

SUBMITTAL DATA: MXZ-5C42NAHZ
MULTI-INDOOR INVERTER HEAT PUMP SYSTEM

 Job Name: *Christopher Sweeney / Loggin Energy*

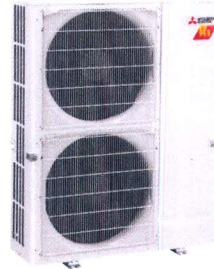
System Reference:

 Date: *3/31/17*
GENERAL FEATURES

- Quiet operation
 - Built-in base pan heater to prevent ice in drain pan
 - V-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 Braze 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-5C42NAHZ




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

Specifications		Unit Type		Model Name
				MXZ-5C42NAHZ
Cooling* (Non-ducted / Ducted)	Rated Capacity	Btu/h	42,000 / 42,000	
	Capacity Range	Btu/h	6,000 - 42,000	
	Rated Total Input	W	3,130 / 3,890	
Heating at 47°F* (Non-ducted / Ducted)	Rated Capacity	Btu/h	48,000 / 48,000	
	Capacity Range	Btu/h	7,200 - 48,000	
	Rated Total Input	W	3,430 / 4,350	
Heating at 17°F* (Non-ducted/Ducted)	Rated Capacity	Btu/h	35,800 / 36,600	
	Maximum Capacity		48,000 / 48,000	
	Rated Total Input	W	3,650 / 4,290	
Heating at 5°F*	Maximum Capacity	Btu/h	48,000	
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			50
	Heating			54
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)			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			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

SPECIFICATIONS : MXZ-5C42NAHZ, contd.

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	19.0	13.40	11.0	4.10	2.85
Ducted and Non-ducted	17.00	12.11	10.55	3.67	2.68
Ducted	15.0	10.80	10.1	3.23	2.50

Multi-zone Indoor/Outdoor Combination Table

	MSZ-FH*	MSZ-GE*	MFZ*	MVZ*	SEZ-KD*	SLZ*	PCA (A24)*	PLA*	PEAD*
MXZ-5C42NAHZ	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-5C42NAHZ.
- 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:

MXZ-5C42NAHZ SYSTEM DESIGN

Outdoor unit		MXZ-5C42NAHZ	
		4.5HP	
	Rated capacity (kBTU/h)	Cooling	42
		Heating	48
		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 5 units
Total system wide capacity		29 to 130% of outdoor unit capacity (12 to 54.6 kBTU/h)	
Connectable branch box	Number of units		1 or 2 units



Connectable indoor unit lineups (Heat pump inverter type)				Capacity class [kBTU/h]							
Model type		Model name		06	09	12	15	18	24	30	36
Wall mounted	Deluxe		MSZ-FE09/12/18NA		●	●		●			
	Standard		MSZ-FH09/12/15NA		●	●	●				
			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			●		●	●	●	●

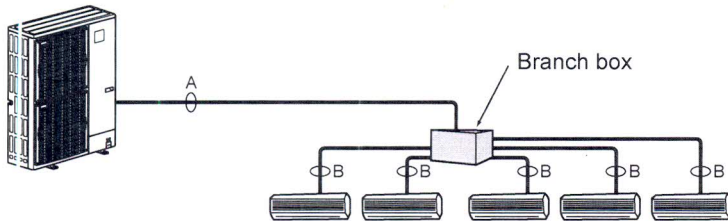


Branch box	PAC-MKA50BC	PAC-MKA30BC
Number of branches (Indoor unit that can be connected)	5 branches (MAX. 5 units)	3 branches (MAX. 3 units)

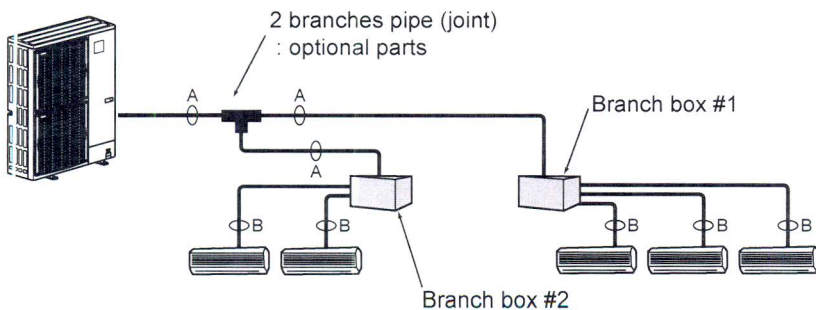
Note: A maximum of 2 branch boxes can be connected to 1 outdoor unit.

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	$\phi 9.52$ 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	$\phi 15.88$ mm (5/8 inch)	

MXZ-5C42NAHZ COOLING AND HEATING CAPACITY AND CHARACTERISTICS

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	—	—	—	—
WVZ		—	—	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) × $\frac{\text{model capacity}}{\text{total model capacity of all indoor units}}$

(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):

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

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

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):

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

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

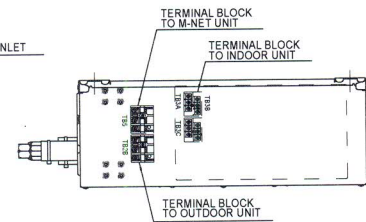
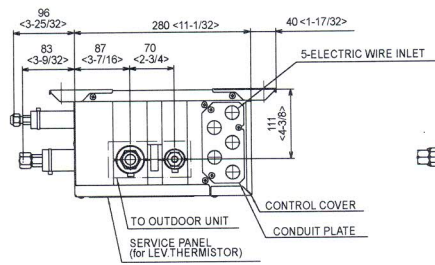
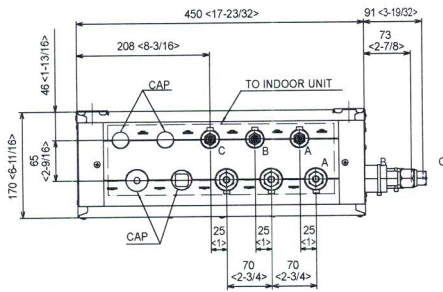
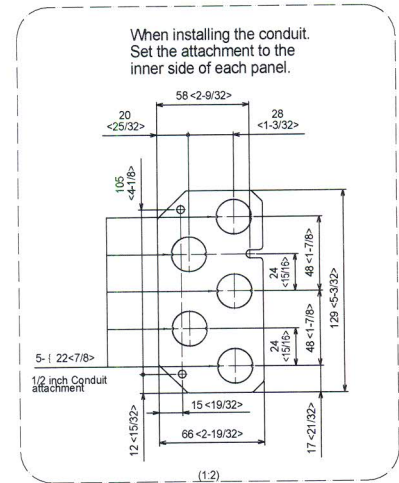
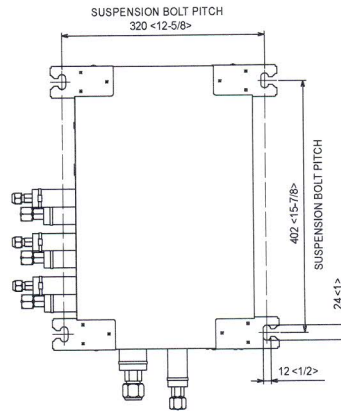
DIMENSIONS: PAC-MKA30BC AND PAC-MKA50BC BRANCH BOXES

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

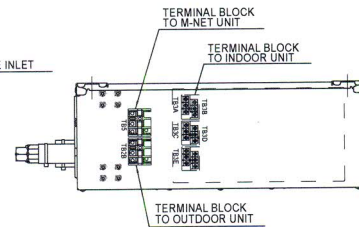
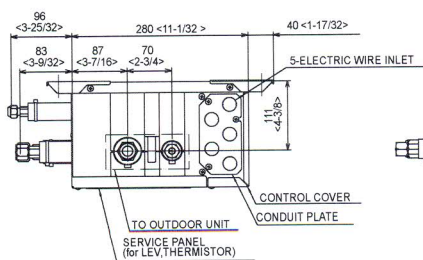
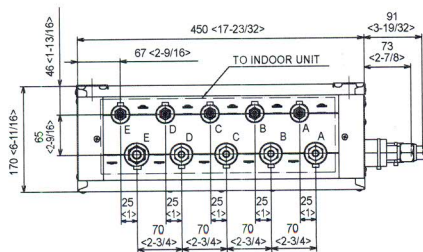
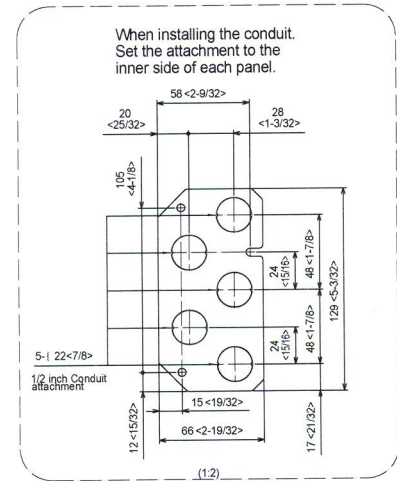
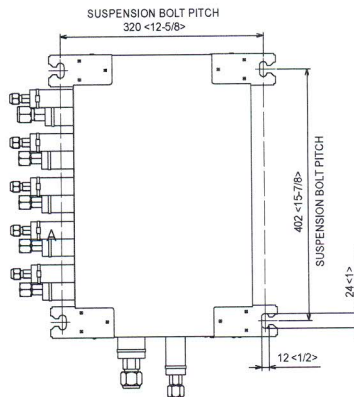


PAC-MKA50BC

Unit: mm <in>

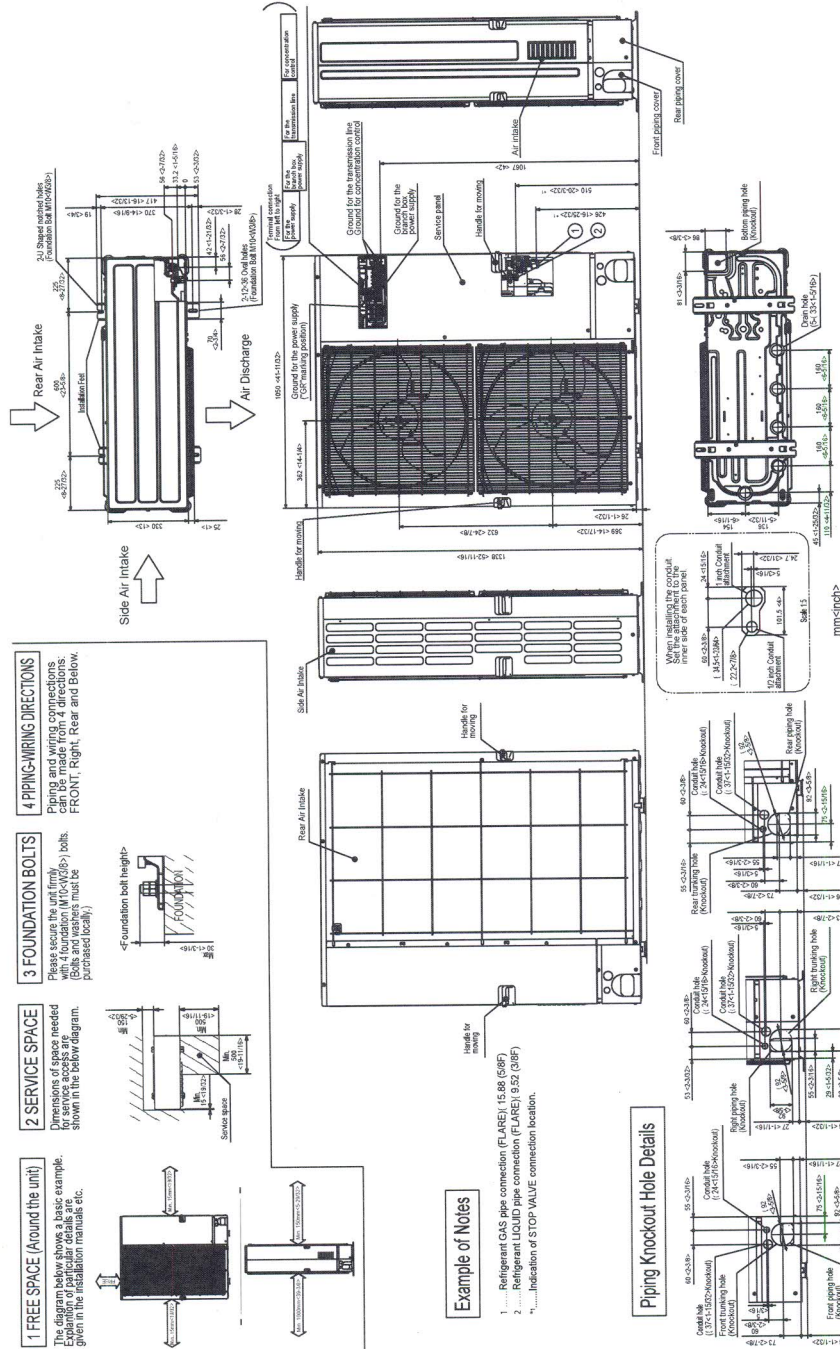
SUSPENSION BOLT : W3/8(M10)
REFRIGERANT PIPE FLARED CONNECTION

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



DIMENSIONS: MXZ-5C42NAHZ

Unit: mm <in>



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