MITSUBISHI ELECTRIC

COOLING & HEATING

ENERGY STAR

M-SERIES

Inspections Division
Date: 09/01/17

SUBMITTAL DATA: MXZ-4C36NAHZ

MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name: Deborah Cyr / Goggin Energy

System Reference: Date: 8-18-17

GENERAL FEATURES
- Quiet operation
- Built-in base pan heater to prevent ice in drain pan
- M-Net adaptor kits are available as an option*
- Limited warranty: five years parts and seven years compressors

*Included standard in PAC-MKA30/50BC Branch Box

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)
- ☐ M-NET Adapter (PAC-IF01MNT-E)
- ☐ 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 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	164 (50)
	If IDU is Below ODU		131 (40)
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.

Inspections Division
Date: 09/01/17

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	COP @ 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.

Notes:

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MXZ-4C36NAHZ SYSTEM DESIGN

Inspections Division
Date: 09/01/17

Outdoor unit			MXZ-4C36NAHZ
			4HP
	Rated capacity (kBTU/h)	Cooling	36
		Heating	45
	Refrigerant		R410A
Connectable indoor unit	**Capacity**		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 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 CHARACTERISTIC

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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 ratings of all the indoor units connected to the outdoor unit (see table below). For Standard Capacity Diagram, please refer to the MXZ-C 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 15.0*2	17.2*3 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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PAC-MKA30BC

Unit: mm <in>

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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Unit: mm <in>

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