

Project Information

For: Ben Thrush Residence

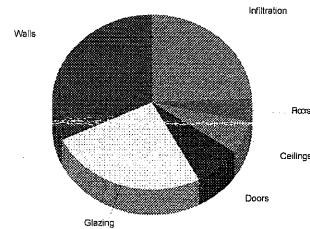
Design Conditions

Location: Morgantown Hart Field, WV, US Elevation: 1253 ft Latitude: 40°N	Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 75 30 30.7	Cooling 70 22 50 46.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -5 - - 15.0	Cooling 92 19 (M) 74 7.5	Infiltration: Method Construction quality Fireplaces
		Simplified Average 0	

Heating

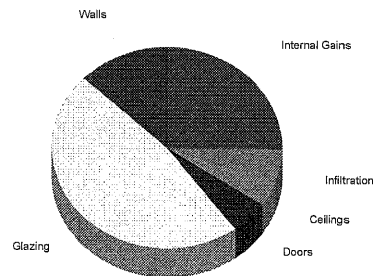
Component	Btuh/ft²	Btuh	% of load
Walls	4.4	12946	32.1
Glazing	42.8	10333	25.6
Doors	29.2	3071	7.6
Ceilings	2.2	2443	6.1
Floors	1.5	1685	4.2
Infiltration	3.7	9824	24.4
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		40301	100.0

may be missing



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.1	3341	12.9
Glazing	50.7	12256	47.2
Doors	13.2	1390	5.4
Ceilings	0.9	959	3.7
Floors	0	0	0
Infiltration	0.6	1483	5.7
Ducts		0	0
Ventilation		0	0
Internal gains		6540	25.2
Blower		0	0
Adjustments		0	0
Total		25969	100.0

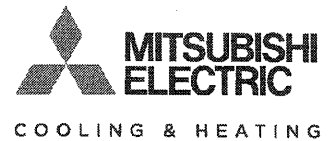
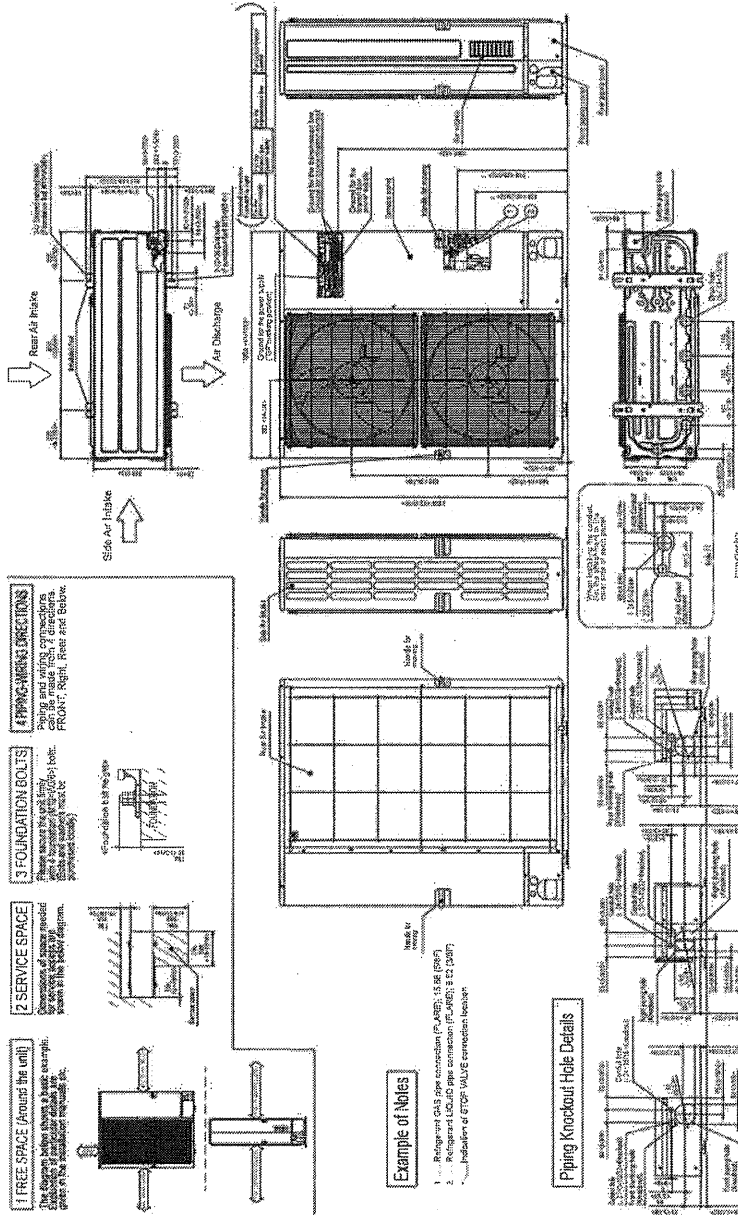


Latent Cooling Load = 3530 Btuh
Overall U-value = 0.074 Btuh/ft²·°F

Bold/italic values have been manually overridden

DIMENSIONS: MXZ-5C42NAHZ

Unit: mm <in>



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

FORM# MXZ-5C42NAHZ for Multiple Indoor Unit Styles - 201512

Specifications are subject to change without notice.



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MXZ-5C42NAHZ OPERATIONAL PERFORMANCE, contd.

Operational Performance for Indoor Unit Combinations (Unit A + Unit B + Unit C + Unit D + Unit E)	Cooling Capacity Range (Btu/h)					Power Usage Range (W)	Current (208/230V)
	Unit A	Unit B	Unit C	Unit D	Unit E		
6 + 12 + 36	4667	9333	28000	0	0	3402	15.1 / 16.7
	5333	10667	32000	0	0	4250	18.9 / 21
6 + 15 + 15	6000	15000	15000	0	0	3352	14.7 / 16.4
	7500	18750	18750	0	0	4499	19.8 / 22
6 + 15 + 18	6000	15000	18000	0	0	3702	16.2 / 18.1
	7154	17885	21462	0	0	4749	20.9 / 23.2
6 + 15 + 24	5600	14000	22400	0	0	3750	16.5 / 18.3
	6400	16000	25600	0	0	4685	20.7 / 25.5
6 + 15 + 30	4941	12353	24706	0	0	3427	15.2 / 16.8
	5647	14118	28235	0	0	4310	19.1 / 20
6 + 18 + 18	6000	18000	18000	0	0	4050	17.7 / 19.8
	6857	20571	20571	0	0	5000	22 / 24.3
6 + 18 + 24	5250	15750	21000	0	0	3452	15.2 / 16.9
	6000	18000	24000	0	0	4370	19.3 / 21.5
6 + 18 + 30	4667	14000	23333	0	0	3402	15.1 / 16.7
	5333	16000	26667	0	0	4250	18.9 / 21
6 + 24 + 24	4667	18667	18667	0	0	3402	15.1 / 16.7
	5333	21333	21333	0	0	4250	18.9 / 21
9 + 9 + 9	9000	9000	9000	0	0	2000	8.9 / 9.9
	10900	10900	10900	0	0	2925	13 / 14.5
9 + 9 + 12	9000	9000	12000	0	0	2450	10.8 / 12.1
	11040	11040	14720	0	0	3450	15.3 / 17
9 + 9 + 15	9000	9000	15000	0	0	2900	12.8 / 14.2
	11155	11155	18591	0	0	3975	17.6 / 19.5
9 + 9 + 18	9000	9000	18000	0	0	3352	14.7 / 16.4
	11250	11250	22500	0	0	4499	19.8 / 22
9 + 9 + 24	9000	9000	24000	0	0	4050	17.7 / 19.8
	10286	10286	27429	0	0	5000	22 / 24.3
9 + 9 + 30	7875	7875	26250	0	0	3452	15.2 / 16.9
	9000	9000	30000	0	0	4370	19.3 / 21.5
9 + 9 + 36	7000	7000	28000	0	0	3402	15.1 / 16.7
	8000	8000	32000	0	0	4250	18.9 / 21
9 + 12 + 12	9000	12000	12000	0	0	2900	12.8 / 14.2
	11155	14873	14873	0	0	3975	17.6 / 19.5
9 + 12 + 15	9000	12000	15000	0	0	3352	14.7 / 16.4
	11250	15000	18750	0	0	4499	19.8 / 22
9 + 12 + 18	9000	12000	18000	0	0	3702	16.2 / 18.1
	10731	14308	21462	0	0	4749	20.9 / 23.2
9 + 12 + 24	8400	11200	22400	0	0	3750	16.5 / 18.3
	9600	12800	25600	0	0	4685	20.7 / 25.5
9 + 12 + 30	7412	9882	24706	0	0	3427	15.2 / 16.8
	8471	11294	28235	0	0	4310	19.1 / 20
9 + 15 + 15	9000	15000	15000	0	0	3702	16.2 / 18.1
	10731	17885	17885	0	0	4749	20.9 / 23.2
9 + 15 + 18	9000	15000	18000	0	0	4050	17.7 / 19.8
	10286	17143	20571	0	0	5000	22 / 24.3
9 + 15 + 24	7875	13125	21000	0	0	3452	15.2 / 16.9
	9000	15000	24000	0	0	4370	19.3 / 21.5
9 + 15 + 30	7000	11667	23333	0	0	3402	15.1 / 16.7
	8000	13333	26667	0	0	4250	18.9 / 21
9 + 18 + 18	8400	16800	16800	0	0	3750	16.5 / 18.3
	9600	19200	19200	0	0	4685	20.7 / 25.5
9 + 18 + 24	7412	14824	19765	0	0	3427	15.2 / 16.8
	8471	16941	22588	0	0	4310	19.1 / 20
12 + 12 + 12	12000	12000	12000	0	0	3352	14.7 / 16.4
	15000	15000	15000	0	0	4499	19.8 / 22
12 + 12 + 15	12000	12000	15000	0	0	3702	16.2 / 18.1
	14308	14308	17885	0	0	4749	20.9 / 23.2
12 + 12 + 18	12000	12000	18000	0	0	4050	17.7 / 19.8
	13714	13714	20571	0	0	5000	22 / 24.3

DIMENSIONS: PAC-MKA30BC AND PAC-MKA50BC BRANCH BOXES

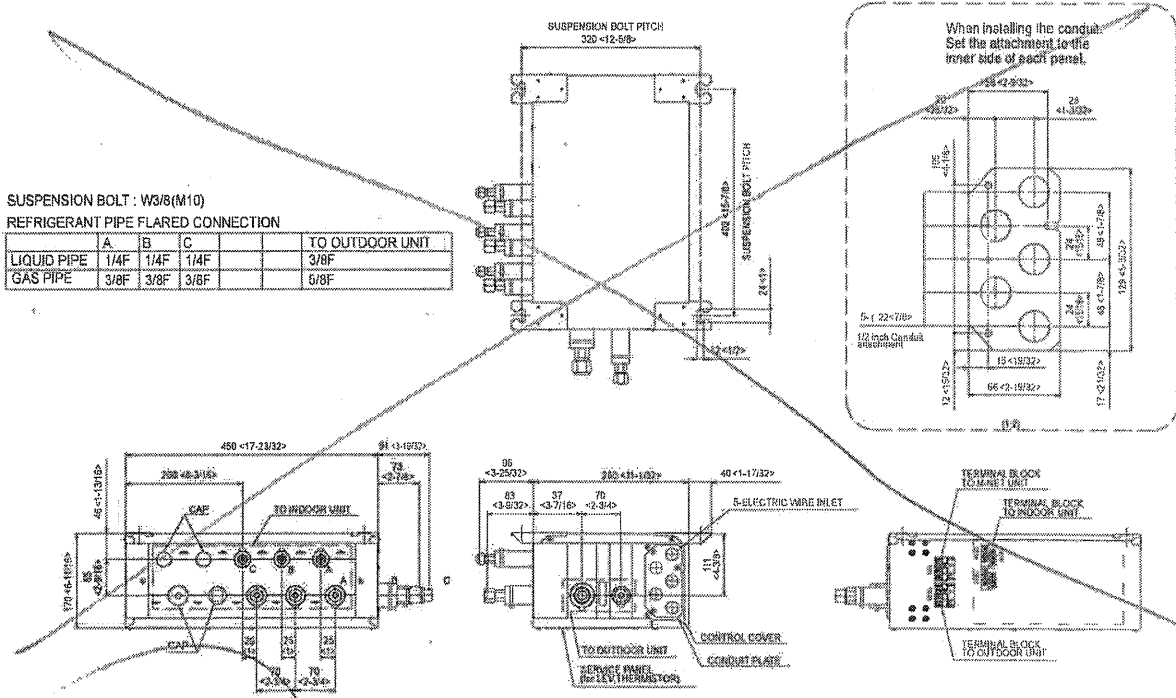
PAC-MKA30BC

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



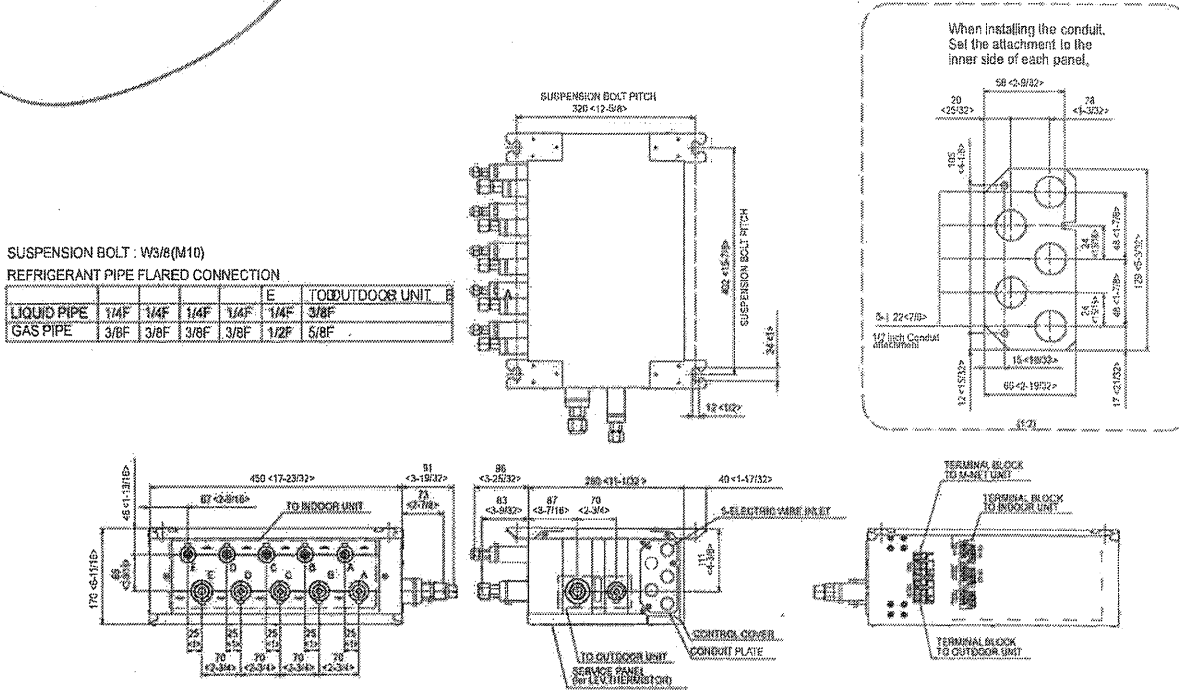
PAC-MKA50BC

Unit: mm <in>

SUSPENSION BOLT : W3/8(M10)

REFRIGERANT PIPE FLARED CONNECTION

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



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	—	—	—	—
IMVZ		—	—	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:
 $9.0 \times 2 + 15.0 \times 2 = 48.0$ 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:
 $10.9 \times 2 + 18.0 \times 2 = 57.8$ 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):

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

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

7.14

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)												
	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			●			●	●	●	●	

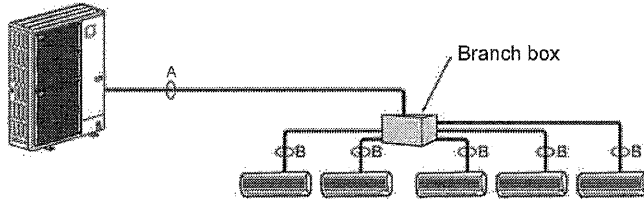


Branch box	PAC-MKA50BC	PAC-MKA30BC
Number of branches (indoor unit that can be connected)	5 branches (MAX. 5 units)	3 branches (MAX. 3 units)

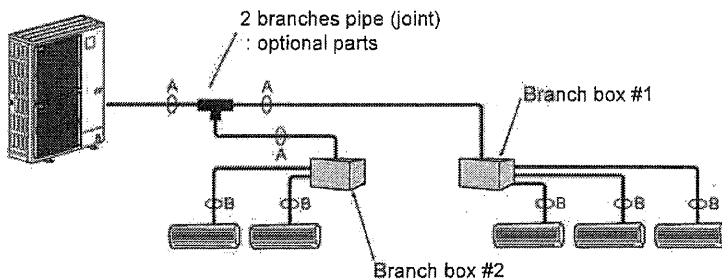
Note: A maximum of 2 branch boxes can be connected to 1 outdoor unit.

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)	

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* MSZ-GL*	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.

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:

M-SERIES

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



Job Name:

System Reference:

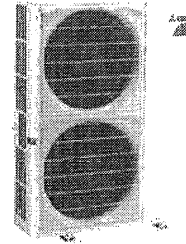
Date:

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)
- Airflow Guide (PAC-SH96SG-E)



Outdoor Unit: MXZ-5C42NAHZ

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

Specifications			Model Name
Unit Type			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
Energy Star® (ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.)			Yes
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)	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)	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