CITY OF SOMERVILLE, MASSACHUSETTS

MAYOR'S OFFICE OF STRATEGIC PLANNING & COMMUNITY DEVELOPMENT

JAKE WILSON
MAYOR

TOM GALLIGANI
EXECUTIVE DIRECTOR

PLANNING DIVISION
HISTORIC PRESERVATION

ALTERATION OF A LOCAL HISTORIC DISTRICT (LHD) PROPERTY
STAFF REPORT

Site: 76 Columbus Ave

Case: HP25-000052

Applicant: T&K Mechanical

Owner: Jesa Damora and John Bailes

Legal Ad: *The Applicant seeks a Certificate of Appropriateness to alter an LHD property by installing a new HVAC system*

HPC Meeting Date: January 20, 2026

Above: Right Elevation

Above: Rear Elevation

Above: Left Elevation

The purpose of a staff report is to provide the Historic Preservation Commission (HPC) with a professional assessment of alteration proposals made for Local Historic District (LHD) properties. These assessments are based on the Historic District Ordinance (HDO) in compliance with M.G.L. Chapter 40C, and the associated Design Guidelines. A Staff Report is not a determination/decision and does not represent findings. A staff report does not constitute authorization in any form.

I. PROJECT DESCRIPTION

Subject Property: The subject is the c.1882 Queen Anne, two-and-a-half story single-family house. The proposed HVAC replacement will be visible from the right and rear elevations.

A full description of the property is provided in the attached Form B survey held by the Massachusetts Historical Commission (MHC).

Proposal: The Applicant is proposing the installation of three HVAC systems with the following descriptions along the right elevation of the home:

- System 1 – Multi-Zone Heat Pump System (42,000 BTU).
- System 2 – Multi-Zone Heat Pump System (48,000 BTU)
- System 3 – Compact Multi-Zone Heat Pump System (24,000 BTU)

A narrative and product specifications are included at the end of the report.

Based off the narrative and images submitted by the applicant, it appears the systems were already installed and the HPC is being asked to grant retroactive approval. The systems will be placed at the right elevation towards the rear of the home. Though they do not obscure or replace any historic features of the home, it is visible from the public street at certain angles, so HPC review is required.

Above: Location where HVAC systems will be installed

Above: Close up of the installation site

II. FINDINGS

The HPC must make findings based on the Historic District Ordinance (HDO) in compliance with M.G.L. Chapter 40C, and associated Design Guidelines. Applicable regulations are discussed below.

The applicable Somerville LHD Design Guideline is ***B. "Roofs"***.

Preservation Planning Assessment:

The relevant portions of the Design Guidelines address the treatment of gutters and downspouts is Section II, B. Roofs, item 7:

Section II, B. Roofs, item 7 read as follows:

> *7. Utility equipment, such as television antennae, air conditioners, solar collectors and other mechanical units should be restricted to the rear of the property or on portions of the roof that are not visible from a public way. If no other placement is possible, air conditioning and other cooling units on street facades should be of the slim-line type or set flush with the surface of the building and painted the same color as the window trim.*

The mechanical HVAC systems will be installed at the right elevation, towards the rear of the house and blend in relatively well, so the appearance of the house should not drastically change. Although, the systems are technically visible from the public-right of way from certain angles, it will likely not alter the historic appearance of the home in a substantial way, and the placement is cohesive with the existing conditions.

If the HPC votes to approve the installation, recommended conditions appear below.

If the HPC votes to deny the installation, they may then vote to approve a different method of replacement with conditions added.

HPC Determination:

● The HPC must determine if, based on a review of the documentation presented, the proposed project complies with the Design Guidelines.

● The HPC must structure their motion to include their own specific findings on the proposed project.

III. FINDINGS & VOTE

When bringing the matter to a vote, the HPC must state their findings and reasons for why they take their position.

IV. RECOMMENDED CONDITIONS

IF the HPC approves the installation of two patios and a retaining wall for this property, Preservation Planning recommends the following conditions be attached to any Certificate of Appropriateness that the HPC might grant for this project:

1. The Applicant shall obtain all necessary permits for this project through the Inspectional Services Department (ISD). The Applicant must upload a copy of this Certificate to their BUILDING PERMIT application and obtain any necessary division/department sign-offs. This Certificate is for the above-described work only. Any changes to this proposal shall first be submitted to Preservation Planning at historic@somervillema.gov for review and approval PRIOR to implementation. Failure to do so will nullify this Certificate and delay final sign-offs/CO.
2. Work for which this Certificate is granted must commence within one year of issuance. If work does not commence within one year or pauses for a significant period of time such that the expiration date of the Certificate passes, the Applicant shall be required to apply for this Certificate to be re-issued. The Applicant shall contact Preservation Planning at

historic@somervillema.gov for instructions.

3. The Applicant shall contact Preservation Planning a minimum of 15 business days prior to arranging for a final inspection from ISD. Preservation Planners or their designee shall issue a sign-off upon completion of the project that it was executed in accordance with the Certificate of Appropriateness. Contact shall be made at the following email address ONLY: **historic @somervillema.gov**. The Applicant must provide before and after photos of the project area in the email as .JPG attachments. The attachments *cannot* be embedded in the body of a

Massachusetts Cultural Resource Information System
Scanned Record Cover Page

Inventory No:	SMV.253
Historic Name:	Sanborn, Robert - Sturtevant, Lindley House
Common Name:	
Address:	76 Columbus Ave
City/Town:	Somerville
Village/Neighborhood:	Prospect Hill;
Local No:	
Year Constructed:	C 1882
Architectural Style(s):	Queen Anne;
Use(s):	Single Family Dwelling House;
Significance:	Architecture;
Area(s):	SMV.AW
Designation(s):	Local Historic District (10/31/1989);
Building Materials:	Roof: Slate; Wall: Asphalt Shingle; Wood; Foundation: Slate;
Demolished	No

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

LHD - 10/31/89 (C)
Pl. Prospect
USGS Boston N
Sect B

FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
80 BOYLSTON STREET
B

AREA Prospect Hill **FORM NO.** 253

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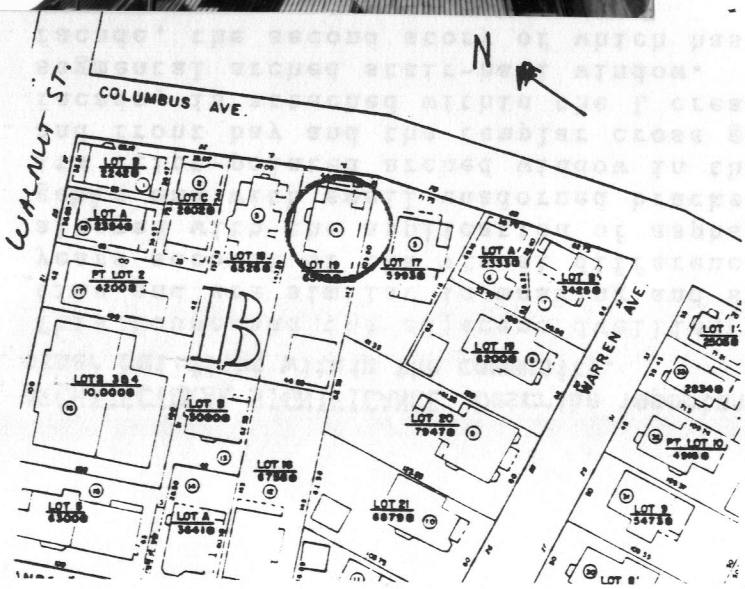


UTM REFERENCE _____

USGS QUADRANGLE _____

SCALE _____

Town SOMERVILLE

Address 76 Columbus Avenue

Historic Name Robert Sanborn (develope
Lindley Sturtevant -(owner/residen

Use: Present residential

Original residential

DESCRIPTION

Date 1882-1884

Source deeds / plans / directories

Style Queen Anne / vernacular

Architect _____

Exterior Wall Fabric asphalt shingles

Outbuildings carriage house with fine detail

Major Alterations (with dates) _____

Condition fair

Moved _____ **Date** _____

Acreage 6572 sq. ft.

Setting South side of Columbus Ave. late 19th century residential streetscape with Mansards and gable end Italianates and Queen Annes.

Recorded by Gretchen Schuler

Organization Somerville Historic Preservation Commission

Date April, 1988

SMV.253

NATIONAL REGISTER CRITERIA STATEMENT (if applicable)

ARCHITECTURAL SIGNIFICANCE Describe important architectural features and evaluate in terms of other buildings within the community.

This house and the adjacent dwelling at #78 Columbus were built at the same time and are similar in massing and style. Slight alterations of later years account of the visual differences. Although this house has been altered with the application of asphalt shingles, it retains its narrow gable end with small unadorned brackets at the cornice of the gable peak, its clipt-pointed arched window in the gable peak, the shed roof dormers and front bay and the templar cross gable. The side entrance, on the east facade, is attached within the L created by the cross gable and has a segmental arched stair-hall window. There is a two story porch on the west facade, the second story of which has been enclosed with lattice work.

HISTORICAL SIGNIFICANCE Explain the role owners played in local or state history and how the building relates to the development of the community.

Prospect Hill, one of the most substantial residential neighborhoods of Somerville, evolved throughout the late 19th century. Prior to that it was an agricultural community of farms. Columbus Avenue, once known as Warren Avenue, ran from Walnut to Bonner Street until the 1870s when it was continued through Bonner property to Washington Street. Its proximity to Union Square, a center for commercial and transportation activity made it a desirable place to live. Columbus Avenue was and is half way to the top of Prospect Hill and only a few blocks from Highland Avenue where the civic center of Somerville was by the mid to late 1800s.

Built on part of a larger parcel that extended to Bow Street and belonged to Robert Sanborn, this house and the adjacent property #78 Columbus Avenue were built as investments by Sanborn. The subdivision plan was done for Robert Sanborn in 1882 by City Engineer Charles Elliot. The late 19th century owners, Sturtevants also owned property opposite this on the north side of Columbus Avenue. This house was occupied by its owner Lindley Sturtevant who worked for the family business, Sturtevant Bros., in Union Square.

BIBLIOGRAPHY and/or REFERENCES

1. Atlas of Middlesex County, Somerville: 1874 ("Robert Sanborn", land only), 1884 ("R. Sanborn, Heirs"), 1895 ("Lindley J. Sturtevant").
2. City Directories, 1870s-1890s.
3. Registry of Deeds, Middlesex County: Book Page .

The homeowner, Matt Damora, an engineer, proposed and designed a high-efficiency, all-electric HVAC system for his residence with the objective of eliminating the use of fossil fuels. Our firm was engaged to install the system as designed. It was later determined that the property is a designated historic home, requiring that all work comply with preservation standards, including the requirement that no mechanical equipment be visible from public street view.

The installation approach was revised accordingly to ensure the system would have no adverse visual impact on the historic character of the structure. All work was completed using non-invasive methods where possible, with careful routing of refrigerant lines and concealment of exterior components.

Visibility and Preservation Measures

- All outdoor condensers were located in non-public, screened locations not visible from street view.
- Refrigerant line sets were routed through a customer-supplied interior chase, avoiding alterations to historic exterior materials.
- Slim-profile line hide covers, color-matched to the building exterior, were installed to minimize visual presence.
- No historic architectural elements were removed or permanently altered.
- All penetrations were limited, sealed, and designed to be reversible if the system is removed in the future.

Mechanical System Descriptions

System 1 – Multi-Zone Heat Pump System (42,000 BTU)

A single 42,000 BTU outdoor condenser serves six indoor zones using:

- (4) 9,000 BTU wall-mounted indoor units
- (1) 6,000 BTU wall-mounted indoor unit

Refrigerant distribution is managed through a 5-port branch box, concealed within non-historic interior space. All refrigerant lines were pressure-tested with nitrogen and triple evacuated to ensure long-term reliability. Slim duct covers were used to maintain a clean, unobtrusive exterior appearance. System start-up and commissioning were completed upon installation.

System 2 – Multi-Zone Heat Pump System (48,000 BTU)

One 48,000 BTU outdoor condenser provides heating and cooling to six interior zones:

- (1) 15,000 BTU unit – Third Floor Primary Bedroom
- (1) 12,000 BTU unit – Second Floor Living Area
- (2) 9,000 BTU units – Dining Room and Kitchen
- (2) 6,000 BTU units – Third Floor Bedroom and Library

A 3-port branch box was installed in concealed interior space. Refrigerant lines were routed discreetly, pressure-tested, triple evacuated, and charged in accordance with manufacturer specifications. Exterior line concealment was achieved using slim-profile covers to preserve the historic exterior.

System 3 – Compact Multi-Zone Heat Pump System (24,000 BTU)

This system serves three smaller zones using:

- (3) 6,000 BTU wall-mounted indoor units
- (1) 24,000 BTU outdoor condenser

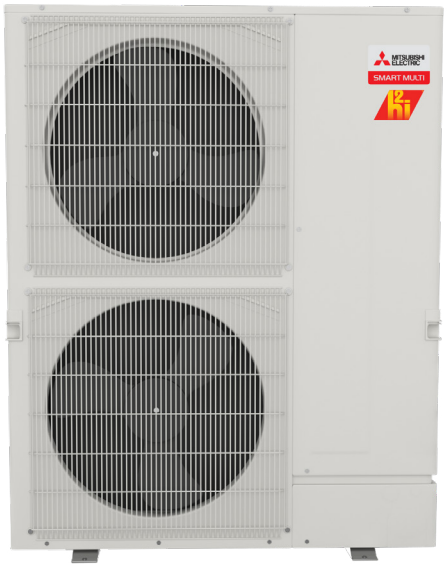
Installation included discreet refrigerant routing, nitrogen pressure testing, micron-level evacuation, and proper condensate management. Existing mechanical equipment was removed and disposed of responsibly. All exterior elements were concealed using slim-profile covers consistent with historic preservation requirements.

Conclusion

All HVAC systems were installed in a manner that preserves the historic character of the property, ensures no visibility from public rights-of-way, and minimizes permanent alterations to the structure. The completed installation provides modern, energy-efficient comfort while respecting and maintaining the architectural integrity of the historic home.

MXZ-SM42NAMHZ-U1
3.5-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM

Job Name:	
System Reference:	Date:



FEATURES

- Compatible with M- and P-Series and CITY MULTI indoor units. Branch box required for connection with M- and P-Series
- Variable speed INVERTER-driven compressor
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs in accordance with ASTM B117 testing)
- Thermal Differential 1°F (with PAC-MKA32/52BC only)
- Built-in base pan heater
- Quiet outdoor unit operation, rated sound pressure as low as 50 dB(A)
- High pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection
- Hyper-heating performance offers 100% heating capacity at 5°F and 75% heating capacity at -13°F

ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.

SPECIFICATIONS: MXZ-SM42NAMHZ-U1

Cooling[1] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	42,000 // 42,000 // 42,000
	Rated Capacity	BTU/H	42,000 // 42,000 // 42,000
	Minimum Capacity	BTU/H	15,500 // 15,500 // 15,500
	Maximum Power Input	W	3,135 // 3,440 // 3,820
	Rated Power Input	W	3,135 // 3,440 // 3,820
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 47°F[2] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	48,000 // 48,000 // 48,000
	Rated Capacity	BTU/H	48,000 // 48,000 // 48,000
	Minimum Capacity	BTU/H	24,000 // 24,000 // 24,000
	Maximum Power Input	W	3,430 // 3,750 // 4,140
	Rated Power Input	W	3,430 // 3,750 // 4,140
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 17°F[3] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	48,000 // 48,000 // 48,000
	Rated Capacity	BTU/H	32,000 // 32,000 // 32,000
	Maximum Power Input	W	6,110 // 6,900 // 3,135
	Rated Power Input	W	3,350 // 3,550 // 3,750
Heating at 5°F[4] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	48,000 // 48,000 // 48,000
	Maximum Power Input	W	7,030 // 7,215 // 7,405
Efficiency (Non-Ducted // Mix // Ducted)	SEER		22.0 // 20.0 // 18.0
	EER[1]		13.4 // 12.2 // 11.0
	HSPF (IV)		12.0 // 11.5 // 11.0
	COP at 47°F[2]		4.1 // 3.75 // 3.4
	COP at 17°F at Maximum Capacity[3]		2.3 // 2.0 // 1.9
	COP at 5°F at Maximum Capacity[4]		2.0 // 1.95 // 1.9
	ENERGY STAR® Certified		Yes // No // No
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187-253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating (SCCR)	kA	5
	Recommended Fuse/Breaker Size if Branch Box Powered by Outdoor Unit	A	45
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separate	A	40
	Recommended Wire Size (Indoor - Outdoor)	AWG	16
	MCA if Branch Box Powered by Outdoor Unit	A	42.0
	MCA without Branch Box or Branch Box Powered Separate	A	36
	MOCP if Branch Box Powered by Outdoor Unit	A	50
	MOCP without Branch Box or Branch Box Powered Separate	A	40
	Fan Motor Full Load Amperage	A	0.6+0.6
	Fan Motor Output	W	74
Outdoor unit	Airflow Rate (Cooling / Heating)	CFM	3,885 / 3,885
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Heat Exchanger Type		Plate fin coil
	Heat Exchanger Coating		Blue Fin Coating
	Sound Pressure Level,Cooling[1]	dB(A)	50
	Sound Pressure Level,Heating[2]	dB(A)	54
	Compressor Type		Hermetic
	Compressor Model		ANB33FJSMT
	Compressor Motor Output	kW	2.9
	Compressor Rated Load Amps	A	19
	Compressor Locked Rotor Amps	A	22.0
	Compressor Oil Type // Charge	oz.	FV50S // 73
	Base Pan Heater		Built-in
	Unit Dimensions	W: In. [mm]	41-11/32[1,050]
		D: In. [mm]	13[330]
		H: In. [mm]	52-11/16[1,338]
	Package Dimensions	W: In. [mm]	43 [1,090]
		D: In. [mm]	18 [450]
		H: In. [mm]	57 [1,430]
	Unit Weight	Lbs.[kg]	278 [126]
	Package Weight	Lbs.[kg]	302 [137]

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB

Conditions

[*]Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
[*A] when 1 or more PLA-A·EA7 connected
[*B] Branch box should be placed within the level between the outdoor unit and indoor units
[*C] 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

SPECIFICATIONS: MXZ-SM42NAMHZ-U1

Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum)	°FDB	115 / 23
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	N/A / N/A
	Heating Intake Air Temp (Maximum / Minimum)	°FWB	59 / -13
	Heating Thermal Lock-out / Re-start Temperatures	°FDB	-24 / -14
Refrigerant	Type		R410A
	Charge	Lbs, oz	10, 9.0
Indoor unit connection	Maximum Number of Connected IDU with Branch Box		5 (4)*A
	Maximum Number of Connected IDU without Branch Box		12
	Minimum Number of Connected IDU with Branch Box		2
	Minimum Number of Connected IDU without Branch Box		1
	Minimum Connected Capacity with Branch Box	BTU/H	12,000
	Maximum Connected Capacity	BTU/H	54,000
Piping	Liquid Pipe Size O.D. (Flared)	In.[mm]	3/8 [9.52]
	Gas Pipe Size O.D. (Flared)	In.[mm]	5/8 [15.88]
	Total Piping Length when using Branch Box	Ft. [m]	492 [150]
	Total Piping Length without Branch Box	Ft. [m]	984 [300]
	Maximum Height Difference*B, ODU above IDU	Ft. [m]	164 [50]
	Maximum Height Difference*B, ODU below IDU	Ft. [m]	131 [40]
	Maximum Height Difference*B, between branch boxes	Ft. [m]	49 [15]
	Maximum Height Difference*B, between branch boxes and IDU	Ft. [m]	49 [15]
	Maximum Height Difference between IDU and IDU without branch box	Ft. [m]	49 [15]
	Max. Piping Length between ODU and Branch Box	Ft. [m]	180 [55]
	Farthest Piping Length from ODU to IDU with Branch Box	Ft. [m]	262 [80]
	Farthest Piping Length from ODU to IDU without Branch Box	Ft. [m]	492 [150]
	Farthest Piping Length after Branch Box	Ft. [m]	82 [25]
	Total Piping Length between Branch Boxes and IDU	Ft. [m]	311 [95]
	Maximum Number of Bends for IDU		15

NOTES:

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

*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
*A when 1 or more PLA-A·EA7 connected
*B Branch box should be placed within the level between the outdoor unit and indoor units
*C 5°F DB - 115°F DB when optional wind baffles are installed

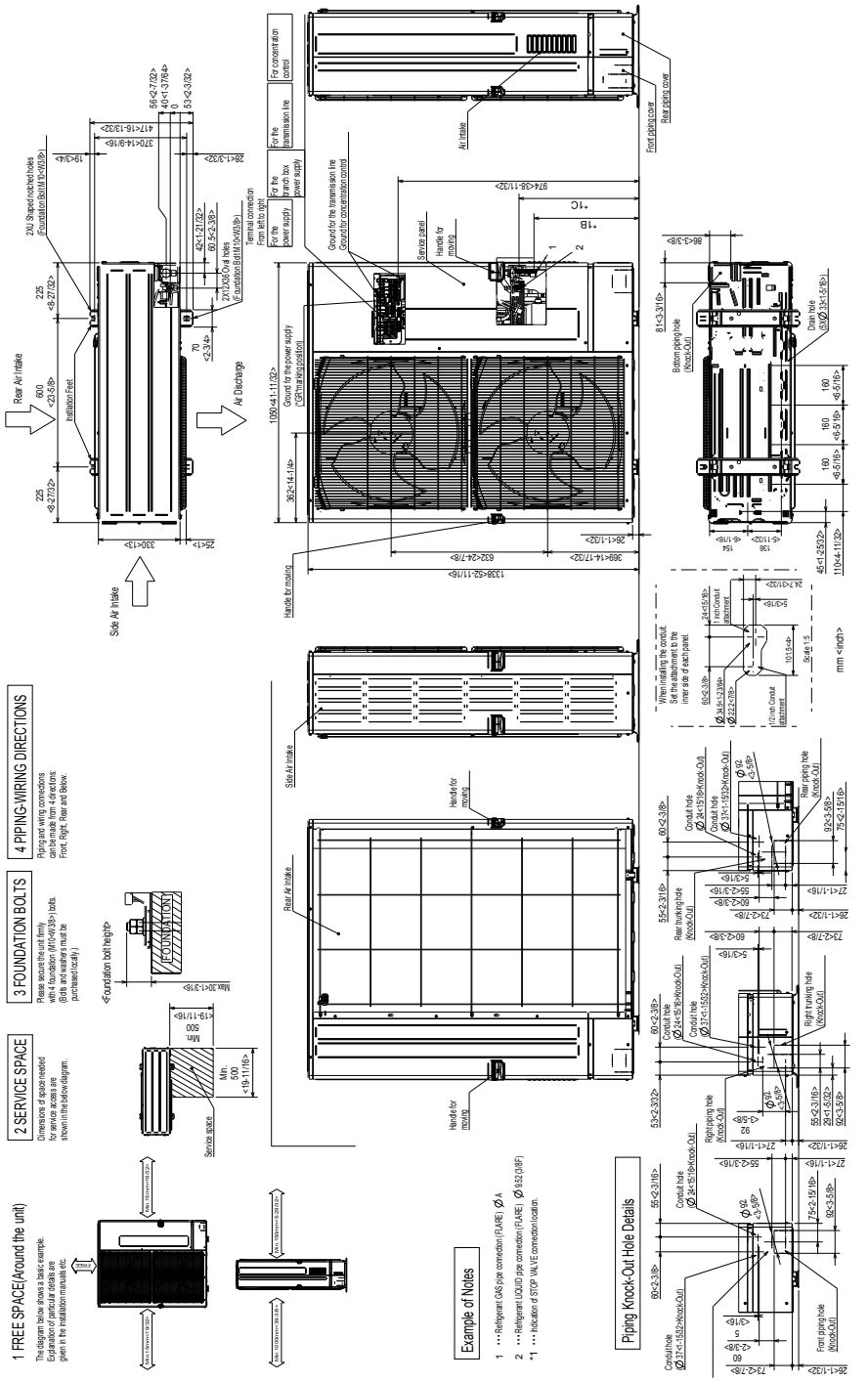
For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

OUTDOOR UNIT ACCESSORIES: MXZ-SM42NAMHZ-U1

Air Deflector	Vertical Air Deflector	☐ ADV-1
Air Outlet Guide	Air Outlet Guide (1 Piece)	☐ PAC-SH96SG-E (two pieces are required)
Ball Valve	Refrigeration Ball Valve - 1/2”	☐ BV12FFSI2
	Refrigeration Ball Valve - 1/4”	☐ BV14FFSI2
	Refrigeration Ball Valve - 3/8”	☐ BV38FFSI2
	Refrigeration Ball Valve - 5/8”	☐ BV58FFSI2
Branch Box	Branch Box	☐ PAC-MKA32BC
	Branch Box	☐ PAC-MKA52BC
	Branch Box Enclosure	☐ BBE-1
Centralized Drain Pan	Central Drain Pan	☐ PAC-SH97DP-E
Control Wire	M-Net Control Wire, 1,000’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐ CW162S-1000
	M-Net Control Wire, 250’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐ CW162S-250
Control/Service Tool	Maintenance Tool Interface	☐ PAC-USCMS-MN-1
Distribution pipe	Brazed Connection	☐ MSDD-50BR-E
	Flare Connection	☐ MSDD-50AR-E
Hail Guards	Hail Guard	☐ HG-A2
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐ S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐ S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐ S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐ S164-50
Mounting Pad	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	☐ DSD-400P
Port Adapter	Adaptor: 1/2” x 3/8”	☐ MAC-A455JP-E
	Adaptor: 1/2” x 5/8”	☐ MAC-A456JP-E
	Adaptor: 3/8” x 1/2”	☐ MAC-A454JP-E
	Adaptor: 3/8” x 5/8”	☐ PAC-SG76RJ-E
Stand	18” Dual Fan Stand	☐ QSMS1802M
	24” Dual Fan Stand	☐ QSMS2402M
	Condenser Wall Bracket	☐ QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	☐ QSWBSS
	Outdoor Unit Stand — 12” High	☐ QSMS1202M
Wind Baffle	Front Wind Baffle	☐ WB-PA3 (two pieces are required)

OUTDOOR UNIT DIMENSIONS: MXZ-SM42NAMHZ-U1

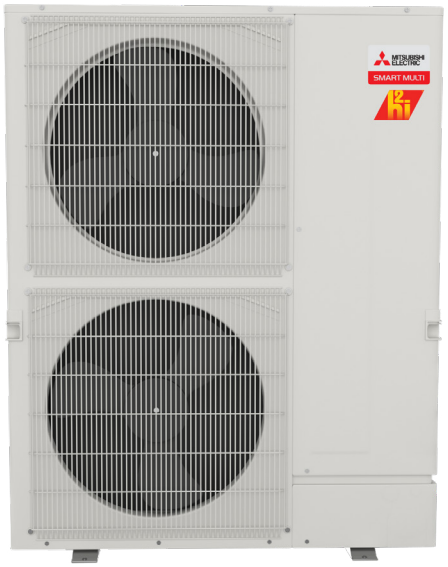
Unit: mm <inch>



MODEL NAME			
MXZ-SM36NAMHZ MXZ-SM42NAMHZ MXZ-SM48NAMHZ	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MXZ-SM60NAM	19.05 (3/4F)	393 <15-15/32>	450 <17-23/32>
MXZ-SM36NAM MXZ-SM48NAM	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MODEL NAME	DIMENSION A	DIMENSION B	DIMENSION C

MXZ-SM48NAMHZ-U1
4-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM

Job Name:	
System Reference:	Date:



FEATURES

- Compatible with M- and P-Series and CITY MULTI indoor units. Branch box required for connection with M- and P-Series
- Variable speed INVERTER-driven compressor
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs in accordance with ASTM B117 testing)
- Thermal Differential 1°F (with PAC-MKA32/52BC only)
- Built-in base pan heater
- Quiet outdoor unit operation, rated sound pressure as low as 51 dB(A)
- High pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection
- Hyper-heating performance offers 100% heating capacity at 5°F and 75% heating capacity at -13°F

ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.

SPECIFICATIONS: MXZ-SM48NAMHZ-U1

Cooling[1] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	48,000 // 48,000 // 48,000
	Rated Capacity	BTU/H	48,000 // 48,000 // 48,000
	Minimum Capacity	BTU/H	16,000 // 16,000 // 16,000
	Maximum Power Input	W	3,665 // 3,930 // 4,245
	Rated Power Input	W	3,665 // 3,930 // 4,245
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 47°F[2] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	54,000 // 54,000 // 54,000
	Rated Capacity	BTU/H	54,000 // 54,000 // 54,000
	Minimum Capacity	BTU/H	27,000 // 27,000 // 27,000
	Maximum Power Input	W	3,955 // 4,335 // 4,795
	Rated Power Input	W	3,955 // 4,335 // 4,795
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 17°F[3] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	54,000 // 54,000 // 54,000
	Rated Capacity	BTU/H	39,000 // 39,000 // 39,000
	Maximum Power Input	W	6,330 // 7,750 // 3,665
	Rated Power Input	W	4,230 // 4,680 // 5,130
Heating at 5°F[4] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	54,000 // 54,000 // 54,000
	Maximum Power Input	W	7,915 // 8,120 // 8,330
Efficiency (Non-Ducted // Mix // Ducted)	SEER		23.0 // 19.75 // 16.5
	EER[1]		13.1 // 12.2 // 11.3
	HSPF (IV)		12.0 // 11.5 // 11.0
	COP at 47°F[2]		4.0 // 3.65 // 3.3
	COP at 17°F at Maximum Capacity[3]		2.5 // 2.0 // 1.8
	COP at 5°F at Maximum Capacity[4]		2.1 // 1.95 // 1.9
	ENERGY STAR® Certified		Yes // No // No
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187-253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating (SCCR)	kA	5
	Recommended Fuse/Breaker Size if Branch Box Powered by Outdoor Unit	A	45
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separate	A	40
	Recommended Wire Size (Indoor - Outdoor)	AWG	16
	MCA if Branch Box Powered by Outdoor Unit	A	42.0
	MCA without Branch Box or Branch Box Powered Separate	A	36
	MOCP if Branch Box Powered by Outdoor Unit	A	50
	MOCP without Branch Box or Branch Box Powered Separate	A	40
	Fan Motor Full Load Amperage	A	0.6+0.6
	Fan Motor Output	W	74
Outdoor unit	Airflow Rate (Cooling / Heating)	CFM	3,885 / 3,885
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Heat Exchanger Type		Plate fin coil
	Heat Exchanger Coating		Blue Fin Coating
	Sound Pressure Level,Cooling[1]	dB(A)	51
	Sound Pressure Level,Heating[2]	dB(A)	54
	Compressor Type		Hermetic
	Compressor Model		ANB33FJSMT
	Compressor Motor Output	kW	3.4
	Compressor Rated Load Amps	A	19
	Compressor Locked Rotor Amps	A	22.0
	Compressor Oil Type // Charge	oz.	FV50S // 73
	Base Pan Heater		Built-in
	Unit Dimensions	W: In. [mm]	41-11/32[1,050]
		D: In. [mm]	13[330]
		H: In. [mm]	52-11/16[1,338]
	Package Dimensions	W: In. [mm]	43 [1,090]
		D: In. [mm]	18 [450]
		H: In. [mm]	57 [1,430]
	Unit Weight	Lbs.[kg]	278 [126]
	Package Weight	Lbs.[kg]	302 [137]

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB

Conditions

[*]Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
[*A] when 1 or more PLA-A·EA7 connected
[*B] Branch box should be placed within the level between the outdoor unit and indoor units
[*C] 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

SPECIFICATIONS: MXZ-SM48NAMHZ-U1

Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum)	°FDB	115 / 23
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	N/A / N/A
	Heating Intake Air Temp (Maximum / Minimum)	°FWB	59 / -13
	Heating Thermal Lock-out / Re-start Temperatures	°FDB	-24 / -14
Refrigerant	Type		R410A
	Charge	Lbs, oz	10, 9.0
Indoor unit connection	Maximum Number of Connected IDU with Branch Box		8 (6)*A
	Maximum Number of Connected IDU without Branch Box		12
	Minimum Number of Connected IDU with Branch Box		2
	Minimum Number of Connected IDU without Branch Box		1
	Minimum Connected Capacity with Branch Box	BTU/H	12,000
	Maximum Connected Capacity	BTU/H	62,000
Piping	Liquid Pipe Size O.D. (Flared)	In.[mm]	3/8 [9.52]
	Gas Pipe Size O.D. (Flared)	In.[mm]	5/8 [15.88]
	Total Piping Length when using Branch Box	Ft. [m]	492 [150]
	Total Piping Length without Branch Box	Ft. [m]	984 [300]
	Maximum Height Difference*B, ODU above IDU	Ft. [m]	164 [50]
	Maximum Height Difference*B, ODU below IDU	Ft. [m]	131 [40]
	Maximum Height Difference*B, between branch boxes	Ft. [m]	49 [15]
	Maximum Height Difference*B, between branch boxes and IDU	Ft. [m]	49 [15]
	Maximum Height Difference between IDU and IDU without branch box	Ft. [m]	49 [15]
	Max. Piping Length between ODU and Branch Box	Ft. [m]	180 [55]
	Farthest Piping Length from ODU to IDU with Branch Box	Ft. [m]	262 [80]
	Farthest Piping Length from ODU to IDU without Branch Box	Ft. [m]	492 [150]
	Farthest Piping Length after Branch Box	Ft. [m]	82 [25]
	Total Piping Length between Branch Boxes and IDU	Ft. [m]	311 [95]
	Maximum Number of Bends for IDU		15

NOTES:

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

*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
*A when 1 or more PLA-A·EA7 connected
*B Branch box should be placed within the level between the outdoor unit and indoor units
*C 5°F DB - 115°F DB when optional wind baffles are installed

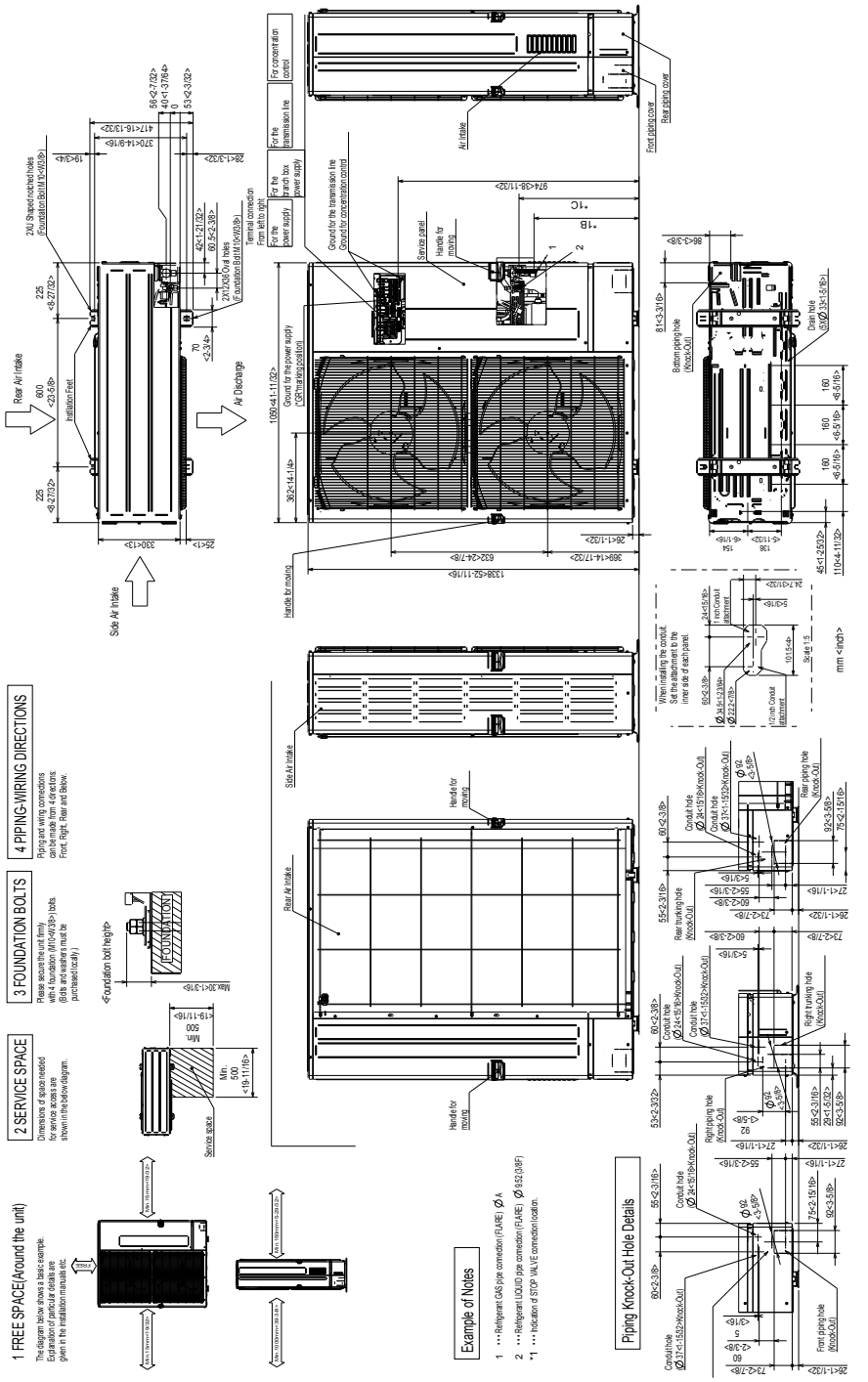
For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

OUTDOOR UNIT ACCESSORIES: MXZ-SM48NAMHZ-U1

Air Deflector	Vertical Air Deflector	☐	ADV-1
Air Outlet Guide	Air Outlet Guide (1 Piece)	☐	PAC-SH96SG-E (two pieces are required)
Ball Valve	Refrigeration Ball Valve - 1/2”	☐	BV12FFSI2
	Refrigeration Ball Valve - 1/4”	☐	BV14FFSI2
	Refrigeration Ball Valve - 3/8”	☐	BV38FFSI2
	Refrigeration Ball Valve - 5/8”	☐	BV58FFSI2
Branch Box	Branch Box	☐	PAC-MKA32BC
	Branch Box	☐	PAC-MKA52BC
	Branch Box Enclosure	☐	BBE-1
Centralized Drain Pan	Central Drain Pan	☐	PAC-SH97DP-E
Control Wire	M-Net Control Wire, 1,000’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐	CW162S-1000
	M-Net Control Wire, 250’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐	CW162S-250
Control/Service Tool	Maintenance Tool Interface	☐	PAC-USCMS-MN-1
Distribution pipe	Brazed Connection	☐	MSDD-50BR-E
	Flare Connection	☐	MSDD-50AR-E
Hail Guards	Hail Guard	☐	HG-A2
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐	S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐	S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐	S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐	S164-50
Mounting Pad	Condensing Unit Mounting Pad: 24” x 42” x 3”	☐	ULTRILITE2
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	☐	DSD-400P
Port Adapter	Adaptor: 1/2” x 3/8”	☐	MAC-A455JP-E
	Adaptor: 1/2” x 5/8”	☐	MAC-A456JP-E
	Adaptor: 3/8” x 1/2”	☐	MAC-A454JP-E
	Adaptor: 3/8” x 5/8”	☐	PAC-SG76RJ-E
Stand	18” Dual Fan Stand	☐	QSMS1802M
	24” Dual Fan Stand	☐	QSMS2402M
	Condenser Wall Bracket	☐	QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	☐	QSWBSS
	Outdoor Unit Stand — 12” High	☐	QSMS1202M
Wind Baffle	Front Wind Baffle	☐	WB-PA3 (two pieces are required)

OUTDOOR UNIT DIMENSIONS: MXZ-SM48NAMHZ-U1

Unit: mm
<inch>



MODEL NAME	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MXZ-SM36NAMHZ MXZ-SM42NAMHZ MXZ-SM48NAMHZ	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MXZ-SM60NAM	19.05 (3/4F)	393 <15-15/32>	450 <17-23/32>
MXZ-SM36NAM MXZ-SM48NAM	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
DIMENSION A	DIMENSION B	DIMENSION C	

MXZ-3C24NAHZ4
2-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM

Job Name:	
System Reference:	Date:

FEATURES

- Variable speed INVERTER-driven compressor
- Built-in base pan heater
- Quiet outdoor unit operation as low as 54 dB(A)
- High-pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection
- Hyper-heating performance offers 100% heating capacity at 5°F and 90% heating capacity at -13°F
- Blue Fin anti-corrosion treatment applied to the outdoor unit heat exchanger for increased coil protection and longer life
  - Rated for 2,000 hours spraying time per ASTM B117 Standard

ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.

SPECIFICATIONS: MXZ-3C24NAHZ4

Cooling[1] (Non-Ducted // Mix (Low-static) // Ducted (Low-static) | Mix (High-static) // Ducted (High-static))	Maximum Capacity	BTU/H	23,600 // 23,600 // 23,600 | 23,600 // 23,600
	Rated Capacity	BTU/H	22,000 // 22,800 // 23,600 | 22,800 // 23,600
	Minimum Capacity	BTU/H	12,600 // 12,600 // 12,600 | 14,300 // 16,000
	Maximum Power Input	W	3,770 // 3,770 // 3,770 | 3,770 // 3,770
	Rated Power Input	W	1,630 // 1,995 // 2,360 | 1,995 // 2,360
	Power Factor (208V, 230V)	%	99.0, 99.0 // 99.0, 99.0 // 99.0, 99.0 | 99.0, 99.0 // 99.0, 99.0
Heating at 47°F[2] (Non-Ducted // Mix (Low-static) // Ducted (Low-static) | Mix (High-static) // Ducted (High-static))	Maximum Capacity	BTU/H	30,600 // 30,600 // 30,600 | 30,600 // 30,600
	Rated Capacity	BTU/H	25,000 // 24,800 // 24,600 | 24,800 // 24,600
	Minimum Capacity	BTU/H	11,400 // 11,400 // 11,400 | 13,850 // 16,300
	Maximum Power Input	W	4,540 // 4,540 // 4,540 | 4,540 // 4,540
	Rated Power Input	W	1,725 // 1,798 // 1,871 | 1,838 // 1,950
	Power Factor (208V, 230V)	%	99.0, 99.0 // 99.0, 99.0 // 99.0, 99.0 | 99.0, 99.0 // 99.0, 99.0
Heating at 17°F[3] (Non-Ducted // Mix (Low-static) // Ducted (Low-static) | Mix (High-static) // Ducted (High-static))	Maximum Capacity	BTU/H	25,000 // 24,800 // 24,600| 24,800 // 24,600
	Rated Capacity	BTU/H	14,000 // 14,000 // 14,000 | 14,500 // 15,000
	Maximum Power Input	W	3,557 // 3,676 // 3,795 | 3,676 // 3,795
	Rated Power Input	W	1,622 // 1,629 // 1,635 | 1,789 // 1,955
Heating at 5°F[4] (Non-Ducted // Mix (Low-static) // Ducted (Low-static) | Mix (High-static) // Ducted (High-static))	Maximum Capacity	BTU/H	25,000 // 24,800 // 24,600 | 24,800 // 24,600
	Maximum Power Input	W	3,760 // 3,940 // 4,120 | 3,940 // 4,120
Efficiency (Non-Ducted // Mix (Low-static) // Ducted (Low-static) | Mix (High-static) // Ducted (High-static))	SEER2		19.0 // 17.25 // 15.5 | 16.7 // 14.4
	EER2[1]		13.5 // 11.75 // 10.0 | 11.75 // 10.0
	HSPF2 (IV)		10.0 // 9.25 // 8.5 | 8.95 // 7.9
	COP at 47°F[2]		4.24 // 4.04 // 3.8 | 3.97 // 3.7
	COP at 17°F at Maximum Capacity[3]		2.06 // 1.97 // 1.9 | 1.98 // 1.9
	COP at 5°F at Maximum Capacity[4]		1.95 // 1.82 // 1.75 | 1.85 // 1.75
	ENERGY STAR® Certified		Yes // Yes // No | Yes // No
Electrical	Electrical Power Requirements	Voltage, Phase, Frequency	208/230, 1, 60
	Guaranteed Voltage Range	V AC	187-253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating (SCCR)	kA	5
	Recommended Fuse/Breaker Size	A	40
	Recommended Wire Size (Indoor - Outdoor)	AWG	14
	Minimum Circuit Ampacity	A	31.5
	Maximum Overcurrent Protection	A	40
	Fan Motor Full Load Amperage	A	2.43
Outdoor unit	Airflow Rate (Cooling / Heating)	CFM	2,150 / 2,550
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Heat Exchanger Type		Plate Fin Coil
	Heat Exchanger Coating		Blue Fin Coating
	Sound Pressure Level, Cooling[1]	dB(A)	54
	Sound Pressure Level, Heating[2]	dB(A)	58
	Compressor Type		DC INVERTER-driven Twin Rotary
	Compressor Model		MNB33FBTMC
	Compressor Rated Load Amps	A	19.2
	Compressor Locked Rotor Amps	A	28.8
	Compressor Oil Type // Charge	oz.	FV50S // 37.2
	Base Pan Heater		Optional
	Unit Dimensions	W: In. [mm]	37-13/32 [950]
		D: In. [mm]	13 [330]
		H: In. [mm]	41-17/64 [1,048]
	Package Dimensions	W: In. [mm]	41-3/8 [1,050]
		D: In. [mm]	17-3/8 [440]
		H: In. [mm]	48-7/16 [1,230]
	Unit Weight	Lbs.[kg]	189 [86]
	Package Weight	Lbs.[kg]	218 [99]
Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum[*A])	°FDB	115 / 14
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	10.4 / 14
	Heating Intake Air Temp (Maximum / Minimum)	°FWB	65 / -13
	Heating Thermal Lock-out / Re-start Temperatures	°FDB	-18 / -14

NOTES:

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

Conditions [4]Heating at 5°F (Indoor // Outdoor) °F 70 DB, 60 WB // 5 DB, 4 WB

[*]Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
[*A] 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

Low, mid and high external static pressure tests conducted at 0.1, 0.3 and 0.5 in.w.g. respectively, according to AHRI 210/240. The external static pressures utilized have no bearing on the capabilities of the indoor unit; please refer to the indoor unit manual to select the correct external static pressure setting for the application.

SPECIFICATIONS: MXZ-3C24NAHZ4

Refrigerant	Type		R410A
	Pre-Charged Refrigerant Amount	Lbs, oz	8.0, 13.0
	Maximum Pre-Charged Piping Length	Ft. [m]	98.0 [30.0]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	0.216 [20]
Indoor unit connection	Maximum Number of Connected IDU		3
	Minimum Number of Connected IDU		2
	Minimum connected capacity	BTU/H	12,000
	Maximum connected capacity	BTU/H	27,000
Piping	Liquid Pipe Size O.D. (Flared)	In.[mm]	A,B,C: 1/4 [A,B,C: 6.35]
	Gas Pipe Size O.D. (Flared)	In.[mm]	A: 1/2; B,C: 3/8 [A: 12.72; B,C: 9.52]
	Total Piping Length	Ft. [m]	230 [70]
	Maximum Height Difference, ODU above IDU	Ft. [m]	49 [15]
	Maximum Height Difference, ODU below IDU	Ft. [m]	49 [15]
	Farthest Piping Length from ODU to IDU	Ft. [m]	82 [25]
	Maximum Number of Bends for IDU		70

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB	
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB	
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB	
Conditions [4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB	

*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
*A 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

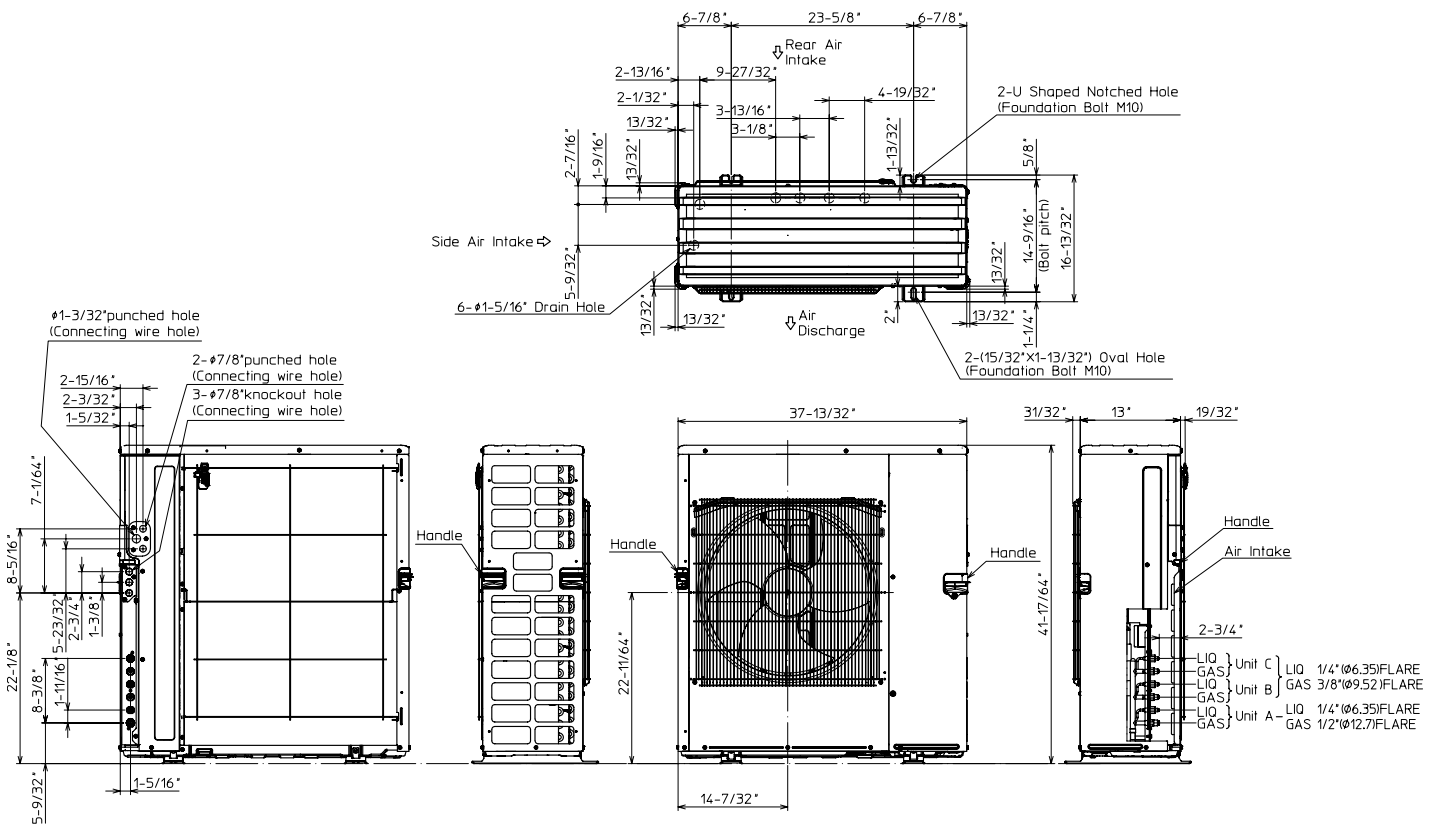
Low, mid and high external static pressure tests conducted at 0.1, 0.3 and 0.5 in.w.g. respectively, according to AHRI 210/240. The external static pressures utilized have no bearing on the capabilities of the indoor unit; please refer to the indoor unit manual to select the correct external static pressure setting for the application.

OUTDOOR UNIT ACCESSORIES: MXZ-3C24NAHZ4

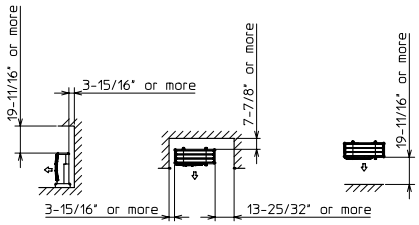
Air Outlet Guide	Air Outlet Guide (1 Piece)		PAC-SH96SG-E
Ball Valve	Refrigeration Ball Valve - 1/2”		BV12FFSI2
	Refrigeration Ball Valve - 1/4”		BV14FFSI2
	Refrigeration Ball Valve - 3/8”		BV38FFSI2
	Refrigeration Ball Valve - 5/8”		BV58FFSI2
Drain Socket	Drain Socket		PAC-SG60DS-E
Hail Guards	Hail Guard		HG-A1
M-NET Converter	M-NET Converter		PAC-IF01MNT-E
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll		S144-250
	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll		SW144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll		S144-50
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll		SW144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll		S164-250
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll		SW164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll		S164-50
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll		SW164-50
Mounting Pad	Condensing Unit Mounting Pad: 16” x 36” x 3”		ULTRILITE1
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic		DSD-400P
Port Adaptor	Adaptor: 1/2” x 3/8”		MAC-A455JP-E
	Adaptor: 1/2” x 5/8”		MAC-A456JP-E
	Adaptor: 3/8” x 1/2”		MAC-A454JP-E
	Adaptor: 3/8” x 5/8”		PAC-SG76RJ-E
Stand	18” Single Fan Stand		QSMS1801M
	24” Single Fan Stand		QSMS2401M
	Condenser Wall Bracket		QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish		QSWBSS
	Outdoor Unit Stand — 12” High		QSMS1201M

OUTDOOR UNIT DIMENSIONS: MXZ-3C24NAHZ4

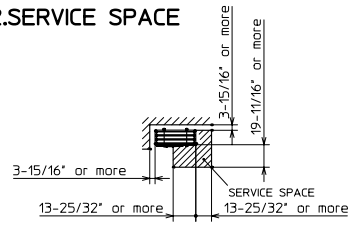
Unit: inch (mm)

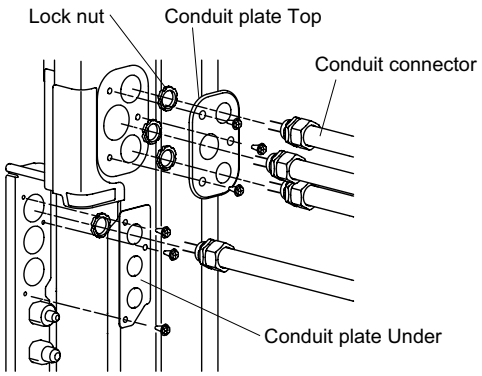


1.FREE SPACE



2.SERVICE SPACE





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

FORM# MXZ-3C24NAHZ4 - 202311

MSZ-FS09NA & MUZ-FS09NA
9,000 BTU/H DELUXE WALL-MOUNTED INDOOR UNIT
9,000 BTU/H HYPER-HEATING OUTDOOR UNIT

Job Name:

System Reference: Date:

Indoor Unit MSZ-FS09NA

Outdoor Unit MUZ-FS09NA

INDOOR UNIT FEATURES

- Slim wall-mounted indoor units provide zone comfort control
- Dual Barrier Coating applied to the heat exchanger, vanes and fan to prevent hydrophilic and hydrophobic dirt build-up
- Multiple fan speed options: Quiet, Low, Medium, High, Super-high, Auto
- 3D i-see Sensor® enables advance features:
  - Indirect or Direct Airflow for personalized comfort
  - Absence Detection for energy-saving mode
- Double Vane features:
  - Separates airflow to deliver air across a large area
  - Simultaneously deliver to air separate sections of a room
  - Generates more comfortable natural airflow pattern
- Multiple control options available:
  - Back-lit screen handheld remote controller (provided with unit)
  - kumo cloud® smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers
- Triple-action Filtration: Nano Platinum Filter, Deodorizing Filter, & Electrostatic Anti-Allergy Enzyme Filter
- Hot-Start Technology: no cold air rush at equipment startup or when restarting after Defrost Cycle
- Quiet operation

OUTDOOR UNIT FEATURES

- INVERTER-driven compressor and LEV provide high efficiency and comfort while using only the energy needed to maintain maximum performance
- H2i plus™ performance offers 100% heating capacity at -5° and 70% to 81% heating capacity at -13° F
- Blue Fin anti-corrosion treatment applied to the outdoor unit heat exchanger for increased coil protection and longer life

SPECIFICATIONS: MSZ-FS09NA & MUZ-FS09NA

Cooling at 95°F[1]	Maximum Capacity	BTU/H	12,000
	Rated Capacity	BTU/H	9,000
	Minimum Capacity	BTU/H	1,700
	Maximum Power Input	W	1,000
	Rated Power Input	W	560
	Moisture Removal	Pints/h	0.6
	Sensible Heat Factor		0.92
	Power Factor [208V / 230V]	%	89.0 / 90.0
Heating at 47°F[2]	Maximum Capacity	BTU/H	18,000
	Rated Capacity	BTU/H	9,600
	Minimum Capacity	BTU/H	1,600
	Maximum Power Input	W	1,740
	Rated Power Input	W	620
	Power Factor [208V / 230V]	%	92.0 / 92.0
Heating at 17°F[3]	Maximum Capacity	BTU/H	14,170
	Rated Capacity	BTU/H	5,900
	Maximum Power Input	W	1,580
	Rated Power Input	W	450
Heating at 5°F[4]	Maximum Capacity	BTU/H	11,590
	Maximum Power Input	W	1,410
Heating at -5°F[6]	Maximum Capacity	BTU/H	9,600
Heating at -13°F[7]	Maximum Capacity	BTU/H	8,000
Efficiency	SEER		30.5
	EER[1]		16.05
	HSPF [IV]		13.5
	COP at 47°F[2]		4.54
	COP at 17°F at Maximum Capacity[3]		2.63
	COP at 5°F at Maximum Capacity[4]		2.2
	COP at -5°F at Maximum Capacity[6]		2.2
	COP at -13°F at Maximum Capacity[7]		1.89
	ENERGY STAR® Certified		Yes
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
	Recommended Fuse/Breaker Size (Oudoor)	A	15
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
	Power Supply		Indoor unit is powered by the outdoor unit
Indoor Unit	MCA	A	1.0
	Fan Motor Full Load Amperage	A	0.65
	Fan Motor Type		DC Motor
	Airflow Rate at Cooling, Dry	CFM	137–167–221–304–381
	Airflow Rate at Cooling, Wet	CFM	117–143–190–261–328
	Airflow Rate at Heating, Dry	CFM	140–167–225–325–437
	Sound Pressure Level [Cooling]	dB[A]	20–23–29–36–40
	Sound Pressure Level [Heating]	dB[A]	20–24–29–39–42
	Drain Pipe Size	In. [mm]	5/8 [15.88]
	Coating on Heat Exchanger		Dual Barrier Coating
	External Finish Color		Munsell 1.0Y 9.2/0.2
	Unit Dimensions	W x D x H: In. [mm]	36-7/16 x 9-3/16 x 12 (+11/16) [925 x 234 x 305 (+17)]
	Package Dimensions	W x D x H: In. [mm]	39 x 12-1/4 x 15-1/2 [990 x 310 x 400]
	Unit Weight	Lbs. [kg]	29 [13.5]
	Package Weight	Lbs. [kg]	34 [15.4]
Indoor Unit Operating Temperature Range	Cooling Intake Air Temp [Maximum / Minimum]*	°F	90 DB, 73 WB / 67 DB, 57 WB
	Heating Intake Air Temp [Maximum / Minimum]	°F	80 DB / 70 DB

NOTES:

AHRI Rated Conditions
(Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB

Conditions

[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

SPECIFICATIONS: MSZ-FS09NA & MUZ-FS09NA

Outdoor Unit	MCA	A	10.0
	MOCP	A	15
	Fan Motor Full Load Amperage	A	0.5
	Fan Motor Output	W	55
	Airflow Rate [Cooling / Heating]	CFM	1141 / 1183
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Coating on Heat Exchanger		Blue Fin Coating
	Sound Pressure Level, Cooling[1]	dB(A)	48
	Sound Pressure Level, Heating[2]	dB(A)	49
	Compressor Type		Twin Rotary
	Compressor Model		SNB092FQAMT
	Compressor Rated Load Amps	A	9.2
	Compressor Locked Rotor Amps	A	7.4
	Compressor Oil [Type // Charge]	oz.	FV50S // 0.35
	External Finish Color		Munsell 3Y 7.8/1.1
	Base Pan Heater		Optional
	Unit Dimensions	W x D x H: In. [mm]	31-1/2 x 11-1/4 x 21-5/8 [800 x 285 x 550]
	Package Dimensions	W x D x H: In. [mm]	37 x 15 x 24-1/2 [940 x 380 x 630]
	Unit Weight	Lbs. [kg]	82 [37]
	Package Weight	Lbs. [kg]	89 [40]
Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	°F	115 DB / 14 DB
	Cooling Thermal Lock-out / Re-start Temperatures**	°F	-4 / 0
	Heating Air Temp [Maximum / Minimum]	°F	75 DB, 65 WB / -13 DB, -14 WB
	Heating Thermal Lock-out / Re-start Temperatures**	°F	-18 / -14
Refrigerant	Maximum Charge Quantity	Lbs, oz	2.0, 9.0
	Initial Charge Quantity	Ft. [m]	25.0 [7.5]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	0.216 [20]
Piping	Gas Pipe Size O.D. [Flared]	In.[mm]	3/8 [9.52]
	Liquid Pipe Size O.D. [Flared]	In.[mm]	1/4 [6.35]
	Maximum Piping Length	Ft. [m]	65 [20]
	Maximum Height Difference	Ft. [m]	40 [12]
	Maximum Number of Bends		10

NOTES:

AHRI Rated Conditions
(Rated data is determined at a fixed compressor speed)

	[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
	[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
	[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
Conditions	[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
	[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
	[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

INDOOR UNIT ACCESSORIES: MSZ-FS09NA

Control Interface	BACnet® and Modbus® Interface	☐ PAC-UKPRC001-CN-1
	CN24 Relay Kit	☐ CN24RELAY-KIT-CM3
	IT Extender	☐ PAC-WHS01IE-E
	kumo station® for kumo cloud®	☐ PAC-WHS01HC-E
	Lockdown bracket for remote controller	☐ RCMKP1CB
	System Control Interface	☐ MAC-334IF-E
	Thermostat Interface	☐ PAC-US444CN-1
	Thermostat Interface	☐ PAC-US445CN-1
	USNAP Adapter	☐ PAC-WHS01UP-E
	Wireless Interface for kumo cloud®	☐ PAC-USWHS002-WF-2
Remote Sensor	Wireless temperature and humitity sensor for kumo cloud®	☐ PAC-USWHS003-TH-1
Wired Remote Controller	Deluxe Wired MA Remote Controller†	☐ PAR-40MAAU
	Simple MA Remote Controller†	☐ PAC-YT53CRAU-J
	Touch MA Controller†	☐ PAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller	☐ MHK2
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	X87-721
	Blue Diamond (MicroBlue) Mini Condensate Pump (110/208/230V) up to 18,000 BTU/H	X86-003
	Blue Diamond Alarm Extension Cable — 6.5 Ft.	C13-192
	Blue Diamond MultiTank — collection tank for use with multiple pumps	C21-014
	Blue Diamond Sensor Extension Cable — 15 Ft.	C13-103
	Drain Pan Level Sensor/Control	SS610E
	Fascia Kit for MicroBlue Pump, mounts the MicroBlue and sensor directly beneath indoor unit	T18-016
	Refco Condensate Pump (100-240 VAC)	GOBI-II
	Refco Condensate Pump (100-240 VAC) up to 120,000 BTU/H	COMBI
	Sauermann Condensate Pump	SI30-230
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black	TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White	TAZ-MS303W
Drain Hose	Flexible Mini-Split Drain Hose	DRX-16
Filter	Electro Static Anti-allergy Enzyme Filter	MAC-2330FT-E
	Platinum Deodorizing Filter	MAC-3000FT-E
Lineset	15’ x 1/4” x 15’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-15
	30’ x 1/4” x 30’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-30
	50’ x 1/4” x 50’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-50
	65’ x 1/4” x 65’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-65

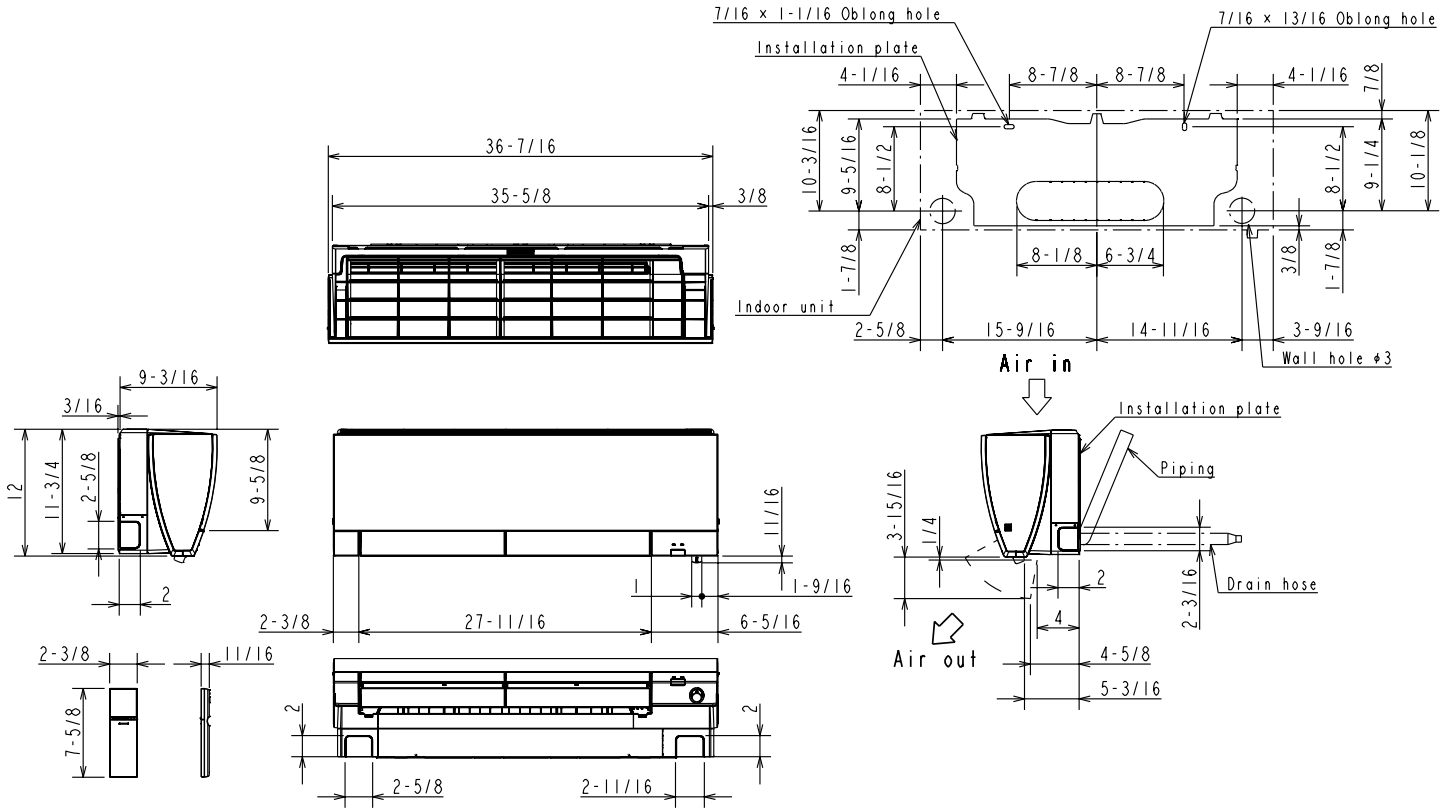
NOTES:
†Requires MAC-334IF-E
- M-Series EZ FIT® Recessed Ceiling Cassette, Floor-mount and Wall-mount
  Allows indoor units to connect to an MA Controller:
  Deluxe MA Remote Controller
  Simple MA Controller
  Touch MA Controller

OUTDOOR UNIT ACCESSORIES: MUZ-FS09NA

Air Outlet Guide	Air Outlet Guide	MAC-881SG
Control/Service Tool	M- & P-Series Maintenance Tool Cable Set	M21EC0397
	USB/UART Conversion Cable (Required for all laptop connection)	M21EC1397
Drain Socket	Drain Socket	MAC-871DS
Hail Guards	Hail Guard	HG-B4
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S164-50
Mounting Pad	Condensing Unit Mounting Pad: 16” x 36” x 3”	ULTRILITE1
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	DSD-400P
Optional Defrost Heater	Optional Defrost Heater	☐ MAC-640BH-U
Stand	18” Single Fan Stand	☐ QSMS1801M
	24” Single Fan Stand	☐ QSMS2401M
	Condenser Wall Bracket	☐ QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	☐ QSWBSS
	Outdoor Unit Stand — 12” High	☐ QSMS1201M

INDOOR UNIT DIMENSIONS: MSZ-FS09NA

Unit: inch



(06/09/12 KBTU/H)

Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ3/8)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

(15/18 KBTU/H)

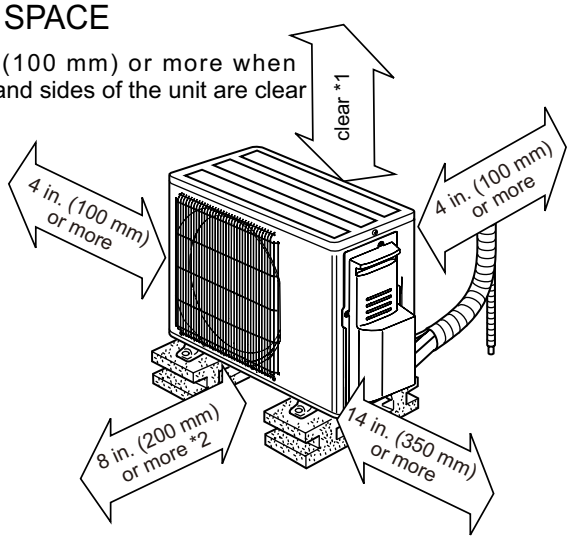
Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ1/2)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

OUTDOOR UNIT DIMENSIONS: MUZ-FS09NA

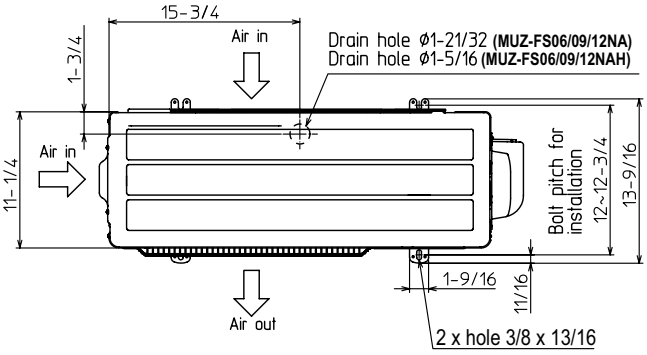
Unit: inch

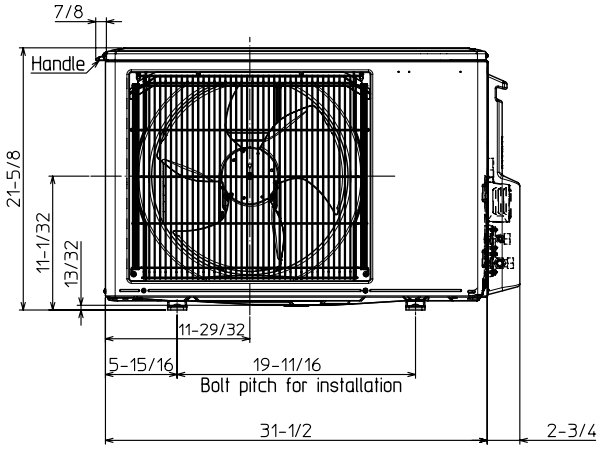
REQUIRED SPACE

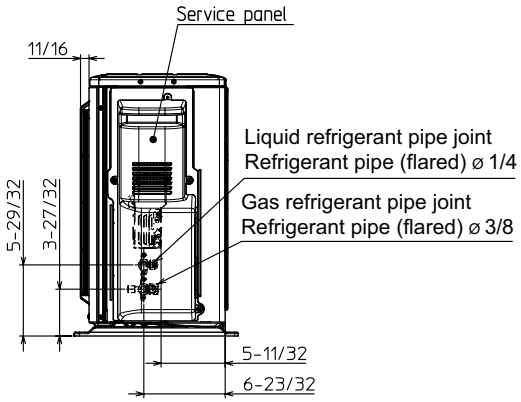
*1 4 in. (100 mm) or more when front and sides of the unit are clear



*2 When any 2 sides of left, right and rear of the unit are clear







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FORM# MSZ-FS09NA & MUZ-FS09NA - 202211

MSZ-FS06NA & MUZ-FS06NAH
6,000 BTU/H DELUXE WALL MOUNT
6,000 BTU/H HYPER-HEATING OUTDOOR UNIT W/BASE PAN HEATER

Job Name:

System Reference: Date:

Indoor Unit MSZ-FS06NA

Outdoor Unit MUZ-FS06NAH

INDOOR UNIT FEATURES

- Slim wall-mounted indoor units provide zone comfort control
- Dual Barrier Coating applied to the heat exchanger, vanes and fan to prevent hydrophilic and hydrophobic dirt build-up
- Multiple fan speed options: Quiet, Low, Medium, High, Super-high, Auto
- 3D i-see Sensor® enables advance features:
  - Indirect or Direct Airflow for personalized comfort
  - Absence Detection for energy-saving mode
  - Double Vane features:
  - Separates airflow to deliver air across a large area
  - Simultaneously deliver to air separate sections of a room
  - Generates more comfortable natural airflow pattern
- Multiple control options available:
  - Back-lit screen handheld remote controller (provided with unit)
  - kumo cloud® smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers
- Triple-action Filtration: Nano Platinum Filter, Deodorizing Filter, & Electrostatic Anti-Allergy Enzyme Filter
- Hot-Start Technology: no cold air rush at equipment startup or when restarting after Defrost Cycle
- Quiet operation

OUTDOOR UNIT FEATURES

- INVERTER-driven compressor and LEV provide high efficiency and comfort while using only the energy needed to maintain maximum performance
- H2i plus™ performance offers 100% heating capacity at -5° and 70% to 81% heating capacity at -13° F
- Blue Fin anti-corrosion treatment applied to the outdoor unit heat exchanger for increased coil protection and longer life
- Built-in base pan heater

SPECIFICATIONS: MSZ-FS06NA & MUZ-FS06NAH

Cooling at 95°F[1]	Maximum Capacity	BTU/H	9,000
	Rated Capacity	BTU/H	6,000
	Minimum Capacity	BTU/H	1,700
	Maximum Power Input	W	560
	Rated Power Input	W	315
	Moisture Removal	Pints/h	0.2
	Sensible Heat Factor		0.96
	Power Factor	%	79.0/80.0
Heating at 47°F[2]	Maximum Capacity	BTU/H	14,000
	Rated Capacity	BTU/H	8,700
	Minimum Capacity	BTU/H	1,600
	Maximum Power Input	W	1,270
	Rated Power Input	W	545
	Power Factor	%	90.0/91.0
Heating at 17°F[3]	Maximum Capacity	BTU/H	12,840
	Rated Capacity	BTU/H	5,900
	Maximum Power Input	W	1,530
	Rated Power Input	W	520
Heating at 5°F[4]	Maximum Capacity	BTU/H	10,500
	Maximum Power Input	W	1,380
Heating at -5°F[6]	Maximum Capacity	BTU/H	8,700
Heating at -13°F[7]	Maximum Capacity	BTU/H	7,250
Efficiency	SEER		33.1
	EER[1]		19.05
	HSPF [IV]		12.5
	COP at 47°F[2]		4.68
	COP at 17°F at Maximum Capacity[3]		2.46
	COP at 5°F at Maximum Capacity[4]		2.02
	COP at -5°F at Maximum Capacity[6]		2.02
	COP at -13°F at Maximum Capacity[7]		1.73
	ENERGY STAR® Certified		Yes
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
	Recommended Fuse/Breaker Size (Oudoor)	A	15
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
Indoor Unit	MCA	A	1.0
	Fan Motor Full Load Amperage	A	0.65
	Fan Motor Output	W	40
	Airflow Rate at Cooling, Dry	CFM	137–167–221–304–381
	Airflow Rate at Cooling, Wet	CFM	117–143–190–261–328
	Airflow Rate at Heating, Dry	CFM	140–167–225–325–437
	Sound Pressure Level [Cooling]	dB[A]	20–23–29–36–40
	Sound Pressure Level [Heating]	dB[A]	20–24–29–39–42
	Drain Pipe Size	In. [mm]	5/8 [15.88]
	Coating on Heat Exchanger		Dual Barrier Coating
	External Finish Color		Munsell 1.0Y 9.2/0.2
	Unit Dimensions	W x D x H: In. [mm]	36-7/16 x 9-3/16 x 12 (+11/16) [925 x 234 x 305 (+17)]
	Package Dimensions	W x D x H: In. [mm]	39 x 12-1/4 x 15-1/2 [990 x 310 x 400]
	Unit Weight	Lbs. [kg]	29 [13.5]
	Package Weight	Lbs. [kg]	34 [15.4]
Indoor Unit Operating Temperature Range	Cooling Intake Air Temp [Maximum / Minimum]*	°F	90 DB, 73 WB / 67 DB, 57 WB
	Heating Intake Air Temp [Maximum / Minimum]	°F	80 DB / 70 DB

NOTES:
AHRI Rated Conditions
(Rated data is determined at a fixed compressor speed)

Conditions

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
[5]Heating at -4°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -4 DB, -5 WB
[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

SPECIFICATIONS: MSZ-FS06NA & MUZ-FS06NAH

Outdoor Unit	MCA	A	10.0
	MOCP	A	15
	Fan Motor Full Load Amperage	A	0.5
	Fan Motor Output	W	55
	Airflow Rate	CFM	1141/1183
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Coating on Heat Exchanger		Blue Fin Coating
	Sound Pressure Level, Cooling[1]	dB(A)	47
	Sound Pressure Level, Heating[2]	dB(A)	49
	Compressor Type		Twin Rotary
	Compressor Model		SNB092FQAMT
	Compressor Rated Load Amps	A	9.2
	Compressor Locked Rotor Amps	A	7.4
	Compressor Oil Type // Charge	oz.	FV50S // 0.35
	External Finish Color		Munsell 3Y 7.8/1.1
	Base Pan Heater		Built-in
	Unit Dimensions	W x D x H: In. [mm]	31-1/2 x 11-1/4 x 21-5/8 [800 x 285 x 550]
	Package Dimensions	W x D x H: In. [mm]	37 x 15 x 24-1/2 [940 x 380 x 630]
	Unit Weight	Lbs. [kg]	83 [37.5]
	Package Weight	Lbs. [kg]	90 [40.5]
Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	°F	115 DB / 14 DB
	Cooling Thermal Lock-out / Re-start Temperatures**	°F	-4.0 / 0
	Heating Air Temp [Maximum / Minimum]	°F	75 DB, 65 WB / -13 DB, -14 WB
	Heating Thermal Lock-out / Re-start Temperatures**	°F	-18.0 / -14
Refrigerant	Type		R410A
	Charge	Lbs, oz	2, 9
	Chargeless Piping Length	Ft. [m]	25.0 [7.5]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	0.216 [20]
Piping	Gas Pipe Size O.D. [Flared]	In.[mm]	3/8 [9.52]
	Liquid Pipe Size O.D. [Flared]	In.[mm]	1/4 [6.35]
	Maximum Piping Length	Ft. [m]	65 [20]
	Maximum Height Difference	Ft. [m]	40 [12]
	Maximum Number of Bends		10

NOTES:

AHRI Rated Conditions
(Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB

Conditions

[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
[5]Heating at -4°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -4 DB, -5 WB
[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

INDOOR UNIT ACCESSORIES: MSZ-FS06NA

Control Interface	BACnet® and Modbus Interface	PAC-UKPRC001-CN-1
	CN24 Relay Kit	CN24RELAY-KIT-CM3
	IT Extender	PAC-WHS01IE-E
	kumo station® for kumo cloud®	PAC-WHS01HC-E
	Lockdown bracket for remote controller	RCMKP1CB
	System Control Interface	MAC-334IF-E
	Thermostat Interface	PAC-US444CN-1
	USNAP Adapter	PAC-WHS01UP-E
	Wireless Interface for kumo cloud®	PAC-USWHS002-WF-2
Remote Sensor	Wired Remote Sensor	M21EAA307
	Wireless temperature and humitity sensor for kumo cloud®	PAC-USWHS003-TH-1
Wired Remote Controller	Deluxe Wired MA Remote Controller†	PAR-40MAAU
	Simple MA Remote Controller†	PAC-YT53CRAU-J
	Touch MA Controller†	PAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller	MHK2
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	X87-721
	Blue Diamond (MicroBlue) Mini Condensate Pump (110/208/230V) up to 18,000 BTU/H	X85-003
	Blue Diamond Alarm Extension Cable — 6.5 Ft.	C13-192
	Blue Diamond MultiTank — collection tank for use with multiple pumps	C21-014
	Blue Diamond Sensor Extension Cable — 15 Ft.	C13-103
	Drain Pan Level Sensor/Control	SS610E
	Fascia Kit for MicroBlue Pump, mounts the MicroBlue and sensor directly beneath indoor unit	T18-016
	Sauermann Condensate Pump	SI30-230
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black	TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White	TAZ-MS303W
Filter	Electro Static Anti-allergy Enzyme Filter	MAC-2330FT-E
	Platinum Deodorizing Filter	MAC-3000FT-E
Lineset	15’ x 1/4” x 15’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-15
	30’ x 1/4” x 30’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-30
	50’ x 1/4” x 50’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-50
	65’ x 1/4” x 65’ / 3/8” Lineset (Twin-Tube Insulation)	MLS143812T-65

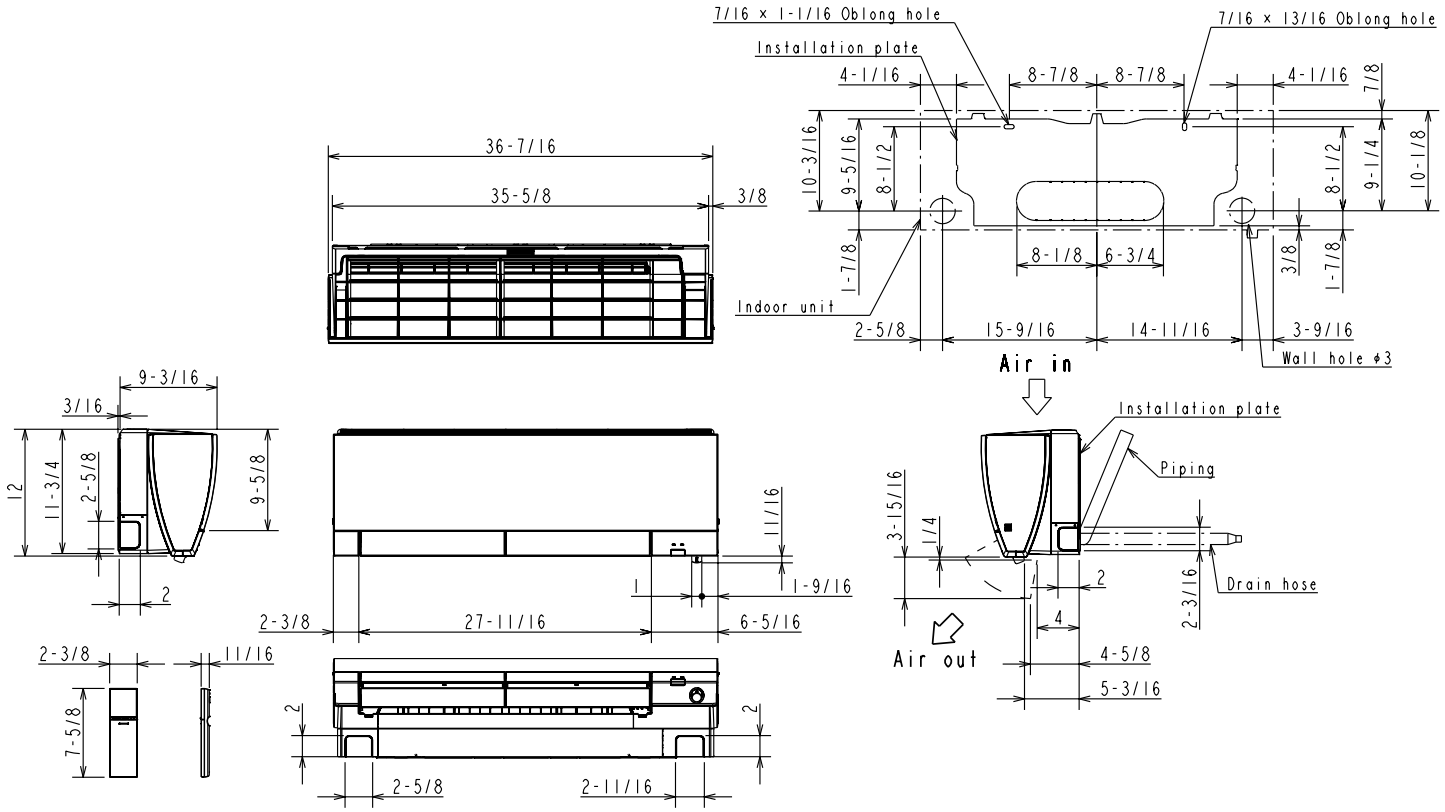
NOTES:
†Requires MAC-334IF-E
- Allows indoor units to connect to an MA Controller:
  Deluxe MA Remote Controller
  Simple MA Controller
  Touch MA Controller

OUTDOOR UNIT ACCESSORIES: MUZ-FS06NAH

Air Outlet Guide	Air Outlet Guide	MAC-881SG
Drain Socket	Drain Socket	MAC-811DS
Hail Guards	Hail Guard	HG-B4
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S164-50
Mounting Pad	Condensing Unit Mounting Pad: 16” x 36” x 3”	ULTRILITE1
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	DSD-400P
Stand	18” Single Fan Stand	QSMS1801M
	24” Single Fan Stand	QSMS2401M
	Condenser Wall Bracket	QSWB2000M-1
	Condenser Wall Bracket -Stainless Steel Finish	QSWBSS
	Outdoor Unit Stand — 12” High	QSMS1201M

INDOOR UNIT DIMENSIONS: MSZ-FS06NA

Unit: inch



(06/09/12 KBTU/H)

Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ3/8)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

(15/18 KBTU/H)

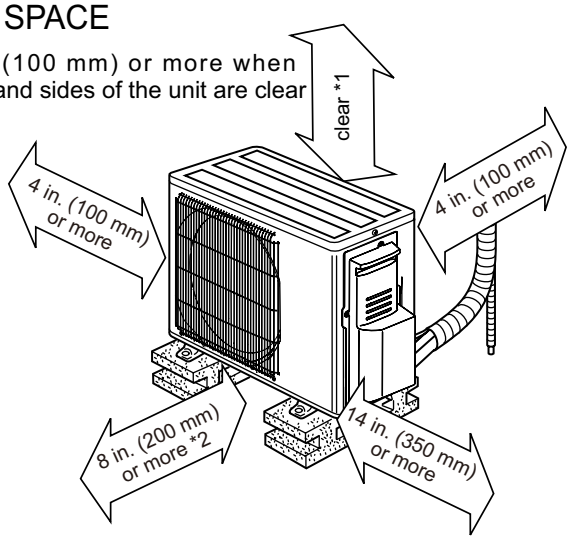
Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ1/2)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

OUTDOOR UNIT DIMENSIONS: MUZ-FS06NAH

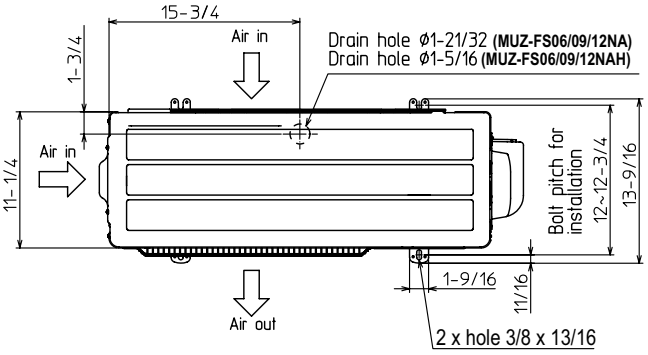
Unit: inch

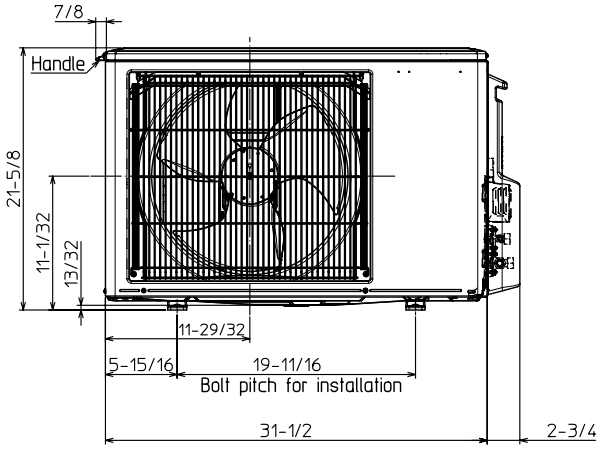
REQUIRED SPACE

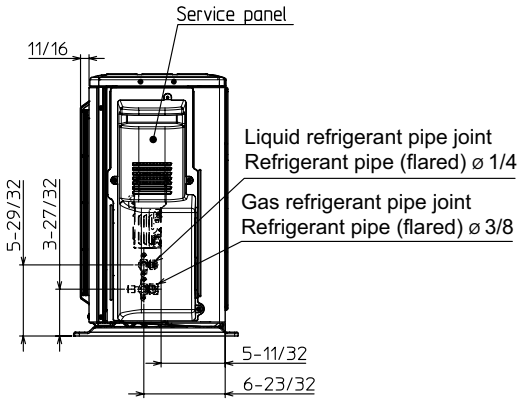
*1 4 in. (100 mm) or more when front and sides of the unit are clear



*2 When any 2 sides of left, right and rear of the unit are clear







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FORM# MSZ-FS06NA-U1 & MUZ-FS06NAH-U1 - 202102

MODEL: PAC-MKA30BC, PAC-MKA31BC, PAC-MKA32BC PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC BRANCH BOX

MITSUBISHI ELECTRIC

Job Name:

System Reference: Date:

PAC-MKA30BC
PAC-MKA31BC
PAC-MKA32BC

PAC-MKA50BC
PAC-MKA51BC
PAC-MKA52BC

SPECIFICATIONS

Model Name				PAC-MKA50BC PAC-MKA51BC PAC-MKA52BC	PAC-MKA30BC PAC-MKA31BC PAC-MKA32BC
Connectable number of indoor units				Maximum 5	Maximum 3
Power supply				Single phase, 208/230 V, 60 Hz	
Input			kW	0.003	
Running current			A	0.05	
External finish				Galvanized steel	
Dimensions	Width		Inch (mm)	17-23/32 (450)	
	Depth		Inch (mm)	11-1/32 (280)	
	Height		Inch (mm)	6-11/16 (170)	
Package Dimensions	Width		Inch (mm)	20.1 (511)	
	Depth		Inch (mm)	24.4 (620)	
	Height		Inch (mm)	8.3 (211)	
Weight			lb (kg)	23.4 (10.6)	21.8 (9.9)
Piping Connection (Flare)	Branch (indoor side)*	Liquid	Inch (mm)	ø1/4 (6.35) x 5 {A,B,C,D,E}	ø1/4 (6.35 x 3 {A,B,C}
		Gas	Inch (mm)	ø3/8 (9.52) x 4 {A,B,C,D}, ø1/2 (12.7) x 1{E}	ø3/8 (9.52) x 3 {A,B,C}
	Main (outdoor side)	Liquid	Inch (mm)	ø3/8 (9.52)	
		Gas	Inch (mm)	ø5/8 (15.88)	

*The piping connection size differs according to the type of and capacity of indoor units. Match the piping connection size for indoor and branch box. If the piping connection size of the branch does not match the piping connection size of the indoor units, use optional different-diameter (deformed) joints to the branch box side. (Connect deformed joint directly to the branch box side.)

ACCESSORIES:

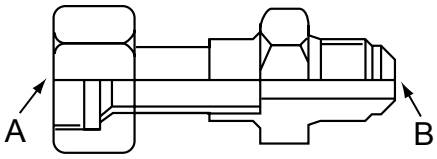
☐ BBE-1	Branch Box Enclosure
☐ MAC-A454JP-E	Port Adapter
☐ MAC-A455JP-E	Port Adapter
☐ MAC-A456JP-E	Port Adapter
☐ PAC-493PI	Port Adapter
☐ PAC-SG76RJ-E	Port Adapter
☐ ADP5834	Port Adapter
☐ MSDD-50AR-D	Flare connection distribution pipe
☐ MSDD-50BR-E	Brazed connection distribution pipe

NOTES:

For the MXZ-8C60 outdoor unit:

- When connecting the outdoor unit to the branch box directly, the reduction in pipe size must be made at the branch box using the port adaptor: ADP5834 (5/8"F x 3/4"M).
- When connecting the outdoor unit to the distribution pipe (MSDD-50AR-D, for using 2 branch boxes), the reduction in pipe size must be made at the distribution pipe using the port adaptor: ADP5834 (5/8"F x 3/4"M).

OPTIONAL PORT ADAPTORS



Model name	Connected pipes diameter	Diameter A	Diameter B
	Inch, mm	Inch, mm	Inch, mm
MAC-A454JP-E	3/8, ø9.52 → 1/2, ø12.7	3/8, ø9.52	1/2, ø12.7
MAC-A455JP-E	1/2, ø12.7 → 3/8, ø9.52	1/2, ø12.7	3/8, ø9.52
MAC-A456JP-E	1/2, ø12.7 → 5/8, ø15.88	1/2, ø12.7	5/8, ø15.88
PAC-493PI	1/4, ø6.35 → 3/8, ø9.52	1/4, ø6.35	3/8, ø9.52
PAC-SG76RJ-E	3/8, ø9.52 → 5/8, ø15.88	3/8, ø9.52	5/8, ø15.88
ADP5834	5/8, ø15.88 → 3/4, ø19.05	5/8, ø15.88	3/4, ø19.05

Specifications are subject to change without notice.

DIMENSIONS: PAC-MKA30BC, PAC-MKA31BC, AND PAC-MKA32BC

PAC-MKA30BC, PAC-MKA31BC, AND PAC-MKA32BC (3-BRANCHES TYPE)

Suspension bolt: W3/8 (M10)
Refrigerant pipe flared connection

inch, mm

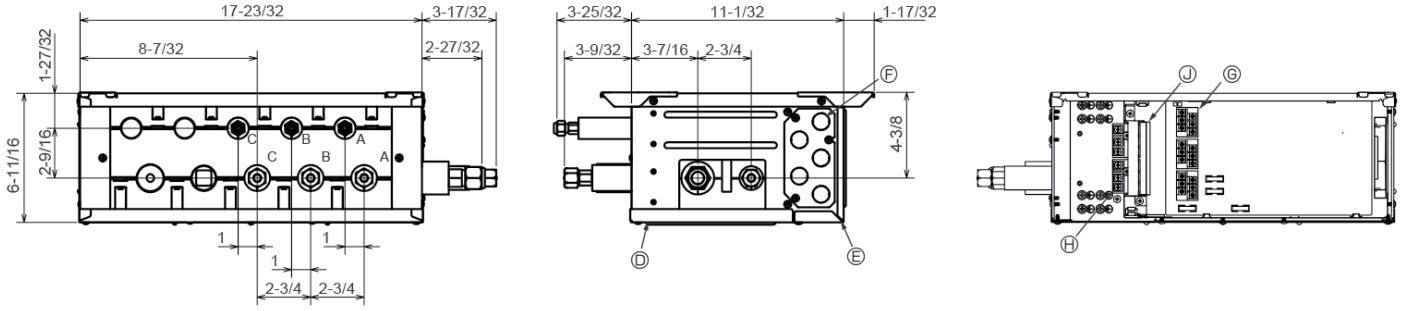
	To indoor unit			To outdoor unit
	A	B	C	
Liquid pipe	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	3/8, ø9.52
Gas pipe	3/8, ø9.52	3/8, ø9.52	3/8, ø9.52	5/8, ø15.88

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

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

PAC-MKA30BC
PAC-MAK31BC
PAC-MAK32BC

(inch)



DIMENSIONS: PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC

PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC (5-BRANCHES TYPE)

Suspension bolt: W3/8 (M10)
Refrigerant pipe flared connection

inch, mm

	To indoor unit					To outdoor unit
	A	B	C	D	E	
Liquid pipe	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	3/8, ø9.52
Gas pipe	3/8, ø9.52	3/8, ø9.52	3/8, ø9.52	3/8, ø9.52	1/2, ø12.7	5/8, ø15.88

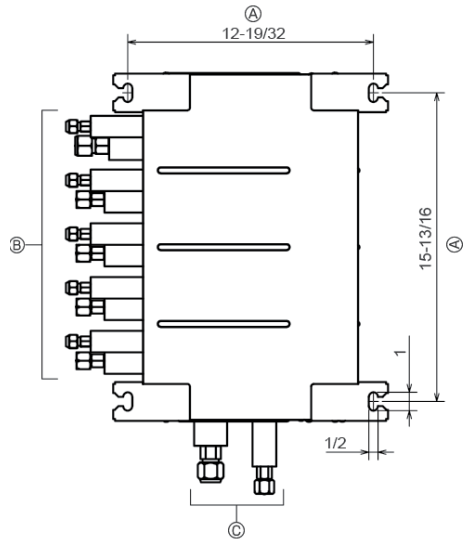
Conversion formula	
1/4F	ø6.35
3/8F	ø9.52
1/2F	ø12.7
5/8F	ø15.88
3/4F	ø19.05

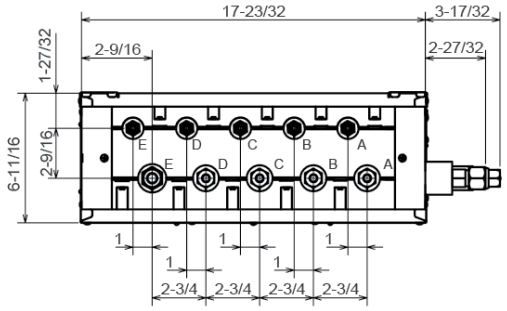
(inch)

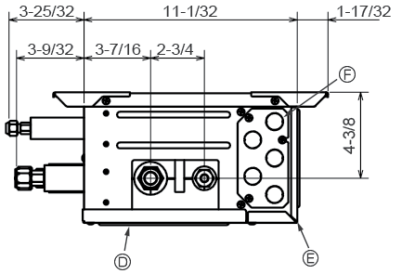
SUSPENSION BOLT: W3/8(M10)
REFRIGERANT PIPE FLARED CONNECTION Unit: inch

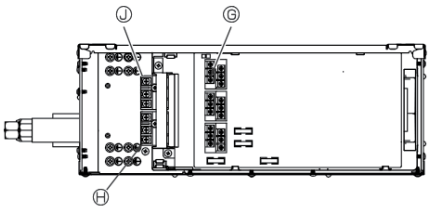
	A	B	C	D	E	TO OUTDOOR UNIT
LIQUID PIPE	1/4F	1/4F	1/4F	1/4F	1/4F	3/8F
GAS PIPE	3/8F	3/8F	3/8F	3/8F	1/2F	5/8F

PAC-MKA50BC
PAC-MAK51BC
PAC-MAK52BC









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MSZ-FS15NA
15,000 BTU/H DELUXE WALL MOUNT

Job Name:

System Reference: Date:

GENERAL FEATURES

- Slim wall-mounted indoor units provide zone comfort control
- Dual Barrier Coating applied to the heat exchanger, vanes and fan to prevent hydrophilic and hydrophobic dirt build-up
- Multiple fan speed options: Quiet, Low, Medium, High, Super-high, Auto
- 3D i-see Sensor®enables advance features:
  - Indirect or Direct Airflow for personalized comfort
  - Absence Detection for energy-saving mode
  - Double Vane features:
  - Separates airflow to deliver air across a large area
  - Simultaneously deliver to air separate sections of a room
  - Generates more comfortable natural airflow pattern
- Multiple control options available:
  - Back-lit screen handheld remote controller (provided with unit)
  - kumo cloud®smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers
- Triple-action Filtration: Nano Platinum Filter, Deodorizing Filter, & Electrostatic Anti-Allergy Enzyme Filter
- Hot-Start Technology: no cold air rush at equipment startup or when restarting after Defrost Cycle
- Quiet operation

Specifications			System
Unit Type			MSZ-FS15NA
Cooling Capacity[1, 3]		BTU/H	14,000
Heating Capacity[2, 3]		BTU/H	16,000
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187- 253V
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
Indoor Unit	MCA	A	1.0
	Fan Motor Full Load Amperage	A	0.65
	Fan Motor Output	W	40
	Airflow Rate at Cooling, Dry	CFM	225–272–304–355–437
	Airflow Rate at Cooling, Wet	CFM	194–225–261–305–376
	Airflow Rate at Heating, Dry	CFM	201–272–350–410–514
	Sound Pressure Level [Cooling]	dB[A]	27–31–35–39–44
	Sound Pressure Level [Heating]	dB[A]	25–31–37–40–46
	Drain Pipe Size	In. [mm]	5/8 [15.88]
	Coating on Heat Exchanger		Dual Barrier Coating
	External Finish Color		Munsell 1.0Y 9.2/0.2
	Unit Dimensions	W x D x H: In. [mm]	36-7/16 x 9-3/16 x 12 (+11/16) [925 x 234 x 305 (+17)]
	Package Dimensions	W x D x H: In. [mm]	39 x 12-1/4 x 15-1/2 [990 x 310 x 400]
	Unit Weight	Lbs. [kg]	29 [13.5]
	Package Weight	Lbs. [kg]	39 x 12-1/4 x 15-1/2</br>[990 x 310 x 400]
Refrigerant	Type		R410A
Piping	Gas Pipe Size O.D. [Flared]	In.[mm]	1/2 [12.7]
	Liquid Pipe Size O.D. [Flared]	In.[mm]	1/4 [6.35]

NOTES:
Conditions

[1]Cooling (Indoor // Outdoor) °F 80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor) °F 70 DB, 60 WB // 47 DB, 43 WB

[3]Capacity varies based on the number of indoor units operating and the model of the Multi-zone Outdoor Unit. For reference to connected capacity charts, please refer Multi-zone Outdoor Unit Operational Performance.:

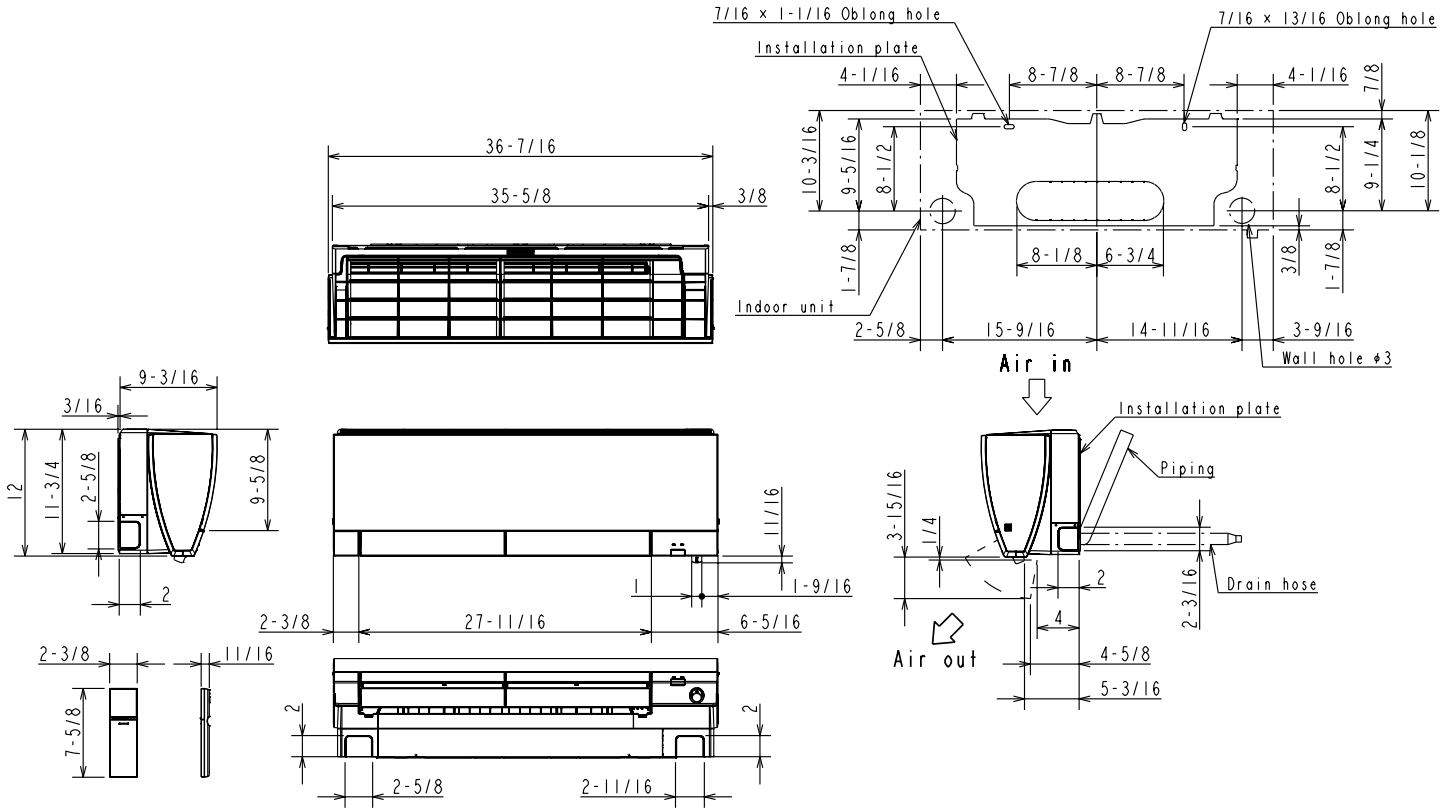
INDOOR UNIT ACCESSORIES: MSZ-FS15NA

Control Interface	BACnet® and Modbus Interface	PAC-UKPRC001-CN-1
	CN24 Relay Kit	CN24RELAY-KIT-CM3
	IT Extender	PAC-WHS01IE-E
	kumo station® for kumo cloud®	PAC-WHS01HC-E
	Lockdown bracket for remote controller	RCMKP1CB
	System Control Interface	MAC-334IF-E
	Thermostat Interface	PAC-US444CN-1
	USNAP Adapter	PAC-WHS01UP-E
	Wireless Interface for kumo cloud®	PAC-USWHS002-WF-2
Remote Sensor	Wired Remote Sensor	M21EAA307
	Wireless temperature and humitity sensor for kumo cloud®	PAC-USWHS003-TH-1
Wired Remote Controller	Deluxe Wired MA Remote Controller†	PAR-40MAAU
	Simple MA Remote Controller†	PAC-YT53CRAU-J
	Touch MA Controller†	PAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller	MHK2
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	X87-721
	Blue Diamond (MicroBlue) Mini Condensate Pump (110/208/230V) up to 18,000 BTU/H	X85-003
	Blue Diamond Alarm Extension Cable — 6.5 Ft.	C13-192
	Blue Diamond MultiTank — collection tank for use with multiple pumps	C21-014
	Blue Diamond Sensor Extension Cable — 15 Ft.	C13-103
	Drain Pan Level Sensor/Control	SS610E
	Fascia Kit for MicroBlue Pump, mounts the MicroBlue and sensor directly beneath indoor unit	T18-016
	Sauermann Condensate Pump	SI30-230
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black	TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White	TAZ-MS303W
Filter	Electro Static Anti-allergy Enzyme Filter	MAC-2330FT-E
	Platinum Deodorizing Filter	MAC-3000FT-E
Lineset	15’ x 1/4” x 15’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-15
	30’ x 1/4” x 30’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-30
	50’ x 1/4” x 50’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-50
	65’ x 1/4” x 65’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-65

NOTES:
†Requires MAC-334IF-E
- Allows indoor units to connect to an MA Controller:
  - Deluxe MA Remote Controller
  - Simple MA Controller
  - Touch MA Controller

INDOOR UNIT DIMENSIONS: MSZ-FS15NA

Unit: inch



(06/09/12 KBTU/H)

Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ3/8)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

(15/18 KBTU/H)

Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ1/2)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

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FORM# MSZ-FS15NA-U1 - 202102

MSZ-FS12NA & MUZ-FS12NA
12,000 BTU/H DELUXE WALL-MOUNTED INDOOR UNIT
12,000 BTU/H HYPER-HEATING OUTDOOR UNIT

Job Name:

System Reference: Date:

Indoor Unit MSZ-FS12NA

Outdoor Unit MUZ-FS12NA

INDOOR UNIT FEATURES

- Slim wall-mounted indoor units provide zone comfort control
- Dual Barrier Coating applied to the heat exchanger, vanes and fan to prevent hydrophilic and hydrophobic dirt build-up
- Multiple fan speed options: Quiet, Low, Medium, High, Super-high, Auto
- 3D i-see Sensor® enables advance features:
  - Indirect or Direct Airflow for personalized comfort
  - Absence Detection for energy-saving mode
- Double Vane features:
  - Separates airflow to deliver air across a large area
  - Simultaneously deliver to air separate sections of a room
  - Generates more comfortable natural airflow pattern
- Multiple control options available:
  - Back-lit screen handheld remote controller (provided with unit)
  - kumo cloud® smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers
- Triple-action Filtration: Nano Platinum Filter, Deodorizing Filter, & Electrostatic Anti-Allergy Enzyme Filter
- Hot-Start Technology: no cold air rush at equipment startup or when restarting after Defrost Cycle
- Quiet operation

OUTDOOR UNIT FEATURES

- INVERTER-driven compressor and LEV provide high efficiency and comfort while using only the energy needed to maintain maximum performance
- H2i plus™ performance offers 100% heating capacity at -5° and 70% to 81% heating capacity at -13° F
- Blue Fin anti-corrosion treatment applied to the outdoor unit heat exchanger for increased coil protection and longer life

SPECIFICATIONS: MSZ-FS12NA & MUZ-FS12NA

Cooling at 95°F[1]	Maximum Capacity	BTU/H	13,600
	Rated Capacity	BTU/H	12,000
	Minimum Capacity	BTU/H	2,500
	Maximum Power Input	W	1,150
	Rated Power Input	W	870
	Moisture Removal	Pints/h	1.9
	Sensible Heat Factor		0.83
	Power Factor [208V / 230V]	%	94.0 / 94.0
Heating at 47°F[2]	Maximum Capacity	BTU/H	21,000
	Rated Capacity	BTU/H	12,300
	Minimum Capacity	BTU/H	3,700
	Maximum Power Input	W	1,980
	Rated Power Input	W	850
	Power Factor [208V / 230V]	%	94.0 / 94.0
Heating at 17°F[3]	Maximum Capacity	BTU/H	17,410
	Rated Capacity	BTU/H	8,400
	Maximum Power Input	W	1,860
	Rated Power Input	W	610
Heating at 5°F[4]	Maximum Capacity	BTU/H	14,690
	Maximum Power Input	W	1,780
Heating at -5°F[6]	Maximum Capacity	BTU/H	12,300
Heating at -13°F[7]	Maximum Capacity	BTU/H	11,000
Efficiency	SEER		26.1
	EER[1]		13.8
	HSPF [IV]		12.5
	COP at 47°F[2]		4.24
	COP at 17°F at Maximum Capacity[3]		2.74
	COP at 5°F at Maximum Capacity[4]		2.24
	COP at -5°F at Maximum Capacity[6]		2.24
	COP at -13°F at Maximum Capacity[7]		2.08
	ENERGY STAR® Certified		Yes
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
	Recommended Fuse/Breaker Size (Oudoor)	A	15
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
	Power Supply		Indoor unit is powered by the outdoor unit
Indoor Unit	MCA	A	1.0
	Fan Motor Full Load Amperage	A	0.65
	Fan Motor Type		DC Motor
	Airflow Rate at Cooling, Dry	CFM	137–167–221–304–424
	Airflow Rate at Cooling, Wet	CFM	117–143–190–261–364
	Airflow Rate at Heating, Dry	CFM	155–226–282–367–454
	Sound Pressure Level [Cooling]	dB[A]	21–24–29–36–44
	Sound Pressure Level [Heating]	dB[A]	21–28–32–38–43
	Drain Pipe Size	In. [mm]	5/8 [15.88]
	Coating on Heat Exchanger		Dual Barrier Coating
	External Finish Color		Munsell 1.0Y 9.2/0.2
	Unit Dimensions	W x D x H: In. [mm]	36-7/16 x 9-3/16 x 12 (+11/16) [925 x 234 x 305 (+17)]
	Package Dimensions	W x D x H: In. [mm]	39 x 12-1/4 x 15-1/2 [990 x 310 x 400]
	Unit Weight	Lbs. [kg]	29 [13.5]
	Package Weight	Lbs. [kg]	34 [15.4]
Indoor Unit Operating Temperature Range	Cooling Intake Air Temp [Maximum / Minimum]*	°F	90 DB, 73 WB / 67 DB, 57 WB
	Heating Intake Air Temp [Maximum / Minimum]	°F	80 DB / 70 DB

NOTES:

AHRI Rated Conditions
(Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB

Conditions

[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

SPECIFICATIONS: MSZ-FS12NA & MUZ-FS12NA

Outdoor Unit	MCA	A	10.0
	MOCP	A	15
	Fan Motor Full Load Amperage	A	0.5
	Fan Motor Output	W	55
	Airflow Rate [Cooling / Heating]	CFM	1215 / 1201
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Coating on Heat Exchanger		Blue Fin Coating
	Sound Pressure Level, Cooling[1]	dB(A)	49
	Sound Pressure Level, Heating[2]	dB(A)	51
	Compressor Type		Twin Rotary
	Compressor Model		SNB140FQUMT
	Compressor Rated Load Amps	A	9.2
	Compressor Locked Rotor Amps	A	7.4
	Compressor Oil [Type // Charge]	oz.	FV50S // 0.35
	External Finish Color		Munsell 3Y 7.8/1.1
	Base Pan Heater		Optional
	Unit Dimensions	W x D x H: In. [mm]	31-1/2 x 11-1/4 x 21-5/8 [800 x 285 x 550]
	Package Dimensions	W x D x H: In. [mm]	37 x 15 x 24-1/2 [940 x 380 x 630]
	Unit Weight	Lbs. [kg]	83 [37.5]
	Package Weight	Lbs. [kg]	90 [40.5]
Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	°F	115 DB / 14 DB
	Cooling Thermal Lock-out / Re-start Temperatures**	°F	-4 / 0
	Heating Air Temp [Maximum / Minimum]	°F	75 DB, 65 WB / -13 DB, -14 WB
	Heating Thermal Lock-out / Re-start Temperatures**	°F	-18 / -14
Refrigerant	Maximum Charge Quantity	Lbs, oz	2.0, 9.0
	Initial Charge Quantity	Ft. [m]	25.0 [7.5]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	0.216 [20]
Piping	Gas Pipe Size O.D. [Flared]	In.[mm]	3/8 [9.52]
	Liquid Pipe Size O.D. [Flared]	In.[mm]	1/4 [6.35]
	Maximum Piping Length	Ft. [m]	65 [20]
	Maximum Height Difference	Ft. [m]	40 [12]
	Maximum Number of Bends		10

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)	[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
	[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
	[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
Conditions	[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
	[6]Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
	[7]Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

INDOOR UNIT ACCESSORIES: MSZ-FS12NA

Control Interface	BACnet® and Modbus® Interface		PAC-UKPRC001-CN-1
	CN24 Relay Kit		CN24RELAY-KIT-CM3
	IT Extender		PAC-WHS01IE-E
	kumo station® for kumo cloud®		PAC-WHS01HC-E
	Lockdown bracket for remote controller		RCMKP1CB
	System Control Interface		MAC-334IF-E
	Thermostat Interface		PAC-US444CN-1
	Thermostat Interface		PAC-US445CN-1
	USNAP Adapter		PAC-WHS01UP-E
	Wireless Interface for kumo cloud®		PAC-USWHS002-WF-2
Remote Sensor	Wireless temperature and humitity sensor for kumo cloud®		PAC-USWHS003-TH-1
Wired Remote Controller	Deluxe Wired MA Remote Controller†		PAR-40MAAU
	Simple MA Remote Controller†		PAC-YT53CRAU-J
	Touch MA Controller†		PAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller		MHK2
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]		X87-721
	Blue Diamond (MicroBlue) Mini Condensate Pump (110/208/230V) up to 18,000 BTU/H		X86-003
	Blue Diamond Alarm Extension Cable — 6.5 Ft.		C13-192
	Blue Diamond MultiTank — collection tank for use with multiple pumps		C21-014
	Blue Diamond Sensor Extension Cable — 15 Ft.		C13-103
	Drain Pan Level Sensor/Control		SS610E
	Fascia Kit for MicroBlue Pump, mounts the MicroBlue and sensor directly beneath indoor unit		T18-016
	Refco Condensate Pump (100-240 VAC)		GOBI-II
	Refco Condensate Pump (100-240 VAC) up to 120,000 BTU/H		COMBI
	Sauermann Condensate Pump		SI30-230
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black		TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White		TAZ-MS303W
Drain Hose	Flexible Mini-Split Drain Hose		DRX-16
Filter	Electro Static Anti-allergy Enzyme Filter		MAC-2330FT-E
	Platinum Deodorizing Filter		MAC-3000FT-E
Lineset	15’ x 1/4” x 15’ / 3/8” Lineset (Twin-Tube Insulation)		MLS143812T-15
	30’ x 1/4” x 30’ / 3/8” Lineset (Twin-Tube Insulation)		MLS143812T-30
	50’ x 1/4” x 50’ / 3/8” Lineset (Twin-Tube Insulation)		MLS143812T-50
	65’ x 1/4” x 65’ / 3/8” Lineset (Twin-Tube Insulation)		MLS143812T-65

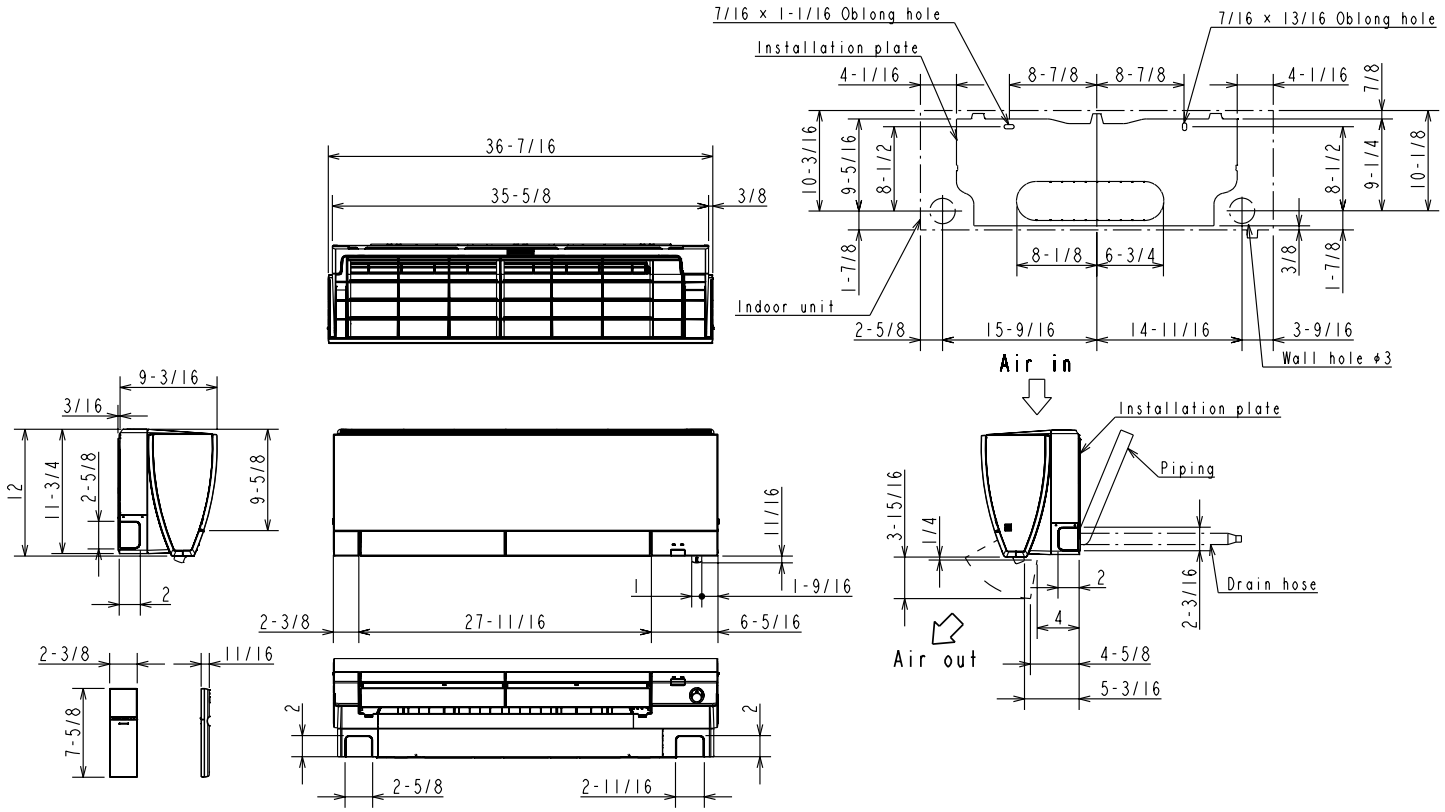
NOTES:
†Requires MAC-334IF-E
- M-Series EZ FIT® Recessed Ceiling Cassette, Floor-mount and Wall-mount
  Allows indoor units to connect to an MA Controller:
  Deluxe MA Remote Controller
  Simple MA Controller
  Touch MA Controller

OUTDOOR UNIT ACCESSORIES: MUZ-FS12NA

Air Outlet Guide	Air Outlet Guide		MAC-881SG
Control/Service Tool	M- & P-Series Maintenance Tool Cable Set		M21EC0397
	USB/UART Conversion Cable (Required for all laptop connection)		M21EC1397
Drain Socket	Drain Socket		MAC-871DS
Hail Guards	Hail Guard		HG-B4
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll		S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll		S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll		S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll		S164-50
Mounting Pad	Condensing Unit Mounting Pad: 16” x 36” x 3”		ULTRILITE1
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic		DSD-400P
Optional Defrost Heater	Optional Defrost Heater		MAC-640BH-U
Stand	18” Single Fan Stand		QSMS1801M
	24” Single Fan Stand		QSMS2401M
	Condenser Wall Bracket		QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish		QSWBSS
	Outdoor Unit Stand — 12” High		QSMS1201M

INDOOR UNIT DIMENSIONS: MSZ-FS12NA

Unit: inch



(06/09/12 KBTU/H)

Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ3/8)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

(15/18 KBTU/H)

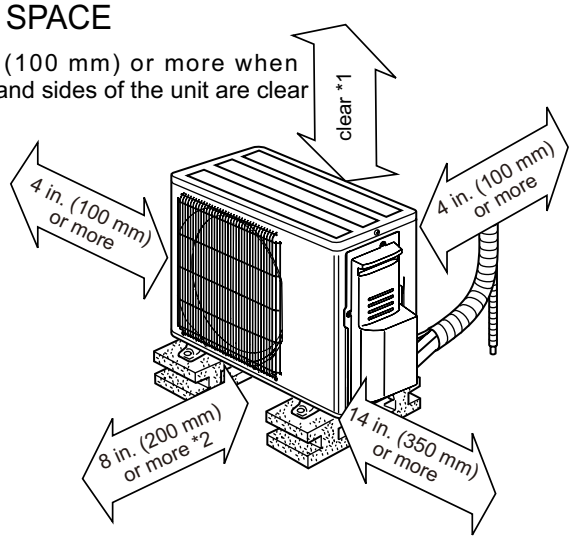
Piping	Insulation	ϕ1-7/16 O.D
	Liquid line	ϕ1/4 19-11/16 (Flared connection ϕ1/4)
	Gas line	ϕ3/8 16-15/16 (Flared connection ϕ1/2)
Drain hose		Insulation ϕ1-1/8 Connected part ϕ5/8 O.D

OUTDOOR UNIT DIMENSIONS: MUZ-FS12NA

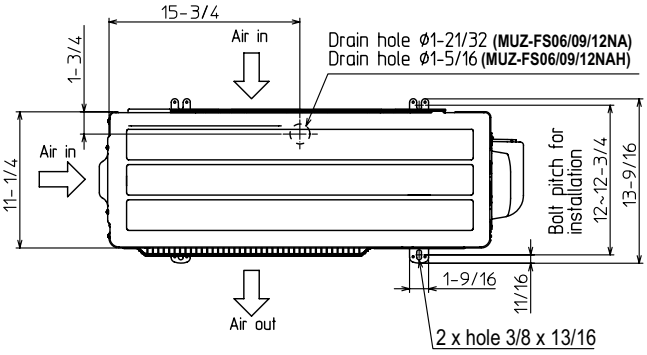
Unit: inch

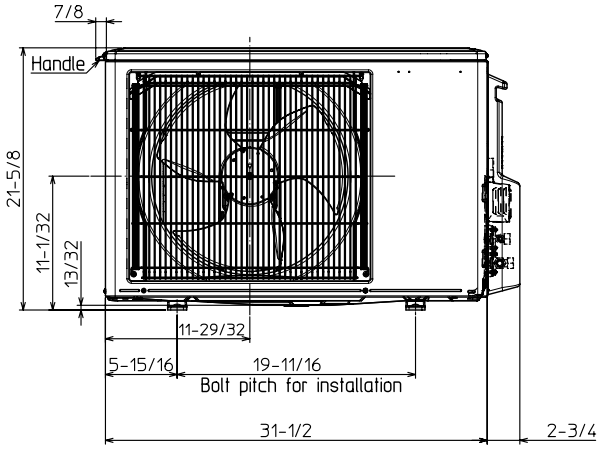
REQUIRED SPACE

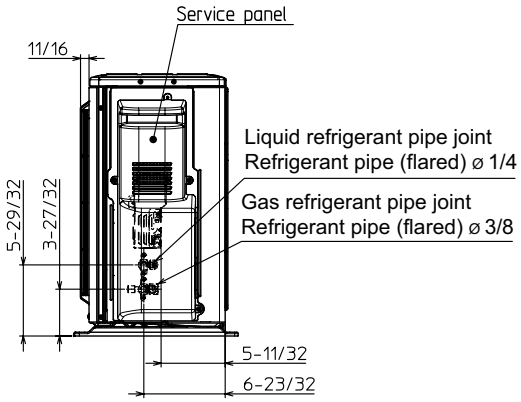
*1 4 in. (100 mm) or more when front and sides of the unit are clear



*2 When any 2 sides of left, right and rear of the unit are clear







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