Panasonic

2017 Full Line Catalog

ECO i EX Eco Extreme

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

460V NEW

208-230V

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ECOi™ – Your Building Life Tool.

A Better Life, A Better World

Since the founding of Panasonic Corporation in 1918, the management philosophy behind all of our activities has driven us to contribute, thorough our business operations, to the improvement of people's lives and the progress of society. We will always maintain this focus.

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 society and in the way we live. It is no longer practical to pursue extravagant lifestyles that consume large amount of resources and energy.

We need to create new value for a new way of living that minimizes the burden we place on the environment, while raising everyone's standard of living. This is our mission: to create new lifestyle values.

Panasonic complete air conditioning solutions—including hardware, software, and service—enhance the spaces where people live and work. Through this offering, we are committed to delivering *A Better Life, A Better World* to every customer.

We are committed to becoming 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™ VRF is 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 make you remember why you got into the HVAC business in the first place.

Engineers
ECOi™ Designing with confidence

Its flexibility allows multiple applications and installation configurations. With a maximum pipe length of up to 1,640 Heat Recovery /3,280 feet Heat Pump with up to 64 (Heat Recovery / Heat Pump) indoor units connected to one outdoor system, you can engineer a perfect solution for all your project needs. ECOi™ is a superior modular option that allows floor-by-floor commissioning.

Architects
Design freedom

Of course, nobody understands this more than the architects who design them. That's why the ECOi™ HVAC system provides more freedom to meet any design need. With space saving and environmentally friendly designs, and ultimate efficiency, you can design your vision first then marry our system fluidly within your plans.

Owners & Tenants
All-day comfort

With immediate response to changing room capacity heat loads and varying sun exposures throughout the day, 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, too. As remodeling occurs and building extensions are planned, ECOi™'s modularity lets you easily add on to the system. With intelligent controllers, VRF technology and R410A refrigerant, ECOi™ guarantees continued energy savings and eco-responsibility for years to come.

ECOi™ – Your Building Life Tool.

ECOi™ has a number of diverse features to meet all your conditioning needs, including flexible combinations: ECOi™ allows multiple indoor unit combinations that provide the utmost in versatility. The system allows up to 150% connectable capacity between indoor and outdoor units of heat pump and heat recovery.

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.

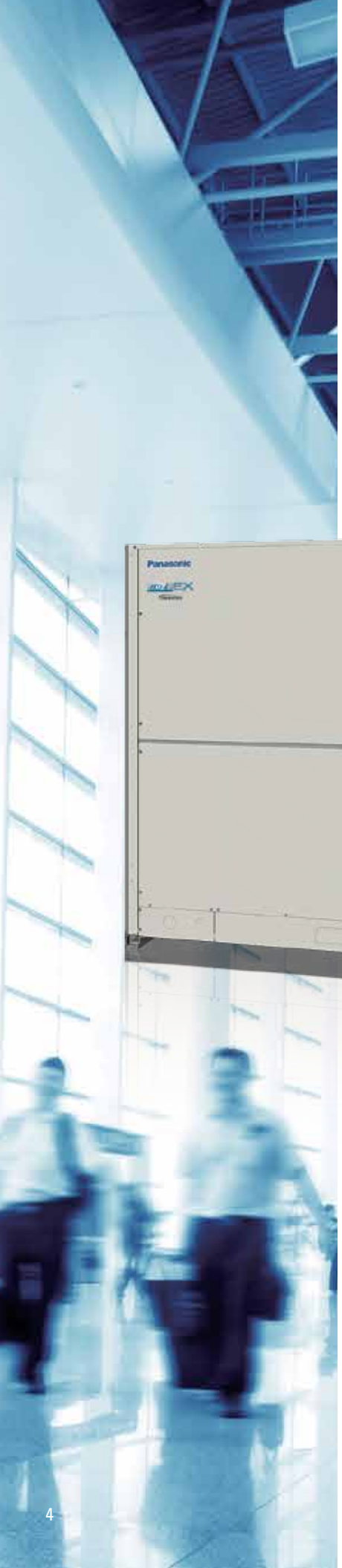
This intelligent approach helps realize excellent efficiencies during partial-load conditions. This allows occupants to enjoy consistent room temperature, regardless of any increases or decreases in the heat or cooling load during the day. With energy efficiency in mind, ECOi™ quite simply knows what you need, when you need it throughout the day. In conjuction with ECONAVI™, it dynamically adjusts air conditioning occupied or unoccupied zones, maximizing energy savings.

Lower running and life cycle costs: ECOi™ VRF are among the most efficient HVAC systems on the market, offering COPs up to 4.0 at full load conditions.

All VRF systems are designed to maximize the reduction of running cost by using our unique intelligent control sequence. This is done by the most efficient combination of compressor, fan, and refrigeration management criteria.

Improved defrost sequencing reduces running cost and defrost cycle.

(50%-150% ratio of indoor to outdoor capacity)



ECOi Series Line-Up

MF 2 SERIES ECOi EX™
3-WAY VRF HEAT RECOVERY

460V

208-230V

NEW

Panasonic ECOi Heat Recovery series offers the ability to heat and cool different zones simultaneously. Offering all the features of our standard heat pump series, the 3-Way solution can offer even higher energy savings for the building owner.

KEY FEATURES

Commercial office buildings are subject to fluctuating heat levels generated from electronic office equipment, lighting and varying occupant levels. 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 the 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.

- Excellent performance: efficient individual air conditioning for simultaneous heating/cooling 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
- Maximum outdoor unit connects as many as 64 indoor units (50%-150% ratio of indoor to outdoor capacity)

LE SERIES MINI ECOi™
VRF HEAT PUMP

208-230V

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

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

460V

208-230V

NEW

The new ECOi EX VRF system, redesigned with new DC inverter compressor combination operations and perfected original active oil control system brings the efficiency and reliability you can count on. Panasonic offers superior heating and cooling coupled with cost effective installation. A smart solution for large capacity jobs.

KEY FEATURES

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

- Dual large-capacity inverter compressors (models above U-120MEU9)
- Outstanding energy saving performance: IEER : 28.8 / EER : 12.3 (460 V, 10 tons, non-ducted)
- Exceptional flexible piping design: Maximum total piping length - 3,280 Feet Maximum outdoor to most distant indoor unit - 656 Feet
- Extended operating range (Outdoor Temperature): Cooling 14 °FDB to 122 °FDB/ Heating -4 °FWB to 64 °FWB
- Maximum outdoor unit connects as many as 64 indoor units (50%-150% max. ratio of indoor to outdoor capacity)
- Expanded system capacity range (up to 30tons)

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 °FDB to 113 °FDB/ Heating -4 °FWB to 59 °FWB
- Ultra quiet operation as low as 48dB(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%

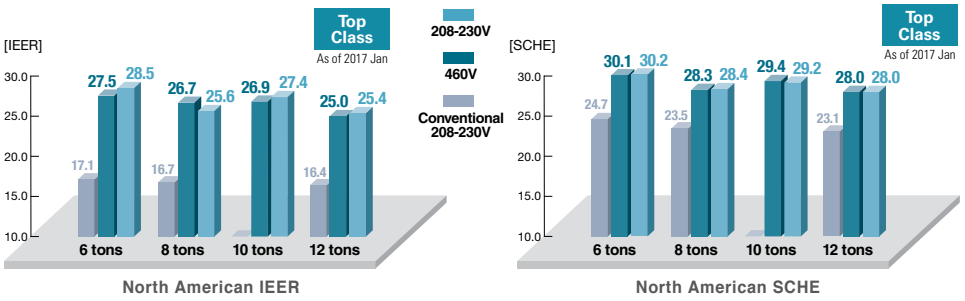
ECOi EX™ Series
MF2 3-way Heat Recovery

Product Advantages

Outstanding Energy-Saving Performance

IEER up to 28.5 / SCHE up to 30.2 (6, 8, 10, 12 tons) top level in the industry

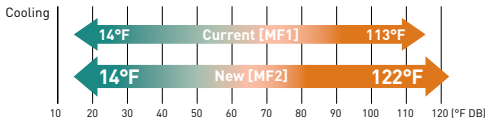
Thanks to the all-inverter compressor combination with improved combined triple-surface heat exchanger and medium cooling capacity, the MF2 3-way series with new 10 and 12 ton capacity units achieve the industry's top level energy saving performance.



Extended Operating Range

Cooling operation range: 14˚F (DB) to 122˚F (DB)

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



Heating operation range: -13˚F (WB) to 64˚F (WB)

The heating operation range has been extended to -13˚F (WB) to 64˚F (WB) by use of a compressor with a high-pressure vessel. Provides powerful heating even in the extremely cold regions.

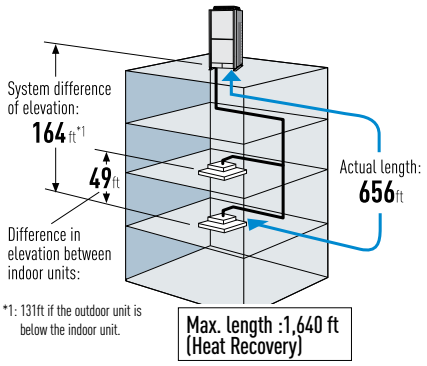
Exceptional Design Flexibility

Up to 30 tons large-capacity single refrigerant system

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

Long actual piping length of max. 656ft

The accumulator, compressor and oil separator are combined in a single unit to enable long 656ft piping (equivalent to 689ft) 164ft after first branch. This extends the piping distance between indoor units and outdoor units.
(Current models: 492/574ft, 131ft after branching)



ECOi EX™ Series

Core Technologies

Outstanding Energy-saving Technology

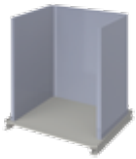
1 Dual large-capacity inverter compressors

Two independently controlled inverter compressors achieve high efficiency (for models U-120MF2U9/U-120ME2U9 and above).

2 Enlarged heat-exchanger surface area with triple surface

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

Current model [MF1/ME1]
6, 8 tons



New model [MF2/ME2]
6, 8,10,12 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 Dischage

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

To reduce air resistance, instead of a tubular fan design, a new large flat fan guard design, flush with the top panel, is employed.

This design lead to the improvements in air resistance and also contributed to improved air resistance in a more attractive appearance.

Current model [MF1/ME1]

New model [MF2/ME2]

5 Newly designed curved air discharge bell mouth for better aerodynamics

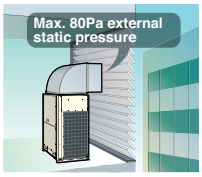
The new curved shape with integrated top and bottom assure smooth air discharge flow. Minimal swirling means an increased flow rate.

Current model [MF1/ME1]

New model [MF2/ME2]

6 High 0.32 inch W.C. external static pressure – large diameter fan (27-1/2")

A large, newly-designed 27-1/2" diameter fan. High 0.32 inch W.C. external static pressure maintains performance in winds around large buildings. Ideal for high-rise buildings.



Core Technologies

Intelligent 3-stage Oil Management System

In a VRF system, where lengthy piping and a large number of indoor units need to be controlled collectively, the key to maintaining the system's reliability is to ensure an appropriate amount of oil is secured in the compressors. In order to avoid oil shortage in the compressor, maximum operation is normally forcibly conducted at regular intervals to recover oil from indoor units. This method, typically employed in a standard VRF, causes the system to overheat or overcool and thus waste energy.

In Panasonic VRF systems, a sensor for detecting oil levels is mounted in each compressor. In installations with multiple outdoor units, a shortage of oil in one compressor can be compensated for by recovering oil either from another compressor in the same unit, from a compressor in an adjacent outdoor unit, or from a connected indoor unit. Panasonic VRF systems provide users with a comfortable environment while saving energy.

The Panasonic system efficiently manages oil recovery in three stages; minimizing the frequency of forced oil recovery while reducing energy cost and maintaining comfort.

STAGE-1

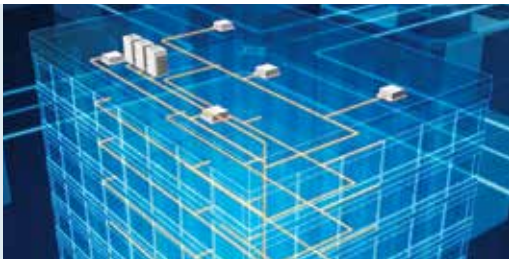
Panasonic compressors are equipped with sensors which monitor oil levels precisely at all times. If oil levels fall, oil can be transferred from other compressors within the same outdoor unit.

STAGE-2

If oil levels in all compressors within the outdoor unit fall, oil can be replenished from adjacent outdoor units.

STAGE-3

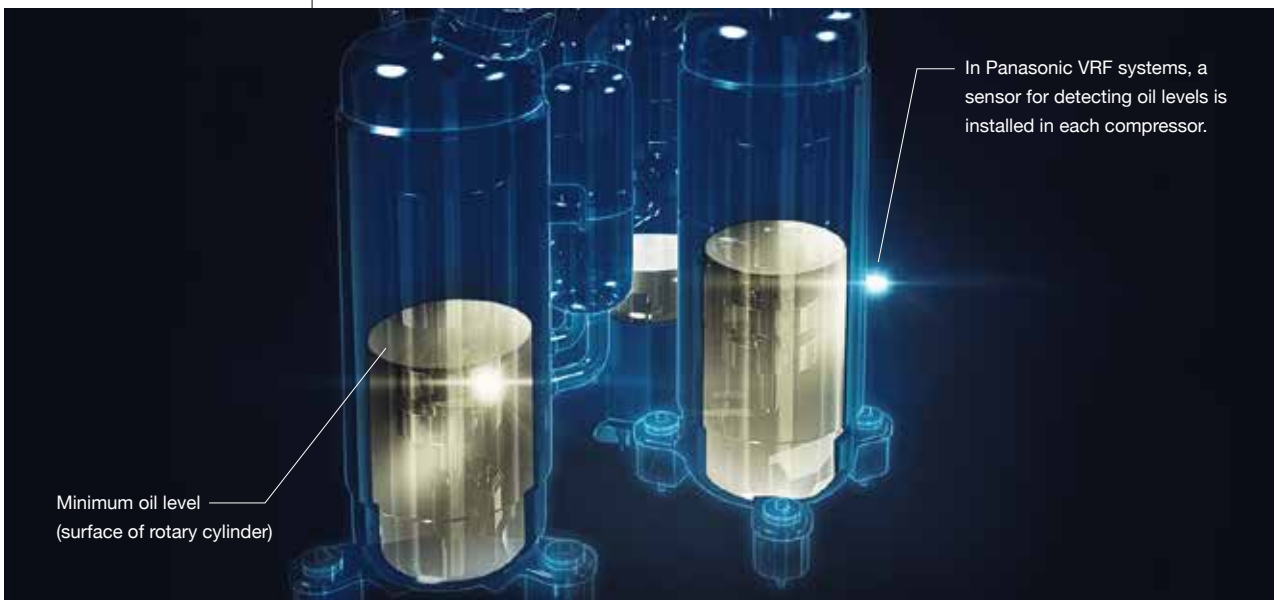
Forced oil recovery is implemented only if oil levels become insufficient in spite of above measures. The Panasonic system's design concept is radically different from conventional oil systems.



Features of 3-stage oil recovery design

1 Oil sensors installed in each compressor

Oil sensors installed in each Panasonic compressor precisely monitor oil levels, eliminating unnecessary oil recovery.



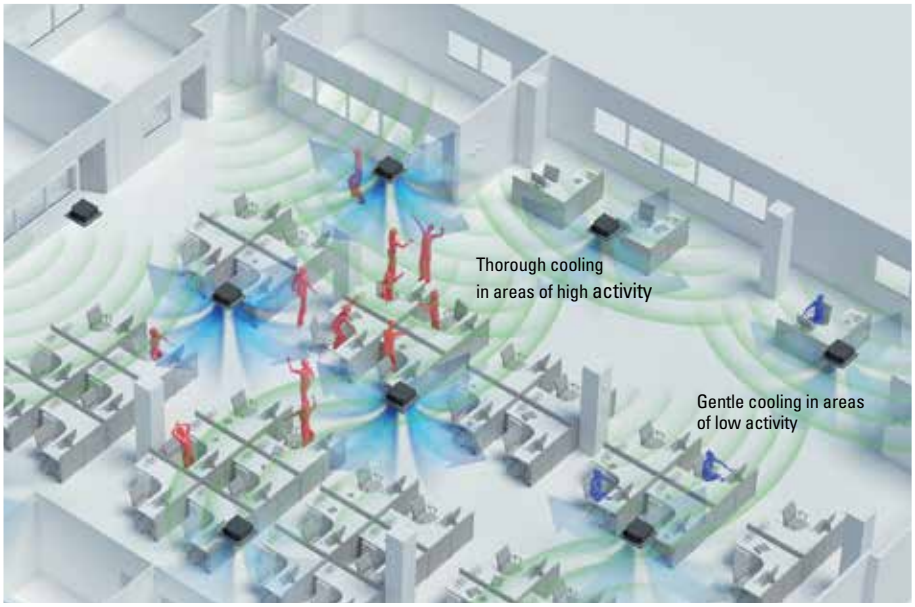
2 Highly functional oil separator

Thanks to extended separate piping, oil recovery efficiency reaches 90%, minimizing the oil to be discharged from the compressor.

ECONAVI

ECONAVI Detects Inefficiencies and Saves Energy

Providing outstanding energy-saving performance, Panasonic inverter VRF System can be connected to ECONAVI to detect energy waste. ECONAVI senses the presence or absence of people and the level of activity in each area of an office. When unnecessary heating or cooling is detected, indoor units are individually controlled to match office conditions for energy-saving operation.

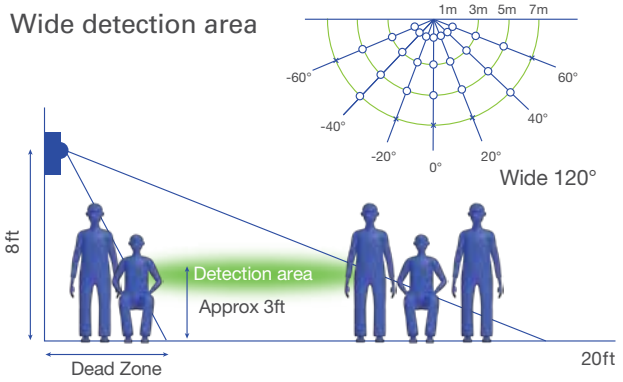


ECONAVI sensor
CZ-CENSC1

Compatible with various types of indoor units

Remote ECONAVI sensor allows optimum energy operation.

Pillars, walls, cabinets and other fittings obstruct the sensor, reducing the area of detection and lowering the energy-saving effect. Taking into consideration blind spots, ECONAVI enables the optimum layout for sensors in any office.



A sensor is remotely set to maximise the detection area.

Installation flexibility ready for indoor unit replacement and layout changes.

Detection of activity levels enables precise power saving.

Presence or absence of people at their desks and the level of activity in the office are detected in real time. Set temperature is automatically adjusted to optimize the lower power consumption.

In the morning
Thorough cooling during high levels of activity

In the afternoon
Reduced cooling when fewer people are present

At night
Automatic Thermo Off depending on conditions at end of day*

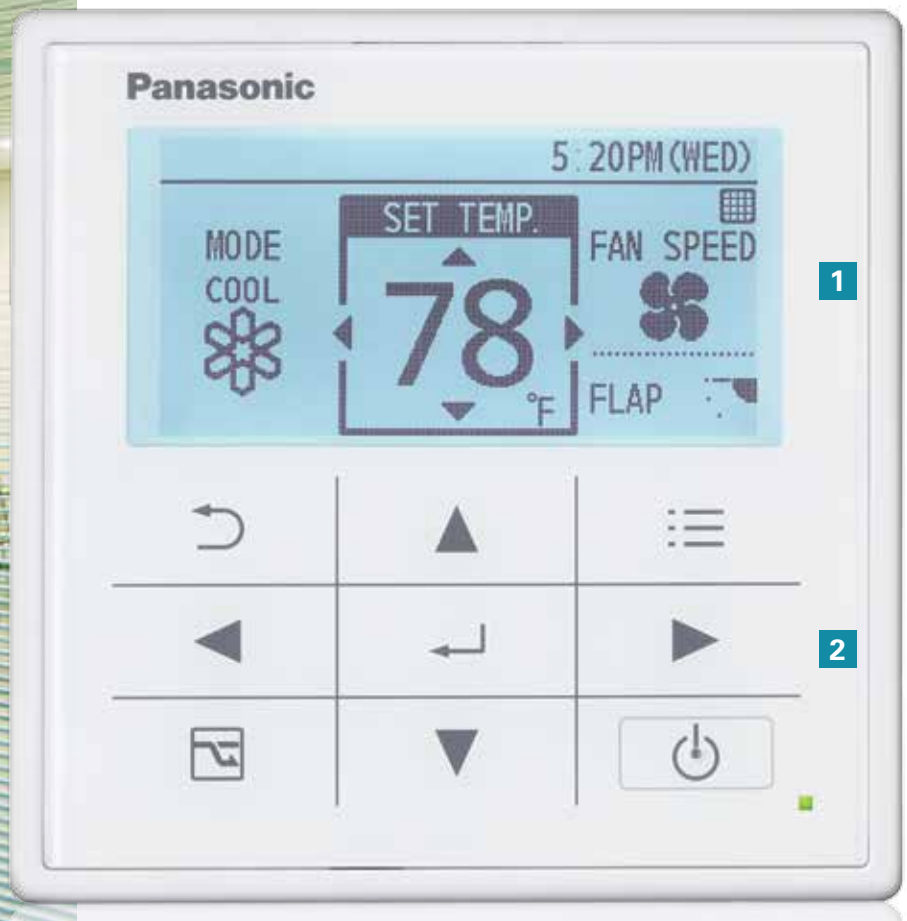
Human activity and presence detection

Activity detection		Absence detection	
HIGHER ACTIVITY	LOWER ACTIVITY	After 20 mins absence	After 3 hours absence
Cooling Set Temp. +/-0.0°F	Cooling Set Temp. +1.8°F	Cooling Set Temp. +3.6°F	Cooling Thermo OFF*
Heating Set Temp. -1.8°F	Heating Set Temp. +/-0 °F	Heating Set Temp. -3.6°F	Heating Thermo OFF*
Every 2 min	Every 2 min	After 3 hours the setting can change to Stop or Temperature Shift	

*Depending on conditions, the setting can change to Switch Off After 3 Hours, Thermo Off or Temperature Shift.

ECOi EX™ Series

High-spec Wired Remote Controller



(CZ-RTC5)

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

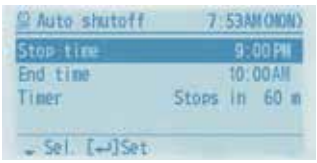
Even if you change the temperature setting, it automatically returns to the original setting after a set time. You can set temperature auto return time in 10-minute intervals within a 4-hour period.

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 worry about forgetting to 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.



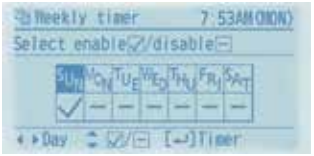
Other Convenient Controls

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 register your service contact details, they are automatically displayed if a problem with the air conditioner occurs. This helps you deal with 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

Solenoid Valve Kit

Multiple Connection Port Type

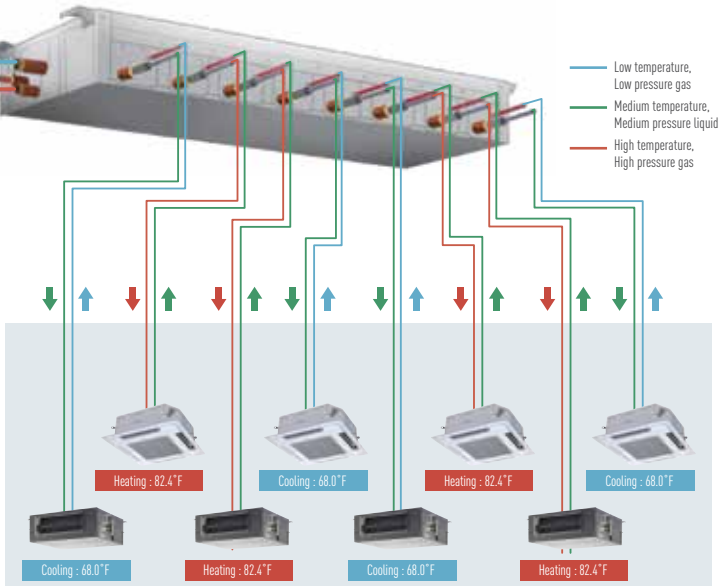
Our Solenoid Valve Kit makes field installation easier. Multiple port solenoid valve kits reduces the amount of tubing and branch distribution kits required for installation. Main refrigerant tubing inlet and outlet included to aid in system design, piping layout and cost of installation.

System Structure

To control output modulation, the system sets the appropriate frequency of the compressor to insure it meets the output required to satisfy each zone.

Outdoor unit
3-WAY MF2

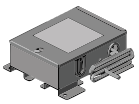
Solenoid Valve Kit



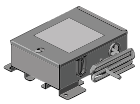
Indoor unit
Heat exchanger temperature is controlled by the temperature difference between target and return air.

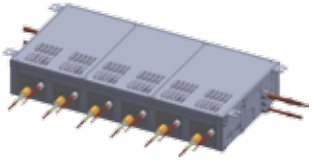
Valve Kit Line-up (Multiple Connection Type)

CZ-P456HR2U
CZ-P4160HR2U

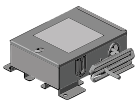

X 4pcs

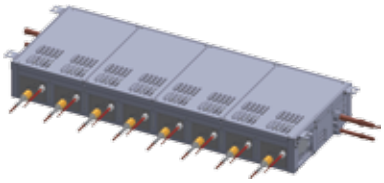
CZ-P656HR2U


X 6pcs



CZ-P856HR2U

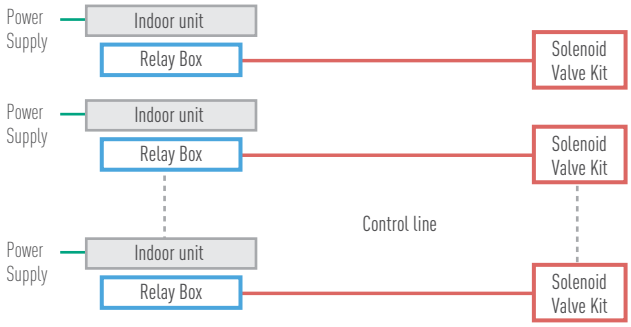

X 8pcs



	1 port	4 port	6 port	8 port
56 type	CZ-P56HR2U	CZ-P456HR2U	CZ-P656HR2U	CZ-P856HR2U
160 type	CZ-P160HR2U	CZ-P4160HR2U	--	--

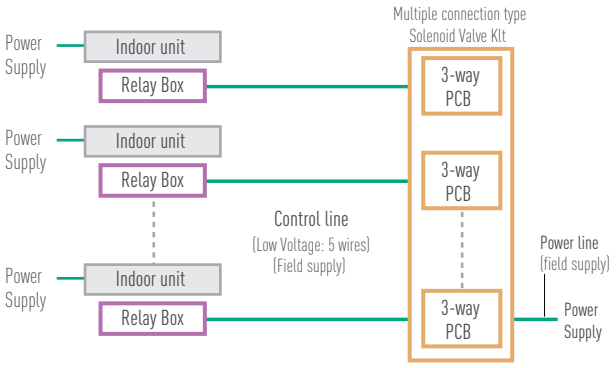
Solenoid Valve Kit / Wiring Work

Single Connection Type

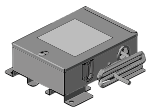


Parts included in HR2U Kit

Multiple Connection Type



Signal Relay Box
(accessory included)



Parts included in HR2U Kit

MF 2 SERIES

460V NEW

ECOi EX™ 3-WAY VRF HEAT RECOVERY

MODEL NAME				U-72MF2U94	U-96MF2U94	U-120MF2U94	U-144MF2U94	WU-168MF2U94
Single Model				U-72MF2U94	U-96MF2U94	U-120MF2U94	U-144MF2U94	U-72MF2U94 U-96MF2U94
Appearance								
Nominal Tons				6	8	10	12	14
Performance test condition				AHRI Standard 1230				
Power supply				3Ø 460V 60Hz				
Cooling capacity			Btu/h	72,000	96,000	120,000	144,000	168,000
			kW	21.1	28.1	35.2	42.2	49.2
Heating capacity			Btu/h	81,000	108,000	135,000	162,000	189,000
			kW	23.7	31.6	39.6	47.5	55.4
Rating Standard AHRI 1230	Indoor unit			Ducted | Non-ducted				
	Cooling	Capacity	Btu/h	69,000 | 69,000	92,000 | 90,000	114,000 | 114,000	138,000 | 138,000	160,000 | 160,000
		EER		13.5 | 13.7	11.4 | 12.3	11.7 | 11.7	11.7 | 10.4	11.0 | 10.6
		IEER		22.2 | 27.5	23.1 | 26.7	22.3 | 26.9	22.0 | 25.0	20.2 | 23.9
	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 | 176,000
		COP		3.72 | 4.22	3.40 | 3.80	3.71 | 3.83	3.29 | 3.29	3.20 | 3.20
	Low heating 17°F	Capacity	Btu/h	56,000 | 61,000	70,000 | 64,000	95,000 | 95,000	100,000 | 96,000	126,000 | 118,000
		COP		2.76 | 2.65	2.49 | 2.72	2.56 | 2.52	2.47 | 2.53	2.50 | 2.70
SCHE				27.5 | 30.1	29.6 | 28.3	29.1 | 29.4	28.3 | 28.0	26.2 | 27.0
Electrical ratings Outdoor unit only	Voltage		V	460				
	Ducted cooling	Running current	A	6.45	10.0	12.6	14.5	18.5
		Power input	kW	4.57	7.24	8.73	10.5	13.3
		Power factor	%	89	91	87	91	90
	Ducted heating	Running current	A	7.70	11.0	13.3	17.2	20.9
		Power input	kW	5.58	8.14	9.29	12.6	15.3
		Power factor	%	91	93	88	92	92
	Non-ducted cooling	Running current	A	6.50	9.35	13.2	17.4	20.1
		Power input	kW	4.59	6.77	9.16	12.6	14.4
		Power factor	%	89	91	87	91	90
	Non-ducted heating	Running current	A	6.90	10.1	13.4	18.0	21.3
		Power input	kW	5.00	7.51	9.41	13.2	15.6
		Power factor	%	91	93	88	92	92
	Starting current		A	1 / 1				
Compressor type/quantity				Inverter driven Rotary×1		Inverter driven Rotary×2		Inverter driven Rotary 1+1
Air flow rate			CFM	7,000	8,100	9,000	9,000	7,000+8,100
External static pressure			Pa (in. WC)	80				
Refrigerant amount at shipment*1			lbs	R410A / 18.3	R410A / 18.3	R410A / 22.0	R410A / 26.0	R410A / 18.3+18.3
Dimensions H x W x D*2			inch	72-33/64" x 46-29/64" x 39-3/8"				72-33/64" x 95-9/32" x 39-3/8"
Net weight			lbs	611	615	774	778	611 + 615
Ambient temperature operating range				Cooling: 14~122°FDB, Heating: -13~64°FWB				
Piping*3	Diameter	Suction	inch	3/4"	1-1/8"	1-1/8"	1-1/8"	1-1/8"
		Liquid	inch	3/8"	3/8"	1/2"	1/2"	5/8"
		Balance	inch	1/4"	1/4"	1/4"	1/4"	1/4"
		Discharge	inch	5/8"	3/4"	7/8"	7/8"	7/8"
	Connecting method			Flared (Discharge, Liquid,Balance), Brazing (Suction)	Flared (Liquid, Balance), Brazing (Discharge, Suction)			-
	Max total pipe length		Ft	~1,640				
	Elevation difference (OD upper/ OD lower)		Ft	164 / 131				
Operation sound (Normal/Quiet mode)			dB	53.0 / 50.0	56.0 / 53.0	57.5 / 54.5	58.0 / 55.0	58.0 / 55.0
Maximum allowable indoor unit connection				14	19	24	28	33

*1 It's necessary to charge additional refrigerant of 70.5 oz (2.0 kg) per one outdoor unit.
*2 Width of the product dimention in installation for multiple units is descrived by using Min unit clearance 60mm. If installation hole pitch is 730mm or using snow-proof ducting. Unit clearance should be 180mm.
*3 If the longest tubing equivalent length exceeds 295 ft. (90m), increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.

WU-192MF2U94	WU-216MF2U94	WU-240MF2U94	WU-264MF2U94	WU-288MF2U94	WU-312MF2U94	WU-336MF2U94	WU-360MF2U94
U-72MF2U94 U-120MF2U94	U-96MF2U94 U-120MF2U94	U-120MF2U94 U-120MF2U94	U-120MF2U94 U-144MF2U94	U-144MF2U94 U-144MF2U94	U-72MF2U94 U-120MF2U94 U-120MF2U94	U-96MF2U94 U-120MF2U94 U-120MF2U94	U-120MF2U94 U-120MF2U94 U-120MF2U94
							
16	18	20	22	24	26	28	30
AHRI Standard 1230							
3Ø 460V 60Hz							
192,000	216,000	240,000	264,000	288,000	312,000	336,000	360,000
56.3	63.3	70.3	77.4	84.4	91.4	98.4	105.5
216,000	243,000	270,000	297,000	324,000	351,000	378,000	405,000
63.3	71.2	79.1	87.0	94.9	102.8	110.8	118.7
Ducted | Non-ducted							
184,000 | 184,000	184,000 | 202,000	210,000 | 224,000	250,000 | 250,000	262,000 | 264,000	298,000 | -	320,000 | -	342,000 | -
10.8 | 10.6	10.5 | 10.4	10.5 | 10.4	9.5 | 9.4	9.3 | 9.4	9.9 | -	9.4 | -	9.4 | -
19.9 | 23.9	19.1 | 24.1	18.9 | 23.5	18.4 | 23.0	18.3 | 22.4	18.7 | -	18.5 | -	18.4 | -
206,000 | 202,000	232,000 | 216,000	258,000 | 232,000	274,000 | 250,000	278,000 | 266,000	334,000 | -	360,000 | -	386,000 | -
3.40 | 3.30	3.20 | 3.20	3.30 | 3.30	3.20 | 3.20	3.20 | 3.20	3.30 | -	3.20 | -	3.30 | -
148,000 | 146,000	162,000 | 164,000	184,000 | 176,000	192,000 | 186,000	200,000 | 192,000	242,000 | -	256,000 | -	270,000 | -
2.50 | 2.60	2.40 | 2.30	2.40 | 2.30	2.30 | 2.30	2.30 | 2.20	2.40 | -	2.40 | -	2.40 | -
25.8 | 24.9	23.6 | 23.8	24.2 | 23.5	22.5 | 23.2	19.3 | 21.6	24.1	23.3	22.8
460							
22.3	22.5	25.4	34.7	36.7	40.1	45.2	48.7
15.6	16.0	18.2	24.3	26.1	27.8	31.7	33.8
88	89	90	88	89	87	88	87
23.3	27.3	29.0	32.4	32.8	38.8	43.4	45.4
16.5	19.8	21.3	23.2	23.5	27.5	30.7	31.8
89	91	92	90	90	89	89	88
23.8	26.4	28.9	36.7	38.2	-	-	-
16.7	18.7	20.7	25.7	27.1	-	-	-
88	89	90	88	89	-	-	-
24.5	26.5	27.2	30.9	32.8	-	-	-
17.4	19.2	19.9	22.2	23.6	-	-	-
89	91	92	90	90	-	-	-
1 / 1							
Inverter driven Rotary 1+2	Inverter driven Rotary 1+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 2+2+2
7,000+9,000	8,100+9,000	9,000+9,000	9,000+9,000	9,000+9,000	7,000+9,000+9,000	8,100+9,000+9,000	9,000+9,000+9,000
80							
R410A / 18.3+22.0	R410A / 18.3+22.0	R410A / 22.0+22.0	R410A / 22.0+26.0	R410A / 26.0+26.0	R410A / 18.3+22.0+22.0	R410A / 18.3+22.0+22.0	R410A / 22.0+22.0+22.0
72-33/64" x 95-9/32" x 39-3/8"					72-33/64" x 144-3/32" x 39-3/8"		
611 + 774	615 + 774	774 + 774	774 + 778	778 + 778	611 + 774 + 774	615 + 774 + 774	774 + 774 + 774
Cooling: 14~122°FDB, Heating: -13~64°FWB							
1-1/8"	1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"
5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
7/8"	1 - 1/8"	1 - 1/8"	1 - 1/8"	1 - 1/8"	1 - 1/8"	1 - 1/8"	1 - 1/8"
-							
~1,640							
164 / 131							
59.0 / 56.0	60.0 / 57.0	60.5 / 57.5	61.0 / 58.0	61.0 / 58.0	61.5 / 58.5	62.0 / 59.0	62.5 / 59.5
38	43	48	52	52	52	52	52

ME 2 SERIES 460V NEW

ECOi EX™ 2-WAY VRF HEAT PUMP

MODEL NAME				U-72ME2U94	U-96ME2U94	U-120ME2U94	U-144ME2U94	WU-168ME2U94
Single Model				U-72ME2U94	U-96ME2U94	U-120ME2U94	U-144ME2U94	U-72ME2U94 U-96ME2U94
Appearance								
Nominal Tons				6	8	10	12	14
Performance test condition				AHRI Standard 1230				
Power supply				3Ø 460V 60Hz				
Cooling capacity			Btu/h	72,000	96,000	120,000	144,000	168,000
			kW	21.1	28.1	35.2	42.2	49.2
Heating capacity			Btu/h	81,000	108,000	135,000	162,000	189,000
			kW	23.7	31.6	39.6	47.5	55.4
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
		EER		12.5 | 13.6	12.1 | 13.2	12.3 | 12.3	11.4 | 11.2	11.4 | 11.7
		IEER		22.7 | 28.3	22.2 | 28.3	22.8 | 28.8	21.7 | 26.7	19.0 | 22.3
	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
		COP		3.80 | 4.29	3.73 | 4.15	3.74 | 3.73	3.59 | 3.60	3.40 | 3.30
	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
		COP		2.81 | 2.88	2.72 | 2.89	2.52 | 2.66	2.49 | 2.60	2.50 | 2.40
Electrical ratings Outdoor unit only	Voltage		V	460				
	Ducted cooling	Running current	A	7.10	9.50	12.0	15.1	17.6
		Power input	kW	5.02	6.97	8.44	11.1	12.7
		Power factor	%	89	92	88	92	91
	Ducted heating	Running current	A	7.60	10.2	13.1	15.8	19.8
		Power input	kW	5.44	7.46	9.28	11.6	14.4
		Power factor	%	90	92	89	92	91
	Non-ducted cooling	Running current	A	6.80	9.05	12.7	16.2	18.0
		Power input	kW	4.82	6.65	8.92	11.9	13.0
		Power factor	%	89	92	88	92	91
	Non-ducted heating	Running current	A	7.00	9.50	13.8	16.5	21.3
		Power input	kW	5.01	6.96	9.79	12.1	15.5
		Power factor	%	90	92	89	92	91
	Starting current		A	1 / 1				
Compressor type/quantity				Inverter driven Rotary×1		Inverter driven Rotary×2		Inverter driven Rotary 1+1
Air flow rate			CFM	6,000	6,200	7,900	7,900	6,000+6,200
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
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"
Net weight			lbs	529	578	697	754	529 + 578
Ambient temperature operating range				Cooling: 14~122°FDB, Heating: -4~64°FWB				
Piping*3	Diameter	Gas	inch	3/4"	7/8"	1-1/8"	1-1/8"	1-1/8"
		Liquid	inch	3/8"	3/8"	1/2"	1/2"	5/8"
		Balance	inch	1/4"	1/4"	1/4"	1/4"	1/4"
	Connecting method			Flared (Liquid,Balance), Brazing (Gas)				-
	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
Maximum allowable indoor unit connection				20	25	32	39	45

*1 If the longest tubing equivalent length exceeds 295 ft. (90m), increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.
*2 Width of the product dimention in installation for multiple units is descrived by using Min unit clearance 60mm. If installation hole pitch is 730mm or using snow-proof ducting. Unit clearance should be 180mm.
*3 It's necessary to charge additional refrigerant of 70.5 oz (2.0 kg) per one outdoor unit.

WU-192ME2U94	WU-216ME2U94	WU-240ME2U94	WU-264ME2U94	WU-288ME2U94	WU-312ME2U94	WU-336ME2U94	WU-360ME2U94
U-96ME2U94 U-96ME2U94	U-96ME2U94 U-120ME2U94	U-72ME2U94 U-72ME2U94 U-96ME2U94	U-72ME2U94 U-96ME2U94 U-96ME2U94	U-96ME2U94 U-96ME2U94 U-96ME2U94	U-72ME2U94 U-120ME2U94 U-120ME2U94	U-96ME2U94 U-120ME2U94 U-120ME2U94	U-120ME2U94 U-120ME2U94 U-120ME2U94
							
16	18	20	22	24	26	28	30
AHRI Standard 1230							
3Ø 460V 60Hz							
192,000	216,000	240,000	264,000	288,000	312,000	336,000	360,000
56.3	63.3	70.3	77.4	84.4	91.4	98.4	105.5
216,000	243,000	270,000	297,000	324,000	351,000	378,000	405,000
63.3	71.2	79.1	87.0	94.9	102.8	110.8	118.7
Ducted | Non-ducted							
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 | -
11.0 | 11.6	11.0 | 11.1	11.5 | 11.1	11.1 | 11.0	10.9 | 11.0	10.8 | -	10.6 | -	10.6 | -
18.7 | 22.2	18.6 | 22.6	19.0 | 21.1	18.7 | 20.8	18.5 | 20.8	18.8 | -	18.5 | -	20.0 | -
206,000 | 206,000	232,000 | 220,000	258,000 | 246,000	284,000 | 268,000	308,000 | 292,000	334,000 | -	360,000 | -	386,000 | -
3.40 | 3.20	3.30 | 3.30	3.40 | 3.30	3.30 | 3.20	3.30 | 3.20	3.30 | -	3.30 | -	3.50 | -
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 | -
2.50 | 2.40	2.50 | 2.30	2.50 | 2.40	2.40 | 2.30	2.40 | 2.20	2.50 | -	2.50 | -	2.60 | -
460							
21.9	24.2	25.1	29.2	32.1	36.0	39.2	42.3
15.3	17.2	18.0	20.7	23.0	25.3	27.8	29.6
88	89	90	89	90	88	89	88
23.3	26.7	28.4	32.6	35.4	38.8	41.5	42.1
16.5	19.2	20.6	23.4	25.4	27.5	29.7	29.9
89	90	91	90	90	89	90	89
21.6	25.2	27.5	31.0	33.4	-	-	-
15.2	17.8	19.7	22.0	23.9	-	-	-
88	89	90	89	90	-	-	-
25.8	26.4	29.2	33.2	36.2	-	-	-
18.3	18.9	21.2	23.8	25.9	-	-	-
89	90	91	90	90	-	-	-
1 / 1							
Inverter driven Rotary 1+1	Inverter driven Rotary 1+2	Inverter driven Rotary 1+1+1			Inverter driven Rotary 1+2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 2+2+2
6,200+6,200	6,200+7,900	6,000+6,000+6,200	6,000+6,200+6,200	6,200+6,200+6,200	6,000+7,900+7,900	6,200+7,900+7,900	7,900+7,900+7,900
80							
R410A / 22.7+22.7	R410A / 22.7+18.7	R410A / 20.1+20.1+22.7	R410A / 20.1+22.7+22.7	R410A / 22.7+22.7+22.7	R410A / 20.1+18.7+18.7	R410A / 22.7+18.7+18.7	R410A / 18.7+18.7+18.7
72-33/64" x 62-63/64" x 39-3/8"	72-33/64" x 79-9/64" x 39-3/8"	72-33/64" x 95-43/64" x 39-3/8"			72-33/64" x 127-61/64" x 39-3/8"		72-33/64" x144-3/32" x 39-3/8"
578 + 578	578 + 697	529 + 529 + 578	529 + 578 + 578	578 + 578 + 578	529 + 697 + 697	578 + 697 + 697	697 + 697 + 697
Cooling: 14~122°FDB, Heating: -4~64°FWB							
1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"
5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
-							
~3,280							
164 / 131							
61.0 / 58.0	62.0 / 59.0	61.0 / 58.0	62.0 / 59.0	63.0 / 60.0	63.5 / 60.5	64.0 / 61.0	64.5 / 61.5
50	55	64	64	64	64	64	64

MF 2 SERIES

208-230V

ECOi EX™ 3-WAY VRF HEAT RECOVERY

MODEL NAME				U-72MF2U9	U-96MF2U9	U-120MF2U9	U-144MF2U9	WU-168MF2U9
Single Model				U-72MF2U9	U-96MF2U9	U-120MF2U9	U-144MF2U9	U-72MF2U9 +U-96MF2U9
Appearance								
Nominal Tons				6	8	10	12	14
Performance test condition				AHRI Standard 1230				
Power supply				3Ø 208/230V 60Hz				
Cooling capacity			Btu/h	72,000	96,000	120,000	144,000	168,000
			kW	21.1	28.1	35.2	42.2	49.2
Heating capacity			Btu/h	81,000	108,000	135,000	162,000	189,000
			kW	23.7	31.6	39.6	47.5	55.4
Rating Standard AHRI 1230	Indoor unit			Ducted | Non-ducted				
	Cooling	Capacity	Btu/h	69,000 | 69,000	92,000 | 90,000	114,000 | 114,000	138,000 | 138,000	160,000 | 160,000
		EER		12.7 | 13.3	11.1 | 10.8	11.7 | 11.7	11.7 | 10.4	10.8 | 10.6
		IEER		22.3 | 28.5	23.2 | 25.6	22.4 | 27.4	22.0 | 25.4	20.7 | 24.9
	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 | 176,000
		COP		3.70 | 3.90	3.32 | 3.39	3.69 | 3.66	3.26 | 3.32	3.29 | 3.22
	Low heating 17°F	Capacity	Btu/h	56,000 | 56,000	70,000 | 62,000	93,000 | 90,000	100,000 | 96,000	126,000 | 118,000
		COP		2.66 | 2.56	2.44 | 2.38	2.51 | 2.46	2.42 | 2.53	2.47 | 2.70
SCHE				27.6 | 30.2	29.8 | 28.4	29.1 | 29.2	28.0 | 28.0	26.4 | 27.2
Electrical ratings Outdoor unit only	Voltage		V	208 / 230				
	Ducted cooling	Running current	A	14.4 / 13.2	22.0 / 20.1	25.8 / 23.6	30.7 / 28.0	39.9 / 36.5
		Power input	kW	4.89 / 4.89	7.46 / 7.46	8.73 / 8.73	10.5 / 10.5	13.5 / 13.5
		Power factor	%	94 / 93	94 / 93	94 / 93	95 / 94	94 / 93
	Ducted heating	Running current	A	16.4 / 15.0	24.7 / 22.5	27.3 / 24.9	37.1 / 33.9	43.9 / 40.1
		Power input	kW	5.62 / 5.62	8.35 / 8.35	9.34 / 9.34	12.7 / 12.7	14.9 / 14.9
		Power factor	%	95 / 94	94 / 93	95 / 94	95 / 94	94 / 93
	Non-ducted cooling	Running current	A	14.0 / 12.8	23.0 / 21.0	26.8 / 24.5	36.8 / 33.6	42.6 / 39.0
		Power input	kW	4.74 / 4.74	7.78 / 7.78	9.16 / 9.16	12.6 / 12.6	14.4 / 14.4
		Power factor	%	94 / 93	94 / 93	95 / 94	95 / 94	94 / 93
	Non-ducted heating	Running current	A	15.9 / 14.5	25.0 / 22.9	28.8 / 26.4	38.3 / 35.0	45.7 / 41.8
		Power input	kW	5.43 / 5.43	8.47 / 8.47	9.87 / 9.87	13.1 / 13.1	15.5 / 15.5
		Power factor	%	95 / 94	94 / 93	95 / 94	95 / 94	94 / 93
	Starting current		A	1 / 1				
Compressor type/quantity				Inverter driven Rotary×1		Inverter driven Rotary×2		Inverter driven Rotary 1+1
Air flow rate			CFM	7,000	8,100	9,000	9,000	7,000+8,100
External static pressure			Pa (in. WC)	80				
Refrigerant amount at shipment*2			lbs	R410A / 18.3	R410A / 18.3	R410A / 22.0	R410A / 26.0	R410A / 18.3+18.3
Dimensions H x W x D			inch	72-33/64" x 46-29/64" x 39-3/8"				72-33/64" x 95-9/32" x 39-3/8"
Net weight			lbs	595	597	752	756	595 + 597
Ambient temperature operating range				Cooling: 14~122°FDB, Heating: -13~64°FWB				
Piping	Diameter	Gas	inch	3/4"	7/8"	1-1/8"	1-1/8"	1-1/8"
		Liquid	inch	3/8"	3/8"	1/2"	1/2"	5/8"
		Discharge	inch	5/8"	3/4"	7/8"	7/8"	7/8"
		Balance	inch	1/4"	1/4"	1/4"	1/4"	1/4"
	Connecting method			(Liquid,Balance)Flared,(Gas)Brazing				
	Max total pipe length		Ft	~1,640				
	Elevation difference (OD upper/ OD lower)		Ft	164 / 131				
Operation sound (Normal/Quiet mode)			dB	53.0 / 50.0	56.0 / 53.0	57.5 / 54.5	58.0 / 55.0	58.0 / 55.0
Maximum allowable indoor unit connection				14	19	24	28	33

*1 If the longest tubing equivalent length exceeds 295 ft. (90m), 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.

WU-192MF2U9	WU-216MF2U9	WU-240MF2U9	WU-264MF2U9	WU-288MF2U9	WU-312MF2U9	WU-336MF2U9	WU-360MF2U9
U-72MF2U9 +U-120MF2U9	U-96MF2U9 +U-120MF2U9	U-120MF2U9 +U-120MF2U9	U-120MF2U9 +U-144MF2U9	U-144MF2U9 +U-144MF2U9	U-72MF2U9 +U-120MF2U9 +U-120MF2U9	U-96MF2U9 +U-120MF2U9 +U-120MF2U9	U-120MF2U9 +U-120MF2U9 +U-120MF2U9
							
16	18	20	22	24	26	28	30
AHRI Standard 1230							
3Ø 208/230V 60Hz							
192,000	216,000	240,000	264,000	288,000	312,000	336,000	360,000
56.3	63.3	70.3	77.4	84.4	91.4	98.4	105.5
216,000	243,000	270,000	297,000	324,000	351,000	378,000	405,000
63.3	71.2	79.1	87.0	94.9	102.8	110.8	118.7
Ducted | Non-ducted							
184,000 | 184,000	184,000 | 202,000	210,000 | 224,000	250,000 | 250,000	262,000 | 264,000	298,000 | -	320,000 | -	342,000 | -
10.8 | 10.7	10.4 | 10.4	10.5 | 10.4	9.5 | 9.5	9.3 | 9.5	9.9 | -	9.3 | -	9.4 | -
20.0 | 24.9	19.7 | 25.2	19.1 | 24.4	18.8 | 23.6	18.9 | 22.8	18.8 | -	18.9 | -	18.6 | -
206,000 | 202,000	232,000 | 216,000	258,000 | 232,000	274,000 | 250,000	278,000 | 266,000	334,000 | -	360,000 | -	386,000 | -
3.42 | 3.21	3.28 | 3.21	3.30 | 3.25	3.20 | 3.22	3.21 | 3.21	3.35 | -	3.26 | -	3.32 | -
148,000 | 146,000	162,000 | 164,000	184,000 | 176,000	192,000 | 186,000	200,000 | 192,000	242,000 | -	256,000 | -	270,000 | -
2.49 | 2.62	2.45 | 2.33	2.43 | 2.35	2.39 | 2.31	2.34 | 2.27	2.45 | -	2.42 | -	2.40 | -
25.8 | 24.9	23.7 | 23.8	24.2 | 23.4	22.4 | 23.2	19.2 | 21.6	24.1	23.3	22.8
208 / 230							
46.2 / 42.2	47.6 / 43.5	53.7 / 49.1	71.0 / 64.9	76.1 / 69.6	82.0 / 75.0	94.6 / 86.5	99.7 / 91.1
15.6 / 15.6	16.1 / 16.1	18.2 / 18.2	24.3 / 24.3	26.1 / 26.1	27.8 / 27.8	32.0 / 32.0	33.8 / 33.8
94 / 93	94 / 93	94 / 93	95 / 94	95 / 94	94 / 93	94 / 93	94 / 93
47.9 / 43.8	56.4 / 51.5	62.1 / 56.7	67.9 / 62.0	68.4 / 62.5	79.0 / 72.2	88.1 / 80.5	92.4 / 84.4
16.4 / 16.4	19.3 / 19.3	21.3 / 21.3	23.2 / 23.2	23.4 / 23.4	27.1 / 27.1	30.1 / 30.1	31.6 / 31.6
95 / 94	95 / 94	95 / 94	95 / 94	95 / 94	95 / 94	95 / 94	95 / 94
48.2 / 44.1	54.6 / 49.9	60.5 / 55.3	74.3 / 67.9	78.3 / 71.6	-	-	-
16.5 / 16.5	18.7 / 18.7	20.7 / 20.7	25.4 / 25.4	26.8 / 26.8	-	-	-
95 / 94	95 / 94	95 / 94	95 / 94	95 / 94	-	-	-
52.2 / 47.7	55.9 / 51.1	59.1 / 54.0	64.3 / 58.8	68.6 / 62.7	-	-	-
17.9 / 17.9	19.1 / 19.1	20.2 / 20.2	20.2 / 22.0	23.5 / 23.5	-	-	-
95 / 94	95 / 94	95 / 94	95 / 94	95 / 94	-	-	-
1 / 1							
Inverter driven Rotary 1+2	Inverter driven Rotary 1+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 2+2+2
7,000+9,000	8,100+9,000	9,000+9,000	9,000+9,000	9,000+9,000	7,000+9,000+9,000	8,100+9,000+9,000	9,000+9,000+9,000
80							
R410A / 18.3+22.0	R410A / 18.3+22.0	R410A / 22.0+22.0	R410A / 22.0+26.0	R410A / 26.0+26.0	R410A / 18.3+22.0+22.0	R410A / 18.3+22.0+22.0	R410A / 22.0+22.0+22.0
72-33/64" x 95-9/32" x 39-3/8"					72-33/64" x 144-3/32" x 39-3/8"		
595 + 752	597 + 752	752 + 752	752 + 756	756 + 756	595 + 752 + 752	597 + 752 + 752	752 + 752 + 752
Cooling: 14~122°FDB, Heating: -13~64°FDB							
1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"
5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
7/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
(Liquid,Balance)Flared,(Gas)Brazing							
~1,640							
164 / 131							
59.0 / 56.0	60.0 / 57.0	60.5 / 57.5	61.0 / 58.0	61.0 / 58.0	61.5 / 58.5	62.0 / 59.0	62.5 / 59.5
38	43	48	52	52	52	52	52

ME 2 SERIES

208-230V

ECOi EX™ 2-WAY VRF HEAT PUMP

MODEL NAME				U-72ME2U9	U-96ME2U9	U-120ME2U9	U-144ME2U9	WU-168ME2U9
Single Model				U-72ME2U9	U-96ME2U9	U-120ME2U9	U-144ME2U9	U-72ME2U9 +U-96ME2U9
Appearance								
Nominal Tons				6	8	10	12	14
Performance test condition				AHRI Standard 1230				
Power supply				3φ 208/230V 60Hz				
Cooling capacity			Btu/h	72,000	96,000	120,000	144,000	168,000
			kW	21.1	28.1	35.2	42.2	49.2
Heating capacity			Btu/h	81,000	108,000	135,000	162,000	189,000
			kW	23.7	31.6	39.6	47.5	55.4
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
		EER		12.3 | 12.6	11.9 | 11.9	11.5 | 11.8	10.9 | 10.7	11.7 | 11.6
		IEER		19.1 | 22.1	19.3 | 23.1	19.3 | 24.8	18.7 | 22.6	19.0 | 23.2
	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
		COP		3.56 | 3.86	3.54 | 3.75	3.40 | 3.60	3.27 | 3.35	3.45 | 3.50
	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
		COP		2.56 | 2.63	2.42 | 2.59	2.30 | 2.40	2.18 | 2.41	2.30 | 2.38
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
		Power input	kW	4.49 / 4.49	6.36 / 6.36	8.25 / 8.25	10.8 / 10.8	11.6 / 11.6
		Power factor	%	87 / 86	93 / 92	94 / 93	94 / 94	90 / 89
	Ducted heating	Running current	A	16.7 / 15.2	21.6 / 19.8	27.9 / 25.5	35.1 / 31.8	40.7 / 37.2
		Power input	kW	5.22 / 5.22	7.16 / 7.16	9.45 / 9.45	11.9 / 11.9	13.2 / 13.2
		Power factor	%	87 / 86	92 / 91	94 / 93	94 / 94	90 / 89
	Non-ducted cooling	Running current	A	15.7 / 14.4	21.0 / 19.2	26.4 / 24.1	35.7 / 32.3	40.1 / 36.7
		Power input	kW	4.92 / 4.92	7.04 / 7.04	8.94 / 8.94	12.1 / 12.1	13.0 / 13.0
		Power factor	%	87 / 86	93 / 92	94 / 93	94 / 94	90 / 89
	Non-ducted heating	Running current	A	16.8 / 15.4	22.2 / 20.3	28.9 / 26.4	37.5 / 33.9	44.1 / 40.3
		Power input	kW	5.28 / 5.28	7.36 / 7.36	9.78 / 9.78	12.7 / 13.7	14.3 / 14.3
		Power factor	%	87 / 86	92 / 91	94 / 93	94 / 94	90 / 89
	Starting current		A	1 / 1				
Compressor type/quantity				Inverter driven Rotary×1		Inverter driven Rotary×2		Inverter driven Rotary 1+1
Air flow rate			CFM	6,000	6,200	7,900	7,900	6,000+6,200
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
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"
Net weight			lbs	503	560	664	721	503 + 560
Ambient temperature operating range				Cooling: 14~122°FDB, Heating: -4~64°FWB				
Piping	Diameter	Gas	inch	3/4"	7/8"	1-1/8"	1-1/8"	1-1/8"
		Liquid	inch	3/8"	3/8"	1/2"	1/2"	5/8"
		Balance	inch	1/4"	1/4"	1/4"	1/4"	1/4"
	Connecting method			(Liquid,Balance)Flared,(Gas)Brazing				
	Max total pipe length		Ft	~1,640				
	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
Maximum allowable indoor unit connection				20	25	32	39	45

*1 If the longest tubing equivalent length exceeds 295 ft. (90m), 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.

WU-192ME2U9	WU-216ME2U9	WU-240ME2U9	WU-264ME2U9	WU-288ME2U9	WU-312ME2U9	WU-336ME2U9	WU-360ME2U9
U-96ME2U9 +U-96ME2U9	U-96ME2U9 +U-120ME2U9	U-72ME2U9 +U-72ME2U9 +U-96ME2U9	U-72ME2U9 +U-96ME2U9 +U-96ME2U9	U-96ME2U9 +U-96ME2U9 +U-96ME2U9	U-72ME2U9 +U-120ME2U9 +U-120ME2U9	U-96ME2U9 +U-120ME2U9 +U-120ME2U9	U-120ME2U9 +U-120ME2U9 +U-120ME2U9
							
16	18	20	22	24	26	28	30
AHRI Standard 1230							
3φ 208/230V 60Hz							
192,000	216,000	240,000	264,000	288,000	312,000	336,000	360,000
56.3	63.3	70.3	77.4	84.4	91.4	98.4	105.5
216,000	243,000	270,000	297,000	324,000	351,000	378,000	405,000
63.3	71.2	79.1	87.0	94.9	102.8	110.8	118.7
Ducted | Non-ducted							
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 | -
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 | -
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 | -
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 | -
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 | -
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 | -
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 | -
208 / 230							
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
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
93 / 92	94 / 93	94 / 93	94 / 94	94 / 94	92 / 91	94 / 93	94 / 93
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
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
92 / 91	93 / 92	94 / 93	94 / 94	94 / 94	92 / 91	93 / 92	94 / 93
47.2 / 43.1	53.2 / 48.6	59.7 / 54.5	70.9 / 64.1	81.2 / 73.4	-	-	-
15.8 / 15.8	18.0 / 18.0	20.2 / 20.2	24.0 / 24.0	27.5 / 27.5	-	-	-
93 / 92	94 / 93	94 / 93	94 / 94	94 / 94	-	-	-
51.3 / 46.9	57.9 / 52.9	66.1 / 60.5	73.5 / 66.5	80.3 / 72.6	-	-	-
17.0 / 17.0	19.4 / 19.4	22.4 / 22.4	24.9 / 24.9	27.2 / 27.2	-	-	-
92 / 91	93 / 92	94 / 93	94 / 94	94 / 94	-	-	-
1 / 1							
Inverter driven Rotary 1+1	Inverter driven Rotary 1+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 1+2+2	Inverter driven Rotary 2+2+2
6,200+6,200	6,200+7,900	7,900+7,900	7,900+7,900	7,900+7,900	6,000+7,900+7,900	6,200+7,900+7,900	7,900+7,900+7,900
80							
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+18.7
72-33/64" x 62-63/64" x 39-3/8"	72-33/64" x 79-9/64" 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" x144-3/32" x 39-3/8"
560 + 560	560 + 664	664 + 664	664 + 721	721 + 721	503 + 664 + 664	560 + 664 + 664	664 + 664 + 664
Cooling: 14~122°FDB, Heating: -4~64°FDB							
1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"
5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
(Liquid,Balance)Flared,(Gas)Brazing							
~1,640							
164 / 131							
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
50	55	64	64	64	64	64	64

LE SERIES MINI ECOi™ VRF HEAT PUMP

208-230V

DESCRIPTION	U-36LE1U6		U-52LE1U6	
POWER SOURCE	208-230V/1PH/60Hz		208-230V/1PH/60Hz	
PERFORMANCE COOLING CAPACITY SEER HEATING CAPACITY HSPF AIR CIRCULATION (HI)	Ducted / Non-Ducted / Mix 37,000 / 39,000 / 38,000 BTU/H 13.10 / 17.00 / 15.00 38,500 / 43,000 / 40,750 BTU/H 7.80 / 9.80 / 8.80 3,530 CFM		Ducted / Non-Ducted / Mix 51,500 / 52,000 / 51,750 BTU/H 14.6 / 17.4 / 16.0 57,500 / 58,500 / 58,000 BTU/H 7.7 / 9.6 / 8.6 3,530 CFM	
ELECTRICAL RATINGS VOLTAGE RATING AVAILABLE VOLTAGE RANGE RUNNING AMPERES MAX. RUNNING AMPERES POWER INPUT MAX. POWER INPUT MIN. CIRCUIT AMPACITY MAX. OVERCURRENT PROTECTION (MOCP)	COOLING 208 / 230 V 187—253 V 14.6 / 13.6 A 23.6 / 23.6 A 2.76 / 2.76 kW 4.85 / 4.85 kW 18 A 30 A	HEATING 208 / 230 V 187—253 V 14.6 / 13.6 A 23.6 / 23.6 A 2.88 / 2.88 kW 4.85 / 4.85 kW	COOLING 208 / 230 V 187—253 V 23.5 / 21.9 A 28 / 28 A 4.57 / 4.57 kW 5.72 / 5.72 kW 29 A 50 A	HEATING 208 / 230 V 187—253 V 23.5 / 21.9 A 28 / 28 A 4.58 / 4.58 kW 5.7 2 / 5.72 kW
REFRIGERANT TUBING LIMIT OF TUBING LENGTH LIMIT OF ELEVATION DIFFERENCE BETWEEN THE 2 UNITS	656 ft Outdoor unit is higher than indoor unit: 164 Outdoor unit is lower than indoor unit: 131		656 ft Outdoor unit is higher than indoor unit: 164 Outdoor unit is lower than indoor unit: 131	
REFRIGERANT TUBE DIAMETER LIQUID TUBE IN. GAS TUBE IN.	3/8" 5/8"		3/8" 3/4"	
UNIT DIMENSIONS INCHES (") / LBS. SHIPPING WEIGH / VOLUME EXTERNAL AIR TEMP. OPERATION RANGE	Height/ Width/ Depth/ Net Weight 49"/ 37"/ 14"/ 229 lbs. 247 lbs. / 19.8 ft.^{3} Cooling:14 to 113 (DB)/Heating: -4 to 59 (WB)		Height/ Width/ Depth/ Net Weight 49"/ 37"/ 14"/ 229 lbs. 247 lbs. / 19.8 ft.^{3} Cooling:14 to 113 (DB)/Heating: -4 to 59 (WB)	
CONNECTABLE INDOOR UNITS (MAX)	6		9	
CERTIFICATION STANDARD	AHRI 210 / 240			


Panasonic
INVERTER
Panasonic

INDOOR UNITS LINE-UP

Panasonic introduced its first VRF to the US market in 2001 with 16 different indoor units. Since then, it has continued to refine and expand VRF indoor offerings, and the lineup totals 50 models today. In 2016, Panasonic is replacing some indoor units with more sophisticated designs and better efficiencies. These new indoor models are also connectable to Panasonic original "ECONAVI" sensor (optional). Whether for an office, hotel, or other type of property, Panasonic offers a wide selections to meet your air conditioning requirements.

Type \ Nominal Cooling Capacity (Btu/h class)	7,500	9,000	12,000	15,000	18,000	24,000
MK TYPE Wall Mounted (ECONAVI (Optional Accessory))	S-07MK2U6	S-09MK2U6	S-12MK2U6		 S-18MK2U6	 S-24MK2U6
MY TYPE 4-way Cassette 24" x 24" (ECONAVI (Optional Accessory))			 S-12MY2U6		 S-18MY2U6	
MU TYPE 4-way Cassette 36" x 36" (ECONAVI (Optional Accessory))						 S-24MU2U6
MD TYPE 1 Way Cassette	 S-07MD1U6	 S-09MD1U6	 S-12MD1U6			
MM TYPE Concealed Duct – Low Static (ECONAVI (Optional Accessory))	 S-07MM2U6	 S-09MM2U6	 S-12MM2U6	 S-15MM2U6	 S-18MM2U6	
MF TYPE Concealed Duct – Medium Static (ECONAVI (Optional Accessory))	 S-07MF2U6	 S-09MF2U6	 S-12MF2U6	 S-15MF2U6	 S-18MF2U6	 S-24MF2U6
ME TYPE Concealed Duct –High Static						
MT TYPE Ceiling (ECONAVI (Optional Accessory))			 S-12MT2U6		 S-18MT2U6	 S-24MT2U6
MP TYPE Floor Standing	 S-07MP1U6	 S-09MP1U6	 S-12MP1U6	 S-15MP1U6	 S-18MP1U6	 S-24MP1U6
MR TYPE Floor Standing	 S-07MR1U6	 S-09MR1U6	 S-12MR1U6	 S-15MR1U6	 S-18MR1U6	 S-24MR1U6
MVA TYPE Vertical Air Handler					 MVA18FBAS6HBCP	 MVA24FBAS6HBCP

For ECONAVI option, order sensor & controller separately

ECONAVI

Sensor
CZ-CENSC1

Controller
CZ-RTC4
Standard Controller / 7-day Timer

Controller
CZ-RTC5
High-spec Wired Remote Controller

Controller
CZ-64ESMC2U
System Controller

	36,000 MVA: 30,000 / 36,000	48,000 MVA: 42,000 / 48,000	54,000 MVA: 60,000
	 S-36MU2U6		
	 S-36MF2U6	 S-48MF2U6	 S-54MF2U6
	 S-36ME1U6	 S-48ME1U6	
	 MVA30FBAS6HBCP MVA36FBAS6HBCP	 MVA42FBAS6HBCP MVA48FBAS6HBCP	 MVA60FBAS6HBCP

Actual Installation Examples

INDOOR OPERATING TEMPERATURE		
Cooling	Minimum	57° F (WB)
	Maximum	77° F (WB
INDOOR OPERATING TEMPERATURE		
Heating	Minimum	61° F (DB)
	Maximum	86° F (DB)

MK WALL MOUNTED UNIT

Panasonic 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-07MK2U6 / S-09MK2U6 / S-12MK2U6 / S-18MK2U6 / S-24MK2U6

KEY FEATURES:

* Eco-friendly R410A Refrigerant
* 208/230V, 1 Phase, 60Hz
* Easy Wall Mount for Any Application
* Washable Long Life Filter
* Washable Front Panel
* Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
* ECONAVI Connection Possible
* New Flash Panel design
* Wired or Wireless Remote Control (Optional)
* Automatic or 3 Fan Speeds Control
* Easy Service
* DC Motor

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MK2U6	7,500 BTU	208-230V/60 HZ	1
S-09MK2U6	9,600 BTU	208-230V/60 HZ	1
S-12MK2U6	12,000 BTU	208-230V/60 HZ	1
S-18MK2U6	18,000 BTU	208-230V/60 HZ	1
S-24MK2U6	25,000 BTU	208-230V/60 HZ	1

DESCRIPTION	S-07MK2U6	S-09MK2U6	S-12MK2U6	S-18MK2U6	S-24MK2U6
PERFORMANCE					
COOLING CAPACITY	7,500 BTU/H	9,600 BTU/H	12,000 BTU/H	18,000 BTU/H	25,000 BTU/H
HEATING CAPACITY	8,500 BTU/H	11,000 BTU/H	14,000 BTU/H	20,000 BTU/H	27,000 BTU/H
CURRENT					
COOLING	0.23/0.21 A	0.25/0.23 A	0.27/0.25 A	0.41/0.39 A	0.61/0.58 A
HEATING	0.23/0.21 A	0.25/0.23 A	0.27/0.25 A	0.41/0.39 A	0.61/0.58 A
POWER INPUT					
COOLING	25/25 W	25/25 W	30/30 W	40/40 W	57/57 W
HEATING	25/25 W	25/25 W	30/30 W	40/40 W	57/57 W
HEAT EXCHANGER					
FAN TYPE X QUANTITY	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1	CROSS FLOW X1
FAN AIRFLOW RATE CFM-(H/M/L)					
COOLING	320/265/230	335/295/230	385/320/230	565/441/335	635/512/406
HEATING	325/290/240	345/300/240	395/335/240	565/441/335	635/512/406
FAN MOTOR TYPE	DC	DC	DC	DC	DC
FAN MOTOR OUTPUT	30 W	30 W	30 W	47 W	47 W
REFRIGERANT PIPE DIMENSIONS					
LOW PRESSURE (FLARE)	1/4"	1/4"	1/4"	1/4"	3/8"
HIGH PRESSURE (FLARE)	1/2"	1/2"	1/2"	1/2"	5/8"
UNIT DIMENSIONS Inches (") / lbs.	11.5"/ 34.5"/ 8.5"/ 20 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT			12"/ 42"/ 9"/ 29 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	12"/ 42"/ 9"/ 32 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT
DRAINPIPE DIMENSION (1" adaptor included)	3/4" OD				
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	29/33/36	29/34/37	29/36/40	37/40/44	38/42/47

MY SERIES 4-WAY CASSETTE 24" X 24" WITH CONDENSATE PUMP

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

S-12MY2U6 / S-18MY2U6

KEY FEATURES:

* Eco-friendly R410A Refrigerant
* 208/230V, 1 Phase, 60Hz
* Four Way Air Throw
* Washable Long Life Air Filter
* Built-In Drain Pump – 30 Inch Lift
* Electronic Expansion Valve (EEV) for Precise Refrigerant Control
* Individual Flap Control Possible for Better Air Distribution.
* ECONAVI Attachment Possible
* Automatic or 3 Fan Speeds Control
* Easy Installation
* DC Motor

SYSTEM/MODEL	Components	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-12MY2U6	System	12,000 BTU 4-Way Ceiling cassette 24" x 24" (includes grille)	208-230V/1ø/60 HZ	1
	S-12MY2U6	cassette	208-230V/1ø/60 HZ	1
	CZ-18KPY2U	grille		
S-18MY2U6	System	18,000 BTU 4-way Ceiling cassette 24" x 24" (includes grille)	208-230V/1ø/60 HZ	1
	S-18MY2U6	cassette	208-230V/1ø/60 HZ	1
	CZ-18KPY2U	grille		

DESCRIPTION	S-12MY2U6	S-18MY2U6
PERFORMANCE		
COOLING CAPACITY	12,000 BTU/H	19,000 BTU/H
HEATING CAPACITY	14,000 BTU/H	21,000 BTU/H
CURRENT		
COOLING	0.32/0.30 A	0.37/0.35 A
HEATING	0.32/0.30 A	0.37/0.35 A
POWER INPUT		
COOLING	40/40 W	45/45 W
HEATING	35/35 W	40/40 W
HEAT EXCHANGER		
FAN TYPE X QUANTITY	TURBO X1	TURBO X1
FAN AIRFLOW RATE CFM-(H/M/L)		
COOLING	345/305/275	365/345/300
HEATING	350/320/270	390/345/305
FAN MOTOR TYPE	DC	DC
FAN MOTOR OUTPUT	40 W	40 W
REFRIGERANT PIPE DIMENSIONS		
LOW PRESSURE (FLARE)	1/4"	1/4"
HIGH PRESSURE (FLARE)	1/2"	1/2"
UNIT DIMENSIONS Inches (") / lbs.	10-1/4"/ 22-3/4"/ 22-3/4"/ 40 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	
DRAINPIPE DIMENSION (1" adaptor included)	1 1/4" OD	
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	32/34/36	34/37/40

MU SERIES 4-WAY CASSETTE 36" X 36" WITH CONDENSATE PUMP

Panasonic 4-Way cassette units are flexible, efficient and space-saving. Two sides can be adjusted simply to accommodate corner airflow.

S-24MU2U6 / S-36MU2U6

KEY FEATURES:

* Eco-friendly R410A Refrigerant
* 208/230V, 1 Phase, 60Hz
* Four Way Air Throw
* Washable Long Life Air Filter
* Built-In Drain Pump – 33" Lift
* Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
* Wired or Wireless Remote Control
* Automatic or 3 Fan Speeds Control
* Easy Service
* DC Motor

SYSTEM/MODEL	Components	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-24MU2U6	System	25,000 BTU 4-Way Ceiling cassette 36" x 36" (includes grille)	208-230V/60 HZ	1
	S-24MU2U6	cassette	208-230V/60 HZ	1
	CZ-36KPU3U	grille		
S-36MU2U6	System	36,000 BTU 4-Way Ceiling cassette 36" x 36" (includes grille)	208-230V/60 HZ	1
	S-36MU2U6	cassette	208-230V/60 HZ	1
	CZ-36KPU3U	grille		

DESCRIPTION	S-24MU2U6	S-36MU2U6
PERFORMANCE		
COOLING CAPACITY	25,000 BTU/H	36,000 BTU/H
HEATING CAPACITY	27,000 BTU/H	39,000 BTU/H
CURRENT		
COOLING	0.36/0.33 A	0.75/0.71 A
HEATING	0.35/0.32 A	0.68/0.65 A
POWER INPUT		
COOLING	40/40 W	95/95 W
HEATING	40/40 W	85/85 W
HEAT EXCHANGER		
FAN TYPE X QUANTITY	TURBO X1	TURBO X1
FAN AIRFLOW RATE CFM-(H/M/L)		
COOLING	777/600/494	1,165/953/742
HEATING	777/600/494	1,165/953/742
FAN MOTOR TYPE	DC	DC
FAN MOTOR OUTPUT	60 W	90 W
REFRIGERANT PIPE DIMENSIONS		
LOW PRESSURE (FLARE)	3/8"	3/8"
HIGH PRESSURE (FLARE)	5/8"	5/8"
UNIT DIMENSIONS Inches (") / lbs.	10-1/4"/ 33-1/4"/ 33-1/4"/ 53 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	10-1/4"/ 33-1/4"/ 33-1/4 / 60 LBS. HEIGHT/WIDTH/DEPTH/NET WEIGHT
DRAINPIPE DIMENSION (1" adaptor included)	11/4 "OD / 1 "ID	
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	29/32/37	34/38/44

MD SERIES 1-WAY CASSETTE WITH CONDENSATE PUMP

Panasonic's 1-Way cassette 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 – 25" Lift
* Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
* Only 13" Tall (Not Including Decorative Panel), 30" wide X 25" deep
* Wired or Wireless Remote Control
* Automatic or 3 Fan Speeds 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 HEATING CAPACITY	 7,500 BTU/H 8,500 BTU/H	 9,600 BTU/H 11,000 BTU/H	 12,000 BTU/H 14,000 BTU/H
CURRENT COOLING HEATING	 0.29/0.28 A 0.28/0.26 A	 0.29/0.28 A 0.28/0.26 A	 0.32/0.31 A 0.34/0.32 A
POWER INPUT COOLING HEATING	 48/50 W 44/46 W	 48/50 W 44/46 W	 52/55 W 50/52 W
HEAT EXCHANGER FAN TYPE X QUANTITY FAN AIRFLOW RATE CFM-(H/M/L) FAN EXT. STATIC PRESS (230V) FAN MOTOR TYPE FAN MOTOR OUTPUT	 CENTRIFUGAL X1 282/247/212 0 IN. WC DC 60 W	 CENTRIFUGAL X1 282/247/212 0 IN. WC DC 60 W	 CENTRIFUGAL X1 320/280/250 0 IN. WC DC 60 W
REFRIGERANT PIPE DIMENSIONS LOW PRESSURE (FLARE) HIGH PRESSURE (FLARE)	 1/4" 1/2"	 1/4" 1/2"	 1/4" 1/2"
UNIT DIMENSIONS Inches (") / lbs.	13"/ 30"/ 24.5"/ 43 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT		
DRAINPIPE DIMENSION (1" adaptor included)	11/4 "OD / 1 "ID		
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	29/31/33		

MM CONCEALED DUCT – LOW STATIC SERIES

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

S-07MM2U6 / S-09MM2U6 / S-12MM2U6 / S-15MM2U6 / S-18MM2U6

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
* ECONAVI Connection Possible.
* Automatic or 3 Fan Speeds Control
* Easy Service
* Low Profile Fits into Tight Ceiling Spaces
* 4 Temperature Sensors(Air Intake/ Discharge) for Optimum Operations.
* Washable Long Life Filter
* DC Motor

MODELS	(Type: Nominal Cooling Capacity, etc)		Volt	PH
S-07MM2U6	7,500 BTU	ESP = 0.04 / 0.12	208-230V/60 HZ	1
S-09MM2U6	9,600 BTU	ESP = 0.06 / 0.12	208-230V/60 HZ	1
S-12MM2U6	12,000 BTU	ESP = 0.06 / 0.16	208-230V/60 HZ	1
S-15MM2U6	15,000 BTU	ESP = 0.06 / 0.16	208-230V/60 HZ	1
S-18MM2U6	19,000 BTU	ESP = 0.06 / 0.16	208-230V/60 HZ	1

DESCRIPTION	S-07MM2U6	S-09MM2U6	S-12MM2U6	S-15MM2U6	S-18MM2U6
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	0.26/0.26 A	0.30/0.30 A	0.32/0.31 A	0.40/0.37 A	0.50/0.48 A
HEATING	0.23/0.23 A	0.27/0.27 A	0.29/0.28 A	0.36/0.34 A	0.48/0.45 A
POWER INPUT					
COOLING	36/36 W	40/40 W	42/42 W	49/49 W	64/64 W
HEATING	26/26 W	30/30 W	32/32 W	39/39 W	54/54 W
HEAT EXCHANGER					
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
FAN AIRFLOW RATE CFM-(H/M/L)					
COOLING	283/247/212	300/265/230	318/283/247	371/336/283	442/406/353
HEATING	283/247/212	300/265/230	318/283/247	371/336/283	442/406/353
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	60 W	60 W	60 W	60 W	60 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 Inches (") / lbs.	7 7/8", 29 17/32", 25 13/64", 42 LBS HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT				
DRAINPIPE DIMENSION (1" adaptor included)	1" OD				
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	25/27/28	27/29/30	28/30/32	30/32/34	32/35/37

MF CONCEALED DUCT – MEDIUM STATIC SERIES

ECONAVI
(Optional Accessory)

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

S-07MF2U6 / S-09MF2U6 / S-12MF2U6
S-15MF2U6 / S-18MF2U6 / S-24MF2U6
S-36MF2U6 / S-48MF2U6 / S-54MF2U6

KEY FEATURES:

* Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
* Adjustable External Static Pressure
* Built-In Drain Pump – 20 Inch Lift
* Wired or Wireless Remote Control
* Eco-friendly R410A Refrigerant
* ECONAVI Connection Possible.
* Automatic or 3 Fan Speeds Control
* Easy Service
* Optional Outside Air Intake
* DC Motor

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-07MF2U6	7,500 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-09MF2U6	9,600 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-12MF2U6	12,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-15MF2U6	15,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-18MF2U6	19,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-24MF2U6	25,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-36MF2U6	36,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-48MF2U6	48,000 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1
S-54MF2U6	54,600 BTU 0.28/0.60" WG (ESP)	208-230V/60 HZ	1

DESCRIPTION	S-07MF2U6	S-09MF2U6	S-12MF2U6	S-15MF2U6	S-18MF2U6	S-24MF2U6	S-36MF2U6	S-48MF2U6	S-54MF2U6
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	0.63/0.57 A	0.63/0.57 A	0.63/0.57 A	0.63/0.57 A	0.81/0.74 A	0.95/0.89 A	1.53/1.42 A	1.64/1.52 A	1.76/1.63 A
HEATING	0.63/0.56 A	0.63/0.56 A	0.63/0.56 A	0.63/0.56 A	0.81/0.74 A	0.95/0.89 A	1.53/1.42 A	1.64/1.52 A	1.76/1.63 A
POWER INPUT									
COOLING	70/70 W	70/70 W	70/70 W	70/70 W	100/100 W	120/120 W	220/220 W	235/235 W	250/250 W
HEATING	70/70 W	70/70 W	70/70 W	70/70 W	100/100 W	120/120 W	220/220 W	235/235 W	250/250 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)									
COOLING	494/459/353	494/459/353	494/459/353	494/459/353	565/530/424	742/671/530	1204/989/812	1271/1095/848	1342/1165/883
HEATING	494/459/353	494/459/353	494/459/353	494/459/353	565/530/424	742/671/530	1204/989/812	1271/1095/848	1342/1165/883
FAN EXT. STATIC PRESS (230V)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)	0.28/0.60" WG (ESP)
FAN MOTOR TYPE	DC	DC	DC	DC	DC	DC	DC	DC	DC
FAN MOTOR OUTPUT	119 W	119 W	119 W	119 W	119 W	124 W	235 W	235 W	235 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 Inches (") / lbs.	11-7/16"/ 31-1/2"/ 27-9/16"/ 64 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT				11-7/16"/39-3/8"/ 27-9/16"/ 64 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	11-7/16"/39-3/8"/ 27-9/16"/ 75 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT	11-7/16"/55-1/8"/ 27-9/16" 99 LBS. HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT		
DRAINPIPE DIMENSION (1" adaptor included)	1" OD								
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	25/29/33	25/29/33	25/29/33	28/32/34	28/32/34	26/32/35	32/35/39	32/36/40	33/37/41

ME CONCEALED DUCT – HIGH STATIC SERIES

Panasonic 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 simple 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 3 Fan Speeds 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 HEATING	 36,000 BTU 39,000 BTU	 47,800 BTU 54,600 BTU
CURRENT COOLING HEATING	 2.84/2.89 A 2.74/2.80 A	 3.24/3.19 A 3.17/3.42 A
POWER INPUT COOLING HEATING	 548/620 W 528/602 W	 644/695 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 FAN AIRFLOW RATE CFM-(H/M/L) FAN EXT. STATIC PRESS (230V) FAN MOTOR TYPE FAN MOTOR OUTPUT	 CENTRIFUGAL X1 1,060/988/883 0.70 - In. WC AC 200 - W	 CENTRIFUGAL X1 1,272/1,237/1,160 0.67 - In. WC AC 400 - W
REFRIGERANT PIPE DIMENSIONS LOW PRESSURE (FLARE) HIGH PRESSURE (FLARE)	 3/8" 5/8"	 3/8" 5/8"
DRAINPIPE DIMENSION (1" adaptor included)	1" OD	1" OD
SOUND LEVELS (LOW-MED-HIGH)	42/44/45 - DB(A) @ 230V	44/46/47 - DB(A) @ 230V

MVA VERTICAL MULTI POISE SERIES

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-inch Filter Rack
* Optional Filter Available. (2" or 4" Fiter 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 conneting 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.
RIFRIGERANT 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 (H×W×D) INCH	46.9×17.7×22.2	46.9×17.7×22.2	51.9×20.2×25.2	51.9×20.2×25.2	55.9×22.2×27.2	55.9×22.2×27.2	57.9×24.2×31.2
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						

ACCESSORY HEATER

PART NO.	Heater Capacity (kW)		Applications on MVA models						
	240V	208V	MVA18 FBAS6HB CP	MVA24 FBAS6HB CP	MVA30 FBAS6HB CP	MVA36 FBAS6HB CP	MVA42 FBAS6HB CP	MVA48 FBAS6HB CP	MVA60 FBAS6HB CP
MVA03HT	3	2.3	x	x	x	x			
MVA05HT	5	3.8	x	x	x	x			
MVA06HT	6	4.5	x	x	x	x			
MVA08HT	8	6	x	x	x	x	x	x	x
MVA10HT	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)

MT CEILING SUSPENDED

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

S-12MT2U6 / S-18MT2U6 / S-24MT2U6

KEY FEATURES:

* Eco-friendly R410A Refrigerant
* 208/230V, 1 Phase, 60Hz
* New Round Design Fits into Numerous Ceiling Locations
* Long Distance Air Throw with Newly Designed Fan and DC Motor
* Washable Long Life Air Filter
* Electronic Expansion Valve (EEV) for Precise Refrigerant Control
* Wired or Wireless Remote Control
* ECONAVI Attachment Possible
* Automatic or 3 Fan Speeds Control
* Easy Service

MODELS	(Type: Nominal Cooling Capacity, etc)	Volt	PH
S-12MT2U6	12,000 BTU	208-230V/60 HZ	1
S-18MT2U6	19,000 BTU	208-230V/60 HZ	1
S-24MT2U6	25,000 BTU	208-230V/60 HZ	1

DESCRIPTION	S-12MT2U6	S-18MT2U6	S-24MT2U6
CAPACITY COOLING HEATING	12,000 BTU 14,000 BTU	19,000 BTU 21,000 BTU	25,000 BTU 27,000 BTU
CURRENT COOLING HEATING	0.38/0.36 A 0.38/0.36 A	0.40/0.38 A 0.40/0.38 A	0.46/0.44 A 0.46/0.44 A
POWER INPUT COOLING HEATING	35/35 W 35/35 W	40/40 W 40/40 W	55/55 W 55/55 W
UNIT DIMENSIONS Inches (") / lbs.	9"/ 37"/ 27"/ 60 lbs. Height/ Width/ Depth/ Net Weight		9"/ 50"/ 27"/ 73 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 X2 494/424/371 DC 74 W	CENTRIFUGAL X2 530/441/371 DC 74 W	CENTRIFUGAL X3 742/636/547 DC 74 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 3/4" ID	1" OD 3/4" ID	1" OD 3/4" ID
SOUND LEVELS (LOW-MED-HIGH) DB(A) @ 230V	30/32/36	30/33/37	33/35/39

MP/MR FLOOR STANDING

FLOOR STANDING
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 3 Fan Speeds Control
* Easy Service
* Washable Long Life Filter

FLOOR STANDING
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 3 Fan Speeds 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	.22/.24 A .22/.23 A	.22/.24 A .22/.23 A	.42/.44 .40/.42	.58/.60 .53/.55	.58/.60 .53/.55	.61/.63 .56/.58
POWER INPUT COOLING HEATING	45/54 W 43-50 W	45/54 W 43-50 W	86/101 83/96	116/134 106/122	116/134 106/122	119/138 109/125
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" OD	1" OD	1" OD	1" OD	1" OD	1" OD
SOUND LEVELS (LOW-MED-HIGH)	28/30/33	28/30/33	29/35/39	31/35/38	31/36/39	35/38/41

CONTROL SYSTEMS SIMPLE SYSTEM CONTROL NETWORK

Panasonic system control network is the heart and soul of the ECOi™ unit, enabling it to live with the living inside. 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 for you, and a way to further build profits by keeping installation in-house. The logic resides in the ECOi system and the control is the gateway.

CZ-RTC5A / CZ-RTC4 / CZ-RWSC3 / CZ-RWSU3U
CZ-RWST2U / CZ-RWSD2U
CZ-RWSK1U / CZ-RE2C2 / CZ-CAPC2U / CZ-64ESMC2U
CZ-256ESMC1U / CZ-CFUNC1U
CZ-CSRC2 / CZ-CLNC1U
CZ-CSWKC1U / CZ-CSWAC1U / CZ-CAPRA1
CZ-CSWBC1U / CZ-CSWWC1U

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

PART NUMBER	DESCRIPTION
CZ-RTC5A	HIGH-SPEC WIRED REMOTE CONTROLLER Touch key operation, weekly timer, energy saving functions etc. (Ref.P14-15)
CZ-RTC4	WIRED REMOTE CONTROLLER — 7- day setback, mode, temp, service, etc.
CZ-RWSC3	REMOTE CONTROLLER RECEIVER — To be used with CZ-RWSK1U
CZ-RWSU3U	WIRELESS REMOTE CONTROLLER — For use with MU models
CZ-RWST2U	WIRELESS REMOTE CONTROLLER — For use with MT models
CZ-RWSD2U	WIRELESS REMOTE CONTROLLER — For use with MD models
CZ-RWSK1U	WIRELESS REMOTE CONTROLLER — For use with MK and MY models & for use with CZ-RWSC3
CZ-RE2C2	SIMPLE REMOTE CONTROLLER — on/off, Mode, Temp, Fan Speed, Flap, Service Function
CZ-CAPC2U	INTERFACE ADAPTOR — For On/Off Control, External Device
CZ-64ESMC2U	SYSTEM CONTROLLER — Set individual indoor unit temps for up to 4 zones, 16 indoor units max per zone, Schedule Timer
CZ-256ESMC2U	INTELLIGENT CONTROLLER (Web Enabled) — Controls Max of 256 indoor units with CZ-CFUNC1U
CZ-CFUNC1U	COMMUNICATIONS ADAPTOR — Used with INTELLIGENT CONTROLLER and BMS interface
CZ-CSRC3	REMOTE SENSOR
CZ-CLNC1U	LONWORKS INTERFACE — Maximum of 16 indoor units
CZ-CAPRA1	RAC ADAPTER
USPA-RC2-BAC-1	BACNET IP or MSTP DEVICE
USPA-AC-BAC-128	BACNET OVER IP SERVER DEVICE
USPA-RA2-WIFI-1	ECOi™ INDOOR UNITS WIFI INTERFACE
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)

CZ-RWSU3U
For Use With MU Indoor Units

CZ-RWSD2U
For Use With MD Indoor Units

CZ-RWST2U
For Use With MT Indoor Units

CZ-RWSK1U
For Use With MK and MY Indoor Units

CZ-RWSC3
Remote Controller Receiver to be used with CZ-RWSK1U MM, MF, ME, MP and MR Indoor Units

Panasonic's wireless remote controls more than comfort.

WIRELESS REMOTES
CONTROL IN THE PALM OF YOUR HAND

Take control of the entire system, from mode, temperature, airflow, and system diagnosis, all through an easy-to-read liquid crystal display. Total control at your fingertips.

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

CZ-RTC5
High-spec
Wired Remote Controller
(ECONAVI Compatible)

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

CZ-RE2C2
Simple Remote
Controller

CZ-RTC4
Standard Remote/7-Day Timer
For Use With All Indoor Units
(ECONAVI Compatible)

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

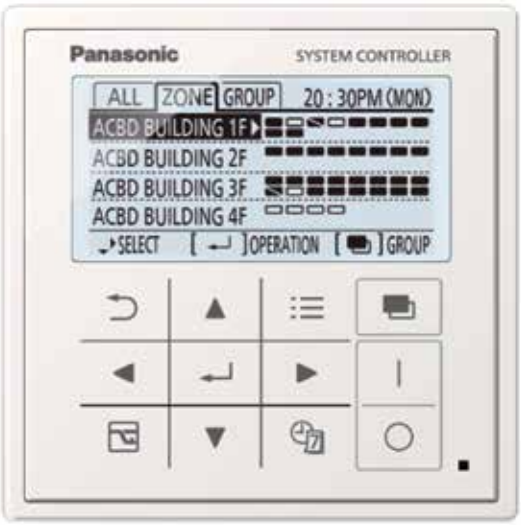
WIRED REMOTES
SIMPLE TO INSTALL

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
* 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
* 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

NEW



CZ-64ESMC2U
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
* Incorporates a Schedule Timer

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

NEW

CZ-256ESMC2U
Intelligent Controller

Web Accessible/Real Time Diagnostics Through Individual IP Address

CONTROLS UP TO 256 INDOOR UNITS

KEY FEATURES (INTELLIGENT CONTROL):

* 10.4 Inch 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
* Provides Individual Tenant Billing data for 3 systems addition systems are done by adding Communication Adapters. 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

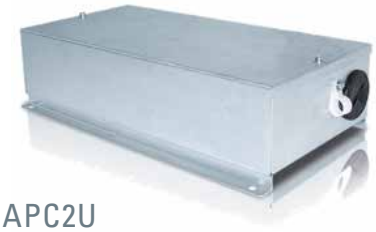
CZ-CLNC1U
LonWorks Interface

Panasonic 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



CZ-CAPC2U
(Interface Adapter)

Panasonic interface adapter will be installed with intelligent controller to operate fresh-air supply unit as one of our indoor unit.

INTERFACE ADAPTOR
FOR ON/OFF CONTROL EXTERNAL DEVICE

KEY FEATURES:

* Control and status monitoring is possible for individual indoor unit (or any external electrical device up to 24V AC, 1A) by contact signal.

NEW

CZ-CAPRA1
(RAC Adaptor)

Panasonic RAC interface adaptor integrates our Eco-i system with Panasonic Room Air Conditioner Indoor Systems.

RAC ADAPTER

KEY FEATURES:

* Able to connect Eco-i system with Panasonic facilitates the intergration of controls between Panasonic Residential and Commercial Products.

CONTROL SYSTEMS

USPA-RC2-BAC-1

The **USPA-RC2-BAC-1** is a BACnet IP or MSTP device capable of monitoring and controlling all generations of ECOi, ECOi EX and PACi units. Simply configured via external switches. Graphical User Interface is easily accessed through the Ethernet port.

USPA-AC-BAC-128

The **USPA-AC BAC-128** is a BACnet over IP server device capable of monitoring and controlling ECOi, ECOi EX and PACi systems.

Up to 128 indoor units and 10 refrigerant circuits can be integrated (up to 30 PACi systems). Auto-Discover feature detects connected Panasonic equipment for easy setup and integration. Setup and control via Ethernet port to access GUI.

BACnet IP Controller, requires (1) Communication Adaptor(CZ-CFUNC1U)

USPA-RC2-WIFI-1

ECOi, ECOi EX and PACi Model Number: USPA-RC2-WIFI-1

The Wireless Home device controls the indoor unit by connecting to the wired remote terminals. It can be combined with wired remotes. This facilitates the control of the indoor unit with a smart device and the appropriate app as supplied.

APPLICATION EXAMPLE

Typical layout of an office suite using Panasonic's VRF Heat Recovery Systems which provides comfort, individual zones and mode control.

ACCESSORIES ECOi™ SYSTEM

PART NUMBER	DESCRIPTION	Duct Collar
CZ-56DAF2	DUCT FLANGE	For Use with 7,9,12,15,18 MF
CZ-90DAF2	DUCT FLANGE	For Use with 24 MF
CZ-160DAF2	DUCT FLANGE	For Use with 36,48,54 MF
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	Used with 3 Pipe Indoor Unit Piping - Up to 76,400 BTUs
CZ-P680BH1U	DISTRIBUTION JOINT KIT	Used with 3 Pipe Indoor Unit Piping - 76,500 to 232,000 BTUs
CZ-P1350BH1U	DISTRIBUTION JOINT KIT	Used with 3 Pipe Indoor Unit Piping - 232,200 to 460,700 BTUs
CZ-P900PH1U	DISTRIBUTION JOINT KIT	Used to Connect Multiple 3 Pipe Outdoor Units - Up to 307,100 BTUs
3-Way Solenoid Valve Kits		
CZ-P56HR2U	SOLENOID VALVE KIT	Total Indoor Capacity of Less than 19,000 BTUs (for 3 Pipe System)
CZ-P456HR2U	SOLENOID VALVE KIT	4 port; Total Allowable Indoor Capacity <85,300 BTUs for 3 Pipe System
CZ-P656HR2U	SOLENOID VALVE KIT	6 port; Total Allowable Indoor Capacity <124,200 BTUs for 3 Pipe System
CZ-P856HR2U	SOLENOID VALVE KIT	8 port; Total Allowable Indoor Capacity <162,400 BTUs for 3 Pipe System
CZ-P160HR2U	SOLENOID VALVE KIT	Total Indoor Capacity of 19,100 to 54,600 BTUs (for 3 Pipe System)
CZ-P4160HR2U	SOLENOID VALVE KIT	4 port ;Total Allowable Indoor Capacity <238,800 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	
ASP-MOUNI	100 - 250 VOLT MINI ORANGE ASPEN CONDENSATE PUMP	
ASP-MLUNI	100 - 250 VOLT MINI LIME ASPEN CONDENSATE PUMP	
ASP-MWUNI	100 - 250 VOLT MINI WHITE ASPEN CONDENSATE PUMP	
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
ACC-195684	460V TO 230V, 20 KVA TRANSFORMER	For Use with 120,000 Or 144,000 (10 or 12 Tons) BTU/HR Outdoor Units
Electric Heater		
MVA**HT	MVA**HT ELECTRIC HEATER FOR MVA SERIES (REFER TO PAGE 31 FOR DETAILS)	

SERVICES ECOi™ SYSTEM

623 303 9831	Pac Checker Service & diagnostics tool for all ECOi and PACi products

PART NUMBER	DESCRIPTION	
ECO-EC-1	1st day of ECOi Equipment Commissioning conducted during a normal business day. Typically 4 systems	
ECO-EC-2	Additional days of ECOi Equipment Commissioning conducted during a normal business day. Typically 4 systems	
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)	
ECO-EC-1	1st day of ECOi Controls Commissioning Conducted During a Normal Business Day	
ECO-EC-2	2nd and Additional Days of ECOi Controls Commissioning Conducted During a Normal Business Day	
CNBH	Commissioning Completed During Non-business Hours or Non-business Day (Double Normal Values)	
COUS	All Commissioning of Sysytems or Components Outside Continental U.S. (Double Normal Values)	
ECOi-IST	Training- ECOi Installation and Commissioning Training (At Customer Locationdoor)	
ECOi-SERT	Training- ECOi Serving Training (At Customer Locationdoor)	
TOUS	Training (Conducted outside of the Continental U.S.) (Double Normal Values)	
ECO-SIT-4	Training -On-Site Supervised ECOi Installation Training	
ECO-SIT-OS	Training-Supervised Installation Training Outside Continental U.S.	
CNBH	Commissioning Completed During Non-business Hours or Non-business Ddays	
COUS	All Commissioning of Systems or Components Outside Continental U.S.	
ECOi-IST	Training - ECOi Installation and Commissioning Ttraining (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-OS	Training Supervised installation Training Outside Continental U.S. (Double Normal Values)	
U-36CC	U-36LE1U6 Condenser Coil Coating	Contact RSM for more details
U-36CA	U-36LE1U6 Condenser Coat All	Contact RSM for more details
U-52CC	U-52LE1U6 Condenser Coil Coating	Contact RSM for more details
U-52CA	U-52LE1U6 Condenser Coat All	Contact RSM for more details
U-72CC	U-72ME& MF2U9 Condenser Coil Coating	Contact RSM for more details
U-72CA	U-72ME& MF2U9 Condenser Coat All	Contact RSM for more details
U-96CC	U-96ME& MF2U9 Condenser Coil Coating	Contact RSM for more details
U-96CA	U-96ME& MF2U9 Condenser Coat All	Contact RSM for more details
U-120CC	U-120ME& MF2U9 Condenser Coil Coating	Contact RSM for more details
U-120CA	U-120ME& MF2U9 Condenser Coat All	Contact RSM for more details
U-144CC	U-144ME& MF2U9 Condenser Coil Coating	Contact RSM for more details
U-144CA	U-144ME& MF2U9 Condenser Coat All	Contact RSM for more details

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. Then a new methodology was 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 its most simplistic form IEER is calculated by operating the system at 4 different capacities and applying a formula. The basic calculation is as follows:

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 HEATPUMP

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

MF2U9 New 3Pipe System Rating			COOLING PERFORMANCE			HEATING PERFORMANCE				
Type	System Model Number	Indoor Unit Types	Capacity Btu/h	EER	IEER	High Heating 47°F		Low Heating 17°F		SCHE
						Capacity (Btu/h)	COP	Capacity (Btu/h)	COP	
Heat Recovery	U-72MF2U9	Ducted	69,000	12.7	22.3	77,000	3.7	56,000	2.66	27.6
Heat Recovery	U-72MF2U9	Mixed	69,000	13	25.4	77,000	3.8	56,000	2.61	28.9
Heat Recovery	U-72MF2U9	Non-Ducted	69,000	13.3	28.5	77,000	3.9	56,000	2.56	30.2
Heat Recovery	U-96MF2U9	Ducted	92,000	11.1	23.2	103,000	3.32	70,000	2.44	29.8
Heat Recovery	U-96MF2U9	Mixed	91,000	10.95	24.4	103,000	3.36	66,000	2.41	29.1
Heat Recovery	U-96MF2U9	Non-Ducted	90,000	10.8	25.6	103,000	3.39	62,000	2.38	28.4
Heat Recovery	U-120MF2U9	Ducted	114,000	11.7	22.4	129,000	3.69	93,000	2.51	29.1
Heat Recovery	U-120MF2U9	Mixed	114,000	11.7	24.9	129,000	3.68	91,000	2.49	29.15
Heat Recovery	U-120MF2U9	Non-Ducted	114,000	11.7	27.4	129,000	3.66	90,000	2.46	29.2
Heat Recovery	U-144MF2U9	Ducted	138,000	11.7	22	154,000	3.26	100,000	2.42	28
Heat Recovery	U-144MF2U9	Mixed	138,000	11.05	23.7	154,000	3.29	98,000	2.48	28
Heat Recovery	U-144MF2U9	Non-Ducted	138,000	10.4	25.4	154,000	3.32	96,000	2.53	28
Heat Recovery	WU-168MF2U9	Ducted	160,000	10.8	20.7	180,000	3.29	126,000	2.47	26.4
Heat Recovery	WU-168MF2U9	Mixed	160,000	10.7	22.8	178,000	3.26	122,000	2.59	26.8
Heat Recovery	WU-168MF2U9	Non-Ducted	160,000	10.6	24.9	176,000	3.22	118,000	2.7	27.2
Heat Recovery	WU-192MF2U9	Ducted	184,000	10.8	20	206,000	3.42	148,000	2.49	25.8
Heat Recovery	WU-192MF2U9	Mixed	184,000	10.75	22.45	204,000	3.32	146,000	2.56	25.35
Heat Recovery	WU-192MF2U9	Non-Ducted	184,000	10.7	24.9	202,000	3.21	146,000	2.62	24.9
Heat Recovery	WU-216MF2U9	Ducted	184,000	10.4	19.7	232,000	3.28	162,000	2.45	23.7
Heat Recovery	WU-216MF2U9	Mixed	192,000	10.4	22.45	224,000	3.25	162,000	2.39	23.75
Heat Recovery	WU-216MF2U9	Non-Ducted	202,000	10.4	25.2	216,000	3.21	164,000	2.33	23.8
Heat Recovery	WU-240MF2U9	Ducted	210,000	10.5	19.1	258,000	3.3	184,000	2.43	24.2
Heat Recovery	WU-240MF2U9	Mixed	216,000	10.45	21.75	244,000	3.28	180,000	2.39	23.8
Heat Recovery	WU-240MF2U9	Non-Ducted	224,000	10.4	24.4	232,000	3.25	176,000	2.35	23.4
Heat Recovery	WU-264MF2U9	Ducted	250,000	9.5	18.8	274,000	3.2	192,000	2.39	22.4
Heat Recovery	WU-264MF2U9	Mixed	250,000	9.5	21.2	262,000	3.21	188,000	2.35	22.8
Heat Recovery	WU-264MF2U9	Non-Ducted	250,000	9.5	23.6	250,000	3.22	186,000	2.31	23.2
Heat Recovery	WU-288MF2U9	Ducted	262,000	9.3	18.9	278,000	3.21	200,000	2.34	19.2
Heat Recovery	WU-288MF2U9	Mixed	262,000	9.4	20.85	272,000	3.21	196,000	2.31	20.4
Heat Recovery	WU-288MF2U9	Non-Ducted	264,000	9.5	22.8	266,000	3.21	192,000	2.27	21.6
Heat Recovery	WU-312MF2U9	Ducted	298,000	9.9	18.8	334,000	3.35	242,000	2.45	24.1
Heat Recovery	WU-336MF2U9	Ducted	320,000	9.3	18.9	360,000	3.26	256,000	2.42	23.3
Heat Recovery	WU-360MF2U9	Ducted	342,000	9.4	18.6	386,000	3.32	270,000	2.4	22.8

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

System Model Number	Indoor Unit Rating Type	High Cooling 95F			High Heating 47F		Low Heating 17F
		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	on-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

NOTES

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