
TB1B	Terminal Block (Branch box)	TRS	Thermal Protector	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-P phase)	SWU1	Switch (Unit Address Selection, ones digit)
MF1, MF2	Fan Motor	LI	Connection Terminal (L1-Phase)	SWU2	Switch (Unit Address Selection, tens digit)
2154	Solenoid Valve Coil (4-Way Valve)	NI	Connection Terminal (L2-Phase)	SS/BH	Connector (Connection for Option)
63H	High Pressure Switch	TB1A, TB2A, TB3A, TB1B, TB2B, TB3B	Connection Terminal (Reactor)	CN3D	Connector (Connection for Option)
63HS	High Pressure Sensor	IC500	Converter	CN3S	Connector (Connection for Option)
63LS	Low Pressure Sensor	IC600	Inverter	CN3N	Connector (Connection for Option)
SV1	Solenoid Valve Coil (Bypass Valve)	E1, E3, E4	Connection Terminal (Electrical Parts Box)	CN51	Connector (Connection for Option)
TH2	Thermistor (Hic Pipe)	MULTI.B.	Multi Controller Circuit Board	LED1, LED2	LED (Operation Inspection Display)
TH3	Thermistor (Outdoor Liquid Pipe)	SW1	Switch (Display Selection)	LED3	LED (Power Supply to Main Microcomputer)
TH4	Thermistor (Compressor)	SW2	Switch (Function/Model Selection)	F1, F2	Fuse (T6.3A L250V)
TH6	Thermistor (Suction Pipe)	SW3	Switch (Test Run)	X501~X505	Relay
TH7	Thermistor (Ambient)	SW4	Switch (Model Selection)	M-NET P.B.	M-NET Power Circuit Board
				TB1	Connection Terminal (Electrical Parts Box)

MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

MXZ-SM36, 42, 48NAMHZ2-U1



※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-SM36NAMHZ2	ON OFF 5 6	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6	MXZ-SM42NAMHZ2	ON OFF 5 6	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6	MXZ-SM48NAMHZ2	ON OFF 5 6	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6

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

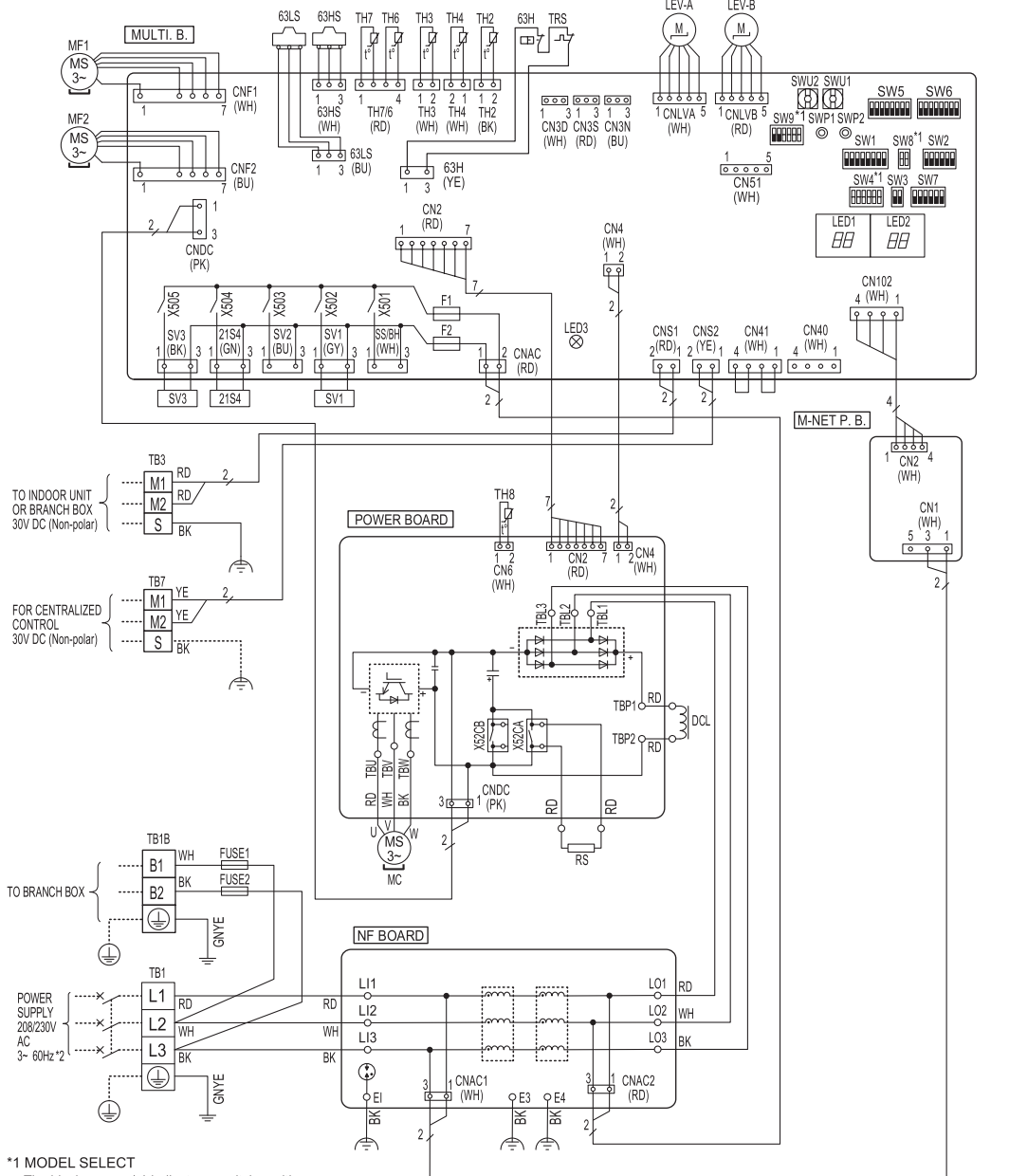
[LEGEND]

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block (Power Supply)	TH7	Thermistor(Ambient)	SW3	Switch (Test Run)
TB1B	Terminal Block (Branch box)	TH8	Thermistor(Heat Sink)	SW4	Switch (Model Selection)
TB3	Terminal Block (Indoor/Outdoor, Branch box/Outdoor Transmission Line)	TRS	Thermal Protector<Compressor>	SW5	Switch (Function Selection)
TB7	Terminal Block (Centralized Control Transmission Line)	LEV-A, LEV-B	Linear Expansion Valve	SW6	Switch (Function Selection)
FUSE1, FUSE2	Fuse (T20A L250V)	DCL1, DCL2, DCL3	Reactor	SW7	Switch (Function Selection)
MF1, MF2	Fan Motor	N.F.	Noise Filter Board	SW8	Switch (Model Selection)
21S4	Solenoid Valve Coil (4-Way Valve)	LI	Connection Terminal (L1-Phase)	SW9	Switch (Function/Model Selection)
63H	High Pressure Switch	NI	Connection Terminal (L2-Phase)	SWU1	Switch (Unit Address Selection, ones digit)
63HS	High Pressure Sensor	TB1, TB2	Connection Terminal (Power Circuit Board)	SWU2	Switch (Unit Address Selection, tens digit)
63LS	Low Pressure Sensor	E1, E3, E4	Connection Terminal (Electrical Parts Box)	SS/BH	Connector (Connection for Option)
SV1	Solenoid Valve Coil (Bypass Valve)	P.B.	Power Circuit Board	CN3D	Connector (Connection for Option)
SV2	Solenoid Valve Coil (Switching Valve)	TB3, TB4	Connection Terminal (Noise Filter Board)	CN35	Connector (Connection for Option)
BH	Base Heater	U/V/W	Connection Terminal (U/V/W-Phase)	CN3N	Connector (Connection for Option)
THP	Thermal Protector (Base Heater)	TB1A, TB2A, TB3A	Connection Terminal (Reactor)	CN51	Connector (Connection for Option)
TH2	Thermistor (Hic Pipe)	TB1B, TB2B, TB3B	Connection Terminal (Power Circuit Board)	LED1, LED2	LED (Operation Inspection Display)
TH3	Thermistor (Outdoor Liquid Pipe)	IC500	Converter	LED3	LED (Power Supply to Main Microcomputer)
TH4	Thermistor (Compressor)	IC600	Inverter	F1, F2	Fuse (T6.3A L250V)
TH6	Thermistor (Suction Pipe)	MULTI.B.	Multi Controller Circuit Board	X501~X505	Relay
		SW1	Switch (Display Selection)	M-NET P.B.	M-NET Power Circuit Board
		SW2	Switch (Function/Model Selection)	TB1	Connection Terminal (Electrical Parts Box)

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM72, 96, 120TAM-U1



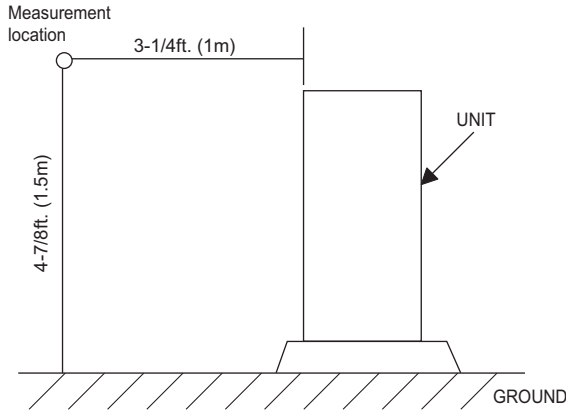
*1 MODEL SELECT
The black square (■) indicates a switch position.
*2 Use copper supply wires.
Utiliser des fils d'alimentation en cuivre.

MODEL	SW4	SW8	SW9
MXZ-SM 72TAM	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6
MXZ-SM 96TAM	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6
MXZ-SM 120TAM	ON OFF 1 2 3 4 5 6	ON OFF 1 2	ON OFF 3 4 5 6

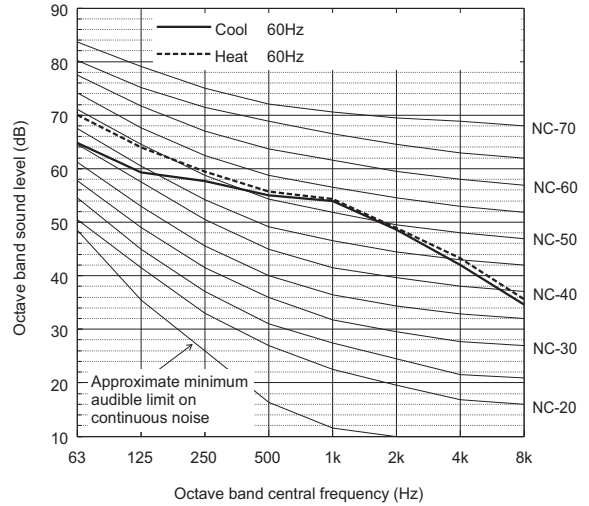
[LEGEND]

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block <Power Supply>	TRS	Compressor Protector	SW6	Switch <Function Selection>
TB1B	Terminal Block <Branch Box>	RS	Rush Current Protect Resistor	SW7	Switch <Function Selection>
TB3	Terminal Block <Indoor/Outdoor, Branch Box/Outdoor>	LEV-A, LEV-B	Linear Expansion Valve	SW8	Switch <Model Selection>
TB7	Terminal Block <Centralized Control Transmission Line>	DCL	Reactor	SW9	Switch <Function/Model Selection>
FUSE1, FUSE2	Fuse <T20AL250V>	POWER BOARD	Power Circuit Board	SWP1	Switch <Display Selection>
MC	Motor for Compressor	TBL1, TBL2, TBL3	Connection Terminal <L1/L2/L3-Power Supply>	SWP2	Switch <Display Selection>
MF1, MF2	Fan Motor	TBP1, TBP2	Connection Terminal <Reactor>	SWU1	Switch <Unit Address Selection, ones digit>
63H	High Pressure Switch	TBU, TBV, TBW	Connection Terminal <U/V/W-Phase>	SWU2	Switch <Unit Address Selection, tens digit>
63HS	High Pressure Sensor	X52CA, X52CB	Relay with Connection Terminal	SS/BS	Connector <Connection for Option>
63LS	Low Pressure Sensor	NF BOARD	Noise Filter Circuit Board	CN3D	Connector <Connection for Option>
SV1	Solenoid Valve Coil <Bypass Valve>	L11, L12, L13	Connection Terminal <L1/L2/L3-Power Supply>	CN3S	Connector <Connection for Option>
SV3	Solenoid Valve Coil <Oil return Valve>	LO1, LO2, LO3	Connection Terminal <L1/L2/L3-Power Supply>	CN3N	Connector <Connection for Option>
21S4	Solenoid Valve Coil <4-Way Valve>	E1, E3, E4	Connection Terminal <Electrical Parts Box>	CN51	Connector <Connection for Option>
TH2	Thermistor <HIC Pipe>	MULTI.B.	Multi Controller Circuit Board	LED1, LED2	LED <Operation Inspection Display>
TH3	Thermistor <Outdoor Liquid Pipe>	SW1	Switch <Display Selection>	LED3	LED <Power Supply to Main Microcomputer>
TH4	Thermistor <Compressor>	SW2	Switch <Function/Model Selection>	F1, F2	Fuse <T6.3AL250V>
TH6	Thermistor <Suction Pipe>	SW3	Switch <Test Run>	M-NET P.B.	M-NET Power Circuit Board
TH7	Thermistor <Ambient>	SW4	Switch <Model Selection>		
TH8	Thermistor <Heat Sink>	SW5	Switch <Function Selection>		

Measurement condition
MXZ-SM36/48/60NAM2-U1
MXZ-SM36/42/48NAMHZ2-U1

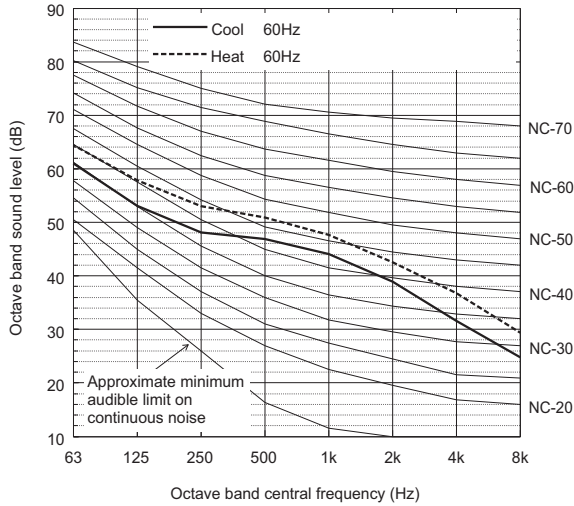


Sound level of MXZ-SM60NAM2-U1



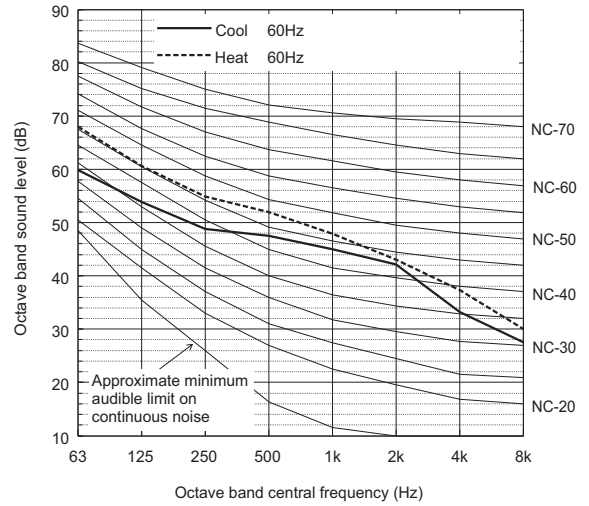
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	64.9	59.4	57.7	55.1	54.0	48.7	42.1	34.7	58.0
Standard Heating	60Hz	70.1	64.0	59.5	55.8	54.4	49.0	43.3	35.7	59.0

Sound level of MXZ-SM36NAM2-U1, MXZ-SM36NAMHZ2-U1



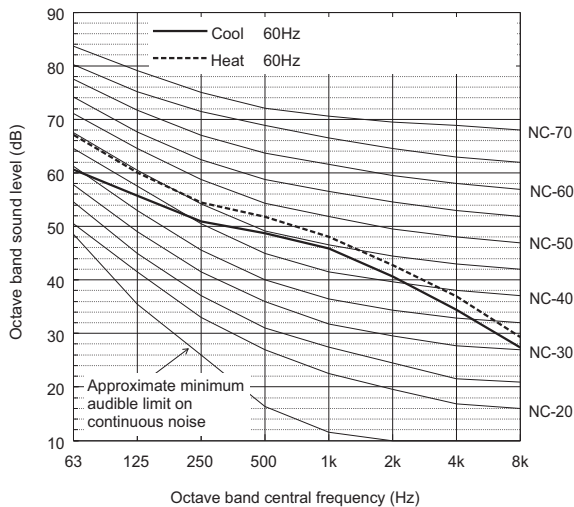
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	61.1	53.1	48.2	46.9	44.1	39.0	31.6	24.9	49.0
Standard Heating	60Hz	64.5	57.9	53.1	51.0	47.7	42.6	36.8	29.4	53.0

Sound level of MXZ-SM42NAMHZ2-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

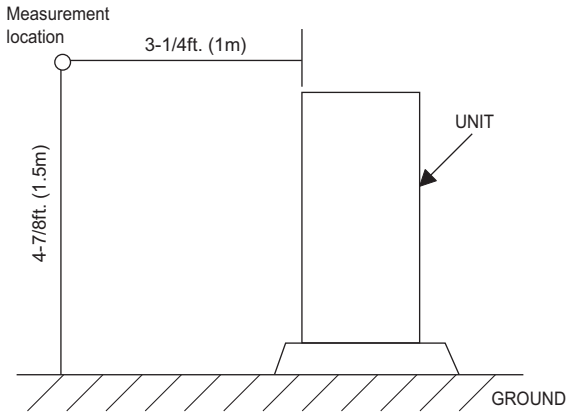
Sound level of MXZ-SM48NAM2-U1, MXZ-SM48NAMHZ2-U1



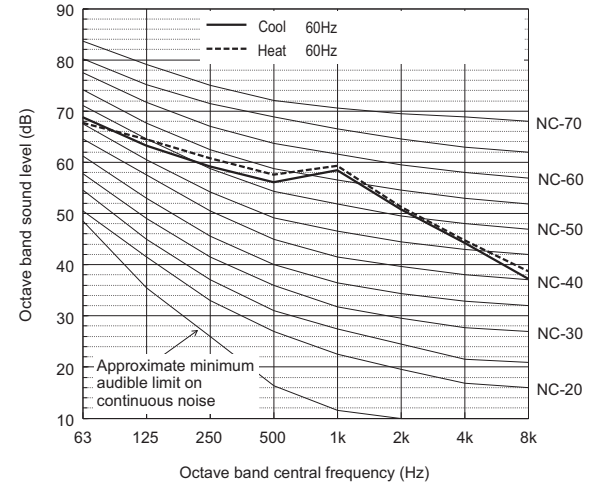
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	60.7	55.9	51.0	48.8	46.0	40.7	34.5	27.5	51.0
Standard Heating	60Hz	67.3	60.2	54.6	51.9	48.2	42.9	37.1	29.4	54.0

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

Measurement condition
MXZ-SM72, 96, 120TAM-U1

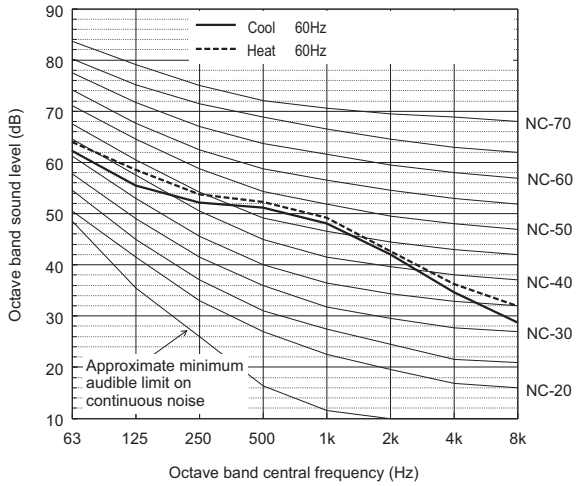


Sound level of MXZ-SM120TAM-U1



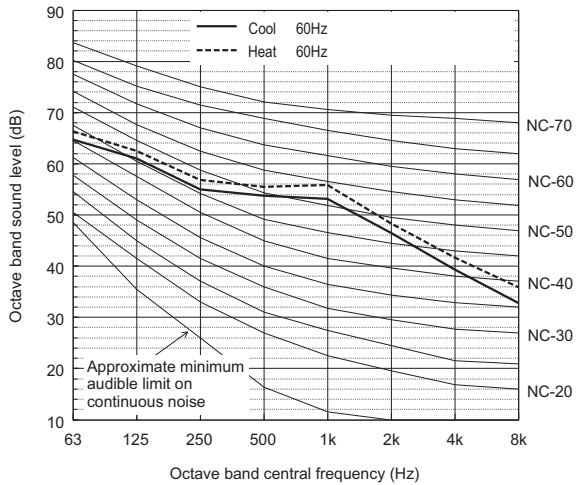
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	68.7	63.3	59.2	56.1	58.4	50.9	44.3	37.3	61.0
Standard Heating	60Hz	67.6	64.5	60.8	57.6	59.3	51.3	44.8	38.7	62.0

Sound level of MXZ-SM72TAM-U1



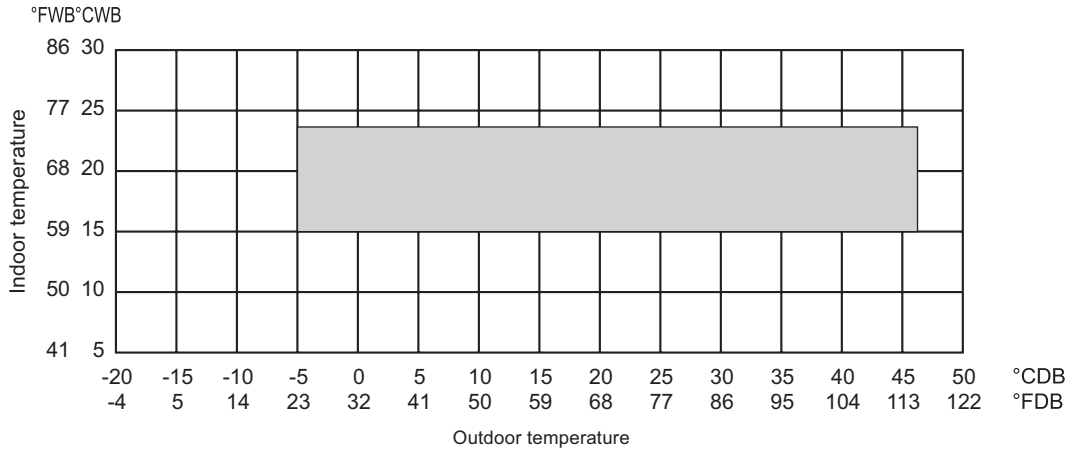
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	62.3	55.5	52.1	51.2	48.1	42.0	34.7	28.7	53.0
Standard Heating	60Hz	64.0	58.6	53.7	52.3	49.2	42.7	36.3	31.9	54.0

Sound level of MXZ-SM96TAM-U1



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	64.7	61.1	55.0	53.7	53.1	46.5	39.4	32.8	58.0
Standard Heating	60Hz	66.3	62.6	56.8	55.5	55.9	48.3	41.6	35.8	59.0

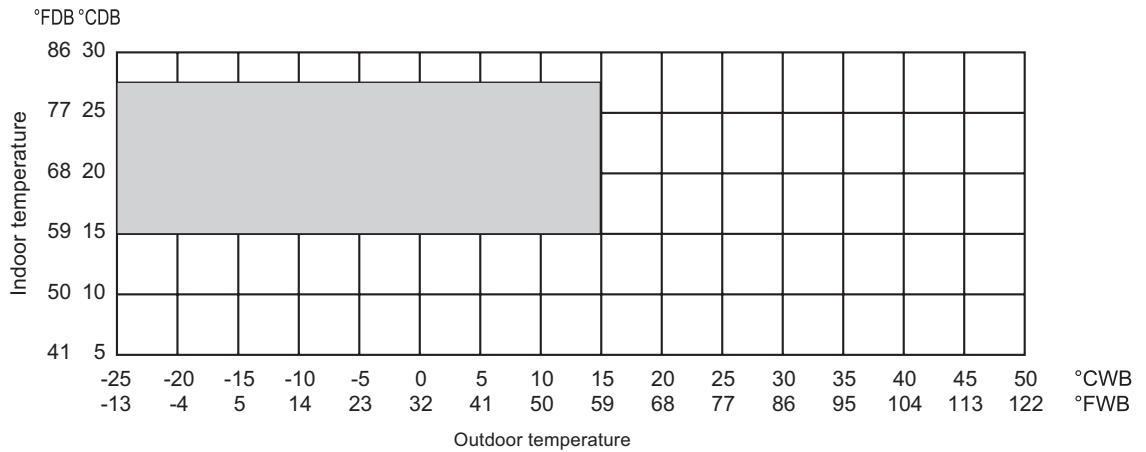
• Cooling



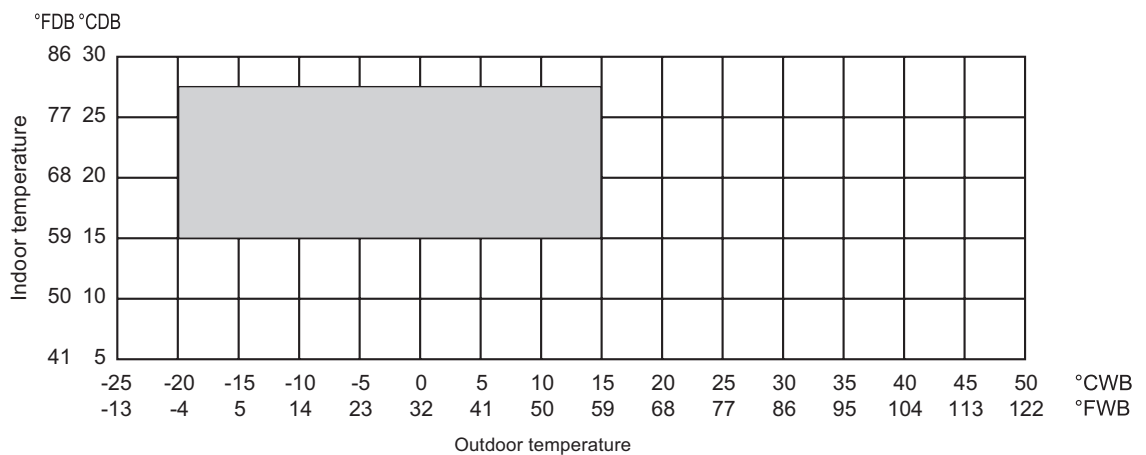
*50 to 115 °F [10 to 46 °C] D.B.: When connecting PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.
 *5 to 115 °F (-15 to 46 °C) D.B.: When using an optional front wind baffle.
 However, this condition does not apply to the indoor units listed in the above note.

• Heating

MXZ-SM_NAM(HZ)2



MXZ-SM_TAM



MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

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-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

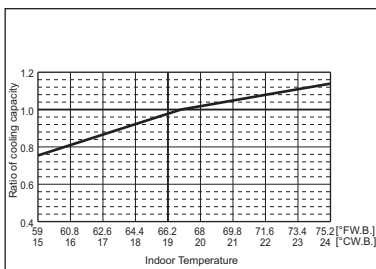
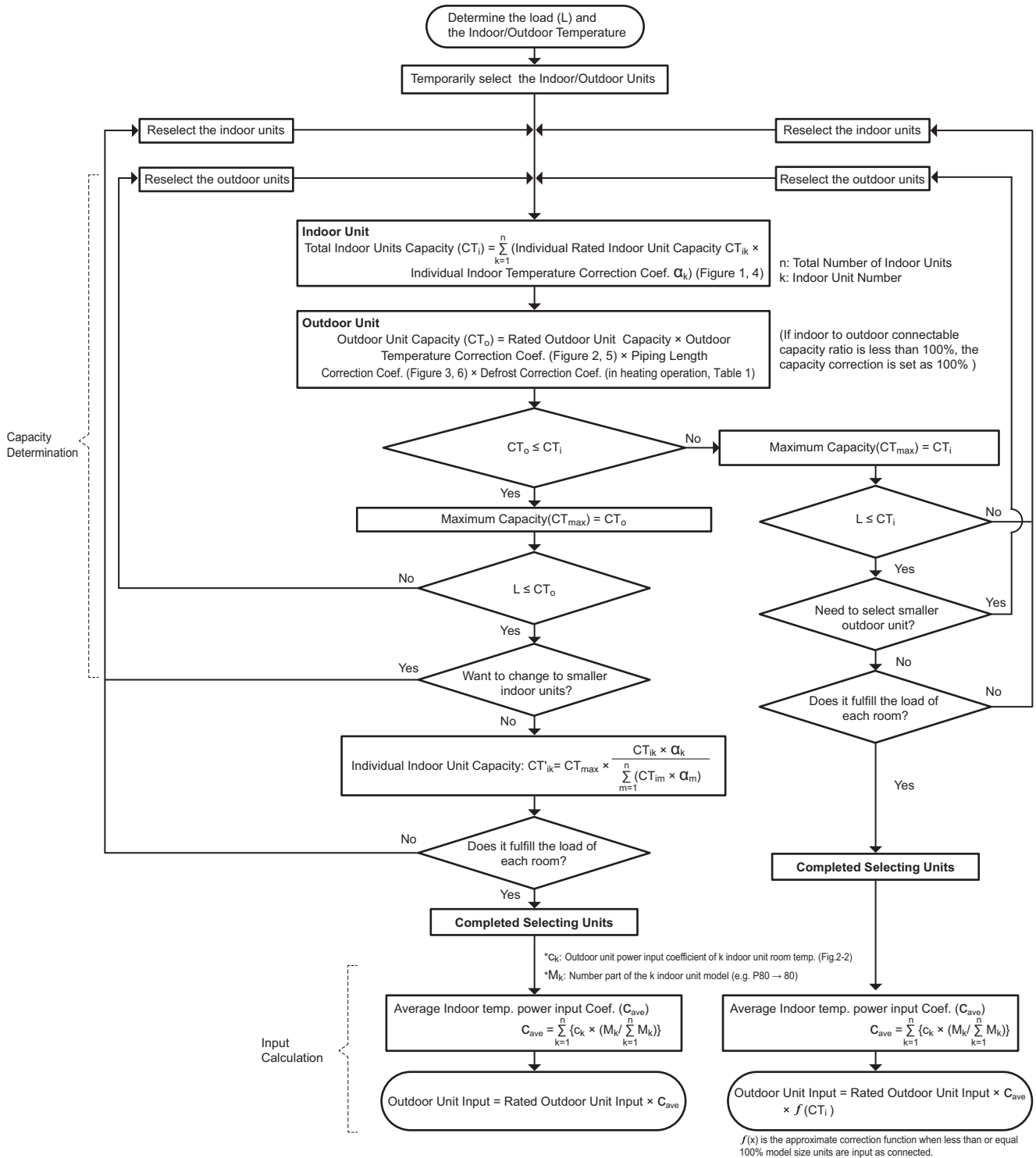


Fig.1 Indoor unit temperature correction

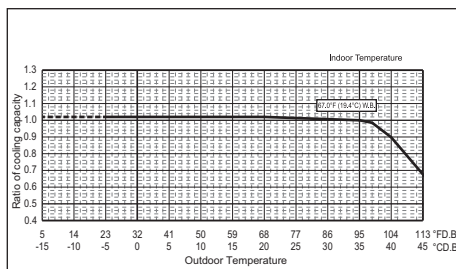


Fig.2-1 Outdoor unit temperature correction (capacity)

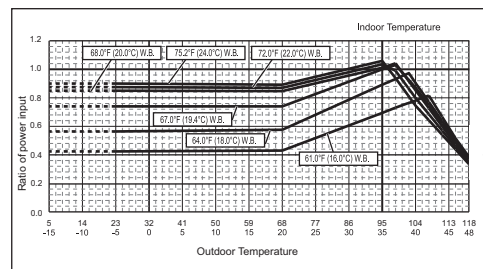


Fig.2-2 Outdoor unit temperature correction (power input)

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.

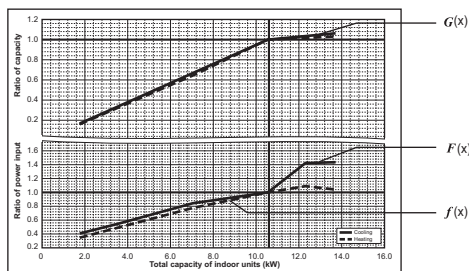
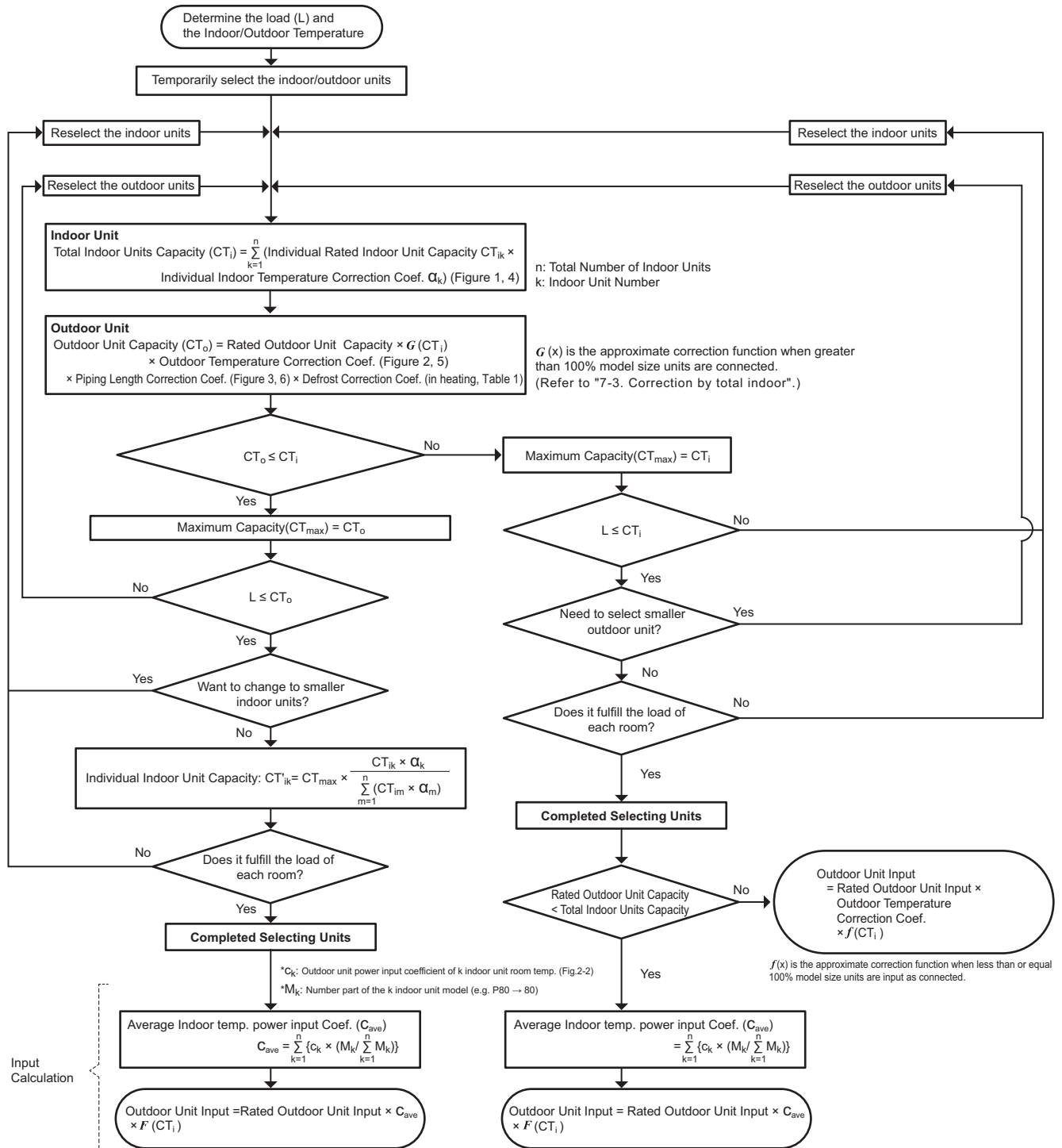


Fig.3 Correction by total indoor

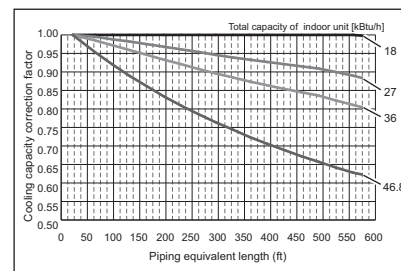


Fig.4 Correction of refrigerant piping length

MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

<Cooling>

Design Condition	
Outdoor Design Dry Bulb Temperature	98.6°F (37.0°C)
Total Cooling Load	30.3 kBtu/h
Room1	
Indoor Design Dry Bulb Temperature	80.6°F (27.0°C)
Indoor Design Wet Bulb Temperature	68.0°F (20.0°C)
Cooling Load	13.6 kBtu/h
Room2	
Indoor Design Dry Bulb Temperature	75.2°F (24.0°C)
Indoor Design Wet Bulb Temperature	66.2°F (19.0°C)
Cooling Load	16.7 kBtu/h
<Other>	
Indoor/Outdoor Equivalent Piping Length	250 ft

Capacity of indoor unit

<P•FY series>

(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 72
Model Capacity	4.0	5.0	6.0	8.0	12.0	15.0	18.0	24.0	27.0	30.0	36.0	48.0	54.0	72.0

<M,S,P series>

Model name	Capacity class							
	06	09	12	15	18	24	30	36
SVZ	-	-	12.0	-	18.0	24.0	30.0	36.0
SLZ-KF	-	8.4	11.1	15.0	-	-	-	-
SEZ-KD	-	8.1	11.5	14.1	17.2	-	-	-
MFZ-KJ	-	9.0	12.0	15.0	17.0	-	-	-
MLZ-KP	-	9.0	12.0	-	17.2	-	-	-
MLZ-KY	6.0	-	-	-	-	-	-	-
MSZ-FH	6.0	9.0	12.0	15.0	17.2	-	-	-
MSZ-FS	6.0	9.0	12.0	15.0	17.2	-	-	-
MSZ-GL	6.0	9.0	12.0	14.0	17.2	22.5	-	-
MSZ-GS	6.0	9.0	12.0	14.0	18.0	22.4	-	-
MSZ-EF	-	9.0	12.0	15.0	18.0	-	-	-
PEAD	-	9.0	12.0	15.0	18.0	24.0	30.0	36.0
PLA	-	-	12.0	-	18.0	24.0	30.0	36.0
PAA-A	-	-	-	-	18.0	24.0	30.0	36.0

1. Cooling Calculation

(1) Temporary Selection of Indoor Units

Room1	PEFY-P15	15.0 kBtu/h (Rated)
Room2	PEFY-P18	18.0 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-SM36NAM2 **36.0 kBtu/h**

(4) Total Indoor Units Capacity Correction Calculation

Room1	Indoor Design Wet Bulb Temperature Correction (68.0°F)	1.02 (Refer to Figure 1)
Room2	Indoor Design Wet Bulb Temperature Correction (66.2°F)	0.95 (Refer to Figure 1)

Total Indoor Units Capacity (CTi)

$$CTi = \Sigma (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction})$$

$$= 15.0 \times 1.02 + 18.0 \times 0.95$$

$$= 32.4 \text{ kBtu/h}$$

(5) Outdoor Unit Correction Calculation

Outdoor Design Dry Bulb Temperature Correction (98.6°F)	0.98 (Refer to Figure 2)
Piping Length Correction (250 ft)	0.93 (Refer to Figure 3)

Total Outdoor Unit Capacity (CTo)

$$CTo = \text{Outdoor Rating} \times G(CTi)^* \times \text{Outdoor Design Temperature Correction}$$

$$\times \text{Piping Length Correction}$$

$$= 36.0 \times 0.98 \times 0.93$$

$$= 32.8 \text{ kBtu/h}$$

*1 G(CTi) is used only when greater than 100% indoor model size are connected in total, refer to "7-3. Correction by total indoor".

(6) Determination of Maximum System Capacity

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

CTi = 32.4 < CTo = 32.8, thus, select CTi.

CTx = CTi = 32.4 kBtu/h

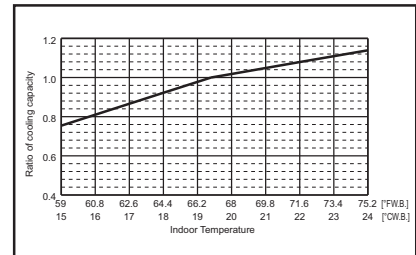


Figure 1 Indoor unit temperature correction
To be used to correct indoor unit only

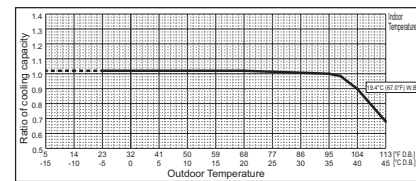


Figure 2 Outdoor unit temperature correction
To be used to correct outdoor unit only

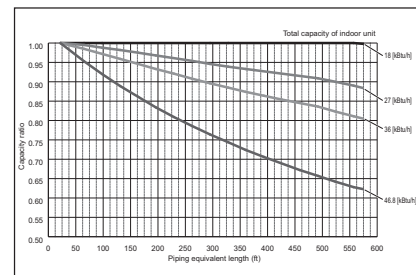


Figure 3 Correction of refrigerant piping length

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

(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	34.0 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	17.7 kBtu/h
<Other>	
Indoor/Outdoor Equivalent Piping Length	328 ft

Capacity of indoor unit

(kBtu/h)

<P•FY series>

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

<M,S,P series>

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	-	-	-
MLZ-KY	6.0	-	-	-	-	-	-	-
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-GS	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
PAA-A	-	-	-	-	19.0	26.0	32.0	38.0

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-SM36NAM2 **41.0 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)

$$CTi = \Sigma (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction})$$

$$= 17.0 \times 1.00 + 20.0 \times 0.92$$

$$= 35.4 \text{ kBtu/h}$$

(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)

$$CTo = \text{Outdoor Unit Rating} \times G(CTi)^{11} \times \text{Outdoor Design Temperature Correction}$$

$$\times \text{Piping Length Correction} \times \text{Defrost Correction}$$

$$= 41.0 \times 1.0 \times 0.94 \times 0.89$$

$$= 34.3 \text{ kBtu/h}$$

*1 G(CTi) is used only when greater than 100% indoor model size are connected in total, refer to "7-3. Correction by total indoor".

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	1.00	0.98	0.89	0.88	0.89	0.90	0.95	0.95	0.95	0.95	0.95	0.95

(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 = 34.3, thus, select CTo.

CTx = CTo = 34.3 kBtu/h

(7) Comparison with Essential Load

Against the essential load 34.0 kBtu/h, the maximum system capacity is 34.3 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

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

$$= 34.3 \times (17.0 \times 1.00) / (17.0 \times 1.00 + 20.0 \times 0.92)$$

$$= 16.5 \text{ kBtu/h} \quad \text{OK: fulfills the load 16.3 kBtu/h}$$

Room2

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

$$= 34.3 \times (20.0 \times 0.92) / (17.0 \times 1.00 + 20.0 \times 0.92)$$

$$= 17.8 \text{ kBtu/h} \quad \text{OK: fulfills the load 17.7 kBtu/h}$$

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

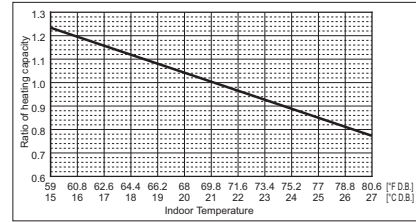


Figure 4 Indoor unit temperature correction
To be used to correct indoor unit only

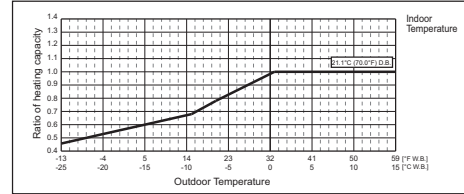


Figure 5 Outdoor unit temperature correction
To be used to correct outdoor unit only

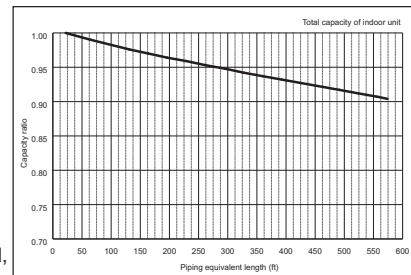


Figure 6 Correction of refrigerant piping length

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

3. Power input of outdoor unit

Outdoor unit: MXZ-SM36NAM2
 Indoor unit 1: PEFY-P15
 Indoor unit 2: PEFY-P18

<Cooling>

(1) Rated power input of outdoor unit **2.40 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".)

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 = $1.04 \times 15 / (15 + 18) + 0.85 \times 18 / (15 + 18)$
 = 0.94

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

Total Indoor units capacity
 15 + 18 = 33, thus, f (CTi) = 0.9 (refer to "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
 P_{lo} = Outdoor unit Cooling Rated Power Input × Correction Coefficient of Indoor temperature × f (CTi)
 = $2.40 \times 0.94 \times 0.9$
 = 2.03 kW

<Heating>

(1) Rated power input of outdoor unit **3.01 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 "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
 P_{lo} = Outdoor unit Heating Rated Power Input × Correction Coefficient of Indoor temperature × f (CTi)
 = $3.01 \times 1.12 \times 0.9$
 = 3.03 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.

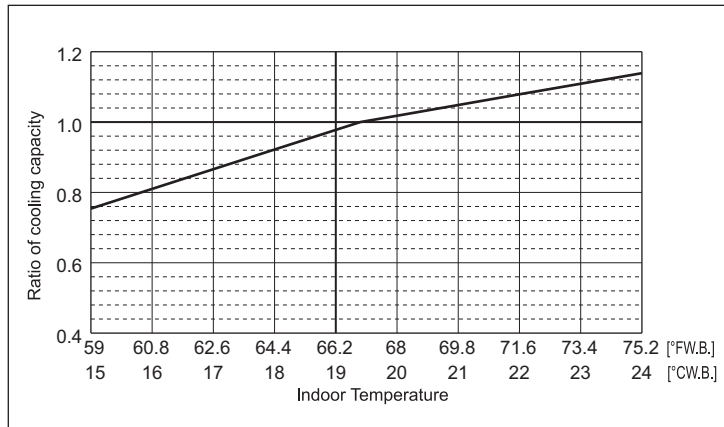
MXZ-		SM36NAM2-U1	SM48NAM2-U1
Nominal Cooling capacity	Btu/h	36,000	48,000
	kW	10.6	14.1
	Input *1 kW	2.400/3.000	3.665/4.575

MXZ-		SM60NAM2-U1
Nominal Cooling capacity	Btu/h	60,000
	kW	17.6
	Input *1 kW	4.515/5.660

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

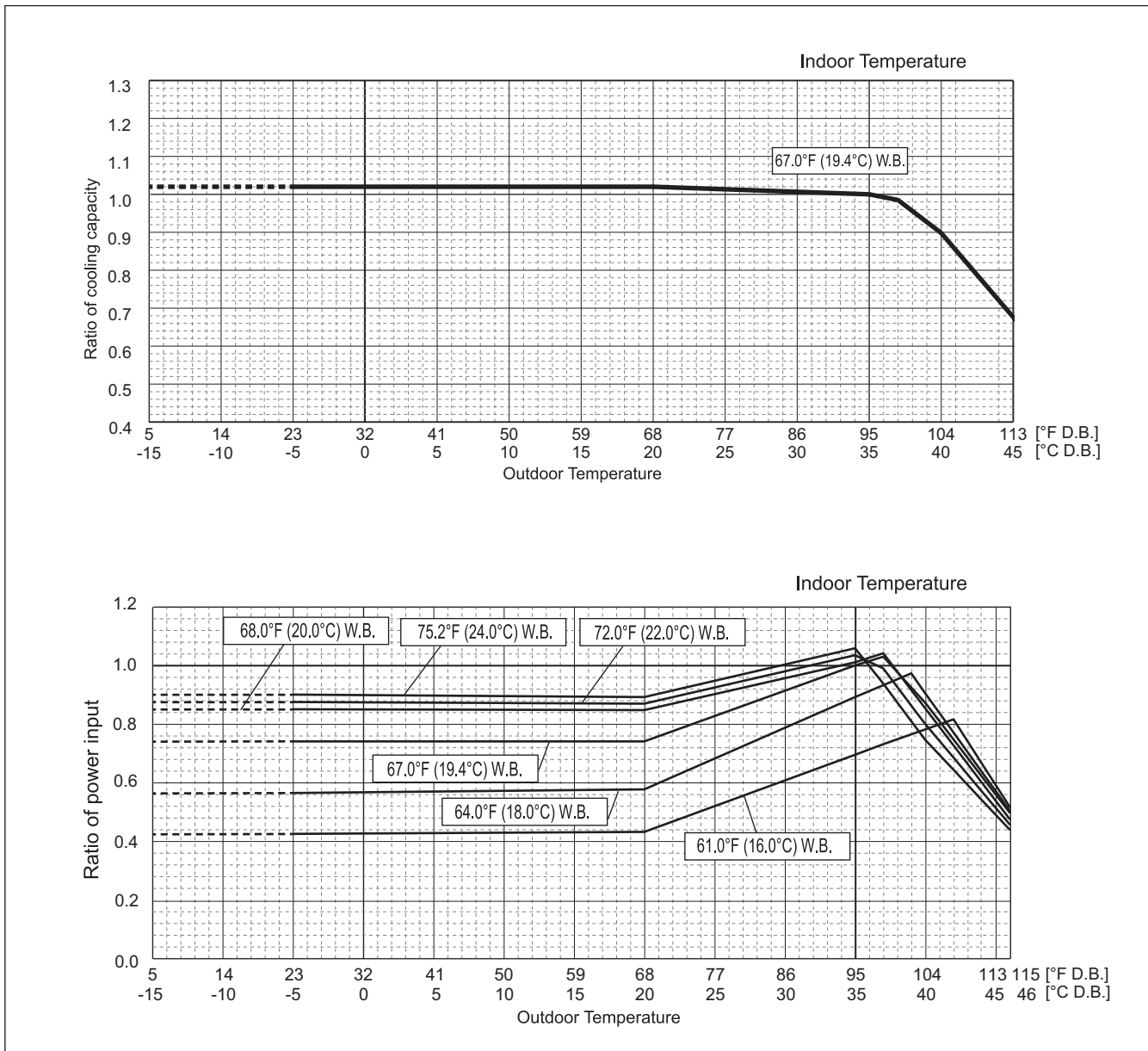


Outdoor unit temperature correction

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.



Values in the cooling temperature correction diagram in the range below -5°C (23°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

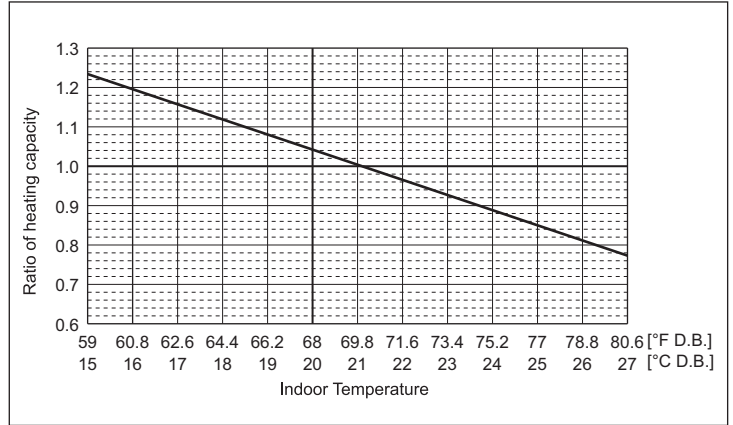
MXZ-		SM36NAM2-U1	SM48NAM2-U1
Nominal Heating capacity	Btu/h	41,000	50,000
	kW	12.3	15.8
	Input *1 kW	3.005/3.435	3.665/4.580

MXZ-		SM60NAM2-U1
Nominal Heating capacity	Btu/h	66,000
	kW	19.3
	Input *1 kW	4.720/5.690

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

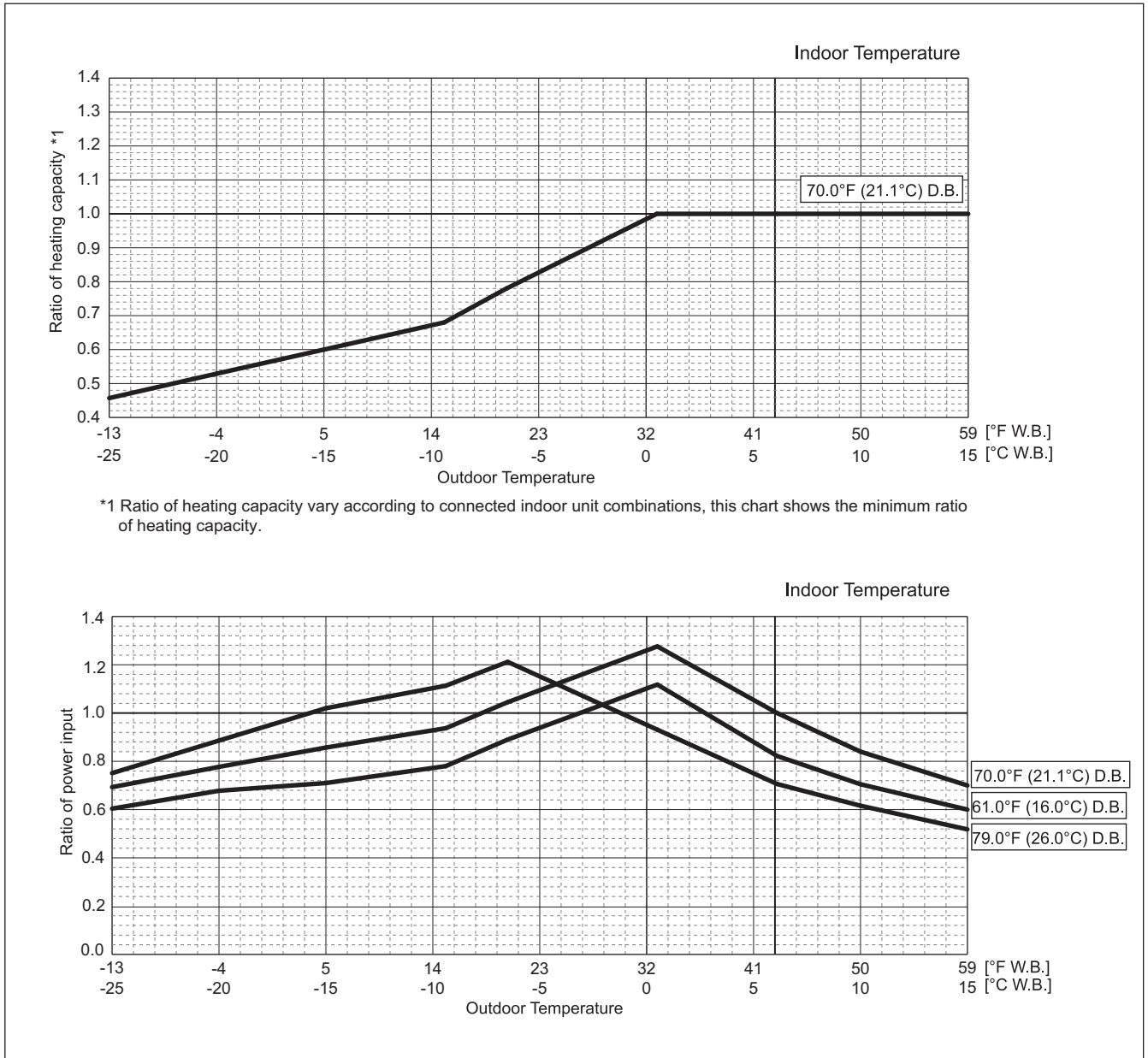


Outdoor unit temperature correction

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.



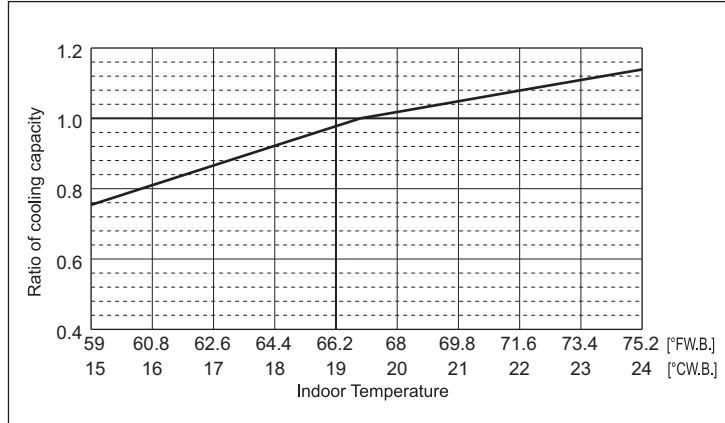
MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

MXZ-		SM36NAMHZ2-U1	SM42NAMHZ2-U1
Nominal Cooling capacity	Btu/h	36,000	42,000
	kW	10.6	12.3
	Input *1 kW	2.400/3.000	3.135/3.965

MXZ-		SM48NAMHZ2-U1
Nominal Cooling capacity	Btu/h	48,000
	kW	14.1
	Input *1 kW	3.665/4.575

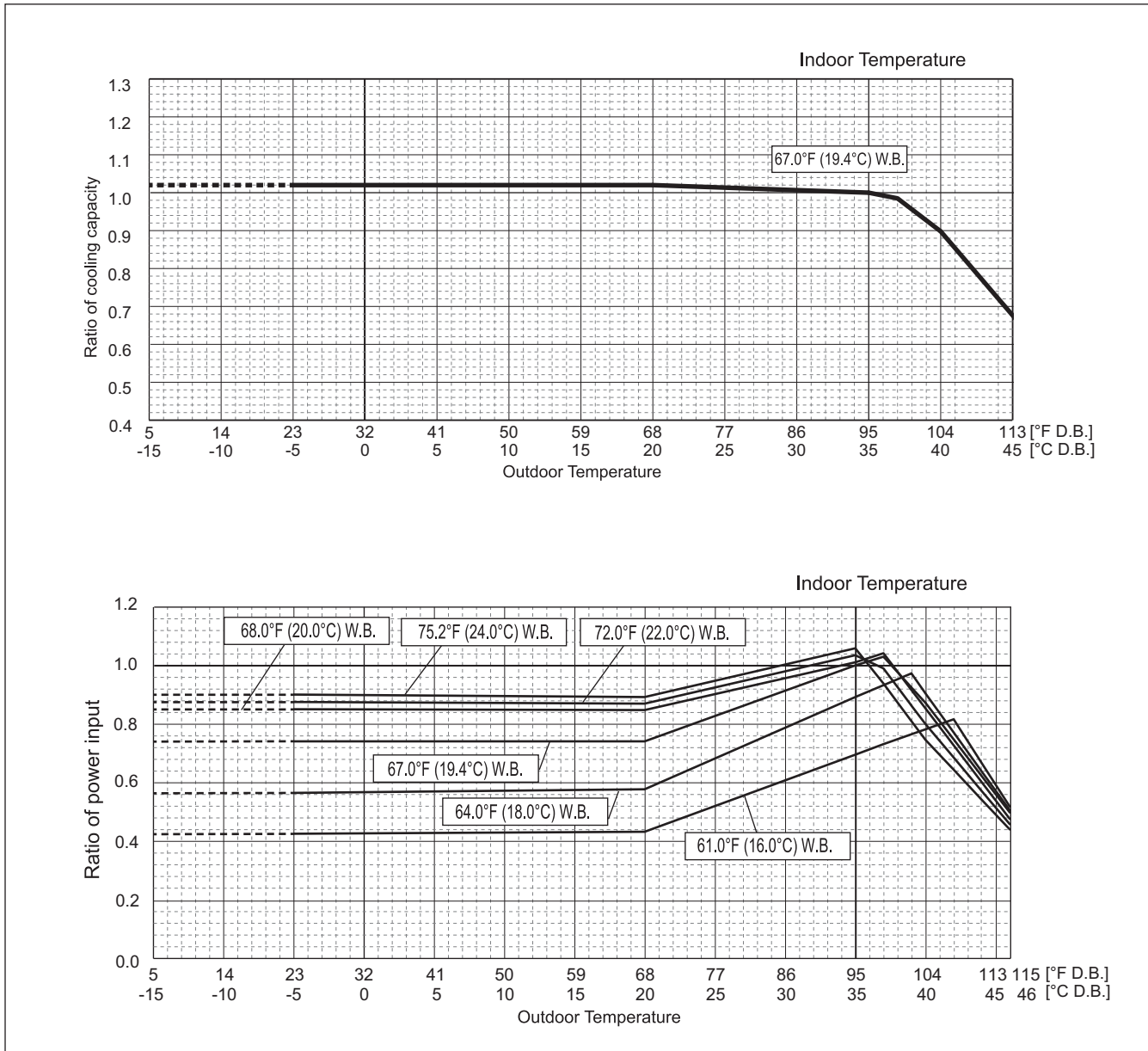
*1 non-ducted/ducted

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.



Values in the cooling temperature correction diagram in the range below -5°C (23°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

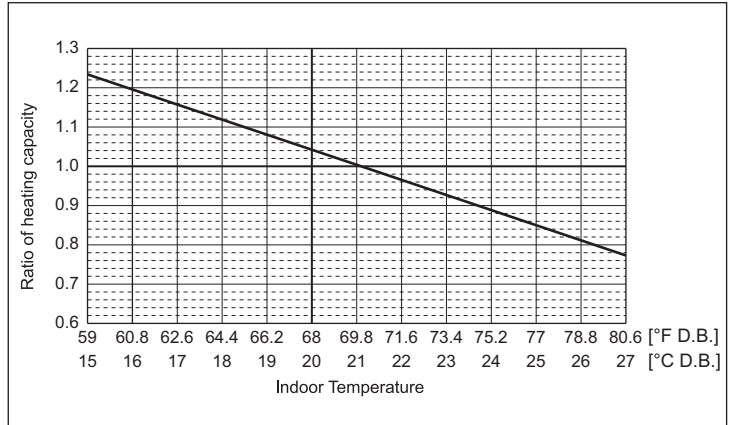
MXZ-		SM36NAMHZ2-U1	SM42NAMHZ2-U1
Nominal Heating capacity	Btu/h	42,000	48,000
	kW	12.3	14.1
	Input *1 kW	3.080/3.520	3.435/4.265

MXZ-		SM48NAMHZ2-U1
Nominal Heating capacity	Btu/h	54,000
	kW	15.8
	Input *1 kW	3.960/4.950

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

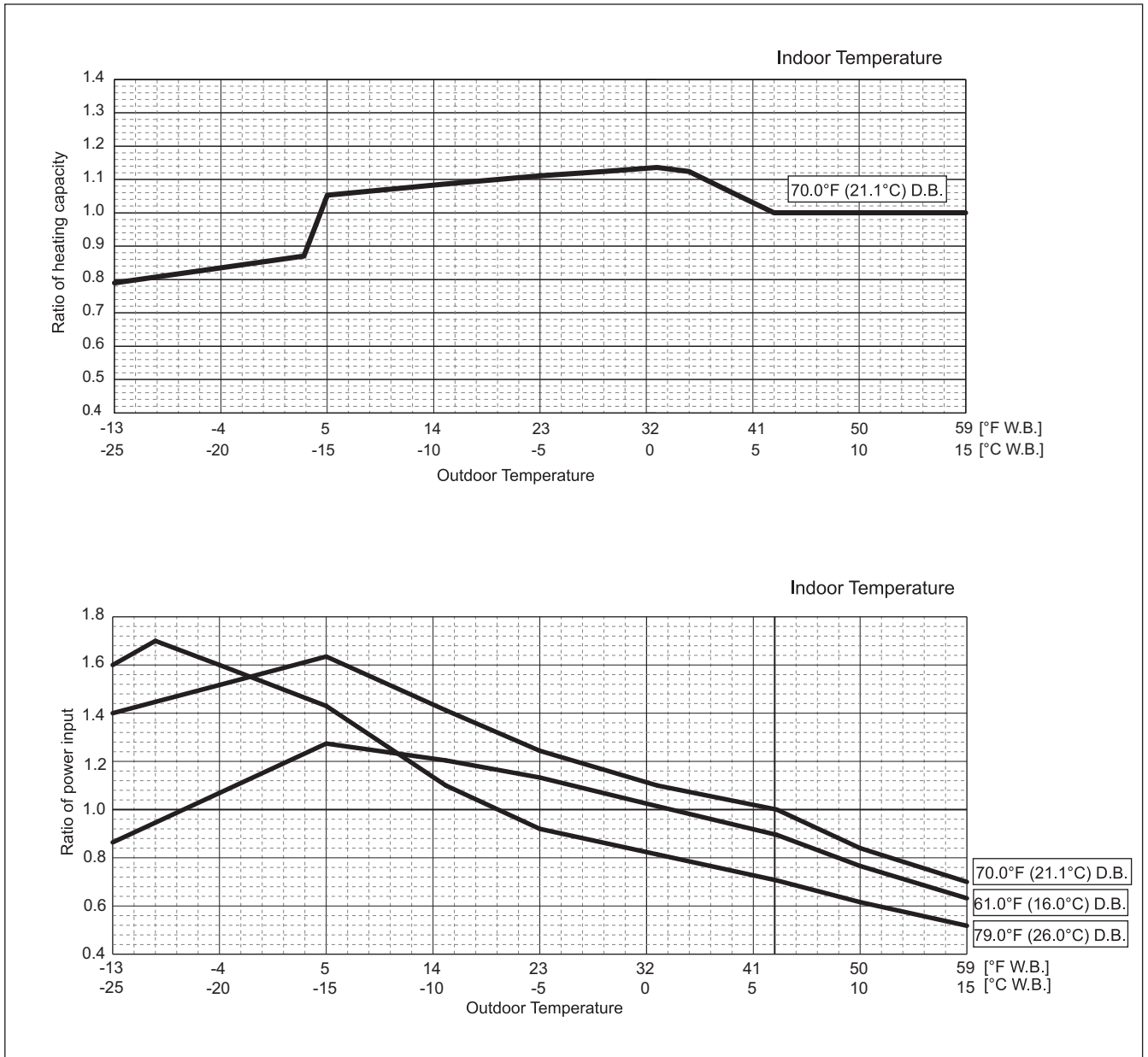


Outdoor unit temperature correction

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.



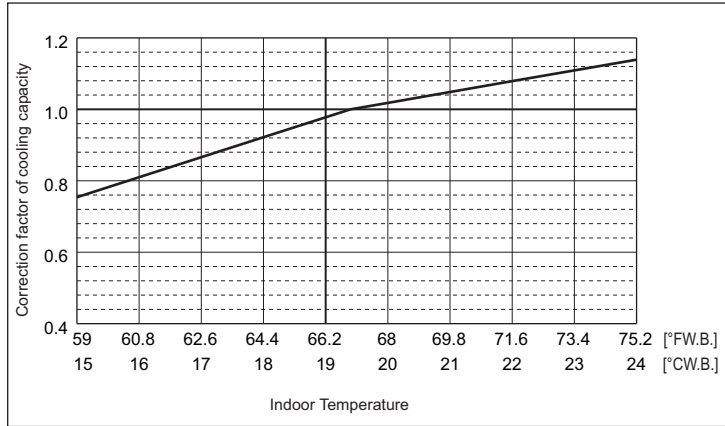
MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-		SM72TAM-U1	SM96TAM-U1
Nominal Cooling capacity	Btu/h	72,000	96,000
	kW	21.1	28.1
	Input *1 kW	2.88/5.07	6.93/7.31

MXZ-		SM120TAM-U1
Nominal Cooling capacity	Btu/h	120,000
	kW	35.2
	Input *1 kW	9.35/9.53

*1 non-ducted/ducted

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

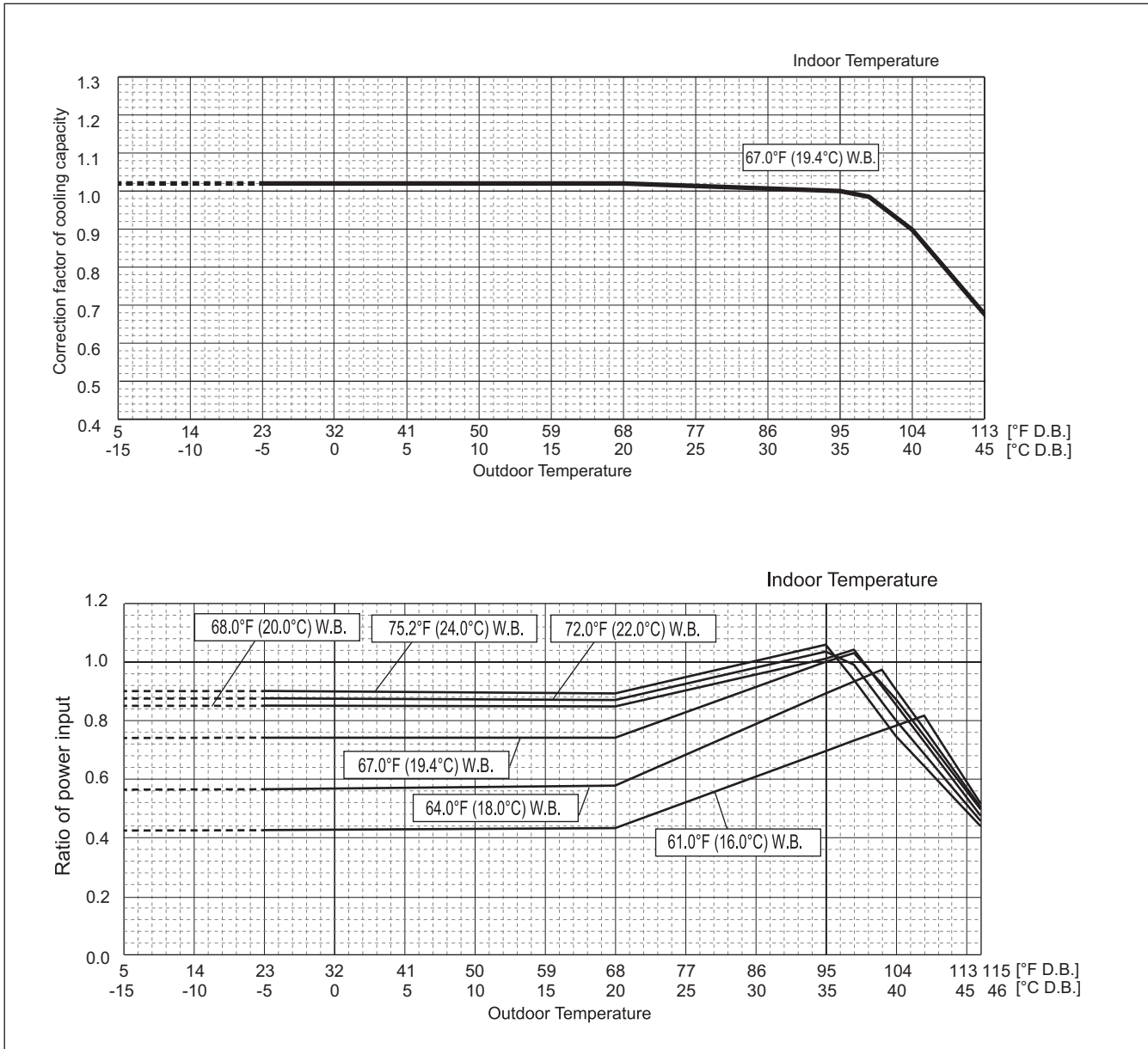


Outdoor unit temperature correction

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.



Values in the cooling temperature correction diagram in the range below -5°C (23°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

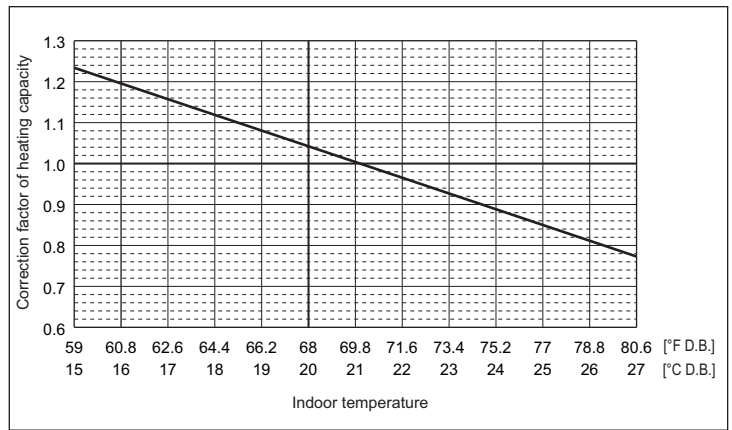
MXZ-		SM72TAM-U1	SM96TAM-U1
Nominal Heating capacity	Btu/h	80,000	108,000
	kW	23.4	31.7
	Input *1	kW	4.88/5.07

MXZ-		SM120TAM-U1
Nominal Heating capacity	Btu/h	135,000
	kW	39.6
	Input *1	kW

*1 non-ducted/ducted

Indoor unit temperature correction

To be used to correct indoor unit capacity only

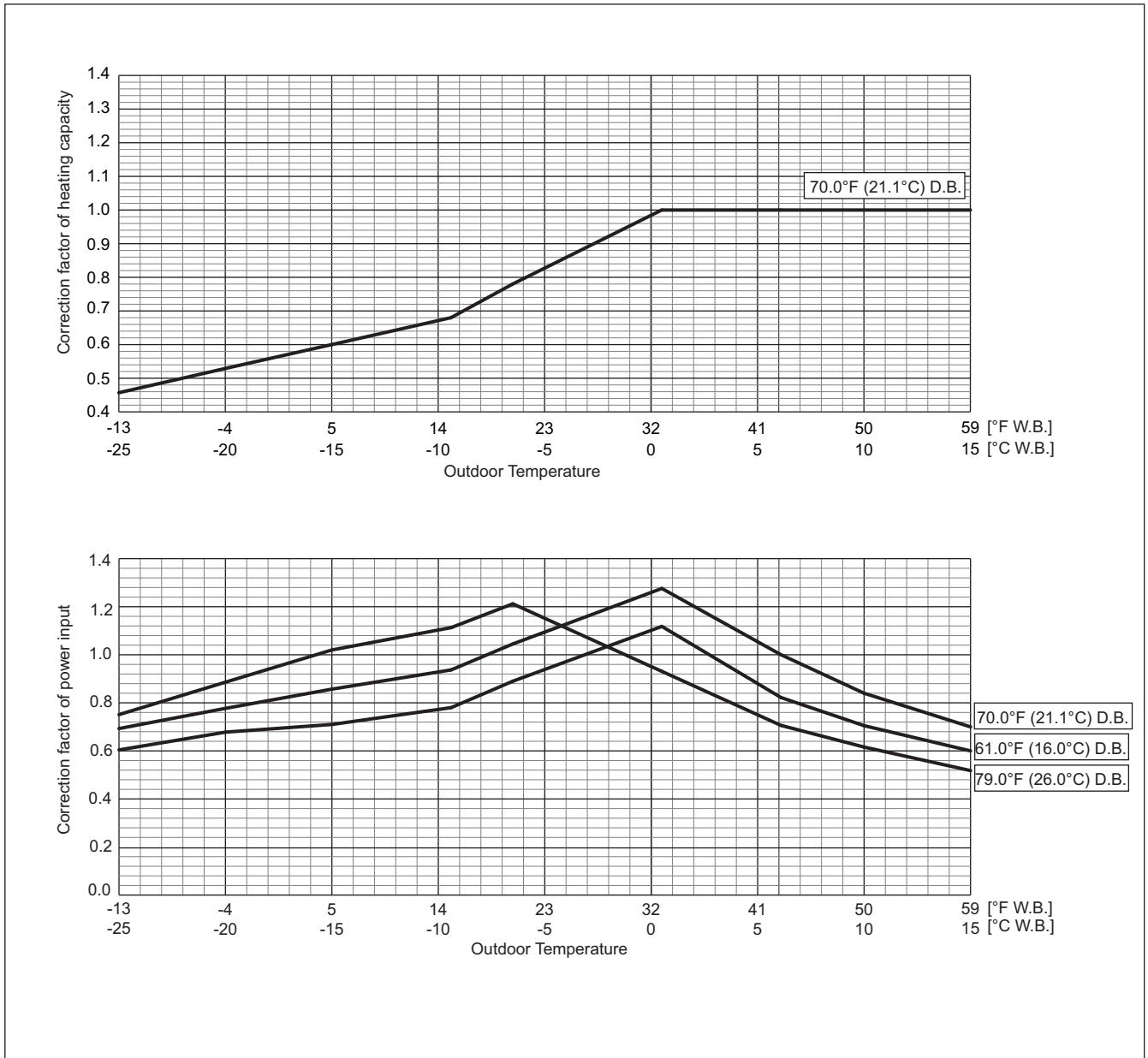


Outdoor unit temperature correction

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.



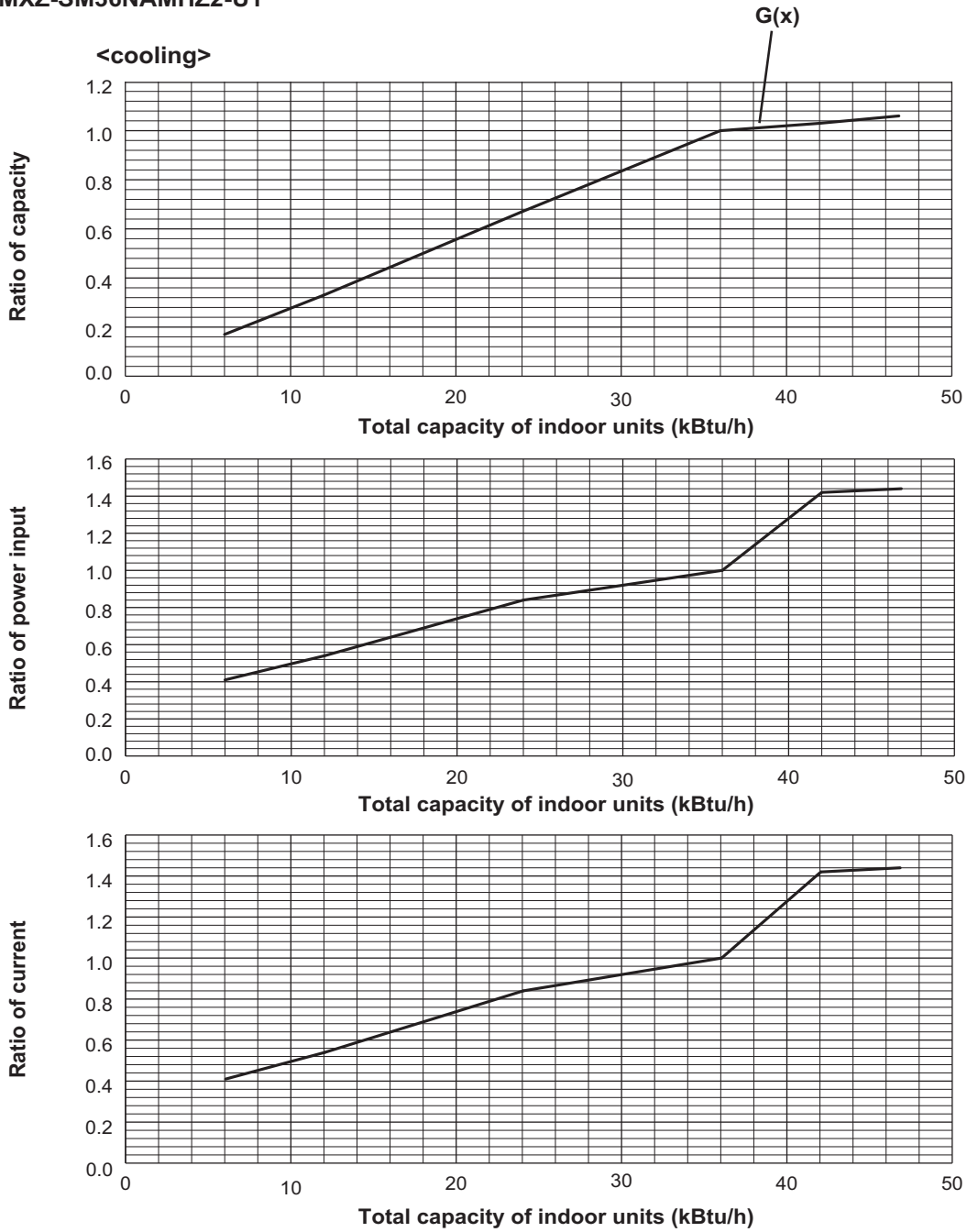
MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

7-3. Correction by total indoor

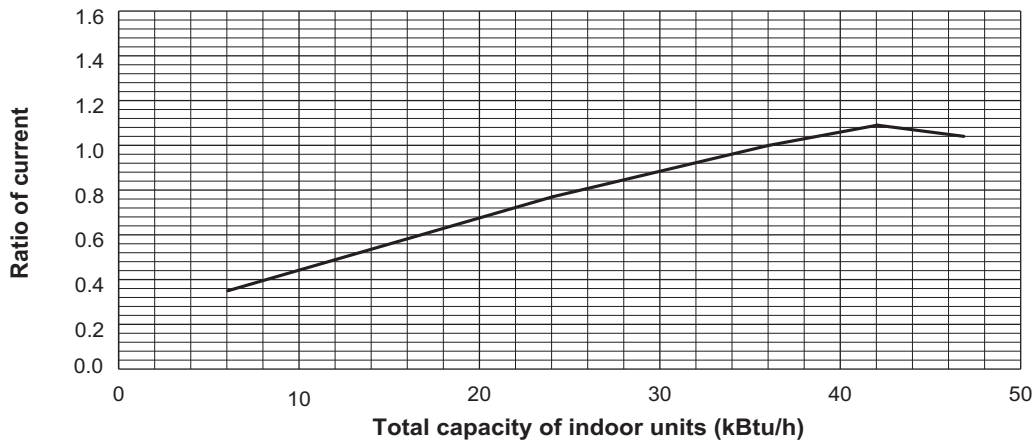
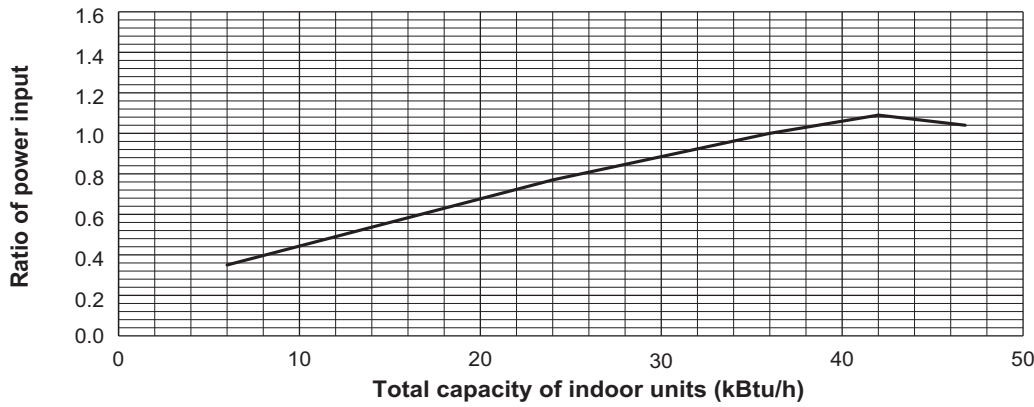
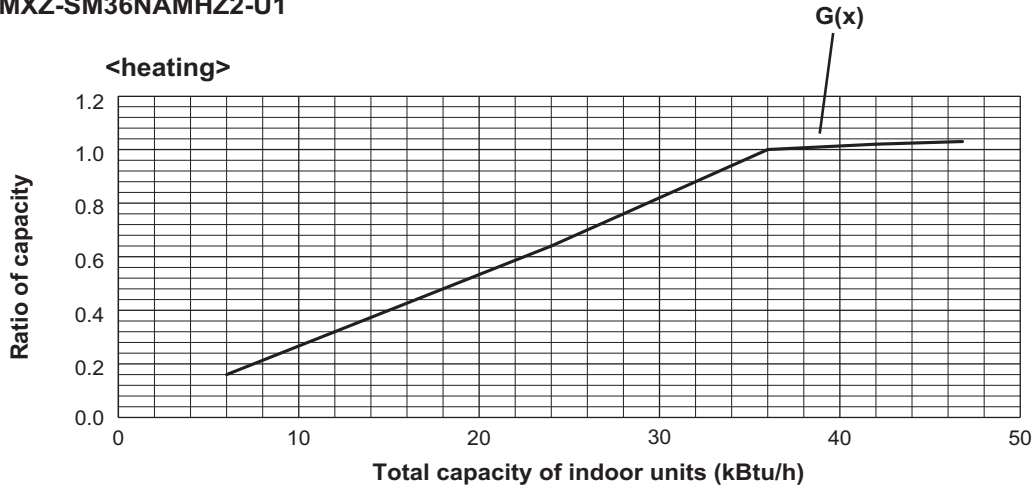
CITY MULTI indoor unit systems have different capacities and inputs when many combinations of indoor units with different total capacities are connected. Using following tables, the maximum capacity can be found to ensure the system is installed with enough capacity for a particular application.

MXZ-SM36NAM2-U1
MXZ-SM36NAMHZ2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



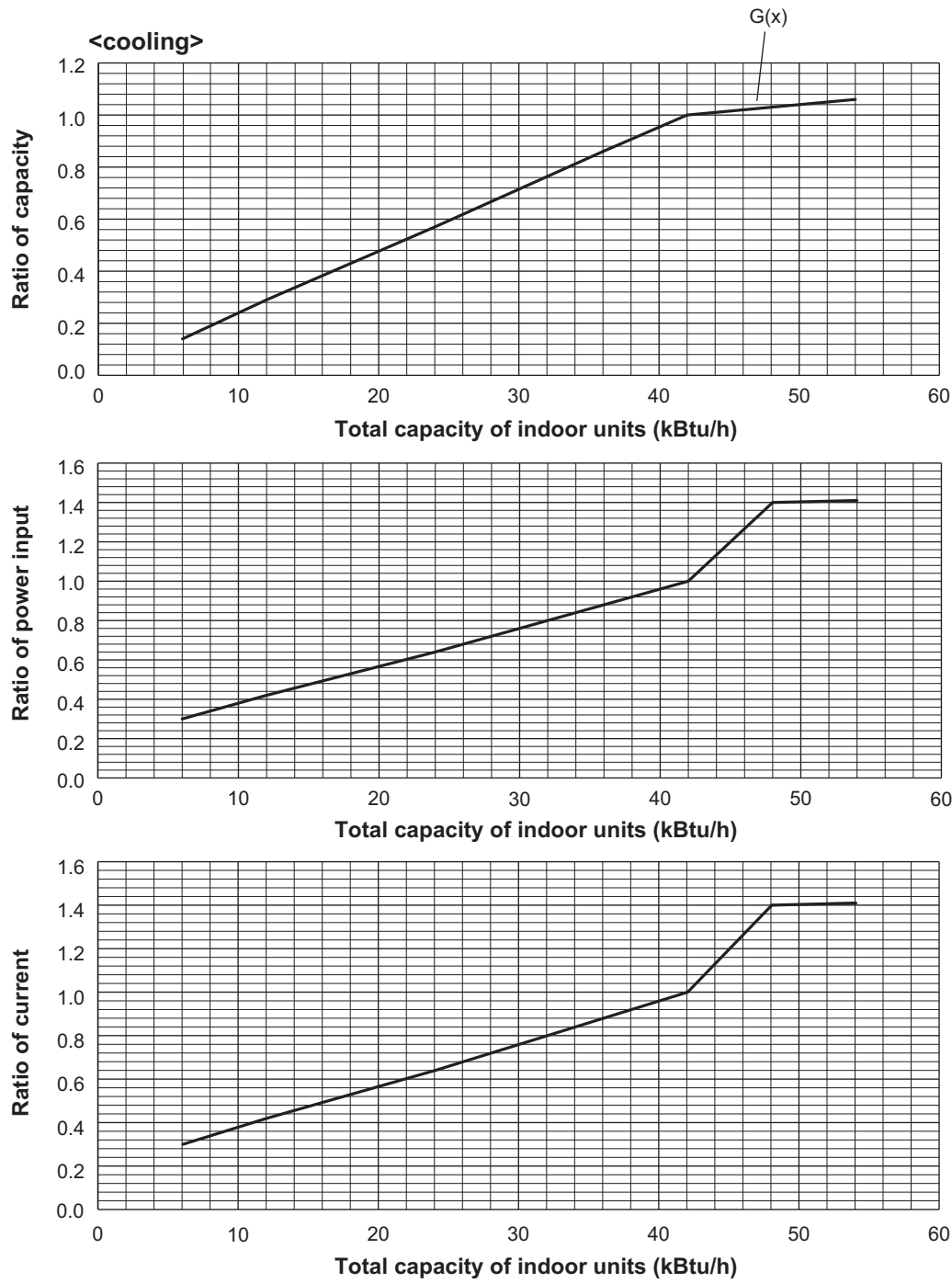
MXZ-SM36NAM2-U1
MXZ-SM36NAMHZ2-U1



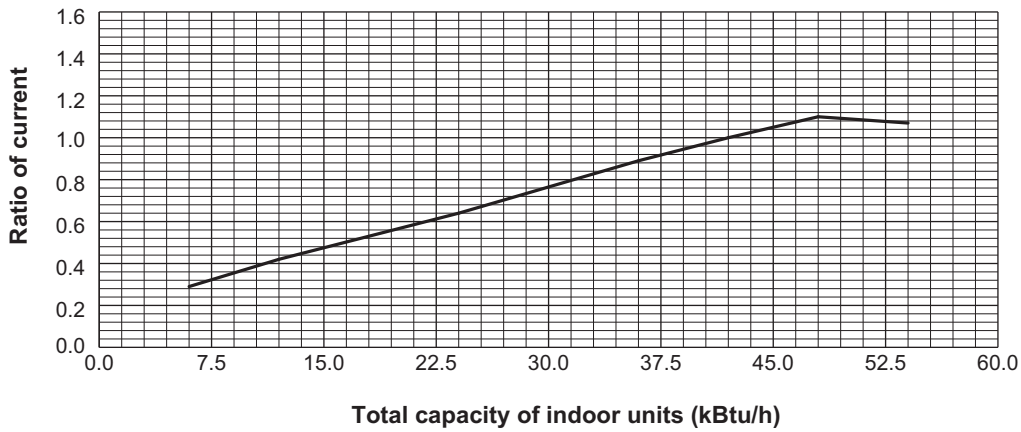
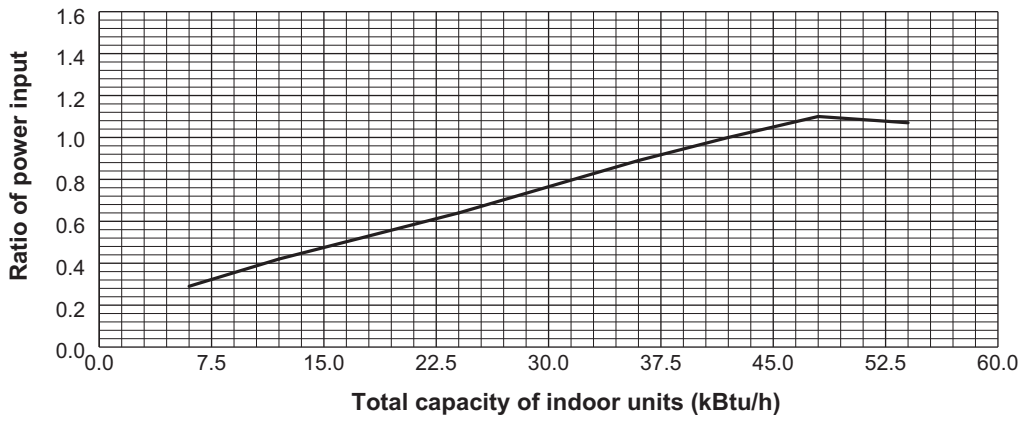
MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM42NAMHZ2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



MXZ-SM42NAMHZ2-U1

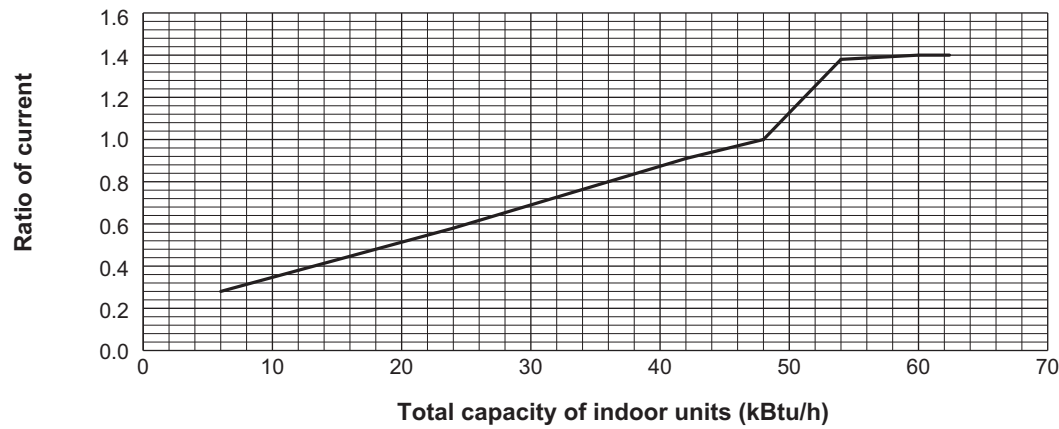
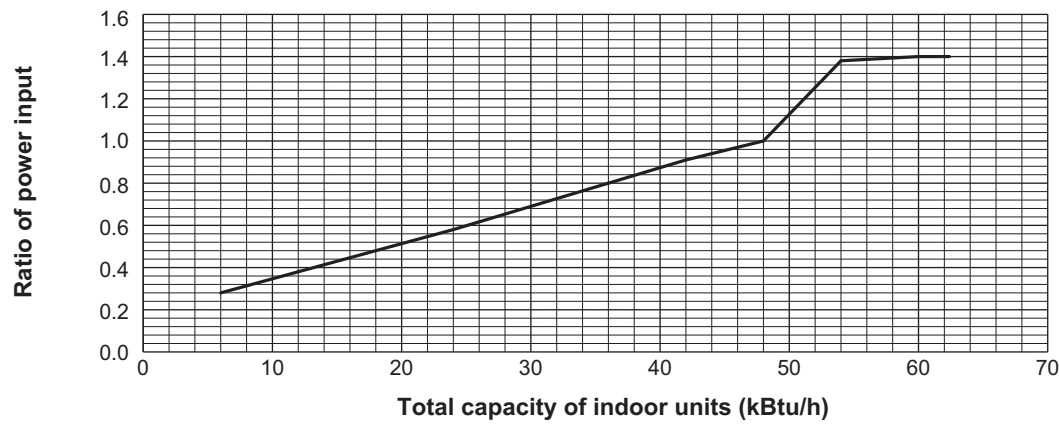
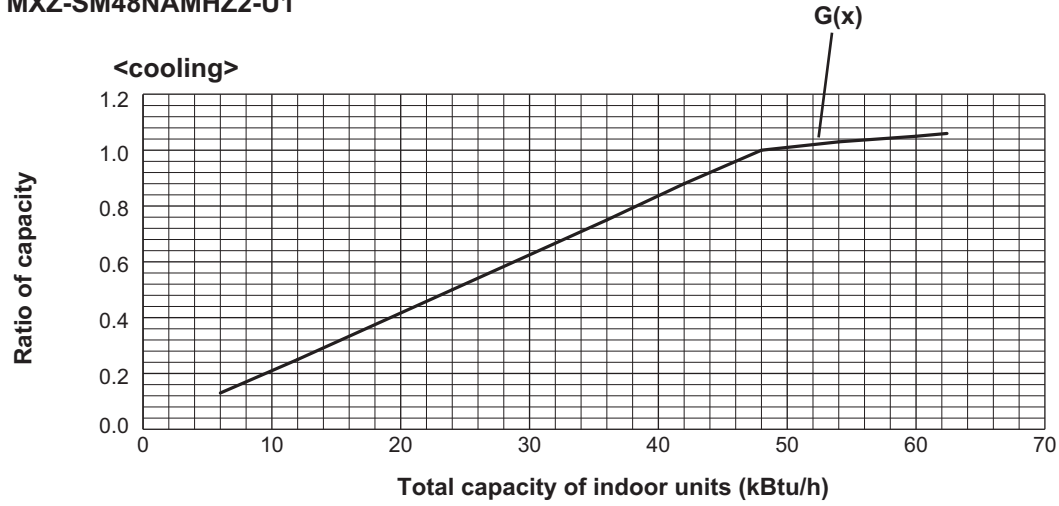


— 208, 230 V

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

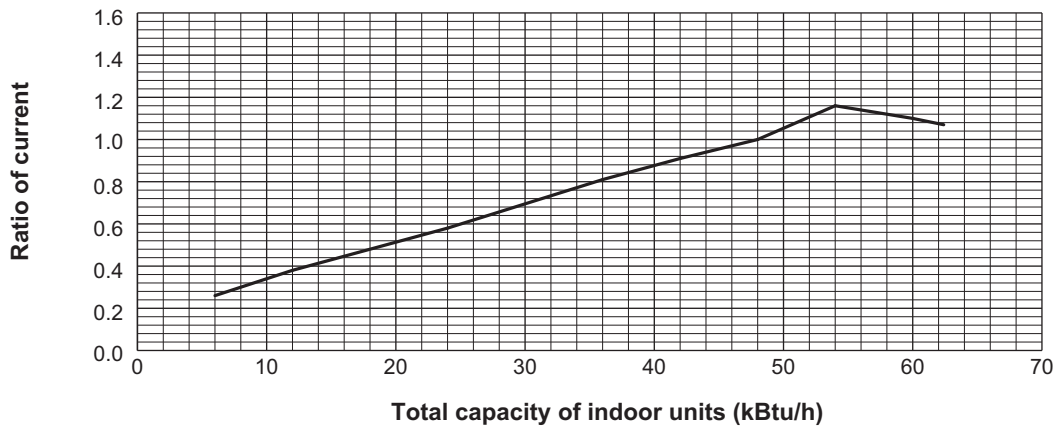
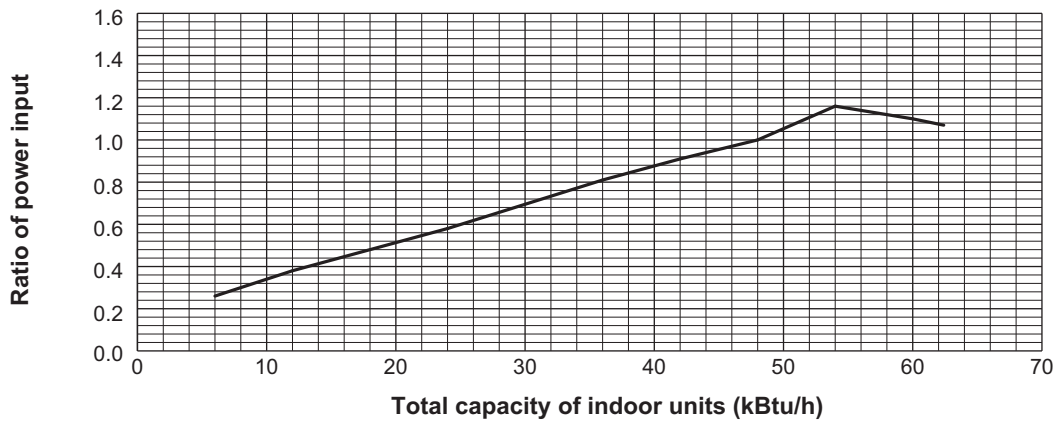
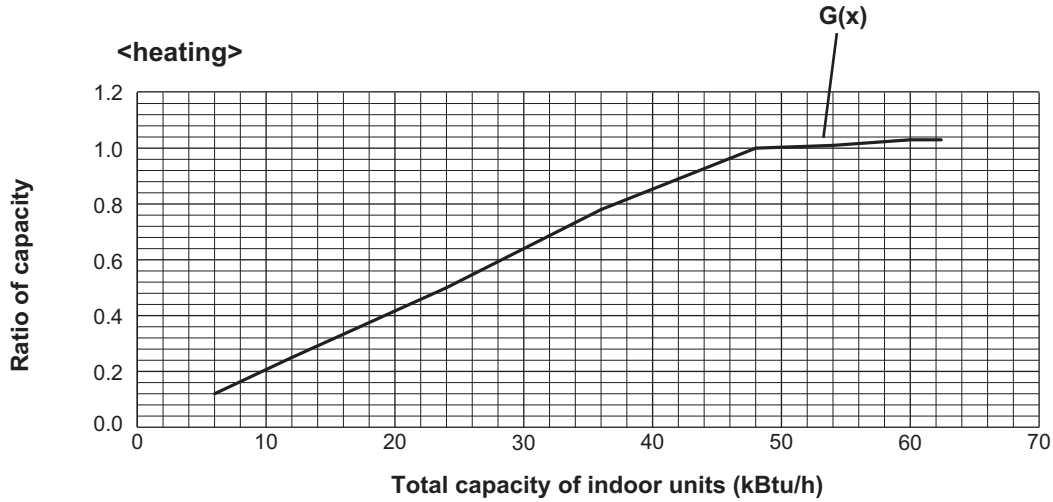
MXZ-SM48NAM2-U1
MXZ-SM48NAMHZ2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



— 208, 230 V

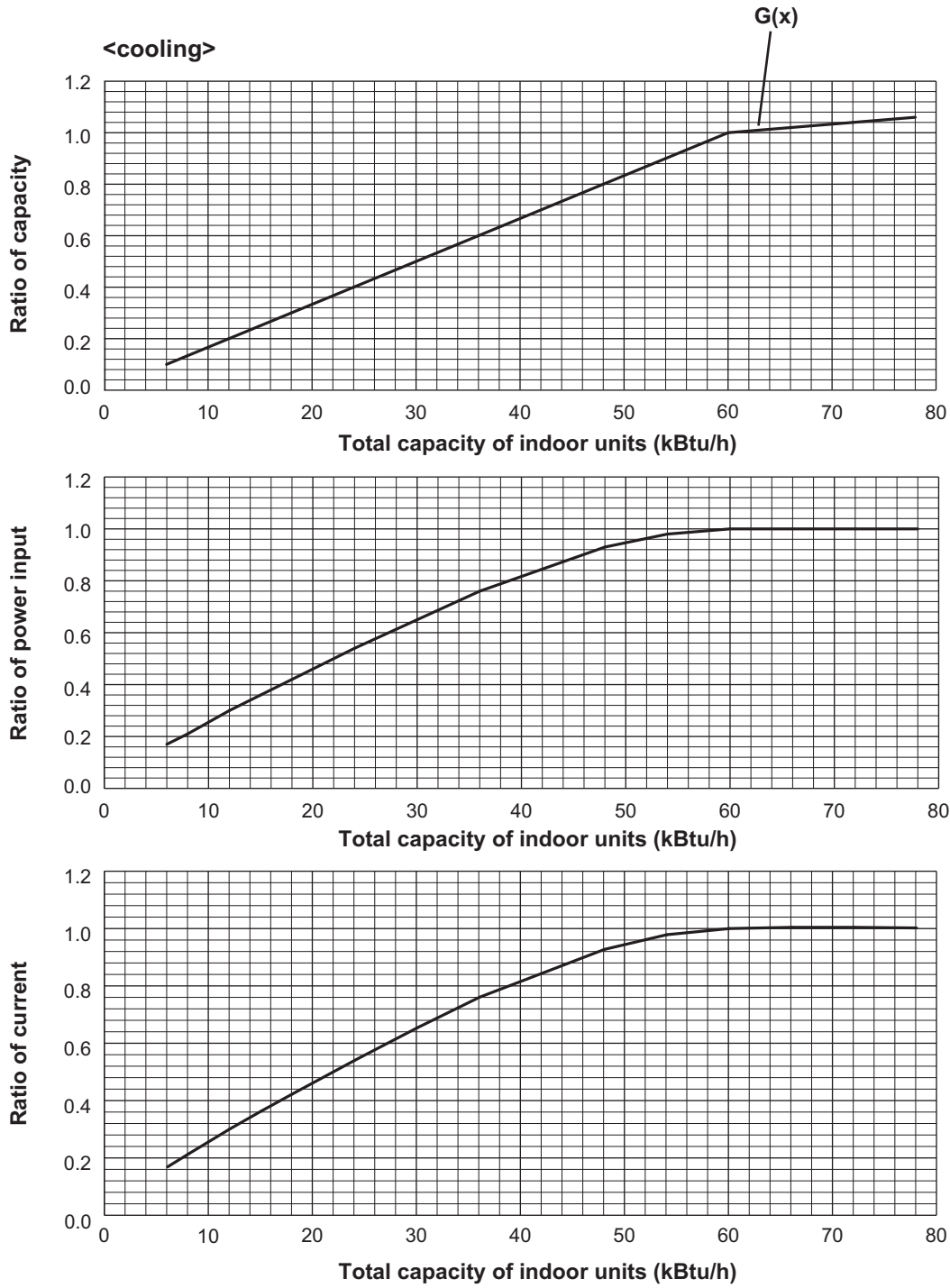
MXZ-SM48NAM2-U1
 MXZ-SM48NAMHZ2-U1



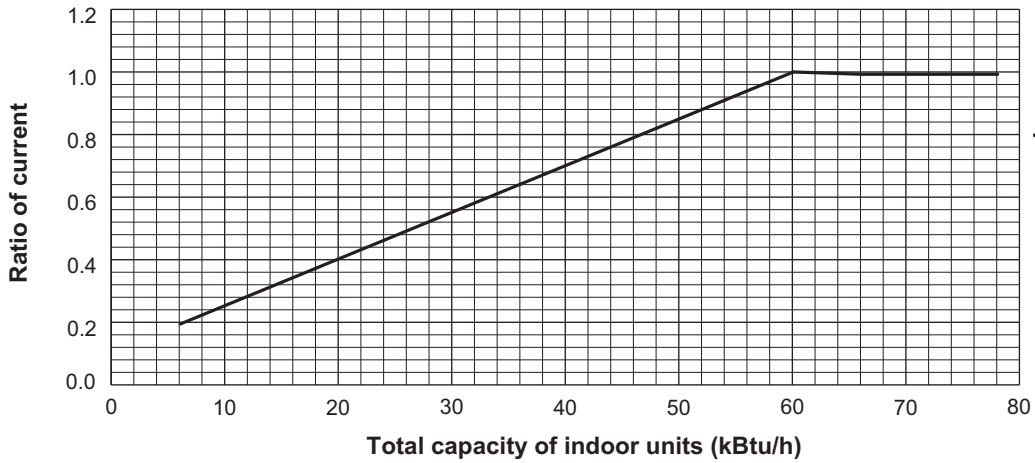
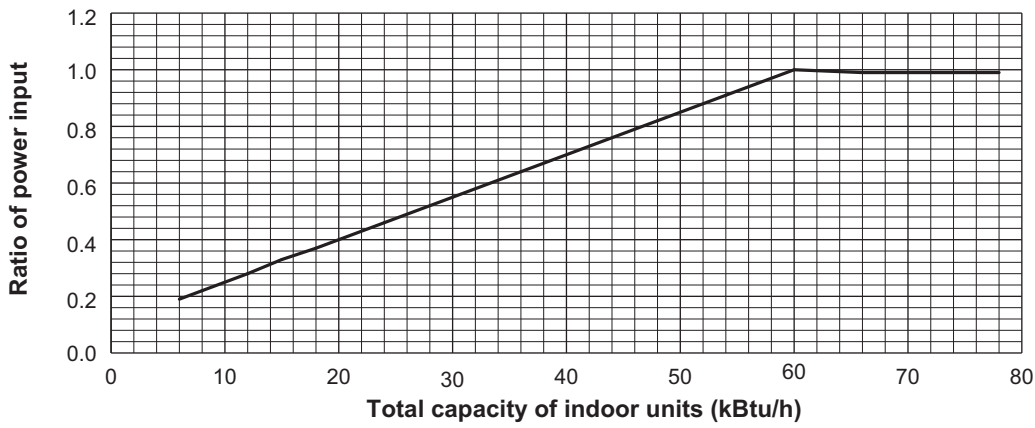
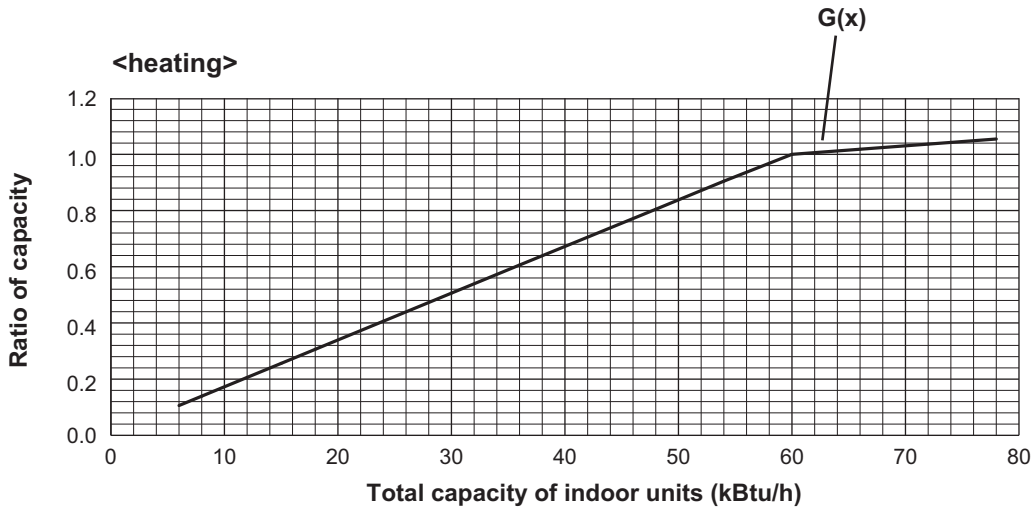
MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM60NAM2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



MXZ-SM60NAM2-U1

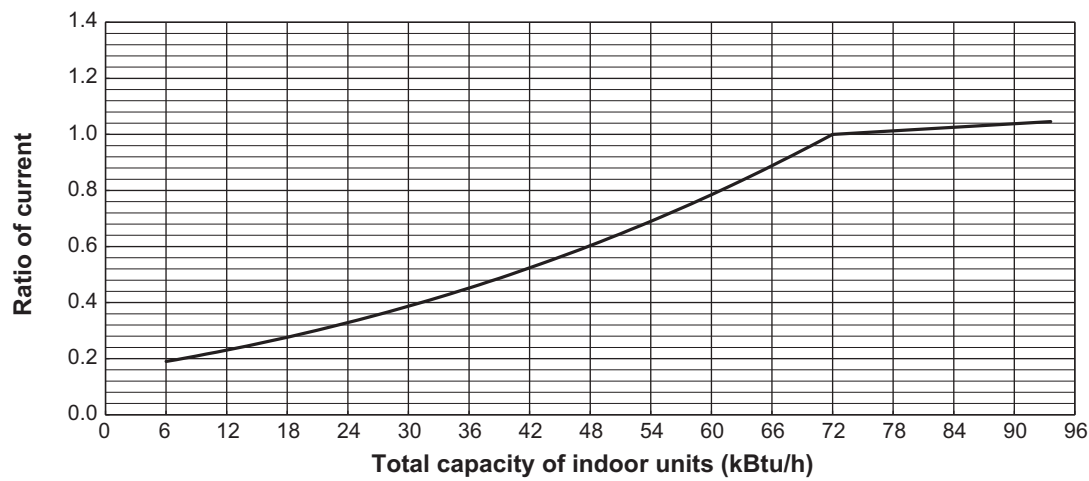
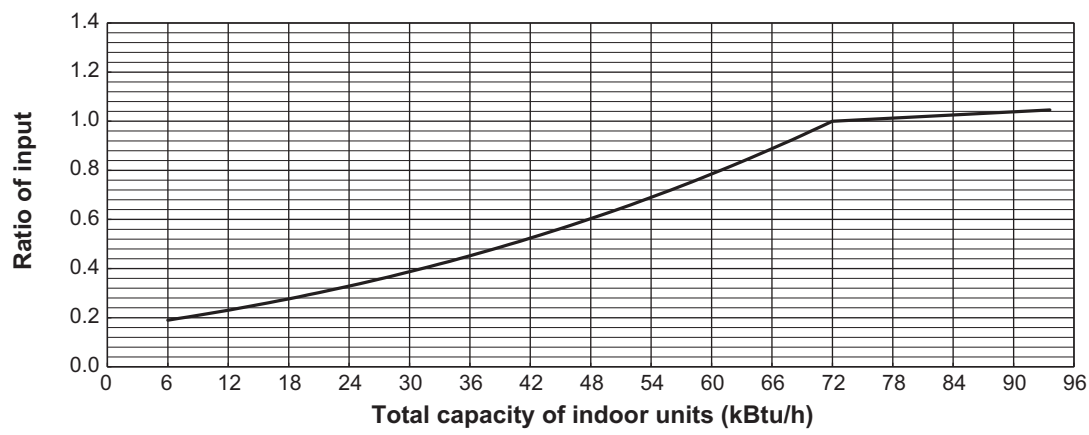
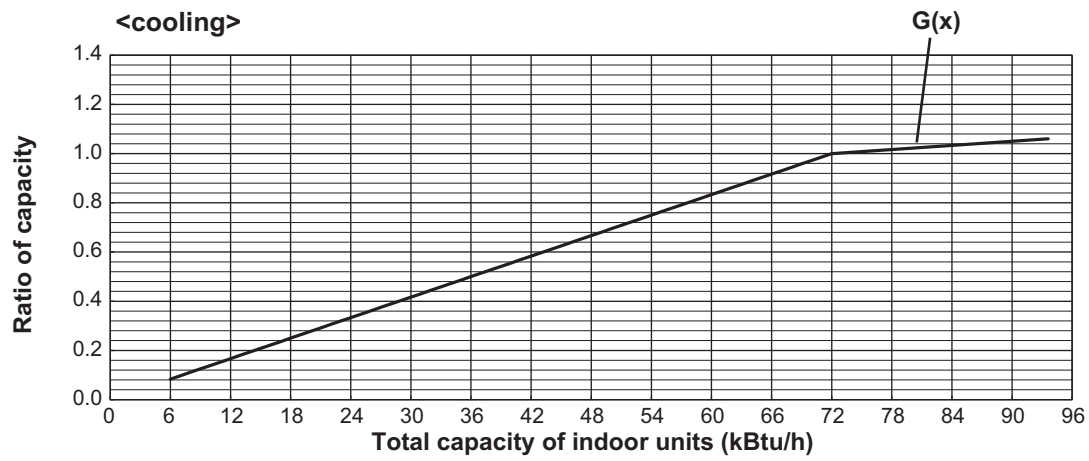


208, 230 V

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

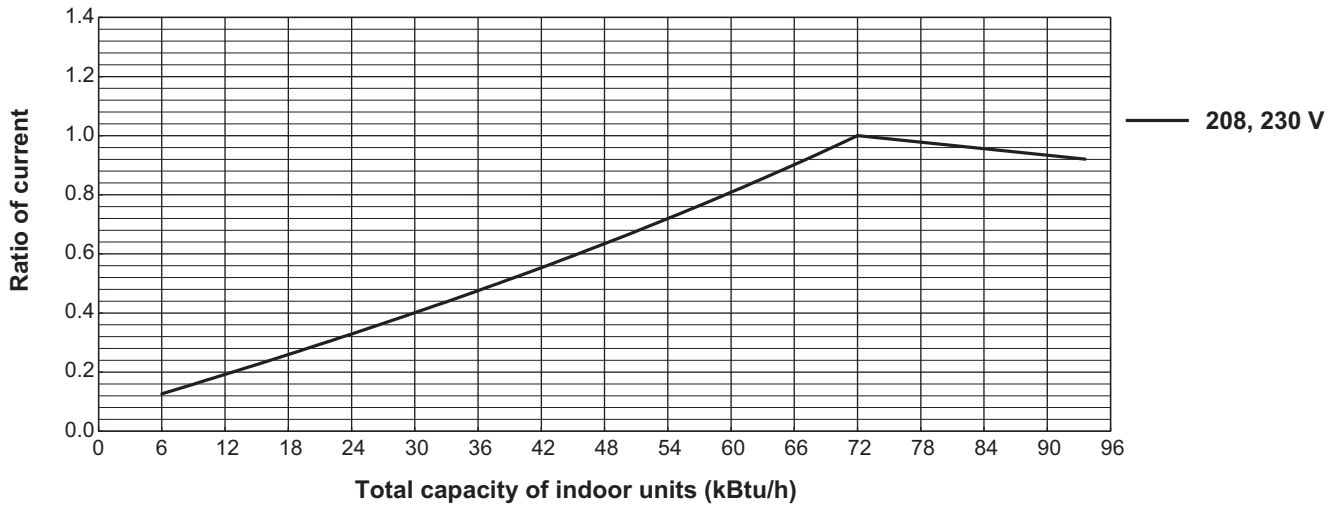
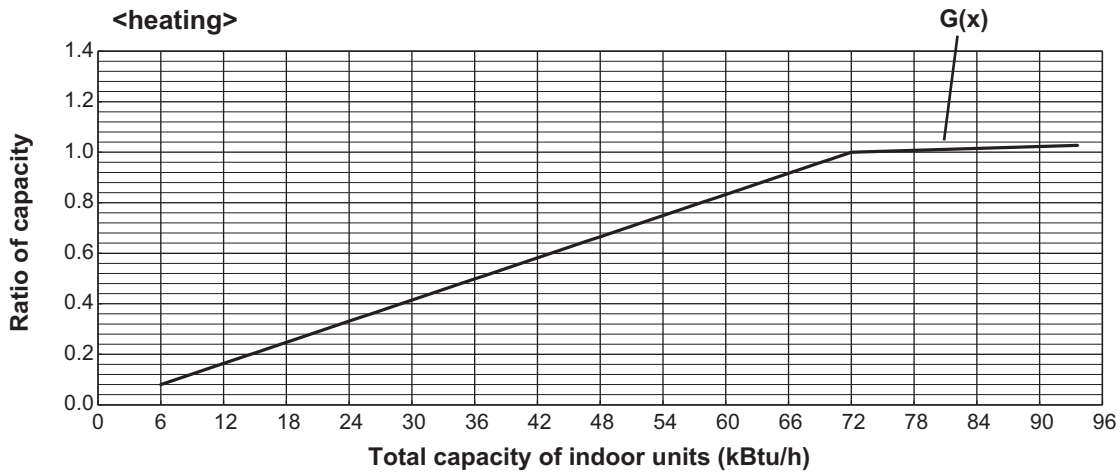
MXZ-SM72TAM-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



208, 230 V

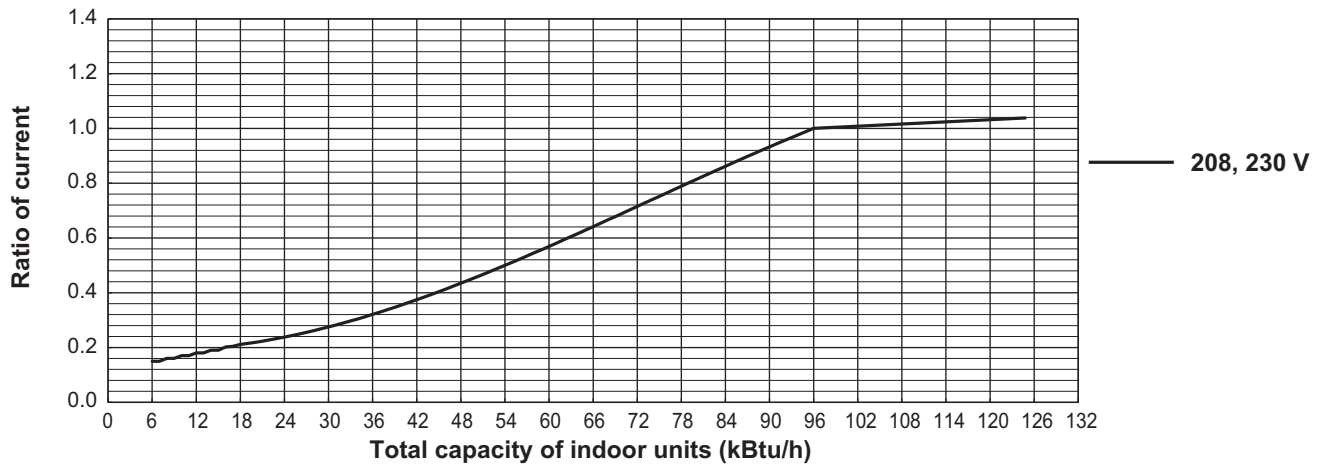
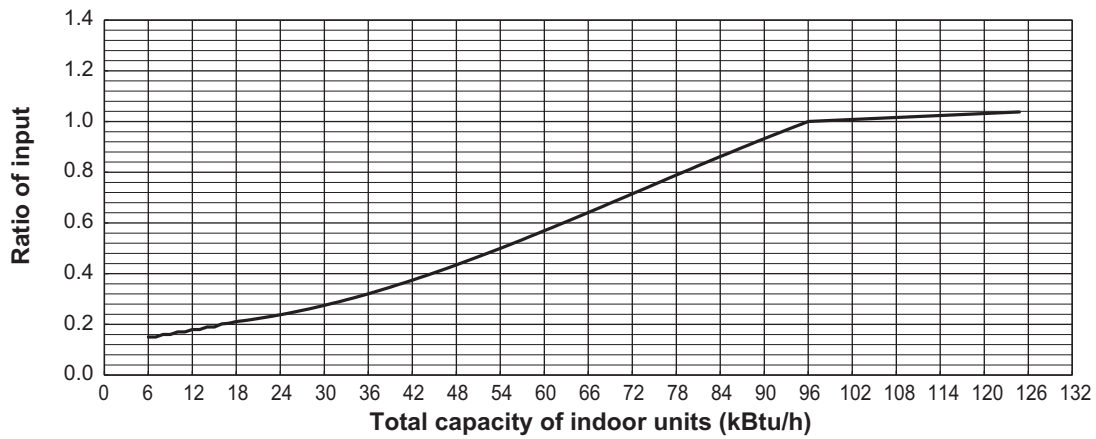
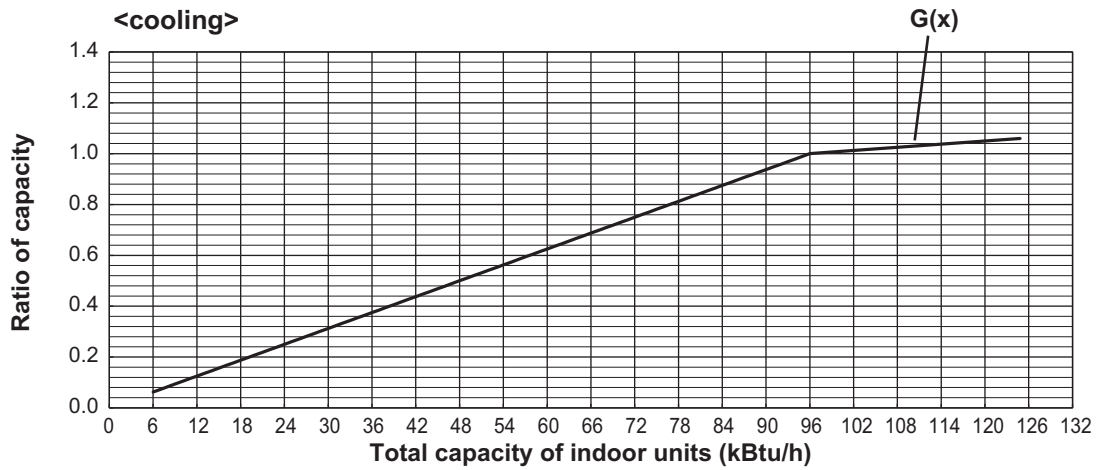
MXZ-SM72TAM-U1



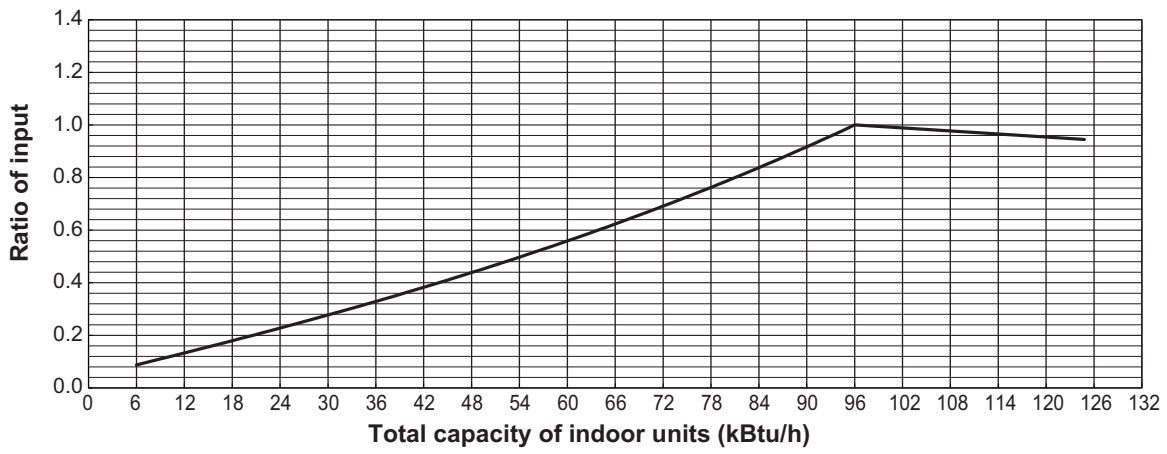
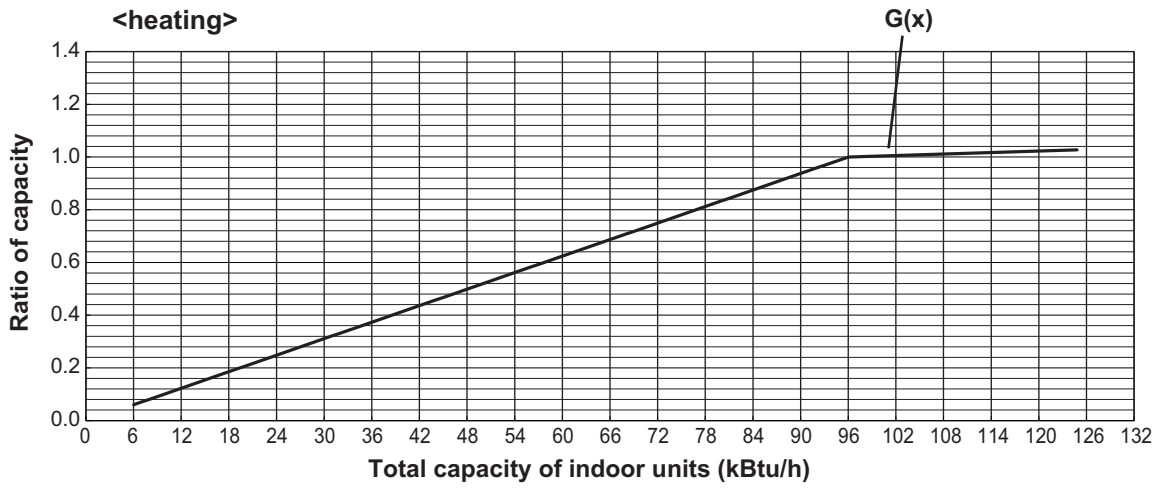
MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

MXZ-SM96TAM-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1



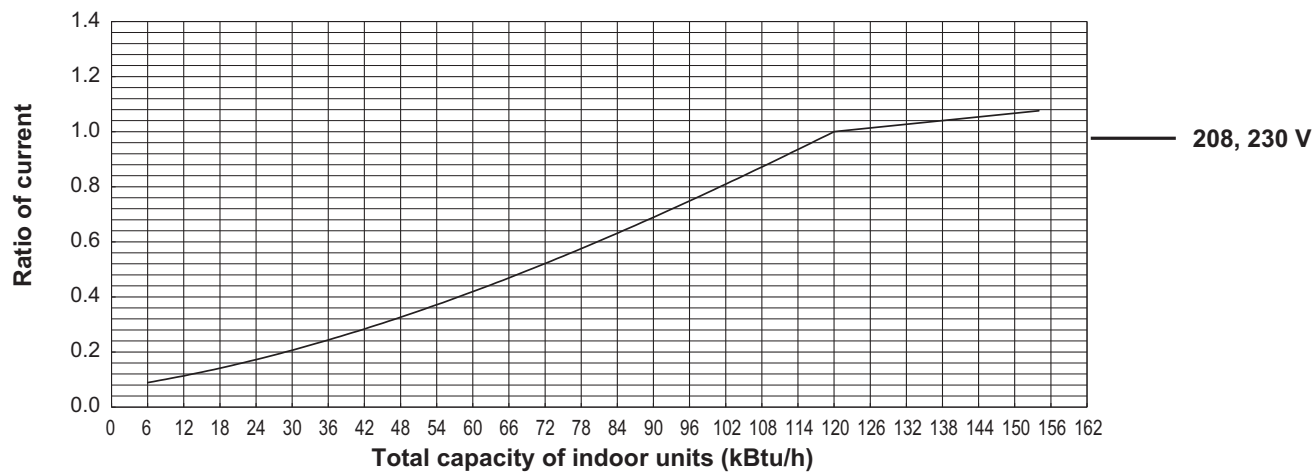
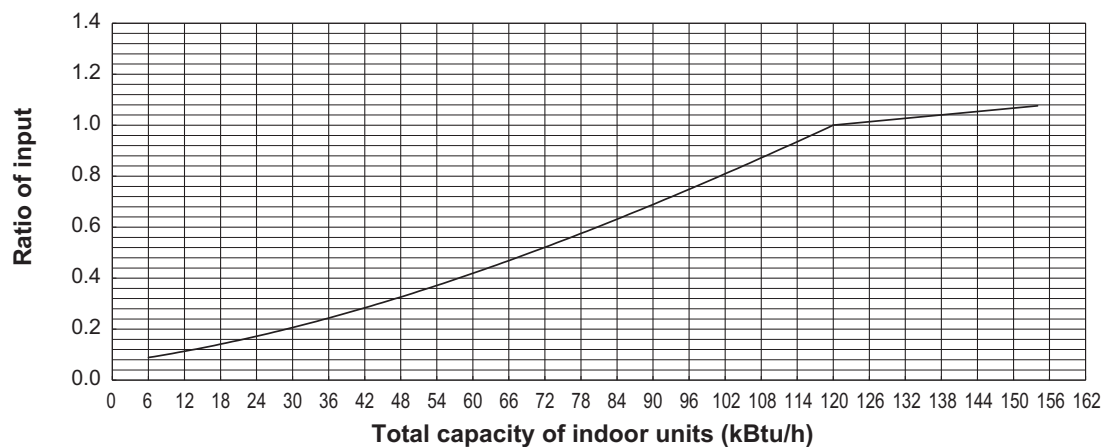
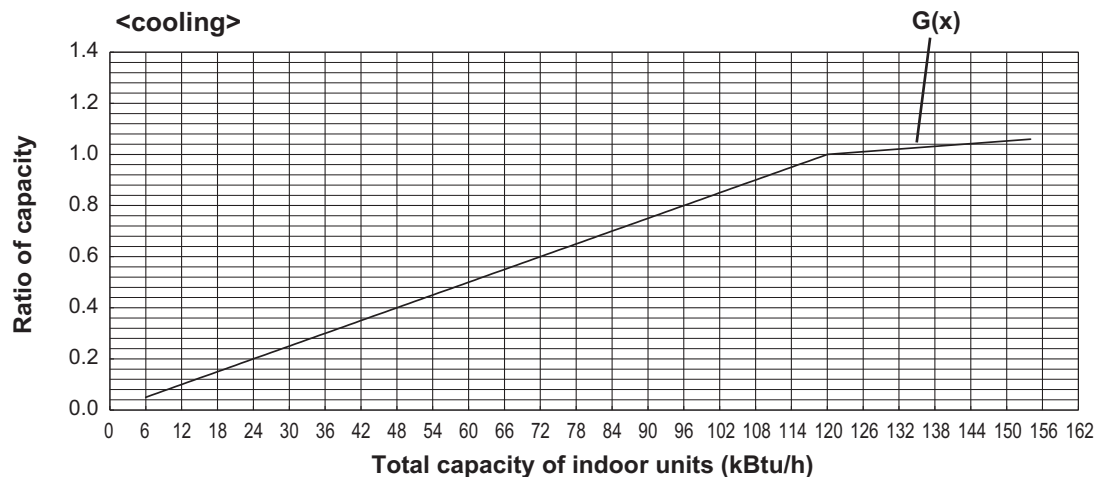
MXZ-SM96TAM-U1



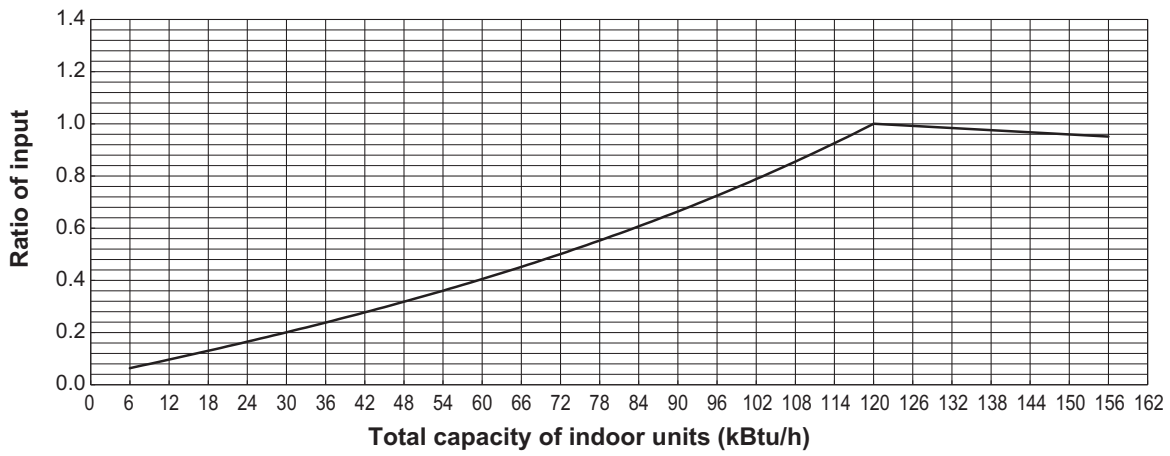
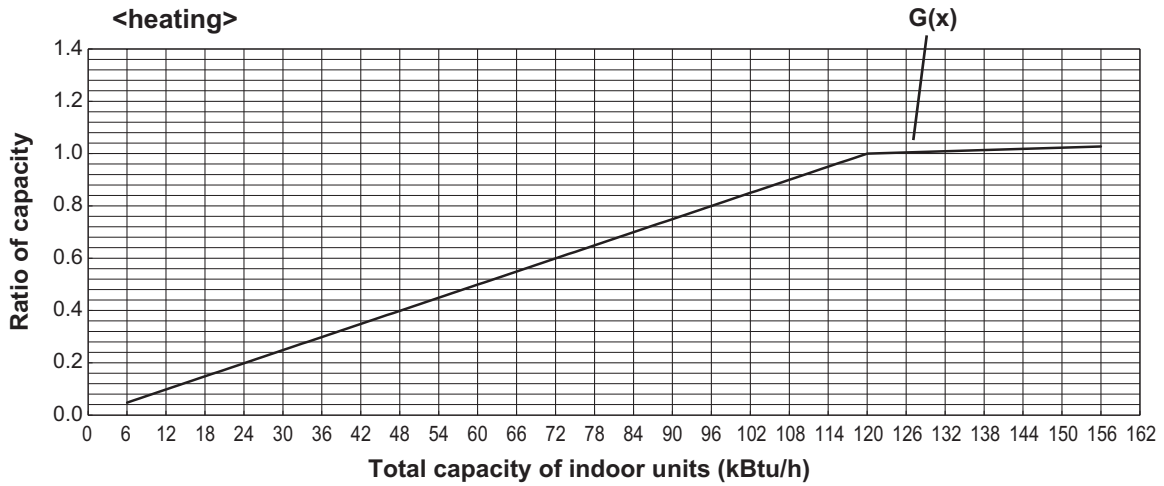
MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

MXZ-SM120TAM-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1



MXZ-SM120TAM-U1



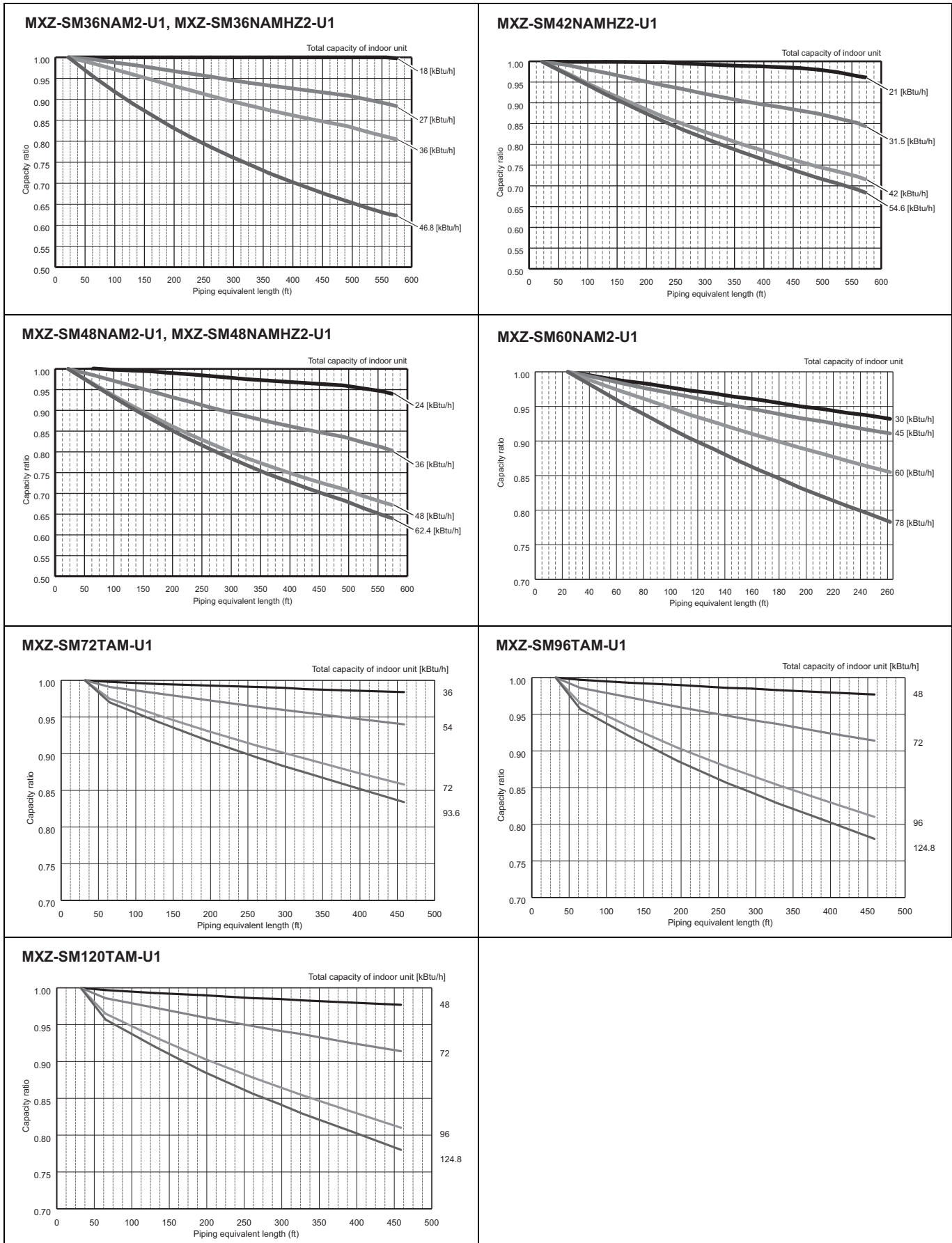
MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

7-4. Correction by refrigerant piping length

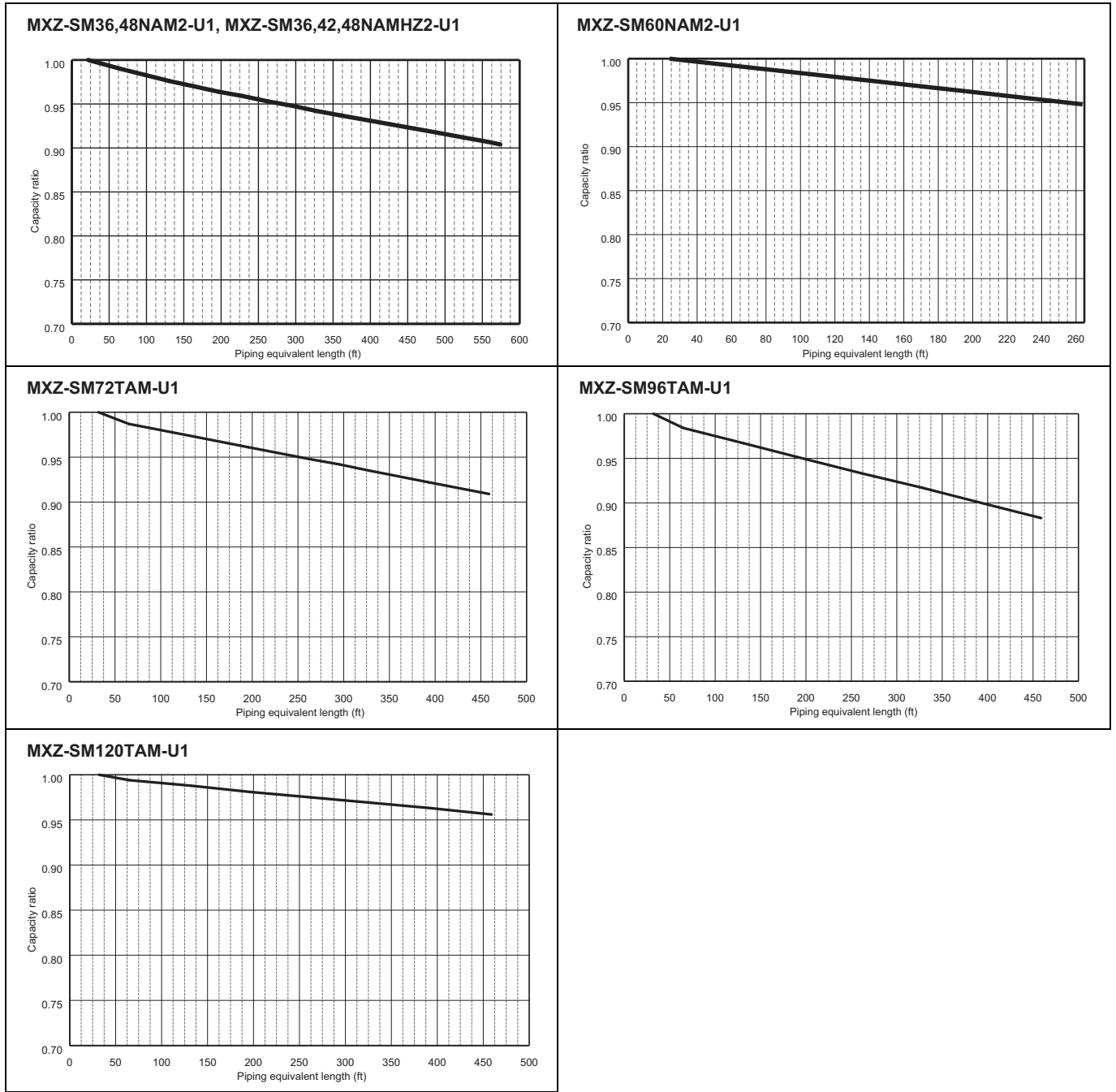
CITY MULTI indoor unit systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 7-4-1 and 7-4-2, capacity can be found. 7-4-3 shows how to obtain the equivalent piping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

7-4-1. Cooling capacity correction

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1



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

Note

- The high humidity condition (e.g., a foggy atmosphere) which causes frost forming on the heat exchanger will worsen the heating performance of the unit.
- The snow blowing to the heat exchanger will worsen the heating performance of the unit. Install a snow hood as a preventive measure.

* 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.

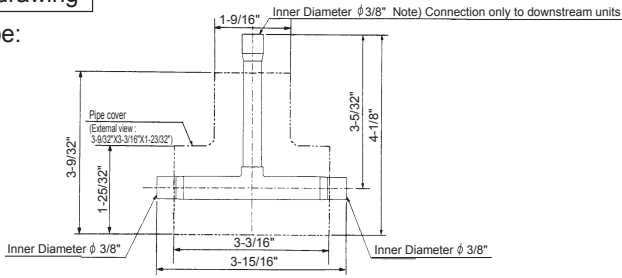
CMY-Y62-G

1. Specification

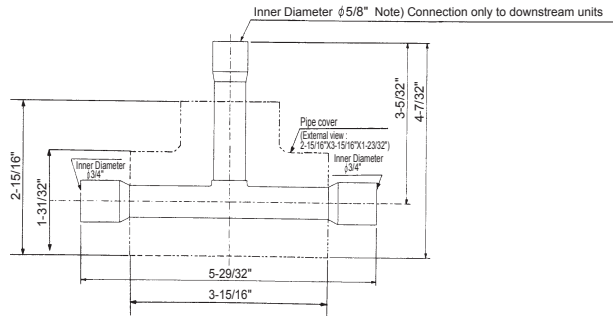
	Items	Details
Main	Number of ports	2 ports
	Number of branch joints	One for each liquid and gas pipe
	Pipe material	Phosphorus deoxidized copper C1220T-OL (JIS H3300)
Accessory	Insulation material	Foamed polyethylene (one for each liquid and gas pipe)
	Reducer	10 reducers of 7 types (Refer to the external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

2. External drawing

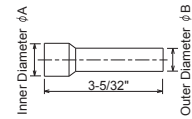
For liquid pipe:



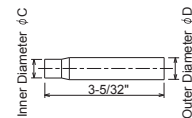
For gas pipe:



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



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 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.

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

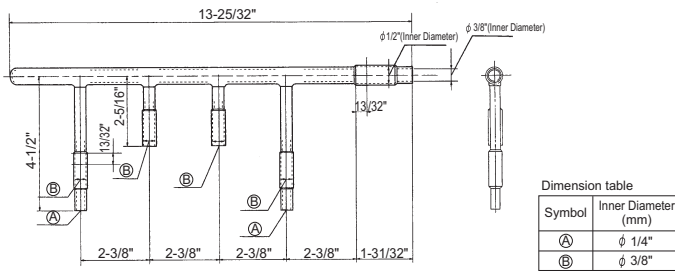
CMY-Y64-G

1. Specification

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

2. External drawing

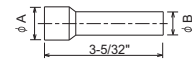
For liquid pipe:



Dimension table

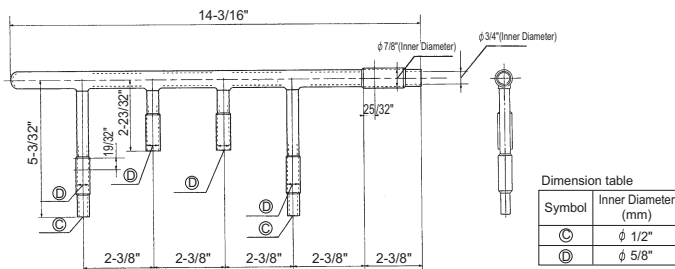
Symbol	Inner Diameter (mm)
A	ϕ 1/4"
B	ϕ 3/8"

Reducer (Accessory):



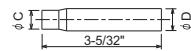
A (Inner Diameter)	B (Outer Diameter)	Number of reducers
ϕ 3/4"	ϕ 5/8"	1
ϕ 5/8"	ϕ 1/2"	2
ϕ 3/8"	ϕ 1/4"	2

For gas pipe:



Dimension table

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



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

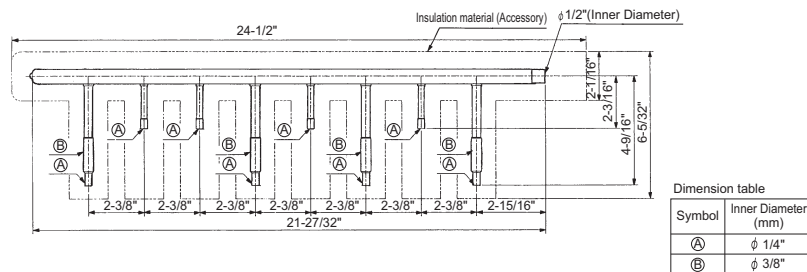
CMY-Y68-G

1. Specification

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

2. External drawing

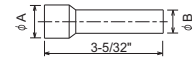
For liquid pipe:



Dimension table

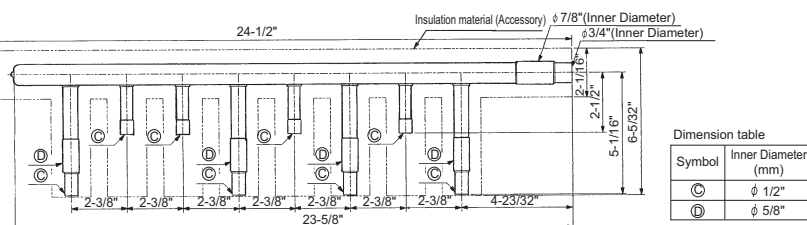
Symbol	Inner Diameter (mm)
A	ϕ 1/4"
B	ϕ 3/8"

Reducer (Accessory):



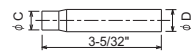
A (Inner Diameter)	B (Outer Diameter)	Number of reducers
ϕ 3/4"	ϕ 5/8"	1
ϕ 1/2"	ϕ 3/8"	1

For gas pipe:



Dimension table

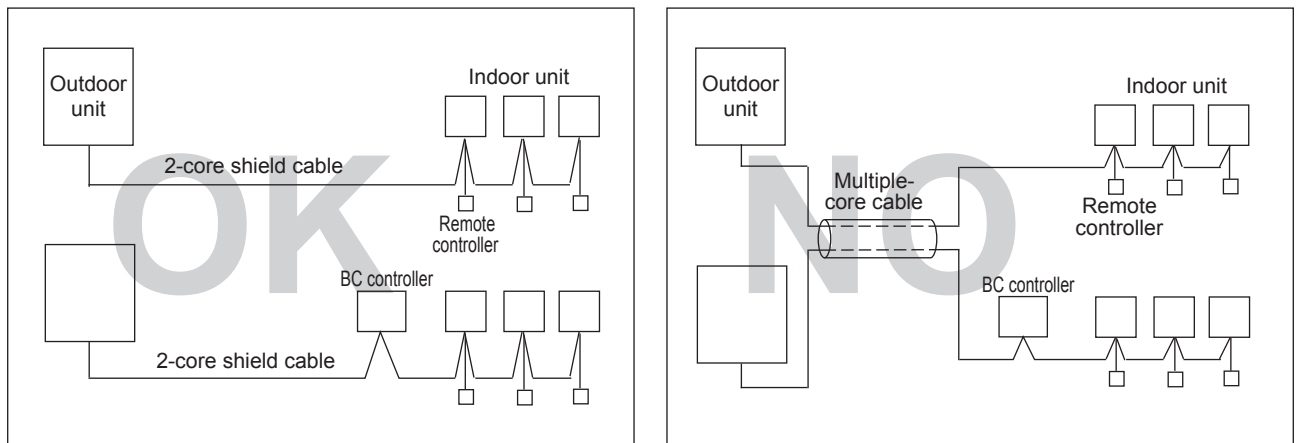
Symbol	Inner Diameter (mm)
C	ϕ 1/2"
D	ϕ 5/8"



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

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])		Conduit size	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	208/230 VAC, 60 Hz	36/48NAM2	5.3 [AWG10]	5.3 [AWG10]	1 *3	30 A	30A 30mA 0.1sec. or less	36 A	64 A
		36/42/48NAMHZ2	8.4 [AWG8]	8.4 [AWG8]	1 *3	40 A	40A 30mA 0.1sec. or less	45 A	80 A
		60NAM2	8.4 [AWG8]	8.4 [AWG8]	1 *3	40 A	40A 30mA 0.1sec. or less	45 A	80 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])		Conduit size	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	208/230 VAC, 60 Hz	36/48NAM2	8.4 [AWG8]	8.4 [AWG8]	1 *3	40 A	40A 30mA 0.1sec. or less	42 A	70 A
		36/42/48NAMHZ2	13.3 [AWG6]	13.3 [AWG6]	1 *3	45 A	45A 30mA 0.1sec. or less	51 A	86 A
		60NAM2	13.3 [AWG6]	13.3 [AWG6]	1 *3	50 A	50A 30mA 0.1sec. or less	55 A	90 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 interrupt 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 1 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 Type12)/C}

Indoor unit		V1	V2
Type 1	PEAD-A-AA, SVZ-KP-NA, PAA-A-A	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, MSZ-GS-NA, MLZ-KY-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	
Type 8	PEFY-P-NMAU-E3, PVFY-P-NAMU	38.0	1.6
Type 9	PKFY-P-NHMU, PEFY-P-NMSU, PCFY-P-NKM, PLFY-EP-NEMU, PLFY-P-NFMU, PMFY-P-NBMU, PKFY-P-NLMU	19.8	2.4
Type 10	PEFY-P-NMHU, PEFY-P-NEMU, PEFY-P-NRMU	0.0	0.0
Type 11	PEFY-P-NMHSU (connected to MXZ-SM60 only)	13.8	4.8
Type 12	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)

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

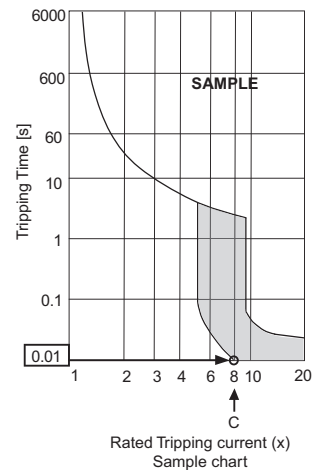
→16 A breaker (Tripping current = 8 × 16 A at 0.01 s)

*3 Current sensitivity is calculated using the following formula.

$$G1 = V2 \times (\text{Quantity of Type1}) + V2 \times (\text{Quantity of Type2}) + V2 \times (\text{Quantity of Type3}) + \dots + V2 \times (\text{Quantity of Type12}) + V3 \times (\text{Wire length [km]})$$

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.

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])		Conduit size	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	208/230 V AC, 60 Hz	MXZ-SM72TAM	8.4 [AWG8]	8.4 [AWG8]	1-1/4*3	40 A	40 A 30 mA 0.1 sec. or less	32 A	58 A
		MXZ-SM96TAM	8.4 [AWG8]	8.4 [AWG8]	1-1/4*3	40 A	40 A 30 mA 0.1 sec. or less	32 A	58 A
		MXZ-SM120TAM	13.3 [AWG6]	13.3 [AWG6]	1-1/4*3	50 A	50 A 30 mA 0.1 sec. or less	47 A	84 A
Branch Box		Refer to installation manual of Branch Box.							

<When power is supplied from the outdoor unit>

Model	Power Supply	Minimum Wire Thickness (mm ² [AWG])		Conduit size	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	208/230 V AC, 60 Hz	MXZ-SM72TAM	21.2 [AWG4]	21.2 [AWG4]	1-1/4	60 A	60 A 30 mA 0.1 sec. or less	50 A	76 A
		MXZ-SM96TAM	21.2 [AWG4]	21.2 [AWG4]	1-1/4	60 A	60 A 30 mA 0.1 sec. or less	50 A	76 A
		MXZ-SM120TAM	21.2 [AWG4]	21.2 [AWG4]	1-1/4	70 A	70 A 30 mA 0.1 sec. or less	65 A	102 A
Branch Box		Refer to installation manual of Branch Box.							

*1 Please follow applicable federal, state, or local codes to prevent potential leakage/electric shock. Or install a ground fault interrupt 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 Type12)/C}

Indoor unit		V1	V2
Type 1	PEAD-A·AA, SVZ-KP·NA	26.9	2.4
Type 2	PLA-A·EA, 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-GS·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	
Type 8	PEFY-P·NMAU-E3, PVFY-P·NAMU	38.0	1.6
Type 9	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	PEFY-P·NMHU, PFFY-P·NEMU, PFFY-P·NRMU	0.0	0.0
Type 11	PEFY-P·NMHSU	13.8	4.8
Type 12	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)

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

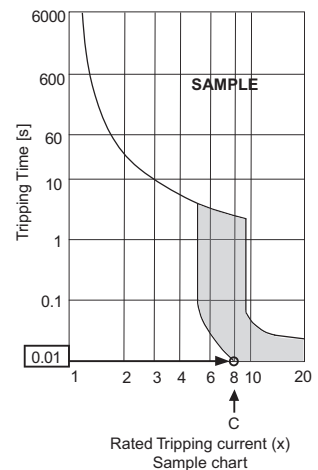
→ 16 A breaker (Tripping current = 8 × 16 A at 0.01 s)

*3 Current sensitivity is calculated using the following formula.

$$G1 = V2 \times (\text{Quantity of Type1}) + V2 \times (\text{Quantity of Type2}) + V2 \times (\text{Quantity of Type3}) + \dots + V2 \times (\text{Quantity of Type12}) + V3 \times (\text{Wire length [km]})$$

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

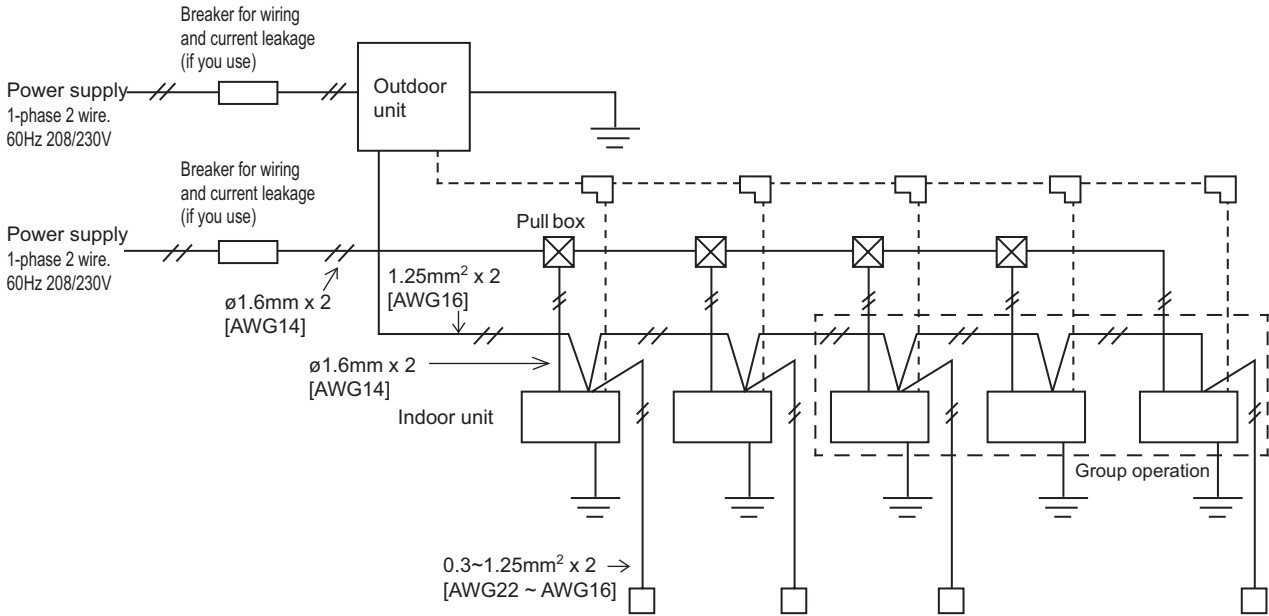
Make sure that the current leakage breaker is one compatible with higher harmonics.
Always use a current leakage breaker that is compatible with higher harmonics as this unit is equipped with an inverter.
The use of an inadequate breaker can cause the incorrect operation of inverter.

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

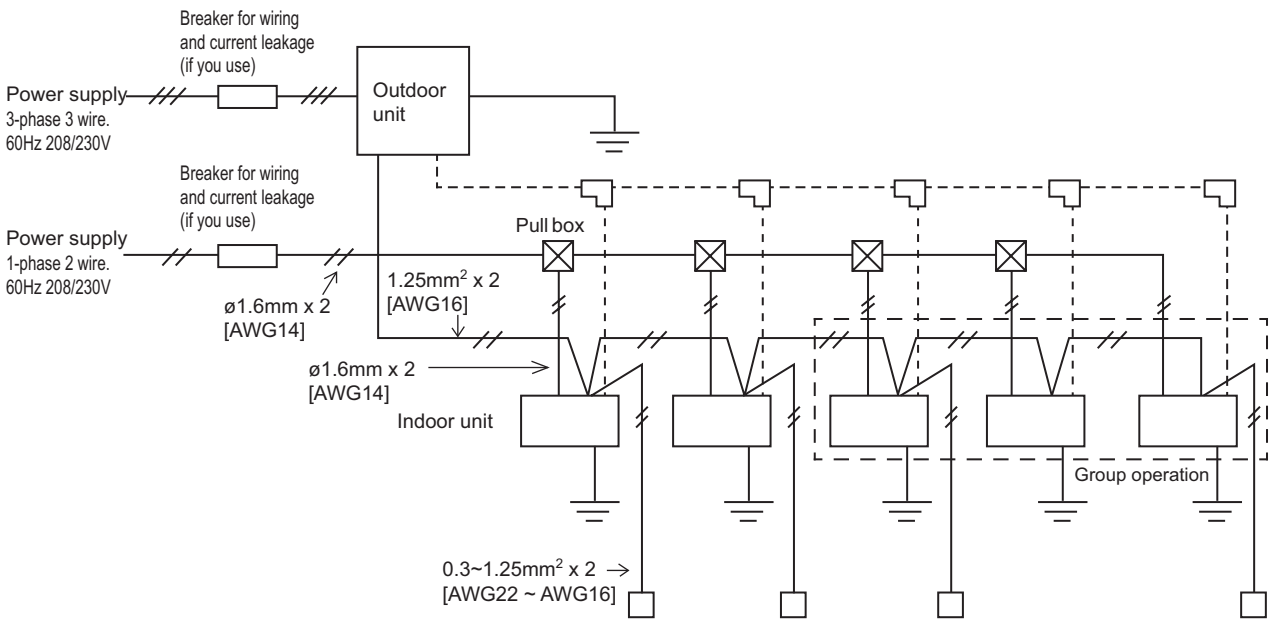
9-3. Power supply examples

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

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1



MXZ-SM-TAM-U1



MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

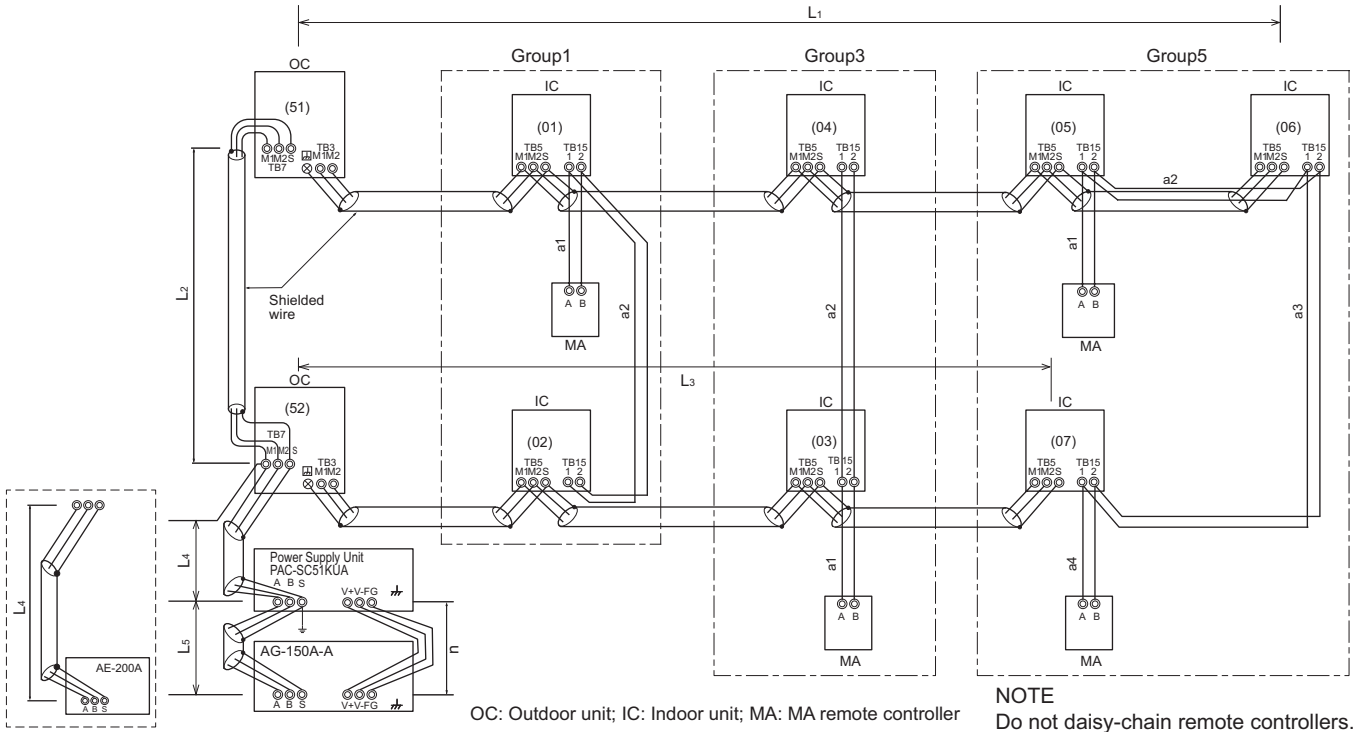
10-1. Transmission cable length limitation

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



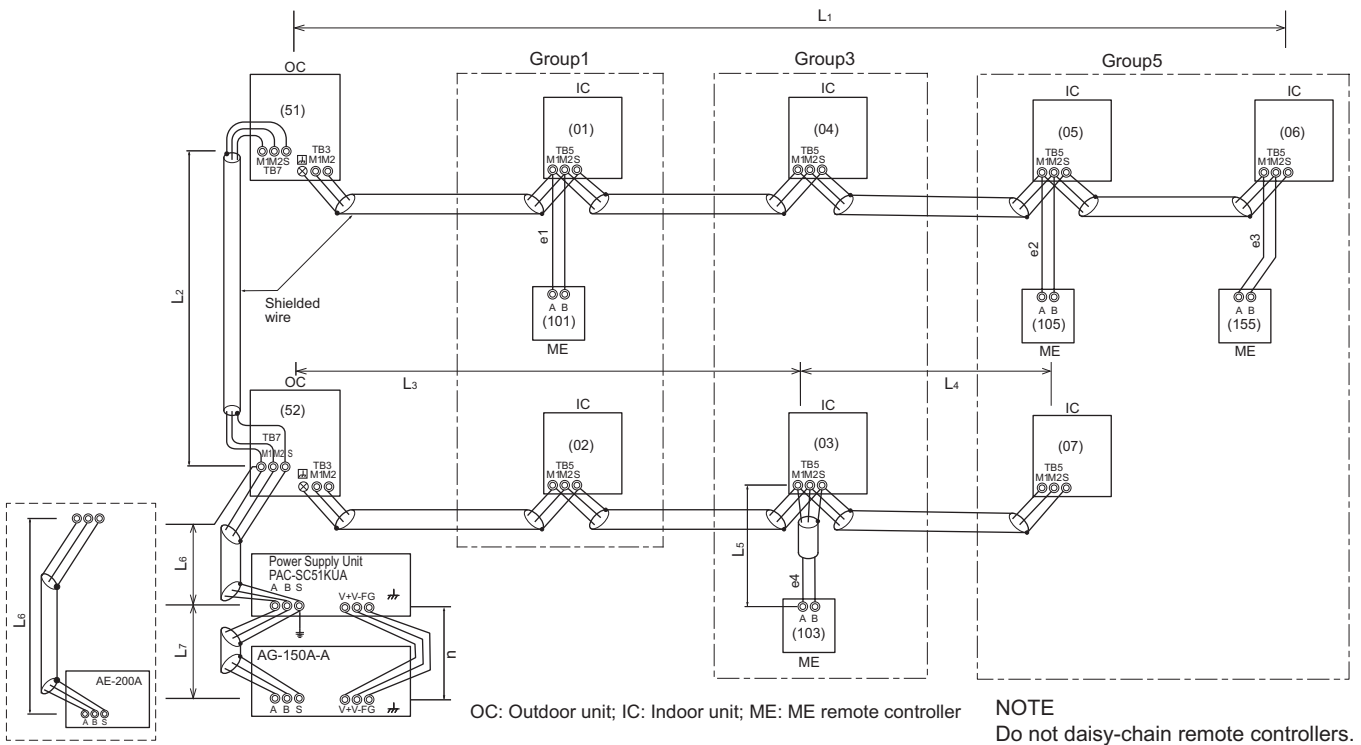
10-1-2. Using ME Remote controller

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

*1. If the length from ME to Indoor exceed 10m, use 1.25 mm²[AWG16] shielded cable, but the total length should be counted into Max. length via Outdoor.



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 1 group.
 - *When a PAR-CT01MAU or PAR-40MAAU is connected to a group, no other MA remote controllers can be connected to the same group.
 - *To wire PAR-CT01MAU, PAR-40MAAU, and PAC-YT53CRAU, use a wire with a size 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.

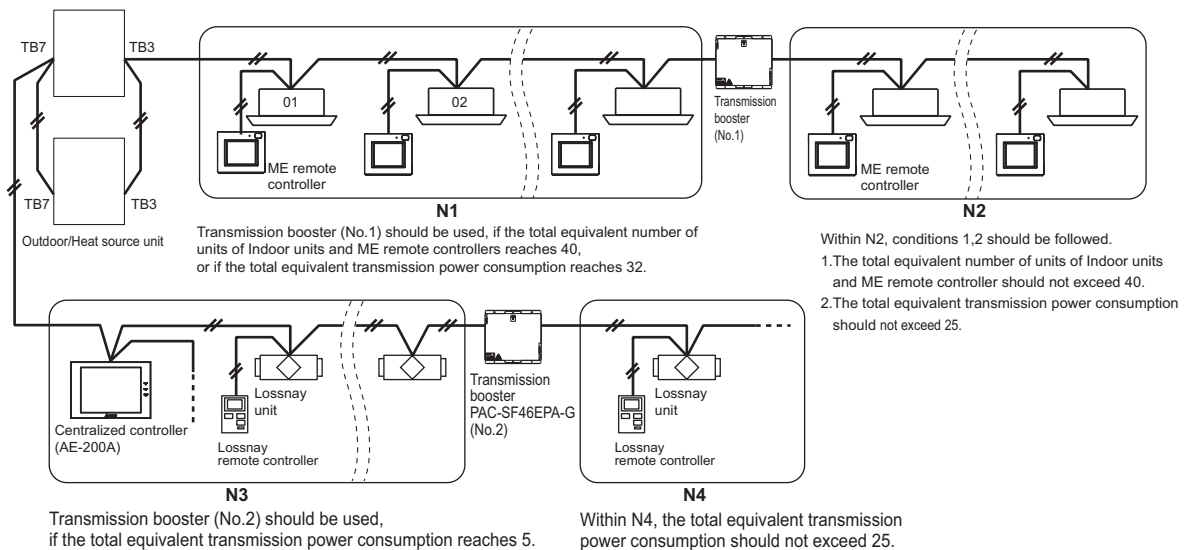
With the equivalent power consumption values and the equivalent number of units in Table 1 and Table 2, PAC-SF46EPA-G can be designed into the air-conditioner system to ensure proper system communication according to (A), (B), (C).

- (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-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-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)

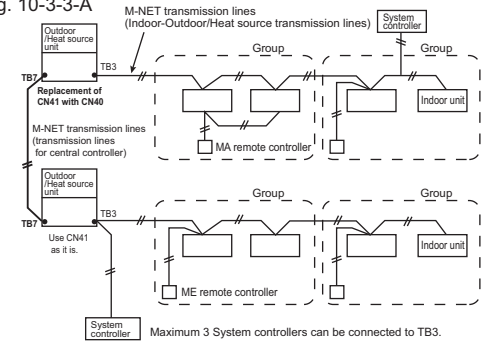
C) Connecting to TB7 of the Outdoor/Heat source unit but receiving power from power supply unit PAC-SC51KUA.

* 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

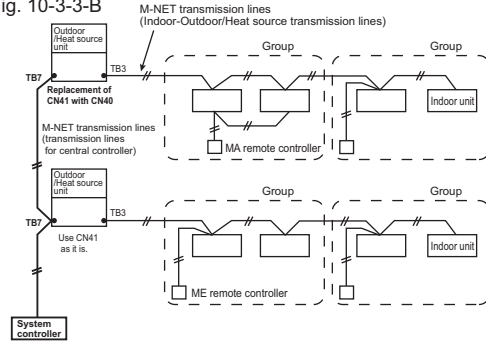


Maximum 3 System controllers can be connected to TB3.

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

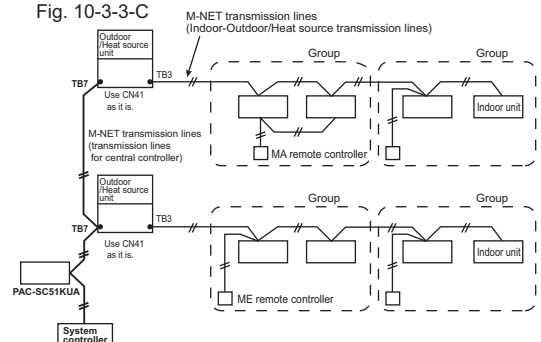
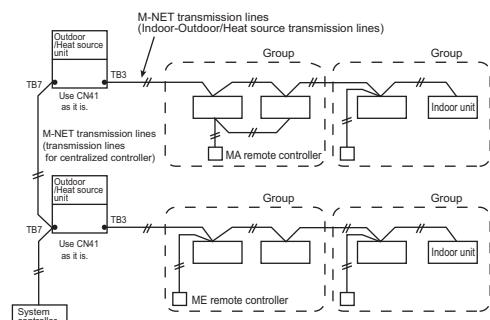


Fig. 10-3-3-D



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.

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

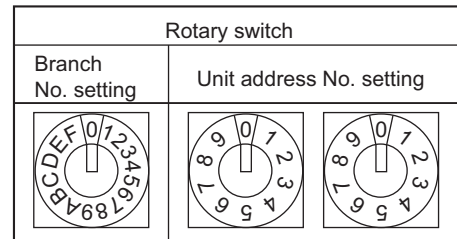
The MA remote controller does not have the switches listed above.
Refer to the installation manual for the function setting.

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".



MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

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 0-9 100 10 1	* TC-24B cannot be set to "000".
	PAC-YG50ECA	0, 2 0-5 0-9 100 10 1	* Settings are made on the initial screen of AG-150A-A.
	BAC-HD150	0, 2 0-5 0-9 100 10 1	* Settings are made with setting tool of BM ADAPTER.
	LMAP04U-E	2 Fixed  	
PI, 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.

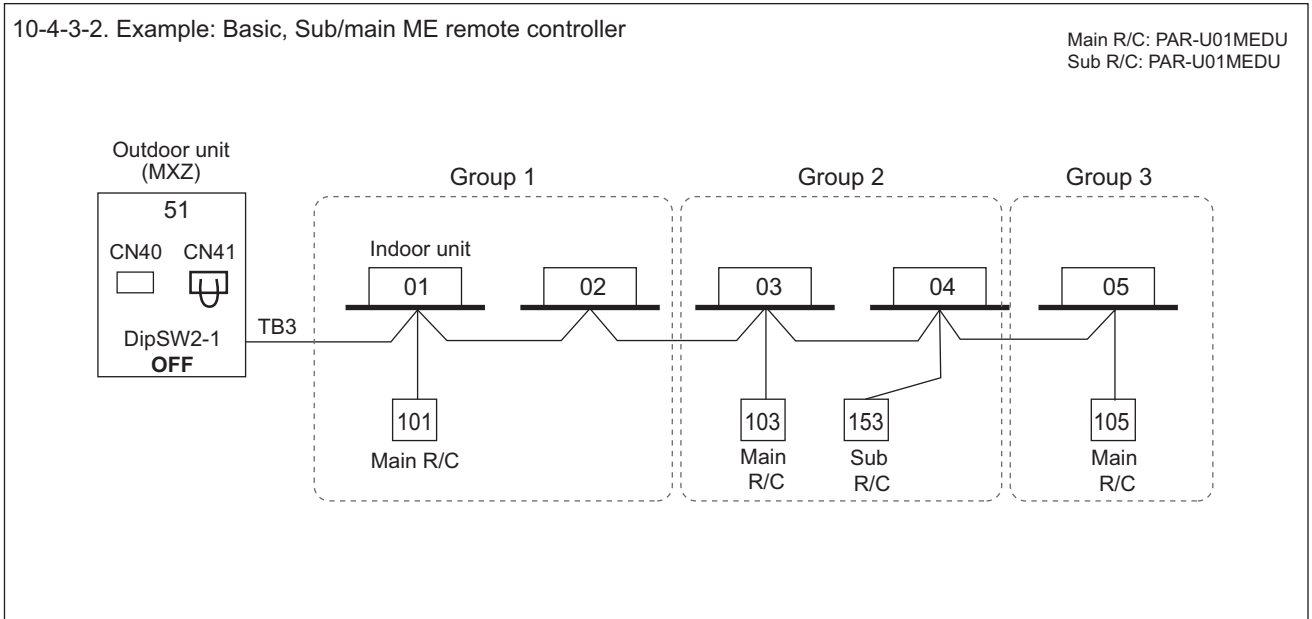
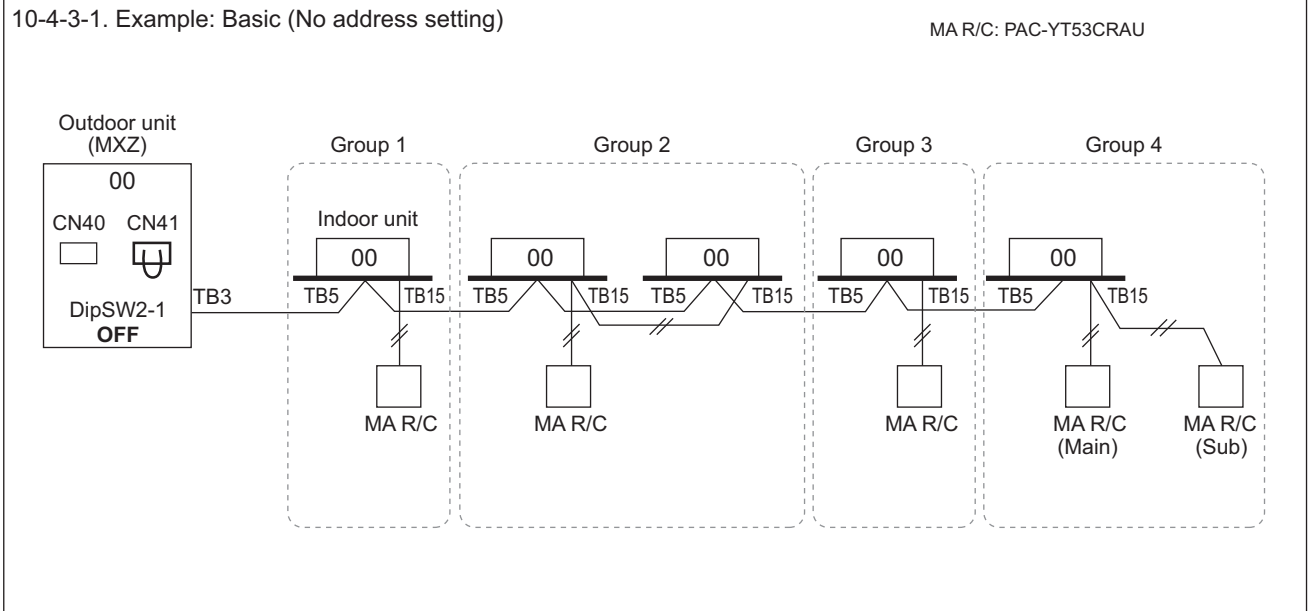
OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.

10-4-3. System example

Factory setting

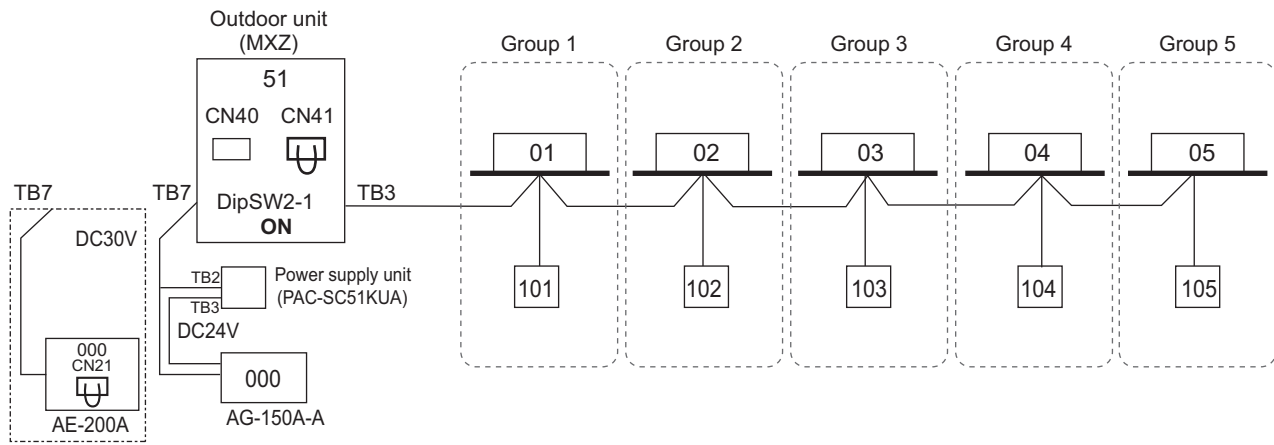
Original switch setting of the outdoors, indoors, controllers, LM-AP, and BM ADAPTER at shipment is as follows.

- 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)



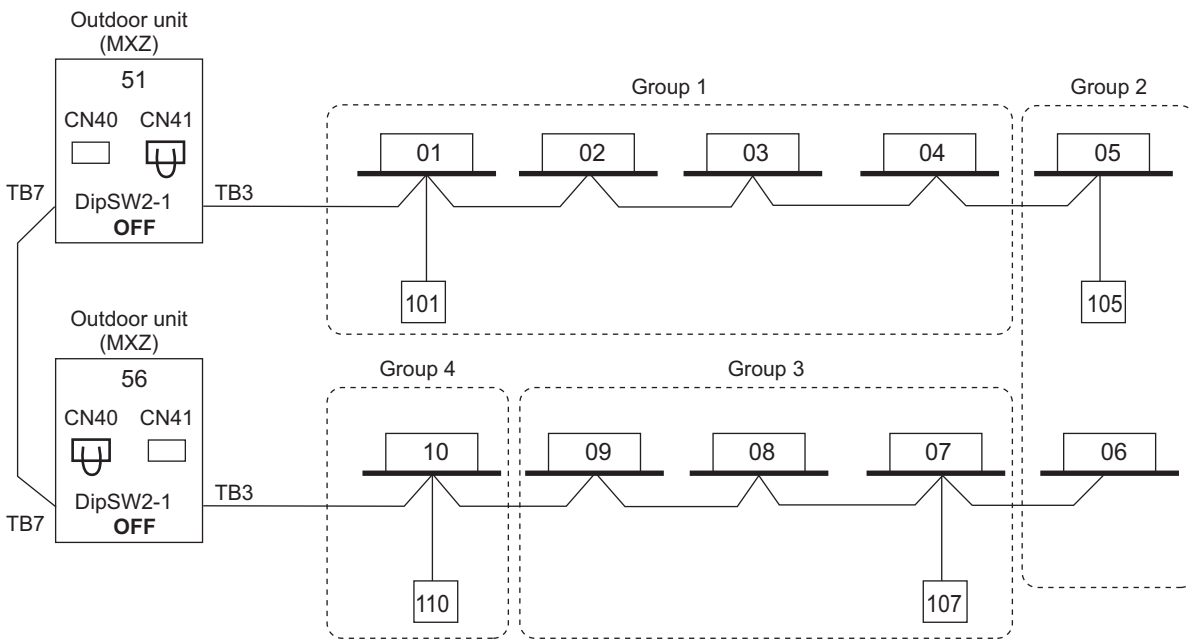
MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

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



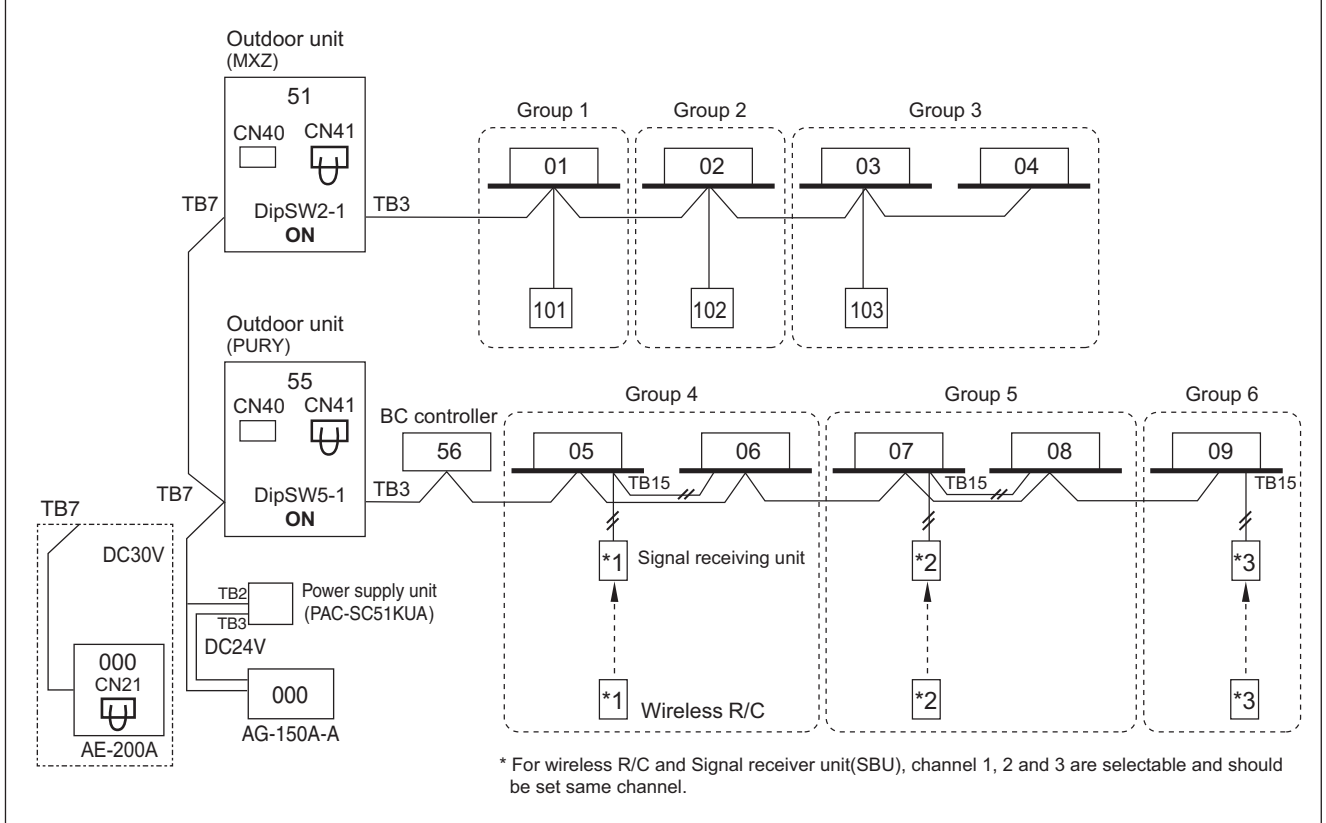
NOTE
 • It is necessary to turn on the DipSW 2-1 on the outdoor unit control board when the central controller is connected.

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.

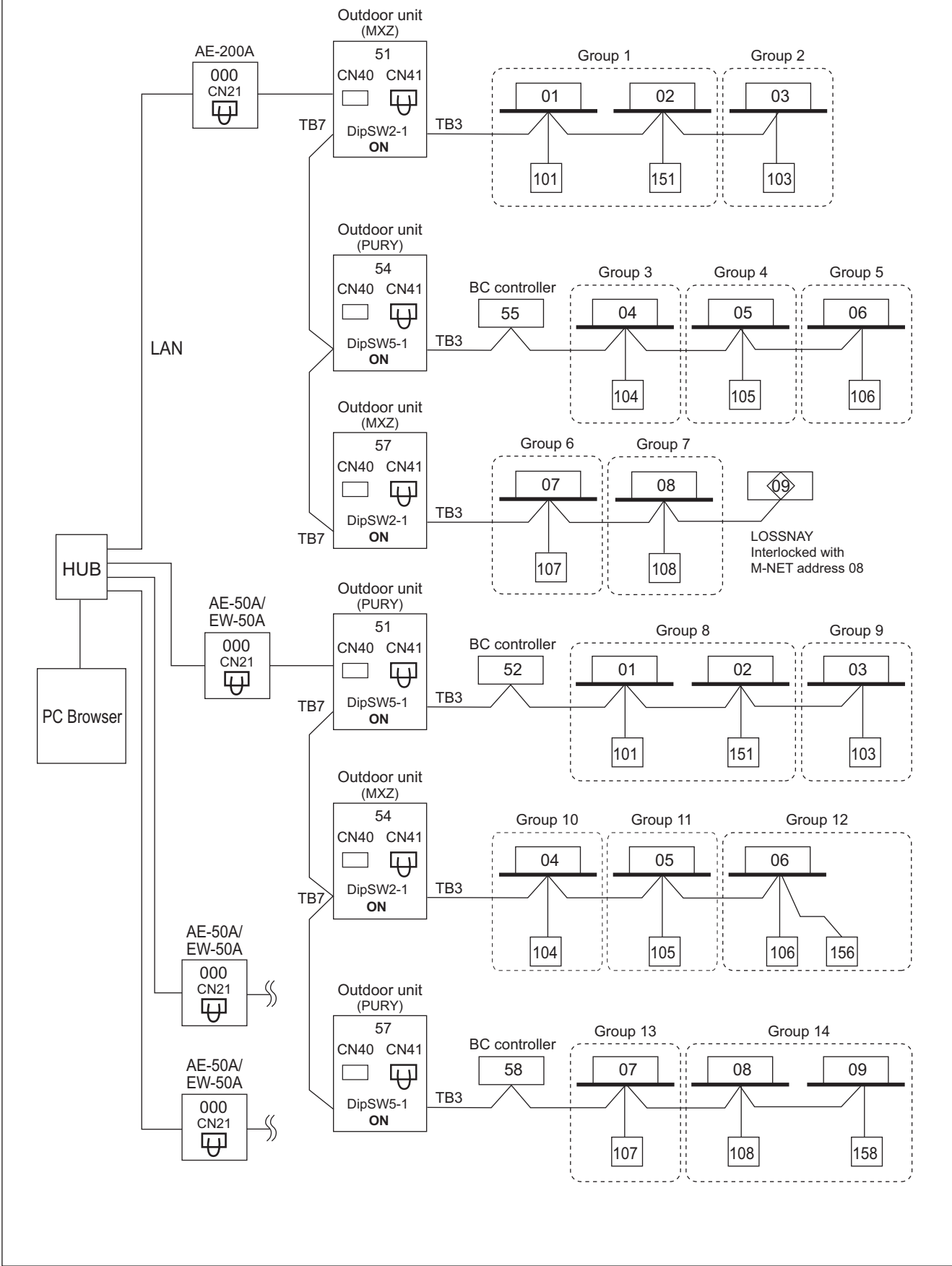
10-4-3-5. Example: 2 Outdoor unit, AG-150A-A, AE-200A, MA



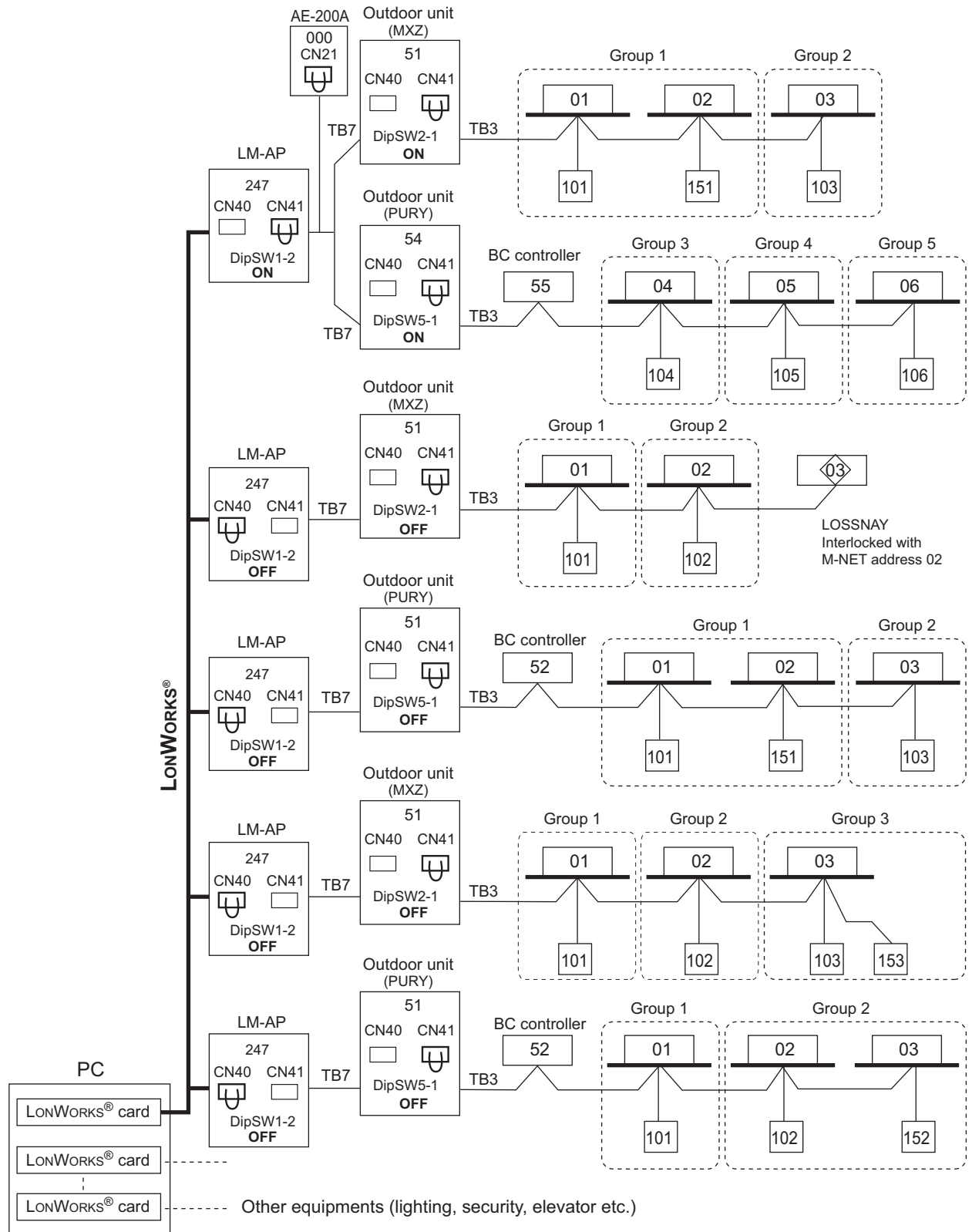
MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

10-4-3-6. AE-200A + AE-50A/EW-50A
 AE-200A can control max. 200 indoor units/via AE-50A/EW-50A.



10-4-3-7. 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-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-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-SM36/48NAM2-U1/MXZ-SM36/42/48NAMHZ2-U1

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

<p>Line-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>																							
Permissible Length	Total Piping Length	$A+B+C+a+b+c+d \leq 984 \text{ ft [300 m]}$																					
	Farthest Piping Length (L)	$A+B+C+d \leq 492 \text{ ft [150 m]}$																					
	Farthest Piping Length After First Branch (Q)	$B+C+d \leq 98 \text{ ft [30 m]}$																					
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 [30,] or less if 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 m]																					
<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) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)</p> <p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</p>																					
<p>(1) Section From Outdoor Unit to First Branch (A)</p> <p>(2) Sections From Branch to Indoor Unit (a,b,c,d)</p> <p>(3) Section From Branch to Branch (B,C)</p> <p>Each Section of Piping</p> <p>Select the size from the table to the right.</p>		<table border="1"> <thead> <tr> <th>Model</th> <th>Piping Diameter (inch [mm])</th> <th>Model number</th> <th>Piping Diameter (inch [mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MXZ-SM36/42/48</td> <td>Liquid Line</td> <td rowspan="2">18 or lower</td> <td>Liquid Line</td> <td>1/4 [ø6.35]</td> </tr> <tr> <td>Gas Line</td> <td>Gas Line</td> <td>1/2 [ø12.7]</td> </tr> <tr> <td rowspan="2"></td> <td>Liquid Line</td> <td rowspan="2">24 to 54</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>Gas Line</td> <td>5/8 [ø15.88]</td> </tr> </tbody> </table>		Model	Piping Diameter (inch [mm])	Model number	Piping Diameter (inch [mm])	MXZ-SM36/42/48	Liquid Line	18 or lower	Liquid Line	1/4 [ø6.35]	Gas Line	Gas Line	1/2 [ø12.7]		Liquid Line	24 to 54	Liquid Line	3/8 [ø9.52]	Gas Line	Gas Line	5/8 [ø15.88]
		Model	Piping Diameter (inch [mm])	Model number	Piping Diameter (inch [mm])																		
		MXZ-SM36/42/48	Liquid Line	18 or lower	Liquid Line	1/4 [ø6.35]																	
Gas Line	Gas Line		1/2 [ø12.7]																				
	Liquid Line	24 to 54	Liquid Line	3/8 [ø9.52]																			
	Gas Line		Gas Line	5/8 [ø15.88]																			
<p>(3) Refrigerant Piping Diameter In Section From Branch to Branch</p> <table border="1"> <thead> <tr> <th>Liquid Line (inch [mm])</th> <th>Gas Line (inch [mm])</th> </tr> </thead> <tbody> <tr> <td>3/8 [ø9.52]</td> <td>5/8 [ø15.88]</td> </tr> </tbody> </table>		Liquid Line (inch [mm])	Gas Line (inch [mm])	3/8 [ø9.52]	5/8 [ø15.88]																		
Liquid Line (inch [mm])	Gas Line (inch [mm])																						
3/8 [ø9.52]	5/8 [ø15.88]																						
<p>■ Additional refrigerant charge</p>		Refer to "11-3. Refrigerant charging calculation".																					

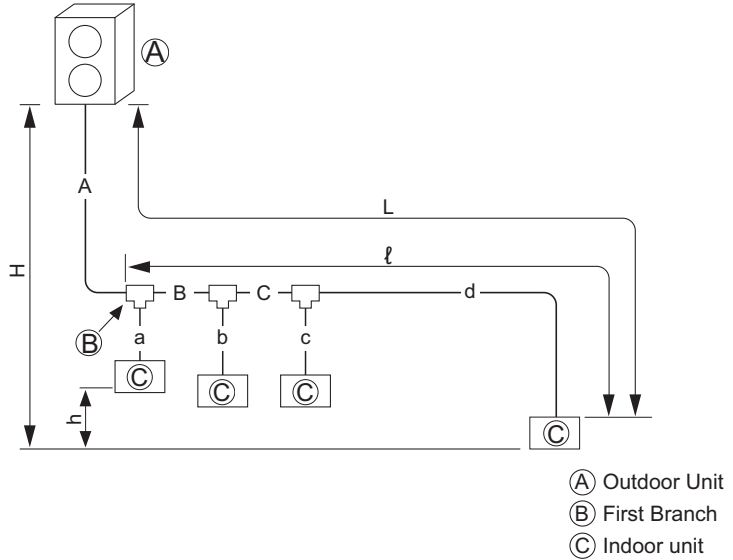
<p>Header-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>		<p> A Outdoor Unit B First Branch C Indoor unit </p>																														
Permissible Length	Total Piping Length	$A+a+b+c+d \leq 984 \text{ ft [300 m]}$																														
	Farthest Piping Length (L)	$A+d \leq 492 \text{ ft [150 m]}$																														
	Farthest Piping Length After First Branch (l)	$d \leq 98 \text{ ft [30 m]}$																														
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 [30.] or less if 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 m]																														
<p>■ Selecting the Refrigerant Branch Kit</p>		Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)																														
		<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Branch header (4 branches)</td> <td style="width: 50%;">Branch header (8 branches)</td> </tr> <tr> <td style="text-align: center;">CMY-Y64-G-E</td> <td style="text-align: center;">CMY-Y68-G-E</td> </tr> </table>	Branch header (4 branches)	Branch header (8 branches)	CMY-Y64-G-E	CMY-Y68-G-E																										
Branch header (4 branches)	Branch header (8 branches)																															
CMY-Y64-G-E	CMY-Y68-G-E																															
<p>■ Select Each Section of Refrigerant Piping</p> <p>(1) Section From Outdoor Unit to First Branch (A) } Each Section of Piping (2) Sections From Branch to Indoor Unit (a,b,c,d) }</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" style="width: 100%;"> <thead> <tr> <th>Model</th> <th colspan="2">Piping Diameter (inch [mm])</th> <th>Model number</th> <th colspan="2">Piping Diameter (inch [mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="4">MXZ-SM36/42/48</td> <td rowspan="2">Liquid Line</td> <td>3/8 [ø9.52]</td> <td rowspan="2">18 or lower</td> <td>Liquid Line</td> <td>1/4 [ø6.35]</td> </tr> <tr> <td rowspan="2">Gas Line</td> <td>5/8 [ø15.88]</td> <td>Gas Line</td> <td>1/2 [ø12.7]</td> </tr> <tr> <td rowspan="2">Liquid Line</td> <td>3/8 [ø9.52]</td> <td rowspan="2">24 to 54</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>5/8 [ø15.88]</td> <td>Gas Line</td> <td>5/8 [ø15.88]</td> </tr> </tbody> </table> <p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</p> <p>(3) Refrigerant Piping Diameter In Section From Branch to Branch</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Liquid Line (inch [mm])</th> <th>Gas Line (inch [mm])</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3/8 [ø9.52]</td> <td style="text-align: center;">5/8 [ø15.88]</td> </tr> </tbody> </table>		Model	Piping Diameter (inch [mm])		Model number	Piping Diameter (inch [mm])		MXZ-SM36/42/48	Liquid Line	3/8 [ø9.52]	18 or lower	Liquid Line	1/4 [ø6.35]	Gas Line	5/8 [ø15.88]	Gas Line	1/2 [ø12.7]	Liquid Line	3/8 [ø9.52]	24 to 54	Liquid Line	3/8 [ø9.52]	Gas Line	5/8 [ø15.88]	Gas Line	5/8 [ø15.88]	Liquid Line (inch [mm])	Gas Line (inch [mm])	3/8 [ø9.52]	5/8 [ø15.88]
Model	Piping Diameter (inch [mm])		Model number	Piping Diameter (inch [mm])																												
MXZ-SM36/42/48	Liquid Line	3/8 [ø9.52]	18 or lower	Liquid Line	1/4 [ø6.35]																											
		Gas Line		5/8 [ø15.88]	Gas Line	1/2 [ø12.7]																										
	Liquid Line		3/8 [ø9.52]	24 to 54	Liquid Line	3/8 [ø9.52]																										
		Gas Line	5/8 [ø15.88]		Gas Line	5/8 [ø15.88]																										
Liquid Line (inch [mm])	Gas Line (inch [mm])																															
3/8 [ø9.52]	5/8 [ø15.88]																															
<p>■ Additional refrigerant charge</p>		Refer to "11-3. Refrigerant charging calculation".																														

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

<p>Method of Combined Branching of Lines and Headers Connection Examples (Connecting to 5 Indoor Units)</p>																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="3" style="width: 15%;">Permissible Length</td> <td style="width: 15%;">Total Piping Length</td> <td>$A+B+C+a+b+c+d+e \leq 984 \text{ ft [300 m]}$</td> </tr> <tr> <td>Farthest Piping Length (L)</td> <td>$A+B+b \leq 492 \text{ ft [150 m]}$</td> </tr> <tr> <td>Farthest Piping Length After First Branch (l)</td> <td>$B+b \leq 98 \text{ ft [30 m]}$</td> </tr> </table>	Permissible Length	Total Piping Length	$A+B+C+a+b+c+d+e \leq 984 \text{ ft [300 m]}$	Farthest Piping Length (L)	$A+B+b \leq 492 \text{ ft [150 m]}$	Farthest Piping Length After First Branch (l)	$B+b \leq 98 \text{ ft [30 m]}$																			
Permissible Length		Total Piping Length	$A+B+C+a+b+c+d+e \leq 984 \text{ ft [300 m]}$																							
		Farthest Piping Length (L)	$A+B+b \leq 492 \text{ ft [150 m]}$																							
	Farthest Piping Length After First Branch (l)	$B+b \leq 98 \text{ ft [30 m]}$																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Permissible High/Low Difference</td> <td style="width: 15%;">High/Low Difference in Indoor/Outdoor Section (H)</td> <td>The outdoor unit is upper: 164ft [50m] or less The outdoor unit is lower: 131ft [40m] or less (98ft [30.] or less if PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU are included.)</td> </tr> <tr> <td>High/Low Difference in Indoor/Indoor Section (h)</td> <td>49 ft [15 m]</td> </tr> </table>	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 [30.] or less if 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 m]																					
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 [30.] or less if 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 m]																								
<p>■ Selecting the Refrigerant Branch Kit</p> <p>Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 33%;">Branch Joint</td> <td style="width: 33%;">Branch Header (4 branches)</td> <td style="width: 33%;">Branch Header (8 branches)</td> </tr> <tr> <td>CMY-Y62-G-E</td> <td>CMY-Y64-G-E</td> <td>CMY-Y68-G-E</td> </tr> </table>	Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)	CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-G-E																				
Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)																								
CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-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,e) (3) Section From Branch to Branch (B,C)</p> <p style="text-align: center;">} 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" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width: 20%;">Model</th> <th colspan="2">Piping Diameter (inch [mm])</th> </tr> <tr> <td rowspan="2">MXZ-SM36/42/48</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>5/8 [ø15.88]</td> </tr> </table> <p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width: 20%;">Model number</th> <th colspan="2">Piping Diameter (inch [mm])</th> </tr> <tr> <td rowspan="2">18 or lower</td> <td>Liquid Line</td> <td>1/4 [ø6.35]</td> </tr> <tr> <td>Gas Line</td> <td>1/2 [ø12.7]</td> </tr> <tr> <td rowspan="2">24 to 54</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>5/8 [ø15.88]</td> </tr> </table> <p>(3) Refrigerant Piping Diameter In Section From Branch to Branch</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width: 50%;">Liquid Line (inch [mm])</th> <th style="width: 50%;">Gas Line (inch [mm])</th> </tr> <tr> <td>3/8 [ø9.52]</td> <td>5/8 [ø15.88]</td> </tr> </table>	Model	Piping Diameter (inch [mm])		MXZ-SM36/42/48	Liquid Line	3/8 [ø9.52]	Gas Line	5/8 [ø15.88]	Model number	Piping Diameter (inch [mm])		18 or lower	Liquid Line	1/4 [ø6.35]	Gas Line	1/2 [ø12.7]	24 to 54	Liquid Line	3/8 [ø9.52]	Gas Line	5/8 [ø15.88]	Liquid Line (inch [mm])	Gas Line (inch [mm])	3/8 [ø9.52]	5/8 [ø15.88]
Model	Piping Diameter (inch [mm])																									
MXZ-SM36/42/48	Liquid Line	3/8 [ø9.52]																								
	Gas Line	5/8 [ø15.88]																								
Model number	Piping Diameter (inch [mm])																									
18 or lower	Liquid Line	1/4 [ø6.35]																								
	Gas Line	1/2 [ø12.7]																								
24 to 54	Liquid Line	3/8 [ø9.52]																								
	Gas Line	5/8 [ø15.88]																								
Liquid Line (inch [mm])	Gas Line (inch [mm])																									
3/8 [ø9.52]	5/8 [ø15.88]																									
<p>■ Additional refrigerant charge</p>	<p>Refer to "11-3. Refrigerant charging calculation".</p>																									

11-2-2. MXZ-SM60NAM2-U1

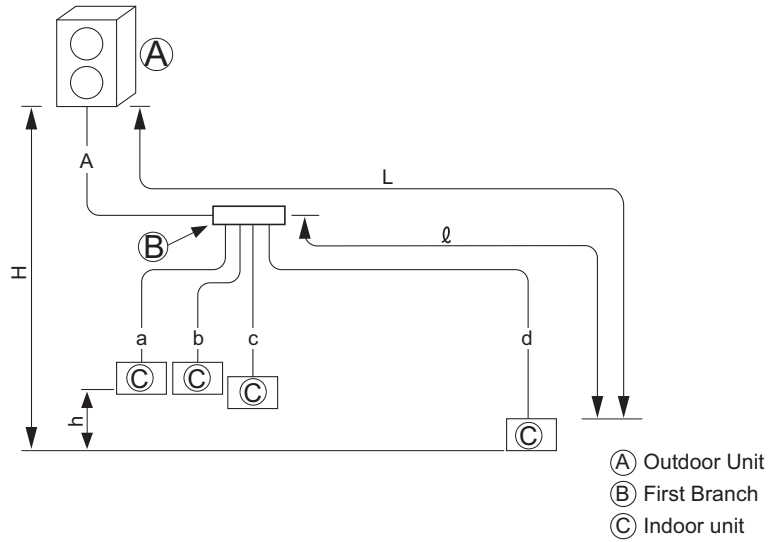
Line-Branch Method
Connection Examples
(Connecting to 4 Indoor Units)



Permissible Length	Total Piping Length	$A+B+C+a+b+c+d \leq 492 \text{ ft [150 m]}$										
	Farthest Piping Length (L)	$A+B+C+d \leq 262 \text{ ft [80 m]}$										
	Farthest Piping Length After First Branch (ℓ)	$B+C+d \leq 98 \text{ ft [30 m]}$										
Permissible High/Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	164 ft [50 m] (If the outdoor unit is lower, 131 ft [40 m])										
	High/Low Difference in Indoor/Indoor Section (h)	49 ft [15 m]										
■ Selecting the Refrigerant Branch Kit		Use an optional branch piping kit (CMY-Y62-G-E).										
■ Select Each Section of Refrigerant Piping		(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)										
(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) Each Section of Piping Select the size from the table to the right.		<table border="1"> <thead> <tr> <th>Model</th> <th>Piping Diameter (inch[mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MXZ-SM60</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 3/4 [ø19.05]</td> </tr> </tbody> </table>		Model	Piping Diameter (inch[mm])	MXZ-SM60	Liquid Line 3/8 [ø9.52]	Gas Line 3/4 [ø19.05]				
		Model	Piping Diameter (inch[mm])									
		MXZ-SM60	Liquid Line 3/8 [ø9.52]									
Gas Line 3/4 [ø19.05]												
(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)												
<table border="1"> <thead> <tr> <th>Model number</th> <th>Piping Diameter (inch[mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">18 or lower</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 o54</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 5/8 [ø15.88]</td> </tr> <tr> <td rowspan="2">72</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 3/4 [ø19.05]</td> </tr> </tbody> </table>		Model number	Piping Diameter (inch[mm])	18 or lower	Liquid Line 1/4 [ø6.35]	Gas Line 1/2 [ø12.7]	24 o54	Liquid Line 3/8 [ø9.52]	Gas Line 5/8 [ø15.88]	72	Liquid Line 3/8 [ø9.52]	Gas Line 3/4 [ø19.05]
Model number	Piping Diameter (inch[mm])											
18 or lower	Liquid Line 1/4 [ø6.35]											
	Gas Line 1/2 [ø12.7]											
24 o54	Liquid Line 3/8 [ø9.52]											
	Gas Line 5/8 [ø15.88]											
72	Liquid Line 3/8 [ø9.52]											
	Gas Line 3/4 [ø19.05]											
(3) Refrigerant Piping Diameter In Section From Branch to Branch												
<table border="1"> <thead> <tr> <th>Liquid Line (inch[mm])</th> <th>Gas Line (inch[mm])</th> </tr> </thead> <tbody> <tr> <td>3/8 [ø9.52]</td> <td>3/4 [ø19.05]</td> </tr> </tbody> </table>		Liquid Line (inch[mm])	Gas Line (inch[mm])	3/8 [ø9.52]	3/4 [ø19.05]							
Liquid Line (inch[mm])	Gas Line (inch[mm])											
3/8 [ø9.52]	3/4 [ø19.05]											
■ Additional refrigerant charge		Refer to "11-3. Refrigerant charging calculation".										

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

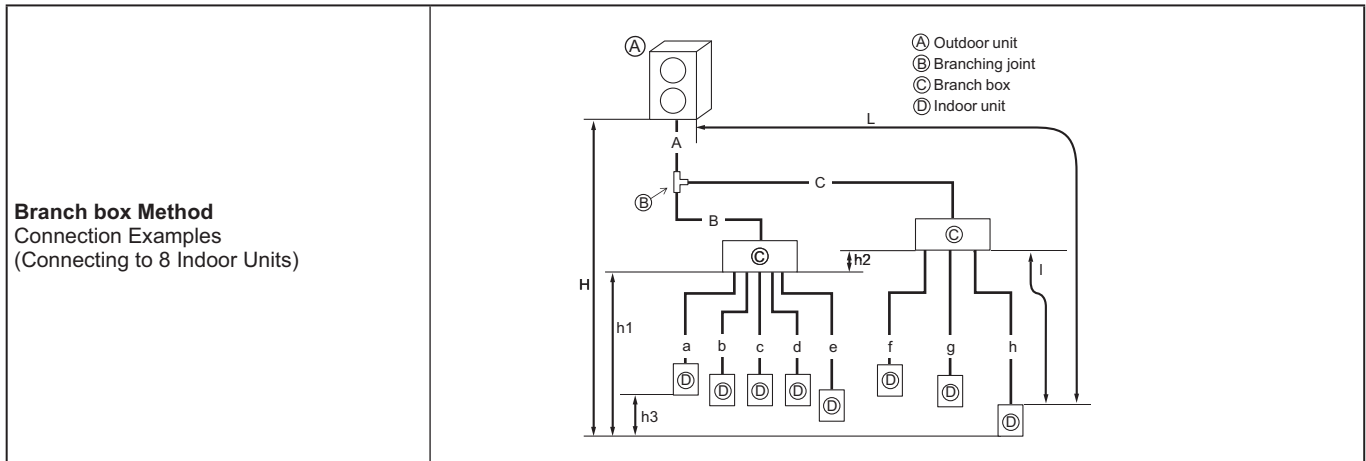
Header-Branch Method
Connection Examples
(Connecting to 4 Indoor Units)



Permissible Length	Total Piping Length	$A+a+b+c+d \leq 492 \text{ ft [150 m]}$																	
	Farthest Piping Length (L)	$A+d \leq 262 \text{ ft [80 m]}$																	
	Farthest Piping Length After First Branch (l)	$d \leq 98 \text{ ft [30 m]}$																	
Permissible High/Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	164 ft [50 m] (If the outdoor unit is lower, 131 ft [40 m])																	
	High/Low Difference in Indoor/Indoor Section (h)	49 ft [15 m]																	
<p>■ Selecting the Refrigerant Branch Kit</p> <p>Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Branch header (4 branches)</td> <td>Branch header (8 branches)</td> </tr> <tr> <td>CMY-Y64-G-E</td> <td>CMY-Y68-G-E</td> </tr> </table>		Branch header (4 branches)	Branch header (8 branches)	CMY-Y64-G-E	CMY-Y68-G-E														
Branch header (4 branches)	Branch header (8 branches)																		
CMY-Y64-G-E	CMY-Y68-G-E																		
<p>■ Select Each Section of Refrigerant Piping</p> <p>(1) Section From Outdoor Unit to First Branch (A) } Each Section of Piping (2) Sections From Branch to Indoor Unit (a,b,c,d) }</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" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Model</th> <th>Piping Diameter (inch[mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MXZ-SM60</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 3/4 [ø19.05]</td> </tr> </tbody> </table>	Model	Piping Diameter (inch[mm])	MXZ-SM60	Liquid Line 3/8 [ø9.52]	Gas Line 3/4 [ø19.05]	<p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Model number</th> <th>Piping Diameter (inch[mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">18 or lower</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 to 54</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 5/8 [ø15.88]</td> </tr> <tr> <td rowspan="2">72</td> <td>Liquid Line 3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line 3/4 [ø19.05]</td> </tr> </tbody> </table>	Model number	Piping Diameter (inch[mm])	18 or lower	Liquid Line 1/4 [ø6.35]	Gas Line 1/2 [ø12.7]	24 to 54	Liquid Line 3/8 [ø9.52]	Gas Line 5/8 [ø15.88]	72	Liquid Line 3/8 [ø9.52]	Gas Line 3/4 [ø19.05]
Model	Piping Diameter (inch[mm])																		
MXZ-SM60	Liquid Line 3/8 [ø9.52]																		
	Gas Line 3/4 [ø19.05]																		
Model number	Piping Diameter (inch[mm])																		
18 or lower	Liquid Line 1/4 [ø6.35]																		
	Gas Line 1/2 [ø12.7]																		
24 to 54	Liquid Line 3/8 [ø9.52]																		
	Gas Line 5/8 [ø15.88]																		
72	Liquid Line 3/8 [ø9.52]																		
	Gas Line 3/4 [ø19.05]																		
<p>■ Additional refrigerant charge</p>		<p>Refer to "11-3. Refrigerant charging calculation".</p>																	

<p>Method of Combined Branching of Lines and Headers Connection Examples (Connecting to 5 Indoor Units)</p>																																											
<p>Permissible Length</p>	<table border="1"> <tr> <td>Total Piping Length</td> <td>A+B+C+a+b+c+d+e is 492 ft [150 m]</td> </tr> <tr> <td>Farthest Piping Length (L)</td> <td>A+B+b is 262 ft [80 m]</td> </tr> <tr> <td>Farthest Piping Length After First Branch (l)</td> <td>B+b ≤ 98 ft [30 m]</td> </tr> </table>	Total Piping Length	A+B+C+a+b+c+d+e is 492 ft [150 m]	Farthest Piping Length (L)	A+B+b is 262 ft [80 m]	Farthest Piping Length After First Branch (l)	B+b ≤ 98 ft [30 m]																																				
Total Piping Length	A+B+C+a+b+c+d+e is 492 ft [150 m]																																										
Farthest Piping Length (L)	A+B+b is 262 ft [80 m]																																										
Farthest Piping Length After First Branch (l)	B+b ≤ 98 ft [30 m]																																										
<p>Permissible High/Low Difference</p>	<table border="1"> <tr> <td>High/Low Difference in Indoor/Outdoor Section (H)</td> <td>164 ft [50 m] (If the outdoor unit is lower, 131 ft [40 m] or less)</td> </tr> <tr> <td>High/Low Difference in Indoor/Indoor Section (h)</td> <td>49 ft [15 m]</td> </tr> </table>	High/Low Difference in Indoor/Outdoor Section (H)	164 ft [50 m] (If the outdoor unit is lower, 131 ft [40 m] or less)	High/Low Difference in Indoor/Indoor Section (h)	49 ft [15 m]																																						
High/Low Difference in Indoor/Outdoor Section (H)	164 ft [50 m] (If the outdoor unit is lower, 131 ft [40 m] or less)																																										
High/Low Difference in Indoor/Indoor Section (h)	49 ft [15 m]																																										
<p>■ Selecting the Refrigerant Branch Kit</p>	<p>Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)</p> <table border="1"> <thead> <tr> <th>Branch Joint</th> <th>Branch Header (4 branches)</th> <th>Branch Header (8 branches)</th> </tr> </thead> <tbody> <tr> <td>CMY-Y62-G-E</td> <td>CMY-Y64-G-E</td> <td>CMY-Y68-G-E</td> </tr> </tbody> </table>	Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)	CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-G-E																																				
Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)																																									
CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-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,e) (3) Section From Branch to Branch (B,C)</p> <p>Each Section of Piping</p> <p>Select the size from the table to the right.</p>	<table border="1"> <thead> <tr> <th colspan="3">(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)</th> <th colspan="3">(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)</th> </tr> <tr> <th>Model</th> <th colspan="2">Piping Diameter (inch [mm])</th> <th>Model number</th> <th colspan="2">Piping Diameter (inch [mm])</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MXZ-SM60</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> <td rowspan="2">18 or lower</td> <td>Liquid Line</td> <td>1/4 [ø6.35]</td> </tr> <tr> <td>Gas Line</td> <td>3/4 [ø19.05]</td> <td>Gas Line</td> <td>1/2 [ø12.7]</td> </tr> <tr> <td rowspan="2"></td> <td rowspan="2"></td> <td rowspan="2"></td> <td rowspan="2">24 to 54</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>5/8 [ø15.88]</td> </tr> <tr> <td rowspan="2"></td> <td rowspan="2"></td> <td rowspan="2"></td> <td rowspan="2">72</td> <td>Liquid Line</td> <td>3/8 [ø9.52]</td> </tr> <tr> <td>Gas Line</td> <td>3/4 [ø19.05]</td> </tr> </tbody> </table> <p>(3) Refrigerant Piping Diameter In Section From Branch to Branch</p> <table border="1"> <thead> <tr> <th>Liquid Line (inch [mm])</th> <th>Gas Line (inch [mm])</th> </tr> </thead> <tbody> <tr> <td>3/8 [ø9.52]</td> <td>3/4 [ø19.05]</td> </tr> </tbody> </table>	(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)			(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)			Model	Piping Diameter (inch [mm])		Model number	Piping Diameter (inch [mm])		MXZ-SM60	Liquid Line	3/8 [ø9.52]	18 or lower	Liquid Line	1/4 [ø6.35]	Gas Line	3/4 [ø19.05]	Gas Line	1/2 [ø12.7]				24 to 54	Liquid Line	3/8 [ø9.52]	Gas Line	5/8 [ø15.88]				72	Liquid Line	3/8 [ø9.52]	Gas Line	3/4 [ø19.05]	Liquid Line (inch [mm])	Gas Line (inch [mm])	3/8 [ø9.52]	3/4 [ø19.05]
(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)			(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)																																								
Model	Piping Diameter (inch [mm])		Model number	Piping Diameter (inch [mm])																																							
MXZ-SM60	Liquid Line	3/8 [ø9.52]	18 or lower	Liquid Line	1/4 [ø6.35]																																						
	Gas Line	3/4 [ø19.05]		Gas Line	1/2 [ø12.7]																																						
			24 to 54	Liquid Line	3/8 [ø9.52]																																						
				Gas Line	5/8 [ø15.88]																																						
			72	Liquid Line	3/8 [ø9.52]																																						
				Gas Line	3/4 [ø19.05]																																						
Liquid Line (inch [mm])	Gas Line (inch [mm])																																										
3/8 [ø9.52]	3/4 [ø19.05]																																										
<p>■ Additional refrigerant charge</p>	<p>Refer to "11-3. Refrigerant charging calculation".</p>																																										

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1



Permissible length (One-way)	Total piping length	$A + B + C + a + b + c + d + e + f + g + h \leq 492 \text{ ft [150 m]}$
	Farthest piping length (L)	$A + C + h \leq 262 \text{ ft [80 m]}$
	Piping length between outdoor unit and branch boxes	$A + B + C \leq 180 \text{ ft [55m]}$
	Farthest piping length after branch box (l)	$l \leq 82 \text{ ft [25 m]}$
	Total piping length between branch boxes and indoor units	$a + b + c + d + e + f + g + h \leq 312 \text{ ft [95 m]}$
Permissible height difference (One-way)	In indoor/outdoor section (H)*1	$H \leq 164 \text{ ft [50 m]}$ (In the case of that outdoor unit is set higher than indoor unit) $H \leq 131 \text{ ft [40 m]}$ (In the case of that outdoor unit is set lower than indoor unit)
	In branch box/indoor unit section (h1)	$h1 + h2 \leq 49 \text{ ft [15 m]}$
	In each branch unit (h2)	$h2 \leq 49 \text{ ft [15 m]}$
	In each indoor unit (h3)	$h3 \leq 39 \text{ ft [12 m]}$
	Number of bends	≤ 15

*1 Branch box should be placed within the level between the outdoor unit and indoor units.

■ Select Each Section of Refrigerant Piping

(1) Section From Outdoor Unit to Branch box (A, B, C) } Each Section of Piping
 (2) Sections From Branch box to Indoor Unit (a to h)

Select the size from the table to the right.

(1) Refrigerant Piping Diameter In Section From Outdoor Unit to Branch box (Outdoor Unit Piping Diameter)

Model	Piping Diameter (inch[mm])	
MXZ-SM36/42/48	Liquid Line	3/8 [ø9.52]
	Gas Line	5/8 [ø15.88]
MXZ-SM60	Liquid Line	3/8 [ø9.52]
	Gas Line	3/4 [ø19.05]

(2) Refrigerant Piping Diameter In Section From Branch box to Indoor Unit (Indoor Unit Piping Diameter)

Indoor unit series	Model number	A Liquid pipe (inch[mm])	B Gas pipe (inch[mm])
M series or S series	- 12	1/4 [ø6.35]	3/8 [ø9.52]
	15,18		1/2 [ø12.7]
	24 -	3/8 [ø9.52]	5/8 [ø15.88]
P series	- 18	1/4 [ø6.35]	1/2 [ø12.7]
	24 -	3/8 [ø9.52]	5/8 [ø15.88]

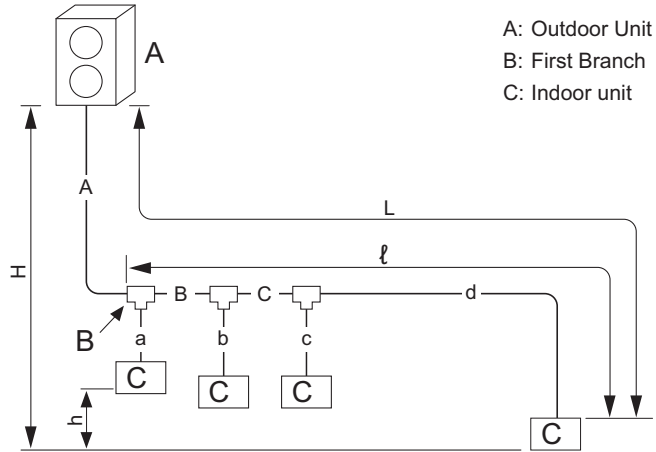
When both of following bullet are satisfied gas piping diagram size shall be increased by one size.

- Indoor units which connected are all of A-COIL type (PAA-A).
- Total piping length is 33 ft (10 m) or less.

■ Additional refrigerant charge Refer to "11-3. Refrigerant charging calculation".

11-2-3. MXZ-SM72/96/120TAM-U1

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



Permissible Length	Total Piping Length	$A + B + C + a + b + c + d \leq 310 \text{ m [1016 ft]}$
	Farthest Piping Length (L)	$A + B + C + d \leq 130 \text{ m [426 ft]}$
	Farthest Piping Length After First Branch (ℓ)	$B + C + d \leq 30 \text{ m [98 ft]}$
Permissible High/Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	$H \leq 50 \text{ m [164 ft]}$ (If the outdoor unit is lower, $H \leq 40 \text{ m [131 ft]}$)
	High/Low Difference in Indoor/Indoor Section (h)	$h \leq 15 \text{ m [49 ft]}$

■ **Selecting the Refrigerant Branch Kit**

Use an optional branch piping kit (CMY-Y62-G-E).

■ **Select Each Section of Refrigerant Piping**

- (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)
- } Each Section of Piping

Select the size from the table to the right.

- (1) Refrigerant Piping Diameter In Section
From Outdoor Unit to First Branch
(Outdoor Unit Piping Diameter)

Model	Liquid pipe		Gas pipe
	mm [in]		
MXZ-SM72	All	$\phi 9.52 [3/8]^*$	$\phi 22.2 [7/8]$
	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]^*$	$\phi 22.2 [7/8]$
MXZ-SM96	$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$	
	MXZ-SM120	All	$\phi 12.7 [1/2]$

* $\phi 12.7 [1/2]$ when connecting the indoor unit for PEFY-P72 or P96.

- (2) Refrigerant Piping Diameter In Section
From Branch to Indoor Unit
(Indoor Unit Piping Diameter)

Model number	Liquid pipe	Gas pipe
mm [in]		
04, 05, 06, 08, 12, 15, 18	$\phi 6.35 [1/4]$	$\phi 12.7 [1/2]$
24, 27, 30, 36, 48, 54	$\phi 9.52 [3/8]$	$\phi 15.88 [5/8]$
72	$\phi 9.52 [3/8]$	$\phi 19.05 [3/4]$
96	$\phi 9.52 [3/8]$	$\phi 22.2 [7/8]$

- (3) Refrigerant Piping Diameter In Section
From Branch to Branch

Total down-stream capacity of indoor units	Model	Liquid pipe		Gas pipe
mm [in]				
– 54 kBtu/h	MXZ-SM72	All	$\phi 9.52 [3/8]$	$\phi 15.88 [5/8]$
	MXZ-SM96	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]$	
		$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$	
54 – 76 kBtu/h	MXZ-SM72	All	$\phi 9.52 [3/8]^*$	$\phi 19.05 [3/4]$
	MXZ-SM96	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]^*$	
		$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$	
76 – 124 kBtu/h	MXZ-SM72	All	$\phi 9.52 [3/8]^*$	$\phi 22.2 [7/8]$
	MXZ-SM96	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]^*$	
		$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$	
124 kBtu/h –	MXZ-SM120	All	$\phi 12.7 [1/2]$	$\phi 28.58 [1-1/8]$

L: The farthest piping length from the outdoor unit to an indoor unit.

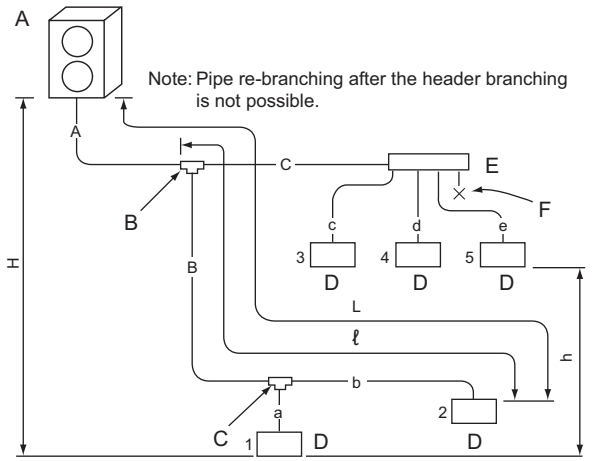
* $\phi 12.7 [1/2]$ when connecting the indoor unit for PEFY-P72 or P96.

■ **Additional refrigerant charge**

Refer to "11-3. Refrigerant charging calculation".

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

<p>Header-Branch Method Connection Examples (Connecting to 4 Indoor Units)</p>		<p>A: Outdoor Unit B: First Branch C: Indoor unit</p>																													
Permissible Length	Total Piping Length	$A + a + b + c + d \leq 310 \text{ m [1016 ft]}$																													
	Farthest Piping Length (L)	$A + d \leq 130 \text{ m [426 ft]}$																													
	Farthest Piping Length After First Branch (l)	$d \leq 30 \text{ m [98 ft]}$																													
Permissible High/Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	$H \leq 50 \text{ m [164 ft]}$ (If the outdoor unit is lower, $H \leq 40 \text{ m [131 ft]}$)																													
	High/Low Difference in Indoor/Indoor Section (h)	$h \leq 15 \text{ m [49 ft]}$																													
<p>■ Selecting the Refrigerant Branch Kit</p>		<p>Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)</p> <table border="1"> <tr> <td>Branch header (4 branches)</td> <td>Branch header (8 branches)</td> </tr> <tr> <td>CMY-Y64-G-E</td> <td>CMY-Y68-G-E</td> </tr> </table>	Branch header (4 branches)	Branch header (8 branches)	CMY-Y64-G-E	CMY-Y68-G-E																									
Branch header (4 branches)	Branch header (8 branches)																														
CMY-Y64-G-E	CMY-Y68-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)</p> <p>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) mm [in]</p> <table border="1"> <thead> <tr> <th>Model</th> <th>Liquid pipe</th> <th>Gas pipe</th> </tr> </thead> <tbody> <tr> <td>MXZ-SM72</td> <td>All</td> <td>$\phi 9.52 [3/8]^*$</td> </tr> <tr> <td rowspan="2">MXZ-SM96</td> <td>$L \leq 90 \text{ m [295 ft]}$</td> <td>$\phi 9.52 [3/8]^*$</td> </tr> <tr> <td>$L > 90 \text{ m [295 ft]}$</td> <td>$\phi 12.7 [1/2]$</td> </tr> <tr> <td>MXZ-SM120</td> <td>All</td> <td>$\phi 12.7 [1/2]$</td> </tr> </tbody> </table> <p>* $\phi 12.7 [1/2]$ when connecting the indoor unit for PEFY-P72 or P96.</p> <p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter) mm [in]</p> <table border="1"> <thead> <tr> <th>Model number</th> <th>Liquid pipe</th> <th>Gas pipe</th> </tr> </thead> <tbody> <tr> <td>04, 05, 06, 08, 12, 15, 18</td> <td>$\phi 6.35 [1/4]$</td> <td>$\phi 12.7 [1/2]$</td> </tr> <tr> <td>24, 27, 30, 36, 48, 54</td> <td>$\phi 9.52 [3/8]$</td> <td>$\phi 15.88 [5/8]$</td> </tr> <tr> <td>72</td> <td>$\phi 9.52 [3/8]$</td> <td>$\phi 19.05 [3/4]$</td> </tr> <tr> <td>96</td> <td>$\phi 9.52 [3/8]$</td> <td>$\phi 22.2 [7/8]$</td> </tr> </tbody> </table>	Model	Liquid pipe	Gas pipe	MXZ-SM72	All	$\phi 9.52 [3/8]^*$	MXZ-SM96	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]^*$	$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$	MXZ-SM120	All	$\phi 12.7 [1/2]$	Model number	Liquid pipe	Gas pipe	04, 05, 06, 08, 12, 15, 18	$\phi 6.35 [1/4]$	$\phi 12.7 [1/2]$	24, 27, 30, 36, 48, 54	$\phi 9.52 [3/8]$	$\phi 15.88 [5/8]$	72	$\phi 9.52 [3/8]$	$\phi 19.05 [3/4]$	96	$\phi 9.52 [3/8]$	$\phi 22.2 [7/8]$
Model	Liquid pipe	Gas pipe																													
MXZ-SM72	All	$\phi 9.52 [3/8]^*$																													
MXZ-SM96	$L \leq 90 \text{ m [295 ft]}$	$\phi 9.52 [3/8]^*$																													
	$L > 90 \text{ m [295 ft]}$	$\phi 12.7 [1/2]$																													
MXZ-SM120	All	$\phi 12.7 [1/2]$																													
Model number	Liquid pipe	Gas pipe																													
04, 05, 06, 08, 12, 15, 18	$\phi 6.35 [1/4]$	$\phi 12.7 [1/2]$																													
24, 27, 30, 36, 48, 54	$\phi 9.52 [3/8]$	$\phi 15.88 [5/8]$																													
72	$\phi 9.52 [3/8]$	$\phi 19.05 [3/4]$																													
96	$\phi 9.52 [3/8]$	$\phi 22.2 [7/8]$																													
<p>■ Additional refrigerant charge</p>		<p>Refer to "11-3. Refrigerant charging calculation".</p>																													

<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>																																																																																					
<p>Permissible Length</p>	<table border="1"> <tr> <td>Total Piping Length</td> <td>$A + B + C + a + b + c + d + e \leq 310 \text{ m [1016 ft]}$</td> </tr> <tr> <td>Farthest Piping Length (L)</td> <td>$A + B + b \leq 130 \text{ m [426 ft]}$</td> </tr> <tr> <td>Farthest Piping Length After First Branch (ℓ)</td> <td>$B + b \leq 30 \text{ m [98 ft]}$</td> </tr> </table>	Total Piping Length	$A + B + C + a + b + c + d + e \leq 310 \text{ m [1016 ft]}$	Farthest Piping Length (L)	$A + B + b \leq 130 \text{ m [426 ft]}$	Farthest Piping Length After First Branch (ℓ)	$B + b \leq 30 \text{ m [98 ft]}$																																																																															
Total Piping Length	$A + B + C + a + b + c + d + e \leq 310 \text{ m [1016 ft]}$																																																																																					
Farthest Piping Length (L)	$A + B + b \leq 130 \text{ m [426 ft]}$																																																																																					
Farthest Piping Length After First Branch (ℓ)	$B + b \leq 30 \text{ m [98 ft]}$																																																																																					
<p>Permissible High/Low Difference</p>	<table border="1"> <tr> <td>High/Low Difference in Indoor/Outdoor Section (H)</td> <td>$H \leq 50 \text{ m [164 ft]}$ (If the outdoor unit is lower, $H \leq 40 \text{ m [131 ft]}$)</td> </tr> <tr> <td>High/Low Difference in Indoor/Indoor Section (h)</td> <td>$h \leq 15 \text{ m [49 ft]}$</td> </tr> </table>	High/Low Difference in Indoor/Outdoor Section (H)	$H \leq 50 \text{ m [164 ft]}$ (If the outdoor unit is lower, $H \leq 40 \text{ m [131 ft]}$)	High/Low Difference in Indoor/Indoor Section (h)	$h \leq 15 \text{ m [49 ft]}$																																																																																	
High/Low Difference in Indoor/Outdoor Section (H)	$H \leq 50 \text{ m [164 ft]}$ (If the outdoor unit is lower, $H \leq 40 \text{ m [131 ft]}$)																																																																																					
High/Low Difference in Indoor/Indoor Section (h)	$h \leq 15 \text{ m [49 ft]}$																																																																																					
<p>Selecting the Refrigerant Branch Kit</p>	<p>Please select branching kit, which is sold separately, from the table below. (The kit comprises sets for use with liquid pipes and for use with gas pipes.)</p> <table border="1"> <tr> <td>Branch Joint</td> <td>Branch Header (4 branches)</td> <td>Branch Header (8 branches)</td> </tr> <tr> <td>CMY-Y62-G-E</td> <td>CMY-Y64-G-E</td> <td>CMY-Y68-G-E</td> </tr> </table>	Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)	CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-G-E																																																																															
Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)																																																																																				
CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-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,e) (3) Section From Branch to Branch (B,C)</p> <p>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) mm [in]</p> <table border="1"> <thead> <tr> <th>Model</th> <th colspan="2">Liquid pipe</th> <th>Gas pipe</th> </tr> </thead> <tbody> <tr> <td>MXZ-SM72</td> <td>All</td> <td>ø9.52 [3/8]*</td> <td>ø22.2 [7/8]</td> </tr> <tr> <td rowspan="2">MXZ-SM96</td> <td>L ≤ 90 m [295 ft]</td> <td>ø9.52 [3/8]*</td> <td rowspan="2">ø22.2 [7/8]</td> </tr> <tr> <td>L > 90 m [295 ft]</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td>MXZ-SM120</td> <td>All</td> <td>ø12.7 [1/2]</td> <td>ø28.58 [1-1/8]</td> </tr> </tbody> </table> <p>* ø12.7 [1/2] when connecting the indoor unit for PEFY-P72 or P96.</p> <p>(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter) mm [in]</p> <table border="1"> <thead> <tr> <th>Model number</th> <th>Liquid pipe</th> <th>Gas pipe</th> </tr> </thead> <tbody> <tr> <td>04, 05, 06, 08, 12, 15, 18</td> <td>ø6.35 [1/4]</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td>24, 27, 30, 36, 48, 54</td> <td>ø9.52 [3/8]</td> <td>ø15.88 [5/8]</td> </tr> <tr> <td>72</td> <td>ø9.52 [3/8]</td> <td>ø19.05 [3/4]</td> </tr> <tr> <td>96</td> <td>ø9.52 [3/8]</td> <td>ø22.2 [7/8]</td> </tr> </tbody> </table> <p>(3) Refrigerant Piping Diameter In Section From Branch to Branch</p> <table border="1"> <thead> <tr> <th>Total down-stream capacity of indoor units</th> <th>Model</th> <th colspan="2">Liquid pipe</th> <th>Gas pipe</th> </tr> </thead> <tbody> <tr> <td rowspan="3">- 54 kBtu/h</td> <td>MXZ-SM72</td> <td>All</td> <td>ø9.52 [3/8]</td> <td rowspan="3">ø15.88 [5/8]</td> </tr> <tr> <td rowspan="2">MXZ-SM96</td> <td>L ≤ 90 m [295 ft]</td> <td>ø9.52 [3/8]</td> </tr> <tr> <td>L > 90 m [295 ft]</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td></td> <td>MXZ-SM120</td> <td>All</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td rowspan="3">54 - 76 kBtu/h</td> <td>MXZ-SM72</td> <td>All</td> <td>ø9.52 [3/8]*</td> <td rowspan="3">ø19.05 [3/4]</td> </tr> <tr> <td rowspan="2">MXZ-SM96</td> <td>L ≤ 90 m [295 ft]</td> <td>ø9.52 [3/8]*</td> </tr> <tr> <td>L > 90 m [295 ft]</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td></td> <td>MXZ-SM120</td> <td>All</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td rowspan="3">76 - 124 kBtu/h</td> <td>MXZ-SM72</td> <td>All</td> <td>ø9.52 [3/8]*</td> <td rowspan="3">ø22.2 [7/8]</td> </tr> <tr> <td rowspan="2">MXZ-SM96</td> <td>L ≤ 90 m [295 ft]</td> <td>ø9.52 [3/8]*</td> </tr> <tr> <td>L > 90 m [295 ft]</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td></td> <td>MXZ-SM120</td> <td>All</td> <td>ø12.7 [1/2]</td> </tr> <tr> <td>124 kBtu/h -</td> <td>MXZ-SM120</td> <td>All</td> <td>ø12.7 [1/2]</td> <td>ø28.58 [1-1/8]</td> </tr> </tbody> </table> <p>L: The farthest piping length from the outdoor unit to an indoor unit. * ø12.7 [1/2] when connecting the indoor unit for PEFY-P72 or P96.</p>	Model	Liquid pipe		Gas pipe	MXZ-SM72	All	ø9.52 [3/8]*	ø22.2 [7/8]	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*	ø22.2 [7/8]	L > 90 m [295 ft]	ø12.7 [1/2]	MXZ-SM120	All	ø12.7 [1/2]	ø28.58 [1-1/8]	Model number	Liquid pipe	Gas pipe	04, 05, 06, 08, 12, 15, 18	ø6.35 [1/4]	ø12.7 [1/2]	24, 27, 30, 36, 48, 54	ø9.52 [3/8]	ø15.88 [5/8]	72	ø9.52 [3/8]	ø19.05 [3/4]	96	ø9.52 [3/8]	ø22.2 [7/8]	Total down-stream capacity of indoor units	Model	Liquid pipe		Gas pipe	- 54 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]	ø15.88 [5/8]	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]	L > 90 m [295 ft]	ø12.7 [1/2]		MXZ-SM120	All	ø12.7 [1/2]	54 - 76 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]*	ø19.05 [3/4]	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*	L > 90 m [295 ft]	ø12.7 [1/2]		MXZ-SM120	All	ø12.7 [1/2]	76 - 124 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]*	ø22.2 [7/8]	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*	L > 90 m [295 ft]	ø12.7 [1/2]		MXZ-SM120	All	ø12.7 [1/2]	124 kBtu/h -	MXZ-SM120	All	ø12.7 [1/2]	ø28.58 [1-1/8]
Model	Liquid pipe		Gas pipe																																																																																			
MXZ-SM72	All	ø9.52 [3/8]*	ø22.2 [7/8]																																																																																			
MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*	ø22.2 [7/8]																																																																																			
	L > 90 m [295 ft]	ø12.7 [1/2]																																																																																				
MXZ-SM120	All	ø12.7 [1/2]	ø28.58 [1-1/8]																																																																																			
Model number	Liquid pipe	Gas pipe																																																																																				
04, 05, 06, 08, 12, 15, 18	ø6.35 [1/4]	ø12.7 [1/2]																																																																																				
24, 27, 30, 36, 48, 54	ø9.52 [3/8]	ø15.88 [5/8]																																																																																				
72	ø9.52 [3/8]	ø19.05 [3/4]																																																																																				
96	ø9.52 [3/8]	ø22.2 [7/8]																																																																																				
Total down-stream capacity of indoor units	Model	Liquid pipe		Gas pipe																																																																																		
- 54 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]	ø15.88 [5/8]																																																																																		
	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]																																																																																			
		L > 90 m [295 ft]	ø12.7 [1/2]																																																																																			
	MXZ-SM120	All	ø12.7 [1/2]																																																																																			
54 - 76 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]*	ø19.05 [3/4]																																																																																		
	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*																																																																																			
		L > 90 m [295 ft]	ø12.7 [1/2]																																																																																			
	MXZ-SM120	All	ø12.7 [1/2]																																																																																			
76 - 124 kBtu/h	MXZ-SM72	All	ø9.52 [3/8]*	ø22.2 [7/8]																																																																																		
	MXZ-SM96	L ≤ 90 m [295 ft]	ø9.52 [3/8]*																																																																																			
		L > 90 m [295 ft]	ø12.7 [1/2]																																																																																			
	MXZ-SM120	All	ø12.7 [1/2]																																																																																			
124 kBtu/h -	MXZ-SM120	All	ø12.7 [1/2]	ø28.58 [1-1/8]																																																																																		
<p>Additional refrigerant charge</p>	<p>Refer to "11-3. Refrigerant charging calculation".</p>																																																																																					

11-3. Refrigerant charging calculation

11-3-1. MXZ-SM36, 48NAM2-U1/MXZ-SM36/42/48NAMHZ2-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.

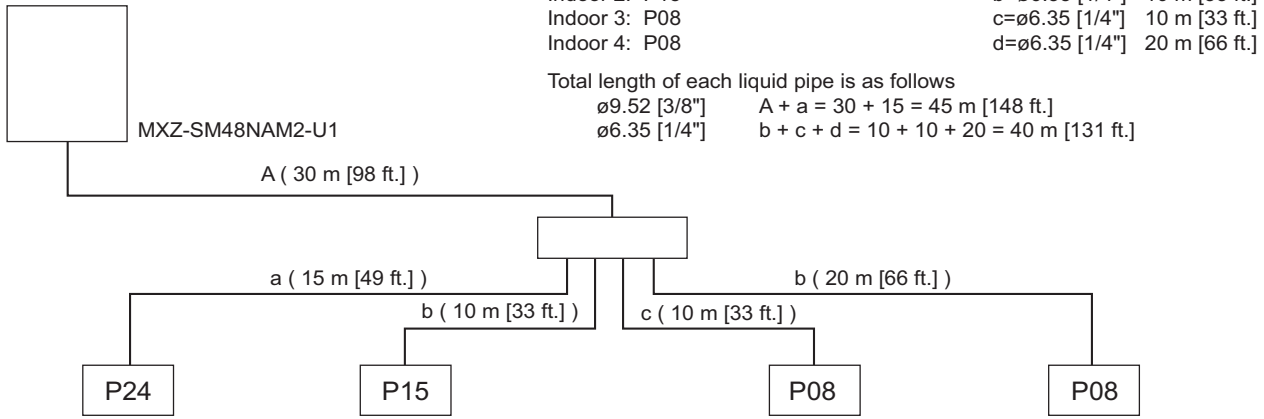
Calculation of additional refrigerant charge

- Calculate the additional charge using the liquid pipe size and length of the extended piping.
- Calculate the additional refrigerant charge using the procedure below, 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.)
- When connecting a PAA-series unit(s), set additional constraints on the amount of additional refrigerant as follow.

Number of connecting PAA-A	1 unit	2 units	3 units
MXZ-SM36/42/48	7.7 kg 271 oz	6.7 kg 236 oz	6.7 kg 236 oz

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:



Indoor 1: P24 A=ø9.52 [3/8"] 30 m [98 ft.] a=ø9.52 [3/8"] 15 m [49 ft.]
 Indoor 2: P15 b=ø6.35 [1/4"] 10 m [33 ft.]
 Indoor 3: P08 c=ø6.35 [1/4"] 10 m [33 ft.]
 Indoor 4: P08 d=ø6.35 [1/4"] 20 m [66 ft.]

Total length of each liquid pipe is as follows
 ø9.52 [3/8"] A + a = 30 + 15 = 45 m [148 ft.]
 ø6.35 [1/4"] b + c + d = 10 + 10 + 20 = 40 m [131 ft.]

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
 ≈ 6.1 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
 ≈ 214 [oz] (round-up)

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

11-3-2. MXZ-SM60NAMHZ2-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.

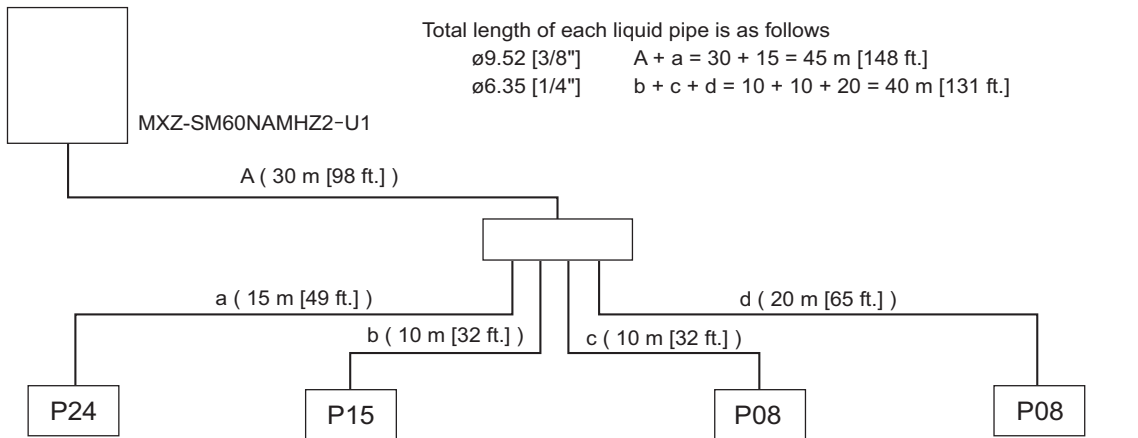
Calculation of additional refrigerant charge

- Calculate the additional charge using the liquid pipe size and length of the extended piping.
- Calculate the additional refrigerant charge using the procedure below, 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 13.2 lb [6.01 kg], round up the charge to 13.4 lb [6.1 kg].)
- The amount of additional refrigerant for MXZ-SM60 which is calculated from the total capacity of indoor units and the combination of extended pipes must not be over 28.4 lb [12.9 kg].
- When connecting a PAA-series unit(s), set additional constraints on the amount of additional refrigerant as follow.

Number of connecting PAA-A	1 unit	2 units	3 units
MXZ-SM60	11.2 kg 395 oz	10.2 kg 359 oz	9.7 kg 342 oz

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)
						28 – 54 kBtu/h	2.5 kg (88 oz)
(kg) [oz]						55 – kBtu/h	3.0 kg (106 oz)

Example:



Additional refrigerant charge	=	Total length of liquid pipe sized ø9.52 × 0.07 (kg/m)	+	Total length of liquid pipe sized ø6.35 × 0.027 (kg/m)	+	Total capacity of connected indoor units	Amount for the indoor units
		45 (m) × 0.07 (kg/m)		40 (m) × 0.027 (kg/m)		– 27 kBtu/h	1.5 kg (53 oz)
						28 – 54 kBtu/h	2.5 kg (88 oz)
(kg)						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" × 0.75 [oz/ft.]	+	Total length of liquid pipe sized ø1/4" × 0.29 [oz/ft.]	+	Total capacity of connected indoor units	Amount for the indoor units
		148 (ft.) × 0.75 [oz/ft.]		131 (ft.) × 0.29 [oz/ft.]		– 27 kBtu/h	1.5 kg (53 oz)
						28 – 54 kBtu/h	2.5 kg (88 oz)
(oz)						55 – kBtu/h	3.0 kg (106 oz)

= 111.00 + 37.99 + 106
 = 254.99
 ≈ 255 [oz] (round-up)

11-3-3. MXZ-SM72/96/120TAM-U1

Additional refrigerant charge

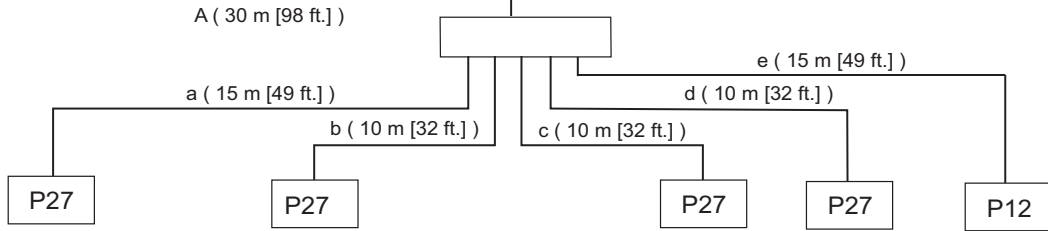
Refrigerant for the extended piping is not included in the outdoor unit when the unit is shipped from the factory. Therefore, charge each refrigerant piping system with additional refrigerant at the installation site. In addition, in order to carry out service, enter the size and length of each liquid 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 and total capacity of connected indoor units.
- Calculate the additional refrigerant charge using the procedure below, 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 6.01 kg, round up the charge to 6.1 kg.)
- The amount of additional refrigerant which is calculated from the total capacity of indoor units and the combination of extended pipes must not be over 16.3 kg (575 oz).

Additional refrigerant charge	=	Pipe size Liquid pipe ø6.35	+	Pipe size Liquid pipe ø9.52	+	Pipe size Liquid pipe ø12.7	+	Total capacity of connected indoor units	Amount for the indoor units
		(kg) [oz]	(m) × 0.019 (kg/m) {(ft) × 0.21 (oz/ft)}	(m) × 0.05 (kg/m) {(ft) × 0.55 (oz/ft)}	(m) × 0.092 (kg/m) {(ft) × 0.99 (oz/ft)}	— 54	2.5 kg (88 oz)		
								55 — 92	3.0 kg (106 oz)
								93 — 105	3.5 kg (123 oz)
								106 — 116	4.0 kg (141 oz)
								117 — 124	4.5 kg (159 oz)
								125 — 133	5.0 kg (176 oz)
								134 — 139	5.5 kg (194 oz)
								140 —	6.1 kg (215 oz)

Example:
 Outdoor: MXZ-SM120TAM A=ø12.7 [1/2"] 30 m [98 ft.]
 Indoor 1: model P27 a=ø9.52 [3/8"] 15 m [49 ft.]
 Indoor 2: model P27 b=ø9.52 [3/8"] 10 m [32 ft.]
 Indoor 3: model P27 c=ø9.52 [3/8"] 10 m [32 ft.]
 Indoor 4: model P27 d=ø9.52 [3/8"] 10 m [32 ft.]
 Indoor 5: model P12 e=ø6.35 [1/4"] 15 m [49 ft.]
 Total length of each liquid pipe is as follows
 ø12.7 [1/4"] A = 30 m [98 ft.]
 ø9.52 [3/8"] a + b + c + d = 10 + 10 + 10 + 15 = 45 m [148 ft.]
 ø6.35 [1/4"] e = 15 m [49 ft.]



Additional refrigerant charge	=	Pipe size Liquid pipe ø6.35	+	Pipe size Liquid pipe ø9.52	+	Pipe size Liquid pipe ø12.7	+	Total capacity of connected indoor units	Amount for the indoor units
		(kg) [oz]	(m) × 0.019 (kg/m) {(ft) × 0.21 (oz/ft)}	(m) × 0.05 (kg/m) {(ft) × 0.55 (oz/ft)}	(m) × 0.092 (kg/m) {(ft) × 0.99 (oz/ft)}	— 54	2.5 kg (88 oz)		
								55 — 92	3.0 kg (106 oz)
								93 — 105	3.5 kg (123 oz)
								106 — 116	4.0 kg (141 oz)
								117 — 124	4.5 kg (159 oz)
								125 — 133	5.0 kg (176 oz)
								134 — 139	5.5 kg (194 oz)
								140 —	6.1 kg (215 oz)

= 0.28 + 2.25 + 2.76 + 4.5
 = 9.79
 = 9.8 kg (round-up)

Additional refrigerant charge	=	Pipe size Liquid pipe ø6.35	+	Pipe size Liquid pipe ø9.52	+	Pipe size Liquid pipe ø12.7	+	Total capacity of connected indoor units	Amount for the indoor units
		[oz]	{(ft) × 0.21 (oz/ft)}	{(ft) × 0.55 (oz/ft)}	{(ft) × 0.99 (oz/ft)}	— 54	2.5 kg (88 oz)		
								55 — 92	3.0 kg (106 oz)
								93 — 105	3.5 kg (123 oz)
								106 — 116	4.0 kg (141 oz)
								117 — 124	4.5 kg (159 oz)
								125 — 133	5.0 kg (176 oz)
								134 — 139	5.5 kg (194 oz)
								140 —	6.1 kg (215 oz)

= 10.29 + 79.75 + 97.02 + 159
 = 346.06
 = 347 [oz] (round-up)

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-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, 2c)
 - Ⓐ 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, 2d)
 - Ⓑ Wind direction

- MXZ-SM36/48/60NAM2-U1
- MXZ-SM36/42/48NAMH2-U1

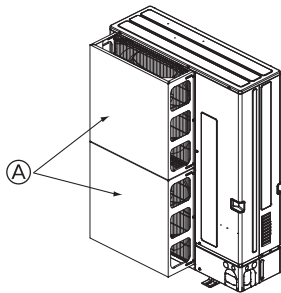


Fig. 12-1-2a

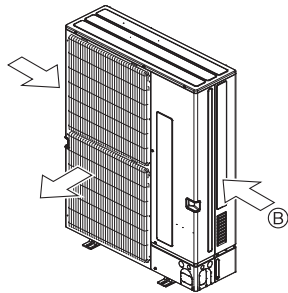


Fig. 12-1-2b

- MXZ-SM72/96/120TAM-U1

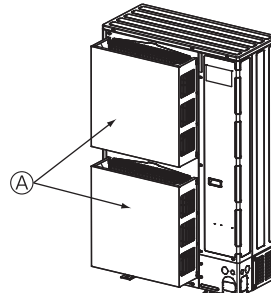


Fig. 12-1-2c

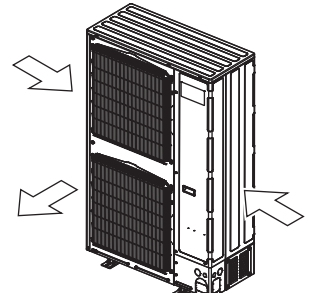


Fig. 12-1-2d

12-1-3. Foundation

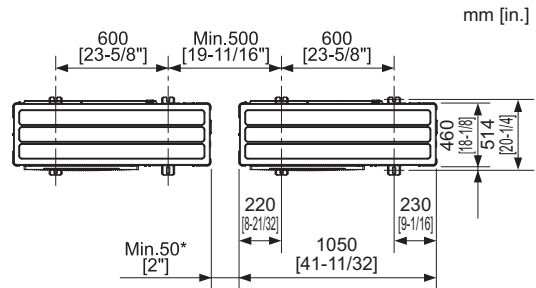
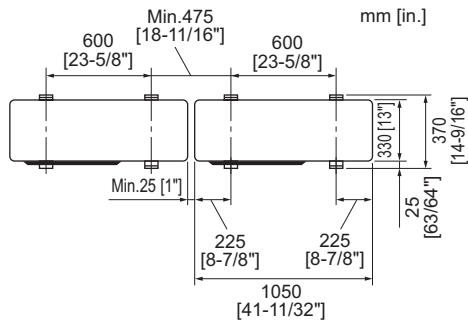
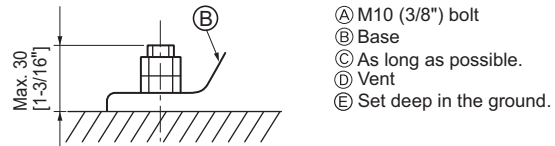
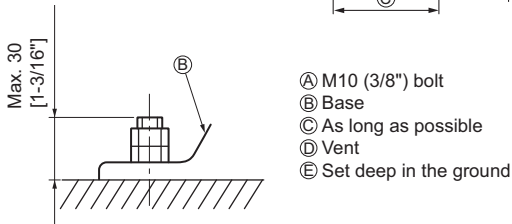
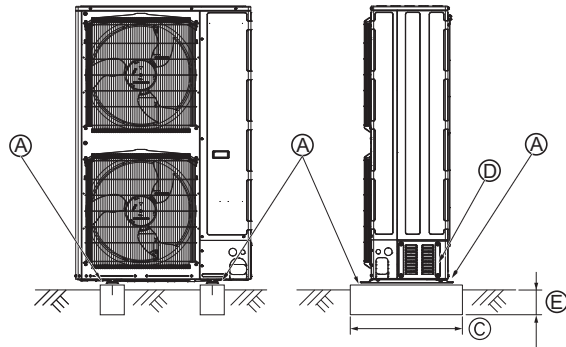
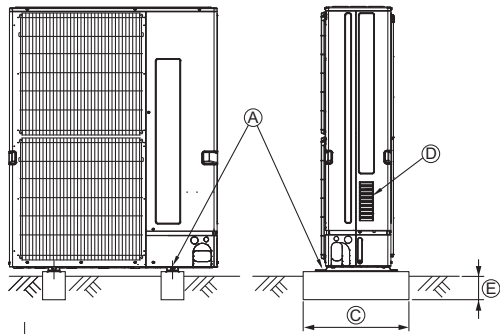
- A. Be sure to install the unit in a sturdy, level surface to prevent rattling noises during operation. (see Fig. 12-1-3)
- B. Foundation specifications are as follows.

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.

- MXZ-SM36/48/60NAM2-U1
- MXZ-SM36/42/48NAMHZ2-U1

- MXZ-SM72/96/120TAM-U1



* When installing a single outdoor unit, the clearance is 15 mm [19/32 in.] or more.

Fig. 12-1-3

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

12-2. Spacing

External dimension.

MXZ-SM36/48/60NAM2
MXZ-SM36/42/48NAMHZ2

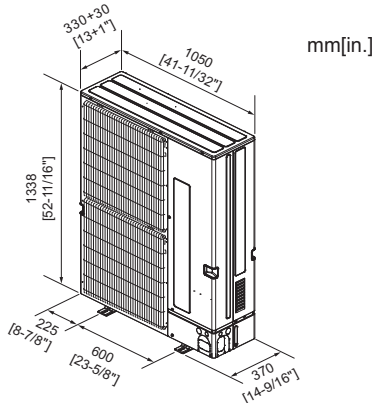


Fig. 12-2-1

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.

<p>Fig. 12-2-2 Obstacles at rear only</p>	<p>Fig. 12-2-3 Obstacles at rear and above only</p>	<p>Fig. 12-2-8 Obstacles at rear or front only</p>	<p>Fig. 12-2-9 Obstacles at rear and above only</p>
<p>Fig. 12-2-4 Obstacles at rear and sides only</p>	<p>Fig. 12-2-5 Obstacles at front only</p>	<p>Fig. 12-2-10 Obstacles at front and rear only</p>	<p>Fig. 12-2-11 Parallel individuals arrangement</p>
<p>Fig. 12-2-6 Obstacles at front and rear only</p>	<p>Fig. 12-2-7 Obstacles at rear, sides and above only</p>	<p>Fig. 12-2-12 Parallel groups arrangement</p>	<p>Fig. 12-2-13 Stacked groups arrangement</p>

MXZ-SM72/96/120TAM-U1

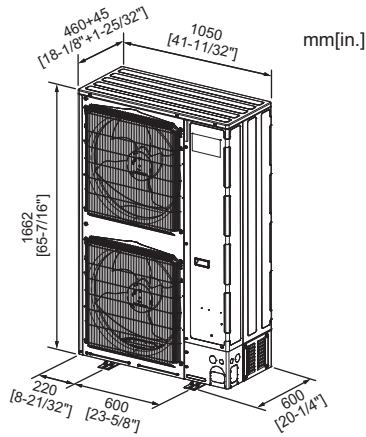


Fig. 12-2-14

12-2-3. Spacing individual MXZ-SM72/96/120TAM-U1

Follow Fig. 12-2-15~20 to space individual MXZ-SM72/96/120TAM-U1 at the installation site.

12-2-4. Spacing grouped MXZ-SM72/96/120TAM-U1

Follow Fig. 12-2-21~26 to space grouped MXZ-SM72/96/120TAM-U1 at the installation site. Leave 25 mm space or space or more between MXZ-SM72/96/120TAM-U1 units.

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

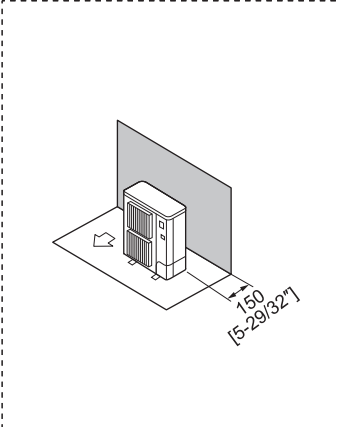


Fig. 12-2-15
Obstacles at rear only

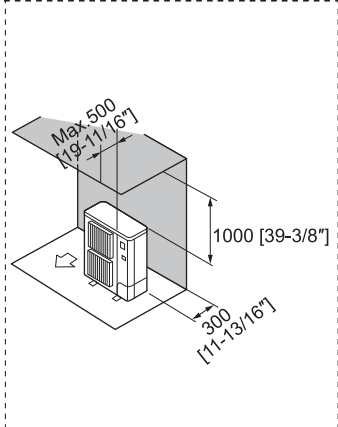


Fig. 12-2-16
Obstacles at rear and above only

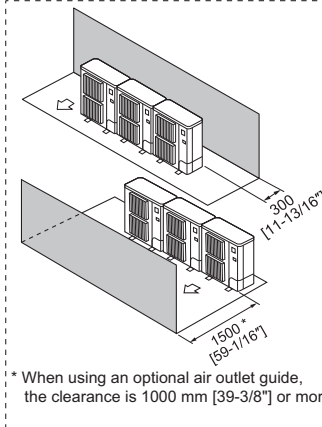


Fig. 12-2-21
Obstacles at rear or front only

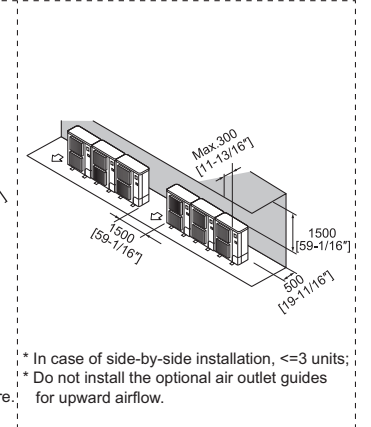


Fig. 12-2-22
Obstacles at rear and above only

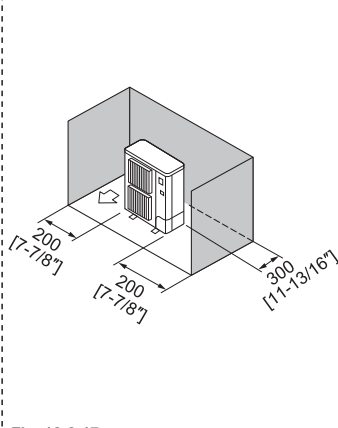


Fig. 12-2-17
Obstacles at rear and sides only

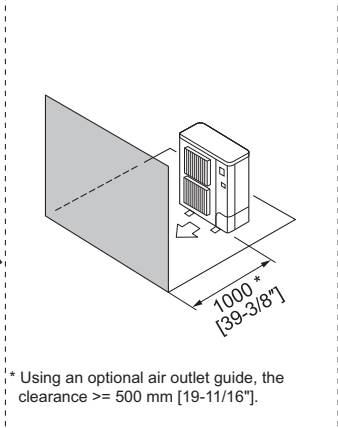


Fig. 12-2-18
Obstacles at front only

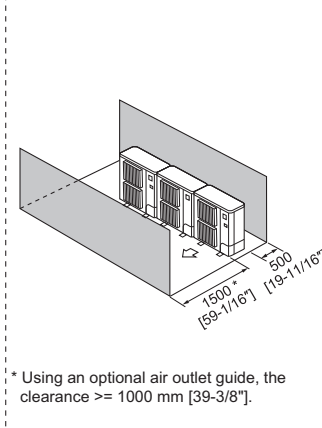


Fig. 12-2-23
Obstacles at front and rear only

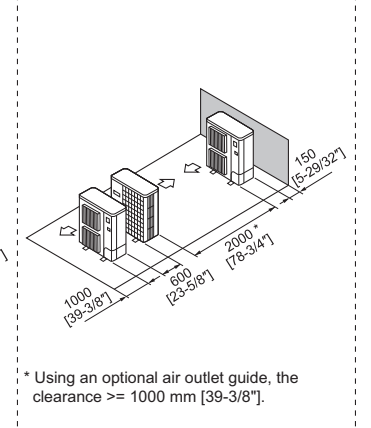


Fig. 12-2-24
Parallel individuals arrangement

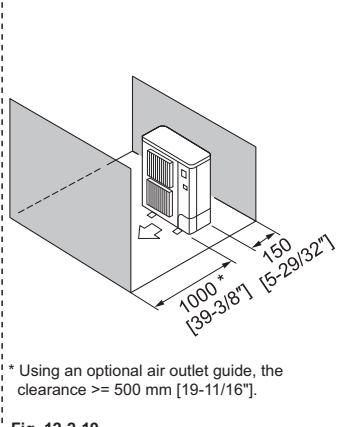


Fig. 12-2-19
Obstacles at front and rear only

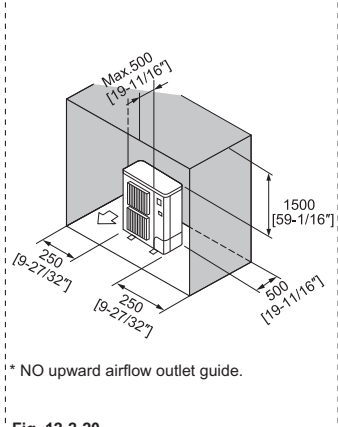


Fig. 12-2-20
Obstacles at rear, sides and above only

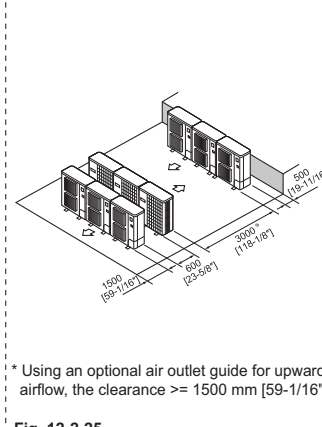


Fig. 12-2-25
Parallel groups arrangement

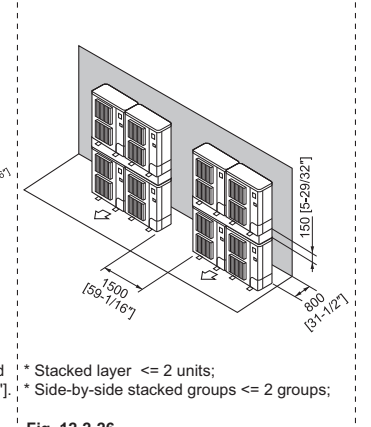


Fig. 12-2-26
Stacked groups arrangement

* Using an optional air outlet guide, the clearance >= 500 mm [19-11/16"].

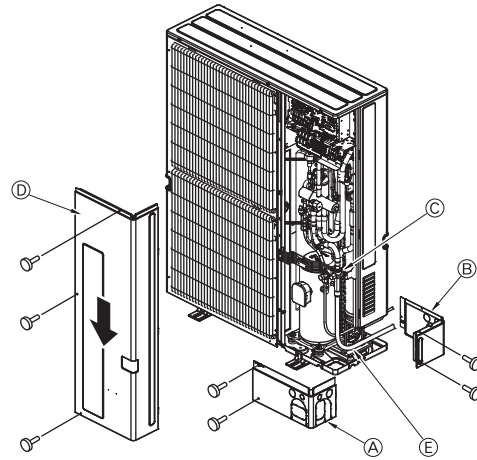
* NO upward airflow outlet guide.

* Using an optional air outlet guide for upward airflow, the clearance >= 1500 mm [59-1/16"].

* Stacked layer <= 2 units;
* Side-by-side stacked groups <= 2 groups;

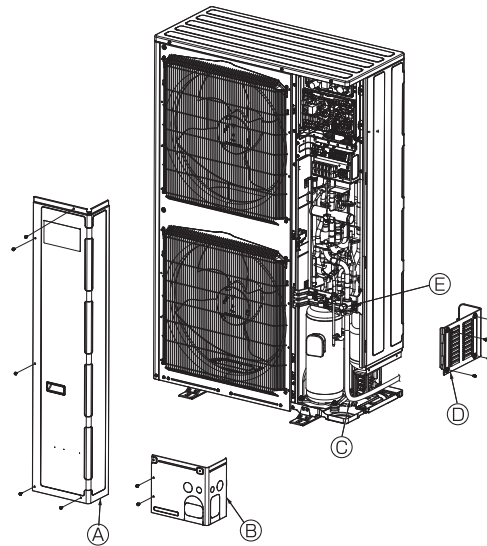
12-3. Piping direction

- MXZ-SM36/48/60NAM2-U1
- MXZ-SM36/42/48NAMHZ2-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-SM72/96/120TAM-U1



- (A) Service panel
- (B) Front piping cover
- (C) Bend radius : 100 mm or more
- (D) Rear piping cover
- (E) Stop (Ball) valve

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM36NAM2-U1

1) Cooling

Rated	
Q (Btu/h)	36000
W	2400

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.		72°F / 22.2°C						67°F / 19.4°C						64°F / 17.8°C						61°F / 16.1°C					
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																									
115	46.1	Q (Btu/h)	24494	24494	18371	12247	-	8289	22680	22680	17010	11340	-	7675	20639	20639	15479	10319	-	6984	18598	18598	13948	9299	-	6293
		W	1152	1152	922	668	-	609	1200	1200	960	696	-	635	1194	1194	955	692	-	631	1249	1249	999	724	-	661
110	43.3	Q (Btu/h)	29160	29160	21870	14580	-	8594	27000	27000	20250	13500	-	7957	24570	24570	18428	12285	-	7241	22140	22140	16605	11070	-	6525
		W	1536	1536	1229	891	-	571	1632	1632	1306	947	-	606	1636	1636	1309	949	-	608	1657	1657	1326	961	-	616
106	41.1	Q (Btu/h)	33048	33048	24786	16524	-	8837	30600	30600	22950	15300	-	8182	27846	27846	20885	13923	-	7446	25092	25092	18819	12546	-	6709
		W	1776	1776	1421	1030	-	533	1944	1944	1555	1128	-	583	1992	1992	1593	1155	-	598	1420	1420	1136	823	-	426
102	38.9	Q (Btu/h)	36158	36158	27119	18079	-	9081	33480	33480	25110	16740	-	8409	30467	30467	22850	15233	-	7652	27454	27454	20590	13727	-	6895
		W	2064	2064	1651	1197	-	524	2208	2208	1766	1281	-	561	2390	2390	1912	1386	-	607	1362	1362	1090	790	-	346
98	36.7	Q (Btu/h)	38491	38491	28868	19246	-	9321	35640	35640	26730	17820	-	8631	32432	32432	24324	16216	-	7854	29225	29225	21919	14612	-	7077
		W	2400	2400	1920	1392	-	522	2472	2472	1978	1434	-	538	2247	2247	1798	1303	-	489	1306	1306	1044	757	-	284
94	34.4	Q (Btu/h)	38880	38880	29160	19440	-	9560	36000	36000	27000	18000	-	8852	32760	32760	24570	16380	-	8055	29520	29520	22140	14760	-	7259
		W	2472	2472	1978	1434	-	536	2376	2376	1901	1378	-	516	2112	2112	1689	1225	-	458	1238	1238	991	718	-	269
90	32.2	Q (Btu/h)	39074	39074	29306	19537	-	9798	36180	36180	27135	18090	-	9072	32924	32924	24693	16462	-	8255	29668	29668	22251	14834	-	7439
		W	2400	2400	1920	1392	-	519	2280	2280	1824	1322	-	493	1999	1999	1600	1160	-	433	1175	1175	940	681	-	254
86	30.0	Q (Btu/h)	39074	39074	29306	19537	-	10034	36180	36180	27135	18090	-	9291	32924	32924	24693	16462	-	8454	29668	29668	22251	14834	-	7618
		W	2352	2352	1882	1364	-	507	2184	2184	1747	1267	-	471	1887	1887	1510	1095	-	407	1112	1112	889	645	-	240
82	27.8	Q (Btu/h)	39074	39074	29306	19537	-	10269	36180	36180	27135	18090	-	9508	32924	32924	24693	16462	-	8652	29668	29668	22251	14834	-	7797
		W	2304	2304	1843	1336	-	490	2112	2112	1690	1225	-	449	1775	1775	1420	1030	-	377	1048	1048	838	608	-	223
78	25.6	Q (Btu/h)	39580	39580	29685	19790	-	10502	36648	36648	27486	18324	-	9724	33350	33350	25012	16675	-	8849	30051	30051	22539	15026	-	7974
		W	2208	2208	1766	1281	-	468	2016	2016	1613	1169	-	427	1663	1663	1330	964	-	352	985	985	788	571	-	208
74	23.3	Q (Btu/h)	39580	39580	29685	19790	-	10735	36648	36648	27486	18324	-	9939	33350	33350	25012	16675	-	9045	30051	30051	22539	15026	-	8150
		W	2160	2160	1728	1253	-	456	1920	1920	1536	1114	-	405	1551	1551	1240	899	-	327	921	921	737	534	-	194
70	21.1	Q (Btu/h)	39619	39619	29714	19809	-	10966	36684	36684	27513	18342	-	10153	33382	33382	25037	16691	-	9240	30081	30081	22561	15040	-	8326
		W	2112	2112	1690	1225	-	444	1824	1824	1459	1058	-	383	1438	1438	1151	834	-	302	858	858	686	498	-	180
66	18.9	Q (Btu/h)	39658	39658	29743	19829	-	11080	36720	36720	27540	18360	-	10259	33415	33415	25061	16708	-	9336	30110	30110	22583	15055	-	8412
		W	2112	2112	1690	1225	-	393	1776	1776	1421	1030	-	331	1381	1381	1105	801	-	257	825	825	660	478	-	154
62	16.7	Q (Btu/h)	39658	39658	29743	19829	-	11308	36720	36720	27540	18360	-	10470	33415	33415	25061	16708	-	9528	30110	30110	22583	15055	-	8586
		W	2112	2112	1690	1225	-	368	1776	1776	1421	1030	-	309	1378	1378	1103	799	-	240	822	822	657	477	-	143
58	14.4	Q (Btu/h)	39658	39658	29743	19829	-	11428	36720	36720	27540	18360	-	10582	33415	33415	25061	16708	-	9629	30110	30110	22583	15055	-	8677
		W	2112	2112	1690	1225	-	336	1776	1776	1421	1030	-	282	1376	1376	1101	798	-	219	819	819	655	475	-	130
54	12.2	Q (Btu/h)	39658	39658	29743	19829	-	11654	36720	36720	27540	18360	-	10791	33415	33415	25061	16708	-	9820	30110	30110	22583	15055	-	8848
		W	2112	2112	1690	1225	-	310	1776	1776	1421	1030	-	261	1373	1373	1098	796	-	202	816	816	653	473	-	120
50	10.0	Q (Btu/h)	39658	39658	29743	19829	-	11402	36720	36720	27540	18360	-	10557	33415	33415	25061	16708	-	9607	30110	30110	22583	15055	-	8657
		W	2112	2112	1690	1225	-	334	1776	1776	1421	1030	-	281	1370	1370	1096	795	-	217	813	813	650	471	-	129
46	7.8	Q (Btu/h)	39658	39658	29743	19829	-	11260	36720	36720	27540	18360	-	10426	33415	33415	25061	16708	-	9488	30110	30110	22583	15055	-	8549
		W	2112	2112	1690	1225	-	347	1776	1776	1421	1030	-	292	1368	1368	1094	793	-	225	810	810	648	470	-	133
42	5.6	Q (Btu/h)	39658	39658	29743	19829	-	11481	36720	36720	27540	18360	-	10630	33415	33415	25061	16708	-	9674	30110	30110	22583	15055	-	8717
		W	2112	2112	1690	1225	-	322	1776	1776	1421	1030	-	271	1365	1365	1092	792	-	208	807	807	645	468	-	123
38	3.3	Q (Btu/h)	39658	39658	29743	19829	-	11702	36720	36720	27540	18360	-	10835	33415	33415	25061	16708	-	9860	30110	30110	22583	15055	-	8885
		W	2112	2112	1690	1225	-	321	1776	1776	1421	1030	-	270	1362	1362	1090	790	-	207	804	804	643	466	-	122
34	1.1	Q (Btu/h)	39658	39658	29743	19829	-	11922	36720	36720	27540	18360	-	11039	33415	33415	25061	16708	-	10046	30110	30110	22583	15055	-	9052
		W	2112	2112	1690	1225	-	321	1776	1776	1421	1030	-	270	1360	1360	1088	789	-	207	801	801	641	465	-	122
30	-1.1	Q (Btu/h)	39658	39658	29743	19829	-	12143	36720	36720	27540	18360	-	11244	33415	33415	25061	16708	-	10232	30110	30110	22583	15055	-	9220
		W	2112	2112	1690	1225	-	321	1776	1776	1421	1030	-	270	1357	1357	1086	787	-	206	798	798	638	463	-	121
26	-3.3	Q (Btu/h)	39658	39658	29743	19829	-	12364	36720	36720	27540	18360	-	11448	33415	33415	25061	16708	-	10418	30110	30110	22583	15055	-	

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM36NAM2-U1

2) Heating

Rated	
Q (Btu/h)	41000
W	3005

Indoor D.B.	Outdoor W.B.		80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	
(°F)	(°C)																				
60	15.6	Q (Btu/h)	31980	31980	23985	15990	-	11063	41000	41000	30750	20500	-	14183	49610	49610	37208	24805	-	17161	
		W	1503	1503	1202	871	-	407	2043	2043	1635	1185	-	553	1803	1803	1442	1046	-	488	
55	12.8	Q (Btu/h)	31980	31980	23985	15990	-	10442	41000	41000	30750	20500	-	13387	49610	49610	37208	24805	-	16198	
		W	1683	1683	1346	976	-	410	2284	2284	1827	1325	-	557	1923	1923	1539	1115	-	469	
50	10.0	Q (Btu/h)	31980	31980	23985	15990	-	9827	41000	41000	30750	20500	-	12599	49610	49610	37208	24805	-	15245	
		W	1863	1863	1490	1081	-	412	2524	2524	2019	1464	-	558	2104	2104	1683	1220	-	465	
47	8.3	Q (Btu/h)	31980	31980	23985	15990	-	9461	41000	41000	30750	20500	-	12130	49610	49610	37208	24805	-	14677	
		W	1983	1983	1587	1150	-	409	2705	2705	2164	1569	-	558	2284	2284	1827	1325	-	471	
42	5.6	Q (Btu/h)	31980	31980	23985	15990	-	8882	41000	41000	30750	20500	-	11387	49610	49610	37208	24805	-	13778	
		W	2164	2164	1731	1255	-	385	3125	3125	2500	1813	-	556	2554	2554	2043	1481	-	454	
35	1.7	Q (Btu/h)	31980	31980	23985	15990	-	8808	41000	41000	30750	20500	-	11293	49610	49610	37208	24805	-	13684	
		W	2644	2644	2116	1534	-	551	3666	3666	2933	2126	-	764	3185	3185	2548	1847	-	664	
32	0.0	Q (Btu/h)	31660	31660	23745	15830	-	8331	40590	40590	30443	20295	-	10681	49114	49114	36835	24557	-	12924	
		W	2885	2885	2308	1673	-	575	3786	3786	3029	2196	-	754	3306	3306	2644	1917	-	658	
27	-2.8	Q (Btu/h)	28782	28782	21587	14391	-	7669	36900	36900	27675	18450	-	9832	42435	42435	31826	21218	-	11896	
		W	3185	3185	2548	1847	-	664	3486	3486	2789	2022	-	727	3005	3005	2404	1743	-	627	
22	-5.6	Q (Btu/h)	25904	25904	19428	12952	-	7374	33210	33210	24908	16605	-	9454	40184	40184	30138	20092	-	11439	
		W	3546	3546	2837	2057	-	757	3245	3245	2596	1882	-	693	2705	2705	2164	1569	-	577	
17	-8.3	Q (Btu/h)	23026	23026	17269	11513	-	6886	29520	29520	22140	14760	-	8829	35719	35719	26789	17860	-	10683	
		W	3426	3426	2741	1987	-	759	2945	2945	2356	1708	-	653	2344	2344	1875	1359	-	520	
12	-11.1	Q (Btu/h)	21107	21107	15830	10553	-	5978	27060	27060	20295	13530	-	7665	32743	32743	24557	16371	-	9274	
		W	3185	3185	2548	1847	-	728	2644	2644	2116	1534	-	604	2043	2043	1635	1185	-	467	
5	-15.0	Q (Btu/h)	19188	19188	14391	9594	4797	4753	24600	24600	18450	12300	6150	6093	29766	29766	22325	14883	7442	7373	
		W	2765	2765	2212	1603	1051	669	2164	2164	1731	1255	822	523	1563	1563	1250	906	594	378	
2	-16.7	Q (Btu/h)	18389	18389	13791	9194	4597	4232	23575	23575	17681	11788	5894	5426	28526	28526	21394	14263	7131	6565	
		W	2584	2584	2067	1499	982	630	1983	1983	1587	1150	754	483	1352	1352	1082	784	514	329	
-3	-19.4	Q (Btu/h)	17269	17269	12952	8635	4317	3645	22140	22140	16605	11070	5535	4673	26789	26789	20092	13395	6697	5655	
		W	2344	2344	1875	1359	891	604	1683	1683	1346	976	639	434	1022	1022	817	593	388	263	
-8	-22.2	Q (Btu/h)	15990	15990	11993	7995	3998	2776	20500	20500	15375	10250	5125	3559	24805	24805	18604	12403	6201	4307	
		W	2043	2043	1635	1185	776	511	1382	1382	1106	802	525	346	661	661	529	383	251	165	
-13	-25.0	Q (Btu/h)	14711	14711	11033	7355	3678	1930	18860	18860	14145	9430	4715	2474	22821	22821	17115	11410	5705	2994	
		W	1773	1773	1418	1028	674	406	1082	1082	865	627	411	248	361	361	288	209	137	83	

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM48NAM2-U1

1) Cooling

Rated	
Q (Btu/h)	48000
W	3665

MXZ-SM-NAM2-U1, MXZ-SM-NAMH2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																									
115	46.1	Q (Btu/h)	32659	32659	24494	16330	-	11052	30240	30240	22680	15120	-	10233	27518	27518	20639	13759	-	9312	24797	24797	18598	12398	-	8391
		W	1759	1759	1407	1020	-	1015	1833	1833	1466	1063	-	1058	1823	1823	1458	1057	-	1052	1907	1907	1526	1106	-	1101
110	43.3	Q (Btu/h)	38880	38880	29160	19440	-	11458	36000	36000	27000	18000	-	10609	32760	32760	24570	16380	-	9655	29520	29520	22140	14760	-	8700
		W	2346	2346	1876	1360	-	951	2492	2492	1904	1445	-	1010	2499	2499	1999	1449	-	1013	2531	2531	2025	1468	-	1026
106	41.1	Q (Btu/h)	44064	44064	33048	22032	-	11782	40800	40800	30600	20400	-	10910	37128	37128	27846	18564	-	9928	33456	33456	25092	16728	-	8946
		W	2712	2712	2170	1573	-	888	2969	2969	2375	1722	-	972	3042	3042	2433	1764	-	996	2168	2168	1734	1257	-	710
102	38.9	Q (Btu/h)	48211	48211	36158	24106	-	12109	44640	44640	33480	22320	-	11212	40622	40622	30467	20311	-	10203	36605	36605	27454	18302	-	9194
		W	3152	3152	2522	1828	-	873	3372	3372	2697	1956	-	934	3649	3649	2919	2117	-	1011	2080	2080	1664	1207	-	576
98	36.7	Q (Btu/h)	51322	51322	38491	25661	-	12429	47520	47520	35640	23760	-	11508	43243	43243	32432	21622	-	10472	38966	38966	29225	19483	-	9436
		W	3665	3665	2932	2126	-	871	3775	3775	3020	2189	-	897	3431	3431	2745	1990	-	815	1994	1994	1595	1156	-	474
94	34.4	Q (Btu/h)	51840	51840	38880	25920	-	12747	48000	48000	36000	24000	-	11803	43680	43680	32760	21840	-	10740	39360	39360	29520	19680	-	9678
		W	3775	3775	3020	2189	-	894	3628	3628	2903	2104	-	859	3225	3225	2580	1870	-	764	1891	1891	1513	1097	-	448
90	32.2	Q (Btu/h)	52099	52099	39074	26050	-	13064	48240	48240	36180	24120	-	12096	43898	43898	32924	21949	-	11007	39557	39557	29668	19778	-	9919
		W	3665	3665	2932	2126	-	865	3482	3482	2785	2019	-	822	3053	3053	2443	1771	-	721	1794	1794	1435	1041	-	424
86	30.0	Q (Btu/h)	52099	52099	39074	26050	-	13378	48240	48240	36180	24120	-	12387	43898	43898	32924	21949	-	11272	39557	39557	29668	19778	-	10158
		W	3592	3592	2873	2083	-	845	3335	3335	2668	1934	-	785	2882	2882	2306	1672	-	678	1697	1697	1358	984	-	400
82	27.8	Q (Btu/h)	52099	52099	39074	26050	-	13692	48240	48240	36180	24120	-	12678	43898	43898	32924	21949	-	11537	39557	39557	29668	19778	-	10396
		W	3518	3518	2815	2041	-	816	3225	3225	2580	1871	-	748	2711	2711	2169	1572	-	629	1601	1601	1280	928	-	371
78	25.6	Q (Btu/h)	52773	52773	39580	26387	-	14003	48864	48864	36648	24432	-	12966	44466	44466	33350	22233	-	11799	40068	40068	30051	20034	-	10632
		W	3372	3372	2697	1956	-	779	3079	3079	2463	1786	-	711	2539	2539	2031	1473	-	587	1504	1504	1203	872	-	347
74	23.3	Q (Btu/h)	52773	52773	39580	26387	-	14313	48864	48864	36648	24432	-	13253	44466	44466	33350	22233	-	12060	40068	40068	30051	20034	-	10867
		W	3299	3299	2639	1913	-	759	2932	2932	2346	1701	-	675	2368	2368	1894	1373	-	545	1407	1407	1125	816	-	324
70	21.1	Q (Btu/h)	52825	52825	39619	26412	-	14621	48912	48912	36684	24456	-	13538	44510	44510	33382	22255	-	12319	40108	40108	30081	20054	-	11101
		W	3225	3225	2580	1871	-	739	2785	2785	2228	1616	-	638	2197	2197	1757	1274	-	503	1310	1310	1048	760	-	300
66	18.9	Q (Btu/h)	52877	52877	39658	26438	-	14773	48960	48960	36720	24480	-	13679	44554	44554	33415	22277	-	12448	40147	40147	30110	20074	-	11217
		W	3225	3225	2580	1871	-	656	2712	2712	2170	1573	-	551	2109	2109	1687	1223	-	429	1259	1259	1007	730	-	256
62	16.7	Q (Btu/h)	52877	52877	39658	26438	-	15077	48960	48960	36720	24480	-	13960	44554	44554	33415	22277	-	12704	40147	40147	30110	20074	-	11448
		W	3225	3225	2580	1871	-	613	2712	2712	2170	1573	-	515	2105	2105	1684	1221	-	400	1255	1255	1004	728	-	238
58	14.4	Q (Btu/h)	52877	52877	39658	26438	-	15238	48960	48960	36720	24480	-	14109	44554	44554	33415	22277	-	12839	40147	40147	30110	20074	-	11569
		W	3225	3225	2580	1871	-	559	2712	2712	2170	1573	-	470	2101	2101	1681	1218	-	364	1250	1250	1000	725	-	217
54	12.2	Q (Btu/h)	52877	52877	39658	26438	-	15539	48960	48960	36720	24480	-	14388	44554	44554	33415	22277	-	13093	40147	40147	30110	20074	-	11798
		W	3225	3225	2580	1871	-	517	2712	2712	2170	1573	-	434	2097	2097	1677	1216	-	336	1246	1246	997	722	-	200
50	10.0	Q (Btu/h)	52877	52877	39658	26438	-	15203	48960	48960	36720	24480	-	14077	44554	44554	33415	22277	-	12810	40147	40147	30110	20074	-	11543
		W	3225	3225	2580	1871	-	557	2712	2712	2170	1573	-	468	2093	2093	1674	1214	-	361	1241	1241	993	720	-	214
46	7.8	Q (Btu/h)	52877	52877	39658	26438	-	15013	48960	48960	36720	24480	-	13901	44554	44554	33415	22277	-	12650	40147	40147	30110	20074	-	11399
		W	3225	3225	2580	1871	-	578	2712	2712	2170	1573	-	486	2089	2089	1671	1211	-	374	1237	1237	989	717	-	222
42	5.6	Q (Btu/h)	52877	52877	39658	26438	-	15308	48960	48960	36720	24480	-	14174	44554	44554	33415	22277	-	12898	40147	40147	30110	20074	-	11622
		W	3225	3225	2580	1871	-	536	2712	2712	2170	1573	-	451	2085	2085	1668	1209	-	347	1232	1232	986	715	-	205
38	3.3	Q (Btu/h)	52877	52877	39658	26438	-	15602	48960	48960	36720	24480	-	14446	44554	44554	33415	22277	-	13146	40147	40147	30110	20074	-	11846
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2081	2081	1664	1207	-	345	1228	1228	982	712	-	204
34	1.1	Q (Btu/h)	52877	52877	39658	26438	-	15896	48960	48960	36720	24480	-	14719	44554	44554	33415	22277	-	13394	40147	40147	30110	20074	-	12070
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2077	2077	1661	1204	-	345	1223	1223	978	709	-	203
30	-1.1	Q (Btu/h)	52877	52877	39658	26438	-	16191	48960	48960	36720	24480	-	14991	44554	44554	33415	22277	-	13642	40147	40147	30110	20074	-	12293
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2073	2073	1658	1202	-	344	1218	1218	975	707	-	202
26	-3.3	Q (Btu/h)	52877	52877	39658	26438	-	16485	48960	4																

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM48NAM2-U1

2) Heating

Rated	
Q (Btu/h)	50000
W	3665

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C							
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60	15.6	Q (Btu/h)	39000	39000	29250	19500	-	14570	50000	50000	37500	25000	-	18680	60500	60500	45375	30250	-	22602
		W	1833	1833	1466	1063	-	571	2492	2492	1994	1445	-	777	2199	2199	1759	1275	-	685
55	12.8	Q (Btu/h)	39000	39000	29250	19500	-	13752	50000	50000	37500	25000	-	17631	60500	60500	45375	30250	-	21334
		W	2052	2052	1642	1190	-	576	2785	2785	2228	1616	-	782	2346	2346	1876	1360	-	659
50	10.0	Q (Btu/h)	39000	39000	29250	19500	-	12943	50000	50000	37500	25000	-	16594	60500	60500	45375	30250	-	20079
		W	2272	2272	1818	1318	-	579	3079	3079	2463	1786	-	784	2566	2566	2052	1488	-	653
47	8.3	Q (Btu/h)	39000	39000	29250	19500	-	12461	50000	50000	37500	25000	-	15976	60500	60500	45375	30250	-	19331
		W	2419	2419	1935	1403	-	575	3299	3299	2639	1913	-	784	2785	2785	2228	1616	-	662
42	5.6	Q (Btu/h)	39000	39000	29250	19500	-	11698	50000	50000	37500	25000	-	14997	60500	60500	45375	30250	-	18147
		W	2639	2639	2111	1531	-	540	3812	3812	3049	2211	-	780	3115	3115	2492	1807	-	638
35	1.7	Q (Btu/h)	39000	39000	29250	19500	-	11601	50000	50000	37500	25000	-	14874	60500	60500	45375	30250	-	17997
		W	3225	3225	2580	1871	-	774	4471	4471	3577	2593	-	1073	3885	3885	3108	2253	-	932
32	0.0	Q (Btu/h)	38610	38610	28958	19305	-	10973	49500	49500	37125	24750	-	14068	59895	59895	44921	29948	-	17022
		W	3518	3518	2815	2041	-	807	4618	4618	3694	2678	-	1059	4032	4032	3225	2338	-	925
27	-2.8	Q (Btu/h)	35100	35100	26325	17550	-	10100	45000	45000	33750	22500	-	12949	51750	51750	38813	25875	-	15668
		W	3885	3885	3108	2253	-	933	4251	4251	3401	2466	-	1021	3665	3665	2932	2126	-	880
22	-5.6	Q (Btu/h)	31590	31590	23693	15795	-	9712	40500	40500	30375	20250	-	12451	49005	49005	36754	24503	-	15066
		W	4325	4325	3460	2508	-	1063	3958	3958	3167	2296	-	973	3299	3299	2639	1913	-	811
17	-8.3	Q (Btu/h)	28080	28080	21060	14040	-	9070	36000	36000	27000	18000	-	11628	43560	43560	32670	21780	-	14070
		W	4178	4178	3342	2423	-	1066	3592	3592	2873	2083	-	917	2859	2859	2287	1658	-	730
12	-11.1	Q (Btu/h)	25740	25740	19305	12870	-	7874	33000	33000	24750	16500	-	10095	39930	39930	29948	19965	-	12215
		W	3885	3885	3108	2253	-	1022	3225	3225	2580	1871	-	848	2492	2492	1994	1445	-	655
5	-15.0	Q (Btu/h)	23400	23400	17550	11700	-	6259	30000	30000	22500	15000	-	8025	36300	36300	27225	18150	-	9710
		W	3372	3372	2697	1956	-	939	2639	2639	2111	1531	-	735	1906	1906	1525	1105	-	531
2	-16.7	Q (Btu/h)	22425	22425	16819	11213	5606	5574	28750	28750	21563	14375	7188	7146	34788	34788	26091	17394	8697	8647
		W	3152	3152	2522	1828	1198	884	2419	2419	1935	1403	919	679	1649	1649	1319	957	627	463
-3	-19.4	Q (Btu/h)	21060	21060	15795	10530	5265	4801	27000	27000	20250	13500	6750	6155	32670	32670	24503	16335	8168	7447
		W	2859	2859	2287	1658	1086	849	2052	2052	1642	1190	780	609	1246	1246	997	723	474	370
-8	-22.2	Q (Btu/h)	19500	19500	14625	9750	4875	3657	25000	25000	18750	12500	6250	4688	30250	30250	22688	15125	7563	5673
		W	2492	2492	1994	1445	947	717	1686	1686	1349	978	641	485	806	806	645	468	306	232
-13	-25.0	Q (Btu/h)	17940	17940	13455	8970	4485	2542	23000	23000	17250	11500	5750	3259	27830	27830	20873	13915	6958	3943
		W	2162	2162	1730	1254	822	570	1319	1319	1056	765	501	348	440	440	352	255	167	116

MXZ-SM-NAM2-U1, MXZ-SM-NAMH22-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM60NAM2-U1

1) Cooling

Rated	
Q (Btu/h)	60000
W	4515

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min						
115	46.1	Q (Btu/h)	40824	40824	30618	20412	-	13815	37800	37800	28350	18900	-	12791	34398	34398	25799	17199	-	11640	30996	30996	23247	15498	-	10489
		W	2167	2167	1907	1409	-	1146	2258	2258	1987	1467	-	1194	2245	2245	1976	1460	-	1188	2350	2350	2068	1527	-	1243
110	43.3	Q (Btu/h)	48600	48600	36450	24300	-	14323	45000	45000	33750	22500	-	13262	40950	40950	30713	20475	-	12068	36900	36900	27675	18450	-	10875
		W	2890	2890	2543	1878	-	1073	3070	3070	2702	1996	-	1140	3078	3078	2709	2001	-	1143	3118	3118	2744	2027	-	1158
106	41.1	Q (Btu/h)	55080	55080	41310	27540	-	14728	51000	51000	38250	25500	-	13637	46410	46410	34808	23205	-	12410	41820	41820	31365	20910	-	11182
		W	3341	3341	2940	2172	-	1003	3657	3657	3218	2377	-	1098	3747	3747	3297	2436	-	1125	2671	2671	2350	1736	-	802
102	38.9	Q (Btu/h)	60264	60264	45198	30132	-	15136	55800	55800	41850	27900	-	14015	50778	50778	38084	25389	-	12753	45756	45756	34317	22878	-	11492
		W	3883	3883	3417	2524	-	986	4154	4154	3655	2700	-	1055	4496	4496	3956	2922	-	1141	2563	2563	2255	1666	-	651
98	36.7	Q (Btu/h)	64152	64152	48114	32076	-	15536	59400	59400	44550	29700	-	14385	54054	54054	40541	27027	-	13090	48708	48708	36531	24354	-	11796
		W	4515	4515	3973	2935	-	983	4650	4650	4092	3023	-	1012	4227	4227	3720	2748	-	920	2456	2456	2161	1596	-	535
94	34.4	Q (Btu/h)	64800	64800	48600	32400	-	15834	60000	60000	45000	30000	-	14753	54600	54600	40950	27300	-	13426	49200	49200	36900	24600	-	12098
		W	4650	4650	4092	3023	-	1009	4470	4470	3933	2905	-	970	3973	3973	3496	2582	-	862	2330	2330	2050	1514	-	506
90	32.2	Q (Btu/h)	65124	65124	48843	32562	-	16330	60300	60300	45225	30150	-	15120	54873	54873	41155	27437	-	13759	49446	49446	37085	24723	-	12398
		W	4515	4515	3973	2935	-	977	4289	4289	3775	2788	-	928	3762	3762	3310	2445	-	814	2210	2210	1945	1437	-	478
86	30.0	Q (Btu/h)	65124	65124	48843	32562	-	16723	60300	60300	45225	30150	-	15484	54873	54873	41155	27437	-	14091	49446	49446	37085	24723	-	12697
		W	4425	4425	3894	2876	-	954	4109	4109	3616	2671	-	886	3550	3550	3124	2308	-	766	2091	2091	1840	1359	-	451
82	27.8	Q (Btu/h)	65124	65124	48843	32562	-	17115	60300	60300	45225	30150	-	15847	54873	54873	41155	27437	-	14421	49446	49446	37085	24723	-	12994
		W	4334	4334	3814	2817	-	921	3973	3973	3496	2583	-	845	3339	3339	2939	2171	-	710	1972	1972	1735	1282	-	419
78	25.6	Q (Btu/h)	65966	65966	49475	32983	-	17504	61080	61080	45810	30540	-	16207	55583	55583	41687	27791	-	14749	50086	50086	37564	25043	-	13290
		W	4154	4154	3655	2700	-	880	3793	3793	3337	2465	-	803	3128	3128	2753	2033	-	662	1852	1852	1630	1204	-	392
74	23.3	Q (Btu/h)	65966	65966	49475	32983	-	17891	61080	61080	45810	30540	-	16566	55583	55583	41687	27791	-	15075	50086	50086	37564	25043	-	13584
		W	4064	4064	3576	2641	-	857	3612	3612	3179	2348	-	762	2917	2917	2567	1896	-	615	1733	1733	1525	1127	-	365
70	21.1	Q (Btu/h)	66031	66031	49523	33016	-	18276	61140	61140	45855	30570	-	16922	55637	55637	41728	27819	-	15399	50135	50135	37601	25067	-	13876
		W	3973	3973	3496	2583	-	834	3431	3431	3020	2230	-	721	2706	2706	2381	1759	-	568	1614	1614	1420	1049	-	339
66	18.9	Q (Btu/h)	66096	66096	49572	33048	-	18466	61200	61200	45900	30600	-	17098	55692	55692	41769	27846	-	15559	50184	50184	37638	25092	-	14021
		W	3973	3973	3496	2583	-	740	3341	3341	2940	2172	-	622	2598	2598	2286	1689	-	484	1551	1551	1365	1008	-	289
62	16.7	Q (Btu/h)	66096	66096	49572	33048	-	18847	61200	61200	45900	30600	-	17451	55692	55692	41769	27846	-	15880	50184	50184	37638	25092	-	14309
		W	3973	3973	3496	2583	-	692	3341	3341	2940	2172	-	582	2593	2593	2282	1685	-	451	1546	1546	1360	1005	-	269
58	14.4	Q (Btu/h)	66096	66096	49572	33048	-	19047	61200	61200	45900	30600	-	17636	55692	55692	41769	27846	-	16049	50184	50184	37638	25092	-	14462
		W	3973	3973	3496	2583	-	631	3341	3341	2940	2172	-	531	2588	2588	2277	1682	-	411	1540	1540	1355	1001	-	245
54	12.2	Q (Btu/h)	66096	66096	49572	33048	-	19423	61200	61200	45900	30600	-	17985	55692	55692	41769	27846	-	16366	50184	50184	37638	25092	-	14747
		W	3973	3973	3496	2583	-	583	3341	3341	2940	2172	-	490	2583	2583	2273	1679	-	379	1535	1535	1350	997	-	225
50	10.0	Q (Btu/h)	66096	66096	49572	33048	-	19003	61200	61200	45900	30600	-	17596	55692	55692	41769	27846	-	16012	50184	50184	37638	25092	-	14428
		W	3973	3973	3496	2583	-	629	3341	3341	2940	2172	-	529	2578	2578	2269	1676	-	408	1529	1529	1345	994	-	242
46	7.8	Q (Btu/h)	66096	66096	49572	33048	-	18767	61200	61200	45900	30600	-	17377	55692	55692	41769	27846	-	15813	50184	50184	37638	25092	-	14249
		W	3973	3973	3496	2583	-	652	3341	3341	2940	2172	-	548	2573	2573	2264	1672	-	422	1523	1523	1341	990	-	250
42	5.6	Q (Btu/h)	66096	66096	49572	33048	-	19135	61200	61200	45900	30600	-	17717	55692	55692	41769	27846	-	16123	50184	50184	37638	25092	-	14528
		W	3973	3973	3496	2583	-	605	3341	3341	2940	2172	-	509	2568	2568	2260	1669	-	391	1518	1518	1336	987	-	231
38	3.3	Q (Btu/h)	66096	66096	49572	33048	-	19503	61200	61200	45900	30600	-	18058	55692	55692	41769	27846	-	16433	50184	50184	37638	25092	-	14808
		W	3973	3973	3496	2583	-	604	3341	3341	2940	2172	-	508	2563	2563	2256	1666	-	390	1512	1512	1331	983	-	230
34	1.1	Q (Btu/h)	66096	66096	49572	33048	-	19871	61200	61200	45900	30600	-	18399	55692	55692	41769	27846	-	16743	50184	50184	37638	25092	-	15087
		W	3973	3973	3496	2583	-	604	3341	3341	2940	2172	-	508	2558	2558	2251	1663	-	389	1507	1507	1326	979	-	229
30	-1.1	Q (Btu/h)	66096	66096	49572	33048	-	20239	61200	61200	45900	30600	-	18739	55692	55692	41769	27846	-	17053	50184	50184	37638	25092	-	15366
		W	3973	3973	3496	2583	-	604	3341	3341	2940	2172	-	508	2553	2553	2247	1660	-	388	1501	1501	1321	976	-	228
26	-3.3	Q (Btu/h)	66096	66096	49572	33048	-	20606	61200	61200	45900	30600	-	19080	55692	55692	41									

MXZ-SM60NAM2-U1

2) Heating

Rated	
Q (Btu/h)	66000
W	4720

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

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM36NAMHZ2-U1

1) Cooling

Rated	
Q (Btu/h)	36000
W	2400

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B. Outdoor D.B. (°F) (°C)	72°F / 22.2°C						67°F / 19.4°C						64°F / 17.8°C						61°F / 16.1°C					
	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)	24494	24494	18371	12247	-	8289	22680	22680	17010	11340	-	7675	20639	20639	15479	10319	-	6984	18598	18598	13948	9299	-	6293
W	1152	1152	1014	795	-	609	1200	1200	1056	828	-	635	1194	1194	1050	824	-	631	1249	1249	1099	862	-	661
110 43.3 Q (Btu/h)	29160	29160	21870	14580	-	8594	27000	27000	20250	13500	-	7957	24570	24570	18428	12285	-	7241	22140	22140	16605	11070	-	6525
W	1536	1536	1352	1060	-	571	1632	1632	1436	1126	-	606	1636	1636	1440	1129	-	608	1657	1657	1458	1144	-	616
106 41.1 Q (Btu/h)	33048	33048	24786	16524	-	8837	30600	30600	22950	15300	-	8182	27846	27846	20885	13923	-	7446	25092	25092	18819	12546	-	6709
W	1776	1776	1563	1225	-	533	1944	1944	1711	1341	-	583	1992	1992	1753	1374	-	598	1420	1420	1249	980	-	426
102 38.9 Q (Btu/h)	36158	36158	27119	18079	-	9081	33480	33480	25110	16740	-	8409	30467	30467	22850	15233	-	7652	27454	27454	20590	13727	-	6895
W	2064	2064	1816	1424	-	524	2208	2208	1943	1524	-	561	2390	2390	2103	1649	-	607	1362	1362	1199	940	-	346
98 36.7 Q (Btu/h)	38491	38491	28868	19246	-	9321	35640	35640	26730	17820	-	8631	32432	32432	24324	16216	-	7854	29225	29225	21919	14612	-	7077
W	2400	2400	2112	1656	-	522	2472	2472	2175	1706	-	538	2247	2247	1977	1550	-	489	1306	1306	1149	901	-	284
94 34.4 Q (Btu/h)	38880	38880	29160	19440	-	9560	36000	36000	27000	18000	-	8852	32760	32760	24570	16380	-	8055	29520	29520	22140	14760	-	7259
W	2472	2472	2175	1706	-	536	2376	2376	2091	1639	-	516	2112	2112	1858	1457	-	458	1238	1238	1090	854	-	269
90 32.2 Q (Btu/h)	39074	39074	29306	19537	-	9798	36180	36180	27135	18090	-	9072	32924	32924	24693	16462	-	8255	29668	29668	22251	14834	-	7439
W	2400	2400	2112	1656	-	519	2280	2280	2006	1573	-	493	1999	1999	1760	1380	-	433	1175	1175	1034	811	-	254
86 30.0 Q (Btu/h)	39074	39074	29306	19537	-	10034	36180	36180	27135	18090	-	9291	32924	32924	24693	16462	-	8454	29668	29668	22251	14834	-	7618
W	2352	2352	2070	1623	-	507	2184	2184	1922	1507	-	471	1887	1887	1661	1302	-	407	1112	1112	978	767	-	240
82 27.8 Q (Btu/h)	39074	39074	29306	19537	-	10269	36180	36180	27135	18090	-	9508	32924	32924	24693	16462	-	8652	29668	29668	22251	14834	-	7797
W	2304	2304	2028	1590	-	490	2112	2112	1859	1457	-	449	1775	1775	1562	1225	-	377	1048	1048	922	723	-	223
78 25.6 Q (Btu/h)	39580	39580	29685	19790	-	10502	36648	36648	27486	18324	-	9724	33350	33350	25012	16675	-	8849	30051	30051	22539	15026	-	7974
W	2208	2208	1943	1524	-	468	2016	2016	1774	1391	-	427	1663	1663	1463	1147	-	352	985	985	867	679	-	208
74 23.3 Q (Btu/h)	39580	39580	29685	19790	-	10735	36648	36648	27486	18324	-	9939	33350	33350	25012	16675	-	9045	30051	30051	22539	15026	-	8150
W	2160	2160	1901	1490	-	456	1920	1920	1690	1325	-	405	1551	1551	1365	1070	-	327	921	921	811	636	-	194
70 21.1 Q (Btu/h)	39619	39619	29714	19809	-	10966	36684	36684	27513	18342	-	10153	33382	33382	25037	16691	-	9240	30081	30081	22561	15040	-	8326
W	2112	2112	1859	1457	-	444	1824	1824	1605	1259	-	383	1438	1438	1266	992	-	302	858	858	755	592	-	180
66 18.9 Q (Btu/h)	39658	39658	29743	19829	-	11080	36720	36720	27540	18360	-	10259	33415	33415	25061	16708	-	9336	30110	30110	22583	15055	-	8412
W	2112	2112	1859	1457	-	393	1776	1776	1563	1225	-	331	1381	1381	1215	953	-	257	825	825	726	569	-	154
62 16.7 Q (Btu/h)	39658	39658	29743	19829	-	11308	36720	36720	27540	18360	-	10470	33415	33415	25061	16708	-	9528	30110	30110	22583	15055	-	8586
W	2112	2112	1859	1457	-	368	1776	1776	1563	1225	-	309	1378	1378	1213	951	-	240	822	822	723	567	-	143
58 14.4 Q (Btu/h)	39658	39658	29743	19829	-	11428	36720	36720	27540	18360	-	10582	33415	33415	25061	16708	-	9629	30110	30110	22583	15055	-	8677
W	2112	2112	1859	1457	-	336	1776	1776	1563	1225	-	282	1376	1376	1211	949	-	219	819	819	720	565	-	130
54 12.2 Q (Btu/h)	39658	39658	29743	19829	-	11654	36720	36720	27540	18360	-	10791	33415	33415	25061	16708	-	9820	30110	30110	22583	15055	-	8848
W	2112	2112	1859	1457	-	310	1776	1776	1563	1225	-	261	1373	1373	1208	947	-	202	816	816	718	563	-	120
50 10.0 Q (Btu/h)	39658	39658	29743	19829	-	11402	36720	36720	27540	18360	-	10557	33415	33415	25061	16708	-	9607	30110	30110	22583	15055	-	8657
W	2112	2112	1859	1457	-	334	1776	1776	1563	1225	-	281	1370	1370	1206	946	-	217	813	813	715	561	-	129
46 7.8 Q (Btu/h)	39658	39658	29743	19829	-	11260	36720	36720	27540	18360	-	10426	33415	33415	25061	16708	-	9488	30110	30110	22583	15055	-	8549
W	2112	2112	1859	1457	-	347	1776	1776	1563	1225	-	292	1368	1368	1204	944	-	225	810	810	713	559	-	133
42 5.6 Q (Btu/h)	39658	39658	29743	19829	-	11481	36720	36720	27540	18360	-	10630	33415	33415	25061	16708	-	9674	30110	30110	22583	15055	-	8717
W	2112	2112	1859	1457	-	322	1776	1776	1563	1225	-	271	1365	1365	1201	942	-	208	807	807	710	557	-	123
38 3.3 Q (Btu/h)	39658	39658	29743	19829	-	11702	36720	36720	27540	18360	-	10835	33415	33415	25061	16708	-	9860	30110	30110	22583	15055	-	8885
W	2112	2112	1859	1457	-	321	1776	1776	1563	1225	-	270	1362	1362	1199	940	-	207	804	804	707	555	-	122
34 1.1 Q (Btu/h)	39658	39658	29743	19829	-	11922	36720	36720	27540	18360	-	11039	33415	33415	25061	16708	-	10046	30110	30110	22583	15055	-	9052
W	2112	2112	1859	1457	-	321	1776	1776	1563	1225	-	270	1360	1360	1197	938	-	207	801	801	705	553	-	122
30 -1.1 Q (Btu/h)	39658	39658	29743	19829	-	12143	36720	36720	27540	18360	-	11244	33415	33415	25061	16708	-	10232	30110	30110	22583	15055	-	9220
W	2112	2112	1859	1457	-	321	1776	1776	1563	1225	-	270	1357	1357	1194	936	-	206	798	798	702	551	-	121
26 -3.3 Q (Btu/h)	39658	39658	29743	19829	-	12364	36720	36720	27540	18360	-	11448	33415	33415	25061	16708	-	10418	30110	30110	22583	15055	-	9387
W	2112	2112	1859	1457	-	321	1776	1776	1563	1225	-	270	1355	1355	1192	935	-	206	795	795	700	549	-	121
23 -5.0 Q (Btu/h)	39658	39658	29743	19829	-	12585	36720	36720	27540	18360	-	11652	33415	33415	25061	16708	-	10604	30110	30110	22583	15055	-	

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM36NAMHZ2-U1

2) Heating

Rated	
Q (Btu/h)	42000
W	3080

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	
(°F)	(°C)																				
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	26862	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)	28351	28351	20979	13608	6804	4335	36347	36347	26897	17446	8723	5558	43980	43980	32545	21110	10555	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)	27554	27554	20390	13226	6613	3734	35326	35326	26141	16957	8478	4787	42745	42745	31631	20517	10259	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)	26729	26729	19779	12830	6415	2844	34268	34268	25358	16449	8224	3646	41464	41464	30683	19903	9951	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-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM42NAMHZ2-U1

1) Cooling

Rated	
Q (Btu/h)	42000
W	3135

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			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)	28577	28577	21433	14288	-	9670	26460	26460	19845	13230	-	8954	24079	24079	18059	12039	-	8148	21697	21697	16273	10849	-	7342
		W	1505	1505	1174	873	-	796	1568	1568	1223	909	-	829	1559	1559	1216	904	-	825	1631	1631	1273	946	-	863
110	43.3	Q (Btu/h)	34020	34020	25515	17010	-	10026	31500	31500	23625	15750	-	9283	28665	28665	21499	14333	-	8448	25830	25830	19373	12915	-	7612
		W	2006	2006	1565	1164	-	745	2132	2132	1663	1236	-	792	2137	2137	1667	1240	-	794	2165	2165	1689	1256	-	804
106	41.1	Q (Btu/h)	38556	38556	28917	19278	-	10310	35700	35700	26775	17850	-	9546	32487	32487	24365	16244	-	8687	29274	29274	21956	14637	-	7828
		W	2320	2320	1810	1346	-	696	2539	2539	1981	1473	-	762	2602	2602	2029	1509	-	781	1854	1854	1446	1076	-	557
102	38.9	Q (Btu/h)	42185	42185	31639	21092	-	10595	39060	39060	29295	19530	-	9810	35545	35545	26658	17772	-	8927	32029	32029	24022	16015	-	8044
		W	2696	2696	2103	1564	-	684	2884	2884	2250	1673	-	732	3122	3122	2435	1811	-	792	1779	1779	1388	1032	-	452
98	36.7	Q (Btu/h)	44906	44906	33680	22453	-	10875	41580	41580	31185	20790	-	10069	37838	37838	28378	18919	-	9163	34096	34096	25572	17048	-	8257
		W	3135	3135	2445	1818	-	682	3229	3229	2519	1873	-	703	2935	2935	2289	1702	-	639	1705	1705	1330	989	-	371
94	34.4	Q (Btu/h)	45360	45360	34020	22880	-	11154	42000	42000	31500	21000	-	10327	38220	38220	28665	19110	-	9398	34440	34440	25830	17220	-	8468
		W	3229	3229	2519	1873	-	701	3104	3104	2421	1800	-	674	2758	2758	2152	1600	-	599	1618	1618	1262	938	-	351
90	32.2	Q (Btu/h)	45587	45587	34190	22793	-	11431	42210	42210	31658	21105	-	10584	38411	38411	28808	19206	-	9631	34612	34612	25959	17306	-	8679
		W	3135	3135	2445	1818	-	678	2978	2978	2323	1727	-	644	2612	2612	2037	1515	-	565	1535	1535	1197	890	-	332
86	30.0	Q (Btu/h)	45587	45587	34190	22793	-	11706	42210	42210	31658	21105	-	10839	38411	38411	28808	19206	-	9863	34612	34612	25959	17306	-	8888
		W	3072	3072	2396	1782	-	663	2853	2853	2225	1655	-	615	2465	2465	1923	1430	-	532	1452	1452	1133	842	-	313
82	27.8	Q (Btu/h)	45587	45587	34190	22793	-	11980	42210	42210	31658	21105	-	11093	38411	38411	28808	19206	-	10094	34612	34612	25959	17306	-	9096
		W	3010	3010	2347	1746	-	640	2759	2759	2152	1600	-	586	2319	2319	1809	1345	-	493	1369	1369	1068	794	-	291
78	25.6	Q (Btu/h)	46176	46176	34632	23088	-	12253	42756	42756	32067	21378	-	11345	38908	38908	29181	19454	-	10324	35060	35060	26295	17530	-	9303
		W	2884	2884	2250	1673	-	611	2633	2633	2054	1527	-	558	2172	2172	1694	1260	-	460	1286	1286	1003	746	-	272
74	23.3	Q (Btu/h)	46176	46176	34632	23088	-	12524	42756	42756	32067	21378	-	11596	38908	38908	29181	19454	-	10552	35060	35060	26295	17530	-	9509
		W	2822	2822	2201	1636	-	595	2508	2508	1966	1455	-	529	2025	2025	1580	1175	-	427	1203	1203	939	698	-	254
70	21.1	Q (Btu/h)	46222	46222	34666	23111	-	12793	42798	42798	32099	21399	-	11846	38966	38966	29210	19473	-	10779	35094	35094	26321	17547	-	9713
		W	2759	2759	2152	1600	-	579	2383	2383	1858	1382	-	500	1879	1879	1466	1090	-	395	1121	1121	874	650	-	235
66	18.9	Q (Btu/h)	46267	46267	34700	23134	-	12926	42840	42840	32130	21420	-	11969	38984	38984	29238	19492	-	10892	35129	35129	26347	17564	-	9814
		W	2759	2759	2152	1600	-	514	2320	2320	1810	1346	-	432	1804	1804	1407	1046	-	336	1077	1077	840	625	-	201
62	16.7	Q (Btu/h)	46267	46267	34700	23134	-	13193	42840	42840	32130	21420	-	12215	38984	38984	29238	19492	-	11116	35129	35129	26347	17564	-	10017
		W	2759	2759	2152	1600	-	480	2320	2320	1810	1346	-	404	1800	1800	1404	1044	-	313	1073	1073	837	622	-	187
58	14.4	Q (Btu/h)	46267	46267	34700	23134	-	13333	42840	42840	32130	21420	-	12345	38984	38984	29238	19492	-	11234	35129	35129	26347	17564	-	10123
		W	2759	2759	2152	1600	-	438	2320	2320	1810	1346	-	369	1797	1797	1402	1042	-	285	1069	1069	834	620	-	170
54	12.2	Q (Btu/h)	46267	46267	34700	23134	-	13596	42840	42840	32130	21420	-	12589	38984	38984	29238	19492	-	11456	35129	35129	26347	17564	-	10323
		W	2759	2759	2152	1600	-	405	2320	2320	1810	1346	-	341	1794	1794	1399	1040	-	263	1066	1066	831	618	-	156
50	10.0	Q (Btu/h)	46267	46267	34700	23134	-	13302	42840	42840	32130	21420	-	12317	38984	38984	29238	19492	-	11208	35129	35129	26347	17564	-	10100
		W	2759	2759	2152	1600	-	437	2320	2320	1810	1346	-	367	1790	1790	1396	1038	-	283	1062	1062	828	616	-	168
46	7.8	Q (Btu/h)	46267	46267	34700	23134	-	13137	42840	42840	32130	21420	-	12164	38984	38984	29238	19492	-	11069	35129	35129	26347	17564	-	9974
		W	2759	2759	2152	1600	-	453	2320	2320	1810	1346	-	381	1787	1787	1394	1036	-	293	1058	1058	825	614	-	174
42	5.6	Q (Btu/h)	46267	46267	34700	23134	-	13394	42840	42840	32130	21420	-	12402	38984	38984	29238	19492	-	11286	35129	35129	26347	17564	-	10170
		W	2759	2759	2152	1600	-	420	2320	2320	1810	1346	-	353	1783	1783	1391	1034	-	272	1054	1054	822	611	-	161
38	3.3	Q (Btu/h)	46267	46267	34700	23134	-	13652	42840	42840	32130	21420	-	12641	38984	38984	29238	19492	-	11503	35129	35129	26347	17564	-	10365
		W	2759	2759	2152	1600	-	419	2320	2320	1810	1346	-	353	1780	1780	1388	1032	-	271	1050	1050	819	609	-	160
34	1.1	Q (Btu/h)	46267	46267	34700	23134	-	13909	42840	42840	32130	21420	-	12879	38984	38984	29238	19492	-	11720	35129	35129	26347	17564	-	10561
		W	2759	2759	2152	1600	-	419	2320	2320	1810	1346	-	353	1776	1776	1385	1030	-	270	1046	1046	816	607	-	159
30	-1.1	Q (Btu/h)	46267	46267	34700	23134	-	14167	42840	42840	32130	21420	-	13118	38984	38984	29238	19492	-	11937	35129	35129	26347	17564	-	10756
		W	2759	2759	2152	1600	-	419	2320	2320	1810	1346	-	353	1773	1773	1383	1028	-	270	1042	1042	813	605	-	158
26	-3.3	Q (Btu/h)	46267	46267	34700	23134	-	14425	42840	42840	32130	21420	-	13356	38984	38984	29238	19492	-							

MXZ-SM42NAMHZ2-U1

2) Heating

Rated	
Q (Btu/h)	48000
W	3435

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C							
			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	2061	2061	1649	1195	-	542	2405	2405	1924	1395	-	632	1718	1718	1374	996	-	452
55	12.8	Q (Btu/h)	37440	37440	28454	18346	-	12224	48000	48000	36480	23520	-	15672	58080	58080	44141	28459	-	18963
		W	2405	2405	1924	1395	-	575	2662	2662	2130	1544	-	637	1889	1889	1511	1096	-	452
50	10.0	Q (Btu/h)	37440	37440	28454	18346	-	11505	48000	48000	36480	23520	-	14750	58080	58080	44141	28459	-	17848
		W	2576	2576	2061	1494	-	563	2920	2920	2336	1693	-	638	2061	2061	1649	1195	-	451
47	8.3	Q (Btu/h)	37440	37440	28454	18346	-	11077	48000	48000	36480	23520	-	14201	58080	58080	44141	28459	-	17183
		W	2834	2834	2267	1644	-	585	3092	3092	2473	1793	-	638	2233	2233	1786	1295	-	461
42	5.6	Q (Btu/h)	37954	37954	28845	18598	-	10398	48659	48659	36981	23843	-	13331	58878	58878	44747	28850	-	16130
		W	3092	3092	2473	1793	-	572	3435	3435	2748	1992	-	635	2405	2405	1924	1395	-	445
35	1.7	Q (Btu/h)	42174	42174	32052	20665	-	10312	54069	54069	41092	26494	-	13221	65423	65423	49722	32057	-	15997
		W	3435	3435	2748	1992	-	809	3710	3710	2968	2152	-	874	2748	2748	2198	1594	-	647
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	3607	3607	2885	2092	1371	823	3779	3779	3023	2192	1436	862	2834	2834	2267	1644	1077	647
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	3710	3710	2968	2152	1410	761	4053	4053	3243	2351	1540	831	3006	3006	2405	1743	1142	616
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	4053	4053	3243	2351	1540	733	4380	4380	3504	2540	1664	792	3263	3263	2611	1893	1240	590
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	4208	4208	3366	2441	1599	665	4723	4723	3779	2739	1795	746	3641	3641	2913	2112	1384	575
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	4294	4294	3435	2490	1632	575	5153	5153	4122	2988	1958	690	4208	4208	3366	2441	1599	564
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	4380	4380	3504	2540	1664	475	5513	5513	4411	3198	2095	598	4895	4895	3916	2839	1860	531
2	-16.7	Q (Btu/h)	32412	32412	24633	15882	7779	4955	41554	41554	31581	20361	9973	6352	50280	50280	38213	24637	12067	7686
		W	4122	4122	3298	2391	1566	414	5496	5496	4397	3188	2088	552	5153	5153	4122	2988	1958	518
-3	-19.4	Q (Btu/h)	31476	31476	23922	15423	7554	4267	40354	40354	30669	19773	9685	5471	48828	48828	37109	23926	11719	6620
		W	3779	3779	3023	2192	1436	358	5238	5238	4191	3038	1991	496	5410	5410	4328	3138	2056	512
-8	-22.2	Q (Btu/h)	30540	30540	23210	14965	7330	3250	39154	39154	29757	19185	9397	4167	47376	47376	36006	23214	11370	5042
		W	3349	3349	2679	1942	1273	266	4981	4981	3985	2889	1893	395	5754	5754	4603	3337	2186	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	2920	2920	2336	1693	1110	172	4809	4809	3847	2789	1827	283	5496	5496	4397	3188	2088	324

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-48NAMHZ2-U1

1) Cooling

Rated	
Q (Btu/h)	48000
W	3665

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																									
115	46.1	Q (Btu/h)	32659	32659	24494	16330	-	11052	30240	30240	22680	15120	-	10233	27518	27518	20639	13759	-	9312	24797	24797	18598	12398	-	8391
		W	1759	1759	1407	1020	-	1015	1833	1833	1466	1063	-	1058	1823	1823	1458	1057	-	1052	1907	1907	1526	1106	-	1101
110	43.3	Q (Btu/h)	38880	38880	29160	19440	-	11458	36000	36000	27000	18000	-	10609	32760	32760	24570	16380	-	9655	29520	29520	22140	14760	-	8700
		W	2346	2346	1876	1360	-	951	2492	2492	1904	1445	-	1010	2499	2499	1999	1449	-	1013	2531	2531	2025	1468	-	1026
106	41.1	Q (Btu/h)	44064	44064	33048	22032	-	11782	40800	40800	30600	20400	-	10910	37128	37128	27846	18564	-	9928	33456	33456	25092	16728	-	8946
		W	2712	2712	2170	1573	-	888	2969	2969	2375	1722	-	972	3042	3042	2433	1764	-	996	2168	2168	1734	1257	-	710
102	38.9	Q (Btu/h)	48211	48211	36158	24106	-	12109	44640	44640	33480	22320	-	11212	40622	40622	30467	20311	-	10203	36605	36605	27454	18302	-	9194
		W	3152	3152	2522	1828	-	873	3372	3372	2697	1956	-	934	3649	3649	2919	2117	-	1011	2080	2080	1664	1207	-	576
98	36.7	Q (Btu/h)	51322	51322	38491	25661	-	12429	47520	47520	35640	23760	-	11508	43243	43243	32432	21622	-	10472	38966	38966	29225	19483	-	9436
		W	3665	3665	2932	2126	-	871	3775	3775	3020	2189	-	897	3431	3431	2745	1990	-	815	1994	1994	1595	1156	-	474
94	34.4	Q (Btu/h)	51840	51840	38880	25920	-	12747	48000	48000	36000	24000	-	11803	43680	43680	32760	21840	-	10740	39360	39360	29520	19680	-	9678
		W	3775	3775	3020	2189	-	894	3628	3628	2903	2104	-	859	3225	3225	2580	1870	-	764	1891	1891	1513	1097	-	448
90	32.2	Q (Btu/h)	52099	52099	39074	26050	-	13064	48240	48240	36180	24120	-	12096	43898	43898	32924	21949	-	11007	39557	39557	29668	19778	-	9919
		W	3665	3665	2932	2126	-	865	3482	3482	2785	2019	-	822	3053	3053	2443	1771	-	721	1794	1794	1435	1041	-	424
86	30.0	Q (Btu/h)	52099	52099	39074	26050	-	13378	48240	48240	36180	24120	-	12387	43898	43898	32924	21949	-	11272	39557	39557	29668	19778	-	10158
		W	3592	3592	2873	2083	-	845	3335	3335	2668	1934	-	785	2882	2882	2306	1672	-	678	1697	1697	1358	984	-	400
82	27.8	Q (Btu/h)	52099	52099	39074	26050	-	13692	48240	48240	36180	24120	-	12678	43898	43898	32924	21949	-	11537	39557	39557	29668	19778	-	10396
		W	3518	3518	2815	2041	-	816	3225	3225	2580	1871	-	748	2711	2711	2169	1572	-	629	1601	1601	1280	928	-	371
78	25.6	Q (Btu/h)	52773	52773	39580	26387	-	14003	48864	48864	36648	24432	-	12966	44466	44466	33350	22233	-	11799	40068	40068	30051	20034	-	10632
		W	3372	3372	2697	1956	-	779	3079	3079	2463	1786	-	711	2539	2539	2031	1473	-	587	1504	1504	1203	872	-	347
74	23.3	Q (Btu/h)	52773	52773	39580	26387	-	14313	48864	48864	36648	24432	-	13253	44466	44466	33350	22233	-	12060	40068	40068	30051	20034	-	10867
		W	3299	3299	2639	1913	-	759	2932	2932	2346	1701	-	675	2368	2368	1894	1373	-	545	1407	1407	1125	816	-	324
70	21.1	Q (Btu/h)	52825	52825	39619	26412	-	14621	48912	48912	36684	24456	-	13538	44510	44510	33382	22255	-	12319	40108	40108	30081	20054	-	11101
		W	3225	3225	2580	1871	-	739	2785	2785	2228	1616	-	638	2197	2197	1757	1274	-	503	1310	1310	1048	760	-	300
66	18.9	Q (Btu/h)	52877	52877	39658	26438	-	14773	48960	48960	36720	24480	-	13679	44554	44554	33415	22277	-	12448	40147	40147	30110	20074	-	11217
		W	3225	3225	2580	1871	-	656	2712	2712	2170	1573	-	551	2109	2109	1687	1223	-	429	1259	1259	1007	730	-	256
62	16.7	Q (Btu/h)	52877	52877	39658	26438	-	15077	48960	48960	36720	24480	-	13960	44554	44554	33415	22277	-	12704	40147	40147	30110	20074	-	11448
		W	3225	3225	2580	1871	-	613	2712	2712	2170	1573	-	515	2105	2105	1684	1221	-	400	1255	1255	1004	728	-	238
58	14.4	Q (Btu/h)	52877	52877	39658	26438	-	15238	48960	48960	36720	24480	-	14109	44554	44554	33415	22277	-	12839	40147	40147	30110	20074	-	11569
		W	3225	3225	2580	1871	-	559	2712	2712	2170	1573	-	470	2101	2101	1681	1218	-	364	1250	1250	1000	725	-	217
54	12.2	Q (Btu/h)	52877	52877	39658	26438	-	15539	48960	48960	36720	24480	-	14388	44554	44554	33415	22277	-	13093	40147	40147	30110	20074	-	11798
		W	3225	3225	2580	1871	-	517	2712	2712	2170	1573	-	434	2097	2097	1677	1216	-	336	1246	1246	997	722	-	200
50	10.0	Q (Btu/h)	52877	52877	39658	26438	-	15203	48960	48960	36720	24480	-	14077	44554	44554	33415	22277	-	12810	40147	40147	30110	20074	-	11543
		W	3225	3225	2580	1871	-	557	2712	2712	2170	1573	-	468	2093	2093	1674	1214	-	361	1241	1241	993	720	-	214
46	7.8	Q (Btu/h)	52877	52877	39658	26438	-	15013	48960	48960	36720	24480	-	13901	44554	44554	33415	22277	-	12650	40147	40147	30110	20074	-	11399
		W	3225	3225	2580	1871	-	578	2712	2712	2170	1573	-	486	2089	2089	1671	1211	-	374	1237	1237	989	717	-	222
42	5.6	Q (Btu/h)	52877	52877	39658	26438	-	15308	48960	48960	36720	24480	-	14174	44554	44554	33415	22277	-	12898	40147	40147	30110	20074	-	11622
		W	3225	3225	2580	1871	-	536	2712	2712	2170	1573	-	451	2085	2085	1668	1209	-	347	1232	1232	986	715	-	205
38	3.3	Q (Btu/h)	52877	52877	39658	26438	-	15602	48960	48960	36720	24480	-	14446	44554	44554	33415	22277	-	13146	40147	40147	30110	20074	-	11846
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2081	2081	1664	1207	-	345	1228	1228	982	712	-	204
34	1.1	Q (Btu/h)	52877	52877	39658	26438	-	15896	48960	48960	36720	24480	-	14719	44554	44554	33415	22277	-	13394	40147	40147	30110	20074	-	12070
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2077	2077	1661	1204	-	345	1223	1223	978	709	-	203
30	-1.1	Q (Btu/h)	52877	52877	39658	26438	-	16191	48960	48960	36720	24480	-	14991	44554	44554	33415	22277	-	13642	40147	40147	30110	20074	-	12293
		W	3225	3225	2580	1871	-	535	2712	2712	2170	1573	-	450	2073	2073	1658	1202	-	344	1218	1218	975	707	-	202
26	-3.3	Q (Btu/h)	52877	52877	39658	26438	-	16485	48960																	

13. PART LOAD CAPACITY CHART

MXZ-48NAMHZ2-U1

2) Heating

Rated	
Q (Btu/h)	54000
W	3960

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C							
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																			
60	15.6	Q (Btu/h)	42120	42120	31590	21060	-	14570	54000	54000	40500	27000	-	18680	65340	65340	49005	32670	-	22602
		W	2376	2376	1901	1378	-	666	2772	2772	2218	1608	-	777	1980	1980	1584	1148	-	555
55	12.8	Q (Btu/h)	42120	42120	31590	21060	-	13752	54000	54000	40500	27000	-	17631	65340	65340	49005	32670	-	21334
		W	2772	2772	2218	1608	-	706	3069	3069	2455	1780	-	782	2178	2178	1742	1263	-	555
50	10.0	Q (Btu/h)	42120	42120	31590	21060	-	12943	54000	54000	40500	27000	-	16594	65340	65340	49005	32670	-	20079
		W	2970	2970	2376	1723	-	692	3366	3366	2693	1952	-	784	2376	2376	1901	1378	-	553
47	8.3	Q (Btu/h)	42120	42120	31590	21060	-	12461	54000	54000	40500	27000	-	15976	65340	65340	49005	32670	-	19331
		W	3267	3267	2614	1895	-	718	3564	3564	2851	2067	-	784	2574	2574	2059	1493	-	566
42	5.6	Q (Btu/h)	42698	42698	32024	21349	-	11698	54742	54742	41056	27371	-	14997	66237	66237	49678	33119	-	18147
		W	3564	3564	2851	2067	-	702	3960	3960	3168	2297	-	780	2772	2772	2218	1608	-	546
35	1.7	Q (Btu/h)	47445	47445	35584	23723	11861	11601	60827	60827	45621	30414	15207	14874	73601	73601	55201	36801	18400	17997
		W	3960	3960	3168	2297	1505	994	4277	4277	3421	2481	1625	1073	3168	3168	2534	1837	1204	795
32	0.0	Q (Btu/h)	48043	48043	36032	24021	12011	10973	61593	61593	46195	30797	15398	14068	74528	74528	55896	37264	18632	17022
		W	4158	4158	3326	2412	1580	1011	4356	4356	3485	2526	1655	1059	3267	3267	2614	1895	1241	794
27	-2.8	Q (Btu/h)	47190	47190	35392	23595	11797	10100	60499	60499	45375	30250	15125	12949	73204	73204	54903	36602	18301	15668
		W	4277	4277	3421	2481	1625	934	4673	4673	3738	2710	1776	1021	3465	3465	2772	2010	1317	757
22	-5.6	Q (Btu/h)	46672	46672	35004	23336	11668	9712	59835	59835	44876	29918	14959	12451	72401	72401	54301	36200	18100	15066
		W	4673	4673	3738	2710	1776	900	5049	5049	4039	2928	1919	973	3762	3762	3010	2182	1430	725
17	-8.3	Q (Btu/h)	46029	46029	34522	23015	11507	9070	59012	59012	44259	29506	14753	11628	71404	71404	53553	35702	17851	14070
		W	4851	4851	3881	2814	1843	817	5445	5445	4356	3158	2069	917	4198	4198	3358	2435	1595	707
12	-11.1	Q (Btu/h)	45341	45341	34006	22670	11335	7874	58129	58129	43597	29065	14532	10095	70336	70336	52752	35168	17584	12215
		W	4950	4950	3960	2871	1881	707	5940	5940	4752	3445	2257	848	4851	4851	3881	2814	1843	693
5	-15.0	Q (Btu/h)	44337	44337	33253	22168	11084	6259	56842	56842	42632	28421	14211	8025	68779	68779	51584	34389	17195	9710
		W	5049	5049	4039	2928	1919	584	6356	6356	5085	3686	2415	735	5643	5643	4514	3273	2144	652
2	-16.7	Q (Btu/h)	36463	36463	27347	18232	9116	5574	46748	46748	35061	23374	11687	7146	56565	56565	42424	28282	14141	8647
		W	4752	4752	3802	2756	1806	509	6336	6336	5089	3675	2408	679	5940	5940	4752	3445	2257	636
-3	-19.4	Q (Btu/h)	35410	35410	26558	17705	8853	4801	45398	45398	34048	22699	11349	6155	54931	54931	41199	27466	13733	7447
		W	4356	4356	3485	2526	1655	440	6039	6039	4831	3503	2295	609	6237	6237	4990	3617	2370	629
-8	-22.2	Q (Btu/h)	34357	34357	25768	17179	8589	3657	44048	44048	33036	22024	11012	4688	53298	53298	39973	26649	13324	5673
		W	3861	3861	3089	2239	1467	326	5742	5742	4594	3330	2182	485	6633	6633	5306	3847	2521	561
-13	-25.0	Q (Btu/h)	33253	33253	24939	16626	8313	2542	42632	42632	31974	21316	10658	3259	51584	51584	38688	25792	12896	3943
		W	3366	3366	2693	1952	1279	211	5544	5544	4435	3216	2107	348	6336	6336	5069	3675	2408	398

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM72TAM-U1

1) Cooling

Rated	
Q (Btu/h)	72,000
W	5670

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			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)	48800	48800	36600	24400	-	19784	45185	45185	33889	22592	-	18319	41118	41118	30839	20559	-	16670	37052	37052	27789	18526	-	15022
		W	2722	2722	1878	1230	-	342	2777	2777	1916	1255	-	349	2820	2820	1946	1274	-	355	2951	2951	2036	1334	-	371
110	43.3	Q (Btu/h)	58337	58337	43753	29169	-	23651	54016	54016	40512	27008	-	21899	49155	49155	36866	24577	-	19928	44293	44293	33220	22147	-	17957
		W	3629	3629	2504	1640	-	456	3760	3760	2594	1699	-	473	3866	3866	2667	1747	-	486	3915	3915	2702	1770	-	492
106	41.1	Q (Btu/h)	65998	65998	49499	32999	-	26757	61109	61109	45832	30555	-	24775	55609	55609	41707	27805	-	22545	50110	50110	37582	25055	-	20316
		W	4196	4196	2895	1896	-	528	4549	4549	3139	2056	-	572	4706	4706	3247	2127	-	592	3354	3354	2314	1516	-	422
102	38.9	Q (Btu/h)	72334	72334	54251	36167	-	29326	66976	66976	50232	33488	-	27154	60948	60948	45711	30474	-	24710	54920	54920	41190	27460	-	22266
		W	4876	4876	3365	2204	-	613	5276	5276	3640	2385	-	663	5646	5646	3896	2552	-	710	3218	3218	2221	1455	-	405
98	36.7	Q (Btu/h)	76788	76788	57591	38394	-	31132	71100	71100	53325	35550	-	28825	64701	64701	48526	32351	-	26231	58302	58302	43727	29151	-	23637
		W	5670	5670	3912	2563	-	713	5812	5812	4010	2627	-	731	5308	5308	3663	2399	-	667	3084	3084	2128	1394	-	388
94	34.4	Q (Btu/h)	77818	77818	58363	38909	-	31549	72053	72053	54040	36027	-	29212	65569	65569	49176	32784	-	26583	59084	59084	44313	29642	-	23954
		W	5840	5840	4030	2640	-	734	5615	5615	3875	2538	-	706	4989	4989	3442	2255	-	627	2926	2926	2019	1322	-	368
90	32.2	Q (Btu/h)	78048	78048	58536	39024	-	31642	72267	72267	54200	36133	-	29298	65763	65763	49322	32881	-	26662	59259	59259	44444	29629	-	24025
		W	5670	5670	3912	2563	-	713	5397	5397	3724	2439	-	679	4724	4724	3259	2135	-	594	2776	2776	1915	1255	-	349
86	30.0	Q (Btu/h)	78278	78278	58709	39139	-	31736	72480	72480	54360	36240	-	29385	65957	65957	49468	32978	-	26740	59434	59434	44575	29717	-	24096
		W	5557	5557	3834	2511	-	699	5179	5179	3573	2341	-	651	4459	4459	3076	2015	-	561	2626	2626	1812	1187	-	330
82	27.8	Q (Btu/h)	78509	78509	58882	39254	-	31829	72693	72693	54520	36347	-	29471	66151	66151	49613	33075	-	26819	59609	59609	44706	29804	-	24167
		W	5443	5443	3756	2460	-	684	4960	4960	3422	2242	-	624	4194	4194	2893	1895	-	527	2476	2476	1709	1119	-	311
78	25.6	Q (Btu/h)	78739	78739	59054	39370	-	31923	72907	72907	54680	36453	-	29558	66345	66345	49759	33173	-	26898	59783	59783	44838	29892	-	24238
		W	5216	5216	3599	2358	-	656	4742	4742	3272	2143	-	596	3928	3928	2711	1775	-	494	2326	2326	1605	1051	-	292
74	23.3	Q (Btu/h)	78970	78970	59227	39485	-	32016	73120	73120	54840	36560	-	29644	66539	66539	49904	33270	-	26976	59958	59958	44969	29979	-	24308
		W	5103	5103	3521	2306	-	642	4523	4523	3121	2044	-	569	3663	3663	2528	1656	-	461	2176	2176	1502	984	-	274
70	21.1	Q (Btu/h)	79200	79200	59400	39600	-	32109	73333	73333	55000	36667	-	29731	66733	66733	50050	33367	-	27055	60133	60133	45100	30067	-	24379
		W	4990	4990	3443	2255	-	627	4305	4305	2970	1946	-	541	3398	3398	2345	1536	-	427	2027	2027	1398	916	-	255
66	18.9	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3262	3262	2251	1475	-	410	1948	1948	1344	880	-	245
62	16.7	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3256	3256	2247	1472	-	409	1941	1941	1339	877	-	244
58	14.4	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3250	3250	2242	1469	-	409	1934	1934	1335	874	-	243
54	12.2	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3244	3244	2238	1466	-	408	1927	1927	1330	871	-	242
50	10.0	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3238	3238	2234	1463	-	407	1920	1920	1325	868	-	241
46	7.8	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3231	3231	2230	1460	-	406	1913	1913	1320	865	-	241
42	5.6	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3225	3225	2225	1458	-	405	1906	1906	1315	861	-	240
38	3.3	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3219	3219	2221	1455	-	405	1899	1899	1310	858	-	239
34	1.1	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3213	3213	2217	1452	-	404	1892	1892	1305	855	-	238
30	-1.1	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774	66830	66830	50123	33415	-	27095	60221	60221	45166	30110	-	24415
		W	4990	4990	3443	2255	-	627	4196	4196	2895	1896	-	528	3206	3206	2212	1449	-	403	1885	1885	1301	852	-	237
26	-3.3	Q (Btu/h)	79315	79315	59486	39658	-	32156	73440	73440	55080	36720	-	29774												

13. PART LOAD CAPACITY CHART

MXZ-SM72TAM-U1

2) Heating

Rated	
Q (Btu/h)	80,000
W	5359

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C							
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60	15.6	Q (Btu/h)	62400	62400	46800	31200	-	24,029	80000	80000	60000	40000	-	30806	96800	96800	72600	48400	-	37,276
		W	2680	2680	1928	1275	-	797	3668	3668	2639	1745	-	1091	3216	3216	2314	1530	-	957
55	12.8	Q (Btu/h)	62400	62400	46800	31200	-	24,029	80000	80000	60000	40000	-	30806	96800	96800	72600	48400	-	37,276
		W	3001	3001	2159	1428	-	893	4085	4085	2939	1943	-	1215	3430	3430	2468	1632	-	1,020
50	10.0	Q (Btu/h)	62400	62400	46800	31200	-	24,029	80000	80000	60000	40000	-	30806	96800	96800	72600	48400	-	37,276
		W	3323	3323	2391	1581	-	988	4502	4502	3239	2141	-	1339	3752	3752	2699	1785	-	1,116
47	8.3	Q (Btu/h)	62400	62400	46800	31200	-	24,029	80000	80000	60000	40000	-	30806	96800	96800	72600	48400	-	37,276
		W	3537	3537	2545	1683	-	1,052	4868	4868	3503	2316	-	1448	4073	4073	2930	1937	-	1,212
42	5.6	Q (Btu/h)	62123	62123	46592	31061	-	23,922	79644	79644	59733	39822	-	30670	96370	96370	72277	48185	-	37,110
		W	3859	3859	2776	1836	-	1,148	5503	5503	3959	2618	-	1637	4555	4555	3277	2167	-	1,355
35	1.7	Q (Btu/h)	55432	55432	41574	27716	-	21,346	71067	71067	53300	35533	-	27366	85991	85991	64493	42995	-	33,113
		W	4716	4716	3393	2243	-	1,403	6530	6530	4698	3106	-	1943	5681	5681	4087	2702	-	1,690
32	0.0	Q (Btu/h)	54049	54049	40537	27025	-	20,813	69294	69294	51970	34647	-	26684	83845	83845	62884	41923	-	32,287
		W	5145	5145	3702	2447	-	1,530	6750	6750	4856	3211	-	2008	5895	5895	4241	2804	-	1,754
27	-2.8	Q (Btu/h)	50033	50033	37524	25016	-	19,267	64144	64144	48108	32072	-	24701	73766	73766	55324	36883	-	29,888
		W	5681	5681	4087	2702	-	1,690	6259	6259	4503	2977	-	1862	5359	5359	3856	2549	-	1,594
22	-5.6	Q (Btu/h)	47437	47437	35577	23718	-	18,267	60816	60816	45612	30408	-	23419	73588	73588	55191	36794	-	28,337
		W	6324	6324	4550	3008	-	1,881	5768	5768	4150	2743	-	1716	4823	4823	3470	2294	-	1,435
17	-8.3	Q (Btu/h)	42491	42491	31868	21245	-	16,362	54475	54475	40857	27238	-	20977	65915	65915	49436	32958	-	25,383
		W	6110	6110	4396	2906	-	1,817	5235	5235	3766	2490	-	1557	4180	4180	3008	1988	-	1,243
12	-11.1	Q (Btu/h)	38861	38861	29146	19431	-	14,965	49822	49822	37367	24911	-	19186	60285	60285	45214	30142	-	23,215
		W	5681	5681	4087	2702	-	1,690	4891	4891	3519	2326	-	1455	3644	3644	2622	1734	-	1,084
5	-15.0	Q (Btu/h)	35568	35568	26676	17784	-	13,697	45600	45600	34200	22800	-	17560	55176	55176	41382	27588	-	21,247
		W	4931	4931	3547	2345	-	1,467	4594	4594	3305	2185	-	1366	2787	2787	2005	1326	-	829
2	-16.7	Q (Btu/h)	34157	34157	25617	17078	-	13,153	43790	43790	32843	21895	-	16863	52986	52986	39740	26493	-	20,404
		W	4609	4609	3316	2192	-	1,371	4451	4451	3202	2117	-	1324	2412	2412	1735	1147	-	717
-3	-19.4	Q (Btu/h)	31804	31804	23853	15902	-	12,247	40775	40775	30581	20387	-	15702	49337	49337	37003	24669	-	18,999
		W	4180	4180	3008	1988	-	1,243	4213	4213	3031	2004	-	1253	1822	1822	1311	867	-	542
-8	-22.2	Q (Btu/h)	29452	29452	22089	14726	-	11,341	37759	37759	28319	18879	-	14540	45688	45688	34266	22844	-	17,594
		W	3644	3644	2622	1734	-	1,084	3964	3964	2852	1886	-	1179	1179	1179	848	561	-	351
-13	-25.0	Q (Btu/h)	27099	27099	20325	13550	-	10,435	34743	34743	26057	17371	-	13379	42039	42039	31529	21019	-	16,188
		W	3162	3162	2275	1504	-	941	3712	3712	2671	1766	-	1104	643	643	463	306	-	191

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM96TAM-U1

1) Cooling

Rated	
Q (Btu/h)	96,000
W	8160

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																									
115	46.1	Q (Btu/h)	65066	65066	48800	32533	-	25835	60246	60246	45185	30123	-	23921	54824	54824	41118	27412	-	21769	49402	49402	37052	24701	-	19616
		W	3917	3917	2800	1702	-	333	3996	3996	2857	1737	-	240	4058	4058	2901	1764	-	345	4246	4246	3036	1846	-	361
110	43.3	Q (Btu/h)	77783	77783	58337	38892	-	30885	72021	72021	54016	36011	-	28597	65539	65539	49155	32770	-	26023	59057	59057	44293	29529	-	23449
		W	5222	5222	3734	2270	-	444	5411	5411	3868	2352	-	460	5563	5563	3977	2418	-	473	5635	5635	4029	2449	-	479
106	41.1	Q (Btu/h)	87997	87997	65998	43999	-	34940	81479	81479	61109	40740	-	32352	74146	74146	55609	37073	-	29440	66813	66813	50110	33406	-	26529
		W	6038	6038	4317	2625	-	513	6547	6547	4681	2846	-	557	6772	6772	4842	2943	-	576	4827	4827	3451	2098	-	410
102	38.9	Q (Btu/h)	96445	96445	72334	48223	-	38295	89301	89301	66976	44651	-	35458	81264	81264	60948	40632	-	32267	73227	73227	54920	36614	-	29076
		W	7018	7018	5017	3050	-	597	7593	7593	5428	3300	-	645	8125	8125	5809	3531	-	691	4632	4632	3311	2013	-	394
98	36.7	Q (Btu/h)	102384	102384	76788	51192	-	40653	94800	94800	71100	47400	-	37641	86268	86268	64701	43134	-	34254	77736	77736	58302	38868	-	30866
		W	8160	8160	5834	3547	-	694	8364	8364	5980	3635	-	711	7639	7639	5462	3320	-	649	4439	4439	3173	1929	-	377
94	34.4	Q (Btu/h)	103757	103757	77818	51878	-	41198	96071	96071	72053	48036	-	38146	87425	87425	65569	43712	-	34713	78778	78778	59084	39389	-	31280
		W	8405	8405	6009	3653	-	714	8081	8081	5778	3512	-	687	7180	7180	5133	3121	-	610	4211	4211	3010	1830	-	358
90	32.2	Q (Btu/h)	104064	104064	78048	52032	-	41320	96356	96356	72267	48178	-	38259	87684	87684	65763	43842	-	34816	79012	79012	59259	39506	-	31372
		W	8160	8160	5834	3547	-	694	7767	7767	5553	3376	-	660	6798	6798	4860	2955	-	578	3995	3995	2856	1736	-	340
86	30.0	Q (Btu/h)	104371	104371	78278	52186	-	41442	96640	96640	72480	48320	-	38372	87942	87942	65957	43971	-	34918	79245	79245	59434	39622	-	31465
		W	7997	7997	5717	3476	-	680	7453	7453	5328	3239	-	634	6417	6417	4587	2789	-	545	3779	3779	2702	1643	-	321
82	27.8	Q (Btu/h)	104678	104678	78509	52339	-	41564	96924	96924	72693	48462	-	38485	88201	88201	66151	44101	-	35021	79478	79478	59609	39739	-	31558
		W	7834	7834	5600	3405	-	666	7138	7138	5103	3103	-	607	6035	6035	4315	2623	-	513	3564	3564	2548	1549	-	303
78	25.6	Q (Btu/h)	104986	104986	78739	52493	-	41686	97209	97209	72907	48604	-	38598	88460	88460	66345	44230	-	35124	79711	79711	59783	39856	-	31650
		W	7507	7507	5367	3263	-	638	6824	6824	4879	2966	-	580	5654	5654	4042	2457	-	481	3348	3348	2393	1455	-	285
74	23.3	Q (Btu/h)	105293	105293	78970	52646	-	41808	97493	97493	73120	48747	-	38711	88719	88719	66539	44359	-	35227	79945	79945	59958	39972	-	31743
		W	7344	7344	5250	3192	-	624	6510	6510	4654	2829	-	553	5272	5272	3769	2291	-	448	3132	3132	2239	1361	-	266
70	21.1	Q (Btu/h)	105600	105600	79200	52800	-	41930	97778	97778	73333	48889	-	38824	88978	88978	66733	44489	-	35330	80178	80178	60133	40089	-	31835
		W	7181	7181	5134	3121	-	610	6196	6196	4429	2693	-	527	4890	4890	3496	2126	-	416	2917	2917	2085	1268	-	248
66	18.9	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4695	4695	3357	2041	-	399	2804	2804	2004	1219	-	238
62	16.7	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4686	4686	3350	2037	-	398	2794	2794	1997	1214	-	237
58	14.4	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4677	4677	3344	2033	-	398	2783	2783	1990	1210	-	237
54	12.2	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4668	4668	3337	2029	-	397	2773	2773	1983	1205	-	236
50	10.0	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4659	4659	3331	2025	-	396	2763	2763	1976	1201	-	235
46	7.8	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4650	4650	3325	2021	-	395	2753	2753	1968	1197	-	234
42	5.6	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4641	4641	3318	2017	-	395	2743	2743	1961	1192	-	233
38	3.3	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4632	4632	3312	2013	-	394	2733	2733	1954	1188	-	232
34	1.1	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4623	4623	3305	2010	-	393	2723	2723	1947	1183	-	231
30	-1.1	Q (Btu/h)	105754	105754	79315	52877	-	41991	97920	97920	73440	48960	-	38880	89107	89107	66830	44554	-	35381	80294	80294	60221	40147	-	31882
		W	7181	7181	5134	3121	-	610	6038	6038	4317	2625	-	513	4614	4614	3299	2006	-	392	2713	2713	1939	1179		

MXZ-SM96TAM-U1

1) Heating

Rated	
Q (Btu/h)	108,000
W	7609

Indoor D.B.	Outdoor W.B.	Q (Btu/h)	80°F / 26.7°C					70°F / 21.1°C					60°F / 15.6°C							
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
60	15.6	Q (Btu/h)	84240	84240	63180	42120	-	24,194	108000	108000	81000	54000	-	31017	130680	130680	98010	65340	-	37,531
		W	3805	3805	2630	1669	-	805	5208	5208	3600	2284	-	1103	4565	4565	3155	2002	-	966
55	12.8	Q (Btu/h)	84240	84240	63180	42120	-	24,194	108000	108000	81000	54000	-	31017	130680	130680	98010	65340	-	37,531
		W	4261	4261	2945	1869	-	902	5800	5800	4009	2544	-	1228	4870	4870	3366	2136	-	1,031
50	10.0	Q (Btu/h)	84240	84240	63180	42120	-	24,194	108000	108000	81000	54000	-	31017	130680	130680	98010	65340	-	37,531
		W	4718	4718	3261	2069	-	999	6392	6392	4418	2803	-	1353	5326	5326	3681	2336	-	1,128
47	8.3	Q (Btu/h)	84240	84240	63180	42120	-	24,194	108000	108000	81000	54000	-	31017	130680	130680	98010	65340	-	37,531
		W	5022	5022	3471	2203	-	1,063	6912	6912	4777	3031	-	1463	5783	5783	3997	2536	-	1,224
42	5.6	Q (Btu/h)	83866	83866	62899	41933	-	24,086	107520	107520	80640	53760	-	30880	130099	130099	97574	65050	-	37,364
		W	5479	5479	3787	2403	-	1,160	7813	7813	5400	3427	-	1654	6468	6468	4470	2837	-	1,369
35	1.7	Q (Btu/h)	74833	74833	56125	37417	-	21,492	95940	95940	71955	47970	-	27554	116087	116087	87066	58044	-	33,340
		W	6696	6696	4628	2937	-	1,418	9272	9272	6408	4066	-	1963	8066	8066	5575	3538	-	1,707
32	0.0	Q (Btu/h)	72966	72966	54725	36483	-	20,956	93547	93547	70160	46773	-	26866	113191	113191	84893	56596	-	32,508
		W	7305	7305	5049	3204	-	1,546	9584	9584	6624	4203	-	2029	8370	8370	5785	3671	-	1,772
27	-2.8	Q (Btu/h)	67544	67544	50658	33772	-	19,398	86595	86595	64946	43297	-	24870	99584	99584	74688	49792	-	30,093
		W	8066	8066	5575	3538	-	1,707	8886	8886	6142	3897	-	1881	7609	7609	5259	3337	-	1,611
22	-5.6	Q (Btu/h)	64039	64039	48030	32020	-	18,392	82102	82102	61576	41051	-	23579	99343	99343	74507	49672	-	28,531
		W	8979	8979	6206	3938	-	1,901	8189	8189	5660	3591	-	1733	6848	6848	4733	3004	-	1,450
17	-8.3	Q (Btu/h)	57363	57363	43022	28681	-	16,474	73542	73542	55156	36771	-	21121	88986	88986	66739	44493	-	25,556
		W	8674	8674	5995	3804	-	1,836	7432	7432	5137	3260	-	1573	5935	5935	4102	2603	-	1,256
12	-11.1	Q (Btu/h)	52463	52463	39347	26231	-	15,067	67260	67260	50445	33630	-	19317	81385	81385	61038	40692	-	23,373
		W	8066	8066	5575	3538	-	1,707	6944	6944	4799	3046	-	1470	5174	5174	3576	2269	-	1,095
5	-15.0	Q (Btu/h)	48017	48017	36013	24008	-	13,790	61560	61560	46170	30780	-	17680	74488	74488	55866	37244	-	21,393
		W	7000	7000	4838	3070	-	1,482	6522	6522	4508	2861	-	1381	3957	3957	2735	1735	-	838
2	-16.7	Q (Btu/h)	46111	46111	34584	23056	-	13,243	59117	59117	44338	29559	-	16978	71532	71532	53649	35766	-	20,544
		W	6544	6544	4523	2870	-	1,385	6320	6320	4368	2772	-	1338	3424	3424	2367	1502	-	725
-3	-19.4	Q (Btu/h)	42936	42936	32202	21468	-	12,331	55046	55046	41284	27523	-	15809	66605	66605	49954	33303	-	19,129
		W	5935	5935	4102	2603	-	1,256	5982	5982	4135	2624	-	1266	2587	2587	1788	1135	-	548
-8	-22.2	Q (Btu/h)	39760	39760	29820	19880	-	11,419	50974	50974	38231	25487	-	14640	61679	61679	46259	30839	-	17,714
		W	5174	5174	3576	2269	-	1,095	5628	5628	3890	2469	-	1191	1674	1674	1157	734	-	354
-13	-25.0	Q (Btu/h)	36584	36584	27438	18292	-	10,507	46903	46903	35177	23451	-	13470	56752	56752	42564	28376	-	16,299
		W	4489	4489	3103	1969	-	950	5270	5270	3643	2312	-	1116	913	913	631	400	-	193

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

13. PART LOAD CAPACITY CHART

SMART MULTI

MXZ-SM120TAM-U1

1) Cooling

Rated	
Q (Btu/h)	120,000
W	10700

MXZ-SM-NAM2-U1, MXZ-SM-NAMHZ2-U1, MXZ-SM-TAM-U1

Indoor W.B.	Outdoor D.B.	Q (Btu/h)	72°F / 22.2°C					67°F / 19.4°C					64°F / 17.8°C					61°F / 16.1°C								
			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																									
115	46.1	Q (Btu/h)	81333	81333	60999	40666	-	26459	75308	75308	56481	37654	-	24499	68530	68530	51398	34265	-	22294	61753	61753	46314	30876	-	20089
		W	5136	5136	3544	2157	-	338	5240	5240	3616	2201	-	345	5321	5321	3672	2235	-	351	5568	5568	3842	2339	-	367
110	43.3	Q (Btu/h)	97229	97229	72922	48614	-	31630	90027	90027	67520	45013	-	29287	81924	81924	61443	40962	-	26651	73822	73822	55366	36911	-	24016
		W	6848	6848	4725	2876	-	451	7095	7095	4896	2980	-	467	7295	7295	5034	3064	-	481	7389	7389	5098	3103	-	487
106	41.1	Q (Btu/h)	109997	109997	82498	54998	-	35784	101849	101849	76387	50924	-	33133	92682	92682	69512	46341	-	30151	83516	83516	62637	41758	-	27169
		W	7918	7918	5463	3326	-	522	8585	8585	5924	3606	-	566	8880	8880	6127	3730	-	585	6329	6329	4367	2658	-	417
102	38.9	Q (Btu/h)	120557	120557	90418	60278	-	39219	111627	111627	83720	55813	-	36314	101580	101580	76185	50790	-	33046	91534	91534	68650	45767	-	29778
		W	9202	9202	6349	3865	-	606	9957	9957	6870	4182	-	656	10654	10654	7351	4475	-	702	6073	6073	4191	2551	-	400
98	36.7	Q (Btu/h)	127980	127980	95985	63990	-	41634	118500	118500	88875	59250	-	38550	107835	107835	80876	53918	-	35081	97170	97170	72878	48585	-	31611
		W	10700	10700	7383	4494	-	705	10968	10968	7568	4606	-	722	10017	10017	6912	4207	-	660	5821	5821	4016	2445	-	383
94	34.4	Q (Btu/h)	129696	129696	97272	64848	-	42192	120089	120089	90067	60044	-	39067	109281	109281	81961	54640	-	35551	98473	98473	73855	49236	-	32035
		W	11021	11021	7604	4629	-	726	10597	10597	7312	4451	-	698	9415	9415	6496	3954	-	620	5521	5521	3810	2319	-	364
90	32.2	Q (Btu/h)	130080	130080	97560	65040	-	42317	120444	120444	90333	60222	-	39183	109604	109604	82203	54802	-	35656	98764	98764	74073	49382	-	32130
		W	10700	10700	7383	4494	-	705	10185	10185	7028	4278	-	671	8914	8914	6151	3744	-	587	5238	5238	3614	2200	-	345
86	30.0	Q (Btu/h)	130464	130464	97848	65232	-	42442	120800	120800	90600	60400	-	39298	109928	109928	82446	54964	-	35761	99056	99056	74292	49528	-	32225
		W	10486	10486	7235	4404	-	691	9773	9773	6743	4105	-	644	8414	8414	5806	3534	-	554	4956	4956	3419	2081	-	326
82	27.8	Q (Btu/h)	130848	130848	98136	65424	-	42567	121156	121156	90867	60578	-	39414	110252	110252	82689	55126	-	35867	99348	99348	74511	49674	-	32319
		W	10272	10272	7088	4314	-	677	9361	9361	6459	3931	-	617	7914	7914	5460	3324	-	521	4673	4673	3224	1963	-	308
78	25.6	Q (Btu/h)	131232	131232	98424	65616	-	42692	121511	121511	91133	60756	-	39530	110575	110575	82931	55288	-	35972	99639	99639	74729	49820	-	32414
		W	9844	9844	6792	4134	-	648	8948	8948	6174	3758	-	589	7413	7413	5115	3114	-	488	4390	4390	3029	1844	-	289
74	23.3	Q (Btu/h)	131616	131616	98712	65808	-	42817	121867	121867	91400	60933	-	39645	110899	110899	83174	55449	-	36077	99931	99931	74948	49965	-	32509
		W	9630	9630	6645	4045	-	634	8536	8536	5890	3585	-	562	6913	6913	4770	2903	-	455	4107	4107	2834	1725	-	271
70	21.1	Q (Btu/h)	132000	132000	99000	66000	-	42942	122222	122222	91667	61111	-	39761	111222	111222	83417	55611	-	36183	100222	100222	75167	50111	-	32604
		W	9416	9416	6497	3955	-	620	8124	8124	5606	3412	-	535	6413	6413	4425	2693	-	422	3824	3824	2639	1606	-	252
66	18.9	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6157	6157	4248	2586	-	406	3676	3676	2537	1544	-	242
62	16.7	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6145	6145	4240	2581	-	405	3663	3663	2528	1539	-	241
58	14.4	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6133	6133	4232	2576	-	404	3650	3650	2518	1533	-	240
54	12.2	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6121	6121	4224	2571	-	403	3637	3637	2509	1527	-	240
50	10.0	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6110	6110	4216	2566	-	402	3623	3623	2500	1522	-	239
46	7.8	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6098	6098	4208	2561	-	402	3610	3610	2491	1516	-	238
42	5.6	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6086	6086	4199	2556	-	401	3597	3597	2482	1511	-	237
38	3.3	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6074	6074	4191	2551	-	400	3584	3584	2473	1505	-	236
34	1.1	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918	5463	3326	-	522	6063	6063	4183	2546	-	399	3571	3571	2464	1500	-	235
30	-1.1	Q (Btu/h)	132192	132192	99144	66096	-	43004	122400	122400	91800	61200	-	39819	111384	111384	83538	55692	-	36235	100368	100368	75276	50184	-	32651
		W	9416	9416	6497	3955	-	620	7918	7918																

MXZ-SM120TAM-U1

1) Heating

Rated	
Q (Btu/h)	135000
W	9869

Indoor D.B.			80°F / 26.7°C						70°F / 21.1°C						60°F / 15.6°C					
Outdoor W.B.			Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min	Max	Rated	75%	50%	25%	Min
(°F)	(°C)																			
60	15.6	Q (Btu/h)	105300	105300	78975	52650	26325	24,534	135000	135000	101250	67500	33750	31454	163350	163350	122513	81675	40838	38,059
		W	4934	4934	3278	1998	991	739	6755	6755	4487	2735	1357	1012	5921	5921	3934	2398	1189	887
55	12.8	Q (Btu/h)	105300	105300	78975	52650	26325	24,534	135000	135000	101250	67500	33750	31454	163350	163350	122513	81675	40838	38,059
		W	5527	5527	3671	2238	1110	828	7522	7522	4997	3046	1511	1127	6316	6316	4196	2558	1269	946
50	10.0	Q (Btu/h)	105300	105300	78975	52650	26325	24,534	135000	135000	101250	67500	33750	31454	163350	163350	122513	81675	40838	38,059
		W	6119	6119	4065	2478	1229	917	8290	8290	5507	3357	1665	1242	6908	6908	4589	2797	1388	1,035
47	8.3	Q (Btu/h)	105300	105300	78975	52650	26325	24,534	135000	135000	101250	67500	33750	31454	163350	163350	122513	81675	40838	38,059
		W	6514	6514	4327	2638	1308	976	8965	8965	5955	3630	1801	1343	7500	7500	4983	3037	1507	1,123
42	5.6	Q (Btu/h)	104832	104832	78624	52416	26208	24,425	134400	134400	100800	67200	33600	31314	162624	162624	121968	81312	40656	37,890
		W	7106	7106	4720	2877	1427	1,064	10134	10134	6732	4103	2035	1518	8389	8389	5573	3397	1685	1,257
35	1.7	Q (Btu/h)	93542	93542	70156	46771	23385	21,795	119925	119925	89944	59963	29981	27942	145109	145109	108832	72555	36277	33,809
		W	8685	8685	5769	3517	1744	1,301	12025	12025	7989	4869	2415	1801	10461	10461	6949	4236	2101	1,567
32	0.0	Q (Btu/h)	91208	91208	68406	45604	22802	21,251	116933	116933	87700	58467	29233	27245	141489	141489	106117	70745	35372	32,966
		W	9474	9474	6294	3836	1903	1,419	12430	12430	8257	5033	2497	1862	10856	10856	7212	4396	2180	1,626
27	-2.8	Q (Btu/h)	84430	84430	63322	42215	21107	19,672	108244	108244	81183	54122	27061	25220	124480	124480	93360	62240	31120	30,516
		W	10461	10461	6949	4236	2101	1,567	11525	11525	7656	4667	2315	1726	9869	9869	6556	3996	1982	1,478
22	-5.6	Q (Btu/h)	80049	80049	60037	40025	20012	18,651	102627	102627	76970	51314	25657	23911	124179	124179	93134	62089	31045	28,933
		W	11645	11645	7736	4716	2339	1,744	10621	10621	7055	4301	2133	1591	8882	8882	5901	3597	1784	1,330
17	-8.3	Q (Btu/h)	71703	71703	53777	35852	17926	16,706	91927	91927	68945	45964	22982	21418	111232	111232	83424	55616	27808	25,916
		W	11251	11251	7474	4556	2260	1,685	9639	9639	6404	3903	1936	1444	7698	7698	5114	3117	1546	1,153
12	-11.1	Q (Btu/h)	65579	65579	49184	32789	16395	15,279	84075	84075	63056	42038	21019	19589	101731	101731	76298	50865	25433	23,703
		W	10461	10461	6949	4236	2101	1,567	9006	9006	5983	3647	1809	1349	6711	6711	4458	2717	1348	1,005
5	-15.0	Q (Btu/h)	60021	60021	45016	30011	15005	13,984	76950	76950	57713	38475	19238	17929	93110	93110	69832	46555	23277	21,694
		W	9079	9079	6032	3677	1824	1,360	8459	8459	5620	3425	1699	1267	5132	5132	3409	2078	1031	769
2	-16.7	Q (Btu/h)	57639	57639	43229	28820	14410	13,430	73896	73896	55422	36948	18474	17217	89415	89415	67061	44707	22354	20,833
		W	8487	8487	5638	3437	1705	1,271	8196	8196	5445	3319	1646	1228	4441	4441	2950	1798	892	665
-3	-19.4	Q (Btu/h)	53670	53670	40252	26835	13417	12,505	68807	68807	51605	34404	17202	16032	83257	83257	62442	41628	20814	19,398
		W	7698	7698	5114	3117	1546	1,153	7759	7759	5154	3142	1558	1162	3355	3355	2229	1359	674	503
-8	-22.2	Q (Btu/h)	49700	49700	37275	24850	12425	11,580	63718	63718	47788	31859	15929	14846	77099	77099	57824	38549	19275	17,963
		W	6711	6711	4458	2717	1348	1,005	7300	7300	4849	2956	1466	1093	2171	2171	1442	879	436	325
-13	-25.0	Q (Btu/h)	45730	45730	34298	22865	11433	10,655	58629	58629	43971	29314	14657	13660	70941	70941	53205	35470	17735	16,529
		W	5823	5823	3868	2358	1170	872	6836	6836	4541	2768	1373	1024	1184	1184	787	480	238	177

⚠ 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

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
www.MitsubishiElectric.com