

MXZ-SM60NLHZ

60,000 BTU/H HYPER HEAT PUMP OUTDOOR UNIT



Job Name:

System Reference:

Date:



GENERAL FEATURES

- **Advanced Frost Detection:** Advanced Frost Detection provides longer continuous heating during frigid temperatures, maintaining comfort by reducing the number of defrost cycles.
- **Blue Fin Coating:** Anti-corrosion coating that protects the outdoor heat exchanger against salt, sulfur, and other airborne contaminants that impact the efficiency and performance of the outdoor units.
- **Flash Injection:** Flash Injection enables optimum compressor performance when it is running at higher speeds to maintain indoor comfort during cold temperatures.
- **H2i® Hyper-Heating:** 100% heating performance down to 5° F with guaranteed heating down to -13° F.
- **Hot Start:** The system will warm up before blowing air, preventing blasts of cold air at start-up.
- **Multi Zone:** A multi-zone unit provides personalized comfort control to multiple spaces.
- **Seacoast Protection:** Designed to protect against the corrosive effects of environments that are in close proximity to the sea.

Specifications			System
Unit Type			MXZ-SM60NLHZ
Cooling at 95F ¹ (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	60,000 // 60,000 // 60,000
	Rated Capacity	Btu/h	60,000 // 60,000 // 60,000
	Minimum Capacity	Btu/h	16,000 // 16,000 // 16,000
	Maximum Power Input	W	5,000 // 5,692 // 6,385
	Rated Power Input	W	5,000 // 5,692 // 6,385
	Power Factor (208V)	%	98.1 // 98.1 // 98.1
	Power Factor (230V)	%	98.1 // 98.1 // 98.1
Heating at 47F ² (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	66,000 // 66,000 // 66,000
	Rated Capacity	Btu/h	64,500 // 64,500 // 64,500
	Minimum Capacity	Btu/h	13,500 // 13,500 // 13,500
	Maximum Power Input	W	4,720 // 5,230 // 5,865
	Rated Power Input	W	4,610 // 5,120 // 5,730
	Power Factor (208V)	%	98.1 // 98.1 // 98.1
	Power Factor (230V)	%	98.1 // 98.1 // 98.1
Heating at 17F ³ (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	72,500 // 72,500 // 72,500
	Rated Capacity	Btu/h	44,500 // 44,500 // 44,500
	Maximum Power Input	W	9,045 // 9,582 // 10,120
	Rated Power Input	W	4,500 // 4,860 // 5,220
Heating at 5F ⁵ (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	62,000 // 61,000 // 60,000
	Maximum Power Input	W	9,085 // 9,410 // 9,770
Heating at -13F ⁹ (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	52,500 // 52,500 // 52,500
	Maximum Power Input	W	8,550 // 8,937 // 9,325
Efficiency (Non-Ducted // Mixed // Ducted)	SEER ² ¹		20 // 18.2 // 16.4
	EER ² ¹		12 // 10.7 // 9.4
	HSPF ² (IV) ²		10.9 // 10.45 // 10
	COP at 47°F ²		4.1 // 3.7 // 3.3
	COP at 17°F at Maximum Capacity ³		2.35 // 2.2 // 2.1
	COP at 5°F at Maximum Capacity ⁵		2 // 1.9 // 1.8
	ENERGY STAR® Certified		Yes // No // No

NOTES

- ¹Cooling at 95°F (Indoor: 80°F DB, 67°F WB // Outdoor: 95°F DB, 75°F WB)
 - ²Heating at 47°F (Indoor: 70°F DB, 60°F WB // Outdoor: 47°F DB, 43°F WB)
 - ³Heating at 17°F (Indoor: 70°F DB, 60°F WB // Outdoor: 17°F DB, 15°F WB)
 - ⁴Heating at 5°F (Indoor: 70°F DB, 60°F WB // Outdoor: 5°F DB, 4°F WB)
 - ⁵Heating at -13°F (Indoor: 70°F DB, 60°F WB // Outdoor: -13°F DB, -14°F WB)
 - Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
 - A Maximum connected units reduced when PLA connected. Refer to manual for details
 - 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 Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode and automatically restarts at these temperatures.
 - ⁹Nominal capacity only. Actual capacity output varies based on the system-specific configuration.

SPECIFICATIONS: MXZ-SM60NLHZ

Specifications		System	
Unit Type		MXZ-SM60NLHZ	
Electrical	Electrical Power Requirements	V AC / V AC , ϕ , Hz	208 / 230 , 1 , 60
	Guaranteed Voltage Range	V AC - V AC	198 - 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	55
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separate	A	45
	Recommended Wire Size (Indoor - Outdoor) if Branch Box Powered by Outdoor Unit	AWG	16
	Recommended Wire Size (Indoor - Outdoor) without Branch Box or Branch Box Powered Separate	AWG	16
	MCA	A	55
	MCA if Branch Box Powered by Outdoor Unit	A	55
	MOCP if Branch Box Powered by Outdoor Unit	A	90
	MCA without Branch Box or Branch Box Powered Separate	A	45
	MOCP without Branch Box or Branch Box Powered Separate	A	80
Outdoor Unit	Fan Motor Output	W	200+200
	Defrost Method		Reverse Cycle
	Blue Fin Heat Exchanger Coating		Yes
	Airflow Rate Cooling/Heating	CFM / CFM	4,975 / 4,975
	Sound Pressure Level, Cooling ¹	dB (A)	58
	Sound Pressure Level, Heating ²	dB (A)	59
	Compressor Type		Twin Rotary
	Compressor Model		MRK53FFJMC-L
	Compressor Motor Output	kW	4.1
	Compressor Oil Type // Charge	Type // oz	RM68EH // 78
	External Finish Color		Munsell 3Y 7.8/1.1
	Base Pan Heater		Built-in
	Unit Dimensions (W x D x H)	inch x inch x inch [mm x mm x mm]	41-11/32 x 13 x 52-11/16 [1,050 x 330 x 1,338]
	Package Dimensions (W x D x H)	inch x inch x inch [mm x mm x mm]	43 x 18 x 58-5/16 [1,090 x 450 x 1,480]
Unit Weight	lbs [kg]	283 [128]	
Package Weight	lbs [kg]	304 [138]	
ODU Operating Temp. Range	Cooling Intake Air Temp (Maximum / Minimum ^c)	°FDB / °FDB	115 / 23
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB / °FDB	N/A / N/A
	Heating Intake Air Temp [Maximum / Minimum]	°FDB , °FWB / °FDB , °FWB	70 , 59 / -13 , -13
	Heating Thermal Lock-out / Re-start Temperatures**	°FDB / °FDB	-24 / -14
	Type		R454B
Refrigerant	Pre-Charged Refrigerant Amount	lbs , oz	6 , 10
	Additional Refrigerant Charge Per Additional Piping Length	oz/ft	0.22
	Maximum Number of Connected IDU with Branch Box ^A		8
IDU Connection	Maximum Number of Connected IDU without Branch Box		12
	Minimum Connected Capacity with Branch Box	Btu/h	12,000
	Minimum Connected Capacity without Branch Box	Btu/h	30,000
	Maximum connected capacity	Btu/h	78,000
<p>NOTES</p> <p>¹Cooling at 95°F (Indoor: 80°F DB, 67°F WB // Outdoor: 95°F DB, 75°F WB)</p> <p>²Heating at 47°F (Indoor: 70°F DB, 60°F WB // Outdoor: 47°F DB, 43°F WB)</p> <p>³Heating at 17°F (Indoor: 70°F DB, 60°F WB // Outdoor: 17°F DB, 15°F WB)</p> <p>⁴Heating at 5°F (Indoor: 70°F DB, 60°F WB // Outdoor: 5°F DB, 4°F WB)</p> <p>⁵Heating at -13°F (Indoor: 70°F DB, 60°F WB // Outdoor: -13°F DB, -14°F WB)</p> <ul style="list-style-type: none"> • Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions. • A Maximum connected units reduced when PLA connected. Refer to manual for details • 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 <p>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.</p> <p>** Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):</p> <ul style="list-style-type: none"> • System cuts out in heating mode and automatically restarts at these temperatures. ^ANominal capacity only. Actual capacity output varies based on the system-specific configuration. 			

SPECIFICATIONS: MXZ-SM60NLHZ

Specifications			System
Unit Type			MXZ-SM60NLHZ
Piping	Liquid Pipe Size O.D. (Flared)	inch [mm]	3/8 [9.52]
	Gas Pipe Size O.D. (Flared)	inch [mm]	3/4 [19.05]
	Total Piping Length when using Branch Box	ft [m]	492 [150]
	Total Piping Length without Branch Box	ft [m]	492 [150]
	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]	39 [12]
	Maximum Height Difference between IDU and IDU without branch box	ft [m]	49 [15]
	Maximum 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]	262 [80]
	Farthest Piping Length after Branch Box	ft [m]	82 [25]
	Total Piping Length between Branch Boxes and IDU	ft [m]	312 [95]
	Maximum Number of Bends for IDU		15

NOTES

¹Cooling at 95°F (Indoor: 80°F DB, 67°F WB // Outdoor: 95°F DB, 75°F WB)

²Heating at 47°F (Indoor: 70°F DB, 60°F WB // Outdoor: 47°F DB, 43°F WB)

³Heating at 17°F (Indoor: 70°F DB, 60°F WB // Outdoor: 17°F DB, 15°F WB)

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

⁵Heating at -13°F (Indoor: 70°F DB, 60°F WB // Outdoor: -13°F DB, -14°F WB)

• Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

• A Maximum connected units reduced when PLA connected. Refer to manual for details

• 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 Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):

• System cuts out in heating mode and automatically restarts at these temperatures.

³Nominal capacity only. Actual capacity output varies based on the system-specific configuration.

OUTDOOR UNIT ACCESSORIES: MXZ-SM60NLHZ

Air Deflector	Vertical Air Deflector	ADV-1
Air Outlet Guide	Air Outlet Guide 1 Piece	PAC-SH96SG-E (two pieces required)
Alarm Kit	Power supply interface for Alarm Kit	PAC-IF55AL-E
	Alarm kit	PAC-SL54AL-E
Ball Valve	Refrigeration Ball Valve - 3/8	BV38FFSI2
	Refrigeration Ball Valve - 5/8	BV58FFSI2
	Refrigeration Ball Valve - 1/4	BV14FFSI2
	Refrigeration Ball Valve - 1/2	BV12FFSI2
Branch Box	Branch Box Enclosure	BBE-1
	5 Port Branch Box	PAC-LMA50BC
	3 Port Branch Box	PAC-LMA30BC
Centralized Drain Pan	Centralized Drain Pan	PAC-SH97DP-E
Control Wire	M-Net Control Wire 1000 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
DSD-400P	Outdoor Unit 3-14 inch Mounting Base Pair - Plastic	DSD-400P
Distribution pipe	Brazed Connection	MSDD-50BR-E
	Flare Connection	MSDD-50AR2-E
Drain Socket	Drain Socket	PAC-SG60DS-E
Hail Guards	Hail Guard	HG-A2
Mini-Split Wire	16 Gauge 4 wire MiniSplit Cable250 ft roll	S164-250
	14 Gauge 4 wire MiniSplit Cable250 ft roll	S144-250
	16 Gauge 4 wire Armored MiniSplit Cable50 ft roll	SW164-50
	14 Gauge 4 wire Armored MiniSplit Cable250 ft roll	SW144-250
	14 Gauge 4 wire Armored MiniSplit Cable50 ft roll	SW144-50
	16 Gauge 4 wire Armored MiniSplit Cable250 ft roll	SW164-250
	14 Gauge 4 wire MiniSplit Cable50 ft roll	S144-50
Mounting Pad	Condensing Unit Mounting Pad 24 x 42 x 3	ULTRILITE2
Optional Defrost Heater	Optional Defrost Heater	PAC-SJ20BH-E
Port Adaptor	Adaptor 3/8 x 1/2	ADP3812
	Adaptor 3/8 x 5/8	PAC-SK90RJ-E
	Adaptor 1/4 x 3/8	PAC-SJ87RJ-E
	Adaptor 1/2 x 3/8	PAC-SK88RJ-E
	Adaptor 1/2 x 5/8	PAC-SK89RJ-E
Snow/Rain Diverter	SnowRain Diverter	SRD-5
Stand	12" Dual Fan Stand	QSMS1202M
	18" Dual Fan Stand	QSMS1802M
	Condenser Wall Bracket - Stainless Steel Finish	QSWBSS
	Condenser Wall Bracket	QSWB2000M-1
	24" Dual Fan Stand	QSMS2402M
Terminal Signal Adapter	3-Pin Connector	PAC-715AD
	Connector and wire for Operation status/error using CN51	PAC-725AD
Wind Baffle	Front Wind Baffle	WB-PA3 (two pieces required)
NOTES		

