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Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

# Submittal

**Job:** 1504
Anderson Apartments

**Spec Section No:** M6.1
**Submittal No:** 2
**Revision No:** 0
**Sent Date:** 10/12/2015
**Due Date:** 10/19/2015

**Spec Section Title:**

**Submittal Title:** Multi-Splits

**Contractor:**
Ranor Mechanical

Contractor's Stamp

Allied / Cook Construction

Architect's Stamp

Engineer's Stamp

# MXZ Multi-Zone Efficiencies

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

| Model | Configuration | Rated Capacity (Cooling/Heating) | Max Capacity @ 17° F | Max Capacity @ 5° F | SEER | EER | HSPF | COP @ 47° F | COP @ 17° F |
|---|---|---|---|---|---|---|---|---|---|
| **MXZ-B Models** | | | | | | | | | |
| MXZ-2B20NA-1 | Non-Ducted | 18,000 / 22,000 | 12,500 | 11,113 | 18.0 | 12.5 | 8.9 | 3.91 | 2.71 |
| | Ducted | 20,000 / 22,000 | 12,500 | | 15.5 | 9.1 | 8.5 | 3.62 | 2.56 |
| MXZ-3B24NA-1 | Non-Ducted | 22,000 / 25,000 | 14,000 | 13,336 | 17.5 | 12.5 | 9.3 | 4.20 | 2.97 |
| | Ducted | 23,600 / 24,600 | 14,000 | | 15.0 | 9.6 | 8.5 | 3.80 | 2.61 |
| MXZ-3B30NA-1 | Non-Ducted | 22,000 / 25,000 | 18,800 | 15,704 | 17.5 | 9.1 | 10.5 | 3.90 | 2.78 |
| | Ducted | 23,600 / 24,600 | 17,000 | | 14.5 | 8.2 | 9.5 | 3.64 | |
| MXZ-4B36NA-1 | Non-Ducted | 35,400 / 36,000 | 22,200 | 18,671 | 18.0 | 9.4 | 9.3 | 3.50 | 2.68 |
| | Ducted | 34,400 / 34,400 | 20,300 | | 15.0 | 8.7 | 9.0 | 3.25 | 2.54 |
| MXZ-5B42NA | Non-Ducted | 40,800 / 45,200 | 23,100 | 26,000 | 18.4 | 8.5 | 9.8 | 3.51 | 2.46 |
| | Ducted | 37,200 / 41,200 | 24,000 | | 14.5 | 9.4 | 8.7 | 3.30 | 2.53 |
| MXZ-8B48NA | Non-Ducted | 48,000 / 54,000 | 33,000 | 32,400 | 15.0 | 8.3 | 8.7 | 3.32 | 2.30 |
| | Ducted | | 34,700 | | 14.7 | 7.4 | 8.9 | 3.00 | 2.20 |
| **MXZ-C H2i Models** | | | | | | | | | |
| MXZ-2C20NAHZ | Non-Ducted | 18,000 / 22,000 | 22,000 | 22,000 | 17.0 | 13.50 | 9.8 | 4.00 | 2.77 |
| | Ducted | | | | 15.0 | 11.00 | 9.5 | 3.69 | 2.53 |
| MXZ-3C24NAHZ | Non-Ducted | 22,000 / 25,000 | 25,000 | 25,000 | 19.0 | 13.50 | 10.0 | 4.25 | 2.53 |
| | Ducted | | 24,600 | | 15.5 | 10.00 | 9.0 | 3.80 | 2.51 |
| MXZ-3C30NAHZ | Non-Ducted | 28,400 / 28,600 | 28,600 | 28,600 | 18.0 | 12.50 | 11.0 | 4.00 | 2.65 |
| | Ducted | | 27,600 | | 16.0 | 10.30 | 9.8 | 3.70 | 2.50 |
| MXZ-4C36NAHZ | Non-Ducted | 36,000 / 45,000 | 45,000 | 45,000 | 19.1 | 14.01 | 11.3 | 3.95 | 2.85 |
| | Ducted | | | | 15.8 | 11.32 | 10.1 | 3.10 | 2.30 |
| MXZ-5C42NAHZ | Non-Ducted | 42,000 / 48,000 | 48,000 | 48,000 | 19.0 | 13.42 | 11.0 | 4.10 | 2.85 |
| | Ducted | | | | 15.0 | 10.80 | 10.1 | 3.23 | 2.50 |
| MXZ-8C48NAHZ | Non-Ducted | 48,000 / 54,000 | 54,000 | 54,000 | 18.9 | 10.00 | 11.0 | 3.75 | 2.70 |
| | Ducted | | | | 14.7 | 9.5 | 10 | 3.17 | 2.40 |

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# Submittal Transmitta

Reviewed for Code Compliance
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Date: 11/03/16

| Submittal # | 1-001 |
|---|---|

| | |
|---|---|
| To: | Ranor |
| From: | Homans Associates<br>250 Ballardvale Street<br>Wilmington, MA 01887 |

| | |
|---|---|
| Date: | 9-30-15 |
| Transmitted By: | Kevin Faria |
| Copied To: | Nick St. Ours |

| | | | |
|---|---|---|---|
| Project | 89 Anderson Street | Architect | |
| Order # | | Engineer | |
| Purchaser | | | |

| | |
|---|---|
| **Submittal Name:** | **Equipment List** |

| **Submitted For :** | **Via:** | **The Following:** | |
|---|---|---|---|
| ☒ Approval/Action | ☐ Overnight Delivery | ☐ Drawings | |
| ☐ Information | ☐ Mail | | ☐ Specifications |
| ☐ Distribution | ☒ E-Mail | ☐ Digital Files | |
| ☐ Record | ☐ Courier | ☒ Submittals | |
| ☐ Revised/Resubmit | ☐ Fax | ☐ O & M Manuals | |
| | ☐ Other | ☐ Other | |

**Includes the following:**

| Unit Tag # | Model | Description | Format | Item Action | Copies | QTY |
|---|---|---|---|---|---|---|
| Studio Apartments | MUZFH15NA | Single Zone Hyper-Heat | PDF | For Approval | 1 | 10 |
| 1 BR Apartments/ Commercial 3 | MXZ3C24NAHZ | Multi Zone Hyper Heat Pump | PDF | For Approval | 1 | 35 |
| 2BR Apartments/Lobby & Mail Room | MXZ3C30NAHZ | Multi Zone Hyper Heat Pump | PDF | For Approval | 1 | 10 |
| Commercial 2 | MXZ4C36NAHZ | Multi Zone Hyper Heat Pump | PDF | For Approval | 1 | 1 |
| Corridors | MXZ8C48NAHZ | Multi Zone Hyper Heat Pump | PDF | For Approval | 1 | 1 |
| Elevator Machine Room | PUYA12NHA4 | Single Zone Cooling Only | PDF | For Approval | 1 | 1 |
| Bedrooms (1 BR & 2 BR Apartments) | MSZGE06NA-8 | Wall Mounted Heat Pump | PDF | For Approval | 1 | 52 |
| Living Room (1 BR Apartments) | MSZGE15NA-8 | Wall Mounted Heat Pump | PDF | For Approval | 1 | 34 |
| Living Room (2 BR Apartments) | MSZGE18NA-8 | Wall Mounted Heat Pump | PDF | For Approval | 1 | 9 |
| Studio Apartments | MSZFH15NA | Wall Mounted Hyper-Heating | PDF | For Approval | 1 | 10 |
| Corridors/Mail | SLZKA09NA | Ceiling Cassette Heat Pump | PDF | For Approval | 1 | 7 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Room/Commercial 3 | | | | | | |
| Corridors/Lobby | SLZKA12NA | Ceiling Cassette Heat Pump | PDF | For Approval | 1 | |
| Commercial 2 | SLZKA15NA | Ceiling Cassette Heat Pump | PDF | For Approval | 1 | |
| Elevator Machine Room | PKAA12HA4 | Wall Mounted | PDF | For Approval | 1 | |
| Corridors/ Commercial 2 | PAC-MKA30BC | Branch Box MXZ "C", 3 Zone | PDF | For Approval | 1 | 3 |
| Corridors/Commercial 2 & 3/Lobby/Mail Room/Elevator Machine Room | PAC-YT53CRAU-J | Simple MA Remote Controller | PDF | For Approval | 1 | 11 |
| Elevator Machine Room | WB-PA1 | Wind baffle | PDF | For Approval | 1 | 1 |
| Studio Apartments | MAC-642BH-U | Drain pan heater | PDF | For Approval | 1 | 10 |
| | MAC-A454JP-E | Adaptor: 3/8" X 1/2" | PDF | For Approval | 1 | 36 |
| | MAC-A455JP-E | Adaptor: 1/2" X 3/8" | PDF | For Approval | 1 | 1 |
| | MSDD-50AR-E | Flare Connection between two branch boxes | PDF | For Approval | 1 | 1 |

**Comments:**

CITY OF PORTLAND, MAINE RESURGAM
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Date: 11/03/16

# SUBMITTAL DATA: MSZ-FH15NA & MUZ-FH15NA

## 15,000 BTU/H WALL-MOUNTED HEAT PUMP SYSTEM

| | |
|---|---|
| Job Name: 89 Anderson Street | |
| System Reference: Studio Apartments | Date: 9-30-15 |

### GENERAL FEATURES

- Highly energy-efficient system that features 100% heating capacity at 5°F, 82% at -4°F, and 62% at -13°F
- Updated sleek, compact indoor unit design
- Includes Standard, Platinum Deodorizing, and Anti-allergy Enzyme filters for a complete air purifying system
- "Powerful Mode" function permits system to temporarily run at a lower/higher temperature with an increased fan speed, which quickly brings the room to the optimum comfort level
- Integrated i-see Sensor automatically adjusts the unit's operation according to temperature differences detected between the floor and the intake air, ensuring optimum comfort and energy usage
- Hand-held Wireless Remote Controller
- Base Pan Heater is available as an option
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

**Outdoor Unit**

- ■ Base Pan Heater (MAC-642BH-U)
- □ Three-pole Disconnect Switch (TAZ-MS303)
- □ Air Outlet Guide (MAC-886SG-E)
- □ Mounting Base (DSD-400N)
- □ Mounting Pad (ULTRILITE1)
- □ Drain Socket Assembly (MAC-851DS)

**Indoor Unit**

- □ Condensate Pump (BlueDiamond X87-711/721; 115/230V)
- □ Condensate Pump (Sauermann SI30-115/230; 115/230V)
- □ Replacement Platinum Deodorizing Filter (MAC-3000FT-E)
- □ Replacement Anti-allergy Enzyme Filter (MAC-2330FT-E)

**Controller Options**

- □ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- □ Portable Central Controller (MCCH1)*
- □ Outdoor Air Sensor (MOS1)*
- □ Wired Wall-mounted Controller (PAR-31MAA requires MAC-333IF)*
- □ Simple MA Remote Controller (PAC-YT53CRAU requires MAC-333IF)*

*See Submittal for information on each option

- □ System Control Interface (MAC-333IF)
- □ Remote Temperature Sensor (M21-JKO-307)
- □ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

R410A INVERTER

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# SPECIFICATIONS : MSZ-FH15NA & MUZ-FH15NA

Reviewed for Code Compliance
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Date: 11/03/16

**Cooling *1**
- Rated Capacity ..... 15,000 Btu/h
- Capacity Range ..... 6,450 - 19,000 Btu/h
- Rated Total Input ..... 1,200 W
- Maximum Total Input ..... 2,200 W
- SEER ..... 22.0 Btu/h/W

**Heating at 47° F *2**
- Rated Capacity ..... 18,000 Btu/h
- Capacity Range ..... 5,150 - 24,000 Btu/h
- Rated Total Input ..... 1,300 W
- Maximum Total Input ..... 3,360 W
- HSPF ..... 12.0 Btu/h/W

**Heating at 17° F *3**
- Rated Capacity ..... 11,000 Btu/h
- Maximum Capacity ..... 18,000 Btu/h
- Rated Total Input ..... 1,020 W
- Maximum Total Input ..... 2,480 W

**Heating at 5° F**
- Maximum Capacity ..... 18,000 Btu/h
- Maximum Total Input ..... 3,000 W

**Rating Conditons:**

*1 Cooling | Indoor: 80º F (27º C) DB / 67º F (19º C) WB
*1 Cooling | Outdoor: 95º F (35º C) DB / 75º F (24º C) WB
*2 Heating at 47ºF | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
*2 Heating at 47ºF | Outdoor: 47º F (8º C) DB / 43º F (6º C) WB
*3 Heating at 17º F | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
*3 Heating at 17º F | Outdoor: 17º F (-8º C) DB / 15º F (-9º C) WB
*4 Heating at 5º F | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
*4 Heating at 5º F | Outdoor: 5º F (-15º C) DB / 5º F (-15º C) WB

**Electrical Requirements**
- Power Supply ..... 208 / 230V, 1-Phase, 60 Hz
- Breaker Size ..... 20 A

**Voltage**
- Indoor - Outdoor S1-S2 ..... AC 208 / 230V
- Indoor - Outdoor S2-S3 ..... DC +/- 24V
- Indoor - Remote Controller ..... MHK1 DC 3V
  PAR-31MAA DC 12V
  PAC-YT53CRAU DC 12V

**Operating Conditons**

**Cooling**
- Indoor Intake Air Temp. . . (Max.) 90º F (32º C) DB / 73º F (23º C) WB
  (Min.) 67º F (19º C) DB / 57º F (14º C) WB
- Outdoor Intake Air Temp. . . . . (Max.) 115º F (46º C) DB
  (Min.) 14º F (-10º C) DB

**Heating**
- Indoor Intake Air Temp. . .(Max.) 80º F (27º C) DB / 67º F (19º C) WB
  (Min.) 70º F (21º C) DB / 60º F (16º C) WB
- Outdoor Intake Air Temp. (Max.)75º F (24º C) DB / 65º F (18º C) WB
  (Min.) -13º F (-25º C) DB / -15º F (-26º C) WB**

** System cuts out at -18º F (-28º C) to avoid thermistor error, but recovers from cutout operation and automatically restarts at -14º F (-26ºC).

**Indoor Unit**
- MCA .....
- Blower Motor (ECM) ..... 0.67 F.L.A.
- Blower Motor Output ..... 30 W

Airflow (Lo - Med - Hi - Super Hi - Powerful)
- Cooling ..... 225-262-304-355-411 Dry CFM
  194-225-261-305-354 Wet CFM
- Heating ..... 201-254-317-394-497 Dry CFM

Sound Pressure Level (Lo - Med - Hi - Super Hi - Powerful)
- Cooling ..... 27-31-35-39-44 dB(A)
- Heating ..... 25-29-34-39-46 dB(A)

External Finish Color ..... Munsell 1.0Y 9.2/0.2

External Dimensions
- Inches: ..... 12 + 11/16 H x 36-7/16 W x 9-3/16 D
- mm: ..... 305 +17 H x 925 W x 234 D

Weight Unit ..... 29 lbs. / 12 kg
Field Drainpipe Size O.D. ..... 19/32 In. / 15mm

**Outdoor Unit**
- MCA ..... 16 A
- Fan Motor (ECM) ..... 0.93 F.L.A.

Sound Pressure Level
- Cooling *1 ..... 51 dB(A)
- Heating *2 ..... 55 dB(A)

External Finish Color ..... Munsell 3Y 7.8/1.1

Dimensions
- Inches ..... 34-5/8 H x 33-1/16 W x 13 D
- mm: ..... 880 H x 840 W x 330

Weight ..... 124 lbs. / 56 kg

Refrigerant Type ..... R410A

Refrigerant Pipe
- Gas Side O.D. ..... 1/2" x 12.7 mm
- Liquid Side O.D. ..... 1/4" x 6.35 mm

Refrigerant Pipe Length
- Height Difference (Max.) ..... 50' x 15m
- Length (Max.) ..... 100' x 30m

Connection Method
- Indoor/Outdoor ..... Flared

Notes:

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# DIMENSIONS: MSZ-FH15NA & MUZ-FH15NA

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## MSZ-FH15NA

Unit: mm (

## MUZ-FH15NA

Unit: mm (in.)

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Unitary Small HP
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

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FORM# MSZ-FH15NA / MUZ-FH15NA - 201503Ver2

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Date: 11/03/16

# SUBMITTAL DATA: MXZ-3C24NAHZ

## MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name: 89 Anderson ST.

System Reference: 2 BR Apartments/Lobby & MAil Room | Date: 9-30-15

### GENERAL FEATURES

- Highly energy-efficient system that features 100% heating capacity at 5˚F with guaranteed capacity down to -13˚F
- Quiet operation
- Built-in base pan heater to prevent ice in drain pan
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

- ☐ 3/8" x 1/2" Port Adapter (MAC-A454JP-E)
- ☐ 1/2" x 3/8" Port Adapter (MAC-A455JP-E)
- ☐ 1/2" x 5/8" Port Adapter (MAC-A456JP-E)
- ☐ M-NET Adapter (PAC-IF01MNT-E)
- ☐ Drain Socket (PAC-SG60DS-E)
- ☐ Airflow Guide (PAC-SH96SG-E)

Outdoor Unit: MXZ-3C24NAHZ

INVERTER

R410A

**(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)**

| Specifications | | | Model Name |
|---|---|---|---|
| Unit Type | | | MXZ-3C24NAHZ |
| Cooling* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 22,000 / 23,600 |
| | Capacity Range | Btu/h | 6,000 - 23,600 |
| | Rated Total Input | W | 1,630 / 2,360 |
| Heating at 47°F* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 25,000 / 24,600 |
| | Capacity Range | Btu/h | 7,200 - 30,600 |
| | Rated Total Input | W | 1,725 / 1,871 |
| Heating at 17°F* (Non-ducted/Ducted) | Rated Capacity | Btu/h | 14,000 / 14,000 |
| | Maximum Capacity | Btu/h | 25,000 / 24, 600 |
| | Rated Total Input | W | 1,622 / 1,635 |
| Heating at 5°F* | Maximum Capacity | Btu/h | 25,000 |
| Electrical Requirements | Power Supply | Voltage, Phase, Hertz | 208 / 230V, 1-Phase, 60 Hz |
| | Recommended Fuse/Breaker Size | A | 40 |
| | MCA | A | 30 |
| Voltage | Indoor - Outdoor S1-S2 | V | AC 208 / 230 |
| | Indoor - Outdoor S2-S3 | V | DC ±24 |
| Compressor | | | DC INVERTER-driven Twin Rotary |
| Fan Motor (ECM) | | F.L.A. | 1.9 |
| Sound Pressure Level (Non-ducted/Ducted) | Cooling | dB(A) | 54 |
| | Heating | | 58 |
| External Dimensions (H x W x D) | | In / mm | 41-9/32 x 37-13/32 x 13<br>1048 x 950 x 330 |
| Net Weight | | Lbs / kg | 189 / 86 |
| External Finish | | | Munsell No. 3Y 7.8/11 |
| Refrigerant Pipe Size O.D. — Eight Ports | Liquid (High Pressure) | In / mm | 1/4 / 6.35 |
| | Gas (Low Pressure) | | A:1/2 / 12.7 ; B,C: 3/8 / 9.52 |
| Max. Refrigerant Line Length | | Ft / m | 230 / 70 |
| Max. Piping Length for Each Indoor Unit | | Ft / m | 82 / 25 |
| Max. Refrigerant Pipe Height Difference | If IDU is Above ODU | Ft / m | 49 / 15 |
| | If IDU is Below ODU | | 49 / 15 |
| Connection Method | | | Flared/Flared |
| Refrigerant | | | R410A |

*** Rating Conditions per AHRI Standard:**

Cooling | Indoor: 80º F (27º C) DB / 67º F (19º C) WB
Cooling | Outdoor: 95º F (35º C) DB / W.B. 23.9° C (75° F)

Heating at 47ºF | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 47ºF | Outdoor: 47º F (8º C) DB / 43º F (6º C) WB

Heating at 17º F | Indoor: 70º F (21º C) DB
Heating at 17º F | Outdoor: 17º F (-8º C) DB / 15º F (-9º C) WB

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# SPECIFICATIONS: MXZ-3C24NAHZ

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**Operating Range:**

| | Outdoor |
|---|---|
| Cooling | D.B. 23 to 115° F [ D.B. −5 to 46° C]*1 |
| Heating | D.B. -13 to 70° F [ D.B. −25 to 21° C ] |

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

**Energy Efficiencies:**

| Indoor Unit Type | SEER | EER | HSPF | COP @ 47°F | @ 17°F |
|---|---|---|---|---|---|
| **Non-ducted (06 + 06 + 09)** | 19.0 | 13.5 | 10.0 | 4.25 | 2.53 |
| **Ducted and Non-ducted** | 17.3 | 11.75 | 9.5 | 4.03 | 2.52 |
| **Ducted (09 + 09 + 09)** | 15.5 | 10.0 | 9.0 | 3.80 | 2.51 |

**Multi-zone Indoor/Outdoor Combination Table**

| | MSZ-FH* | MSZ-GE* | MFZ* | MVZ* | SEZ-KD* | SLZ* | PCA (A24)* | PLA* | PEAD* |
|---|---|---|---|---|---|---|---|---|---|
| **MXZ-3C24NAHZ** | OK | 6,9,12,15,18 OK<br>24 NO | OK | 12,18 OK<br>24,30,36 NO | OK | OK | NO | 18 OK<br>12,24 NO | NO |

*** Refer to indoor unit submittal.**

**Notes:**
- Minimum of two Indoor Units must be connected to the MXZ-3C24NAHZ.
- Minimum installed capacity cannot be less than 12,000 Btu/h.
- System can operate with only one Indoor Unit turned on.
- May connect to any style indoor unit or combination.
- Information provided at 208/230V.
  Refer to the MXZ-C Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.

**MVZ CONNECTION RULES:**
- Only 1 MVZ may be used on any system.
- When an MVZ is connected, total connected capacity must be 100% or less.
- When an MVZ is connected, no P-Series indoor units can be used (PCA, PLA, or PEAD).

Notes:

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# DIMENSIONS: MXZ-3C24NAHZ

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Unit: in

## 1.FREE SPACE

## 2.SERVICE SPACE

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Date: 11/03/16

# SUBMITTAL DATA: MXZ-3C30NAHZ

## MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name: 89 Anderson Street

System Reference: 2 BR Apartments/Lobby & Mail Room | Date: 9-30-15

### GENERAL FEATURES

- Highly energy-efficient system that features 100% heating capacity at 5° F with guaranteed capacity down to -13° F
- Quiet operation
- Built-in base pan heater to prevent ice in drain pan
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

- ☐ 3/8" x 1/2" Port Adapter (MAC-A454JP-E)
- ☐ 1/2" x 3/8" Port Adapter (MAC-A455JP-E) (Mail Room/Lobby System)
- ☐ 1/2" x 5/8" Port Adapter (MAC-A456JP-E)
- ☐ 1/4" x 3/8" Port Adapter (PAC-493PI)
- ☐ 3/8" x 5/8" Port Adapter (PAC-SG76RJ-E)
- ☐ M-NET Adapter (PAC-IF01MNT-E)
- ☐ Drain Socket (PAC-SG60DS-E)
- ☐ Airflow Guide (PAC-SH96SG-E)

Outdoor Unit: MXZ-3C30NAHZ

INVERTER

R410A

**(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)**

| Specifications | | | Model Name |
|---|---|---|---|
| Unit Type | | | MXZ-3C30NAHZ |
| Cooling* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 28,400 / 27,400 |
| | Capacity Range | Btu/h | 6,000 - 28,400 |
| | Rated Total Input | W | 2,272 / 2,661 |
| Heating at 47°F* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 28,600 / 27,600 |
| | Capacity Range | Btu/h | 7,200 - 36,000 |
| | Rated Total Input | W | 2,096 / 2,187 |
| Heating at 17°F* (Non-ducted/Ducted) | Rated Capacity | Btu/h | 18,000 / 16,500 |
| | Maximum Capacity | Btu/h | 28,600 / 27, 600 |
| | Rated Total Input | W | 1,991 / 1,993 |
| Heating at 5°F* | Maximum Capacity | Btu/h | 28,600 |
| Electrical Requirements | Power Supply | Voltage, Phase, Hertz | 208 / 230V, 1-Phase, 60 Hz |
| | Recommended Fuse/Breaker Size | A | 40 |
| | MCA | A | 30 |
| Voltage | Indoor - Outdoor S1-S2 | V | AC 208 / 230 |
| | Indoor - Outdoor S2-S3 | V | DC ±24 |
| Compressor | | | DC INVERTER-driven Twin Rotary |
| Fan Motor (ECM) | | F.L.A. | 1.9 |
| Sound Pressure Level | Cooling | dB(A) | 54 |
| | Heating | | 58 |
| External Dimensions (H x W x D) | | In / mm | 41-9/32 x 37-13/32 x 13<br>1048 x 950 x 330 |
| Net Weight | | Lbs / kg | 189 / 86 |
| External Finish | | | Munsell No. 3Y 7.8/11 |
| Refrigerant Pipe Size O.D. — Eight Ports | Liquid (High Pressure) | In / mm | 1/4 / 6.35 |
| | Gas (Low Pressure) | | A:1/2 / 12.7 ; B,C: 3/8 / 9.52 |
| Max. Refrigerant Line Length | | Ft / m | 230 / 70 |
| Max. Piping Length for Each Indoor Unit | | Ft / m | 82 / 25 |
| Max. Refrigerant Pipe Height Difference | If IDU is Above ODU | Ft / m | 49 / 15 |
| | If IDU is Below ODU | | 49 / 15 |
| Connection Method | | | Flared/Flared |
| Refrigerant | | | R410A |

*** Rating Conditions per AHRI Standard:**

Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / W.B. 23.9° C (75° F)

Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

Heating at 17° F | Indoor: 70° F (21° C) DB
Heating at 17° F | Outdoor: 17° F (-8° C) DB / 15° F (-9° C) WB

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# SPECIFICATIONS: MXZ-3C30NAHZ, contd.

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

**Operating Range:**

| | Outdoor |
|---|---|
| Cooling | D.B. 23 to 115° F [ D.B. −5 to 46° C]*1 |
| Heating | D.B. -13 to 70° F [ D.B. −25 to 21° C ] |

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

**Energy Efficiencies:**

| Indoor Unit Type | SEER | EER | HSPF | COP @ 47°F | @ 17°F |
|---|---|---|---|---|---|
| Non-ducted (06 + 06 + 09) | 18.0 | 12.5 | 11.0 | 4.00 | 2.65 |
| Ducted and Non-ducted | 17.00 | 11.40 | 10.40 | 3.85 | 2.58 |
| Ducted (09 + 09 + 09) | 16.0 | 10.3 | 9.8 | 3.70 | 2.50 |

**Multi-zone Indoor/Outdoor Combination Table**

| | MSZ-FH* | MSZ-GE* | MFZ* | MVZ* | SEZ-KD* | SLZ* | PCA (A24)* | PLA* | PEAD* |
|---|---|---|---|---|---|---|---|---|---|
| MXZ-3C30NAHZ | OK | OK | OK | 12,18,24 OK<br>30,36 NO | OK | OK | OK | 18,24 OK<br>12,30 NO | 24 OK<br>30, 36 NO |

* Refer to indoor unit submittal.

**Notes:**
- Minimum of two Indoor Units must be connected to the MXZ-3C30NAHZ.
- Minimum installed capacity cannot be less than 12,000 Btu/h.
- System can operate with only one Indoor Unit turned on.
- May connect to any style indoor unit or combination.
- Information provided at 208/230V.
  Refer to the MXZ-C Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.

**MVZ CONNECTION RULES:**
- Only 1 MVZ may be used on any system.
- When an MVZ is connected, total connected capacity must be 100% or less.
- When an MVZ is connected, no P-Series indoor units can be used (PCA, PLA, or PEAD).

Notes:

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# DIMENSIONS: MXZ-3C30NAHZ

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

Unit: in

## 1.FREE SPACE

## 2.SERVICE SPACE

AHRI CERTIFIED™ www.ahridirectory.org Unitary Small HP AHRI Standard 210/240 Certification applies only when the complete system is listed with AHRI

Intertek

MITSUBISHI ELECTRIC
COOLING & HEATING

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

FORM# MXZ-3C30NAHZ for Multiple Indoor Unit Styles - 201505

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MITSUBISHI ELECTRIC
COOLING & HEATING

ENERGY STAR

M-SER

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

# SUBMITTAL DATA: MXZ-4C36NAHZ

## MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name: 89 Anderson Street

System Reference: Commercial 2 | Date: 9-30-15

### GENERAL FEATURES

- Quiet operation
- Built-in base pan heater to prevent ice in drain pan
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

- Three-port Branch Box (PAC-MKA30BC)
- Five-port Branch Box (PAC-MKA50BC)
- Distribution Pipe for Flare Connection (MSDD-50AR; necessary for installing two branch boxes)
- Distribution Pipe for Brazed Connection (MSDD-50BR; necessary for installing two branch boxes)
- 3/8" x 1/2" Port Adapter (MAC-A454JP)
- 1/2" x 3/8" Port Adapter (MAC-A455JP)
- 1/2" x 5/8" Port Adapter (MAC-A456JP)
- 1/4" x 3/8" Port Adapter (PAC-493PI)
- 3/8" x 5/8" Port Adapter (PAC-SG76RJ)
- Drain Socket (PAC-SH71DS-E)
- Airflow Guide (PAC-SH96SG-E)

Outdoor Unit: MXZ-4C36NAHZ

INVERTER

R410A

**(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)**

| Specifications | | | Model Name |
|---|---|---|---|
| Unit Type | | | MXZ-4C36NAHZ |
| Cooling* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 36,000 / 36,000 |
| | Capacity Range | Btu/h | 6,000 - 36,000 |
| | Rated Total Input | W | 2,570 / 3,180 |
| Heating at 47°F* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 45,000 / 45,000 |
| | Capacity Range | Btu/h | 7,200 - 45,000 |
| | Rated Total Input | W | 3,340 / 4,250 |
| Heating at 17°F* (Non-ducted/Ducted) | Rated Capacity | Btu/h | 34,000 / 36,000 |
| | Maximum Capacity | Btu/h | 45,000 / 45,000 |
| | Rated Total Input | W | 3,500 / 4,590 |
| Heating at 5°F* | Maximum Capacity | Btu/h | 45,000 |
| Electrical Requirements | Power Supply | Voltage, Phase, Hertz | 208 / 230V, 1-Phase, 60 Hz |
| | Recommended Fuse/Breaker Size | A | 50 |
| | MCA | A | 42 |
| Voltage | Indoor - Outdoor S1-S2 | V | AC 208 / 230 |
| | Indoor - Outdoor S2-S3 | V | DC ±24 |
| Compressor | | | Hermetic |
| Fan Motor (ECM) | | F.L.A. | 0.4+0.4 |
| Sound Pressure Level | Cooling | dB(A) | 49 |
| | Heating | | 53 |
| External Dimensions (H x W x D) | | In / mm | 52-11/16 x 41-11/32 x 13+1<br>1338 x 1050 x 330+25 |
| Net Weight | | Lbs / kg | 276 / 125 |
| External Finish | | | Munsell No. 3Y 7.8/11 |
| Refrigerant Pipe Size O.D. — Eight Ports | Liquid (High Pressure) | In / mm | 3/8 / 9.52 |
| | Gas (Low Pressure) | | 5/8 / 15.88 |
| Max. Refrigerant Line Length | | Ft / m | 492 (150) |
| Max. Piping Length for Each Indoor Unit | | Ft / m | 262 (80) |
| Max. Refrigerant Pipe Height Difference | If IDU is Above ODU | Ft / m | 131 (40) |
| | If IDU is Below ODU | | 164 (50) |
| Connection Method | | | Flared/Flared |
| Refrigerant | | | R410A |

*** Rating Conditions per AHRI Standard:**

Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB

Heating at 47°F | Indoor: 70° F (21° C) DB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

Heating at 17° F | Indoor: 70° F (21° C) DB
Heating at 17° F | Outdoor: 17° F (-8° C) DB / 15° F (-9° C) WB

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# SPECIFICATIONS: MXZ-4C36NAHZ, contd.

Reviewed for Code Compliance
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Approved with Conditions
Date: 11/03/16

**Operating Range:**

| | Outdoor |
|---|---|
| Cooling | D.B 23 to 115°F . [ D.B.−5 to 46°C ]*1 |
| Heating | D.B. −13 to 70° F [ D.B. −25 to 21° C ] |

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

**Energy Efficiencies:**

| Indoor Unit Type | SEER | EER | HSPF | COP @ 47°F | @ 17°F |
|---|---|---|---|---|---|
| **Non-ducted** | 19.10 | 14.00 | 11.30 | 3.95 | 2.85 |
| **Ducted and Non-ducted** | 17.45 | 12.67 | 10.70 | 3.53 | 2.58 |
| **Ducted** | 15.80 | 11.30 | 10.10 | 3.10 | 2.30 |

**Multi-zone Indoor/Outdoor Combination Table**

| | MSZ-FH* | MSZ-GE* | MFZ* | MVZ* | SEZ-KD* | SLZ* | PCA (A24)* | PLA* | PEAD* |
|---|---|---|---|---|---|---|---|---|---|
| **MXZ-4C36NAHZ** | OK | OK | OK | OK | OK | OK | NO | OK | 24, 30, 36 OK |

*** Refer to indoor unit submittal.**

**Notes:**
- Minimum of two Indoor Units must be connected to the MXZ-4C36NAHZ.
- Minimum installed capacity cannot be less than 12,000 Btu/h.
- System can operate with only one Indoor Unit turned on.
- May connect to any style indoor unit or combination.
- Information provided at 208/230V.
  Refer to the MXZ-C Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.

**MVZ CONNECTION RULES:**
- Up to 2 MVZ's may be connected to this system.
- When 2 MVZ's are connected, no additional indoor units can be used.
- When 1 MVZ is connected, additional indoor units can be connected.
- When 1 MVZ is connected, total connected capacity must be 130% or less.
- Connection limitations are altered with the use of the SPTB1 accessory. Refer to the SPTB1 documentation for more details.

Notes:

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# MXZ-4C36NAHZ SYSTEM DESIGN

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Approved with Conditions
Date: 11/03/16

| Outdoor unit | | | MXZ-4C36NAHZ |
|---|---|---|---|
| | | | 4HP |
| | Rated capacity (kBTU/h) | Cooling | 36 |
| | | Heating | 45 |
| | Refrigerant | | R410A |
| Connectable indoor unit | Capacity | | Type 06 to Type 36<br>**Caution:** The indoor unit which rated capacity exceeds 36 kBTU/ h (Type 36) can NOT be connected. |
| | Number of units | | 2 to 4 units |
| | Total system wide capacity | | 33 to 130% of outdoor unit capacity (12 to 46.8 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 |
| Wall mounted | Deluxe | MSZ-FE09/12/18NA | | ● | ● | | ● | | | |
| | | MSZ-FH09/12/15NA | | ● | ● | ● | | | | |
| | Standard | MSZ-GE06/09/12/15/18/24NA | ● | ● | ● | ● | ● | ● | | |
| Ceiling concealed | Low static pressure | SEZ-KD09/12/15/18NA | | ● | ● | ● | ● | | | |
| | Middle static pressure | PEAD-A24/30/36AA4 | | | | | | ● | ● | ● |
| 4-way ceiling cassette | 2 by 2 type | SLZ-KA09/12/15NA | | ● | ● | ● | | | | |
| | Standard | PLA-A12/18/24/30/36BA4 | | | ● | | ● | ● | ● | ● |
| Floor standing | | MFZ-KA09/12/18NA | | ● | ● | | ● | | | |
| Multi-position | | MVZ-A12/18/24/30/36AA4 | | | ● | | ● | ● | ● | ● |

| Branch box | PAC-MKA50BC | PAC-MKA30BC |
|---|---|---|
| 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.

**Branch Box Combinations**

| Three-port | Five-port |
|---|---|
| 1 | 0 |
| 0 | 1 |
| 1 | 1 |
| 2 | 0 |
| 0 | 2 (Up to 8 IDU) |

■ If Using One Branch Box
Flare connection employed (No brazing)

■ If Using Two Branch Boxes

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

**Piping connection size**

| | A | B |
|---|---|---|
| Liquid | ϕ9.52 mm (3/8 inch) | 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 | ϕ15.88 mm (5/8 inch) | |

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# MXZ-4C36NAHZ COOLING AND HEATING CAPACITY AND CHARACTERIST

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Date: 11/03/16

## 1. Method for obtaining system cooling and heating capacity:

To obtain the system cooling and heating capacity and the electrical characteristics of the outdoor unit, first add up the ratin of all the indoor units connected to the outdoor unit (see table below). For Standard Capacity Diagram, please refer to the M Technical & Service Manual.

### (1) Capacity of indoor unit

| | Model Number for indoor unit | Model 06 | Model 09 | Model 12 | Model 15 | Model 18 | Model 24 | Model 30 | Model 36 |
|---|---|---|---|---|---|---|---|---|---|
| M series | Model Capacity [kBtu/h] | 6.0 | 9.0 | 12.0 | 14.0*1<br>15.0*2 | 17.2*3<br>18.0*4 | 22.5 | – | – |
| P series | | – | – | 12.0 | – | 18.0 | 24.0 | 30.0 | 35.0 |
| SEZ | | – | 8.1 | 11.5 | 14.1 | 17.2 | – | – | – |
| SLZ | | – | 8.4 | 11.1 | 15.0 | – | – | – | – |
| MVZ | | – | – | 12.0 | – | 18.0 | 24.0 | 30.0 | 36.0 |

*1 The value is for MSZ-GE15NA.
*2 The value is for MSZ-FH15NA.
*3 The value is for MSZ-GE/FH18NA.
*4 The value is for MSZ-FE18NA or MFZ-KA18NA.

### (2) Sample calculation

1 System assembled from indoor and outdoor unit (in this example the total capacity of the indoor units is greater than that of the outdoor unit)
- Outdoor unit MXZ-5C42NAHZ
- Indoor unit MSZ-GE09NA × 2 + MSZ-FH15NA ×2

2 According to the conditions in 1 , the total capacity of the indoor unit will be: 9.0 × 2 + 15.0 × 2 = 48.0

3 The following figures are obtained from the 16.8 total capacity of indoor units, referring the standard capacity diagram in "4-3-3. MXZ-5C42NAHZ <cooling>" and "4-3-4. MXZ-5C42NAHZ <heating>".

| Capacity (kBTU/h) | | Outdoor unit power consumption (kW) | | Outdoor unit current (A)/ 230 V | |
|---|---|---|---|---|---|
| Cooling | Heating | Cooling | Heating | Cooling | Heating |
| A 42.0 | B 48.0 | 3.46 | 4.37 | 15.26 | 19.31 |

## 2. Method for obtaining the heating and cooling capacity of an indoor unit:

(1) The capacity of each indoor unit (kW) = the capacity A (or B ) o $\frac{\text{model capacity}}{\text{total model capacity of all indoor units}}$

(2) Sample calculation (using the system described above in 4-1-1. (2) ):

**During cooling:**

- The total model capacity of the indoor unit is:
  9.0 × 2 + 15.0 × 2 = 48.0 kBTU/h
  Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 09 = $42.0 \times \frac{9.0}{48.0}$ = 7.88 kBTU/h

Model 15 = $42.0 \times \frac{15.0}{48.0}$ = 13.13 kBTU/h

**During heating:**

- The total model capacity of indoor unit is:
  10.9 × 2 + 18.0 × 2 = 57.8 kBTU/h
  Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 25 = $48.0 \times \frac{10.9}{57.8}$ = 9.05 kBTU/h

Model 50 = $48.0 \times \frac{18.0}{57.8}$ = 14.95 kBTU/h

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# DIMENSIONS: PAC-MKA30BC AND PAC-MKA50BC BRANCH BOXES

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## PAC-MKA30BC

Unit: m

SUSPENSION BOLT : W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

| | 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 |

## PAC-MKA50BC

Unit: mm <in>

SUSPENSION BOLT : W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

| | | | | | E | TO OUTDOOR UNIT B |
|---|---|---|---|---|---|---|
| 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 |

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# DIMENSIONS: MXZ-4C36NAHZ

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Approved with Conditions
Date: 11/03/16

**Unit: mm <in>**

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


FORM# MXZ-4C36NAHZ for Multiple Indoor Unit Styles - 201505


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Date: 11/03/16

# SUBMITTAL DATA: MXZ-8C48NAHZ

## 4-TON MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name: 89 Anderson Street

System Reference: Corridors | Date: 9-30-15

### GENERAL FEATURES

- Quiet operation
- Built-in base pan heater to prevent ice in drain pan
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

- ☐ Three-port Branch Box (PAC-MKA30BC)
- ☐ Five-port Branch Box (PAC-MKA50BC)
- ☐ Distribution Pipe for Flare Connection (MSDD-50AR; necessary for installing two branch boxes)
- ☐ Distribution Pipe for Brazed Connection (MSDD-50BR; necessary for installing two branch boxes)
- ☐ 3/8" x 1/2" Port Adapter (MAC-A454JP)
- ☐ 1/2" x 3/8" Port Adapter (MAC-A455JP)
- ☐ 1/2" x 5/8" Port Adapter (MAC-A456JP)
- ☐ 1/4" x 3/8" Port Adapter (PAC-493PI)
- ☐ 3/8" x 5/8" Port Adapter (PAC-SG76RJ)
- ☐ Drain Socket (PAC-SH71DS-E)
- ☐ Airflow Guide (PAC-SH96SG-E)

Outdoor Unit: MXZ-8C48NAHZ

INVERTER

R410A

**(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)**

| Specifications | | | Model Name |
|---|---|---|---|
| Unit Type | | | MXZ-8C48NAHZ |
| Cooling* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 48,000 / 48,000 |
| | Capacity Range | Btu/h | 6,000 - 48,000 |
| | Rated Total Input | W | 4,000 / 5,050 |
| Heating at 47°F* (Non-ducted / Ducted) | Rated Capacity | Btu/h | 54,000 / 54,000 |
| | Capacity Range | Btu/h | 7,200 - 54,000 |
| | Rated Total Input | W | 4,220 / 4,990 |
| Heating at 17°F* (Non-ducted/Ducted) | Rated Capacity | Btu/h | 40,000 / 43,000 |
| | Maximum Capacity | Btu/h | 54,000 / 54,000 |
| | Rated Total Input | W | 4,340 / 5,250 |
| Heating at 5°F* | Maximum Capacity | Btu/h | 54,000 |
| Electrical Requirements | Power Supply | Voltage, Phase, Hertz | 208 / 230V, 1-Phase, 60 Hz |
| | Recommended Fuse/Breaker Size | A | 50 |
| | MCA | A | 42 |
| Voltage | Indoor - Outdoor S1-S2 | V | AC 208 / 230 |
| | Indoor - Outdoor S2-S3 | V | DC ±24 |
| Compressor | | | Hermetic |
| Fan Motor (ECM) | | F.L.A. | 0.4+0.4 |
| Sound Pressure Level | Cooling | dB(A) | 51 |
| | Heating | | 54 |
| External Dimensions (H x W x D) | | In / mm | 52-11/16 x 41-11/32 x 13+1<br>1338 x 1050 x 330+25 |
| Net Weight | | Lbs / kg | 276 / 125 |
| External Finish | | | Munsell No. 3Y 7.8/11 |
| Refrigerant Pipe Size O.D. — Eight Ports | Liquid (High Pressure) | In / mm | 3/8 / 9.52 |
| | Gas (Low Pressure) | | 5/8 / 15.88 |
| Max. Refrigerant Line Length | | Ft / m | 492 (150) |
| Max. Piping Length for Each Indoor Unit | | Ft / m | 262 (80) |
| Max. Refrigerant Pipe Height Difference | If IDU is Above ODU | Ft / m | 131 (40) |
| | If IDU is Below ODU | | 164 (50) |
| Connection Method | | | Flared/Flared |
| Refrigerant | | | R410A |

*** Rating Conditions per AHRI Standard:**

Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB

Heating at 47°F | Indoor: 70° F (21° C) DB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

Heating at 17° F | Indoor: 70° F (21° C) DB
Heating at 17° F | Outdoor: 17° F (-8° C) DB / 15° F (-9° C) WB

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# SPECIFICATIONS: MXZ-8C48NAHZ, contd.

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Date: 11/03/16

**Operating Range:**

| | Outdoor |
|---|---|
| Cooling | D.B. 23 to 115° F [ D.B. −5 to 46° C]*1 |
| Heating | D.B. −13 to 70° F [ D.B. −25 to 21° C ] |

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

**Energy Efficiencies:**

| Indoor Unit Type | SEER | EER | HSPF | COP @ 47°F | @ 17°F |
|---|---|---|---|---|---|
| **Non-ducted** | 18.9 | 12.0 | 11.0 | 3.75 | 2.70 |
| **Ducted and Non-ducted** | 16.80 | 10.75 | 10.50 | 3.46 | 2.55 |
| **Ducted** | 14.7 | 9.5 | 10.0 | 3.17 | 2.40 |

**Multi-zone Indoor/Outdoor Combination Table**

| | MSZ-FH* | MSZ-GE* | MFZ* | MVZ* | SEZ-KD* | SLZ* | PCA (A24)* | PLA* | PEAD* |
|---|---|---|---|---|---|---|---|---|---|
| **MXZ-8C48NAHZ** | OK | OK | OK | OK | OK | OK | NO | OK | 24, 30, 36 OK |

*** Refer to indoor unit submittal.**

**Notes:**
- Minimum of two Indoor Units must be connected to the MXZ-8C48NAHZ.
- Minimum installed capacity cannot be less than 12,000 Btu/h.
- System can operate with only one Indoor Unit turned on.
- May connect to any style indoor unit or combination.
- Information provided at 208/230V.
  Refer to the MXZ-C Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.

**MVZ CONNECTION RULES:**
- Up to 2 MVZ's may be connected to this system.
- When 2 MVZ's are connected, no additional indoor units can be used.
- When 1 MVZ is connected, additional indoor units can be connected.
- When 1 MVZ is connected, total connected capacity must be 130% or less.
- Connection limitations are altered with the use of the SPTB1 accessory. Refer to the SPTB1 documentation for more details.

Notes:

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# MXZ-8C48NAHZ SYSTEM DESIGN

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Date: 11/03/16

| Outdoor unit | | | MXZ-8C48NAHZ |
|---|---|---|---|
| | | | 5HP |
| | Rated capacity (kBTU/h) | Cooling | 48 |
| | | Heating | 54 |
| | Refrigerant | | R410A |
| Connectable indoor unit | Capacity | | Type 06 to Type 36<br>**Caution:** The indoor unit which rated capacity exceeds 36 kBTU/ h (Type 36) can NOT be connected. |
| | Number of units | | 2 to 8 units |
| | Total system wide capacity | | 25 to 130% of outdoor unit capacity (12 to 62.4 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 |
| Wall mounted | Deluxe | MSZ-FE09/12/18NA | | ● | ● | | ● | | | |
| | | MSZ-FH09/12/15NA | | ● | ● | ● | | | | |
| | Standard | MSZ-GE06/09/12/15/18/24NA | ● | ● | ● | ● | ● | ● | | |
| Ceiling concealed | Low static pressure | SEZ-KD09/12/15/18NA | | ● | ● | ● | ● | | | |
| | Middle static pressure | PEAD-A24/30/36AA4 | | | | | | ● | ● | ● |
| 4-way ceiling cassette | 2 by 2 type | SLZ-KA09/12/15NA | | ● | ● | ● | | | | |
| | Standard | PLA-A12/18/24/30/36BA4 | | | ● | | ● | ● | ● | ● |
| Floor standing | | MFZ-KA09/12/18NA | | ● | ● | | ● | | | |
| Multi-position | | MVZ-A12/18/24/30/36AA4 | | | ● | | ● | ● | ● | ● |

| Branch box | PAC-MKA50BC | PAC-MKA30BC |
|---|---|---|
| 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.

**Branch Box Combinations**

| Three-port | Five-port |
|---|---|
| 1 | 0 |
| 0 | 1 |
| 1 | 1 |
| 2 | 0 |
| 0 | 2 (Up to 8 IDU) |

■ If Using One Branch Box
Flare connection employed (No brazing)

■ If Using Two Branch Boxes

**Piping connection size**

| | A | B |
|---|---|---|
| Liquid | ϕ9.52 mm (3/8 inch) | 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 | ϕ15.88 mm (5/8 inch) | |

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

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# MXZ-8C48NAHZ COOLING AND HEATING CAPACITY AND CHARACTERIST

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## 1. Method for obtaining system cooling and heating capacity:

To obtain the system cooling and heating capacity and the electrical characteristics of the outdoor unit, first add up the ratin of all the indoor units connected to the outdoor unit (see table below). For Standard Capacity Diagram, please refer to the M Technical & Service Manual.

### (1) Capacity of indoor unit

| | Model Number for indoor unit | Model 06 | Model 09 | Model 12 | Model 15 | Model 18 | Model 24 | Model 30 | Model 36 |
|---|---|---|---|---|---|---|---|---|---|
| M series | Model Capacity [kBtu/h] | 6.0 | 9.0 | 12.0 | 14.0*1<br>15.0*2 | 17.2*3<br>18.0*4 | 22.5 | – | – |
| P series | | – | – | 12.0 | – | 18.0 | 24.0 | 30.0 | 35.0 |
| SEZ | | – | 8.1 | 11.5 | 14.1 | 17.2 | – | – | – |
| SLZ | | – | 8.4 | 11.1 | 15.0 | – | – | – | – |
| MVZ | | – | – | 12.0 | – | 18.0 | 24.0 | 30.0 | 36.0 |

*1 The value is for MSZ-GE15NA.
*2 The value is for MSZ-FH15NA.
*3 The value is for MSZ-GE/FH18NA.
*4 The value is for MSZ-FE18NA or MFZ-KA18NA.

### (2) Sample calculation

1 System assembled from indoor and outdoor unit (in this example the total capacity of the indoor units is greater than that of the outdoor unit)
- Outdoor unit MXZ-5C42NAHZ
- Indoor unit MSZ-GE09NA × 2 + MSZ-FH15NA ×2

2 According to the conditions in 1 , the total capacity of the indoor unit will be: 9.0 × 2 + 15.0 × 2 = 48.0

3 The following figures are obtained from the 16.8 total capacity of indoor units, referring the standard capacity diagram in "4-3-3. MXZ-5C42NAHZ <cooling>" and "4-3-4. MXZ-5C42NAHZ <heating>".

| Capacity (kBTU/h) | | Outdoor unit power consumption (kW) | | Outdoor unit current (A)/ 230 V | |
|---|---|---|---|---|---|
| Cooling | Heating | Cooling | Heating | Cooling | Heating |
| A 42.0 | B 48.0 | 3.46 | 4.37 | 15.26 | 19.31 |

## 2. Method for obtaining the heating and cooling capacity of an indoor unit:

(1) The capacity of each indoor unit (kW) = the capacity A (or B ) o $\frac{\text{model capacity}}{\text{total model capacity of all indoor units}}$

(2) Sample calculation (using the system described above in 4-1-1. (2) ):

**During cooling:**

- The total model capacity of the indoor unit is:
  9.0 × 2 + 15.0 × 2 = 48.0 kBTU/h
  Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 09 = $42.0 \times \frac{9.0}{48.0}$ = 7.88 kBTU/h

Model 15 = $42.0 \times \frac{15.0}{48.0}$ = 13.13 kBTU/h

**During heating:**

- The total model capacity of indoor unit is:
  10.9 × 2 + 18.0 × 2 = 57.8 kBTU/h
  Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 25 = $48.0 \times \frac{10.9}{57.8}$ = 9.05 kBTU/h

Model 50 = $48.0 \times \frac{18.0}{57.8}$ = 14.95 kBTU/h

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# DIMENSIONS: PAC-MKA30BC AND PAC-MKA50BC BRANCH BOXES

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Date: 11/03/16

## PAC-MKA30BC

Unit: m

SUSPENSION BOLT : W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

| | 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 |

## PAC-MKA50BC

Unit: mm <in>

SUSPENSION BOLT : W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

| | | | | | E | TOBDUTDOOR UNIT B |
|---|---|---|---|---|---|---|
| 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 |

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# DIMENSIONS: MXZ-8C48NAHZ

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**Unit: mm <in>**

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AHRI Standard 210/240
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# M-SER

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## SUBMITTAL DATA: MSZ-GE06NA-8

**6,000 BTU/H WALL-MOUNTED INDOOR UNIT FOR MXZ MULTI-ZONE HEAT-PUMP SYSTEMS**

Job Name: 89 Anderson Street

System Reference: Bedrooms (1 BR & 2 BR Apartments) | Date: 9-30-15

Indoor Unit: MSZ-GE06NA-8

Wireless Remote Controller

### GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Auto fan speed control: Quiet, Low, Medium, High, and Super High
- Hand-held Wireless Remote Controller
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Anti-allergy Enzyme Filter
- Limited warranty: five years parts and seven years compressor

### ACCESSORIES

**Indoor Unit**

- ☐ Condensate Pump (230V; SI3100-230)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Central Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*
- ☐ Wired Wall-mounted Controller (PAR-31MAA requires MAC-333IF)*
- ☐ Simple MA Remote Controller (PAC-YT53CRAU requires MAC-333IF)*

*See Submittal for information on each option.

- ☐ System Control Interface (MAC-333IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 6,000 Btu/h
**Heating Capacity*** . . . . . 7,200 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V
Indoor - Remote Controller . . . . . MHK1 DC 3V
PAR-31MAA DC 12V
PAC-YT53CRAU DC 12V

Blower Motor (ECM) . . . . . 0.76 F.L.A.

**Airflow (Quiet - Lo - Med - Hi - Super Hi)**
Cooling . . . . . 145 - 170 - 237 - 321 - 399 Dry CFM
109 - 134 - 201 - 286 - 364 Wet CFM
Heating . . . . . 145 - 170 - 233 - 321 - 406 CFM

**Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)**
Cooling . . . . . 19 - 22 - 30 - 37 - 43 dB(A)
Heating . . . . . 19 - 22 - 30 - 37 - 43 dB(A)

| DIMENSIONS | UNIT INCHES / MM |
|---|---|
| W | 31-7/16 / 799 |
| D | 9-1/8 / 232 |
| H | 11-5/8 / 295 |

Weight . . . . . 22 lbs. / 10 kg
External Finish . . . . . Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. . . . . 5/8" / 15.88 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 3/8" / 9.52 mm
Liquid Side . . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

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# DIMENSIONS: MSZ-GE06NA-8

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| | | |
|---|---|---|
| Piping | Insulation | ø1 - 3/8 O.D |
| | Liquid line | ø1/4 19 - 11/16 (Flared connection ø1/4) |
| | Gas line | ø3/8 16 - 15/16 (Flared connection: ø3/8) |
| Drain hose | | Insulation ø1-1/8 O.D Connected part ø5/8 O.D |

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Date: 11/03/16

## SUBMITTAL DATA: MSZ-GE15NA-8

15,000 BTU/H WALL-MOUNTED INDOOR UNIT FOR MXZ MULTI-ZONE HEAT-PUMP SYSTEMS

Job Name: 89 Anderson Street

System Reference: Living Room (1 BR Apartments) | Date: 9-30-15

Indoor Unit: MSZ-GE15NA-8

Wireless Remote Controller

### GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Auto fan speed control: Quiet, Low, Medium, High, and Super High
- Hand-held Wireless Remote Controller
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Base heater is available as an option
- Anti-allergy Enzyme Filter
- Limited warranty: five years parts and seven years compressor

### ACCESSORIES

**Indoor Unit**

- ☐ Condensate Pump (230V; SI3100-230)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Central Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*
- ☐ Wired Wall-mounted Controller (PAR-31MAA requires MAC-333IF)*
- ☐ Simple MA Remote Controller (PAC-YT53CRAU requires MAC-333IF)*

*See Submittal for information on each option.

- ☐ System Control Interface (MAC-333IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 14,000 Btu/h
**Heating Capacity*** . . . . . 18,000 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V
Indoor - Remote Controller . . . . . MHK1 DC 3V
PAR-31MAA DC 12V
PAC-YT53CRAU DC 12V

Blower Motor (ECM) . . . . . 0.76 F.L.A.

Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling . . . . . 205 - 272 - 335 - 420 - 533 Dry CFM
170 - 237 - 300 - 385 - 498 Wet CFM
Heating . . . . . 205 - 247 - 304 - 367 - 463 CFM

Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)
Cooling . . . . . 26 - 32 - 38 - 44 - 49 dB(A)
Heating . . . . . 26 - 30 - 35 - 40 - 46 dB(A)

| DIMENSIONS | UNIT INCHES / MM |
|---|---|
| W | 31-7/16 / 799 |
| D | 9-1/8 / 232 |
| H | 11-5/8 / 295 |

Weight . . . . . 22 lbs. / 10 kg
External Finish . . . . . Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. . . . . 5/8" / 15.88 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 1/2" / 12.7 mm
Liquid Side . . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

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# DIMENSIONS: MSZ-GE15NA

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| | | |
|---|---|---|
| Piping | Insulation | ø1 - 3/8 O.D |
| | Liquid line | ø1/4 19 – 11/16 (Flared connection ø1/4) |
| | Gas line | Flared connection: ø1/2 |
| Drain hose | | Insulation ø1-1/8 O.D Connected part ø5/8 O.D |

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Date: 11/03/16

## SUBMITTAL DATA: MSZ-GE18NA-8

18,000 BTU/H WALL-MOUNTED INDOOR UNIT FOR MXZ MULTI-ZONE HEAT-PUMP SYSTEMS

| | |
|---|---|
| Job Name: 89 Anderson Street | |
| System Reference: Living Room (2 BR Apartments) | Date: 9-30-15 |

Indoor Unit: MSZ-GE18NA-8

Wireless Remote Controller

### GENERAL FEATURES

- Wall-mounted indoor unit
- Nano Platinum and and Anti-allergy Enzyme filters are included
- Quiet operation
- Auto fan speed control: Quiet, Low, Medium, High, and Super High
- Hand-held Wireless Remote Controller
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years parts and seven years compressor

### ACCESSORIES

**Indoor Unit**

- ☐ Condensate Pump (230V; SI3100-230)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Central Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*
- ☐ Wired Wall-mounted Controller (PAR-31MAA requires MAC-333IF)*
- ☐ Simple MA Remote Controller (PAC-YT53CRAU requires MAC-333IF)*

*See Submittal for information on each option.

- ☐ System Control Interface (MAC-333IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 17,200 Btu/h
**Heating Capacity*** . . . . . 21,600 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V
Indoor - Remote Controller . . . . . MHK1 DC 3V
PAR-31MAA DC 12V
PAC-YT53CRAU DC 12V

Blower Motor (ECM) . . . . . 0.76 F.L.A.

Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling . . . . . 230 - 275 - 339 - 420 - 533 Dry CFM
194 - 240 - 304 - 385 - 498 Wet CFM
Heating . . . . . 230 - 275 - 339 - 431 - 512 CFM

Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)
Cooling . . . . . 28 - 33 - 38 - 44 - 49 dB(A)
Heating . . . . . 28 - 33 - 38 - 43 - 49 dB(A)

| DIMENSIONS | UNIT INCHES / MM |
|---|---|
| W | 31-7/16 / 799 |
| D | 9-1/8 / 232 |
| H | 11-5/8 / 295 |

Weight . . . . . 22 lbs. / 10 kg
External Finish . . . . . Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. . . . . 5/8" / 15.88 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 1/2" / 12.7 mm
Liquid Side . . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

R410A INVERTER

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# DIMENSIONS: MSZ-GE18NA-8

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| | | |
|---|---|---|
| Piping | Insulation | ø1 - 3/8 O.D |
| | Liquid line | ø1/4 19 – 11/16 (Flared connection ø1/4) |
| | Gas line | Flared connection: ø1/2 |
| Drain hose | | Insulation ø1-1/8 O.D Connected part ø5/8 O.D |

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Date: 11/03/16

## SUBMITTAL DATA: SLZ-KA09NA

9,000 BTU/H CEILING-CASSETTE INDOOR UNIT FOR MXZ-B MULTI-ZONE HEAT-PUMP SYSTEMS

| | | |
|---|---|---|
| Job Name: 89 Anderson Street | Location: | Date: 9-30-15 |
| Purchaser: | Engineer: | |
| Submitted to: | For ☐Reference ☐Approval ☐Construction | |
| System Designation: Corridors/Mail Room/Commercial 3 | Schedule No.: | |

SLZ-KA09NA

### GENERAL FEATURES

- Four-way 2'x2' ceiling-cassette indoor unit for ceiling recessed applications
- Built-in drain mechanism for condensate removal; lifts to 19-11/16"
- Wide air-flow pattern for better air distribution
- Design features ventilation air intake knockout
- Long-life air filter included with indoor unit
- Indoor unit powered from outdoor unit using A-Control
- Choice of fan speed: Low, Medium, High
- Automatic restart following a power outage
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

**Indoor Unit**

- ☐ Grille (SLP-15AAUW; required - shipped with unit)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*

*See Submittal for information on each option.

- ☐ Wired Wall-mounted Controller (PAR-21MAAU)
- ☐ System Control Interface (MAC-333IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Hand-held Wireless Remote Controller (PAR-FL32MA;req.PAR-FA32MA-E)
- ☐ Wireless Signal Receiver PAR-FA32MA (for PAR-FL32MA)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 8,400 Btu/h
**Heating Capacity at 47°F*** . . . . . 10,900 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB
**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ-B Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V
Fan Motor (ECM) . . . . . 0.23 F.L.A.

Airflow (Lo - Med - Hi) . . . . . 280 - 320 - 350 Dry CFM
250 - 290 - 320 Wet CFM

Air Filter . . . . . Polypropylene Honeycomb

Sound Pressure Level (Lo - Med - Hi) . . . . . 29 - 32 - 38 dB(A)

| DIMENSIONS | UNIT INCHES / MM | GRILLE INCHES / MM |
|---|---|---|
| W | 22-7/16 / 570 | 25-5/8 / 650 |
| D | 22-7/16 / 570 | 25-5/8 / 650 |
| H | 9-1/4 / 235 | 13/16 / 20 |

Weight (Unit/Grille)
Lbs. . . . . 36 / 7
kg. . . . . 16.5 / 3
External Finish (Unit/Grille) . . . . . Galvanized-steel Sheets / Munsell 6.4Y 8.9 / 0.4
Field Drainpipe Size O.D. . . . . 1-1/4" / 32 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 3/8" / 9.52 mm
Liquid Side. . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

R410A INVERTER

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# DIMENSIONS: SLZ-KA09NA

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

**Unit : inch (mm)**

**Detail drawing of fresh air intake**

| Models | Refrigerent pipe (liquid) | Refrigerent pipe (gas) |
|---|---|---|
| SLZ-KA09NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA12NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA15NA | 1/4 inch (ϕ 6.35mm) flared connection | 1/2 inch (ϕ 12.7mm) flared connection |

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**Cooling***
Rated Capacity . . . . . 15,000 Btu/h
Minimum to Maximum Capacity Range . . . . . 3,800 - 17,700 Btu/h
SEER . . . . . 16.0 Btu/h/W
EER . . . . . 10.2 Btu/h/W
Total Input . . . . . 1,460 W

**Heating at 47°F***
Rated Capacity . . . . . 18,000 Btu/h
Minimum to Maximum Capacity Range . . . . . 3,100 - 22,200 Btu/h
HSPF . . . . . 9.6 Btu/h/W
COP . . . . . 2.71
Total Input . . . . . 1,950 W

**Heating at 17°F***
Rated Capacity . . . . . 10,200 Btu/h
Rated Total Input . . . . . 1,310 W
COP . . . . . 1.99
Maximum Capacity** . . . . . 12,000 Btu/h
Maximum Total Input . . . . . 1,970 W

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80º F (27º C) DB / 67º F (19º C) WB
Cooling | Outdoor: 95º F (35º C) DB / 75º F (24º C) WB
Heating at 47ºF | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 47ºF | Outdoor: 47º F (8º C) DB / 43º F (6º C) WB
Heating at 17º F | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 17º F | Outdoor: 17º F (-8º C) DB / 15º F (-9º C) WB

**** Maximum Capacity is at full speed and performance for INVERTER-driven System.**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
Recommended Fuse/Breaker Size . . . . . 15 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V

**OPERATING CONDITIONS**

| | | Indoor Intake Air Temp. | Outdoor Intake Air Temp. |
|---|---|---|---|
| Cooling | Maximum | 95°F (35° C) DB<br>71° F (22° C) WB | 115°F (46°C) DB |
| | Minimum | 67° F (19° C) DB<br>57° F (14° C) WB | 14°F (-10°C) DB |
| Heating | Maximum | 80° F (27° C) DB<br>67° F (19° C) WB | 75°F (24°C) DB<br>65°F (18°C) WB |
| | Minimum | 70° F (21° C) DB<br>60° F (16° C) WB | -4°F (-20°C) DB<br>-5°F (-21°C) WB |

**Indoor Unit**
MCA . . . . . [illegible]
Fan Motor Output . . . . . 20 W
Fan Motor (ECM) . . . . . 0.28 F.L.A.
Airflow (Lo - Med - Hi) . . . . . 280 - 320 - 390 Dry CFM
250 - 290 - 350 Wet CFM
Air Filter . . . . . Polypropylene Honeycomb
Sound Pressure Level (Lo - Med - Hi) . . . . . 31 - 35 - 40 dB(A)

| DIMENSIONS | UNIT INCHES / MM | GRILLE INCHES / MM |
|---|---|---|
| W | 22-7/16 / 570 | 25-5/8 / 650 |
| D | 22-7/16 / 570 | 25-5/8 / 650 |
| H | 9-1/4 / 235 | 13/16 / 20 |

Weight (Unit/Grille)
Lbs. . . . . 36 / 7
kg . . . . . 16.5 / 3
External Finish (Unit/Grille) . . . . . Galvanized-steel Sheets / Munsell 6.4Y 8.9 / 0.4
Field Drainpipe Size O.D. . . . . 1-1/4" / 32 mm

**Outdoor Unit**
Compressor . . . . . DC Inverter-driven Twin Rotary
MCA . . . . . 12 A
MOCP . . . . . 15 A
Fan Motor (ECM) . . . . . 0.50 F.L.A.
Sound Pressure Level
Cooling . . . . . 49 dB(A)
Heating . . . . . 51 dB(A)

| DIMENSIONS | INCHES / MM |
|---|---|
| W | 31-1/2 / 800 |
| D | 11-1/4 / 285 |
| H | 21-5/8 / 550 |

Weight . . . . . 80 lbs. / 36 kg
External Finish . . . . . Munsell No. 3Y 7.8 / 1.1
Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 1/2" / 12.7 mm
Liquid Side . . . . . 1/4" / 6.35 mm
Max. Refrigerant Pipe Length . . . . . 65' / 19.8 m
Max. Refrigerant Pipe Height Difference . . . . . 40' / 12.2 m
Connection Method . . . . . Flared

Notes:

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COOLING & HEATING

# M-SER

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## SUBMITTAL DATA: SLZ-KA12NA

12,000 BTU/H CEILING-CASSETTE INDOOR UNIT FOR MXZ-B MULTI-ZONE HEAT-PUMP SYSTEMS

| | | |
|---|---|---|
| Job Name: 89 Anderson Street | Location: | Date: 9-30-15 |
| Purchaser: | Engineer: | |
| Submitted to: | For ☐Reference ☐Approval ☐Construction | |
| System Designation: Corridors/Lobby | Schedule No.: | |

SLZ-KA12NA

### GENERAL FEATURES

- Four-way 2'x2' ceiling-cassette indoor unit for ceiling recessed applications
- Built-in drain mechanism for condensate removal; lifts to 19-11/16"
- Wide air-flow pattern for better air distribution
- Design features ventilation air intake knockout
- Long-life air filter included with indoor unit
- Indoor unit powered from outdoor unit using A-Control
- Choice of fan speed: Low, Medium, High
- Automatic restart following a power outage
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

**Indoor Unit**

- ☐ Grille (SLP-15AAUW; required - shipped with unit)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*

*See Submittal for information on each option.

- ☐ Wired Wall-mounted Controller (PAR-21MAAU)
- ☐ System Control Interface (MAC-333IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Hand-held Wireless Remote Controller (PAR-FL32MA;req.PAR-FA32MA-E)
- ☐ Wireless Signal Receiver PAR-FA32MA (for PAR-FL32MA)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 11,100 Btu/h
**Heating Capacity at 47°F*** . . . . . 13,600 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB
**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ-B Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V

Fan Motor (ECM) . . . . . 0.28 F.L.A.

Airflow (Lo - Med - Hi) . . . . . 280 - 320 - 390 Dry CFM
250 - 290 - 350 Wet CFM

Air Filter . . . . . Polypropylene Honeycomb

Sound Pressure Level (Lo - Med - Hi) . . . . . 30 - 34 - 39 dB(A)

| DIMENSIONS | UNIT INCHES / MM | GRILLE INCHES / MM |
|---|---|---|
| W | 22-7/16 / 570 | 25-5/8 / 650 |
| D | 22-7/16 / 570 | 25-5/8 / 650 |
| H | 9-1/4 / 235 | 13/16 / 20 |

Weight (Unit/Grille)
Lbs. . . . . 36 / 7
kg. . . . . 16.5 / 3
External Finish (Unit/Grille) . . . . . Galvanized-steel Sheets / Munsell 6.4Y 8.9 / 0.4
Field Drainpipe Size O.D. . . . . 1-1/4" / 32 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 3/8" / 9.52 mm
Liquid Side. . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

R410A INVERTER

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# DIMENSIONS: SLZ-KA12NA

Reviewed for Code Compliance
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Unit : inch (mm)

## Detail drawing of fresh air intake

| Models | Refrigerent pipe (liquid) | Refrigerent pipe (gas) |
|---|---|---|
| SLZ-KA09NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA12NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA15NA | 1/4 inch (ϕ 6.35mm) flared connection | 1/2 inch (ϕ 12.7mm) flared connection |

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**Cooling***
Rated Capacity . . . . . 15,000 Btu/h
Minimum to Maximum Capacity Range . . . . . 3,800 - 17,700 Btu/h
SEER . . . . . 16.0 Btu/h/W
EER . . . . . 10.2 Btu/h/W
Total Input . . . . . 1,460 W

**Heating at 47°F***
Rated Capacity . . . . . 18,000 Btu/h
Minimum to Maximum Capacity Range . . . . . 3,100 - 22,200 Btu/h
HSPF . . . . . 9.6 Btu/h/W
COP . . . . . 2.71
Total Input . . . . . 1,950 W

**Heating at 17°F***
Rated Capacity . . . . . 10,200 Btu/h
Rated Total Input . . . . . 1,310 W
COP . . . . . 1.99
Maximum Capacity** . . . . . 12,000 Btu/h
Maximum Total Input . . . . . 1,970 W

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80º F (27º C) DB / 67º F (19º C) WB
Cooling | Outdoor: 95º F (35º C) DB / 75º F (24º C) WB
Heating at 47ºF | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 47ºF | Outdoor: 47º F (8º C) DB / 43º F (6º C) WB
Heating at 17º F | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 17º F | Outdoor: 17º F (-8º C) DB / 15º F (-9º C) WB

**** Maximum Capacity is at full speed and performance for INVERTER-driven System.**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
Recommended Fuse/Breaker Size . . . . . 15 A

**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V

**OPERATING CONDITIONS**

| | | Indoor Intake Air Temp. | Outdoor Intake Air Temp. |
|---|---|---|---|
| Cooling | Maximum | 95°F (35° C) DB<br>71° F (22° C) WB | 115°F (46°C) DB |
| | Minimum | 67° F (19° C) DB<br>57° F (14° C) WB | 14°F (-10°C) DB |
| Heating | Maximum | 80° F (27° C) DB<br>67° F (19° C) WB | 75°F (24°C) DB<br>65°F (18°C) WB |
| | Minimum | 70° F (21° C) DB<br>60° F (16° C) WB | -4°F (-20°C) DB<br>-5°F (-21°C) WB |

**Indoor Unit**
MCA . . . . . [illegible]
Fan Motor Output . . . . . 20 W
Fan Motor (ECM) . . . . . 0.28 F.L.A.
Airflow (Lo - Med - Hi) . . . . . 280 - 320 - 390 Dry CFM
250 - 290 - 350 Wet CFM
Air Filter . . . . . Polypropylene Honeycomb
Sound Pressure Level (Lo - Med - Hi) . . . . . 31 - 35 - 40 dB(A)

| DIMENSIONS | UNIT INCHES / MM | GRILLE INCHES / MM |
|---|---|---|
| W | 22-7/16 / 570 | 25-5/8 / 650 |
| D | 22-7/16 / 570 | 25-5/8 / 650 |
| H | 9-1/4 / 235 | 13/16 / 20 |

Weight (Unit/Grille)
Lbs. . . . . 36 / 7
kg . . . . . 16.5 / 3
External Finish (Unit/Grille) . . . . . Galvanized-steel Sheets / Munsell 6.4Y 8.9 / 0.4
Field Drainpipe Size O.D. . . . . 1-1/4" / 32 mm

**Outdoor Unit**
Compressor . . . . . DC Inverter-driven Twin Rotary
MCA . . . . . 12 A
MOCP . . . . . 15 A
Fan Motor (ECM) . . . . . 0.50 F.L.A.
Sound Pressure Level
Cooling . . . . . 49 dB(A)
Heating . . . . . 51 dB(A)

| DIMENSIONS | INCHES / MM |
|---|---|
| W | 31-1/2 / 800 |
| D | 11-1/4 / 285 |
| H | 21-5/8 / 550 |

Weight . . . . . 80 lbs. / 36 kg
External Finish . . . . . Munsell No. 3Y 7.8 / 1.1
Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 1/2" / 12.7 mm
Liquid Side . . . . . 1/4" / 6.35 mm
Max. Refrigerant Pipe Length . . . . . 65' / 19.8 m
Max. Refrigerant Pipe Height Difference . . . . . 40' / 12.2 m
Connection Method . . . . . Flared

Notes:

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MITSUBISHI ELECTRIC
COOLING & HEATING

# M-SER

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## SUBMITTAL DATA: SLZ-KA15NA

**15,000 BTU/H CEILING-CASSETTE INDOOR UNIT FOR MXZ MULTI-ZONE HEAT-PUMP SYSTEMS**

Job Name: 89 Anderson Street

System Reference: Commercial 2 | Date: 9-30-15

SLZ-KA15NA

### GENERAL FEATURES

- Four-way 2'x2' ceiling-cassette indoor unit for ceiling recessed applications
- Built-in drain mechanism for condensate removal; lifts to 19-11/16"
- Wide air-flow pattern for better air distribution
- Design features ventilation air intake knockout
- Long-life air filter included with indoor unit
- Indoor unit powered from outdoor unit using A-Control
- Choice of fan speed: Low, Medium, High
- Automatic restart following a power outage
- Limited warranty: five years parts and seven years compressors

### ACCESSORIES

**Indoor Unit**

- ☐ Grille (SLP-15AAUW; required - shipped with unit)

**Outdoor Unit**

- ☐ Drain Pan Heater (MAC-640BH-U)
- ☐ Drain Socket (MAC-860DS)
- ☐ Three-pole Disconnect Switch (TAZ-MS303)
- ☐ Air Outlet Guide (MAC-856SG)
- ☐ Mounting Base (DSD-400N)
- ☐ Mounting Pad (ULTRILITE1)

**Controller Options**

- ☐ Wireless Wall-mounted Remote Controller Kit (MHK1)*
- ☐ Portable Central Controller (MCCH1)*
- ☐ Outdoor Air Sensor (MOS1)*
- ☐ Wired Wall-mounted Controller (PAR-31MAA)*
- ☐ Simple MA Remote Controller (PAC-YT53CRAU)*

*See Submittal for information on each option.

- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Hand-held Wireless Remote Controller (PAR-FL32MA; req.PAR-FA32MA-E)
- ☐ Wireless Signal Receiver PAR-FA32MA (for PAR-FL32MA)
- ☐ Lockdown Bracket for Hand-held Controller (RCMKP1CB)

### SPECIFICATIONS

**Cooling Capacity*** . . . . . 15,000 Btu/h
**Heating Capacity at 47°F*** . . . . . 18,000 Btu/h

*** Rating Conditions per AHRI Standard**
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB
Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

**(For data on specific indoor units [all ducted, all non-ducted, and both ducted and non-ducted] combinations, see the MXZ Technical and Service Manual.)**

**Electrical Requirements**
Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
MCA . . . . . 1 A
**Voltage**
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC ±24V

Fan Motor (ECM) . . . . . 0.28 F.L.A.

Airflow (Lo - Med - Hi) . . . . . 280 - 320 - 390 Dry CFM
250 - 290 - 350 Wet CFM

Air Filter . . . . . Polypropylene Honeycomb

Sound Pressure Level (Lo - Med - Hi) . . . . . 31 - 35 - 40 dB(A)

| DIMENSIONS | UNIT INCHES / MM | GRILLE INCHES / MM |
|---|---|---|
| W | 22-7/16 / 570 | 25-5/8 / 650 |
| D | 22-7/16 / 570 | 25-5/8 / 650 |
| H | 9-1/4 / 235 | 13/16 / 20 |

Weight (Unit/Grille)
Lbs. . . . . 36 / 7
kg. . . . . 16.5 / 3
External Finish (Unit/Grille) . . . . . Galvanized-steel Sheets / Munsell 6.4Y 8.9 / 0.4
Field Drainpipe Size O.D. . . . . 1-1/4" / 32 mm

Refrigerant Type . . . . . R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 1/2" / 12.7 mm
Liquid Side. . . . . 1/4" / 6.35 mm
Connection Method . . . . . Flared

R410A INVERTER

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# DIMENSIONS: SLZ-KA15NA

Unit : inch (mm)

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

**Detail drawing of fresh air intake**

| Models | Refrigerent pipe (liquid) | Refrigerent pipe (gas) |
|---|---|---|
| SLZ-KA09NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA12NA | 1/4 inch (ϕ 6.35mm) flared connection | 3/8 inch (ϕ 9.52mm) flared connection |
| SLZ-KA15NA | 1/4 inch (ϕ 6.35mm) flared connection | 1/2 inch (ϕ 12.7mm) flared connection |

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Job Name: 89 Anderson Street

Schedule Reference: Corridors/Commercial 2 & 3/Lobby/Mail Room/Elevator Machine Room | Date: 9-30-15

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## SIMPLE MA REMOTE CONTROLLER (PAC-YT53CRAU) SPECIFICATIONS

- Controls group operation for up to 16 indoor units in a single group
- Supports both Fahrenheit and Celsius
- User defined functions:
  - ON/OFF
  - Operation mode: AUTO (R2-Series only), COOL, HEAT, FAN, DRYING, or SETBACK
  - Set temperature
  - Fan speed setting
  - Air flow direction
  - Set temperature range: 40˚F - 95˚F depending on operation mode and indoor unit connected.
- Set temperature range limit: Simple MA allowable set temperature range can be reduced for cool and heat modes.
- LOSSNAY: Simple MA for interlocked system can set high/low/Stop on LOSSNAY.
- Room temperature can be sensed either at the indoor unit (default) or at the remote controller.
- Diagnostics: Displays four-digit error code and error unit address.
- Grouping: Same group use only with other PAC-YT53CRAU Simple MA Controllers, PAR-21MAAU Deluxe MA Remote Controllers, and PAR-FL/A32MA Wireless MA Remote Controllers with up to two remote controllers per group.
- Addressing: No addressing required.
- Wiring: Uses two-wire, stranded, non-polar control wire for connecting TB15 connection terminal on the indoor unit. Requires crossover wiring for grouping across indoor units.
- Dimensions: 2-3/4 x 9/16 x 4-3/4" (70 x 14.5 x 120mm).

System example

Notes:

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# Model: PAC-YT53CRAU – DIMENSIONS

Reviewed for Code Compliance
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Approved with Conditions
Date: 11/03/16

Unit:mm[in.]

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# WIND BAFFLE
# WB-PA1 / WB-PA2 / WB-PA3

**Manufactured for MITSUBISHI ELECTRIC US, INC.**

**DESIGNED FOR P-SERIES AND PUMY OUTDOOR UNITS ONLY**

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

Job Name: 89 Anderson Street

Schedule Reference:

Date: 9-30-15

### GENERAL FEATURES

- Allows P-Series outdoor units to operate to 0º F DB cooling.
- Allows PUMY outdoor units to operate to 23º F DB cooling.
- Prevents wind from reversing outdoor fan rotation.
- Durable, low maintenance construction.

### PLEASE NOTE

- Install outdoor units with the back surface facing wall side to eliminate the effects of external wind.
- Outdoor units should not be installed in an orientation or site where the wind blows directly at the back of the unit.
- Wind baffle should not be used where there is any obstacle at either side or above the outdoor unit as the discharged air will be blocked.

### MODEL REQUIRED PER OUTDOOR UNIT

| UNIT MODEL | Type and Quantity | | |
|---|---|---|---|
| | WB-PA1 | WB-PA2 | WB-PA3 |
| PUY/Z-A12NHA4 | 1 | | |
| PUY/Z-A18NHA4 | 1 | | |
| PUY/Z-A24NHA4 | | 1 | |
| PUY/Z-A30NHA4 | | 1 | |
| PUY/Z-A36NHA4 | | 1 | |
| PUY/Z-A42NHA4 | | 2 | |
| PUY/Z-A42NHA5 | | 2 | |
| PUZ-HA30NHA4 | | 2 | |
| PUZ-HA36NHA4 | | 2 | |
| PUMY-P36NHMU | | 2 | |
| PUMY-P48NHMU | | 2 | |
| PUMY-P60NKMU | | | 2 |

WB-PA1

WB-PA2 / WB-PA3

### SPECIFICATIONS

| | | WB-PA1 |
|---|---|---|
| Exterior | Color | Ivory |
| | Surface Treatment | Polyester Powder Paint |
| | Material | Alloy hot-dip zinc coated carbon steel sheet |
| Weight | | 7 lb 7.9 oz |

| | | WB-PA2 |
|---|---|---|
| Exterior | Color | Ivory |
| | Surface Treatment | Acrylic resin coating |
| | Material | Alloy hot-dip zinc coated carbon steel sheet |
| Weight | | 8 lb 4.4 oz |

| | | WB-PA3 |
|---|---|---|
| Exterior | Color | Ivory |
| | Surface Treatment | Acrylic resin coating |
| | Material | Alloy hot-dip zinc coated carbon steel sheet |
| Weight | | 8 lb 8 oz |

Notes:

Specifications are subject to change without notice.

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# DIMENSIONS: WB-PA1

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

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MITSUBISHI ELECTRIC
COOLING & HEATING

M-SEI

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

# DRAIN PAN HEATERS

## LOW AMBIENT BASE PAN HEATERS

Job Name: 89 Anderson Street

System Reference:

Date: 9-30-15

### GENERAL FEATURES

- Prevents ice from building up on the outdoor unit base whenoperating in heating mode for an extended period of time in a very low temperature, high humidity condition
- Controlled by outdoor unit
- Works during defrost operation and energizes when outdoortemperature drops below 36º F
- Connects to CN722 on control board of MUZ-GE/FE/FH and SUZ models

### INSTALLATION NOTES

- For MUZ-A models, the power board needs to be replaced with board included with pan heater
- Use of drain pan heaters is recommended when ambient temperatures are expected to be below freezing for periods longer than 72 hours straight; or when continuous sub-zero outdoor ambient conditions are expected to last longer than 24 hours
- Outdoor unit must not be installed directly on the ground, but on a raised platform, such as on racks, to suppress freezing
- Recommended installation of a Ground Fault Interrupt (GFI) circuit breaker, depending on installation area to prevent electric shock
- See corresponding installation instructions, and outdoor unit technical service manual for further details on installation

### AVAILABLE MODELS

MAC-640BH-U

MAC-641BH-U

MAC-642BH-U

E12 A49 527

| Drain Pan Heater Kits | Outdoor Unit Models | Rated Voltage | Power Input |
|---|---|---|---|
| MAC-640BH-U | MUZ-GE09/12/15NA<br>MUZ-FE09/12NA<br>MUZ-FH09/12NA<br>SUZ-KA09/12/15NA | 208 / 230 V | 106 / 130 W |
| MAC-641BH-U | MUZ-GE18NA<br>SUZ-KA18NA | 208 / 230 V | 98 / 120 W |
| MAC-642BH-U | MUZ-GE24NA<br>MUZ-FE18NA<br>MUZ-FH15NA | 208 / 230 V | 98 / 120 W |
| E12 A49 527 | MUZ-A09/12/15/17NA | 208 / 230 V | 106 / 130 W |

MITSUBISHI ELECTRIC
COOLING & HEATING
1340 Satellite Boulevard
Suwanee, GA 30024
Toll Free: 800-433-4822
www.mehvac.com

FORM# DRAIN PAN HEATERS FOR M-SERIES - 201412
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# Joint Pipe Unit ϕ9.52 → Pipe ϕ12.7 MAC-A454JP-I

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## Photo

* photo model: PAC-493PI

## Descriptions

A part to connect refrigerant pipes of the different diameter.
(Unit ϕ9.52 → ϕ12.7)

## Applicable Models

- MXZ-3A54VA
- MXZ-5A100VA
- PAC-AK50BC
- MXZ-4A71VA
- MXZ-8A140VA
- MXZ-4A80VA
- PAC-AK30BC

## Specifications

| | |
|---|---|
| Pipe diameter | Φ9.52 |
| Pipe material | C 1220T - OL |

## Dimensions

Unit : mm (inch)

## How to Use / How to Install

**Make sure that you have all the following parts, in addition to this manual in this box:**

Joint Pipe
- PAC-SG76RJ-E (unit side: Φ9.52 diameter, onsite pipe side: Φ15.88 diameter)
- PAC-493PI (unit side: Φ6.32 diameter, onsite pipe side: Φ9.52 diameter)
- MAC-A454JP-E (unit side: Φ9.52 diameter, onsite pipe side: Φ12.7 diameter)
- MAC-A455JP-E (unit side: Φ12.7 diameter, onsite pipe side: Φ9.52 diameter)
- MAC-A456JP-E (unit side: Φ12.7 diameter, onsite pipe side: Φ15.88 diameter)

Unit side Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right. Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

| Pipe diameter (mm) | B size (mm) | |
|---|---|---|
| | R410A flare tool | R22/R407C flare tool |
| | Clutch type | |
| ϕ 6.35 (1/4") | 0~0.5 | 1.0~1.5 |
| ϕ 9.52 (3/8") | 0~0.5 | 1.0~1.5 |
| ϕ12.70 (1/2") | 0~0.5 | 1.0~1.5 |
| ϕ15.88 (5/8") | 0~0.5 | 1.0~1.5 |

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

| Outer diameter of copper pipe (mm) | Processing size of flare section (mm) | Flare shape |
|---|---|---|
| ϕ6.35 | 8.7~9.1 | |
| ϕ9.52 | 12.8~13.2 | |
| ϕ12.70 | 16.2~16.6 | |
| ϕ15.88 | 19.3~19.7 | |



2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point
Apply refrigerator oil to entire circumference of flare sheet surface.

※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

| Outer diameter of copper pipe (mm) | Tightening torque N•m (kgf•cm) |
|---|---|
| ϕ6.35 | 14~18 (140~180) |
| ϕ9.52 | 34~42 (340~420) |
| ϕ12.70 | 49~61 (490~610) |
| ϕ15.88 | 68~82 (680~820) |

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

OPTIONAL PARTS

# Joint Pipe Unit $\phi$12.7 → Pipe $\phi$9.52 MAC-A455JP-I

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

## Photo

* photo model: PAC-493PI

## Descriptions

A part to connect the refrigerant pipes of the different diameter.
(Unit $\phi$12.7 → $\phi$9.52)

## Applicable Models

- MXZ-4A71VA
- MXZ-4A80VA
- MXZ-5A100VA
- PAC-AK30BC
- PAC-AK50BC

## Specifications

| | |
|---|---|
| Pipe diameter | Φ 12.7 |
| Pipe material | C 1220T - OL |

## Dimensions

Unit : mm (inch)

## How to Use / How to Install

**Make sure that you have all the following parts, in addition to this manual in this box:**

Joint Pipe
- PAC-SG76RJ-E (unit side: Φ9.52 diameter, onsite pipe side: Φ15.88 diameter)
- PAC-493PI (unit side: Φ6.32 diameter, onsite pipe side: Φ9.52 diameter)
- MAC-A454JP-E (unit side: Φ9.52 diameter, onsite pipe side: Φ12.7 diameter)
- MAC-A455JP-E (unit side: Φ12.7 diameter, onsite pipe side: Φ9.52 diameter)
- MAC-A456JP-E (unit side: Φ12.7 diameter, onsite pipe side: Φ15.88 diameter)

Unit side Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right. Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

| Pipe diameter (mm) | B size (mm) | |
|---|---|---|
| | R410A flare tool | R22/R407C flare tool |
| | Clutch type | |
| φ 6.35 (1/4") | 0~0.5 | 1.0~1.5 |
| φ 9.52 (3/8") | 0~0.5 | 1.0~1.5 |
| φ12.70 (1/2") | 0~0.5 | 1.0~1.5 |
| φ15.88 (5/8") | 0~0.5 | 1.0~1.5 |

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

| Outer diameter of copper pipe (mm) | Processing size of flare section (mm) | Flare shape |
|---|---|---|
| φ6.35 | 8.7~9.1 | |
| φ9.52 | 12.8~13.2 | |
| φ12.70 | 16.2~16.6 | |
| φ15.88 | 19.3~19.7 | |



2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point
Apply refrigerator oil to entire circumference of flare sheet surface.

※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

| Outer diameter of copper pipe (mm) | Tightening torque N•m (kgf•cm) |
|---|---|
| φ6.35 | 14~18 (140~180) |
| φ9.52 | 34~42 (340~420) |
| φ12.70 | 49~61 (490~610) |
| φ15.88 | 68~82 (680~820) |

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

OPTIONAL PARTS

# MITSUBISHI ELECTRIC OPTIONAL PARTS
# 2–BRANCH PIPE(JOINT) (MSDD–50AR–E)

| Applicable |
|---|
| MXZ-8A/8B Series |

Intertek 33223

RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/03/16

※In case of 2 branch box connection for flare connection

## 1 The kit contains following

| ①Manual | ②Liquid pipe (small:ϕ9.52) | ③Gas pipe (large:ϕ15.88) | ④Heat-insulation cover(small) | ⑤Heat-insulation cover(large) |
|---|---|---|---|---|
| This one-sheet manual | X1 | X1 | X1 | X1 |

Note:Besides these, please the following locally:
(1)Tape for sealing the heat insulation covers.
(2)Extension pipes for the refrigerant system.

## 2 During installation, be careful about the following

1. Note the limit length of the refrigerant pipe refer to the installation manual of outdoor unit and branch box.
2. Note the limits for installing the indoor units refer to the installation manual of outdoor unit and branch box.
3. In connecting pipes, take care not to let any dirt or other foreign matter enter any pipe.
4. Put a heat insulator into every refrigerant pipe.

## 3 Outline of system and pipe size

Outdoor unit 2branches pipe(joint):optional part explained by this manual

| | A | B |
|---|---|---|
| Liquid(mm) | ϕ9.52 | Refer to installation manual of outdoor unit and branch box |
| Gas(mm) | ϕ15.88 | |

## 4 See the following for the specifications of liquid pipe②, and gas pipe③

## 5 Installing the refrigerrant piping

Ⓐ Flare cutting dimensions
Ⓑ Flare nut tighening torgue

Ⓐ

| Copper pipe O.D. (mm) | Flare dimensions ϕA dimensions (mm) |
|---|---|
| ϕ9.52 | 12.8-13.2 |
| ϕ15.88 | 19.3-19.7 |

Ⓑ

| Copper pipe O.D. (mm) | Flare nut O.D. (mm) | Tightening torque (N•m) |
|---|---|---|
| ϕ9.52 | 22 | 34-32 |
| ϕ15.88 | 29 | 68-82 |

- When bending the pipes, be careful not to break them. Bend radii of 100mm to 150mm are sufficient.
- Make sure the pipes do not contact the compressor. Abnormal noise or vibration may reuslt.

①Pipes must be connected starting from the indoor unit.
Flare unts must be tightened with a torgus wrench.
②Flare the liguid pipes and gas pipes and apply a thin layer of refringeration oil (Applied on site).
- When usual pipe seaaling is used, refer to Table 1 for flaring of R410A refrigerant pipes.
The size adjustment gauge can be used to confirm A measurements.

Table 1

| Copper pipe O.D. (mm) | A (mm) | |
|---|---|---|
| | Flare tool for R410A | Flare tool for R22-R407C |
| | Clutch type | |
| ϕ9.52(3/8″) | 0-0.5 | 1.0-1.5 |
| ϕ15.88(5/8″) | 0-0.5 | 1.0-1.5 |

## 6 Installation direction of joint

Horizontal direction

Vertical direction

## 7 Installing Heat Insulation Cover and Heat Insulators

- The liquid pipe (small:ϕ9.52) ②Make it fit the heat-insulation cover(small)④. Seal the mating of the heat-insulation cover ④with the tape for sealing heat insulators (to be locally procured).

- Do the same with the gas pipe (large:ϕ15.88) ③, using the heat-insulation cover⑤ (large), as with the liquid pipe (small).

Note 1 : Install a heat insulator on every part of the refrigerant pipes (to be locally procured).
If you want to use commercially-available heat insulators, use heat-resistant heat insulators (at least 15mm thick).

Note 2 : The pipe covers shrink a little under high heat.
Therefore, allow for some wrapping margin in the heat insulators.