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<p>Quality Management System Certificate</p>  <p>Certified to ISO 9001:2008 Cert. No.: MY-AR 1010</p>	<p>Certified to ISO 9001:2008</p> <p>Panasonic HA Air-Conditioning (M) Sdn.Bhd. Cert. No.: MY-AR 1010</p>	
<p>Environmental Management System Certificate</p>  <p>Certified to ISO 14001:2004 Cert. No.: MY-ER 0112</p>	<p>Certified to ISO 14001:2004</p> <p>Panasonic HA Air-Conditioning (M) Sdn.Bhd. Cert. No.: MY-ER 0112</p>	



ECO i EX
 Eco Extreme

Variable Refrigerant Flow (VRF), Multi-Zone,
 Heat Pump & Heat Recovery Systems



Because its products are subject to continuous improvements, Panasonic reserves the right to modify product design and specifications without notice and without incurring any obligations.
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 **Caution Related to Safety** Do not add or replace refrigerant other than the specified type. Manufacturer is not responsible for the damage and deterioration in safety due to usage of other refrigerant.

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A Better Life, A Better World

Since the founding of Panasonic Corporation, our management philosophy has driven us to contribute to people’s lives and the progress of society.

In 2018, Panasonic will celebrate its 100th anniversary. As we prepare to greet a new century in business, the world is witnessing a major turning point in the way we live. It is no longer practical to pursue extravagant lifestyles that consume large amounts of natural resources and energy. We must create a new way of living that minimizes the burden we place on the environment, while raising our standard of living. This is Panasonic’s mission – the creation of new lifestyle values.

Through our complete HVAC solutions, we are committed to delivering “A Better Life, A Better World” to every customer.



A partner in the lives of people all over the world.

For the Living Inside & Out

Contractors. Building Support.

At Panasonic, we realize contractors are looking for turnkey installation and support. ECOi™ is quite simply the perfect building solution. With its modular design and ease of installation, it’s a solution that can grow with any building project. In fact, ECOi may just remind you why you got into the business in the first place.

Engineers. Designing Confidence.

ECOi™ is absolute confidence. Its flexibility allows multiple applications and installation configurations. With a maximum pipe length of up to 3,280 feet and up to 64 units connected to one outdoor system you can engineer a perfect solution for all your needs. ECOi is a superior modular option that provides for floor-by-floor commissioning.

Architects. Design Freedom. Now There’s An Idea.

Nobody understands design freedom more than architects. That’s why the ECOi HVAC system provides more freedom to meet any design need. With space-saving environmentally-friendly designs, you can design your vision first then marry our system within your plans.

Owners & Tenants.

Immediate response to changing room capacity, heat loads, and varying sun exposures throughout the day means everybody stays cool and comfortable. ECOi ensures individual zone temperature control so each office or room can be adjusted for personalized comfort. ECOi can grow with you. As remodeling occurs and building extensions are planned, ECOi’s modularity lets you simply add on to the system. With intelligent controllers, VRF technology and R410A refrigerant, ECOi guarantees continued energy savings and environmental friendship for years to come.

ECOi™ – Your Building Life Tool

ECOi has a number of diverse features to meet all your air conditioning needs, including flexible combinations. ECOi allows multiple indoor unit combinations that provide you with the utmost flexibility. The system also allows multiple unit connectivity providing up to 200% of the total capacity of the condensing unit. This provides 20-39 (6-12 tons) connected to one condensing unit.

Inverter Control Compressor: All ECOi systems utilize highly advanced inverter controlled compressor technology. By varying the rotational speed of the compressor, the inverter control can precisely match the amount of refrigerant being delivered to each zone. This intelligent approach helps realize the highest efficiencies during partial-load conditions. This allows all occupants to enjoy consistent room temperature regardless of any increases or decreases in the heat load during the day. ECOi quite simply knows what you need, and when you need it throughout the day.

Lower running and life cycle costs: ECOi VRF systems are among the most efficient systems on the market, offering COPs in excess of 4.0 at full load conditions. Using our intelligent control sequence, all VRF systems are designed to minimize running costs. This is done by the most efficient combination of compressor, fan, and refrigeration management criteria. Improved defrost sequencing reduces running cost and defrost cycle.

ECOi™ VRF Series

NEW

ME2series 2-WAY ECOi EX™ VRF HEAT PUMP

Panasonic's combined ECOi EX 2-Way conditioning solution offers superior heating and cooling coupled with cost effective installation. A smart conditioning solution for large capacity jobs.

- Dual large-capacity inverter compressors (models above U-120MEU9)
- Outstanding energy saving performance: IEER : 19.1 / EER : 12.3 (in the case of 6 tons)
- Exceptional flexible piping design:
 - Maximum total piping length - 3,280 Feet
 - Maximum outdoor to most distant indoor unit - 164 Feet
- Extended operating range (Outdoor Temperature)
 - Cooling 14 °F DB to 122 °F DB
 - Heating -4 °F WB to 64 °F WB
- Maximum outdoor unit connects as many as 64 indoor units (50%-200% ratio of indoor to outdoor capacity)
- Expanded system capacity range (up to 30 tons)



NEW ME2 series 2way ECOi EX™

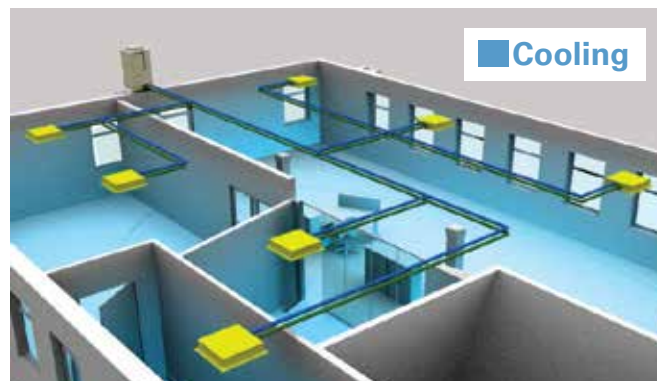
LE 2-WAY MINI ECOi™ VRF HEAT PUMP

Panasonic 2-WAY mini ECOi is a 2-pipe heat pump specifically designed for numerous commercial and premium residential applications. Mini ECOi is available in 2 sizes with cooling capacities ranging with up to 9 indoor units connectable.

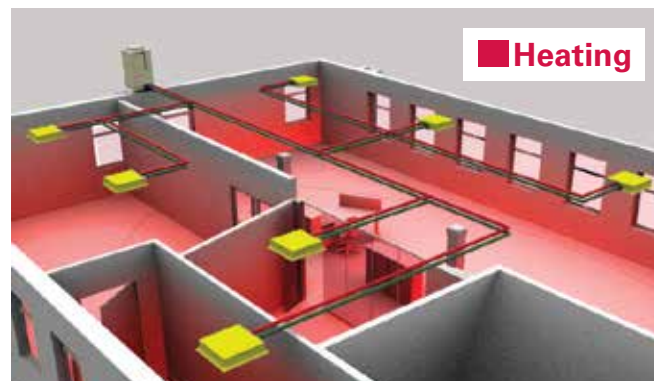
- Inverter Driven Twin Rotary Compressor
- One outdoor unit connects as many as 9 indoor units (50%-130% ratio of indoor to outdoor capacity)
- Nominal operating range (outdoor ambient)
 - Cooling 14 °F DB to 113°F DB
 - Heating -4 °F WB to 59 °F WB
- Flexible piping design:
 - Maximum total piping length - 656 Feet
 - Maximum outdoor to most distant indoor unit - 164 Feet



Cooling and Heating Type
LE 2-WAY



Cooling



Heating

MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES

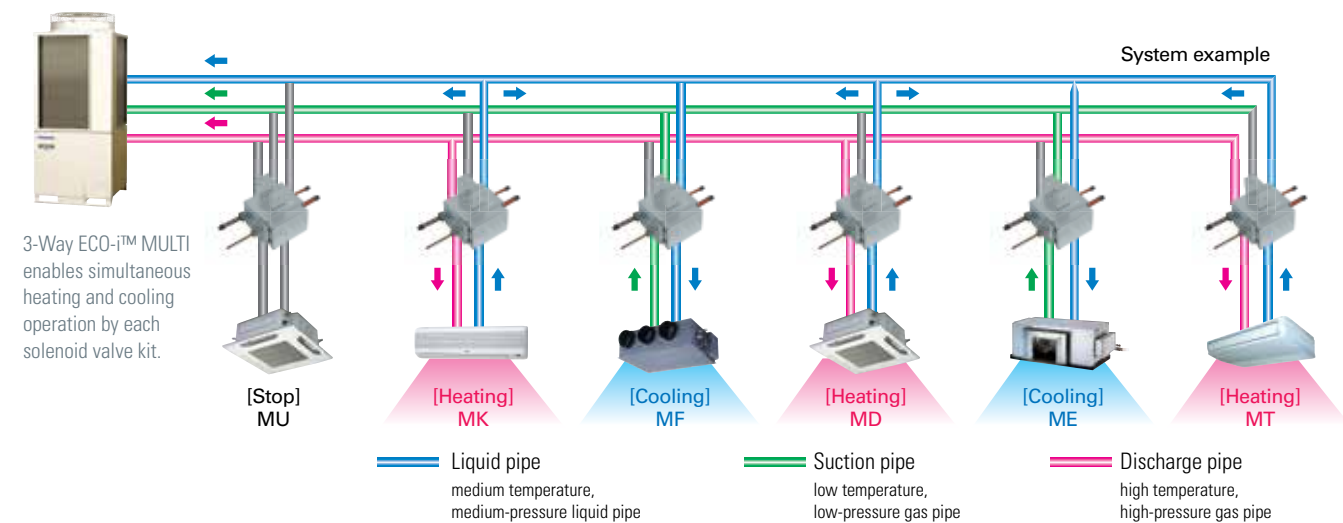
Commercial office buildings are subject to fluctuating heat levels generated from office equipment, lighting and varying occupant levels. Also, hotels, nursing homes and other commercial living spaces often have times when occupants will want either heating or cooling at the same time. The heat recovery system offers the perfect solution for stabilizing air temperature by providing all the features of a heat pump system and the added flexibility of simultaneous cooling and heating from one refrigerant pipe network.

- Ultra high performance: efficient individual air conditioning is possible in buildings having diverse room temperatures for simultaneous heating/cooling and individual operation of each indoor unit.
- Effective heat recovery system enables higher energy savings
- Improves discharge air temperature of indoor units during heating and simultaneous mode operation
- Flexible system design with Solenoid Valve Kit (can be piped up to 98 ft. from indoor unit)



Cooling and Heating
Simultaneous Type

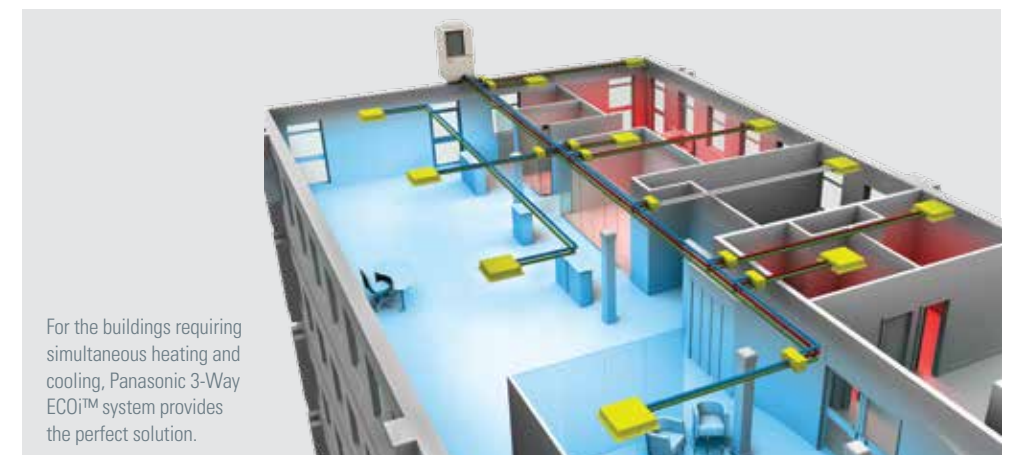
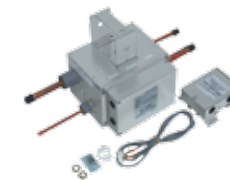
■ Simultaneous Heating & Cooling Operation



Solenoid valve kit

- CZ-P56HR1U (For 7,500 BTU/H to 19,000 BTU/H)
- CZ-P160HR1U (For 19,100 BTU/H to 54,600 BTU/H)

* For conference rooms and other locations where low noise is required, pay attention to the installation location and install in a corridor etc.



For the buildings requiring simultaneous heating and cooling, Panasonic 3-Way ECOi™ system provides the perfect solution.

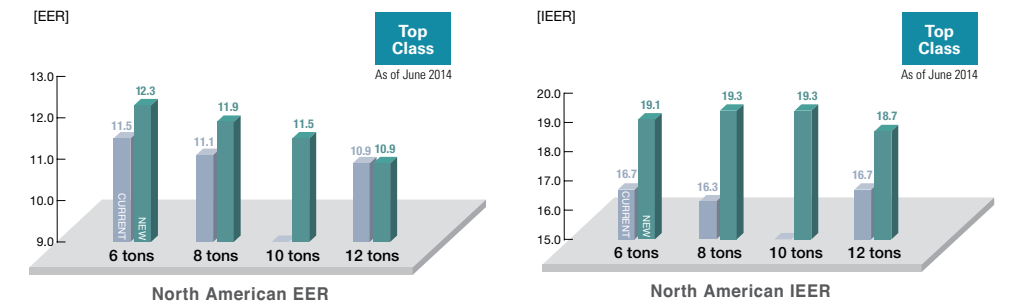
Product Advantages



Outstanding Energy-Saving Performance

IEER19.3 / EER 12.3 (6, 8, 10, 12 tons) top level in the industry

Thanks to the all inverter compressors combinations with improved combined triple-surface heat exchanger and medium cooling capacity, the new ME2 Series achieved the industry's top level energy saving performance.



Exceptional Design Flexibility

Up to 30 tons large-capacity single system

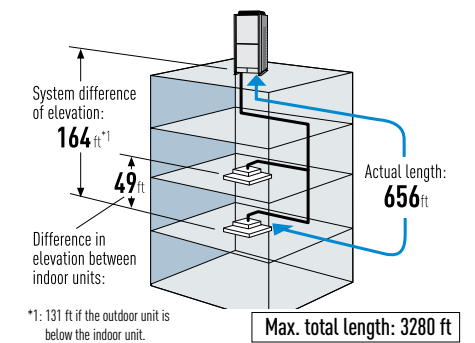
Combined outdoor units delivering a maximum of up to 30 tons. (Ducted combination)



Long actual piping length max. of 656 ft

The accumulator, compressor and oil separator are combined in a single unit to enable long 656 ft piping (equivalent to 689 ft), 164 ft after first branch. This extends the piping distance between indoor units and outdoor units.

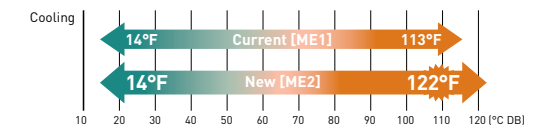
(Current models: 492/574 ft, 131 ft after branching)



Extended Operating Range

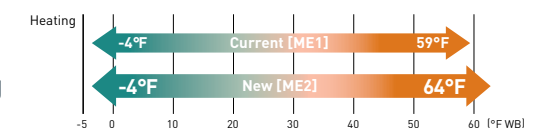
Cooling operation range: 14°F (WB) to 122°F (DB)

The cooling operation range has been extended up to 122°F (DB) (Up to 113°F with current models). Cooling is also possible when the outdoor temperature is 14°F (WB). Suitable for use in cold regions where year-round cooling is required, as well as in the hot regions where cooling is needed the most.



Heating operation range: -4°F to 64°F

The heating operation range has been extended to -4°F to 64°F by use of a compressor with a high-pressure vessel. Provides powerful heating even in the extremely cold regions.



Core Technologies



Outstanding Energy-saving Technology

1 Dual large-capacity inverter compressors

Two independently controlled inverter compressors achieve high efficiency (For models U-120ME2U9 and above).



2 Enlarged heat exchanger surface area with triple surface

- The new large size heat exchanger features a 3-sides construction. Compared to the conventional 2 (upper/lower) compartments outdoor unit structure, the new model has more efficient heat exchanging performance.



Current model [ME1] New model [ME2]
10, 12 tons

3 Gas-liquid separation + oil separation for increased efficiency

- Accumulator: Increases gas-liquid separation efficiency to reduce compressor pressure loss.
- Oil separator: Efficiently separates and absorbs refrigeration oil to prevent it flowing into the heat exchanger.

Redesigned for Smooth and Better Air Discharge

4 Large air discharge area with new flush surface top panel.

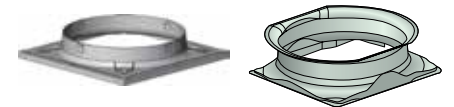
To reduce air resistance, a new large flat fan guard design (instead of a tubular fan design), flush with the top panel, is employed. This design leads to improvements in air resistance, and contributes to better appearance.



Current model [ME1] New model [ME2]

5 Newly designed curved air discharge bell mouth for better aerodynamics

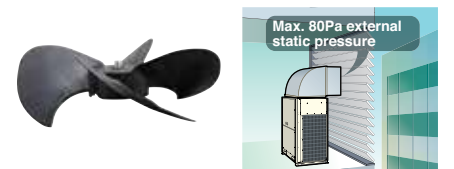
The new curved shape with integrated top and bottom assure smooth air discharge flow. Minimal swirling means an increased flow rate.



Current model [ME1] New model [ME2]

6 High 80Pa external static pressure – large diameter fan (27-1/2")

A large, newly-designed 27-1/2" diameter fan. High 80Pa external static pressure maintains performance in winds around large buildings. Ideal for high-rise buildings.



High-spec Wired Remote Controller

NEW



1
Large 3.5" Full-dot LCD with White LED Backlight

Characters and icons are clearly displayed for improved visibility. The display is also large enough to provide a wide range of information for easy confirmation of operation conditions.

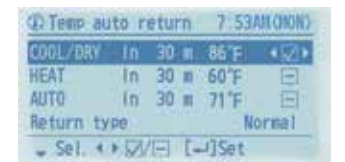
2
Stylish, Easy-to-use Touch Key Design

The elegant, flat design features large touch keys in a simple layout enabling easy, intuitive operation.

Multiple Control Setting Functions for More Energy Saving

Temperature Auto Return

Even if you change the temperature setting, after a set time it automatically returns to the original temperature setting. You can set temperature auto return in 10-minute intervals within a period of 4 hours.



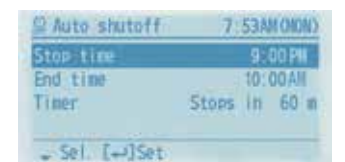
Temperature Setting Range

Both maximum and minimum temperature settings can be limited. Doing this helps reduce power consumption due to over cooling or heating. Setting is possible in the Cooling, Heating and Dry modes.



Auto Shutoff

Air conditioning operation can be programmed to stop its operation automatically after a set time, so you don't have to remember to manually switch the unit off. Even if you manually switch the unit back on after it has stopped, the program will continue to activate and continue to switch off the operation after a set time.



Other Convenient Controls

Individual Louver Control

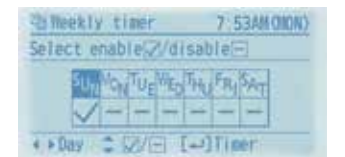
(Lock individual flap only for 4-way cassette MU type)

Each of the 4-directional outlets can be selected and locked to provide efficient air distribution that matches the indoor unit layout. Indoor units can be set individually.



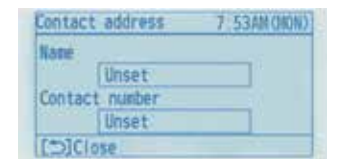
Weekly Timer

This lets you select 8 Start/Stop times and temperature presets for each day of the week.



Service Contact Address

Once you have registered service contact details, they are automatically displayed if a problem occurs. This helps you address the situation quickly.



Menu items

- Basic instructions
- FLAP
- Individual louver control (Lock individual flap only for 4-way cassette MU type)
- ON/ OFF timer
- Weekly timer
- Filter information
- Outing function
- Quiet operation mode
- Energy saving
- Initial settings
- Ventilation

Energy Saving

- Temperature auto return
- Temperature setting range
- Auto shutoff
- Schedule peak cut
- Repeat off timer
- ECONAVI on/ off

Maintenance Function

- Outdoor unit error data
- Service Contact address
- RC setting mode
- Test Run
- Sensor Information
- Service check
- Simple/ Detailed Settings
- Auto address

ME 2 SERIES ECOi EX™ 2-WAY VRF HEAT PUMP

The New Panasonic ECOi EX VRF system, redesigned with new DC inverter compressor combination operations. Perfected original active oil control system brings quality, efficiency and reliability you can count on.



KEY FEATURES: SINGLE OUTDOOR

- * Wide range of systems from 6 ton to 30 ton
- * Top class IEER: 19.3 (for 8 ton system)
- * Longer max piping length (up to 3,280 ft)
- * Increased max number of connectable indoor units (up to 64)
- * Increased connectable indoor/outdoor capacity ratio up to 200%
- * External static pressure increased to 80Pa
- * Extended operation range allowing cooling operation to continue even when outdoor temperature is as high as 122°F DB
- * Heating operation possible down to outdoor temperature of -4°F WB

MODEL NAME	U-72ME2U9	U-96ME2U9	U-120ME2U9	U-144ME2U9	WU-168ME2U9	WU-192ME2U9	WU-216ME2U9	WU-240ME2U9	WU-264ME2U9	WU-288ME2U9	WU-312ME2U9	WU-336ME2U9	WU-360ME2U9			
Consisted of	U-72ME2U9	U-96ME2U9	U-120ME2U9	U-144ME2U9	U-72ME2U9 +U-96ME2U9	U-96ME2U9 +U-96ME2U9	U-96ME2U9 +U-120ME2U9	U-120ME2U9 +U-120ME2U9	U-120ME2U9 +U-144ME2U9	U-144ME2U9 +U-144ME2U9	U-72ME2U9 +U-120ME2U9 +U-120ME2U9	U-96ME2U9 +U-120ME2U9 +U-120ME2U9	U-120ME2U9 +U-120ME2U9 +U-120ME2U9			
Appearance																
Nominal Tons	6	8	10	12	14	16	18	20	22	24	26	28	30			
Performance test condition	AHRI Standard 1230						AHRI Standard 1230									
Power supply	3φ 208/230V 60Hz															
Cooling capacity	Btu/h kW	72,000 21.1	96,000 28.1	120,000 35.2	144,000 42.2	168,000 49.2	192,000 56.3	216,000 63.3	240,000 70.3	264,000 77.4	288,000 84.4	312,000 91.4	336,000 98.4	360,000 105.5		
Heating capacity	Btu/h kW	81,000 23.7	108,000 31.6	135,000 39.6	162,000 47.5	189,000 55.4	216,000 63.3	243,000 71.2	270,000 79.1	297,000 87.0	324,000 94.9	351,000 102.8	378,000 110.8	405,000 118.7		
Rating Standard AHRI 1230	Indoor unit	Ducted Non-ducted														
	Cooling	Capacity	Btu/h	69,000 69,000	92,000 92,000	114,000 114,000	138,000 138,000	160,000 160,000	184,000 184,000	206,000 206,000	228,000 228,000	252,000 252,000	274,000 274,000	298,000 -	320,000 -	342,000 -
		EER		12.3 12.6	11.9 11.9	11.5 11.8	10.9 10.7	11.7 11.6	11.2 11.1	11.0 10.9	10.7 10.8	10.2 10.1	9.8 9.6	10.4 -	10.3 -	10.1 -
		IEER		19.1 22.1	19.3 23.1	19.3 24.8	18.7 22.6	19.0 23.2	18.4 22.6	18.0 22.3	17.7 22.8	17.3 20.8	16.9 19.5	17.7 -	17.2 -	16.6 -
	High heating 47°F	Capacity	Btu/h	77,000 77,000	103,000 103,000	129,000 129,000	154,000 154,000	180,000 180,000	206,000 206,000	232,000 232,000	258,000 258,000	284,000 284,000	308,000 308,000	334,000 -	360,000 -	386,000 -
	COP		3.56 3.86	3.54 3.75	3.40 3.60	3.27 3.35	3.45 3.50	3.40 3.39	3.38 3.35	3.29 3.25	3.35 3.22	3.28 3.20	3.27 -	3.23 -	3.20 -	
Low heating 17°F	Capacity	Btu/h	52,000 52,000	67,000 67,000	75,000 75,000	100,000 100,000	119,000 119,000	134,000 134,000	142,000 142,000	150,000 150,000	176,000 176,000	200,000 200,000	202,000 -	218,000 -	226,000 -	
	COP		2.56 2.63	2.42 2.59	2.30 2.40	2.18 2.41	2.23 2.38	2.25 2.26	2.23 2.34	2.18 2.22	2.16 2.12	2.14 2.06	2.16 -	2.13 -	2.10 -	
Electrical ratings Outdoor unit only	Voltage	V	208 / 230													
	Ducted cooling	Running current	A	14.3 / 13.1	19.0 / 17.4	24.4 / 22.3	31.9 / 28.8	35.8 / 32.7	42.1 / 38.5	47.5 / 43.5	55.2 / 50.5	65.3 / 59.0	74.7 / 67.6	77.5 / 70.9	82.7 / 75.6	90.7 / 82.9
		Power input	kW	4.49 / 4.49	6.36 / 6.36	8.25 / 8.25	10.8 / 10.8	11.6 / 11.6	14.1 / 14.1	16.1 / 16.1	18.7 / 18.7	22.1 / 22.1	25.3 / 25.3	25.7 / 25.7	28.0 / 28.0	30.7 / 30.7
	Ducted heating	Power factor	%	87 / 86	93 / 92	94 / 93	94 / 94	90 / 89	93 / 92	94 / 93	94 / 93	94 / 94	94 / 94	92 / 91	94 / 93	94 / 93
		Running current	A	16.7 / 15.2	21.6 / 19.8	27.9 / 25.5	35.1 / 31.8	40.7 / 37.2	46.5 / 42.5	52.2 / 47.8	58.8 / 53.7	65.6 / 59.3	73.5 / 66.5	81.5 / 74.5	88.3 / 80.8	95.1 / 86.9
	Non-ducted cooling	Power input	kW	5.22 / 5.22	7.16 / 7.16	9.45 / 9.45	11.9 / 11.9	13.2 / 13.2	15.4 / 15.4	17.5 / 17.5	19.9 / 19.9	22.2 / 22.2	24.9 / 24.9	27.0 / 27.0	29.6 / 29.6	32.2 / 32.2
		Power factor	%	87 / 86	92 / 91	94 / 93	94 / 94	90 / 89	92 / 91	93 / 92	94 / 93	94 / 94	94 / 94	92 / 91	93 / 92	94 / 93
	Non-ducted heating	Running current	A	15.7 / 14.4	21.0 / 19.2	26.4 / 24.1	35.7 / 32.3	40.1 / 36.7	47.2 / 43.1	53.2 / 48.6	59.7 / 54.5	70.9 / 64.1	81.2 / 73.4	-	-	-
		Power input	kW	4.92 / 4.92	7.04 / 7.04	8.94 / 8.94	12.1 / 12.1	13.0 / 13.0	15.8 / 15.8	18.0 / 18.0	20.2 / 20.2	24.0 / 24.0	27.5 / 27.5	-	-	-
		Power factor	%	87 / 86	93 / 92	94 / 93	94 / 94	90 / 89	93 / 92	94 / 93	94 / 93	94 / 94	-	-	-	
	Running current	A	16.8 / 15.4	22.2 / 20.3	28.9 / 26.4	37.5 / 33.9	44.1 / 40.3	51.3 / 46.9	57.9 / 52.9	66.1 / 60.5	73.5 / 66.5	80.3 / 72.6	-	-	-	
	Power input	kW	5.28 / 5.28	7.36 / 7.36	9.78 / 9.78	12.7 / 13.7	14.3 / 14.3	17.0 / 17.0	19.4 / 19.4	22.4 / 22.4	24.9 / 24.9	27.2 / 27.2	-	-	-	
	Power factor	%	87 / 86	92 / 91	94 / 93	94 / 94	90 / 89	92 / 91	93 / 92	94 / 93	94 / 94	-	-	-		
Starting current	A	1 / 1														
Compressor type/quantity		Inverter driven Rotary×1		Inverter driven Rotary×2		Inverter driven Rotary 1+1		Inverter driven Rotary 1+1		Inverter driven Rotary 1+2		Inverter driven Rotary 2+2		Inverter driven Rotary 2+2		
Air flow rate	CFM	6,000	6,200	7,900	7,900	6,000+6,200	6,200+6,200	6,200+7,900	6,200+7,900	6,200+7,900	6,200+7,900	6,000+7,900+7,900	6,200+7,900+7,900	6,200+7,900+7,900	7,900+7,900+7,900	
External static pressure	Pa (in. WC)	80														
Refrigerant amount at shipment*2	lbs	R410A / 20.1	R410A / 22.7	R410A / 18.7	R410A / 26.0	R410A / 20.1+22.7	R410A / 22.7+22.7	R410A / 22.7+18.7	R410A / 18.7+18.7	R410A / 18.7+26.0	R410A / 26.0+26.0	R410A / 20.1+18.7+18.7	R410A / 22.7+18.7+18.7	R410A / 18.7+18.7		
Dimensions H x W x D	inch	72-33/64" x 30-5/16" x 39-3/8"		72-33/64" x 46-29/64" x 39-3/8"		72-33/64" x 62-63/64" x 39-3/8"		72-33/64" x 62-63/64" x 39-3/8"		72-33/64" x 95-9/32" x 39-3/8"		72-33/64" x 127-61/64" x 39-3/8"		72-33/64" x 144-3/32" x 39-3/8"		
Net weight	lbs	503	560	664	721	503 + 560	560 + 560	560 + 664	664 + 664	664 + 721	721 + 721	503 + 664 + 664	560 + 664 + 664	664 + 664 + 664		
Ambient temperature operating range		Cooling: 14~122°F DB, Heating: -4~64°F WB														
Piping	Diameter	Gas	inch	3/4"	7/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"	
		Liquid	inch	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
		Balance	inch	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	
	Connecting method		(Liquid,Balance)Flared, (Gas)Brazing													
	Max total pipe length	Ft	-3,280													
	Elevation difference (OD upper/ OD lower)	Ft	164 / 131													
Operation sound (Normal/Quiet mode)	dB	54.5 / 51.5	58.0 / 55.0	59.5 / 56.5	61.0 / 58.0	60.0 / 57.0	61.0 / 58.0	62.0 / 59.0	62.5 / 59.5	63.5 / 60.5	64.0 / 61.0	63.5 / 60.5	64.0 / 61.0	64.5 / 61.5		
Maximum allowable indoor unit connection		20	25	32	39	45	50	55	64	64	64	64	64			

* NOTE: *1 If the longest tubing equivalent length exceeds 295 ft. (90 m), increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.
*2 It's necessary to charge additional refrigerant of 70.5 oz (2.0 kg) per one outdoor unit.

* NOTE: *1 If the longest tubing equivalent length exceeds 295 ft. (90 m), increase the sizes of the main tubes by 1 size for both gas tubes and liquid tubes.
*2 It's necessary to charge additional refrigerant of 70.5 oz (2.0 kg) per one outdoor unit.

MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES



U-72MF1U9
U-96MF1U9

KEY FEATURES:

- * 3-Way Heat Recovery System. Simultaneous Heating and Cooling.
- * ECO Friendly R410A Refrigerant
- * One Outdoor Unit Connects As Many As 16 Indoor Units (50%-130% ratio of indoor to outdoor capacity)
- * U-72MF1U9 includes one inverter driven Rotary compressor
- * U-96MF1U9 includes one inverter driven Rotary compressor and one AC Constant Speed Scroll Compressor
- * Nominal Operating Range (Outdoor Ambient)
 - Cooling 14°F DB to 113°F DB
 - Heating -4°F WB to 59°F WB
- * Ultra Quiet Operation As Low As 51.5 dB(a)
- * Variable Speed DC Fan Motor (ESP adjustable to 0.24" wc)
- * Flexible Piping Design:
 - 984 Feet - Maximum Total Liquid Line
 - 492 Feet - Maximum Outdoor To Most Distant Indoor Unit
 - 164 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Above Indoor)
 - 131 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Below Indoor)

ECOi Heat Recovery series offers the ability to heat and cool different zones simultaneously.

Panasonic was the first manufacturer in the world to develop this energy saving heat recovery solution. Offering all the features of our standard heat pump series, the 3-Way solution can offer even higher energy savings for the building owner.

MODELS	(Type: Nominal Cooling Capacity, Ducted)	Nominal Tons	Volt	PH	Connectable Indoor Units (Max.)
U-72MF1U9	72,000 BTU Heat Recovery	6	208-230V/60 HZ	3	12
U-96MF1U9	95,000 BTU Heat Recovery	8	208-230V/60 HZ	3	16

* NOTE: *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers

MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES

DESCRIPTION	U-72MF1U9	U-96MF1U9
PERFORMANCE COOLING CAPACITY: BTU/H POWER INPUT: kW HEATING CAPACITY: BTU/H POWER INPUT: kW	72,000 5.3 81,000 5.79	95,000 7.75 106,500 8.6
ELECTRICAL RATINGS VOLTAGE RATING COOLING RUNNING AMPERES HEATING RUNNING AMPERES MIN. CIRCUIT AMPACITY MAX. OVERCURRENT PROTECTION (MOCP): (A)	208 - 230 V 15.1 - 14.2 A 16.5 - 15.5 A 24 A 40 A	208 - 230 V 23.2 - 21.6 A 25.4 - 23.7 A 34 A 45 A
COMPRESSOR TYPE - QUANTITY MOTOR OUTPUT REFRIGERATION OIL TYPE REFRIGERATION OIL CHARGE AMOUNT CRANKCASE HEATER REFRIGERANT AMOUNT AT SHIPMENT REFRIGERANT CONTROL DEFROST METHOD HEAT EXCHANGER CAPACITY CONTROL	Inverter Driven Rotary Type 4.1 kW FV68S (Ether oil - PVE) 1.4 gal 25 w R410A - 25.9 lbs Electronic expansion valve Reverse-cycle, outdoor unit cycle Aluminum plate fin / Copper tube 10-100%	Inverter Driven Rotary 1 Fixed Scroll Hermetic (2.7 + 3.5) kW FV68S (Ether oil - PVE) 1.96 gal 25 + 32 w R410A - 25.9 lbs Electronic expansion valve Reverse-cycle, outdoor unit cycle Aluminum plate fin / Copper tube 8-100%
FAN DEVICE TYPE - QUANTITY MOTOR OUTPUT PROTECTIVE DEVICES CFM EXTERNAL STATIC PRESSURE	Propeller fan x 1 0.7 kW High pressure switch, overcurrent (CT method) 5,300 0.0 / 0.24 WC	Propeller fan x 1 0.7 kW High pressure switch, overcurrent (CT method) 5,650 0.0 / 0.24 WC
TUBING REFRIGERANT TUBING GAS TUBE REFRIGERANT TUBING LIQUID TUBE REF. TUBING DISCHARGE TUBE REFRIGERANT TUBING BALANCE TUBE EXTERNAL AIR TEMP. OPERATION RANGE OPERATION SOUND (HI)	3/4" (Brazing) ø3/8" (Brazing) ø5/8" (Brazing) ø3/8" (Flare) Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB) °F 54.5 (Quiet mode: 51.5) dB-A	ø7/8" (Brazing) ø3/8" (Brazing) ø3/4" (Brazing) ø3/8" (Flare) Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB) °F 55.0 (Quiet mode: 52.0) dB-A
UNIT DIMENSIONS Inches (") / lbs. Color (Munsell code)	82.5" / 35" / 35" / 573 lbs. Height/ Width/ Depth/ Net Weight Silky shade (1y 8.5/0.5)	82.5" / 35" / 35" / 672 lbs. Height/ Width/ Depth/ Net Weight Silky shade (1y 8.5/0.5)

* NOTE: *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers
NOTE: Values represent nominal capacities for Ducted combinations.

COMBINED MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES



WU 144
WU 168
WU 192

WU 216
WU 240
WU 264
WU 288

Panasonic's Combined ECOi 3-Way conditioning solution offers superior heating and cooling coupled with cost effective installation. Providing a single refrigerant pipe network means there's only one penetration into the building and ultimately less piping material required, saving you time and money. A smart conditioning solution for large capacity jobs that require simultaneous heating and cooling.

WU-144MF1U9 / WU-168MF1U9 / WU-192MF1U9-1

WU-216MF1U9 / WU-240MF1U9

WU-264MF1U9 / WU-288MF1U9

KEY FEATURES:

- * Three-Way Heat Recovery
- * Combine 3 outdoor units up to 24 tons
- * ECO Friendly R410A Refrigerant
- * 208/230V, 3 Phase, 60Hz
- * Multiple Compressors For Extra Reliability and Partial Redundancy
- * Nominal Operating Range (Outdoor Ambient)
 - Cooling 14 °F DB to 113 °F DB
 - Heating -4 °F WB to 59 °F WB
- * Ultra Quiet Operation As Low As 55 dB(a)
- * Variable Speed DC Fan Motors
- * Flexible Piping Design:
 - 984 Feet - Maximum Total Liquid Line
 - 492 Feet - Maximum Outdoor To Most Distant Indoor Unit
 - 164 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Above Indoor)
 - 131 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Below Indoor)

WU HEAT RECOVERY COMBINED SERIES.

SYSTEM	Outdoor Unit	Cooling & Heating Ducted	Nominal Tons	Power input	Control Range	Connectable Indoor Units (Max)
WU-144MF1U9	U-72MF1U9 (quantity of 2)	139,000 & 157,000 BTU/H	12	10.6 / 11.6 kW	6 - 100%	24
WU-168MF1U9	U-72MF1U9 U-96MF1U9	164,000 & 184,000 BTU/H	14	13.1 / 14.4 kW	6 - 100%	29
WU-192MF1U9-1	U-96MF1U9 (quantity of 2)	180,000 & 202,000	16	14.37 / 16.2 kW	6 - 100%	33
WU-216MF1U9	U-72MF1U9 (quantity of 3)	203,000 & 228,000 BTU/H	18	15.9 / 17.4 kW	6 - 100%	37
WU-240MF1U9	U-72MF1U9 (quantity of 2) U-96MF1U9	230,000 & 265,000 BTU/H	20	18.4 / 20.2 kW	6 - 100%	40
WU-264MF1U9	U-96MF1U9 (quantity of 2) U-72MF1U9	258,000 & 288,000 BTU/H	22	20.8 / 23.0 kW	6 - 100%	40
WU-288MF1U9	WU-96MF1U9 (quantity of 3)	281,000 & 312,000 BTU/H	24	23.3 / 25.8 kW	6 - 100%	40

*** NOTE:** *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers

COMBINED MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES

DESCRIPTION	WU-144MF1U9	WU-168MF1U9	WU-192MF1U9-1
PERFORMANCE COOLING CAPACITY: BTU/H POWER INPUT: kW HEATING CAPACITY: BTU/H POWER INPUT: kW	Includes (1) U-72MF1U9 and (1) U-72MF1U9 139,000 10.6 157,000 11.6	Includes (1) U-72MF1U9 and (1) U-96MF1U9 164,000 13.1 184,000 14.4	Includes (1) U-96MF1U9 and (1) U-96MF1U9 180,000 14.4 202,000 16.2
COOLING MODE NOMINAL CONDITIONS INDOOR: °F WB/ °F DB OUTDOOR: °F DB PIPE LENGTH: FEET LEVEL DIFFERENCE: FEET	80/67 95 25 0	80/67 95 25 0	80/67 95 50 0
HEATING MODE NOMINAL CONDITIONS INDOOR: °F DB OUTDOOR: °F DB/ °F WB PIPE LENGTH: FEET LEVEL DIFFERENCE: FEET	70 47/43 25 0	70 47/43 25 0	70 47/43 50 0
NOMINAL OPERATING RANGE COOLING: °F DB HEATING: °F WB	14 to 113 -4 to 59	14 to 113 -4 to 59	14 to 113 -4 to 59
COMPRESSOR TYPE/QUANTITY CAPACITY CONTROL RANGE: %	2 Inverter driven Twin Rotary 6 - 100%	2 Inverter driven Twin Rotary & 1 fixed speed scroll 6 - 100%	2 Inverter driven Twin Rotary & 2 fixed speed scroll 6 - 100%
FAN TYPE/QUANTITY FAN MOTOR OUTPUT: (kW) EXTERNAL STATIC PRESSURE	1 Propeller (ea) 0.7 kW (ea) 0.0 / 0.24 WC	1 Propeller (ea) 0.7 kW (ea) 0.0 / 0.24 WC	1 Propeller (ea) 0.7 kW (ea) 0.0 / 0.24 WC
POWER SUPPLY V/PH/Hz MINIMUM CIRCUITS AMPS (MCA): (A) MAX. OVERCURRENT PROTECTION (MOCP): (A)	208 - 230 / 3 / 60 52 80	208 - 230 / 3 / 60 60 85	208 - 230 / 3 / 60 68 90
WEIGHT: (LBS)	1,146	1,245	1,344
COIL COIL FACE AREA: (SQ. FT.) NUMBER OF ROWS:	29.5(ea) 4(ea)	29.5(ea) 4(ea)	29.5(ea) 4(ea)
PROTECTION DEVICES HIGH PRESSURE SWITCH/OVERCURRENT (CT METHOD) CRANKCASE HEATERS: (W)	Yes 25 + 25	Yes 25 + 25 + 32	Yes (25 + 32) x 2

EACH OUTDOOR UNIT REQUIRES A SEPARATE ELECTRICAL FUSED DISCONNECT, SEE INDIVIDUAL OUTDOOR REQUIREMENTS.

*** NOTE:** *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers
NOTE: Values represent nominal capacities for Ducted Indoor Units.

COMBINED MF 3-WAY ECOi™ VRF HEAT RECOVERY SERIES

DESCRIPTION	WU- 216MF1U9	WU- 240MF1U9	WU- 264MF1U9	WU- 288MF1U9
	Includes (3) U-72MF1U9	Includes (2) U-72MF1U9 and (1) U-72MF1U9	Includes (1) U-72MF1U9 and (2) U-96MF1U9	Includes (3) U-96MF1U9
PERFORMANCE				
COOLING CAPACITY: BTU/H	203,000	230,000	258,000	281,000
POWER INPUT: kW	15.9	18.4	20.8	23.3
HEATING CAPACITY: BTU/H	228,000	265,000	288,000	312,000
POWER INPUT: kW	17.4	20.2	23.0	25.8
COOLING MODE NOMINAL CONDITIONS				
INDOOR: °F WB/ °F DB	80/67	80/67	80/67	80/67
OUTDOOR: °F DB	95	95	95	95
PIPE LENGTH: FEET	25	25	25	25
LEVEL DIFFERENCE: FEET	0	0	0	0
HEATING MODE NOMINAL CONDITIONS				
INDOOR: °F DB	70	70	70	70
OUTDOOR: °F DB/ °F WB	47/43	47/43	47/43	47/43
PIPE LENGTH: FEET	25	25	25	25
LEVEL DIFFERENCE: FEET	0	0	0	0
NOMINAL OPERATING RANGE				
COOLING: °F DB	14 to 113	14 to 113	14 to 113	14 to 113
HEATING: °F WB	-4 to 59	-4 to 59	-4 to 59	-4 to 59
COMPRESSOR				
TYPE/QUANTITY	3 Inverter driven Twin Rotary	3 Inverter driven Twin Rotary & 1 fixed speed scroll	3 Inverter driven Twin Rotary & 2 fixed speed scroll	3 Inverter driven Twin Rotary & 3 fixed speed scroll
CAPACITY CONTROL RANGE: %	6 - 100%	6 - 100%	6 - 100%	6 - 100%
FAN				
TYPE/QUANTITY	1 Propeller (ea)	1 Propeller (ea)	1 Propeller (ea)	1 Propeller (ea)
FAN MOTOR OUTPUT: (kW)	0.7 kW	0.7 kW	0.7 kW	0.7 kW
EXTERNAL STATIC PRESSURE	0.0 / 0.24 WC	0.0 / 0.24 WC	0.0 / 0.24 WC	0.0 / 0.24 WC
POWER SUPPLY				
V/PH/Hz	208 - 230 / 3 / 60	208 - 230 / 3 / 60	208 - 230 / 3 / 60	208 - 230 / 3 / 60
MINIMUM CIRCUITS AMPS (MCA): (A)	78	86	94	102
MAX. OVERCURRENT PROTECTION (MOCP): (A)	120	125	130	135
WEIGHT: (LBS)	1,719	1,818	1,917	2,016
COIL				
COIL FACE AREA: (SQ. FT.)	29.5(ea)	29.5 (ea)	29.5 (ea)	29.5 (ea)
NUMBER OF ROWS:	4 (ea)	4	4	4
PROTECTION DEVICES				
HIGH PRESSURE SWITCH/OVERCURRENT (CT METHOD)	Yes	Yes	Yes	Yes
CRANKCASE HEATERS: (W)	25 + 25 + 25	25 + 25 + 25 + 32	(2 X 25 + 32) + 25	3 x 25 + 32

EACH OUTDOOR UNIT REQUIRES A SEPARATE ELECTRICAL FUSED DISCONNECT, SEE INDIVIDUAL OUTDOOR REQUIREMENTS.

*** NOTE:** *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers
NOTE: Values represent nominal capacities for Ducted Indoor Units.

LE MINI ECOi™ MULTI SPLIT VRF HEAT PUMP SERIES



Panasonic's Mini ECOi is suited for numerous commercial and premium residential applications.

U-36LE1U6 / U-52LE1U6

KEY FEATURES:

- * Single Phase 208/230 volts
- * One Outdoor Unit Connects As Many As 9 Indoor Units (50%-130% ratio of indoor to outdoor capacity)
- * Inverter Driven Twin Rotary Compressor
- * Nominal Operating Range (Outdoor Ambient)
 - Cooling 14 °F DB to 113 °F DB
 - Heating -4 °F WB to 59 °F WB
- * Ultra Quiet Operation As Low As 48 dB(a)
- * Variable Speed DC Fan Motor
- * Piping:
 - 656 Feet - Maximum Total Liquid Line
 - 164 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Above Indoor)
 - 131 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Below Indoor)
- * Defrost control, reverse cycle, microprocessor control
- * External finish: Galvanized steel plate with powder paint
- * Refrigerant control: Electronic expansion valve
- * Control Range 10 - 100%

DESCRIPTION	U-36LE1U6			U-52LE1U6		
POWER SOURCE	208-230V/1PH/60Hz			208-230V/1PH/60Hz		
PERFORMANCE	Ducted	Non-Ducted	Mix	Ducted	Non-Ducted	Mix
COOLING CAPACITY	37,000	39,000	38,000 BTU/H	51,500	52,000	51,750 BTU/H
SEER	13.10	17.00	15.00	14.6	17.4	16.0
HEATING CAPACITY	38,500	43,000	40,750 BTU/H	57,500	58,500	58,000 BTU/H
HSPF	7.80	9.80	8.80	7.7	9.6	8.6
AIR CIRCULATION (HI)	3,530 CFM			3,530 CFM		
ELECTRICAL RATINGS	COOLING		HEATING	COOLING		HEATING
VOLTAGE RATING	208 / 230 V		208 / 230 V	208 / 230 V		208 / 230 V
AVAILABLE VOLTAGE RANGE	187—253 V		187—253 V	187—253 V		187—253 V
RUNNING AMPERES	14.6 / 13.6 A		14.6 / 13.6 A	23.5 / 21.9 A		23.5 / 21.9 A
MAX. RUNNING AMPERES	23.6 / 23.6 A		23.6 / 23.6 A	28 / 28 A		28 / 28 A
POWER INPUT	2.76 / 2.76 kW		2.88 / 2.88 kW	4.57 / 4.57 kW		4.58 / 4.58 kW
MAX. POWER INPUT	4.85 / 4.85 kW		4.85 / 4.85 kW	5.72 / 5.72 kW		5.72 / 5.72 kW
MIN. CIRCUIT AMPACITY	18 A			29 A		
MAX. OVERCURRENT PROTECTION (MOCP)	30 A			50 A		
REFRIGERANT TUBING	LIMIT OF TUBING LENGTH			LIMIT OF TUBING LENGTH		
	656 ft			656 ft		
	LIMIT OF ELEVATION DIFFERENCE BETWEEN THE 2 UNITS			LIMIT OF ELEVATION DIFFERENCE BETWEEN THE 2 UNITS		
	Outdoor unit is higher than indoor unit: 164			Outdoor unit is higher than indoor unit: 164		
	Outdoor unit is lower than indoor unit: 131			Outdoor unit is lower than indoor unit: 131		
REFRIGERANT TUBE DIAMETER	LIQUID TUBE IN.			LIQUID TUBE IN.		
	3 / 8"			3 / 8"		
	GAS TUBE IN.			GAS TUBE IN.		
	5 / 8"			3 / 4"		
UNIT DIMENSIONS	Height/ Width/ Depth/ Net Weight			Height/ Width/ Depth/ Net Weight		
	INCHES (") / LBS.			INCHES (") / LBS.		
	49" / 37" / 14" / 229 lbs.			49" / 37" / 14" / 229 lbs.		
	SHIPPING WEIGH / VOLUME			SHIPPING WEIGH / VOLUME		
	247 lbs. / 19.8 ft. ³			247 lbs. / 19.8 ft. ³		
EXTERNAL AIR TEMP. OPERATION RANGE	Cooling:14 to 113 (DB)/Heating: -4 to 59 (WB)			Cooling:14 to 113 (DB)/Heating: -4 to 59 (WB)		
CONNECTABLE INDOOR UNITS (MAX)	6			9		
CERTIFICATION STANDARD	AHRI 210 / 240					

ME1 series 2-WAY ECOi™ VRF HEAT PUMP SERIES



U-72ME1U9
U-96ME1U9

KEY FEATURES:

- * One Outdoor Unit Connects As Many As 16 Indoor Units (50%-130% ratio of indoor to outdoor capacity)
- * U-72ME1U9 one Inverter Driven Rotary Compressor
- * U-96ME1U9 includes one Inverter Driven Rotary Compressor and One AC Constant Speed Scroll Compressor
- * Nominal Operating Range (Outdoor Ambient)
 - Cooling 14 °F DB to 113 °F DB
 - Heating -4 °F WB to 59 °F WB
- * Ultra Quiet Operation As Low As 52 dB(a)
- * Variable Speed DC Fan Motor (ESP adjustable to 0.24" wc)
- * Flexible Piping Design:
 - 984 Feet - Maximum Total Liquid Line
 - 492 Feet - Maximum Outdoor To Most Distant Indoor Unit
 - 164 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Above Indoor)
 - 131 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Below Indoor)

Panasonic's ECOi is an all-in-one modular conditioning solution. Suited for numerous commercial and industrial applications, it offers flexible installation, superior heating and cooling.

DESCRIPTION	(Type: Nominal Cooling Capacity, Ducted)	Nominal Tons	Volt	PH	Connectable Indoor Units (Max)
U-72ME1U9 *	72,000 BTU Heat Pump	6	208-230V/60 HZ	3	12
U-96ME1U9 *	95,000 BTU Heat Pump	8	208-230V/60 HZ	3	16

DISCONTINUED MODEL
Replaced by new ME2 series

ME1 series 2-WAY ECOi™ VRF HEAT PUMP SERIES

DESCRIPTION	U-72ME1U9	U-96ME1U9
PERFORMANCE COOLING CAPACITY: BTU/H POWER INPUT: kW HEATING CAPACITY: BTU/H POWER INPUT: kW	72,000 5.28 81,000 5.79	95,000 7.69 106,500 8.6
ELECTRICAL RATINGS VOLTAGE RATING COOLING RUNNING AMPERES HEATING RUNNING AMPERES MIN. CIRCUIT AMPACITY MAX. OVERCURRENT PROTECTION (MOCP)	208 - 230 V 15.1 - 14.1 A 16.5 - 15.5 A 26 A 40 A	208 - 230 V 23.0 - 21.4 A 25.4 - 23.7 b A 34 A 45 A
COMPRESSOR TYPE - QUANTITY MOTOR OUTPUT REFRIGERATION OIL TYPE REFRIGERATION OIL CHARGE AMOUNT CRANKCASE HEATER REFRIGERANT AMOUNT ASSIGNMENT REFRIGERANT CONTROL DEFROST METHOD HEAT EXCHANGER CAPACITY CONTROL	Inverter Driven Twin Rotary Type 4.1 kW R68S (Ether oil - PVE) 1.4 gal 25 w R410A - 25.9 lbs Electronic expansion valve Reverse-cycle, outdoor unit cycle Aluminum plate fin / Copper tube 10-100%	Inverter Driven Twin Rotary and 1 Fixed Speed Scroll (3 + 3.75) kW R68S (Ether oil) 1.56 gal 25 + 32 w R410A - 25.9 lbs Electronic expansion valve Reverse-cycle, outdoor unit cycle Aluminum plate fin / Copper tube 8-100%
FAN DEVICE TYPE - QUANTITY MOTOR OUTPUT PROTECTIVE DEVICES CFM EXTERNAL STATIC PRESSURE	Propeller fan x 1 0.7 kW High pressure switch, overcurrent (CT method) 5.300 0.0 / 0.24 WC	Propeller fan x 1 0.7 kW High pressure switch, overcurrent (CT method) 5.650 0.0 / 0.24 WC
TUBING REFRIGERANT TUBING GAS TUBE REFRIGERANT TUBING LIQUID TUBE REFRIGERANT TUBING BALANCE TUBE EXTERNAL AIR TEMP. OPERATION RANGE OPERATION SOUND (HI)	ø3/4" (Brazing) ø3/8" (Brazing) ø3/8" (Flare) Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB) °F 54.5 (Quiet mode: 51.5) dB-A	7/8" (Brazing) 3/8" (Brazing) ø3/8" (Flare) Cooling: 14 to 113 (DB) / Heating: -4 to 38 (WB) °F 55.0 (Quiet mode: 52.0) dB-A
UNIT DIMENSIONS Inches (") / lbs. Color (Munsell code)	82.5" / 35" / 35" / 584 lbs. Height / Width / Depth / Net Weight Silky shade (1y 8.5/0.5)	82.5" / 35" / 35" / 683 lbs. Height / Width / Depth / Net Weight Silky shade (1y 8.5/0.5)

DISCONTINUED MODEL
Replaced by new ME2 series

ECOi™ OUTDOOR

* NOTE: *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers

* NOTE: *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers
NOTE: Values represent nominal capacities for Ducted Indoor Units.

COMBINED **ME** 1-WAY ECOi™ VRF HEAT PUMP SERIES



WU 144ME
WU 168ME



WU 216ME
WU 240ME
WU 264ME
WU 288ME

Panasonic's Combined ECOi outdoor units offer superior heating and cooling coupled with cost effective installation. Providing a single refrigerant pipe network means there's only one penetration into the building and less piping material required, saving you time and money. A smart conditioning solution for large capacity jobs.

WU-144ME1U9 / WU-168ME1U9

WU-216ME1U9 / WU-240ME1U9

WU-264ME1U9 / WU-288ME1U9

KEY FEATURES:

- * Heat Pump
- * Combine 3 outdoor units up to 24 tons
- * Combined Series Allows Up to 40 Indoor Units (50%-130% ratio of indoor to outdoor capacity)
- * ECO Friendly R410A Refrigerant
- * 208/230V, 3 Phase, 60Hz
- * Multiple Compressors For Precise and Efficient Operation
- * Nominal Operating Range (Outdoor Ambient)
 - Cooling 14 °F DB to 113 °F DB
 - Heating -4 °F WB to 59 °F WB
- * Ultra Quiet Operation As Low As 51.5 dB(a)
- * Variable Speed DC Fan Motors
- * Flexible Piping Design:
 - 984 Feet - Maximum Total Liquid Line
 - 492 Feet - Maximum Outdoor To Most Distant Indoor Unit
 - 164 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Above Indoor)
 - 131 Feet - Maximum Vertical Between Indoor and Outdoor (Outdoor Below Indoor)

ME COMBINED SERIES

SYSTEM	Outdoor Unit	Cooling & Heating	Nominal Tons	Power input 208/230	Control Range	Connectable Indoor Units (Max)
WU-144ME1U9	U-72ME1U9 (quantity of 2)	139,000 & 157,000 BTU/H	12	10.56/ 11.58 kW	6 - 100%	24
WU-168ME1U9	U-72ME1U9 U-96ME1U9	164,000 & 184,000 BTU/H	14	12.97/ 14.39 kW	6 - 100%	29
WU-216ME1U9	U-72ME1U9 (quantity of 3)	209,000 & 228,000 BTU/H	18	15.64/ 17.37 kW	6 - 100%	37
WU-240ME1U9	U-72ME1U9 (quantity of 2) U-96ME1U9	230,000 & 265,000 BTU/H	20	18.25/ 20.18 kW	6 - 100%	40
WU-264ME1U9	U-96ME1U9 (quantity of 2) U-72ME1U9	258,000 & 288,000 BTU/H	22	20.66/ 22.99 kW	6 - 100%	40
WU-288ME1U9	U-96ME1U9 (quantity of 3)	281,000 & 312,000 BTU/H	24	23.07/ 25.8 kW	6 - 100%	40

















































DISCONTINUED MODEL
Replaced by new ME2 series

*** NOTE:** *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers
NOTE: Values represent nominal capacities for Ducted Indoor Units.



INDOOR UNITS LINEUP

Panasonic introduced its first VRF to the US market in 2001 with 16 different indoor units.
Panasonic has continued to refine and expand VRF indoor model offerings, and today the lineup totals 49 models. Whether it's an office, a hotel, or other applications, Panasonic offers wide versatility in solving your air conditioning requirements.

		Cooling						Cooling		
Nominal Cooling Capacity Type	Btu/h class	7,500	9,000	12,000	15,000	18,000	24,000	36,000 MVA: 30,000 / 36,000	48,000 MVA: 42,000 / 48,000	54,000 MVA: 60,000
		MK TYPE Wall Mounted	 S-07MK1U6	 S-09MK1U6	 S-12MK1U6		 S-18MK1U6 S-19MK1U6 (Special Order)	 S-24MK1U6		
MY TYPE 4-way ceiling cassette 23" x 23"			 S-12MY1U6		 S-18MY1U6					
MU TYPE 4-way ceiling cassette 33" x 33"						 S-24MU1U6	 S-36MU1U6			
MD TYPE 1 way ceiling cassette	 S-07MD1U6	 S-09MD1U6	 S-12MD1U6							
MT TYPE Ceiling Suspended			 S-12MT1U6		 S-18MT1U6	 S-24MT1U6				
MP TYPE Floor Mounted without decorative panel	 S-07MP1U6	 S-09MP1U6	 S-12MP1U6	 S-15MP1U6	 S-18MP1U6	 S-24MP1U6				
MR TYPE Floor Mounted without decorative panel	 S-07MR1U6	 S-09MR1U6	 S-12MR1U6	 S-15MR1U6	 S-18MR1U6	 S-24MR1U6				
MM TYPE Concealed Duct – Low Profile	 S-07MM1U6	 S-09MM1U6	 S-12MM1U6	 S-15MM1U6	 S-18MM1U6					
MF TYPE Concealed Duct – Medium Static	 S-07MF1U6	 S-09MF1U6	 S-12MF1U6	 S-15MF1U6	 S-18MF1U6	 S-24MF1U6	 S-36MF1U6	 S-48MF1U6	 S-54MF1U6	
ME TYPE Concealed Duct –Medium-High Static							 S-36ME1U6	 S-48ME1U6		
MVA TYPE Vertical Air Handler NEW				 MVA18FBAS6HBCP	 MVA24FBAS6HBCP	 MVA30FBAS6HBCP MVA36FBAS6HBCP	 MVA42FBAS6HBCP MVA48FBAS6HBCP	 MVA60FBAS6HBCP		

Actual Installation Examples



MK WALL MOUNTED UNIT



Panasonic's wall-mounted units work well with any interior design. Flexible and compact, offering individualized zoned comfort for complete temperature control throughout the day. Over five different air flow directions and wireless remotes provide control in the palm of your hand.

S-07MK1U6 / S-09MK1U6 / S-12MK1U6 / S-18MK1U6
S-19MS1U6 / S-24MK1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Easy Wall Mount for Any Application
- * Washable Long Life Filter
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Light Weight, Only 31 lbs. (S-24MK1U6 is 46 lbs.)
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed control
- * Easy Service

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MK1U6	7,500 BTU	208-230V/60 HZ	1
S-09MK1U6	9,600 BTU	208-230V/60 HZ	1
S-12MK1U6	12,000 BTU	208-230V/60 HZ	1
S-18MK1U6	18,000 BTU	208-230V/60 HZ	1
S-19MS1U6	19,000 BTU (special order)	208-230V/60 HZ	1
S-24MK1U6	25,000 BTU	208-230V/60 HZ	1
CZ-P56SVK1U	External EEV (required for use with S-19MS1U6)	N/A	N/A

DESCRIPTION	S-07MK1U6	S-09MK1U6	S-12MK1U6	S-18MK1U6	S-19MS1U6 needs CZ-P56SVK1U	S-24MK1U6
PERFORMANCE						
COOLING CAPACITY	7,500 BTU/H	9,600 BTU/H	12,000 BTU/H	18,000 BTU/H	19,000 BTU/H	25,000 BTU/H
HEATING CAPACITY	8,500 BTU/H	11,000 BTU/H	14,000 BTU/H	20,000 BTU/H	21,000 BTU/H	27,000 BTU/H
CURRENT						
COOLING	0.20/0.21 A	0.20/0.21 A	0.20/0.21 A	0.30/0.32 A	0.30/0.32 A	0.37/0.39 A
HEATING	0.20/0.21 A	0.20/0.21 A	0.20/0.21 A	0.30/0.32 A	0.30/0.32 A	0.38/0.32 A
POWER INPUT						
COOLING	50/56 W	50/56 W	50/56 W	61/72 W	61/72 W	72/83 W
HEATING	50/56 W	50/56 W	50/56 W	61/72 W	61/72 W	72/83 W
HEAT EXCHANGER						
FAN TYPE X QUANTITY	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1
FAN AIRFLOW RATE CFM-(H/M/L)	350/280/210	350/280/210	350/280/210	565/495/353	565/495/353	565/495/350
FAN MOTOR TYPE	AC	AC	AC	AC	AC	AC
FAN MOTOR OUTPUT	30 W	30 W	30 W	30 W	30 W	30 W
REFRIGERANT PIPE DIMENSIONS						
LOW PRESSURE (FLARE)	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
HIGH PRESSURE (FLARE)	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"
UNIT DIMENSIONS	11.5" / 39.5" / 8" / 31 LBS.			13" / 45" / 9" / 46 LBS.		
Inches (") / lbs.	HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT			HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT		
DRAINPIPE DIMENSION	3/4" OD					
SOUND LEVELS						
(LOW-MED-HIGH) DB(A) @ 230V	28/32/36	28/32/36	28/32/36	35/38/42	35/38/42	35/38/42

MY SERIES 4-WAY CEILING CASSETTE 23" X 23" WITH CONDENSATE PUMP



Panasonic's 4-Way semi-concealed ceiling units are flexible, efficient and space-saving. Now available to fit within standard 24"x24" ceiling grids.

S-12MY1U6 / S-18MY1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Four Way Air Throw
- * Washable Long Life Air Filter
- * Built-In Drain Pump – 25" Lift
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * A Low Profile Unit Perfectly Suited for Compact Ceiling Voids (as little as 12-14")
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed control
- * Easy Service
- * Optional Outside Air Intake

SYSTEM/MODEL	Components	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-12MY1U6	System	12,000 BTU 4-Way Ceiling cassette 25" x 25" (includes grille)	208-230V/1ø/60 HZ	1
	S-12MY1U6	cassette	208-230V/1ø/60 HZ	1
	CZ-18KPY1U	grille		
S-18MY1U6	System	18,000 BTU 4-way Ceiling cassette 25" x 25" (includes grille)	208-230V/1ø/60 HZ	1
	S-18MY1U9	cassette	208-230V/1ø/60 HZ	1
	CZ-18KPY1U	grille		

DESCRIPTION	S-12MY1U6	S-18MY1U6
PERFORMANCE		
COOLING CAPACITY	12,000 BTU/H	19,000 BTU/H
HEATING CAPACITY	14,000 BTU/H	21,000 BTU/H
CURRENT		
COOLING	0.22/0.20 A	0.30/0.32 A
HEATING	0.19/0.17 A	0.27/0.30 A
POWER INPUT		
COOLING	38/43 W	52/56 W
HEATING	30/35 W	48/47 W
HEAT EXCHANGER		
FAN TYPE X QUANTITY	TURBO X1	TURBO X1
FAN AIRFLOW RATE CFM-(H/M/L)	320/280/250	440/370/320
FAN MOTOR TYPE	DC	DC
FAN MOTOR OUTPUT	20 W	20 W
REFRIGERANT PIPE DIMENSIONS		
LOW PRESSURE (FLARE)	1/4"	1/4"
HIGH PRESSURE (FLARE)	1/2"	1/2"
UNIT DIMENSIONS	12.5" / 23" / 23" / 41 LBS.	
Inches (") / lbs.	HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	
DRAINPIPE DIMENSION	1 1/4" OD	
SOUND LEVELS		
(LOW-MED-HIGH) DB(A) @ 230V	27/29/31	33/37/41

4-WAY AIR DISCHARGE
25" X 25" SYSTEM
(INCLUDES GRILLE)

MU SERIES 4-WAY CEILING CASSETTE 33" X 33" WITH CONDENSATE PUMP



Panasonic's 4-Way semi-concealed ceiling units are flexible, efficient and space-saving. Two sides can be adjusted simply to accommodate corner airflow.

S-24MU1U6 / S-36MU1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Four Way Air Throw
- * Washable Long Life Air Filter
- * Built-In Drain Pump – 25" Lift
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * A Low Profile Unit Perfectly Suited for Compact Ceiling Voids (as little as 12-14")
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed control
- * Easy Service
- * Branch Duct Available
- * Optional Outside Air Intake

SYSTEM/MODEL	Components	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-24MU1U6	System	25,000 BTU 4-Way Ceiling cassette 37-1/2" x 37-1/2" (includes grille)	208-230V/60 HZ	1
	S-24MU1U6	cassette	208-230V/60 HZ	1
	CZ-36KPU2U	grille		
S-36MU1U6	System	36,000 BTU 4-Way Ceiling cassette 37-1/2" x 37-1/2" (includes grille)	208-230V/60 HZ	1
	S-36MU1U6	cassette	208-230V/60 HZ	1
	CZ-36KPU2U	grille		

DESCRIPTION	S-24MU1U6	S-36MU1U6
PERFORMANCE		
COOLING CAPACITY	25,000 BTU/H	36,000 BTU/H
HEATING CAPACITY	27,000 BTU/H	39,000 BTU/H
CURRENT		
COOLING	0.29/0.26 A	0.51/0.46 A
HEATING	0.30/0.31 A	0.54/0.49 A
POWER INPUT		
COOLING	38/40 W	74/79 W
HEATING	33/33 W	76/76 W
HEAT EXCHANGER		
FAN TYPE X QUANTITY	TURBO X1	TURBO X1
FAN AIRFLOW RATE CFM-(H/M/L)	705/565/495	990/810/740
FAN MOTOR TYPE	DC	DC
FAN MOTOR OUTPUT	50 W	90 W
REFRIGERANT PIPE DIMENSIONS		
LOW PRESSURE (FLARE)	3/8"	3/8"
HIGH PRESSURE (FLARE)	5/8"	5/8"
UNIT DIMENSIONS		
Inches (") / lbs.	12" / 33" / 33" / 58 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	12" / 33" / 33" / 58 LBS. HEIGHT/WIDTH/DEPTH/NET WEIGHT
DRAINPIPE DIMENSION	1 1/4" OD	
SOUND LEVELS		
(LOW-MED-HIGH) DB(A) @ 230V	28/31/34	33/36/39

MD SERIES 1-WAY CEILING CASSETTE WITH CONDENSATE PUMP



Panasonic's semi-concealed ceiling units are flexible and space-saving. A perfect conditioning solution for small spaces. Barely visible, the unit blends with any interior design. Powerful enough to cool and comfort those inside.

S-07MD1U6 / S-09MD1U6 / S-12MD1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * One-Way Air Throw – Perfect for Small Spaces
- * Washable Long Life Air Filter
- * Built-In Drain Pump – 24" Lift
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Only 13" Tall (Not Including Decorative Panel), 30" Wide and 25" Deep
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed control
- * Optional Outside Air Intake
- * Easy Service

SYSTEM/MODEL	Components	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MD1U6	System	7,500 BTU 1-Way Ceiling cassette (includes grille)	208-230V/60 HZ	1
	S-07MD1U6	cassette	208-230V/60 HZ	1
	CZ-12KPD1U	grille		
S-09MD1U6	System	9,000 BTU 1-Way Ceiling cassette (includes grille)	208-230V/60 HZ	1
	S-09MD1U6	cassette	208-230V/60 HZ	1
	CZ-12KPD1U	grille		
S-12MD1U6	System	12,000 BTU 1-Way Ceiling cassette (includes grille)	208-230V/60 HZ	1
	S-12MD1U6	cassette	208-230V/60 HZ	1
	CZ-12KPD1U	grille		

DESCRIPTION	S-07MD1U6	S-09MD1U6	S-12MD1U6
PERFORMANCE			
COOLING CAPACITY	7,500 BTU/H	9,600 BTU/H	12,000 BTU/H
HEATING CAPACITY	8,500 BTU/H	11,000 BTU/H	14,000 BTU/H
CURRENT			
COOLING	0.29/0.28 A	0.29/0.28 A	0.32/0.31 A
HEATING	0.28/0.26 A	0.28/0.26 A	0.34/0.32 A
POWER INPUT			
COOLING	48/50 W	48/50 W	52/55 W
HEATING	44/46 W	44/46 W	50/52 W
HEAT EXCHANGER			
FAN TYPE X QUANTITY	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1
FAN AIRFLOW RATE CFM-(H/M/L)	282/247/212	282/247/212	320/280/250
FAN EXT. STATIC PRESS (230V)	0 IN. WC	0 IN. WC	0 IN. WC
FAN MOTOR TYPE	DC	DC	DC
FAN MOTOR OUTPUT	60 W	60 W	60 W
REFRIGERANT PIPE DIMENSIONS			
LOW PRESSURE (FLARE)	1/4"	1/4"	1/4"
HIGH PRESSURE (FLARE)	1/2"	1/2"	1/2"
UNIT DIMENSIONS	13" / 30" / 24.5" / 43 LBS. Inches (") / lbs. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT		
DRAINPIPE DIMENSION	1 1/4" OD		
SOUND LEVELS			
(LOW-MED-HIGH) DB(A) @ 230V	29/31/33		

MT SERIES CEILING SUSPENDED UNIT



Panasonic's ceiling suspended units are an ideal solution for any medium to light commercial application. Well suited for retail stores, schools, and restaurants. These units utilize large supply air openings to provide comfortable airflow and ultra quiet operation.

S-12MT1U6 / S-18MT1U6 / S-24MT1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Low Profile Design Fits Into Numerous Ceiling Suspended Locations
- * One Way Air Discharge with Vanes and Auto Louvre for Efficient Air Distribution
- * Washable Long Life Air Filter
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Less Than 9" Tall and Less than 36" Wide (47" Wide For S-24MT1U6)
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed control
- * Easy Service

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-12MT1U6	12,000 BTU	208-230V/60 HZ	1
S-18MT1U6	18,000 BTU	208-230V/60 HZ	1
S-24MT1U6	24,000 BTU	208-230V/60 HZ	1

DESCRIPTION	S-12MT1U6	S-18MT1U6	S-24MT1U6
CAPACITY COOLING HEATING	12,000 BTU 14,000 BTU	19,000 BTU 21,000 BTU	25,000 BTU 27,000 BTU
CURRENT COOLING HEATING	0.14/0.17 A 0.14/0.15 A	0.15/0.14 A 0.15/0.17 A	0.34/0.31 A 0.34/0.36 A
POWER INPUT COOLING HEATING	15/16 W 15/16 W	16/16 W 16/18 W	38/37 W 40/40 W
UNIT DIMENSIONS Inches (") / lbs.	8.5" / 36" / 27" / 46 lbs. Height/ Width/ Depth/ Net Weight		8.5" / 46.5" / 27" / 55 lbs. Height/ Width/ Depth/ Net Weight
HEAT EXCHANGER FAN TYPE X QUANTITY FAN AIRFLOW RATE CFM-(H/M/L) FAN MOTOR TYPE FAN MOTOR OUTPUT	CENTRIFUGAL X1 450/390/320 DC 60 - W	CENTRIFUGAL X1 450/390/320 DC 60 - W	CENTRIFUGAL X1 653/530/495 DC 60 - W
REFRIGERANT PIPE DIMENSIONS LOW PRESSURE (FLARE) HIGH PRESSURE (FLARE)	1/4" 1/2"	1/4" 1/2"	3/8" 5/8"
DRAINPIPE DIMENSION	1" OD	1" OD	1" OD
SOUND LEVELS (LOW-MED-HIGH)	30/32/35 - DB(A) @ 230V	30/33/36 - DB(A) @ 230V	33/36/38 - DB(A) @ 230V

MP/MR FLOOR MOUNTED SERIES



FLOOR MOUNTED WITH DECORATIVE PANEL

S-07MP1U6 / S-09MP1U6 / S-12MP1U6 S-15MP1U6 / S-18MP1U6 / S-24MP1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed Control
- * Easy Service
- * Washable Long Life filter



FLOOR MOUNTED WITHOUT DECORATIVE PANEL

S-07MR1U6 / S-09MR1U6 / S-12MR1U6 S-15MR1U6 / S-18MR1U6 / S-24MR1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed Control
- * Easy Service
- * Washable Long Life filter

DESCRIPTION	S-07MP1U6 / S-07MR1U6	S-09MP1U6 / S-09MR1U6	S-12MP1U6 / S12MR1U6	S-15MP1U6 / S15MR1U6	S-18MP1U6 / S18MR1U6	S-24MP1U6 / S-24MR1U6
CAPACITY COOLING HEATING	7,500 BTU 8,500 BTU	9,600 BTU 11,000 BTU	12,000 BTU 14,000 BTU	15,000 BTU 17,000 BTU	19,000 BTU 21,000 BTU	24,000 BTU 27,000 BTU
CURRENT COOLING HEATING	0.22/0.24 A 0.22/0.23 A	0.22/0.24 A 0.22/0.23 A	0.42/0.44 A 0.40/0.42 A	0.58/0.60 A 0.53/0.55 A	0.58/0.60 A 0.53/0.55 A	0.61/0.63 A 0.56/0.58 A
POWER INPUT COOLING HEATING	45/54 W 43/50 W	45/54 W 43/50 W	86/101 W 83/96 W	116/134 W 106/122 W	116/134 W 106/122 W	119/138 W 109/125 W
FHX UNIT DIMENSIONS Inches (") / lbs.	24.25"/42"/9"/64 lbs. HT / W / D / NT WT	24.2"/42"/9"/64 lbs. HT / W / D / NT WT	24.2"/42"/9"/64 lbs. HT / W / D / NT WT	24.0"/54.5"/9"/86 lbs. HT / W / D / NT WT	24.0"/54.5"/9"/86 lbs. HT / W / D / NT WT	24.0"/54.5"/9"/86 lbs. HT / W / D / NT WT
FMHX UNIT DIMENSIONS Inches (") / lbs.	24.25"/35.5"/9"/46 lbs. HT / W / D / NT WT	24.25"/35.5"/9"/46 lbs. HT / W / D / NT WT	24.25"/35.5"/9"/46 lbs. HT / W / D / NT WT	24.25"/48"/9"/62 lbs. HT / W / D / NT WT	24.25"/48"/9"/62 lbs. HT / W / D / NT WT	24.25"/48"/9"/62 lbs. HT / W / D / NT WT
HEAT EXCHANGER FAN TYPE X QUANTITY FAN AIRFLOW RATE CFM-(H/M/L) FAN MOTOR OUTPUT	Centrifugal 247/212/177 10 W	Centrifugal 247/212/177 10 W	Centrifugal 318/247/212 20 W	Centrifugal 424/318/283 20 W	Centrifugal 530/459/389 30 W	Centrifugal 601/495/424 60 W
REFRIGERANT PIPE DIMENSIONS LOW PRESSURE (FLARE) HIGH PRESSURE (FLARE)	1/4" 1/2"	1/4" 1/2"	1/4" 1/2"	1/4" 1/2"	1/4" 1/2"	3/8" 5/8"
DRAINPIPE DIMENSION	1 1/4" OD	1 1/4" OD	1 1/4" OD	1 1/4" OD	1 1/4" OD	1 1/4" OD
SOUND LEVELS (LOW-MED-HIGH)	28/30/33	28/30/33	29/35/39	31/35/38	31/36/39	35/38/41

MM CONCEALED DUCT – LOW PROFILE WITH CONDENSATE PUMP SERIES



8 inches high - Low Profile fits into tight ceiling spaces. Panasonic's MM units are ideal for drop ceiling applications including apartments, condominiums, and hotel rooms. Compact design permits installation within conditioned space.

S-07MM1U6 / S-09MM1U6 / S-12MM1U6 / S-15MM1U6 / S-18MM1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Adjustable External Static Pressure
- * Built-In Drain Pump – 20" Lift
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed Control
- * Bottom or Rear Return Air
- * Easy Service
- * 8" high
- * Low Profile fits into tight ceiling spaces
- * Optional Outside Air Intake
- * Washable Long Life Filter

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MM1U6	7,500 BTU ESP = 0.04 / 0.12	208-230V/60 HZ	1
S-09MM1U6	9,600 BTU ESP = 0.06 / 0.12	208-230V/60 HZ	1
S-12MM1U6	12,000 BTU ESP = 0.06 / 0.16	208-230V/60 HZ	1
S-15MM1U6	15,000 BTU ESP = 0.06 / 0.16	208-230V/60 HZ	1
S-18MM1U6	19,000 BTU ESP = 0.06 / 0.16	208-230V/60 HZ	1

DESCRIPTION	S-07MM1U6	S-09MM1U6	S-12MM1U6	S-15MM1U6	S-18MM1U6
PERFORMANCE					
COOLING CAPACITY	7,500 BTU/H	9,600 BTU/H	12,000 BTU/H	15,000 BTU/H	19,000 BTU/H
HEATING CAPACITY	8,500 BTU/H	11,000 BTU/H	14,000 BTU/H	17,000 BTU/H	21,000 BTU/H
CURRENT					
COOLING	0.22/0.21 A	0.26/0.25 A	0.28/0.26 A	0.34/0.33 A	0.47/0.43 A
HEATING	0.23/0.22 A	0.28/0.28 A	0.30/0.37 A	0.36/0.35 A	0.51/0.47 A
POWER INPUT					
COOLING	32/30 W	35/37 W	37/39 W	44/46 W	59/61 W
HEATING	32/30 W	37/40 W	39/40 W	47/49 W	63/64 W
HEAT EXCHANGER					
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
FAN AIRFLOW RATE CFM-(H/M/L)	212 / 247 / 283	230 / 265 / 300	247 / 283 / 318	283 / 336 / 371	0353 / 406 / 442
FAN EXT. STATIC PRESS (230V)	0.04 / 0.12 IN. WC	0.06 / 0.12 IN. WC	0.06 / 0.16 IN. WC	0.06 / 0.16 IN. WC	0.06 / 0.16 IN. WC
FAN MOTOR TYPE	DC	DC	DC	DC	DC
FAN MOTOR OUTPUT	50 W	50 W	50 W	50 W	50 W
REFRIGERANT PIPE DIMENSIONS					
LOW PRESSURE (FLARE)	1/4"	1/4"	1/4"	1/4"	1/4"
HIGH PRESSURE (FLARE)	1/2"	1/2"	1/2"	1/2"	1/2"
UNIT DIMENSIONS	7 7/8", 29 17/32", 25 13/64", 42 LBS				
Inches (") / lbs.	HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT				
DRAINPIPE DIMENSION	1 1/4" OD				
SOUND LEVELS					
(LOW-MED-HIGH) DB(A) @ 230V	25/27/28	27/29/30	28/30/32	30/32/34	31/33/35

MF CONCEALED DUCT – MEDIUM STATIC SERIES



Panasonic's concealed ceiling units are compact and space saving with advanced zoning capabilities and efficient design. A perfect conditioning solution for shorter duct runs.

S-07MF1U6 / S-09MF1U6 / S-12MF1U6 / S-15MF1U6 / S-18MF1U6 / S-24MF1U6 / S-36MF1U6 / S-48MF1U6 / S-54MF1U6

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Includes 8" round duct connections (two 8" duct collars for 7-15,000 BTU units three 8" duct collars for 18-24,000 BTU unit and four 8" duct collars for 36-54,000 BTUs units) can be removed for plenum ducting.
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Adjustable External Static Pressure
- * Built-In Drain Pump – 20" Lift
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed Control
- * Bottom or Rear Return Air
- * Easy Service
- * Optional Outside Air Intake

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MF1U6	7,500 BTU 0.28 / 0.40 ESP	208-230V/60 HZ	1
S-09MF1U6	9,600 BTU 0.28 / 0.40 ESP	208-230V/60 HZ	1
S-12MF1U6	12,000 BTU 0.28 / 0.40 ESP	208-230V/60 HZ	1
S-15MF1U6	15,000 BTU 0.28 / 0.44 ESP	208-230V/60 HZ	1
S-18MF1U6	19,000 BTU 0.32 / 0.48 ESP	208-230V/60 HZ	1
S-24MF1U6	25,000 BTU 0.32 / 0.48 ESP	208-230V/60 HZ	1
S-36MF1U6	36,000 BTU 0.32 / 0.49 ESP	208-230V/60 HZ	1
S-48MF1U6	48,000 BTU 0.31 / 0.45 ESP	208-230V/60 HZ	1
S-54MF1U6	54,600 BTU 0.31 / 0.45 ESP	208-230V/60 HZ	1

DESCRIPTION	S-07MF1U6	S-09MF1U6	S-12MF1U6	S-15MF1U6	S-18MF1U6	S-24MF1U6	S-36MF1U6	S-48MF1U6	S-54MF1U6
PERFORMANCE									
COOLING CAPACITY	7,500 BTU/H	9,600 BTU/H	12,000 BTU/H	15,000 BTU/H	19,000 BTU/H	25,000 BTU/H	36,000 BTU/H	47,800 BTU/H	54,600 BTU/H
HEATING CAPACITY	8,500 BTU/H	11,000 BTU/H	14,000 BTU/H	17,000 BTU/H	21,000 BTU/H	27,000 BTU/H	39,000 BTU/H	54,600 BTU/H	61,400 BTU/H
CURRENT									
COOLING	0.45/0.49 A	0.45/0.49 A	0.52/0.55 A	0.52/0.55 A	0.90/0.96 A	0.90/0.96 A	1.15/1.25 A	1.25/1.34 A	1.25/1.34 A
HEATING	0.42/0.46 A	0.42/0.46 A	0.49/0.54 A	0.49/0.54 A	0.89/0.95 A	0.89/0.95 A	1.10/1.18 A	1.13/1.20 A	1.13/1.20 A
POWER INPUT									
COOLING	92/112 W	92/112 W	107/125 W	107/125 W	183/219 W	183/219 W	235/282 W	254/301 W	254/301 W
HEATING	87/104 W	87/104 W	100/122 W	100/122 W	182/214 W	182/214 W	224/267 W	230/271 W	230/271 W
HEAT EXCHANGER									
FAN TYPE	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1	CENTRIFUGAL X1
FAN AIRFLOW RATE CFM-(H/M/L)	353/300/247	353/300/247	424/371/318	424/371/318	671/565/459	671/565/459	1060/919/742	1166/1060/883	1166/1060/883
FAN EXT. STATIC PRESS (230V)	0.40 IN. WC	0.40 IN. WC	0.40 IN. WC	0.44 IN. WC	0.48 IN. WC	0.48 IN. WC	0.49 IN. WC	0.45 IN. WC	0.45 IN. WC
FAN MOTOR TYPE	AC	AC	AC	AC	AC	AC	AC	AC	AC
FAN MOTOR OUTPUT	50 W	50 W	70 W	70 W	100 W	100 W	140 W	140 W	140 W
REFRIGERANT PIPE DIMENSIONS									
LOW PRESSURE (FLARE)	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
HIGH PRESSURE (FLARE)	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"
UNIT DIMENSIONS	12.5"/ 27.5"/ 25"/ 53 LBS.					12.5"/ 39.5"/ 25"/ 71 LBS.		12.5"/ 58.5"/ 25"/ 104 LBS.	
Inches (") / lbs.	HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT					HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT		HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	
DRAINPIPE DIMENSION	1 1/4" OD								
SOUND LEVELS									
(LOW-MED-HIGH) DB(A) @ 230V	24/28/31	24/28/31	24/28/31	26/30/33	27/32/36	27/32/36	31/33/38	33/37/40	33/37/40

ME CONCEALED DUCT – MEDIUM-HIGH STATIC SERIES



Panasonic's concealed ceiling units are flexible and space saving, helping maximize floor and wall space. Advanced zoning capabilities condition large areas simply and efficiently. Completely concealed, they offer easy installation.

S-36ME1U6 / S-48ME1U9

KEY FEATURES:

- * ECO Friendly R410A Refrigerant
- * 208/230V, 1 Phase, 60Hz
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Perfect for Long Duct Runs
- * Wired or Wireless Remote Control
- * Automatic or Fixed Fan Speed Control
- * Easy Service
- * Built-in float safety

A PERFECT APPLICATION FOR LONGER DUCT RUN INSTALLATIONS

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-36ME1U6	36,000 BTU ESP = 0.70"	208-230V/60 HZ	1
S-48ME1U6	48,000 BTU ESP = 0.67"	208-230V/60 HZ	1

DESCRIPTION	S-36ME1U6	S-48ME1U6
CAPACITY		
COOLING	36,000 BTU	47,800 BTU
HEATING	39,000 BTU	54,600 BTU
CURRENT		
COOLING	2.84/2.89 A	3.24/3.19 A
HEATING	2.74/2.80 A	3.17/3.42 A
POWER INPUT		
COOLING	548/620 W	644/695 W
HEATING	528/602 W	627/756 W
UNIT DIMENSIONS		
Inches (") / lbs.	16.5" / 42" / 24.5" / 110 lbs. Height/ Width/ Depth/ Net Weight	18" / 42" / 24.5" / 119 lbs. Height/ Width/ Depth/ Net Weight
HEAT EXCHANGER		
FAN TYPE X QUANTITY	CENTRIFUGAL X1	CENTRIFUGAL X1
FAN AIRFLOW RATE CFM-(H/M/L)	1,060/988/883	1,272/1,237/1,160
FAN EXT. STATIC PRESS (230V)	0.70 - In. WC	0.67 - In. WC
FAN MOTOR TYPE	AC	AC
FAN MOTOR OUTPUT	200 - W	400 - W
REFRIGERANT PIPE DIMENSIONS		
LOW PRESSURE (FLARE)	3/8"	3/8"
HIGH PRESSURE (FLARE)	5/8"	5/8"
DRAINPIPE DIMENSION	1 1/4" OD	1 1/4" OD
SOUND LEVELS		
(LOW-MED-HIGH)	42/44/45 - DB(A) @ 230V	44/46/47 - DB(A) @ 230V

MVA CONCEALED DUCT – VERTICAL MULTI POISE SERIES

NEW



MVA Vertical Air Handlers are compact and efficient. With 4 thermistors (Air intake/outlet, & 2 HEX sensors) more precise control is possible. Optional electric heater is available to accommodate comfortable heating even in the harshest winter.

MVA18FBAS6HBCP/ MVA24FBAS6HBCP MVA30FBAS6HBCP/ MVA36FBAS6HBCP MVA42FBAS6HBCP/ MVA48FBAS6HBCP MVA60FBAS6HBCP

KEY FEATURES:

- * Eco-Friendly R410A Refrigerant
- * 208/230V, 1 phase, 60Hz
- * Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- * Multi-position (Horizontal/Vertical) possible
- * High efficient ECM(DC) fan motor
- * Optional Electric Heater available (Field installed)
- * 19 gauge galvanized external panel with baked on polyester powder coating
- * Adjustable External Static
- * With 1" filter rack
- * Optional filter available. (2" or 4" Filter RACK)

MODELS	Nominal Cooling Capacity	Static std / Max	Volt	PH
MVA18FBAS6HBCP	19,800 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA24FBAS6HBCP	24,700 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA30FBAS6HBCP	32,000 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA36FBAS6HBCP	36,000 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA42FBAS6HBCP	42,000 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA48FBAS6HBCP	48,000 BTU/h	0.3 / 0.5	208/230V 60Hz	1
MVA60FBAS6HBCP	60,000 BTU/h	0.3 / 0.5	208/230V 60Hz	1

NOTE: When connecting MVA model(s) in the system (mix or all), the maximum connectable indoor/outdoor capacity ratio will be limited to 130%.

DESCRIPTION	MVA18 FBAS6HBCP	MVA24 FBAS6HBCP	MVA30 FBAS6HBCP	MVA36 FBAS6HBCP	MVA42 FBAS6HBCP	MVA48 FBAS6HBCP	MVA60 FBAS6HBCP
PERFORMANCE							
COOLING CAPACITY	19,800 BTU/H	24,700 BTU/H	32,000 BTU/H	36,000 BTU/H	42,000 BTU/H	48,000 BTU/H	60,000 BTU/H
HEATING CAPACITY	23,900 BTU/H	28,000 BTU/H	37,000 BTU/H	40,000 BTU/H	49,000 BTU/H	54,000 BTU/H	68,000 BTU/H
FULL LOAD AMP.	3.0 A	3.0 A	3.6 A	3.6 A	4.9 A	6.0 A	7.6 A
FAN MOTOR OUTPUT	224 W	396 W	309 W	440 W	567 W	1040 W	1110 W
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
FAN MOTOR TYPE	DC	DC	DC	DC	DC	DC	DC
AIRFLOW CFM (H/M/L)	690/675/621	882/769/718	1037/952/837	1229/1067/978	1335/1213/1133	1597/1378/1238	1932/1658/1500
EXT. STATIC PRESS. STD/MAX	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.	0.3/0.5 IN. W. G.
REFRIGERANT PIPE SIZE							
GAS PIPE SIZE	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
LIQUID PIPE SIZE	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
PIPE CONNECTION SIZE							
LOW PRESSURE(BRAZING)	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1-1/8"
HIGH PRESSURE(BRAZING)	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
DIMENSIONS (HxWxD) INCH	46.9x17.7x22.2	46.9x17.7x22.2	51.9x20.2x25.2	51.9x20.2x25.2	55.9x22.2x27.2	55.9x22.2x27.2	57.9x24.2x31.2
WEIGHT	135 LBS	135 LBS	145 LBS	145 LBS	158 LBS	158 LBS	190 LBS
DRAIN PIPE CONNECTION	3/4"						
AVAILABLE OPTIONAL HEATER SIZE	3, 5, 6, 8, 10 kW				8KW, 10 kW		
METERING DEVICE	ELECTRONIC EXP. VALVE						

PART NO.	ACCESSORY HEATER								
	Heater Capacity (kW)		Applications on MVA models						
	240V	208V	MVA18 FBAS6HBCP	MVA24 FBAS6HBCP	MVA30 FBAS6HBCP	MVA36 FBAS6HBCP	MVA42 FBAS6HBCP	MVA48 FBAS6HBCP	MVA60 FBAS6HBCP
012-000458-001	3	2.3	x	x	x	x			
012-000458-002	5	3.8	x	x	x	x			
012-000458-003	6	4.5	x	x	x	x			
012-000458-004	8	6	x	x	x	x	x	x	x
012-000458-005	9.5	7.5	x	x	x	x	x	x	x

Only qualified personnel must install the electrical service. Refer to manuals for more details.

(Single stage electric heater)

CONTROL SYSTEMS SIMPLE SYSTEM CONTROL NETWORK

Panasonic's system control network is the heart and soul of the ECOi™ unit. With a simple two-wire loop installation, we put control in your hands, literally. No outside specialists required, it's an all-in-one solution, and a way to further build profits by keeping installation in-house. The logic resides in the ECOi system and the control is in the gateway.

CZ-RTC3 / CZ-RTC2 / CZ-RWSC3 / CZ-RWSU1U
 CZ-RWST1U / CZ-RWSY1U
 CZ-RWSK1U / CZ-RE2C2 / CZ-64ESMC1U
 CZ-ESWC2 / CZ-256ESMC1U / CZ-CFUNC1U
 CZ-CSRC2 / CZ-CLNC1U / BMS-CTRL1
 CZ-CSWKC1U / CZ-CSWAC1U / CZ-CSWGC1U
 CZ-CSWBC1U / CZ-CSWWC1U

AN ALL-IN-ONE SOLUTION, NO OUTSIDE SPECIALISTS REQUIRED.

PART NUMBER	DESCRIPTION
NEW CZ-RTC3	HIGH-SPEC WIRED REMOTE CONTROLLER Touch pad operation, weekly timer, energy saving functions etc. (Ref.P10-11)
CZ-RTC2	WIRED REMOTE CONTROLLER — 7- day setback, mode, temp, service, etc
CZ-RWSC3	REMOTE CONTROLLER RECEIVER — To be used with CZ-RWSK1U
CZ-RWSU1U	WIRELESS REMOTE CONTROLLER — For use with MU models
CZ-RWST1U	WIRELESS REMOTE CONTROLLER — For use with MD and MT models
CZ-RWSY1U	WIRELESS REMOTE CONTROLLER — For use with MY models
CZ-RWSK1U	WIRELESS REMOTE CONTROLLER — For use with MK models & for use with CZ-RWSC3
CZ-RELC2	SIMPLE REMOTE CONTROLLER — with Back Light
CZ-RE2C2	SIMPLE REMOTE CONTROLLER (wired) — on/off, Mode, Temp, Fan Speed, Flap, Service Function
CZ-64ESMC1U	SYSTEM CONTROLLER — Set individual indoor unit temps for up to 4 zones, 16 indoor units max per zone
CZ-ESWC2	SCHEDULE TIMER — Thermal On/Off at program times only, no set back temperature
CZ-256ESMC1U	INTELLIGENT CONTROLLER (Web Enabled) — Controls Max of 256 indoor units with CZ-CFUNC1U
CZ-CFUNC1U	COMMUNICATIONS ADAPTER — Used with INTELLIGENT CONTROLLER and BMS interface
CZ-CSRC2	REMOTE SENSOR
CZ-CLNC1U	LONWORKS INTERFACE — Maximum of 16 indoor units
BMS-CTRL1	BMS INTERFACE — BACnet, LONworks, N2 or MODBUS (also requires CZ-CFUNC1U)
CZ-CSWKC1U	P-AIMS — Base Software Package
CZ-CSWAC1U	P-AIMS — Electrical Power Distribution Proportioning Software (also requires CZ-CFUNC1U)
CZ-CSWGC1U	P-AIMS — Layout Graphic Display Software (also requires CZ-CFUNC1U)
CZ-CSWBC1U	P-AIMS — BACnet Interface Software (also requires CZ-CFUNC1U)
CZ-CSWWC1U	P-AIMS — Web Enabling Software (also requires CZ-CFUNC1U)

CONTROL SYSTEMS SIMPLE SYSTEM CONTROL NETWORK

WIRELESS REMOTES CONTROL IN THE PALM OF YOUR HAND

Users can truly take control of the entire system, including mode, temperature, airflow, and system diagnosis, all from an easy-to-read LCD display.



Panasonic's wireless remotes control more than comfort.

KEY FEATURES:

- * Thin and Easy To Read
- * Simple To Install and Use
- * Can Be Adapted for Use On All ECOi Indoor Units
- * Fan Speed Control
- * Timer Mode Start/Stop
- * Timer Mode On/Off
- * Operating Mode
- * Inspection/Test Indication
- * Remote Can Be Configured To Sense Temperature



NEW CZ-RTC3
High-spec
Wired Remote Controller

Easy-to-use remotes offer control where minimal user functionality is preferred. Panasonic's Standard Remote with 7-Day Timer is perfectly suited for those requiring more programmed management over multiple zones. With immediate diagnostics and up to six daily set temperature schedules, it's a perfectly controlled solution offering intuitive simplicity.



CZ-RELC2 Simple Remote Controller with Back Light
 CZ-RE2C2 Simple Remote Controller
 CZ-RTC2 Standard Remote/7-Day Timer For Use With All Indoor Units

Panasonic's wired remote controls offer multiple conditioning solutions to meet the needs of any project.

WIRED REMOTES SIMPLE TO INSTALL

KEY FEATURES (STANDARD REMOTE/7-DAY TIMER):

- * Thin and Easy To Read
- * Simple To Install and Use
- * Can Be Adapted for Use On All ECOi Indoor Units
- * Fan Speed Control: Including Automatic or Fixed Set Temperature
- * Airflow Direction
- * Operating Mode (Heating/Cooling/Auto/Dry/Fan)
- * Vacation Mode for Continued Energy Efficiencies
- * Full 7-Day Set-Back Functionality, With Up To 6 Time Periods/Day
- * Full System Diagnostic Capability (Diagnostic History Provides Immediate View of System Past and Present.)

KEY FEATURES (SIMPLE REMOTE):

- * Thin and Easy To Read
- * Simple To Install and Use
- * Can Be Adapted for Use On All ECOi Indoor Units
- * Operating Mode (Heating/Cooling/Auto/Dry/Fan)
- * Vacation Mode for Continued Energy Efficiencies (CZ-RE2C2 & CZ-RTC2 only)
- * Fan Speed Control: Including Automatic or Fixed Set Temperature
- * On/Off
- * Airflow Direction
- * Perfectly Suited for Applications Where Simpler Functionality is Required (ie: Hotel Rooms, Nursing Homes, Offices)

CONTROL SYSTEMS SIMPLE SYSTEM CONTROL NETWORK



CZ-64ESMC1U
System Controller

Controls Up To 64 Units Into 4 Individualized Zones

MULTIPLE ZONE CONTROLLERS THE HEART AND SOUL OF CONDITIONING.

KEY FEATURES (SYSTEM CONTROL):

- * Controls Up To 64 Units Into 4 Individualized Zones
- * Alarm and Operational Signal Output
- * Single Access Points for All Connected Wired Remotes
- * System Control Timer Available

Panasonic's system and intelligent controls are the central nervous system of the conditioning system. The gateway to all data, temperature, and system diagnostics.

CONTROLS UP TO 256 INDOOR UNITS

KEY FEATURES (INTELLIGENT CONTROL):

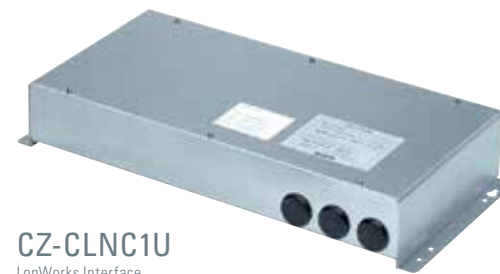
- * 6.5" Touch Screen Panel
- * Controls up to 256 Indoor units with added Communication Adapter (128 indoors without)
- * New Control Wiring System (S Net) Connects Up To 64 Units To a Single Control Line
- * Offers a Maximum Installation of Two System Controls (One Main, One Sub)
- * Provides Individual Tenant Billing data for 3 systems (use Communication Adapters to add more systems). Requires watt hour meters
- * Provides Individual Tenant Billing Data Through Calculations Based on a Per-Tenant Basis
- * Individual Zone Override Feature (High/Low Setting)
- * Web Accessible/Real Time Diagnostics Through Individual IP Address
- * Diagnostic History of System Past and Present



CZ-256ESMC1U
Intelligent Controller

Web Accessible/Real Time Diagnostics Through Individual IP Address

CONTROL SYSTEMS BUILDING MANAGEMENT INTEGRATION



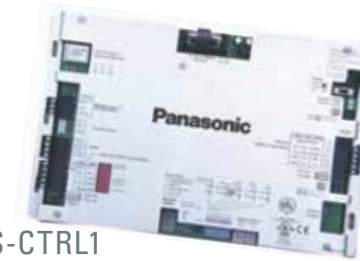
CZ-CLNC1U
LonWorks Interface

Panasonic's LonWorks interface integrates into many compatible Building Management Systems. Single point of control. Access to all of the ECOi™ conditioning mechanics.

LONWORKS INTERFACE SINGLE POINT OF CONTROL

KEY FEATURES:

- * Communicate With LonWorks Compatible Systems
- * Start/Stop
- * Controls Up To 16 Groups (Maximum 64 Indoor Units)
- * For 17 or more groups of indoor units connect additional interface units.
- * Temperature Setting, Fan Speed, etc.
- * Schedule Time Setting
- * Alarm Notification



BMS-CTRL1
BACnet Interface

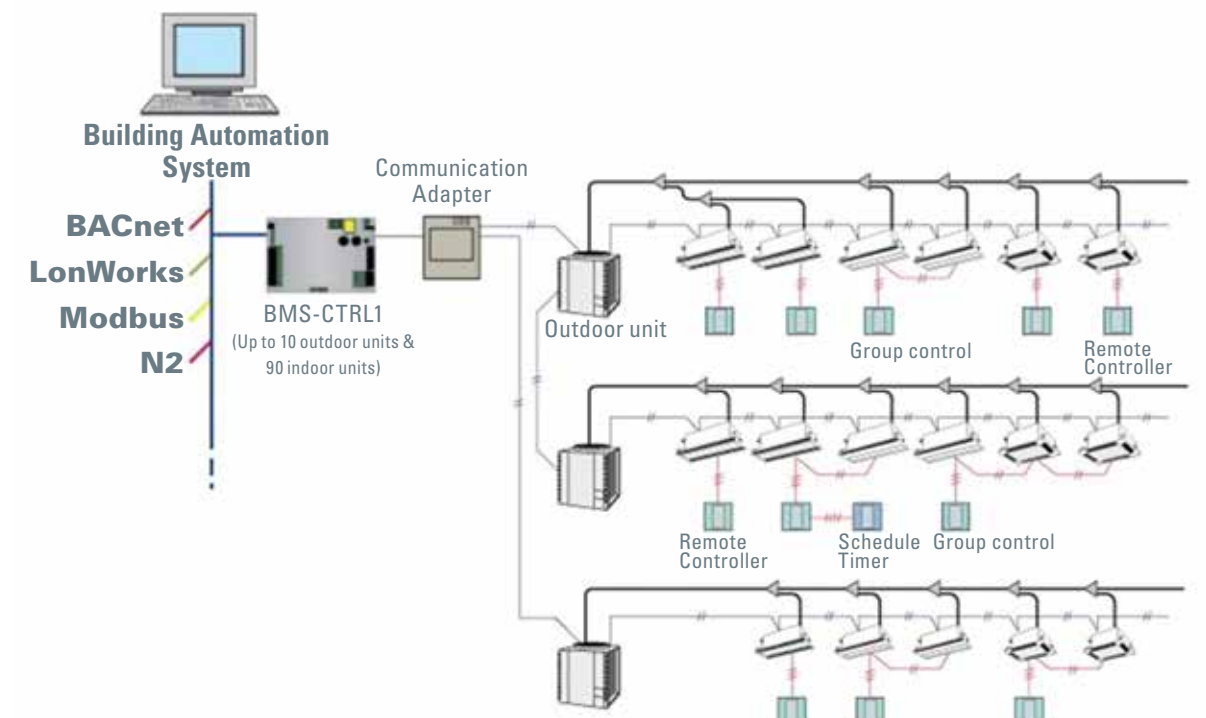
Panasonic's BMS Controller sets a new standard for multiple equipment protocol conversion.

BMS CONTROLLER BMS-CTRL1

KEY FEATURES:

- * Able to provide BMS integration to a variety of BMS protocols including BACnet, Modbus, LonWorks and N2
- * Communicates with up to 90 indoor units and 10 Refrigerant Circuits (note; N2 can communicate with 40 indoor and 10 outdoor units)
- * Provides control of operating mode, fan, set temperature
- * Provides status of operating modes and alarm status

NETWORK DIAGRAM



ACCESSORIES ECOi™ SYSTEM

PART NUMBER	DESCRIPTION	2-Way Distribution Kits
CZ-P160BK1U	DISTRIBUTION JOINT KIT	Used with 2 Pipe indoor Unit Piping - Up to 76,400 BTUs
CZ-P680BK1U	DISTRIBUTION JOINT KIT	Used with 2 Pipe indoor Unit Piping - 76,500 to 232,000 BTUs
CZ-P1350BK1U	DISTRIBUTION JOINT KIT	Used with 2 Pipe indoor Unit Piping - 232,200 to 460,700 BTUs
CZ-P680PJ1U	DISTRIBUTION JOINT KIT	Used to Connect Multiple 2 Pipe Outdoor Units - Up to 232,000 BTUs
CZ-P1350PJ1U	DISTRIBUTION JOINT KIT	Used to Connect Multiple 2 Pipe Outdoor Units - 232,200 to 460,700 BTUs

3-Way Distribution Kits		
CZ-P224BH1U	DISTRIBUTION JOINT KIT CUT TO FIT	Used with 3 Pipe Indoor Unit Piping - Up to 76,400 BTUs
CZ-P680BH1U	DISTRIBUTION JOINT KIT CUT TO FIT	Used with 3 Pipe Indoor Unit Piping - 76,500 to 232,000 BTUs
CZ-P1350BH1U	DISTRIBUTION JOINT KIT CUT TO FIT	Used with 3 Pipe Indoor Unit Piping - 232,200 to 460,700 BTUs
CZ-P900PH1U	DISTRIBUTION JOINT KIT CUT TO FIT	Used to Connect Multiple 3 Pipe Outdoor Units - Up to 307,100 BTUs

3-Way Solenoid Valve Kits		
CZ-P160HR1U	SOLENOID VALVE KIT	Total Indoor Capacity of 19,100 to 54,600 BTUs (for 3 Pipe System)
CZ-P56HR1U	SOLENOID VALVE KIT	Total Indoor Capacity of Less than 19,000 BTUs (for 3 Pipe System)

Ball Valves		
BVT 14	1/4" Ball Valve	With Access Port Fitting
BVT 38	3/8" Ball Valve	With Access Port Fitting
BVT 12	1/2" Ball Valve	With Access Port Fitting
BVT 58	5/8" Ball Valve	With Access Port Fitting
BVT 34	3/4" Ball Valve	With Access Port Fitting
BVT 78	7/8" Ball Valve	With Access Port Fitting
BVT 118	1-1/8" Ball Valve	With Access Port Fitting
BVT 138	1-3/8" Ball Valve	With Access Port Fitting
BVT 158	1-5/8" Ball Valve	With Access Port Fitting

Univolt Mini Condensate Pumps		
ASP-MAUNI	100 - 250 VOLT MINI AQUA ASPEN CONDENSATE PUMP	Max 26' Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26'
ASP-MOUNI	100 - 250 VOLT MINI ORANGE ASPEN CONDENSATE PUMP	Max 26' Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26'
ASP-MLUNI	100 - 250 VOLT MINI LIME ASPEN CONDENSATE PUMP	Max 26' Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26'
ASP-MWUNI	100 - 250 VOLT MINI WHITE ASPEN CONDENSATE PUMP	Max 26' Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26'

CZ-FDU1U	FRESH AIR CHAMBER	For Use With S-24MU1U6 and S-36MU1U6 Indoor Units Only (Requires CZ-ATU1U)
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460 Transformers		
ACC-195674	460V TO 230V, 11 KVA TRANSFORMER	For Use With 72,000 (6 Ton) BTU/HR Outdoor Unit
ACC-195679	460V TO 230V, 14 KVA TRANSFORMER	For Use With 95,000 (8 Ton) BTU/HR Outdoor Unit

Electric Heater	
012-000458-00X	ELECTRIC HEATER FOR MVA SERIES (REFER TO PAGE 35 FOR DETAILS)

SERVICES ECOi™ SYSTEM

623 303 9831	Pac Checker Service & diagnostics tool for all ECOi and Panasonic Splits greater than 26,000 BTUs
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PART NUMBER	DESCRIPTION
ECO-SC-4	ECOi COMMISSIONING (Per normal business day, up to 24 tons)
IC-SC-1	COMMISSIONING OF INTELLIGENT CONTROLLER (Base fee for each Intelligent Controller)
IC-SC-INDOOR	COMMISSIONING OF INTELLIGENT CONTROLLER (Indoor Units)
LW-SC-1	COMMISSIONING OF LONWORKS INTERFACE MODULE (Base fee)
LW-SC-INDOOR	COMMISSIONING OF LONWORKS INTERFACE (Indoor Units fee)
PP-SC-1	COMMISSIONING OF INTELLIGENT BACnet INTERFACE (Base fee for each BMS-CTRL 1)
PP-SC-INDOOR	COMMISSIONING OF INTELLIGENT BACnet (Indoor Units fee)
CA-SC-1	COMMISSIONING OF COMMUNICATIONS ADAPTER (Base fee for each Comm. Adapter)
CA-SC-INDOOR	COMMISSIONING OF COMMUNICATIONS ADAPTER (Indoor Units fee)

P-AIMS-SC-1	COMMISSIONING OF P-AIMS MANAGEMENT SYSTEM (Base fee for each overall system)
P-AIMS-SC-INDOOR	COMMISSIONING OF P-AIMS MANAGEMENT SYSTEM (Indoor Units fee)
AC-SC-1	PROGRAM 2-WAY SYSTEM TO ENABLE AUTO CHANGEOVER OF MODE (Base fee /Indoor Units fee)
AC-SC-INDOOR	PROGRAM 2-WAY SYSTEM TO ENABLE AUTO CHANGEOVER OF MODE (Indoor Units fee)
IPO-SC-1	PROGRAM "IGNORE INDOOR POWER OFF FAILURE" FOR 2-WAY SYSTEM (Base fee /Indoor Units fee)
IPO-SC-INDOOR	PROGRAM "IGNORE INDOOR POWER OFF FAILURE" FOR 2-WAY SYSTEM (Indoor Units fee)
CNBH	COMMISSIONING COMPLETED DURING NON-BUSINESS HOURS OR NON-BUSINESS DAYS
COUS	ALL COMMISSIONING OF SYSTEMS OR COMPONENTS OUTSIDE CONTINENTAL U.S.

RP-SIT-1	TRAINING - MINI SPLIT SYSTEMS (1 class per day at Customer Location)
RP-SIT-2	TRAINING - MINI SPLIT SYSTEMS (2 classes / same location / same day)
ECOi-IST	TRAINING - ECOi INSTALLATION AND COMMISSIONING TRAINING (at customer location)
ECOi-SERT	TRAINING - ECOi SERVICE TRAINING (at customer location)
TOUS	TRAINING (Conducted outside of the Continental U.S.)

ECO-SIT-4	TRAINING (On-Site Supervised ECOi installation training)
ECO-SIT-NR	TRAINING (Supervised installation On-Site training where attendees did not show up as agreed upon)
ECO-SIT-OS	TRAINING (Supervised installation Training Outside Continental U.S.)

WARRANTY	6 Year Compressor
	1 Year Parts

IEER INTEGRATED ENERGY EFFICIENCY RATIO

Part load performance of commercial HVAC systems was represented as Integrated Part Load Performance (IPLV) which was used until January 1, 2010. A new methodology was then adopted and defined as Integrated Energy Efficiency Ratio (IEER).

IEER is intended to be used as a representation of part load performance for energy comparisons of similar systems. For Variable Refrigerant Flow (VRF) Multi Split systems AHRI Standard 1230 defines the process to calculate IEER. In a most simplistic form IEER is calculated by operating the system at 4 different capacities and applying a formula. The basic calculation is as follows:

$$\text{IEER} = (0.02 * A) + (0.617 * B) + (0.238 * C) + (0.125 * D)$$

Where as:

- A = EER at 100% net capacity at AHRI standard condition (95°F)
- B = EER at 75% net capacity and reduced ambient (81.5°F)
- C = EER at 50% net capacity and reduced ambient (68°F)
- D = EER at 25% net capacity and reduced ambient (65°F)

Example:

A = 11.0 EER B = 16.0 EER C = 19.0 EER D = 23.0 EER
 IEER = (0.02 * 11) + (0.617 * 16) + (0.238 * 19) + (0.125 * 23)
 IEER = 0.2 + 9.8 + 4.5 + 2.9 = 17.4 IEER

Some points to recognize from this calculation:

1. Full load EER (100% capacity) represents only 2% of the overall IEER rating because the system would rarely operate at this condition.
2. As overall capacity is reduced the system EER increases significantly.
3. An ECOi system operating at 50% part load could result in an efficiency increase of more than 70% over the rated full load EER value.
4. Your actual efficiency could exceed the IEER rating depending upon equipment sizing, environment and use of the system.

ECOi™ System Certified Efficiency Ratings

ME2 SERIES 2-WAY ECOi HEAT PUMP

Rating Standard: AHRI 1230		COOLING PERFORMANCE			HEATING PERFORMANCE			
System Model Number	Indoor Unit Rating Type	Capacity Btu/h	EER 95F*	IEER	High Heating 47°F		Low Heating 17°F	
					Capacity (Btu/h)	COP	Capacity (Btu/h)	COP
U-72ME2U9	Ducted	69,000	12.3	19.1	77,000	3.56	52,000	2.56
U-72ME2U9	Mixed Ducted	69,000	12.5	20.6	77,000	3.71	52,000	2.60
U-72ME2U9	Non Ducted	69,000	12.6	22.1	77,000	3.86	52,000	2.63
U-96ME2U9	Ducted	92,000	11.9	19.3	103,000	3.54	67,000	2.42
U-96ME2U9	Mixed Ducted	92,000	11.9	21.2	103,000	3.65	67,000	2.51
U-96ME2U9	Non Ducted	92,000	11.9	23.1	103,000	3.75	67,000	2.59
U-120ME2U9	Ducted	114,000	11.5	19.3	129,000	3.40	75,000	2.30
U-120ME2U9	Mixed Ducted	114,000	11.7	22.1	129,000	3.50	75,000	2.35
U-120ME2U9	Non Ducted	114,000	11.8	24.8	129,000	3.60	75,000	2.40
U-144ME2U9	Ducted	138,000	10.9	18.7	154,000	3.27	100,000	2.18
U-144ME2U9	Mixed Ducted	138,000	10.8	20.7	154,000	3.31	100,000	2.30
U-144ME2U9	Non Ducted	138,000	10.7	22.6	154,000	3.35	100,000	2.41
WU-168ME2U9	Ducted	160,000	11.7	19.0	180,000	3.45	119,000	2.30
WU-168ME2U9	Mixed Ducted	160,000	11.7	21.1	180,000	3.48	119,000	2.34
WU-168ME2U9	Non Ducted	160,000	11.6	23.2	180,000	3.50	119,000	2.38
WU-192ME2U9	Ducted	184,000	11.2	18.4	206,000	3.40	134,000	2.25
WU-192ME2U9	Mixed Ducted	184,000	11.2	20.5	206,000	3.40	134,000	2.26
WU-192ME2U9	Non Ducted	184,000	11.1	22.6	206,000	3.39	134,000	2.26
WU-216ME2U9	Ducted	206,000	11.0	18.0	232,000	3.38	142,000	2.23
WU-216ME2U9	Mixed Ducted	206,000	11.0	20.2	232,000	3.37	142,000	2.29
WU-216ME2U9	Non Ducted	206,000	10.9	22.3	232,000	3.35	142,000	2.34
WU-240ME2U9	Ducted	228,000	10.7	17.7	258,000	3.36	150,000	2.18
WU-240ME2U9	Mixed Ducted	228,000	10.8	20.3	258,000	3.31	150,000	2.20
WU-240ME2U9	Non Ducted	228,000	10.8	22.8	258,000	3.25	150,000	2.22
WU-264ME2U9	Ducted	252,000	10.2	17.3	284,000	3.35	176,000	2.16
WU-264ME2U9	Mixed Ducted	252,000	10.2	19.1	284,000	3.29	176,000	2.14
WU-264ME2U9	Non Ducted	252,000	10.1	20.8	284,000	3.22	176,000	2.12
WU-288ME2U9	Ducted	274,000	9.8	16.9	308,000	3.28	200,000	2.14
WU-288ME2U9	Mixed Ducted	274,000	9.7	18.2	308,000	3.24	200,000	2.10
WU-288ME2U9	Non Ducted	274,000	9.6	19.5	308,000	3.20	200,000	2.06
WU-312ME2U9	Ducted	298,000	10.4	17.7	334,000	3.27	202,000	2.16
WU-336ME2U9	Ducted	320,000	10.3	17.2	360,000	3.23	218,000	2.13
WU-360ME2U9	Ducted	342,000	10.1	16.6	386,000	3.20	226,000	2.10

ECOi™ System Certified Efficiency Ratings

MF SERIES 3-WAY ECOi Heat Recovery System

Rating Standard: AHRI 1230			COOLING PERFORMANCE			HEATING PERFORMANCE				SIMULTANEOUS OPERATION PERFORMANCE
Type	System Model Number	Indoor Unit Rating Type	Capacity (Btu/h)	EER	IEER	High Heating 47°F		Low Heating 17°F		Simultaneous Cooling-Heating Efficiency (SCHE)
						Capacity (Btu/h)	COP	Capacity (Btu/h)	COP	
Heat Recovery	U-72MF1U9	Ducted	72,000	11.4	16.4	81,000	3.5	47,000	2.28	24.0
Heat Recovery	U-72MF1U9	Mixed	71,000	11.2	16.8	79,500	3.41	44,500	2.27	24.4
Heat Recovery	U-72MF1U9	Non-Ducted	69,000	10.9	17.1	77,000	3.31	42,000	2.25	24.7
Heat Recovery	U-96MF1U9	Ducted	95,000	11.0	16.0	106,000	3.3	69,000	2.25	23.1
Heat Recovery	U-96MF1U9	Mixed	94,000	11.0	16.4	104,500	3.31	63,500	2.25	23.3
Heat Recovery	U-96MF1U9	Non-Ducted	93,000	10.9	16.7	103,000	3.31	58,500	2.25	23.5
Heat Recovery	WU-144MF1U9	Ducted	138,000	10.8	16.4	156,000	3.21	93,000	2.05	23.1
Heat Recovery	WU-144MF1U9	Mixed	137,000	10.9	16.8	153,000	3.26	88,000	2.15	23.5
Heat Recovery	WU-144MF1U9	Non-Ducted	136,000	10.9	17.1	150,000	3.31	83,000	2.25	23.8
Heat Recovery	WU-168MF1U9	Ducted	164,000	10.7	16.1	184,000	3.21	114,000	2.05	22.6
Heat Recovery	WU-168MF1U9	Mixed	162,000	10.6	16.5	181,000	3.21	106,000	2.05	23.0
Heat Recovery	WU-168MF1U9	Non-Ducted	160,000	10.5	16.9	178,000	3.21	98,000	2.05	23.3
Heat Recovery	WU-192MF1U9-1	Ducted	180,000	10.6	16.0	202,000	3.21	132,000	2.05	22.3
Heat Recovery	WU-192MF1U9-1	Non-Ducted	174,000	10.5	16.7	196,000	3.21	114,000	2.05	22.8
Heat Recovery	WU-192MF1U9-1	Mixed	176,000	10.55	16.4	198,000	3.21	123,000	2.05	22.6
Heat Recovery	WU-216MF1U9	Ducted	202,000	10.6	16.0	228,000	3.21	136,000	2.05	22.2
Heat Recovery	WU-216MF1U9	Mixed	200,000	10.6	16.3	224,000	3.21	128,000	2.05	22.6
Heat Recovery	WU-216MF1U9	Non-Ducted	198,000	10.5	16.6	220,000	3.21	120,000	2.05	22.9
Heat Recovery	WU-240MF1U9	Ducted	230,000	10.5	16.0	264,000	3.21	158,000	2.05	22.0
Heat Recovery	WU-240MF1U9	Mixed	225,000	10.5	16.2	255,000	3.21	147,000	2.05	22.2
Heat Recovery	WU-240MF1U9	Non-Ducted	220,000	10.5	16.4	246,000	3.21	136,000	2.05	22.4
Heat Recovery	WU-264MF1U9	Ducted	258,000	9.7	15.9	288,000	3.21	176,000	2.05	21.6
Heat Recovery	WU-264MF1U9	Mixed	255,000	9.6	16.1	278,000	3.21	163,000	2.05	21.8
Heat Recovery	WU-264MF1U9	Non-Ducted	252,000	9.4	16.3	268,000	3.21	150,000	2.05	22.0
Heat Recovery	WU-288MF1U9	Ducted	280,000	9.6	15.8	312,000	3.21	194,000	2.05	21.2
Heat Recovery	WU-288MF1U9	Mixed	277,000	9.5	16.0	302,000	3.21	179,000	2.05	21.4
Heat Recovery	WU-288MF1U9	Non-Ducted	274,000	9.4	16.2	292,000	3.21	164,000	2.05	21.6

LE Series MINI ECOi™ MULTI SPLIT 2-WAY VRF HEAT PUMP SERIES

System Model Number	Indoor Unit Rating Type	High Cooling 95°F			High Heating 47°F		Low Heating 17°F
		Capacity (Btu/h)	EER(95F)	SEER	Capacity (Btu/h)	HSPF	Capacity (Btu/h)
U-36LE1U6	Non-Ducted	39,000	11.5	17.0	43,000	9.8	28,000
U-36LE1U6	Ducted	37,000	9.6	13.1	38,500	7.8	25,000
U-36LE1U6	Mixed	38,000	10.55	15.05	40,750	8.8	26,500
U-52LE1U6	Ducted	51,500	9.4	14.6	57,500	7.7	32,000
U-52LE1U6	Non-Ducted	52,000	10.2	17.4	58,500	9.6	32,000
U-52LE1U6	Mixed	51,750	9.8	16.0	58,000	8.65	32,000

ECOi™ System Certified Efficiency Ratings
ME1 SERIES 2-WAY ECOi HEAT PUMP

Rating Standard: AHRI 1230		COOLING PERFORMANCE				HEATING PERFORMANCE				SIMULTANEOUS OPERATION PERFORMANCE
Type	System Model Number	Indoor Unit Rating Type	Capacity (Btuh)	EER	IEER	High Heating 47F		Low Heating 17F		Simultaneous Cooling-Heating Efficiency (SCHE)
						Capacity (Btuh)	COP	Capacity (Btuh)	COP	
Heat Pump	U-72ME1U9	Ducted	72,000	11.5	16.7	81,000	3.53	47,000	2.31	
Heat Pump	U-72ME1U9	Mixed	71,000	11.3	17.1	79,500	3.42	44,500	2.28	
Heat Pump	U-72ME1U9	Non-Ducted	69,000	11.0	17.4	77,000	3.31	42,000	2.25	
Heat Pump	U-96ME1U9	Ducted	95,000	11.1	16.3	106,000	3.32	69,000	2.26	
Heat Pump	U-96ME1U9	Mixed	94,000	11.1	16.7	104,500	3.32	68,500	2.26	
Heat Pump	U-96ME1U9	Non-Ducted	93,000	11.0	17.0	103,000	3.31	68,000	2.25	
Heat Pump	WU-144ME1U9	Ducted	134,000	10.5	16.7	156,000	3.22	93,000	2.05	
Heat Pump	WU-144ME1U9	Mixed	137,000	11.0	16.8	157,000	3.22	88,000	2.15	
Heat Pump	WU-144ME1U9	Non-Ducted	135,000	10.7	16.7	155,000	3.21	83,000	2.25	
Heat Pump	WU-168ME1U9	Ducted	168,000	10.5	16.3	184,000	3.22	114,000	2.05	
Heat Pump	WU-168ME1U9	Mixed	162,000	10.7	16.8	177,000	3.22	105,000	2.05	
Heat Pump	WU-168ME1U9	Non-Ducted	160,000	10.5	16.3	176,000	3.21	98,000	2.05	
Heat Pump	WU-216ME1U9	Ducted	202,000	10.3	16.3	228,000	3.22	130,000	2.05	
Heat Pump	WU-216ME1U9	Mixed	200,000	10.7	16.6	220,000	3.22	128,000	2.05	
Heat Pump	WU-216ME1U9	Non-Ducted	198,000	10.5	16.3	220,000	3.21	120,000	2.05	
Heat Pump	WU-240ME1U9	Ducted	230,000	10.6	16.3	264,000	3.22	158,000	2.05	
Heat Pump	WU-240ME1U9	Mixed	225,000	10.6	16.5	255,000	3.22	147,000	2.05	
Heat Pump	WU-240ME1U9	Non-Ducted	220,000	10.6	16.7	246,000	3.21	136,000	2.05	
Heat Pump	WU-264ME1U9	Ducted	258,000	9.8	16.2	288,000	3.22	176,000	2.05	
Heat Pump	WU-264ME1U9	Mixed	255,000	9.7	16.4	278,000	3.22	163,000	2.05	
Heat Pump	WU-264ME1U9	Non-Ducted	252,000	9.5	16.6	268,000	3.21	150,000	2.05	
Heat Pump	WU-288ME1U9	Ducted	280,000	9.7	16.1	312,000	3.22	194,000	2.05	
Heat Pump	WU-288ME1U9	Mixed	277,000	9.6	16.3	302,000	3.22	179,000	2.05	
Heat Pump	WU-288ME1U9	Non-Ducted	274,000	9.5	16.5	292,000	3.21	164,000	2.05	

DISCONTINUED MODEL
Replaced by new ME2 series

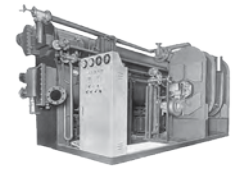
Panasonic commercial AC History

A GLOBALLY TRUSTED AIR CONDITIONING BRAND

With roots going back 56 years, the Panasonic Air Conditioning Business Division has grown to become a multinational company recognized around the world. Driven by a never-ending quest for product innovation, the group has evolved from manufacturing compressors to providing comprehensive air conditioning solutions. Panasonic has become a brand that people trust to deliver products with superior quality and reliability.

1971

Starts production of absorption chillers



1985

Introduces first GHP (gas heat pump) VRF air conditioner



1989

Introduces world's first simultaneous 3-pipe heating/cooling VRF system



1993

Releases world's first large-capacity modular combination VRF system



1995

Releases world's first large-capacity modular combination VRF system with simultaneous heating/cooling



2001

Launched VRF Eco-Multi to the US market

VRF Eco-Multi, the new individual air-conditioning system that effectively combines a power control compressor and an electronic refrigerant control valve, was displayed at the 2001AHR show. Eco Multi was a new technology to the US market and further secured our leadership position in the ductless market.



