

# M-SERIES

## SUBMITTAL DATA: MXZ-8C48NA2 MULTI-ZONE INVERTER HEAT-PUMP SYSTEM



Job Name:

System Reference:

Date:



### FEATURES

- Variable speed INVERTER-driven compressor
- Blue Fin Coating on heat exchanger
- Thermal Differential 1°F (with PAC-MKA32/52BC only)
- Branch box for simplified piping and installation flexibility
- Up to 8 indoor units connectable (six [6] if a PLA-A\*\*EA7 is connected)
- Optional base pan heater
- Quiet outdoor unit operation as low as 54 dB(A)
- High pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection

# SPECIFICATIONS: MXZ-8C48NA2

Indoor unit type			Non-Ducted	Mix	Ducted
Cooling <sup>1</sup>	Maximum Capacity	BTU/H	48,000	48,000	48,000
	Rated Capacity	BTU/H	48,000	48,000	48,000
	Minimum Capacity	BTU/H	15,500	15,500	15,500
	Maximum Power Input	W	3,930	4,320	4,800
	Rated Power Input	W	3,930	4,320	4,800
	Power Factor (208V, 230V)	%	98.6 / 98.6	98.9 / 98.9	99.2 / 99.2
Heating at 47°F <sup>2</sup>	Maximum Capacity	BTU/H	54,000	54,000	54,000
	Rated Capacity	BTU/H	54,000	54,000	54,000
	Minimum Capacity	BTU/H	22,500	22,500	22,500
	Maximum Power Input	W	4,220	4,520	4,800
	Rated Power Input	W	4,220	4,520	4,800
	Power Factor (208V, 230V)	%	98.6 / 98.6	98.9 / 98.9	99.2 / 99.2
Heating at 17°F <sup>3</sup>	Maximum Capacity	BTU/H	36,600	36,600	36,600
	Rated Capacity	BTU/H	33,000	33,000	33,000
	Maximum Power Input	W	5,200	5,550	5,200
	Rated Power Input	W	3,720	3,870	4,030
Heating at 5°F <sup>4</sup>	Maximum Capacity	BTU/H	32,400	32,400	32,400
	Maximum Power Input	W	4,750	4,870	5,000
Efficiency	SEER		20.00	18.00	16.00
	EER <sup>1</sup>		12.20	11.10	10.00
	HSPF (IV)		11.5	10.8	10.1
	COP at 47° F <sup>2</sup>		3.75	3.50	3.30
	COP at 17° F <sup>3</sup>		2.00	1.90	2.00
	COP at 5° F <sup>4</sup>		2.00	1.90	1.90
	ENERGY STAR® Certified		NO	NO	NO
Electrical	Voltage, Phase, Frequency		208 / 230V, 1-phase, 60 Hz		
	Guaranteed Voltage Range	V AC	198-253		
	Voltage: Indoor - Outdoor, S1-S2	V AC	208 / 230		
	Voltage: Indoor - Outdoor, S2-S3	V DC	24		
	Short-circuit Current Rating (SCCR)	5kA	5		
	Recommended Fuse/Breaker Size (Outdoor)	A	40		
	Recommended Wire Size (Indoor - Outdoor)	AWG	16		
Outdoor unit	MCA	A	35		
	MOCP	A	50		
	Fan Motor Full Load Amperage	A	0.6 + 0.6		
	Fan Motor Output	W	74		
	Airflow Rate Cooling / Heating	CFM	3,885 / 3,885		
	Refrigerant Control		Linear Expansion Valve		
	Defrost Method		Reverse Cycle		
	Heat Exchanger Type		Plate Fin Coil		

# SPECIFICATIONS: MXZ-8C48NA2

Indoor unit type			Non-Ducted	Mix	Ducted
	Sound Pressure Level, Cooling <sup>1</sup>	dB(A)	51		
	Sound Pressure Level, Heating <sup>2</sup>	dB(A)	54		
	Compressor Type		Hermetic		
	Compressor Model		ANB33FNHMT		
	Compressor Motor Output	kW	3.4		
	Compressor Rated Load Amps	A	19.0		
	Compressor Locked Rotor Amps	A	22.0		
	Compressor Oil Type // Charge	oz.	FV50S // 78		
	External Finish Color		Munsell 3Y 7.8/ 1.1		
	Base Pan Heater		Optional (PAC-SJ20BH-E)		
	Unit Dimensions	W: In. [mm]	41-11/32 [1,050]		
		D: In. [mm]	13 [330]		
		H: In. [mm]	52-11/16 [1,338]		
	Package Dimensions	W: In. [mm]	42-5/16 [1,090]		
		D: In. [mm]	17-3/4 [450]		
		H: In. [mm]	56-5/16 [1,430]		
	Unit Weight	Lbs.[kg]	271 [123]		
	Package Weight	Lbs.[kg]	295 [134]		
Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum*)	°F	115 DB / 23* <sup>C</sup> DB		
	Cooling Thermal Lock-out / Re-start Temperatures		-1 / 3		
	Heating Intake Air Temp (Maximum / Minimum)	°F	70 DB / -4 DB		
	Heating Thermal Lock-out / Re-start Temperatures	°F	-9 / -4		
Refrigerant	Type		R410A		
	Charge	Lbs, oz	10 lbs, 9 oz		
Indoor unit connection	Maximum Number of Connected IDU		8 (6* <sup>A</sup> )		
	Minimum Number of Connected IDU		2		
	Maximum connected capacity	BTU/H	62,000		
	Minimum connected capacity	BTU/H	12,000		
Piping	Gas Pipe Size O.D. (Flared)	In.[mm]	5/8 [15.88]		
	Liquid Pipe Size O.D. (Flared)	In.[mm]	3/8 [9.52]		
	Total Piping Length	Ft. [m]	492 [150]		
	Maximum Height Difference* <sup>B</sup> , ODU above IDU	Ft. [m]	164 [50]		
	Maximum Height Difference* <sup>B</sup> , ODU below IDU	Ft. [m]	131 [40]		
	Maximum Height Difference* <sup>B</sup> , between branch boxes	Ft. [m]	49 [15]		
	Maximum Height Difference* <sup>B</sup> , between branch boxes and IDU	Ft. [m]	49 [15]		

## SPECIFICATIONS: MXZ-8C48NA2

Indoor unit type			Non-Ducted	Mix	Ducted
	Max. Piping Length between ODU and Branch Box	Ft. [m]	180 [55]		
	Farthest Piping Length from ODU to IDU	Ft. [m]	262 [80]		
	Farthest Piping Length after Branch Box	Ft. [m]	82 [25]		
	Total Piping Length between Branch Boxes and IDU	Ft. [m]	311 [95]		
	Maximum Number of Bends		15		

### Notes

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)	<sup>1</sup> Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
	<sup>2</sup> Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
	<sup>3</sup> Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
Conditions	<sup>4</sup> Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 5 WB

\*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

\*A when 1 or more PLA-A-EA7 connected

\*B Branch box should be placed within the level between the outdoor unit and indoor units

\*C 5°F DB - 115°F DB when optional wind baffles are installed

For reference to connected capacity charts, please refer MXC Series Operational Performance

## ACCESSORIES: MXZ-8C48NA2

Distribution pipe for Branch box (Flare Connection)	□ MSDD-50AR-E
Distribution pipe for Branch box (Brazed Connection)	□ MSDD-50BR-E
Port Adapter size: 3/8" x 5/8"	□ PAC-SG76RJ-E
Port Adapter size: 1/4" x 3/8"	□ PAC-493PI
Port Adapter size: 3/8" X 1/2"	□ MAC-A454JP-E
Port Adapter size: 1/2" X 3/8"	□ MAC-A455JP-E
Port Adapter size: 1/2" X 5/8"	□ MAC-A456JP-E
Branch Box	□ PAC-MKA52BC
Branch Box	□ PAC-MKA32BC
Branch Box Outer Cover	□ BBE-1
Air Outlet Guide	□ PAC-SH96SG-E (two pieces are required)
Front Wind Baffle	□ WB-PA3 (two pieces are required)
Optional Defrost Heater	□ PAC-SJ20BH-E
Centralized Drain Pan	□ PAC-SH97DP-E
Refrigeration Ball Valve-Flare/Schrader/Insulated — 1/2" size	□ BV12FFSI2
Refrigeration Ball Valve-Flare/Schrader/Insulated — 1/4" size	□ BV14FFSI2
Refrigeration Ball Valve-Flare/Schrader/Insulated — 3/8" size	□ BV38FFSI2
Refrigeration Ball Valve-Flare/Schrader/Insulated — 5/8" size	□ BV58FFSI2
Hail Guard	□ HG-A2
Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	□ DSD-400P
Condensing Unit Mounting Pad 16" x 36" x 3"	□ ULTRILITE1
Outdoor Unit Stand — 12" High	□ QSMS1202M
Outdoor Unit Stand — 18" High	□ QSMS1802M
Outdoor Unit Stand — 24"High	□ QSMS2402M
Heavy Duty Wall Mounting Bracket— Coated Steel	□ QSWB2000M-1
Heavy Duty Wall Mounting Bracket — 316 Series Stainless Steel	□ QSWBSS
10' x 3/8" x 10' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-10
15' x 3/8" x 15' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-15
30' x 3/8" x 30' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-30
50' x 3/8" x 50' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-50
65' x 3/8" x 65' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-65
100' x 3/8" x 100' x 5/8" Lineset (Twin-Tube Insulation)	□ MPLS385812T-100

# SYSTEM DESIGN: MXZ-8C48NA2

Outdoor unit			MXZ-4C36NAHZ2-U1	MXZ-5C42NAHZ2-U1	MXZ-8C48NAHZ2-U1 MXZ-8C48NA2-U1	MXZ-8C60NA2-U1
	Rated capacity (kBtu/h)	Cooling	4HP	4.5HP	5HP	7HP
		Heating	36	42	48	60
		Refrigerant	45	48	54	66
	R410A					
Connectable indoor unit	Capacity class		Type 06 to Type 36			
			Caution: The indoor unit which rated capacity exceeds 36 kBtu/h (Type 36) can NOT be connected.			
	Number of units		2 <sup>(1)</sup> to 4 units	2 <sup>(1)</sup> to 5 units	2 <sup>(1)</sup> to 8 units	2 <sup>(1)</sup> to 8 units
	Total system capacity range		33 to 130% of outdoor unit capacity (12 to 46.8 kBtu/h)	29 to 130% of outdoor unit capacity (12 to 54.6 kBtu/h)	25 to 130% of outdoor unit capacity (12 to 62.4 kBtu/h)	20 to 130% of outdoor unit capacity (12 to 78 kBtu/h)
Connectable branch box	Number of units		1 or 2 units			

Connectable indoor unit lineups (Heat pump inverter type)									
Model type	Model name	Capacity class [kBtu/h]							
		06	09	12	15	18	24	30	36
Deluxe Wall-mounted	MSZ-FH06/09/12/15NA, 18NA2	●	●	●	●	●			
Designer	MSZ-EF09/12/15/18NA(W/B/S)		●	●	●	●			
Standard Wall-mounted	MSZ-GL06/09/12/15/18/24NA	●	●	●	●	●	●		
Low static ducted <sup>*3 *4</sup>	SEZ-KD09/12/15/18NA		●	●	●	●			
P-series mid static ducted <sup>*3 *4</sup>	PEAD-A09/12/15/18/24/30/36AA7		●	●	●	●	●	●	●
1-way cassette	MLZ-KP09/12/18NA		●	●		●			
P-series 22*22 4-way cassette	SLZ-KF09/12/15NA		●	●	●				
P-series 33*33 4-way cassette	PLA-A12/18/24/30/36EA7 <sup>*5</sup>			●		●	●	●	●
Floor standing	MFZ-KJ09/12/15/18NA		●	●	●	●			
Standard Multi-position air handler <sup>*2</sup>	SVZ-KP12/18/24/30/36NA			●		●	●	●	●

Branch box	PAC-MKA52BC	PAC-MKA32BC
Number of branches (Indoor unit that can be connected)	5 branches (MAX. 5 units)	3 branches (MAX. 3 units)

Note: A maximum of 2 branch boxes can be connected to 1 outdoor unit.

2- branch pipe (joint): Optional parts			
In the case of using 1- branch box		No need	
In the case of using 2- branch boxes		Model name	Connection method
		MSDD-50AR-E	flare
		MSDD-50BR-E	brazing
		Select a model according to the connection method.	

Option	Optional accessories for indoor units and outdoor units are available.
--------	------------------------------------------------------------------------

<sup>\*1</sup> Only one unit connection is possible with ducted unit.

<sup>\*2</sup> When connecting a multi-position unit(s), set additional constraints as follows. For connections other than those specified below, consult your dealer.

## ● Models other than MXZ-8C60NA2 (For each connected branch box)

Number of connecting multi-position unit	Constraints
2	Any indoor units other than ducted units are not connectable.
1	<ul style="list-style-type: none"> <li>The total system wide capacity should be 130% or below including the ducted unit.</li> <li>Only 1 ducted unit can be included in the connection.</li> </ul>

## ● MXZ-8C60NA2 (For each connected branch box)

Number of connecting multi-position unit	Constraints
2	Any indoor units other than ducted unit are not connectable.
1	<ul style="list-style-type: none"> <li>The total system wide capacity should be 100% or below including the ducted unit.</li> <li>Only 1 ducted unit can be included in the connection.</li> </ul>

<sup>\*3</sup> For MXZ-8C60NA2: When connecting the SEZ and PEAD-series units, the total system wide capacity per 1 branch box should be 100% or below including the ducted units. (Only if connecting to branch box)

<sup>\*4</sup> When not outside units 60: A branch box can connect to maximum 3 of the ducted units. When connecting with 3 of the ducted units per 1 branch box, other indoor units cannot be connected.  
When outside units 60: A branch box can connect to maximum 2 of the ducted units. When connecting with 1 and over 1 of the ducted units, the total ability including of the ducted units is 100% and below 100%.

<sup>\*5</sup> When the system includes 1 unit of ducted units, the number of the maximum connectable indoor units is decreased as follows:  
3 for MXZ-4C36NAHZ2-U1, 4 for MXZ-5C42NAHZ2-U1, and 6 for MXZ-8C48NA(HZ)2-U1 and MXZ-8C60NA2-U1



## NOTE

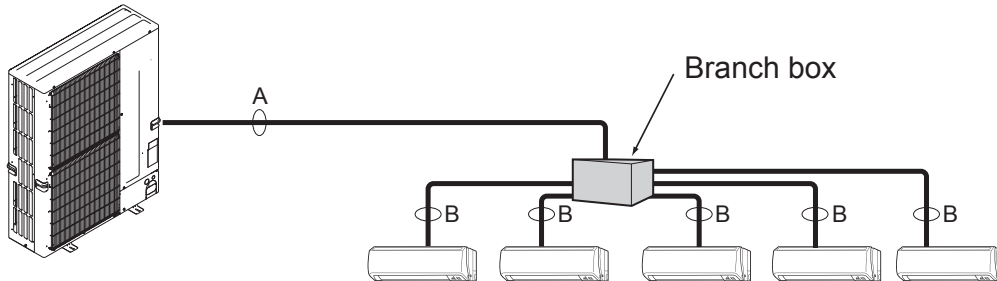
Please refer to Application Note 1029 for more information and exceptions to these rules.

## Piping connection size

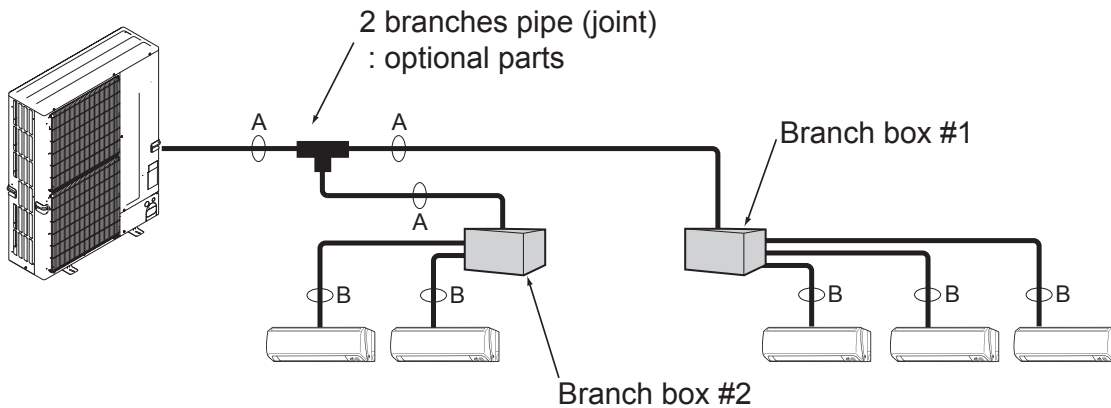
	A	B
Liquid	$\phi 3/8$ inch [9.52 mm]	The piping connection size differs according to the type and capacity of indoor units. Match the piping connection size of branch box with indoor unit. If the piping connection size of branch box does not match the piping connection size of indoor unit, use optional different-diameter (deformed) joints to the branch box side. (Connect deformed joint directly to the branch box side.)
Gas	$\phi 5/8$ inch / $\phi 3/4$ inch* [15.88 mm] / [19.05 mm]	

\* MXZ-8C60 only

- In case of using 1-branch box  
Flare connection employed (No brazing)



- In case of using 2-branch boxes



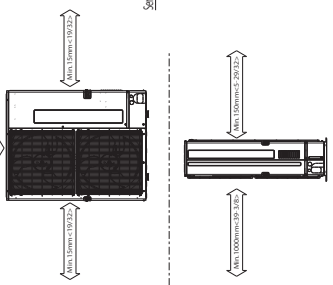
- Installation procedure (2 branches pipe (joint))  
Refer to the installation manuals of MSDD-50AR-E and MSDD-50BR-E.

# DIMENSIONS: MXZ-8C48NA2

Unit: mm <inch>

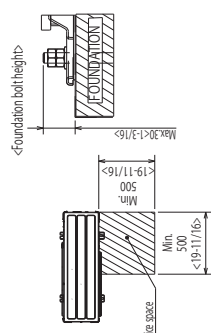
## 1 FREE SPACE (Around the unit)

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



## 2 SERVICE SPACE

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



## 3 FOUNDATION BOLTS

Please secure the unit firmly with 4 foundation (M16x48.8) bolts. (Bolts and washers must be purchased locally.)



## 4 PIPING-WIRING DIRECTIONS

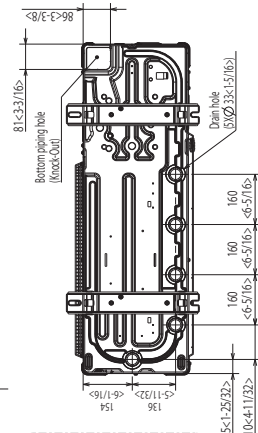
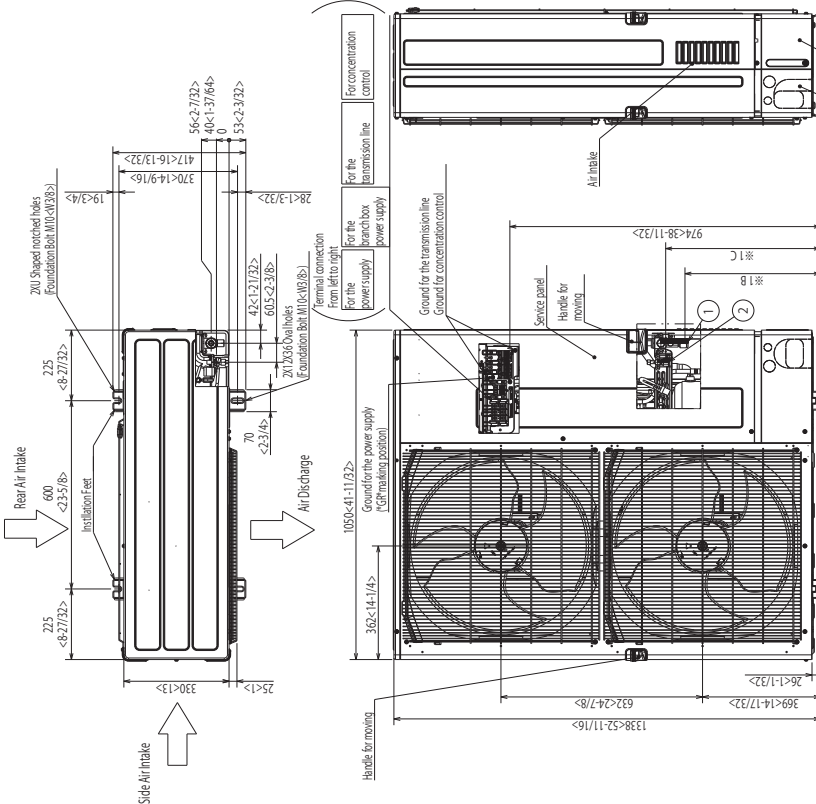
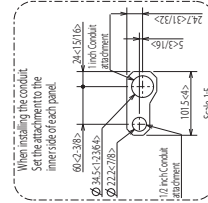
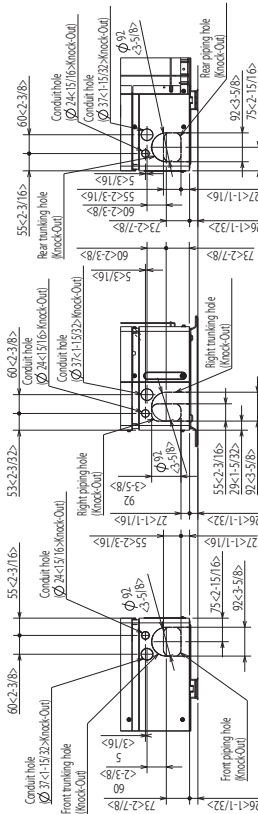
Piping and wiring connections can be made from 4 directions: Front, Right, Rear and Below.



## Example of Notes

- 1 . . . Refrigerant GAS pipe connection (FLARE) (Ø 4)
- 2 . . . Refrigerant LIQUID pipe connection (FLARE) (Ø 5.1) (3/8")
- ※ 1 . . . Indication of STOP VALVE connection location.

## Piping Knock-Out Hole Details





# DIMENSIONS: PAC-MKA52BC AND PAC-MKA32BC BRANCH BOXES

## PAC-MKA52BC

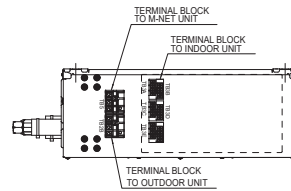
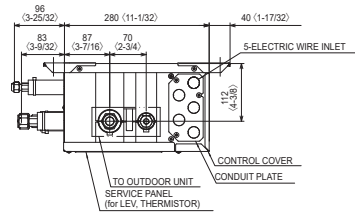
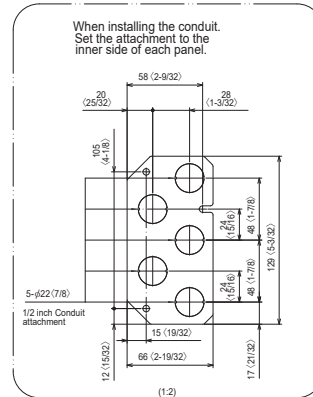
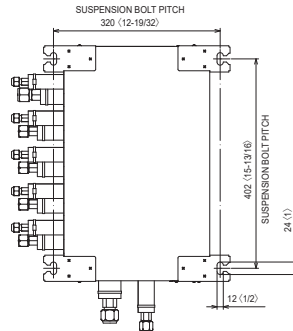
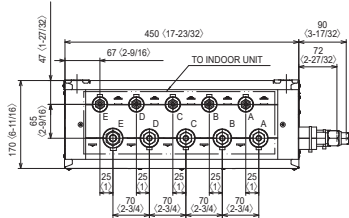
Unit: mm <inch>

SUSPENSION BOLT: W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

Unit: inch

	A	B	C	D	E	TO OUTDOOR UNIT
LIQUID PIPE	1/4F	1/4F	1/4F	1/4F	1/4F	3/8F
GAS PIPE	3/8F	3/8F	3/8F	3/8F	1/2F	5/8F



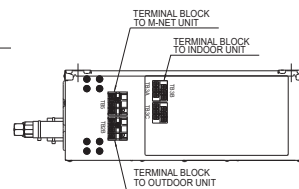
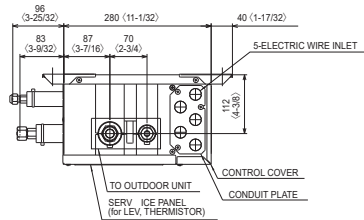
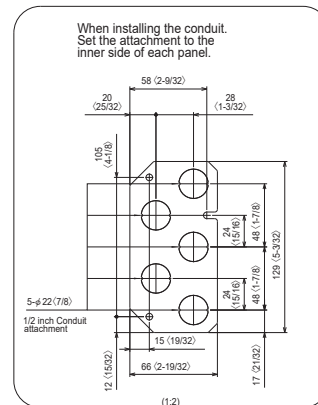
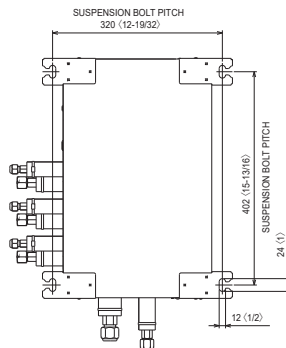
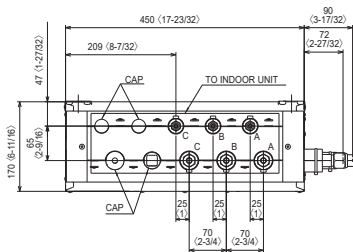
## PAC-MKA32BC

SUSPENSION BOLT: W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

Unit: inch

	A	B	C	TO OUTDOOR UNIT
LIQUID PIPE	1/4F	1/4F	1/4F	3/8F
GAS PIPE	3/8F	3/8F	3/8F	5/8F



1340 Satellite Boulevard, Suwanee, GA 30024  
Toll Free: 800-433-4822 www.mehvac.com

FORM# MXZ-8C48NA2 - 202003

© 2020 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.



Specifications are subject to change without notice.