

Submission Data: PUMY-HP48NKMU2

Air Source Heat Pump System

Job Name:	Location:
Purchaser:	Submitted By:
Submitted To:	Reference: <input type="checkbox"/> Approval: <input type="checkbox"/> Construction: <input type="checkbox"/>
Engineer:	Date: Application:



Images provided for reference purposes only

- Single-phase Outdoor unit with variable refrigerant flow (VRF) zoning technology
- Inverter-driven variable speed compressor
- Uses CITY MULTI indoor units and Control Network
- Compatible with M&P series Indoor Units with Branch Box
- Base pan heater included

Performance:

Power supply				1-phase 208/230 V, 60 Hz		
Indoor type				Non-Ducted	Mixed	Ducted
Cooling	Capacity Rated ¹		Btu/h	48,000	48,000	48,000
	Rated power consumption ¹		W	3,665	4,070	4,575
	Current input (208/230V)		A	17.9/16.2	19.9/18.0	22.3/20.2
Heating	Capacity Rated 47°F ¹		Btu/h	54,000	54,000	54,000
	Capacity Max. 17°F ²		Btu/h	54,000	54,000	54,000
	Capacity Max. 5°F		Btu/h	47,000	47,000	47,000
	Rated power consumption 47°F ¹		W	3,960	4,400	4,950
	Current input (208/230V)		A	19.3/17.5	21.5/19.4	24.2/21.8
Breaker size				40 A - When power is supplied separately		
Minimum wire size				45 A - When power is supplied from the outdoor unit		
				8.4(8AWG) - When power is supplied separately		
				13.3(6AWG) - When power is supplied from the outdoor unit		
Indoor unit connectable		Total capacity		50 to 130% of outdoor unit capacity		
		Model/Quantity ³	CITY MULTI	04 - 54/12		
			Branch box	06 - 36/8		
Sound pressure level (measured in anechoic room)				dB <A>		
				51/54		
Refrigerant piping diameter		Liquid pipe	inch (mm)	3/8 (ø9.52)		
		Gas pipe	inch (mm)	5/8 (ø15.88)		
Fan	Type × Quantity			Propeller fan × 2		
	Airflow rate		m ³ /min	110		
			cfm	3,885		
	Control, Driving mechanism			DC control		
	Motor output		kW	0.074 × 2		
Compressor	Type × Quantity			Scroll hermetic compressor x 1		
	Manufacture			Mitsubishi Electric Corporation		
	Starting method			Inverter		
	Motor output		kW	3.4		
	Lubricant			FV50S 78oz. (2.3L)		
External finish				Galvanized Steel Sheet <Munsell 3Y 7.8/ 1.1>		
External dimension		HxWxD		mm	1,338 × 1,050 × 330 (+25)	
				inch	52-11/16 × 41-11/32 × 13 (+1)	
Protection devices	High pressure protection			High pressure switch		
	Inverter circuit (COMP./FAN)			Overcurrent detection, Overheat detection (Heat sink thermistor)		
	Compressor protection			Compressor thermo, Overcurrent detection		
	Fan motor protection			Overheating/Voltage protection		
Refrigerant	Type × original charge			R410A 10 lbs. 9 oz. (4.8kg)		
	Control			Linear Expansion Valve		
Net weight			lb (kg)	278 (126)		
Heat exchanger				Cross fin and tube		
HIC circuit (HIC: Heat Inter-Changer)				HIC circuit		
Operating Temperature Range		(Cooling)		D.B 23 to 115°F [D.B.-5 to 46°C] ^{4, 5, 6}		
		(Heating)		D.B.-13 to 70°F [D.B. -25 to 21°C]		
AHRI Ratings		EER2		13.1	11.8	10.5
		SEER2		23	19.5	16
Non-Ducted/ Mixed/ Ducted		HSPF2 (Region IV/ V)		11.5 / 9.80	10.5 / 9.05	9.50 / 8.30

NOTES:

¹ Rating conditions Cooling Indoor : D.B. 80°F/W.B. 67 °F [D.B.26.7°C/W.B. 19.4°C]

Outdoor : D.B. 95°F [D.B. 35.0°C]

Heating Indoor : D.B. 70°F [D.B. 21.1°C]

Outdoor : D.B. 47°F/W.B. 43°F [D.B. 8.3°C/W.B. 6.1°C]

² Conditions Heating Indoor : D.B. 70°F [D.B. 21.1°C]

Outdoor : D.B. 17°F/W.B. 15°F [D.B. -8.3°C/W.B. -9.4°C]

³ It cannot be connected mixed CITY MULTI indoor unit and branch box indoor unit.

⁴ D.B. 5 to 115°F [D.B. -15 to 46°C], when an optional Air Outlet Guide is installed.

However, this condition does not apply to the indoor units listed in #5.

⁵ 50 to 115°F (10 to 46°C) D.B.: When connecting PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU type indoor unit.

⁶ When the temperature is below D.B. 50°F [D.B. 10°C] with branch box system, noise could potentially occur.

Note: Refer to the indoor unit's service manual for the indoor units specification.

PUMY-HP48NKMU2	Capacity (Btu/h)	COP
	-25°C / -13°F	-25°C / -13°F
Ductless	42,600	1.5
Mixed	42,600	1.44
Ducted	42,600	1.4

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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 ^A , ODU above IDU	Ft. [m]	164 [50]
Maximum Height Difference ^A , ODU below IDU	Ft. [m]	131 [40]
Maximum Height Difference ^A , between branch boxes	Ft. [m]	49 [15]
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]	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	Ft. [m]	15

^AA Branch box should be placed within the level between the outdoor unit and indoor units.

The outdoor unit is lower: 131ft [40m] or less (98ft [30,] or less if PKFY-P04/06/08/12NLMU, PFFY-P06/08/12NEMU, and PFFY-P06/08/12NRMU are included.)

Optional Accessories	Description	Model No.
Branch Box	3 Port Branch Box	PAC-MKA32BC
	3 Port Branch Box	PAC-MKA33BC
	5 Port Branch Box	PAC-MKA52BC
	5 Port Branch Box	PAC-MKA53BC
Branch Joint	T-Branch	CMY-Y62-G-E
Header	4 Branch	CMY-Y64-G-E
	8 Branch	CMY-Y68-G-E
Centralized Drain Pan	Central Drain Pan	PAC-SH97DP-E
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
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
Snow/Wind Guard	Front	CM-S-FR-NKMU (two pieces are required)
Snow/Wind Guard	Rear	SG-1-RE
Snow/Wind Guard	Side	SG-1-SD
Snow/Wind Guard	Blocker	CM-S-BLK-NKMU

Note: Mitsubishi Electric (MESCA) supports the use of only MESCA supplied and approved Snow Guard / Wind Deflectors / Windscreens and accessories for proper functioning of the unit(s).

Use of non-MESCA supported Snow Guard / Wind Deflectors / Windscreens and accessories will affect warranty coverage.

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All electrical work shall comply with National (CEC) and local codes and regulations.

Notes: