



Heating and Cooling

Submittal Data: PAA-A24(A)(B)A1-M & PUZ-HA24NHA1

24,000 BTU/H Multi Position A-Coil Cold Climate Heat Pump System

Job Name:	Location:		
Purchaser:	Submitted By:		
Submitted To:	Reference:	Approval:	Construction:
Engineer:	Date:	Application:	

PAA-A24AA1-M



PAA-A24BA1-M



Optional Controller

Images provided for reference purposes only

Outdoor Standard Features:	Description:
Blue Fin Coating	Prolong condenser operating life
Inverter Motor	Energy efficient operation with variable speed DC motor
Built in base pan heater	Automated control to prevent premature failure of condenser coil
Auto mode	Automatically switches between heating & cooling modes
Fast Auto restart	Automatically restarts after power failure return
Automated compressor cutout	Prevents inefficient operation & protects compressor
Cold climate heat pump	
Indoor Standard Features:	Description:
Economic Balance Point	Allows the customer to choose the outdoor ambient temperature to switch from heat pump to furnace
Capacity Balance Point	Allows the customer to determine the length of time (24 to 29 minutes) the heat pump will attempt to heat the space before switching to furnace (as an auxiliary heat source)
Emergency Mode	The system will operate in furnace mode when in error
Auto Restart Function	Auto-recovery after power failure (must be activated on controller mode #1 set to 2)
Description: (Optional Accessories)	Model No.
Front Windscreen	PFR-24-30
Rear Snow Guard	PRE-24-30
Side Snow Guard	PSD-24-30

Note:

- (1) To be installed by a trained and licensed refrigeration mechanic;
- (2) Suitable for installation with an ANSI certified gas furnace (Z21.47/CSA2.3);
- (3) Not suitable for installation with OIL or DRUM type furnaces;
- (4) Supply air temperature must not exceed 200°F (93.3 °C);
- (5) Furnace output capacity shall not be greater than 300% of the rated PAA cooling capacity;
- (6) Configure furnace fan such that the airflow is greater than or equal to 350 CFM per ton and less than or equal to 400 CFM per ton of nominal PAA unit cooling capacity. In down flow orientation, the furnace fan should be configured to maintain an airflow face velocity below 350 ft/min to prevent water blow-off;
- (7) For detailed requirements, review PAA Installation Manual at: <http://www.mitsubishitechinfo.ca/>

Note:

1. Mitsubishi Electric Sales Canada Inc. (MESCA) supports the use of only MESCA supplied and approved components and accessories for proper functioning of the unit(s). Use of non - MESCA supported components and accessories will affect warranty coverage. MESCA recommends (A) consideration of all applicable design and application parameters and requirements specific to any project.
2. Should any person change this document in any manner whatsoever without MESCA's written permission, the document shall be of no force and effect and any change shall be deemed to be a representation and warranty made by that person and not MESCA. That person, and not MESCA, shall assume full responsibility for the consequences of such changes. MESCA assumes no responsibility for any consequences in such cases.

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Performance:

Cooling at 95°F ^{*1}	Rated Capacity	Btu/h	24,000
	Capacity Range	Btu/h	11,800 - 24,000
	Rated Power Input	W	2,180
	Power Input Range	W	780- 2,180
	Moisture Removal	pints/h	5.0
	Sensible Heat Factor		0.77
Heating at 47°F ^{*1}	Rated Capacity	Btu/h	26,000
	Capacity Range	Btu/h	11,100 - 26,000
	Rated Power Input	W	2,140
	Power Input Range	W	690 - 2,140
Heating at 17°F ^{*2}	Maximum Capacity	Btu/h	26,000
	Rated Capacity	Btu/h	16,000
	Capacity Range	Btu/h	6,800 - 26,000
	Maximum Power Input	W	3,760
	Rated Power Input	W	2,030
Heating at 5°F ^{*3}	Power Input Range	W	700 - 3,760
	Maximum Capacity	Btu/h	26,000
	Maximum Power Input	W	4,100
Heating at -5°F	Maximum Capacity	Btu/h	23,300
	Maximum Power Input	W	4,120
Heating at -13°F	Maximum Capacity	Btu/h	20,800
	Maximum Power Input	W	4,140

Efficiency:

SEER / SEER2		15.0 / 14.3
EER / EER2		11.0 / 10.5
HSPF / HSPF2 (IV) / (V)		9.50 / 8.50 / TBA
COP at 47°F ^{*1}	Rated Capacity	3.55
COP at 17°F ^{*2}	Maximum Capacity	2.02
COP at 5°F ^{*3}	Maximum Capacity	1.90

Electrical:

Power Supply		208/230V, 1Ph, 60Hz
Voltage: Indoor - Outdoor, S1-S2	V AC	AC 208/230V
Voltage: Indoor - Outdoor, S2-S3	V DC	10-24VDC
Short-circuit Current Rating (SCCR)	kA	5
Recommended Fuse/Breaker Size (Outdoor)	A	25
Recommended Wire Size (Indoor - Outdoor)	AWG	14

Outdoor Temperature Operation Range:

Cooling	°F (°C)	* ⁴ 0 to 115 (-18 to 46) D.B -13 to 75 (-25 to 24), W.B. -13 to 59 (-25 to 15)	
Heating	°F (°C)		
Cooling Operation Thermal Lock-out / Re-start Temperatures		°F (°C)	-1 / 3 (-18 / -16)
Heating Operation Thermal Lock-out / Re-start Temperatures		°F (°C)	-22 / -13 (-30 / -25)

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

NOTES : *1. Rating conditions (cooling)-Indoor: D.B. 80°F (26.7°C), W.B. 67°F (19.4°C) Outdoor: D.B. 95°F(35°C), W.B. 75°F (23.9°C)

(heating)-Indoor: D.B. 70°F (21.1°C), W.B. 60°F (15.6°C) Outdoor: D.B. 47°F (8.3°C), W.B. 43°F (6.1°C)

*2. Conditions (heating)-Indoor: D.B. 70°F (21.1°C), W.B. 60°F (15.6°C) Outdoor: D.B. 17°F (-8.3°C), W.B. 15°F (-9.4°C)

*3. Conditions (heating)-Indoor: D.B. 70°F (21.1°C), W.B. 60°F (15.6°C) Outdoor: D.B. 5°F (-15°C), W.B. 5°F (-15°C)

*4. Cooling at 0 °F, wind baffle accessory required. Without wind baffle accessory, the minimum temperature will be 23°F (-5°C).

^{a)} CFM @ 350 per tons.



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Indoor Unit Specifications:

Models	Airflow rate*	W: In.	D: In.	H: In.	W: mm	D: mm	H: mm	kg (lbs)				
PAA-A24AA1-M	700	14.5	21.3	26.4	368	543	670	22 (48)				
PAA-A24BA1-M	700	17.5	21.3	26.4	445	543	670	26 (58)				
* Target airflow rate for Y or Y1 signal					Not including connection pipes.							
Internal static pressure	in. WG	0.3 (According to AHRI - 210/240, where this is the maximum allowable internal static pressure for "Coil Only" systems)										
	[Pa]	75 (According to AHRI - 210/240, where this is the maximum allowable internal static pressure for "Coil Only" systems)										
MCA		A			0.2							
Drain Pipe Size		In. (mm)			3/4 (19.05)							
External Finish Color					Galvanized Steel							

Outdoor Unit Specifications:

MCA	A	17
MOCP	A	27
Fan Motor Output	kW	0.074
Airflow Rate (Cooling/Heating)	CFM	1,940 / 1,940
Sound Pressure Level, Cooling1	dB(A)	52
Sound Pressure Level, Heating2	dB(A)	53
Refrigerant Control	Electronic Expansion Valve	
Compressor Oil Type / Charge	oz.	FVC68D / 34 oz
External Finish Color	Ivory Munsell 3Y 7.8/1.1	
Unit Weight	kg (lbs)	86 (190)
Unit Dimensions	W: In. (mm)	37-13/32 (950)
	D: In. (mm)	12-63/64 + 63/64 (330 + 25)
	H: In. (mm)	37-1/8 (943)
Gas Pipe Size O.D. (Flared)	In. (mm)	5/8 (15.88)
Liquid Pipe Size O.D. (Flared)	In. (mm)	3/8 (9.52)
Maximum Height Difference	Ft. (m)	100 (30)
Maximum Piping Length	Ft. (m)	100 (30)

Description: (Optional Controls)

Model No.

Wired wall mounted remote control PAR-40MAAU

Wireless wall mounted remote control MHK2

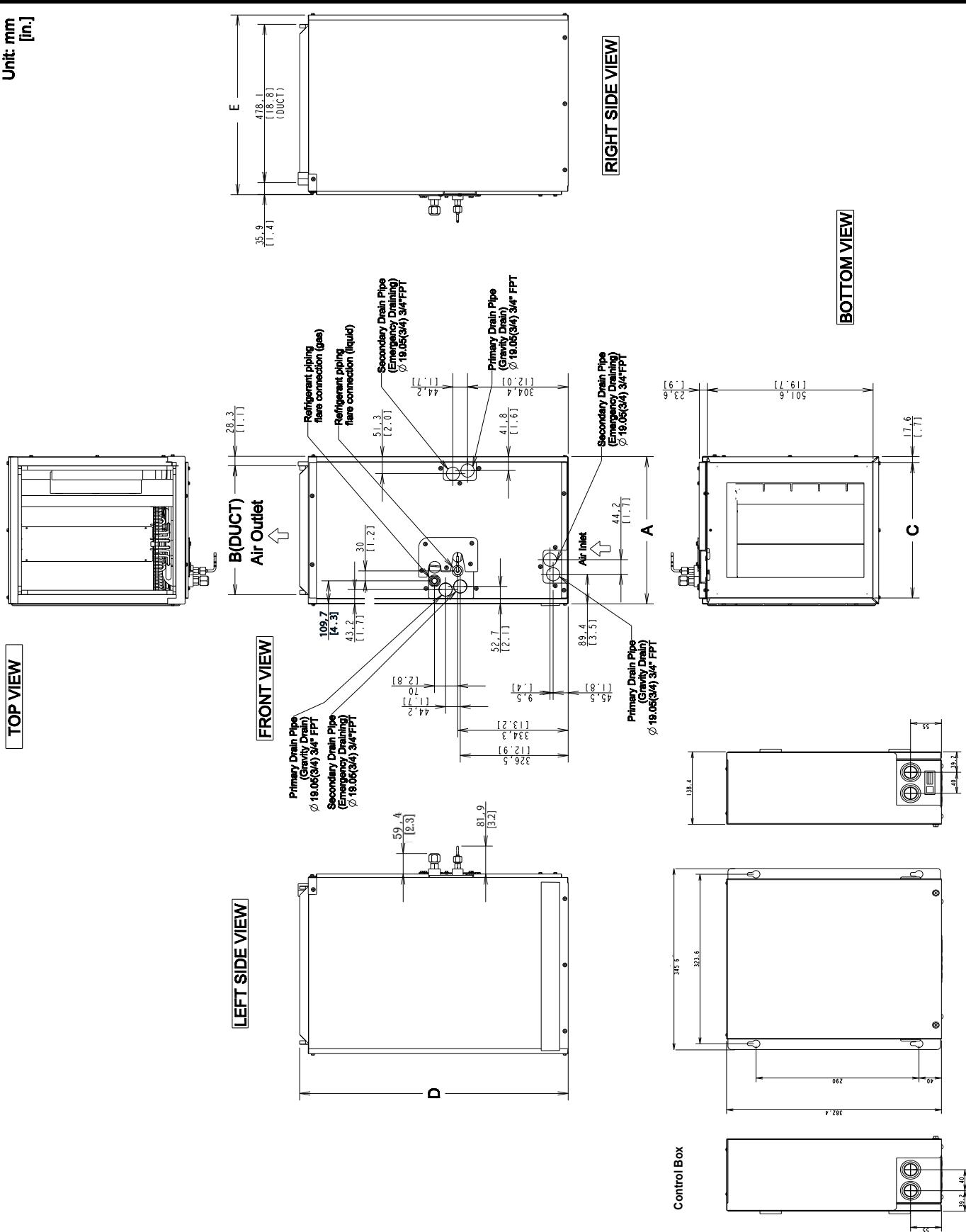
North American T-Stat Interface RMF-CA100

Indoor Unit Dimensions:

Model	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	E mm (inches)
PAA-A24AA1	368.3 (14-1/2)	313.1 (12-5/16)	332.7 (13-1/16)	670.2 (26-3/8)	543 (21-3/8)
PAA-A24BA1	445.0 (17-1/2)	390 (15-5/16)	409.6 (16-1/8)	670.2 (26-3/8)	543 (21-3/8)

Indoor Unit Outline and Dimensions:

Unit: mm
[in.]

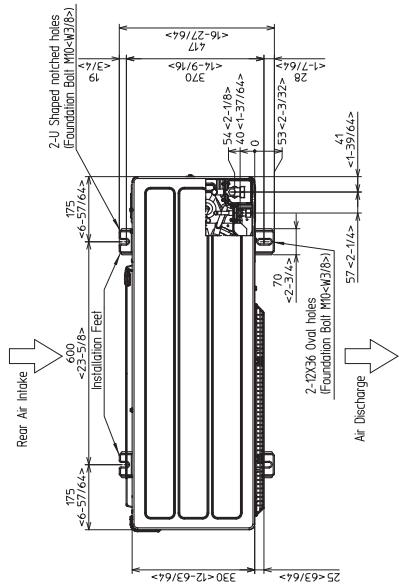




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Outdoor Unit Outline and Dimensions:

Unit: mm<in>



Example of Notes

① ... Refrigerant GAS pipe connection
(FLARE) Ø15.885/8F).

② ... Refrigerant LIQUID pipe connection
(FLARE) Ø9.52(3/8").

*1 . . . Indication of VALVE connection location.

