SMART MULTI™

MXZ-SM120TAM-U1

10-TON THREE-PHASE MULTI-ZONE INVERTER HEAT PUMP SYSTEM

MITSUBISHI ELECTRIC
HEATING & AIR CONDITIONING

Job Name:

System Reference: Date:

Features

- Three-phase 208/230V operation for use in light commercial applications
- Connect up to 30 indoor units
- Outdoor unit fan can be adjusted to allow 0.12 in.w.g. static pressure by dip switch setting change
- Compatible with M- and P-Series and CITY MULTI® indoor units (branch box required for connection with M- and P-Series)
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs in accordance with ASTM B117 testing)
- High pressure protection
- Compressor thermal protection
- Compressor over current detection
- Fan motor overheating/voltage protection

	IDU		Non ducted	Mixed	Ducted
	ODU		MXZ-SM120TAM-U1	MXZ-SM120TAM-U1	MXZ-SM120TAM-U1
Cooling [1]	Maximum Capacity	Btu/h	120,000	120,000	120,000
	Rated Capacity	Btu/h	114,000	114,000	114,000
	Rated Power Input	W	9,661	9,827	10,000
	SHF at 100% Capacity (Rated)		0.82	-	0.82
	SHF at 100% Capacity [1]		0.78	-	0.75
	SHF at 75% Capacity (Rated)		0.85	-	0.85
Heating at 47°F [2]	Maximum Capacity		135,000	135,000	135,000
	Rated Capacity	Btu/h	129,000	129,000	129,000
	Rated Power Input	W	9,694	10,028	10,358
Heating at 17°F	Rated Capacity	Btu/h	92,000	92,000	92,000
	Rated Power Input	W	10,785	11,096	11,377
Efficiency	IEER		24.5	22.75	21
	EER		11.8	11.6	11.4
	COP at 47F		3.90	3.77	3.65
	COP at 17F		2.5	2.43	2.37
	Energy Star		No	No	No
Electrical	Electrical Power Requirements	Voltage, Phase, Frequency	208/230, 3, 60	208/230, 3, 60	208/230, 3, 60
	Guaranteed Voltage Range	V AC	198-253V	198-253V	198-253V
	Short-circuit Current Rating (SCCR)	kA	5	5	5
	MCA if Branch Box Powered by Outdoor Unit	A	65	65	65
	MCA without Branch Box or Branch Box Powered Separate	A	47	47	47
	MOCP if Branch Box Powered by Outdoor Unit	A	102	102	102
	MOCP without Branch Box or Branch Box Powered Separate	A	84	84	84
	Recommended Fuse/Breaker Size if Branch Box Powered by Outdoor Unit	A	70	70	70
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separately	A	50	50	50

1. Cooing test conditions are based on AHRI 1230
- Indoor: 80°FD.B./67°FW.B. (26.7°CD.B./19.4°CW.B.)
- Outdoor: 95°FD.B. (35°CD.B.)
2. Heating test conditions are based on AHRI 1230
- Indoor: 70°FD.B. (21.1°CD.B.)
- Outdoor: 47°FD.B./43°FW.B. (8.3°CD.B./6.1°CW.B.)
3. 5°F DB - 115°F DB when optional wind baffles are installed. 50F to 115°F DB when connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU and PFFY-P06/08/12NRMU type indoor units. Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions. When the temperature is below 50°F D.B with the branch box system, noise could potentially occur.
4. For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance type and number of indoor units connected, please refer to MXZ Operational Performance.
5. Although the maximum connectible 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
6. Both CITY MULTI indoor units and branch box indoor units cannot be utilized on the same system.
*7. Refer to piping diagrams in the installation manuals for requirements related to piping lengths greater than 295ft and PEFY-P72 or P96 are installed.
8. A dip switch setting can be changed to allow the fan to operate with an external static pressure of 0.12 in.w.g. (30 Pa).

Specifications are subject to change without notice.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

OUTDOOR UNIT: MXZ-SM120TAM-U1 – SPECIFICATIONS

			Non ducted	Mixed	Ducted
Outdoor	Airflow Rate (Cooling)	CFM	7,345	7,345	7,345
	Airflow Rate (Heating)	CFM	6,955	6,955	6,955
	Outdoor Fan Motor Output	W	285 + 285	285 + 285	285 + 285
	Outdoor Fan Motor Drive		DC control	DC control	DC control
	External Static Pressure [8]	in. w.g.	0 / 0.12	0 / 0.12	0 / 0.12
	Sound Pressure Level, Cooling	dB(A)	61	61	61
	Sound Pressure Level, Heating	dB(A)	62	62	62
	Refrigerant Control		LEV	LEV	LEV
	Defrost Method		Reverse Cycle	Reverse Cycle	Reverse Cycle
	Heat Exchanger Type		Plate Fin Coil	Plate Fin Coil	Plate Fin Coil
	Heat Exchanger Coating		Blue Fin Coating	Blue Fin Coating	Blue Fin Coating
	Compressor Model		ANB78FSEMT	ANB78FSEMT	ANB78FSEMT
	Compressor Type		Hermetic	Hermetic	Hermetic
	Compressor Motor Output	kW	7.0	7.0	7.0
	Refrigerant Oil Name		FVC68D	FVC68D	FVC68D
	Refrigerant Oil Charge	oz	101	101	101
	External Finish		Munsell 3.0Y 7.8/1.1	Munsell 3.0Y 7.8/1.1	Munsell 3.0Y 7.8/1.1
	Base Pan Heater		Optional	Optional	Optional
	Package Dimensions	D: In.	25	25	25
		H: In.	73	73	73
		W: In.	45	45	45
	Unit Dimensions	D: In.	18-7/64	18-7/64	18-7/64
		H: In.	65-7/16	65-7/16	65-7/16
		W: In.	41-11/32	41-11/32	41-11/32
	Package Weight	lbs	483	483	483
	Unit Weight	lbs	433	433	433
Indoor Unit Connection	Maximum Number of Branch Boxes [6]		3	3	3
	Minimum Number of Connected IDU		2	2	2
	Maximum Number of Connected IDU with Branch Box		12	12	12
	Maximum Number of Connected IDU without Branch Box		30	30	30
	Allowable Connected Capacity (of cooling rated capacity) [5]		50% - 130%	50% - 130%	50% - 130%
	Minimum Connected Capacity [4]	Btu/h	60,000	60,000	60,000
	Maximum Connected Capacity [4]	Btu/h	156,000	156,000	156,000
Piping specification	Gas Pipe Size O.D. (Brazed)	in.	1-1/8	1-1/8	1-1/8
	Liquid Pipe Size O.D. (Brazed)	in.	1/2	1/2	1/2
	Total Piping Length when using Branch Box		787	787	787
	Farthest Piping Length from ODU to IDU with Branch Box	ft	262	262	262
	Maximum Height Difference*B, between branch boxes		49	49	49
	Vertical piping length between Branch box and Indoor Units	ft	49	49	49
	Total Piping Length w/o Branch Box		1,016	1,016	1,016
	Farthest Piping Length from ODU to IDU w/o Branch Box		426	426	426
	Maximum Height Difference*B, ODU above IDU		164	164	164
	Maximum Height Difference*B, ODU below IDU		131	131	131
	Maximum Height Difference between IDU and IDU w/o Branch box		49	49	49
	Max # of Bends		23	23	23
Refrigerant	Chargeless Piping Length	ft	0	0	0
	Type		R410A	R410A	R410A
	Charge	oz	328	328	328
	Additional Refrigerant Charge Per Additional Piping Length	oz/5ft	φ6.35: 1.05oz/5ft φ9.52: 2.75oz/5ft φ12.7:4.95oz/5ft	φ6.35: 1.05oz/5ft φ9.52: 2.75oz/5ft φ12.7:4.95oz/5f"	φ6.35: 1.05oz/5ft φ9.52: 2.75oz/5ft φ12.7:4.95oz/5ft
Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum)	FDB	115	115	115
	Cooling Intake Air Temp (Minimum) [3]	FDB	23	23	23
	Heating Intake Air Temp (Maximum)	WDB	59	59	59
	Heating Intake Air Temp (Minimum)	WDB	-4	-4	-4
	Heating Thermal Lock-out Temperature	F	-24	-24	-24
	Heating Thermal Re-start Temperature	F	-14	-14	-14
Low ambient heating capacity (vs. Rated)	Heating Capacity at 50F	Btu/h	129,000	129,000	129,000
	Heating Capacity at 41F	Btu/h	129,000	129,000	129,000
	Heating Capacity at 32F	Btu/h	126,420	126,420	126,420
	Heating Capacity at 23F	Btu/h	107,070	107,070	107,070
	Heating Capacity at 14F	Btu/h	86,430	86,430	86,430
	Heating Capacity at 5F	Btu/h	77,400	77,400	77,400
	Heating Capacity at -4F	Btu/h	68,370	68,370	68,370

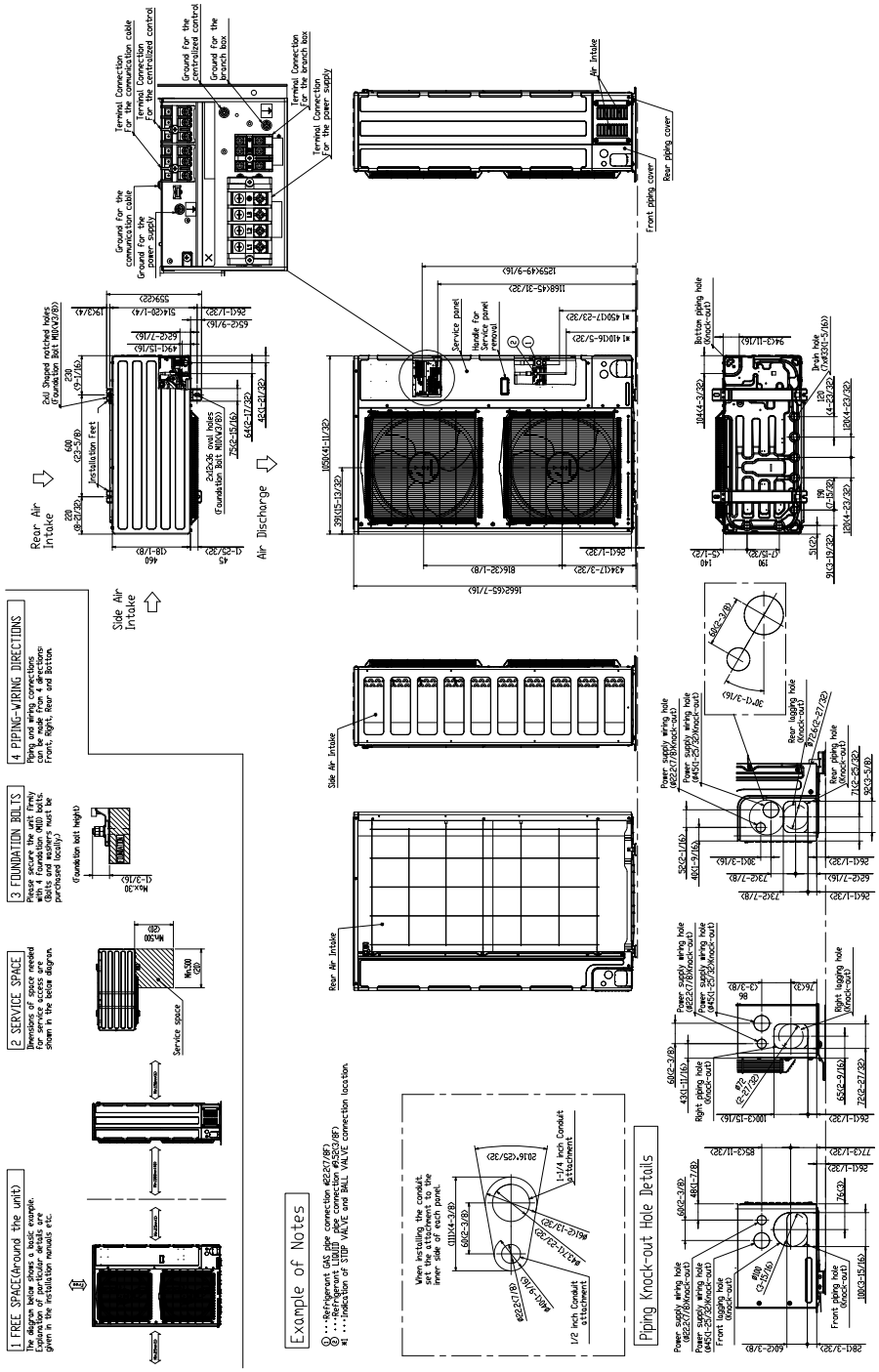
1. Cooing test conditions are based on AHRI 1230
- Indoor: 80°FD.B./67°FW.B. (26.7°CD.B./19.4°CW.B.)
- Outdoor: 95°FD.B. (35°CD.B.)
2. Heating test conditions are based on AHRI 1230
- Indoor: 70°FD.B. (21.1°CD.B.)
- Outdoor: 47°FD.B./43°FW.B. (8.3°CD.B./6.1°CW.B.)
3. 5°F DB - 115°F DB when optional wind baffles are installed. 50F to 115°F DB when connecting PKFY-P06NBMU, PKFY-P08NHMU, PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU and PFFY-P06/08/12NRMU type indoor units. Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions. When the temperature is below 50°F D.B with the branch box system, noise could potentially occur.
4. For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance type and number of indoor units connected, please refer to MXZ Operational Performance.
5. Although the maximum connectible 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
6. Both CITY MULTI indoor units and branch box indoor units cannot be utilized on the same system.
*7. Refer to piping diagrams in the installation manuals for requirements related to piping lengths greater than 295ft and PEFY-P72 or P96 are installed.
8. A dip switch setting can be changed to allow the fan to operate with an external static pressure of 0.12 in.w.g. (30 Pa).

OUTDOOR UNIT ACCESSORIES: MXZ-SM120TAM-U1

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	3 Port Branch Box	☐ PAC-MKA32BC
	5 Port Branch Box	☐ PAC-MKA52BC
	Branch Box Enclosure	☐ BBE-1
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
	Drain Socket Drain Socket	☐ PAC-SG60DS-E
	Distribution Pipe Brazed Conn	☐ CMY-Y62-GA-E
	Distribution Pipe Brazed Conn	☐ CMY-Y64-GA-E
	Distribution Pipe Brazed Conn	☐ CMY-Y68-GA-E
	Joint connectors	☐ PAC-SG71RJ-E
	Joint connectors	☐ PAC-SG75RJ-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: 24” x 42” x 3”	☐ ULTRILITE2
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	☐ DSD-400P
Optional Defrost Heater	Optional Defrost Heater	☐ PAC-SJ20BH-E
Port Adaptor	Adaptor (5/8 To 1-1/8)	☐ PAC-SL02RJ-E
	Adaptor (7/8 To 1-1/8)	☐ PAC-SL03RJ-E
	Adaptor (3/8 To 5/8)	☐ PAC-SG76RJ-E
	Joint Pipe (Connected 3/8 -> 1/2, A 3/8, B 1/2)	☐ MAC-454JP-E
	Joint Pipe (Connected 1/2 -> 3/8, A 1/2, B 3/8)	☐ MAC-455JP-E
	Joint Pipe (Connected 1/2 -> 5/8, A 1/2, B 5/8)	☐ MAC-456JP-E
	Joint Pipe (Connected 1/4 -> 3/8, A 1/4, B 3/8)	☐ PAC-493PI
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-PA6 (Two pieces are required)

OUTDOOR UNIT: MXZ-SM120TAM-U1 – DIMENSIONS

Unit: mm <inch>



NOTES:

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

Specifications are subject to change without notice.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.