ECOi™
Variable Refrigerant Flow (VRF), Multi-Zone, Heat Pump & Heat Recovery Systems
ECOi™ – Building Your Business.

Panasonic has a proud global heritage and over 50 years experience in the United States. By delivering more multi-zone options, space-saving designs and offering solutions protect the environment. Our products reduce your energy costs and create a more comfortable environment.

Today every conditioning solution must answer multitudes of project needs, including tighter budgets, flexibility, energy efficiency and ease of installation, to name a few. ECOi is the answer. It’s an all-in-one solution that responds to the many commercial and residential applications.

Panasonic’s Brand Vision.

Panasonic’s HVAC consistently builds new ideas to help build your business. By delivering multi-zone options, space-saving and environmentally friendly designs, our solutions are evolving, improving solutions.

Flexible Combinations: ECOi allows multiple indoor unit combinations that provide you with the utmost in flexible solutions. The system also allows multiple unit connectivity providing up to 130% of the total capacity of the condensing unit. This provides for up to 16 indoor units connected to one condensing unit.

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

Lower running and life cycle costs. Panasonic Ecoi VRF systems are amongst the most efficient VRF systems on the market, offering COPs in excess of 4.5 at full load conditions. The system is also designed to make sure that we reduce the running cost of each system by using our unique road map control routine to ensure that the most efficient combination of compressors are running at any one time. Improved defrost sequencing also reduces running cost by defrosting each outdoor unit when conditions allow.

In order to reduce the running cost of each system, Panasonic ECOi systems utilize highly advanced inverter controlled compressor technology. This allows the system to operate at the most efficient conditions, providing energy savings and environmental friendliness for years to come.

We are committed to becoming an indispensable element in the lives of people all over the world.

For the Living Inside & Out.

Contractors. Building Support.

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

Engineers. Designing Confidence.

ECOi™ is absolute confidence. Its flexibility allows multiple applications and installation configurations. With a maximum pipe length of up to 964 feet and up to 40 units connected to one outdoor system you can engineer a perfect solution for all your project needs. ECOi is a superior modular option that provides for the freedom to meet any design need.

Owners & Tenants.

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

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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 you with the utmost in flexible solutions. The system also allows multiple unit connectivity providing up to 130% of the total capacity of the condensing unit. This provides for up to 16 indoor units connected to one condensing unit.

Inverter Control Compressor: All ECOi systems utilize highly advanced inverter controlled compressor technology. By varying the rotational speed of the compressor, the inverter control can precisely match the amount of refrigerant being delivered to the needs of each zone. This intelligent approach helps realize excellent efficiencies during partial-load conditions.

Today every conditioning solution must answer multitudes of project needs, including tighter budgets, flexibility, energy efficiency and ease of installation, to name a few. ECOi is the answer. It’s an all-in-one solution that responds to the many commercial and residential applications.

Panasonic ideas for life
New Panasonic Group

Contributing to the progress and development of society and enriching people’s lives through manufacturing

Offering wider & more comprehensive solutions for life

Panasonic Group Technology

Ideas from consumers’ viewpoint, ideas that are practical and useful, ideas that bring surprises and discoveries, ideas that make people happy, ideas that are innovative and interesting – ideas for life.

We Like to Challenge Our Ideas and Products

The Panasonic robot-mascot powered by rechargeable EVOLTA batteries completed a two-month-long, 500-kilometre trip from Tokyo to Kyoto. The seven-inch-tall robot, Mr EVOLTA, weighing just 1 kilogram (standardized metric measurement), is a small green character made of plastic and carbon fibre with two Panasonic rechargeable EVOLTA batteries on its back, pulling a trailer containing ten more EVOLTA batteries. Human team mates helped Mr EVOLTA by pushing a device with an infra-red signal which the robot followed and by stopping once a day to recharge its batteries. Panasonic set this challenge to demonstrate the performance and durability of its new rechargeable AA batteries made from nickel-metal-hydride. The batteries combine the convenience of a disposable battery with the performance and cost benefits of a rechargeable battery. Two years ago, Mr EVOLTA, powered by two EVOLTA alkaline batteries, climbed a 530-metre rope to the top of the Grand Canyon in six hours and 46 minutes. The following year, it finished the 24-hour Le Mans endurance race of 23.7km and was subsequently recognised in the Guinness World Records for the longest distance covered by a battery-operated remote control car.

Our extensive range of products, technical appliances, business systems, residential, BtoB, healthcare, equipment and devices

U-Vacua Technology

Panasonic U-Vacua is a high-performance vacuum insulation panel (VIP) with very low thermal conductivity that performs about 20 times better than standard urethane foam. U-Vacua’s improved performance saves space while increasing the energy efficiency of refrigeration applications, home appliances, buildings, and any products that require low energy loss from heat transfer. It is powerful enough to make a snowman survive in a hot sauna for 24 hours. We have tested it.

Built for Extreme Conditions

Toughbooks are, like the name indicates, perfect companion to conditions that require durability and liability. With a rugged build, they are also the choice for the German ski-jump team, which uses them in various weather conditions – from rain to -20°C temperatures.

Connected at 35,000 Feet Just Like on the Ground

Beside being a world leader in state-of-art in-flight entertainment and communication systems manufacture, Panasonic Avionics has teamed up with Lufthansa to provide passengers with in-flight broadband connectivity on Lufthansa flights. Passengers will be able to use their own devices, such as laptops and smart phones, to wirelessly connect to the Internet – to browse, access social media sites, send/receive e-mails and more.
For the buildings requiring simultaneous heating and cooling, Panasonic 3-Way ECOi™ system provides the perfect solution.

Commercial office buildings are subject to fluctuating heat levels generated from electronic office equipment, lighting and varying occupant levels. Also, hotels, nursing homes and other commercial living spaces often have times when occupants will want either heating or cooling at the same time. The heat recovery system offers the perfect solution for stabilizing 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.

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

**ECOi SERIES**

**Indoor Unit**
- Model Code
- Nominal Cooling in BTU/hr
- Development Series
- Voltage
- Special Feature

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Capacity</th>
<th>Series</th>
<th>Voltage</th>
<th>Special Feature</th>
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<tbody>
<tr>
<td>E</td>
<td>Indoor Unit</td>
<td>Indoor Cooling in BTU/hr</td>
<td>208/200V, 60Hz, 1 Phase</td>
<td>S: Indoor Unit</td>
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<tr>
<td>E</td>
<td>Outdoor Unit</td>
<td>Indoor Cooling in BTU/hr</td>
<td>208/200V, 60Hz, 1 Phase</td>
<td>S: Outdoor Unit</td>
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<tr>
<td>U</td>
<td>ECOi</td>
<td>INDOOR UNITS</td>
<td>208/200V, 60Hz, 1 Phase</td>
<td>E: Salt Protection</td>
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<tr>
<td>M</td>
<td>ECOi</td>
<td>OUTDOOR UNITS</td>
<td>208/200V, 60Hz, 1 Phase</td>
<td>E: Salt Protection</td>
</tr>
</tbody>
</table>

**Optional parts**

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

*For conference rooms and other locations where low noise is required, pay attention to the installation location and install in a corridor etc.*
Panasonic’s ECOi Heat Recovery series offers the ability to heat and cool different zones simultaneously. Panasonic was the first manufacturer in the world to develop this energy saving heat recovery solution. Offering all the features of our standard heat pump series, the 3-Way solution can offer even higher energy savings for the building owner.

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

Panasonic’s ECOi Heat Recovery series offers the ability to heat and cool different zones simultaneously.
**WU Heat Recovery Combined Series**

**WU-144MF1U9 / WU-168MF1U9 / WU-192MF1U9**

- **Outdoor Unit**: U-72MF1U9 (quantity of 2)
  - 139,000 & 157,000 BTU/H
- **Nominal Tons**: 12
  - 10.6/11.6 kW
- **Power input**: 10.6/11.6 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 24

**WU-168MF1U9 / WU-240MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 164,000 & 184,000 BTU/H
- **Nominal Tons**: 14
  - 13.1/14.4 kW
- **Power input**: 13.1/14.4 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 29

**WU-192MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 192,000 & 213,000 BTU/H
- **Nominal Tons**: 16
  - 15.5/17.2 kW
- **Power input**: 15.5/17.2 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 33

**WU-216MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 230,000 & 250,000 BTU/H
- **Nominal Tons**: 18
  - 15.9/17.4 kW
- **Power input**: 15.9/17.4 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 37

**WU-240MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 230,000 & 265,000 BTU/H
- **Nominal Tons**: 20
  - 18.4/20.2 kW
- **Power input**: 18.4/20.2 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 40

**WU-216MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 258,000 & 280,000 BTU/H
- **Nominal Tons**: 22
  - 20.1/23.0 kW
- **Power input**: 20.1/23.0 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 40

**WU-288MF1U9**

- **Outdoor Unit**: U-96MF1U9 (quantity of 2)
  - 281,000 & 312,000 BTU/H
- **Nominal Tons**: 24
  - 23.3/25.8 kW
- **Power input**: 23.3/25.8 kW
- **Control Range**: 6 - 100%
- **Connectable Indoor Units (Max)**: 40

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

*(E) indicates with salt protection - Special Order*

* NOTE: *460 Volt Step Down Transformers (460-230) available for 6 and 8 ton condensers*
**COMBINED MF** 3-WAY ECOi™ VRF HEAT RECOVERY SERIES

**DESCRIPTION**
- WU-216MF1U9
- WU-240MF1U9
- WU-264MF1U9
- WU-288MF1U9

**PERFORMANCE**
- Cooling Capacity: BTU/H
- Heating Capacity: BTU/H

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

**NOTE** *(E) in Model # indicates Salt Protection - Special Order

**NOTE** *(E) indicates with salt protection - Special Order

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

**NOTE** *Values represent nominal capacities for Ducted Indoor Units.

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

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**LE MINI ECOi™ MULTI SPLIT VRF HEAT PUMP SERIES**

**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 FWS to 59 FWB
- Ultra Quiet Operation As Low As 48dB(a)
- Variable Speed DC Fan Motor
- Piping:
  - 564 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

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**MINI ECOi™ MULTI- SPLIT VRF HEAT PUMP SERIES**

**U-36LE1U6 (E)**
- **POWERSOURCE**
- 208-230V/1PH/60Hz
- **PERFORMANCE**
- **COOLING CAPACITY**
  - Ducted: 37,000 BTU/H
  - Non-Ducted: 39,000 BTU/H
- **HEATING CAPACITY**
  - Mixed: 40,750 BTU/H
- **AIR CIRCULATION [H]**
  - 3,530 CFM
- **ELECTRICAL RATINGS**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **POWER SOURCE**
  - 5.72 / 5.72 Kw
  - 4.57 / 4.57 Kw
- **UNIT DIMENSIONS**
  - Ducted: 247 lbs. / 19.8 ft.3
  - Non-Ducted: 49” / 37” / 14” / 229 lbs.
  - Mix: 19” / 14” / 229 lbs.
- **REFFERGENT TUBE DIAMETER**
  - Liquid Tube In: 3/8”
  - Gas Tube In: 3/8”
- **UNIT DIMENSIONS**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **REFRIGERANT TUBE DIAMETER**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **EXTERNAL AIR TEMPERATURE OPERATING RANGE**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **CONNECTABLE INDOR UNITS (MAX)**
  - 6
- **CERTIFICATION STANDARD**
  - AHRI 210 / 240

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**U-38LE1U6 (E)**
- **POWERSOURCE**
- 208-230V/1PH/60Hz
- **PERFORMANCE**
- **COOLING CAPACITY**
  - Ducted: 37,000 BTU/H
  - Non-Ducted: 39,000 BTU/H
- **HEATING CAPACITY**
  - Mixed: 40,750 BTU/H
- **AIR CIRCULATION [H]**
  - 3,530 CFM
- **ELECTRICAL RATINGS**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **POWER SOURCE**
  - 5.72 / 5.72 Kw
  - 4.57 / 4.57 Kw
- **UNIT DIMENSIONS**
  - Ducted: 247 lbs. / 19.8 ft.3
  - Non-Ducted: 49” / 37” / 14” / 229 lbs.
  - Mix: 19” / 14” / 229 lbs.
- **REFFERGENT TUBE DIAMETER**
  - Liquid Tube In: 3/8”
  - Gas Tube In: 3/8”
- **UNIT DIMENSIONS**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **REFRIGERANT TUBE DIAMETER**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **EXTERNAL AIR TEMPERATURE OPERATING RANGE**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **CONNECTABLE INDOR UNITS (MAX)**
  - 6
- **CERTIFICATION STANDARD**
  - AHRI 210 / 240

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**U-40LE1U6 (E)**
- **POWERSOURCE**
- 208-230V/1PH/60Hz
- **PERFORMANCE**
- **COOLING CAPACITY**
  - Ducted: 37,000 BTU/H
  - Non-Ducted: 39,000 BTU/H
- **HEATING CAPACITY**
  - Mixed: 40,750 BTU/H
- **AIR CIRCULATION [H]**
  - 3,530 CFM
- **ELECTRICAL RATINGS**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **POWER SOURCE**
  - 5.72 / 5.72 Kw
  - 4.57 / 4.57 Kw
- **UNIT DIMENSIONS**
  - Ducted: 247 lbs. / 19.8 ft.3
  - Non-Ducted: 49” / 37” / 14” / 229 lbs.
  - Mix: 19” / 14” / 229 lbs.
- **REFFERGENT TUBE DIAMETER**
  - Liquid Tube In: 3/8”
  - Gas Tube In: 3/8”
- **UNIT DIMENSIONS**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **REFRIGERANT TUBE DIAMETER**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **EXTERNAL AIR TEMPERATURE OPERATING RANGE**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **CONNECTABLE INDOR UNITS (MAX)**
  - 6
- **CERTIFICATION STANDARD**
  - AHRI 210 / 240

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**U-42LE1U6 (E)**
- **POWERSOURCE**
- 208-230V/1PH/60Hz
- **PERFORMANCE**
- **COOLING CAPACITY**
  - Ducted: 37,000 BTU/H
  - Non-Ducted: 39,000 BTU/H
- **HEATING CAPACITY**
  - Mixed: 40,750 BTU/H
- **AIR CIRCULATION [H]**
  - 3,530 CFM
- **ELECTRICAL RATINGS**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **POWER SOURCE**
  - 5.72 / 5.72 Kw
  - 4.57 / 4.57 Kw
- **UNIT DIMENSIONS**
  - Ducted: 247 lbs. / 19.8 ft.3
  - Non-Ducted: 49” / 37” / 14” / 229 lbs.
  - Mix: 19” / 14” / 229 lbs.
- **REFFERGENT TUBE DIAMETER**
  - Liquid Tube In: 3/8”
  - Gas Tube In: 3/8”
- **UNIT DIMENSIONS**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **REFRIGERANT TUBE DIAMETER**
  - Height/Width/Depth: Net Weight
  - 49”/33”/14”/229 lbs.
  - 247 lbs. / 19.8 ft.
- **EXTERNAL AIR TEMPERATURE OPERATING RANGE**
  - Cooling: 14 to 113 (DB) / Heating: -4 to 59 (WB)
- **CONNECTABLE INDOR UNITS (MAX)**
  - 6
- **CERTIFICATION STANDARD**
  - AHRI 210 / 240
**U-72ME1U9 / U-72ME1U9E**

U-96ME1U9 / U-96ME1U9E

**KEY FEATURES:**
- * One Outdoor Unit Connects As Many As 16 Indoor Units (50%-130% ratio of indoor to outdoor capacity)
- * U-72ME1U9 includes one Inverter Driven Rotary Compressor
- * U-96ME1U9 includes one Inverter Driven Rotary Compressor and One AC Constant Speed Scroll Compressor
- * Nominal Operating Range (Outdoor Ambient)
  - Cooling: 14°FDB to 113°FDB
  - Heating: 4°FWB to 59°FWB
- * Ultra Quiet Operation As Low As 52dB(a)
- * Variable Speed DC Fan Motor (ESP adjustable to 0.24" wc)

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

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

**(E) indicates with salt protection - Special Order**

### PERFORMANCE

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<tr>
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<th>U-72ME1U9 (E)</th>
<th>U-96ME1U9 (E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOLING CAPACITY BTUH</td>
<td>72,000</td>
<td>95,000</td>
</tr>
<tr>
<td>POWER INPUT KW</td>
<td>5.28</td>
<td>7.69</td>
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<tr>
<td>HEATING CAPACITY BTUH</td>
<td>81,000</td>
<td>106,500</td>
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<tr>
<td>POWER INPUT KW</td>
<td>5.79</td>
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### ELECTRICAL RATINGS

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<tr>
<th>VOLTAGE RATING</th>
<th>COOLING RUNNING AMPERES</th>
<th>HEATING RUNNING AMPERES</th>
<th>MIN. CIRCUIT AMPACITY</th>
<th>MAX. OVERCURRENT PROTECTION (MOCP)</th>
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<tbody>
<tr>
<td>208 - 230 V</td>
<td>15.1 - 15.5 A</td>
<td>16.5 - 16.5 A</td>
<td>24 A</td>
<td>34 A</td>
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<tr>
<td>208 - 230 V</td>
<td>23.0 - 23.7 b A</td>
<td>24.5 - 24.7 b A</td>
<td>40 A</td>
<td>45 A</td>
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</table>

### COMPRESSOR

- Inverter Driven Twin-Rotary Type
- 4.1 kw
- FV68S (Ether oil - PVE)
- 1.4 gal
- Electronic expansion valve
- Reverse-cycle, outdoor unit cycle
- Aluminum plate fin / Copper tube
- 10-100%

### FAN DEVICE

- Propeller fan x 1
- 0.7 kw
- High pressure switch, overcurrent (CT method)
- 5.300
- 0.0 / 0.24 WC

### TUBING

<table>
<thead>
<tr>
<th>REFRIGERANT TUBING</th>
<th>GAS TUBE</th>
<th>LIQUID TUBE</th>
<th>BALANCE TUBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø3/8” (Brazing)</td>
<td>ø3/8” (Brazing)</td>
<td>ø3/8” (Flare)</td>
<td></td>
</tr>
<tr>
<td>3/4” (Brazing)</td>
<td>3/8” (Brazing)</td>
<td>3/8” (Flare)</td>
<td></td>
</tr>
<tr>
<td>Cooling: 14°FDB to 113°FDB, Heating: -4°FWB to 59°FWB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82°F / 35°C / 35°F / 84°Flbs.</td>
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</tr>
<tr>
<td>Height/Width/Depth/Net Weight: Silky shade (Ky 5/5/G)</td>
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</table>

### UNIT DIMENSIONS

<p>| |</p>
<table>
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</thead>
<tbody>
<tr>
<td>U-72ME1U9 / U-72ME1U9E</td>
</tr>
<tr>
<td>82°F / 35°C / 35°F / 84°Flbs.</td>
</tr>
<tr>
<td>Height/Width/Depth/Net Weight: Silky shade (Ky 5/5/G)</td>
</tr>
</tbody>
</table>

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

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

**ME Combined Series.**

### Combined ME 2-WAY ECOi™ VRF Heat Pump Series

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>Outdoor Unit</th>
<th>Cooling &amp; Heating</th>
<th>Nominal Tons</th>
<th>Power input 208/230</th>
<th>Control Range</th>
<th>Connectable Indoor Units (Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WU-144ME1U9</td>
<td>U-72M1EU9 (quantity of 2)</td>
<td>139,000 &amp; 157,000 BTU/H</td>
<td>12</td>
<td>10.96/11.58 kW</td>
<td>6 - 100%</td>
<td>24</td>
</tr>
<tr>
<td>WU-168ME1U9</td>
<td>U-72M1EU9 (quantity of 2)</td>
<td>164,000 &amp; 184,000 BTU/H</td>
<td>14</td>
<td>12.97/14.39 kW</td>
<td>6 - 100%</td>
<td>29</td>
</tr>
<tr>
<td>WU-192ME1U9</td>
<td>U-96M1EU9 (quantity of 2)</td>
<td>192,000 &amp; 213,000 BTU/H</td>
<td>16</td>
<td>15.38/17.2 kW</td>
<td>6 - 100%</td>
<td>33</td>
</tr>
<tr>
<td>WU-216ME1U9</td>
<td>U-72M1EU9 (quantity of 2)</td>
<td>203,000 &amp; 228,000 BTU/H</td>
<td>18</td>
<td>15.84/17.37 kW</td>
<td>6 - 100%</td>
<td>37</td>
</tr>
<tr>
<td>WU-240ME1U9</td>
<td>U-96M1EU9 (quantity of 2)</td>
<td>230,000 &amp; 265,000 BTU/H</td>
<td>20</td>
<td>18.25/20.16 kW</td>
<td>6 - 100%</td>
<td>40</td>
</tr>
<tr>
<td>WU-264ME1U9</td>
<td>U-96M1EU9 (quantity of 2)</td>
<td>258,000 &amp; 288,000 BTU/H</td>
<td>22</td>
<td>20.66/22.99 kW</td>
<td>6 - 100%</td>
<td>40</td>
</tr>
<tr>
<td>WU-288ME1U9</td>
<td>U-96M1EU9 (quantity of 2)</td>
<td>281,000 &amp; 312,000 BTU/H</td>
<td>24</td>
<td>23.07/25.6 kW</td>
<td>6 - 100%</td>
<td>40</td>
</tr>
</tbody>
</table>

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

- **Values represent nominal capacities for Ducted Indoor Units.**

### System Specifications

#### Fan Type/Quantity

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Quantity</th>
<th>Capacity Control Range</th>
<th>Power input (KW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WU-144ME1U9</td>
<td>1 Propeller</td>
<td>(ea)</td>
<td>0.7 kW</td>
<td>0.7 kW</td>
</tr>
<tr>
<td>WU-168ME1U9</td>
<td>1 Propeller</td>
<td>(ea)</td>
<td>0.7 kW</td>
<td>0.7 kW</td>
</tr>
<tr>
<td>WU-192ME1U9</td>
<td>1 Propeller</td>
<td>(ea)</td>
<td>0.7 kW</td>
<td>0.7 kW</td>
</tr>
</tbody>
</table>

#### Power Supply

<table>
<thead>
<tr>
<th>Model</th>
<th>WPH/A</th>
<th>Minimum Circuits</th>
<th>Max. Overcurrent Protection (MWCP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WU-144ME1U9</td>
<td>208 - 230/3 60</td>
<td>52</td>
<td>Yes</td>
</tr>
<tr>
<td>WU-168ME1U9</td>
<td>208 - 230/3 60</td>
<td>80</td>
<td>Yes</td>
</tr>
<tr>
<td>WU-192ME1U9</td>
<td>208 - 230/3 60</td>
<td>80</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Weight (LBS)

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight (LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WU-144ME1U9</td>
<td>1168</td>
</tr>
<tr>
<td>WU-168ME1U9</td>
<td>1327</td>
</tr>
<tr>
<td>WU-192ME1U9</td>
<td>1386</td>
</tr>
</tbody>
</table>

### Protection Devices

- **High Pressure Switch/Overcurrent (CT Method)**
- **Crancase Heaters (C)**

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

**E** indicates with salt protection - Special Order

### Performance

- Cooling Capacity: BTU/H
- Heating Capacity: BTU/H
- Power Input: KW

### Combined ME 2-WAY ECOi™ VRF Heat Pump SERIES

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

- Values represent nominal capacities for Ducted Indoor Units.
**DESCRIPTION**

<table>
<thead>
<tr>
<th>WU-216</th>
<th>WU-240</th>
<th>WU-264</th>
<th>WU-288</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOLING CAPACITY: BTU/H</td>
<td>20,000</td>
<td>23,000</td>
<td>26,000</td>
</tr>
<tr>
<td>HEATING CAPACITY: BTU/H</td>
<td>17,37</td>
<td>18,25</td>
<td>19,14</td>
</tr>
<tr>
<td><strong>POWER INPUT: KW</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER INPUT: KW &amp; LEVEL DIFFERENCE FEET</td>
<td>20,16</td>
<td>20,68</td>
<td>21,03</td>
</tr>
<tr>
<td><strong>COOLING MODE NOMINAL CONDITIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDOOR: °F WB / °F DB</td>
<td>0.0 / .24 WC</td>
<td>0.0 / .24 WC</td>
<td>0.0 / .24 WC</td>
</tr>
<tr>
<td>OUTDOOR: °F WB / °F DB</td>
<td>0.0 / .24 WC</td>
<td>0.0 / .24 WC</td>
<td>0.0 / .24 WC</td>
</tr>
<tr>
<td>PIPE LENGTH FEET</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>POWER SUPPLY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINIMUM CIRCUITS AMPS (MCA)</td>
<td>0.20/0.21 A</td>
<td>0.20/0.21 A</td>
<td>0.20/0.21 A</td>
</tr>
<tr>
<td>COOLING</td>
<td>0.30/0.32 A</td>
<td>0.30/0.32 A</td>
<td>0.30/0.32 A</td>
</tr>
<tr>
<td>HEATING</td>
<td>0.37/0.39 A</td>
<td>0.37/0.39 A</td>
<td>0.37/0.39 A</td>
</tr>
<tr>
<td><strong>COOLING CAPACITY &amp; HEATING CAPACITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMBINED CAPACITY CONTROL RANGE: %</td>
<td>47/43</td>
<td>47/43</td>
<td>47/43</td>
</tr>
<tr>
<td><strong>POWER INPUT: KW</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER INPUT: KW</td>
<td>30 W</td>
<td>30 W</td>
<td>30 W</td>
</tr>
<tr>
<td><strong>WEIGHT: (LBS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT</td>
<td>1752</td>
<td>1851</td>
<td>1950</td>
</tr>
<tr>
<td><strong>COILS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COIL FACE AREA (SQ. FT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 (ea)</td>
<td>25 (ea)</td>
<td>25 (ea)</td>
<td>25 (ea)</td>
</tr>
<tr>
<td>30 (ea)</td>
<td>30 (ea)</td>
<td>30 (ea)</td>
<td>30 (ea)</td>
</tr>
<tr>
<td><strong>PROTECTION DEVICES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH PRESSURE SWITCH [OVER/UNDER] OR CRANKCASE HEATER (MPM)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**MK WALL MOUNTED UNIT**

Panasonic's wall-mounted units work well with any interior design. Flexible and compact, offering individualized 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.

**MODELS**

<table>
<thead>
<tr>
<th>MODELS</th>
<th>Type: Nominal Cooling Capacity, etc</th>
<th>Volt</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-07MK1U9</td>
<td>7,500 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-09MK1U9</td>
<td>9,600 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-12MK1U6</td>
<td>12,000 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-18MK1U6</td>
<td>18,000 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-24MK1U6</td>
<td>25,000 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-24MK1U9</td>
<td>25,000 BTU</td>
<td>208-230/60 Hz</td>
<td>1</td>
</tr>
</tbody>
</table>

**KEY FEATURES:**

- "ECO Friendly" R410A Refrigerant
- 208/230V, 1 Phase, 60Hz
- Easy Wall Mount for Any Application
- Washable Long Life Filter
- Electronic Expansion Valve (EEV) for Accurate Refrigerant Control
- Light Weight, Only 31 lbs. (S-24MK1U9 is 68 lbs.)
- Wired or Wireless Remote Control
- Automatic or Fixed Fan Speed control
- Easy Service

**DESCRIPTION**

<table>
<thead>
<tr>
<th>S-07MK1U9</th>
<th>S-09MK1U9</th>
<th>S-12MK1U6</th>
<th>S-18MK1U6</th>
<th>S-19MK1U6 needs C2-PSSVK1U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><strong>COOLING CAPACITY</strong></em></td>
<td>7,500 BTU/H</td>
<td>9,000 BTU/H</td>
<td>11,000 BTU/H</td>
<td>14,000 BTU/H</td>
</tr>
<tr>
<td><em><strong>HEATING CAPACITY</strong></em></td>
<td>8,500 BTU/H</td>
<td>9,000 BTU/H</td>
<td>10,500 BTU/H</td>
<td>13,000 BTU/H</td>
</tr>
<tr>
<td><em><strong>POWER INPUT</strong></em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOLING HEATING</td>
<td>208-230/60 Hz</td>
<td>208-230/60 Hz</td>
<td>208-230/60 Hz</td>
<td>208-230/60 Hz</td>
</tr>
<tr>
<td>FAN MOTOR TYPE</td>
<td>0.30/0.32 A</td>
<td>0.30/0.32 A</td>
<td>0.30/0.32 A</td>
<td>0.30/0.32 A</td>
</tr>
<tr>
<td>FAN MOTOR TYPE</td>
<td>0.37/0.39 A</td>
<td>0.37/0.39 A</td>
<td>0.37/0.39 A</td>
<td>0.37/0.39 A</td>
</tr>
<tr>
<td><strong>COOLING HEATING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2152</td>
<td>2352</td>
<td>2552</td>
<td>2752</td>
<td></td>
</tr>
<tr>
<td><strong>HEIGHT/ WIDTH/ DEPTH/ NET WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>REFRIGERANT PIPE DIMENSIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW PRESSURE (FLARE)</td>
<td>3/8&quot;</td>
<td>1/2&quot;</td>
<td>9/16&quot;</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td>HIGH PRESSURE (FLARE)</td>
<td>1/4&quot;</td>
<td>1/2&quot;</td>
<td>9/16&quot;</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td><strong>UNIT DIMENSIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height/ Width/ Depth/ Net Weight</td>
<td>5/8&quot; / 9&quot; / 12&quot; / 31 LBS</td>
<td>1/2&quot; / 19&quot; / 24&quot; / 48 LBS</td>
<td>9/16&quot; / 8&quot; / 10&quot; / 25 LBS</td>
<td>5/8&quot; / 8&quot; / 10&quot; / 25 LBS</td>
</tr>
<tr>
<td><strong>DRAINPIPE DIMENSION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1/4&quot; OD</td>
<td>1 1/4&quot; OD</td>
<td>1 1/4&quot; OD</td>
<td>1 1/4&quot; OD</td>
<td></td>
</tr>
</tbody>
</table>

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

(E) indicates with salt protection - Special Order

**NOTE:** *400 Volt Step Down Transformers (400-230) available for 6 and 8 ton condensers

**NOTE:** Values represent nominal capacities for Ducted Indoor Units.

Panasonic INDOOR
**Panasonic INDOOR**

**S-24MU1U6 / S-36MU1U6**

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

**SYSTEM/MODEL**

<table>
<thead>
<tr>
<th>Components (Type: Nominal Cooling Capacity, etc)</th>
<th>Volt</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>System 12000 BTU 4-Way Ceiling cassette 25” x 25” (includes grille)</td>
<td>208-230V/1A/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-24MU1U6 cassette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZ-18KPY1U grille</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System 18000 BTU 4-Way Ceiling cassette 25” x 25” (includes grille)</td>
<td>208-230V/1A/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-36MU1U6 cassette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZ-18KPY1U grille</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**DESCRIPTION**

<table>
<thead>
<tr>
<th>S-12MY1U6</th>
<th>S-18MY1U6</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERFORMANCE</td>
<td></td>
</tr>
<tr>
<td>COOLING CAPACITY</td>
<td>12,000 BTU/H</td>
</tr>
<tr>
<td>HEATING CAPACITY</td>
<td>14,000 BTU/H</td>
</tr>
<tr>
<td>CURRENT COOLING</td>
<td>0.22/0.20 A</td>
</tr>
<tr>
<td>HEATING</td>
<td>0.30/0.27 A</td>
</tr>
<tr>
<td>POWER INPUT COOLING</td>
<td>38/43 W</td>
</tr>
<tr>
<td>HEATING</td>
<td>52/47 W</td>
</tr>
<tr>
<td>HEAT EXCHANGER</td>
<td></td>
</tr>
<tr>
<td>FAN TYPE X QUANTITY</td>
<td>TURBO X1</td>
</tr>
<tr>
<td>FAN AIRFLOW RATE CFM (H/M/L)</td>
<td>320/280/250</td>
</tr>
<tr>
<td>FAN MOTOR TYPE</td>
<td>DC</td>
</tr>
<tr>
<td>FAN MOTOR OUTPUT</td>
<td>20 W</td>
</tr>
<tr>
<td>REFRIGERANT PIPE DIMENSIONS</td>
<td></td>
</tr>
<tr>
<td>LOW PRESSURE (FLARE)</td>
<td>1/4”</td>
</tr>
<tr>
<td>HIGH PRESSURE (FLARE)</td>
<td>1/2”</td>
</tr>
<tr>
<td>UNIT DIMENSIONS</td>
<td>12.5” x 22”</td>
</tr>
<tr>
<td>HEIGHT/WIDTH/DEPTH/NET WEIGHT</td>
<td>1.5/1.2/1.2/33 LBS.</td>
</tr>
<tr>
<td>DRAINPIPE DIMENSION</td>
<td>1” OD</td>
</tr>
<tr>
<td>SOUND LEVELS (LOW-MED-HIGH DB(A) @ 230V)</td>
<td>27/29/31</td>
</tr>
</tbody>
</table>

**SYSTEM/MODEL**

<table>
<thead>
<tr>
<th>Components (Type: Nominal Cooling Capacity, etc)</th>
<th>Volt</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>System 12000 BTU 4-Way Ceiling cassette 37-1/2” x 37-1/2” (includes grille)</td>
<td>208-230V/1A/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-12MY1U6 cassette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZ-18KPY1U grille</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System 18000 BTU 4-Way Ceiling cassette 37-1/2” x 37-1/2” (includes grille)</td>
<td>208-230V/1A/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-18MY1U6 cassette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZ-18KPY1U grille</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**DESCRIPTION**

<table>
<thead>
<tr>
<th>S-24MU1U6</th>
<th>S-36MU1U6</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERFORMANCE</td>
<td></td>
</tr>
<tr>
<td>COOLING CAPACITY</td>
<td>25,000 BTU/H</td>
</tr>
<tr>
<td>HEATING CAPACITY</td>
<td>27,000 BTU/H</td>
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<tr>
<td>CURRENT COOLING</td>
<td>0.29/0.26 A</td>
</tr>
<tr>
<td>HEATING</td>
<td>0.30/0.31 A</td>
</tr>
<tr>
<td>POWER INPUT COOLING</td>
<td>38/40 W</td>
</tr>
<tr>
<td>HEATING</td>
<td>33/33 W</td>
</tr>
<tr>
<td>HEAT EXCHANGER</td>
<td></td>
</tr>
<tr>
<td>FAN TYPE X QUANTITY</td>
<td>TURBO X1</td>
</tr>
<tr>
<td>FAN AIRFLOW RATE CFM (H/M/L)</td>
<td>705/565/495</td>
</tr>
<tr>
<td>FAN MOTOR TYPE</td>
<td>DC</td>
</tr>
<tr>
<td>FAN MOTOR OUTPUT</td>
<td>50 W</td>
</tr>
<tr>
<td>REFRIGERANT PIPE DIMENSIONS</td>
<td></td>
</tr>
<tr>
<td>LOW PRESSURE (FLARE)</td>
<td>3/8”</td>
</tr>
<tr>
<td>HIGH PRESSURE (FLARE)</td>
<td>5/8”</td>
</tr>
<tr>
<td>UNIT DIMENSIONS</td>
<td>12” x 33”</td>
</tr>
<tr>
<td>HEIGHT/WIDTH/DEPTH/NET WEIGHT</td>
<td>1.2/1.3/1.3/33 LBS.</td>
</tr>
<tr>
<td>DRAINPIPE DIMENSION</td>
<td>1 1/4” OD</td>
</tr>
<tr>
<td>SOUND LEVELS (LOW-MED-HIGH DB(A) @ 230V)</td>
<td>28/31/34</td>
</tr>
</tbody>
</table>

**SYSTEM/MODEL**

<table>
<thead>
<tr>
<th>Components (Type: Nominal Cooling Capacity, etc)</th>
<th>Volt</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>System 36000 BTU 4-Way Ceiling cassette 37-1/2” x 37-1/2” (includes grille)</td>
<td>208-230V/1A/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-36MU1U6 cassette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZ-36KPU2U grille</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Panasonic’s semi-concealed ceiling units are flexible and space-saving. A perfect conditioning solution for small spaces. Barely visible, the unit blends with any interior design. Powerful enough to cool and comfort those inside.

**MD SERIES ONE WAY CEILING CASSETTE WITH CONDENSATE PUMP**

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

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

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

- **System:** 7500 BTU 1-Way Ceiling cassette (includes grille)
  - 208/230V/60 Hz 1

- **System:** 9000 BTU 1-Way Ceiling cassette (includes grille)
  - 208/230V/60 Hz 1

- **System:** 12000 BTU 1-Way Ceiling cassette (includes grille)
  - 208/230V/60 Hz 1

### DESCRIPTION

#### S-07MD1U6
- **Components (Type: Nominal Cooling Capacity, etc):**
  - System: 7500 BTU 1-Way Ceiling cassette (includes grille)
    - 208/230V/60 Hz 1
  - C2-12CP1U6 grille

#### S-09MD1U6
- **Components (Type: Nominal Cooling Capacity, etc):**
  - System: 9000 BTU 1-Way Ceiling cassette (includes grille)
    - 208/230V/60 Hz 1
  - C2-12CP1U6 grille

#### S-12MD1U6
- **Components (Type: Nominal Cooling Capacity, etc):**
  - System: 12000 BTU 1-Way Ceiling cassette (includes grille)
    - 208/230V/60 Hz 1
  - C2-12CP1U6 grille

### POWER INPUT

<table>
<thead>
<tr>
<th>Model</th>
<th>Volts PH</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-07MD1U6</td>
<td>208-230V</td>
<td>0.28/0.26 A</td>
</tr>
<tr>
<td>S-09MD1U6</td>
<td>208-230V</td>
<td>0.29/0.28 A</td>
</tr>
<tr>
<td>S-12MD1U6</td>
<td>208-230V</td>
<td>0.34/0.32 A</td>
</tr>
</tbody>
</table>

### UNIT DIMENSIONS

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>13&quot;</td>
<td>30&quot;</td>
<td>23&quot;</td>
<td>82 lbs</td>
</tr>
</tbody>
</table>

### DRAINPIPE DIMENSION

- 1" OD

### SOUNDS LEVELS (LOW-MED-HIGH)

- 32/23/35 - DB(A) @ 230V
- 32/23/36 - DB(A) @ 230V
- 34/29/38 - DB(A) @ 230V

---

**MT SERIES CEILING SUSPENDED UNIT**

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

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

### SYSTEM/MODEL

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>(TYPE: NOMINAL COOLING CAPACITY, ETC)</th>
<th>VOLT</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>12,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-07MT1U6</td>
<td>10,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-09MT1U6</td>
<td>12,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-12MT1U6</td>
<td>14,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
</tbody>
</table>

### DESCRIPTION

#### S-07MT1U6
- **CAPACITY**
  - Cooling: 12,000 BTU
  - Heating: 12,000 BTU

#### S-12MT1U6
- **CURRENT**
  - Cooling: 0.14/0.17 A
  - Heating: 0.15/0.17 A

#### MODELS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal Cooling Capacity, etc</th>
<th>VOLT</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-07MT1U6</td>
<td>12,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-09MT1U6</td>
<td>18,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>S-12MT1U6</td>
<td>24,000 BTU</td>
<td>208-230V/60 Hz</td>
<td>1</td>
</tr>
</tbody>
</table>

### UNIT DIMENSIONS

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.5&quot;</td>
<td>36&quot;</td>
<td>27&quot;</td>
<td>55 lbs</td>
</tr>
</tbody>
</table>

### SOUND LEVELS

- (Low-Med-High)
  - 32/30/32 - DB(A) @ 230V
  - 34/32/34 - DB(A) @ 230V
  - 36/34/36 - DB(A) @ 230V
### Fan Airflow Rate CFM-(H/M/L)

#### Decorative Panel

**FLOOR MOUNTED**

**WITH DECORATIVE PANEL**

**FLOOR MOUNTED**

**WITH OUT DECORATIVE PANEL**

#### Description

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Features:</strong></td>
</tr>
<tr>
<td>* ECO Friendly® R410A Refrigerant</td>
</tr>
<tr>
<td>* 208/230V, 1 Phase, 60Hz</td>
</tr>
<tr>
<td>* Electronic Expansion Valve (EEV) for Accurate Refrigerant Control</td>
</tr>
<tr>
<td>* Wired or Wireless Remote Control</td>
</tr>
<tr>
<td>* Automatic or Fixed Fan Speed Control</td>
</tr>
<tr>
<td>* Easy Service</td>
</tr>
<tr>
<td>* Washable Long Life Filter</td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th><strong>S-07MP1U6 / S-09MP1U6 / S-12MP1U6 / S-15MP1U6 / S-18MP1U6</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
</tr>
<tr>
<td><strong>Fan Type:</strong></td>
</tr>
<tr>
<td>S-07MP1U6</td>
</tr>
<tr>
<td>S-09MP1U6</td>
</tr>
<tr>
<td>S-12MP1U6</td>
</tr>
<tr>
<td>S-15MP1U6</td>
</tr>
<tr>
<td>S-18MP1U6</td>
</tr>
</tbody>
</table>

### Refrigerant Pipe Dimensions

<table>
<thead>
<tr>
<th><strong>Low Pressure (Flare)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Pressure (Flare)</strong></td>
</tr>
</tbody>
</table>

### Drainpipe Dimensions

<table>
<thead>
<tr>
<th><strong>1 1/4” OD</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2524</td>
</tr>
</tbody>
</table>

### Models

<table>
<thead>
<tr>
<th><strong>Type:</strong> Nominal Cooling Capacity, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volts:</strong></td>
</tr>
<tr>
<td>S-07MM1U6</td>
</tr>
<tr>
<td>S-09MM1U6</td>
</tr>
<tr>
<td>S-12MM1U6</td>
</tr>
<tr>
<td>S-15MM1U6</td>
</tr>
<tr>
<td>S-18MM1U6</td>
</tr>
</tbody>
</table>

### MM Concealed Duct – Low Profile with Condensate Pump Series

8 inches high - Low Profile fits into tight ceiling spaces.

*“Panasonic’s MM units are ideal for drop ceiling applications including apartments, condominiums, and hotel rooms. Compact design permits installation within conditioned space.”*
Panasonic's concealed ceiling units are compact and space saving. Advanced zoning capabilities. Efficient design. A perfect conditioning solution for shorter duct runs.

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

### Technical Specifications:

#### CONCEALED DUCT – MEDIUM STATIC SERIES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal Capacity</th>
<th>Volts</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-07MF1U6</td>
<td>7500 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-09MF1U6</td>
<td>9600 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-12MF1U6</td>
<td>12000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-15MF1U6</td>
<td>15000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-18MF1U6</td>
<td>18000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-24MF1U6</td>
<td>25000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-36MF1U6</td>
<td>36000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-48MF1U6</td>
<td>48000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-54MF1U6</td>
<td>54600 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
</tbody>
</table>

#### CONCEALED DUCT – MEDIUM-HIGH STATIC SERIES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal Capacity</th>
<th>Volts</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-36ME1U6</td>
<td>36,000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
<tr>
<td>S-48ME1U6</td>
<td>48,000 BTU</td>
<td>208/230/60 HZ</td>
<td>1</td>
</tr>
</tbody>
</table>

### Key Features for Long Duct Run Installations:
- Optional Outside Air Intake
- Easy Service
- Bottom or Rear Return Air
- Automatic or Fixed Fan Speed Control
- Wired or Wireless Remote Control
- Built-in Drain Pump – 20 Inch Lift
- "ECO Friendly" R410A Refrigerant

### Conclusion:
A perfect application for longer duct run installations.
Panasonic’s 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™ unit, enabling it to live with the soul of the ECOi™ unit, the control is the gateway. No outside specialists required, it’s an all-in-one solution for you.

### part number | description
---|---
CZ-RTC2 | wireless remote controller — use for MF, MM, ME, MP, MR, and MF models
CZ-RWSC1U | wireless remote controller — use for CT models
CZ-RWST1U | wireless remote controller — use for MD and MT models
CZ-RWSY1U | wireless remote controller — use for MF models
CZ-RWSK1U | wireless remote controller — use for MK models
CZ-RWSC1U | wireless remote controller — use for MF, MM, ME, MP, MR, and MF models
CZ-CSWKC1U | standard remote controller — use with all indoor units
CZ-CSWGC1U | standard remote controller — use with all indoor units
CZ-CSWAC1U | standard remote controller — use with all indoor units
CZ-CSWBC1U | standard remote controller — use with all indoor units
CZ-CSWKC1U | standard remote controller — use with all indoor units
CZ-CSWGC1U | standard remote controller — use with all indoor units
CZ-CSWAC1U | standard remote controller — use with all indoor units
CZ-CSWBC1U | standard remote controller — use with all indoor units

Panasonic’s standard remote with 7 Day Timer is perfectly suited for those requiring more programmed management over multiple zones. Simple remotes offer control where minimal functionality is best suited for those inside. Panasonic’s 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.

### 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**
- **Operating Mode**
- **Inspection/Test Indication**
- **Remote Can Be Configured To Sense Temperature**

Panasonic’s wireless remote controls offer more than comfort. They enable the user to truly take control of the entire system, from mode, temperature, airflow, and system diagnosis, all through an easy-to-read liquid crystal display. 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**
- **Operating Mode**
- **Inspection/Test Indication**
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Simple remotes offer control where minimal functionality is best suited for those inside. Panasonic’s 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.

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- **Fan Speed Control**
- **Timer Mode Start/Stop**
- **Operating Mode**
- **Inspection/Test Indication**
- **Remote Can Be Configured To Sense Temperature**

Panasonic’s wired remote controls offer multiple conditioning solutions to meet the needs of any project.
**Panasonic Control System**

**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

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

---

**LONWORKS INTERFACE**

**Single Point of Control**


**Network Diagram**

---

**Control Systems**

**Multiple Zone Controllers**

**The Heart and Soul of Conditioning.**

**Key Features (System Control):**
- Controls up to 64 units into 4 individualized zones
- Alarm and Operational Signal Output
- Single Access Points for All Connected Wired Remotes
- System Control Timer Available

**Controls up to 256 Indoor Units**

**Key Features (Intelligent Control):**
- 6.5 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
- Offers a maximum installation of two system controls (one main, one sub)
- 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

Panasonic’s system and intelligent controllers are the central nervous system to the conditioning system. The gateway to all data, temperature and system diagnostics.
**ACCESSORIES ECOi™ SYSTEM**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-P160UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 2 Pipe Indoor Unit Piping - Up to 76,400 BTUs</td>
<td>APR-R180UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 2 Pipe Indoor Unit Piping - 76,500 to 153,000 BTUs</td>
</tr>
<tr>
<td>APR-R135UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 2 Pipe Indoor Unit Piping - 225,200 to 460,700 BTUs</td>
<td>APR-CHR135UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used to Connect Multiple 2 Pipe Outdoor Units - 225,200 to 460,700 BTUs</td>
</tr>
<tr>
<td>APR-R224UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - Up to 307,100 BTUs</td>
<td>APR-P680UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - 76,500 to 232,000 BTUs</td>
</tr>
<tr>
<td>APR-R213UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - 232,200 to 460,700 BTUs</td>
<td>APR-P135UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - Up to 76,400 BTUs</td>
</tr>
<tr>
<td>APR-CHR290UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used to Connect Multiple 3 Pipe Outdoor Units - Up to 307,100 BTUs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**3-Way Distribution Kits (cut to fit)**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-R224UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - Up to 307,100 BTUs</td>
</tr>
<tr>
<td>APR-P680UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - 76,500 to 232,000 BTUs</td>
</tr>
<tr>
<td>APR-P135UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used with 3 Pipe Indoor Unit Piping - 232,200 to 460,700 BTUs</td>
</tr>
<tr>
<td>APR-CHR290UK</td>
<td>DISTRIBUTION JOINT KIT CUT TO FIT Used to Connect Multiple 3 Pipe Outdoor Units - Up to 307,100 BTUs</td>
</tr>
</tbody>
</table>

**3-Way Solenoid Valve Kits**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ-P16HR1U</td>
<td>SOLENOID VALVE KIT Total Indoor Capacity of 19,100 to 54,800 BTUs (for 3 Pipe System)</td>
</tr>
<tr>
<td>CZ-F56HR1U</td>
<td>SOLENOID VALVE KIT Total Indoor Capacity of Less than 19,000 BTUs (for 3 Pipe System)</td>
</tr>
</tbody>
</table>

**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

**Mini Condensate Pumps**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASP-MA115</td>
<td>115 VOLT MINI AQUA ASPEN CONDENSATE PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>ASP-MA290</td>
<td>230 VOLT MINI AQUA ASPEN CONDENSATE PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>ASP-ML115</td>
<td>115 VOLT MINI LIME ASPEN CONDENSATE PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>ASP-ML290</td>
<td>230 VOLT MINI LIME ASPEN CONDENSATE PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>ASP-MO115</td>
<td>115 VOLT MINI ORANGE ASPEN PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>ASP-MO290</td>
<td>230 VOLT MINI ORANGE ASPEN PUMP Max. 26’ Lift, 3.7 GPH @ 0 Lift, 0.8 GPH @ 26’</td>
</tr>
<tr>
<td>CZ-FDU1U</td>
<td>FRESH AIR CHAMBER For Use With S-24MU1U6 and S-36MU1U6 Indoor Units Only (Requires CZ-ATU1U)</td>
</tr>
</tbody>
</table>

**460 Transformers**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC-196674</td>
<td>480V TO 230V, 11 KVA TRANSFORMER For Use With 72,000 @ 80% Eff @ 3 Phase Outdoor Unit</td>
</tr>
<tr>
<td>ACC-196679</td>
<td>480V TO 230V, 14 KVA TRANSFORMER For Use With 95,000 @ 80% Eff @ 3 Phase Outdoor Unit</td>
</tr>
</tbody>
</table>

**SERVICES ECOi™ SYSTEM**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>623 303 9831</td>
<td>For Checker Service &amp; diagnostics tool for all ECOi and Panasonic Splits greater than 26,000 BTUs</td>
<td>APR-SC-4</td>
<td>ECO COMMISSIONING (Per normal business day, up to 24 tons)</td>
</tr>
<tr>
<td>SC-1</td>
<td>COMMISSIONING OF INTELLIGENT CONTROLLER (Base fee for each Intelligent Controller)</td>
<td>SC-INDOOR</td>
<td>COMMISSIONING OF INTELLIGENT CONTROLLER (Indoor Units)</td>
</tr>
<tr>
<td>SC-LW-1</td>
<td>COMMISSIONING OF LONWORKS INTERFACE MODULE (Base fee)</td>
<td>PP-SC-1</td>
<td>COMMISSIONING OF INTELLIGENT BACnet INTERFACE (Base fee for each BMS-CTRL 1)</td>
</tr>
<tr>
<td>PP-SC-INDOOR</td>
<td>COMMISSIONING OF INTELLIGENT BACnet Interface (Indoor Units fee)</td>
<td>CA-SC-1</td>
<td>COMMISSIONING OF COMMUNICATIONS ADAPTER (Base fee for each Comm. Adapter)</td>
</tr>
<tr>
<td>CA-SC-INDOOR</td>
<td>COMMISSIONING OF COMMUNICATIONS ADAPTER (Indoor Units fee)</td>
<td>SC-INDOOR</td>
<td>COMMISSIONING OF STAMS MANAGEMENT SYSTEM (Base fee for each overall system)</td>
</tr>
<tr>
<td>STAIMS-SC-1</td>
<td>COMMISSIONING OF STAMS MANAGEMENT SYSTEM (Indoor Units fee)</td>
<td>STAIMS-SC-1</td>
<td>COMMISSIONING OF STAMS MANAGEMENT SYSTEM (Indoor Units fee)</td>
</tr>
<tr>
<td>AC-SC-1</td>
<td>PROGRAM 2-WAY SYSTEM TO ENABLE AUTO CHANGEOVER OF MODE (Base fee / Indoor Units fee)</td>
<td>AC-SC-INDOOR</td>
<td>PROGRAM 2-WAY SYSTEM TO ENABLE AUTO CHANGEOVER OF MODE (Indoor Units fee)</td>
</tr>
<tr>
<td>IPO-SC-1</td>
<td>PROGRAM &quot;GREATEST INDOOR POWER OFF FAILURE&quot; FOR 2-WAY SYSTEM (Base fee / Indoor Units fee)</td>
<td>IPO-SC-INDOOR</td>
<td>PROGRAM &quot;GREATEST INDOOR POWER OFF FAILURE&quot; FOR 2-WAY SYSTEM (Indoor Units fee)</td>
</tr>
<tr>
<td>CNBH</td>
<td>COMMISSIONING COMPLETED DURING NON-BUSINESS HOURS OR NON-BUSINESS DAYS</td>
<td>COUS</td>
<td>ALL COMMISSIONING OF SYSTEMS OR COMPONENTS OUTSIDE CONTINENTAL U.S.</td>
</tr>
<tr>
<td>RP-SIT-1</td>
<td>TRAINING - MINI SPLIT SYSTEMS 1 class per day at Customer Location</td>
<td>RP-SIT-2</td>
<td>TRAINING - MINI SPLIT SYSTEMS 2 classes / same location / same day</td>
</tr>
<tr>
<td>ECO-SIT</td>
<td>TRAINING - ECOi INSTALLATION AND COMMISSIONING TRAINING (at customer location)</td>
<td>TOUS</td>
<td>TRAINING (Conducted outside of the Continental U.S.)</td>
</tr>
<tr>
<td>ECO-SIT-4</td>
<td>TRAINING (On-Site Supervised ECOi installation training)</td>
<td>ECO-SIT-NR</td>
<td>TRAINING (Supervised installation On-Site training where attendee's did not show up against spec)</td>
</tr>
<tr>
<td>ECO-SIT-OS</td>
<td>TRAINING (Supervised installation Training Outside Continental U.S.)</td>
<td>ECO-SERT</td>
<td>ECOi SERVICE TRAINING (at customer location)</td>
</tr>
<tr>
<td>ECO-SIT-OS</td>
<td>Training - CONNEXION TRAINING (at customer location)</td>
<td>TOUS</td>
<td>TRAINING (Conducted outside of the Continental U.S.)</td>
</tr>
<tr>
<td>3YR Parts</td>
<td>3 Year Parts</td>
<td>1 Year Compressor</td>
<td>WARRANTY</td>
</tr>
</tbody>
</table>
Part load performance of commercial HVAC systems was represented as Integrated Part Load Performance (IPLP) which was used until January 1, 2010. Then a new methodology was adopted and defined as Integrated Energy Efficiency Ratio (IEER).

IEER = 0.02 * A + (0.817 * B) + (0.238 * C) + (0.125 * D)

Where as:

A = EER at 100% net capacity at AHRI standard condition (95 deg F)
B = EER at 75% net capacity and reduced ambient (85 deg F)
C = EER at 50% net capacity and reduced ambient (85 deg F)
D = EER at 25% net capacity and reduced ambient (85 deg F)

Example:

A = 11.0 EER    B = 16.0 EER    C = 19.0 EER    D = 23.0 EER

IEER = 0.9 + 9.8 + 4.5 + 2.9 = 17.4 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 most simplistic form IEER is calculated by operating the system at 4 different capacities and applying a formula. The basic calculation is as follows:

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 EER rating depending upon equipment sizing, environment and use of the system.

Some points to recognize from this calculation:

IEER = (0.02 * 11) + (0.817 * 16) + (0.238 * 19) + (0.125 * 23)

A = EER at 100% net capacity at AHRI standard condition (95 deg F)
B = EER at 75% net capacity and reduced ambient (85 deg F)
C = EER at 50% net capacity and reduced ambient (85 deg F)
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Integrated Energy Efficiency Ratio (IEER).

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

Usage
- The air conditioners listed herein are only for cooling/heating areas used by people. Do not use the unit for foods, animals, plants, precision machines, works of art or other objects. Doing so may cause damage to the unit. Do not use the unit for vehicles or vessels. Doing so may cause unit water leakage and short circuiting.
- Requires a qualified technician/installer to install the air conditioner. Improper self-installation may result in water leakage, electric shock or fire.
- When installing in a small room, take measures to keep refrigerant leakage within acceptable density limits, as outlined by local/national safety code requirements.
- Do not install where inflammable gas may leak or inflammable objects exist. Do not install where there is any inflammable gas emission, inflow or leftover, or where carbon fibers are in the air. This could be the cause of fire.
- Please read the Operating Instructions carefully and use the air conditioner properly.

Location
- Blocking air intake or outlet can be the cause of trouble including the loss of air flow power, or short-cycled air emission drawn into the intake. Be sure to install in an airy place.

Avoid Installation in Highly Humid Locations
1. Avoid installation where the humidity is excessive. This causes condensation during cooling.
2. Installation in a room where the temperature and humidity are high around the ceiling due to sunlight will result in condensation. Use insulation or take other preventive measures to block the sunlight.

Exposure to Oil
- Avoid installation where there is exposure to oil or soot (such as in kitchens or machinery plants). Oil will adhere to the heat exchange. This will lower heat exchange performance, emit mist, or deform or damage synthetic resin parts.

Cleaning
- After using the air conditioner for several seasons, the insides become dirty and this results in low performance. In addition to regular cleaning, a maintenance contract with a service person is recommended.

Features of Heat Pump Heating
- Heating power (kW) indicated in the catalog is based on the following conditions: outdoor temperature of 47°F (DB) and indoor temperature of 70°F (DB), as specified by ARI. Heating capacity decreases as outdoor temperature drops. Therefore, if heating power is insufficient due to low outdoor temperature, use the air conditioner together with other heating equipment. When heated air rises and collects in a room with a high ceiling, install an air circulator as well.

Operation Range
- Outdoor Air Intake Temperature:
  - Cooling: 14 ~ 113°F (DB)
  - Heating: 4 ~ 59°F (WB)

Noise Emissions
- The noise emission rate indicated in the catalog shows values (A scale) measured in an anechoic chamber. In actual installation conditions, noise emission is generally greater than the indicated rate due to surrounding noise and echoing.

Odor Emissions
- Even though an air conditioner does not contain odor-emitting parts, discharged air can, in certain conditions, have an unpleasant odor. This is the result of odorous particles such as ones from smoke, cosmetics, and foods, affixing themselves to the air conditioner. Although the odor does not affect the performance, cleaning the air filter and the inside of the air conditioner is recommended.

Noise Caused by Electromagnetic Waves
- When installing near equipment that emits electromagnetic waves, be sure that the air conditioner does not suffer noise damage.

Remote Control Wiring
- For remote control wiring and control wiring between indoor units, do not install with the power wiring (208/230V) in the same tube nor wherever power wiring exists. Doing so may cause a malfunction.

Do not install an air conditioner in a room where the limit density will be exceeded if refrigerant leaks. The refrigerant (R410A) used by this system is itself a safe refrigerant; however, if for some reason the refrigerant leaks and the limit density is exceeded, there is a risk of injury to persons due to a lack of oxygen. For further information, ask your dealer or consult references such as an engineering manual to ensure you install the air conditioner correctly.

Dealer Network Courses: panasonic.learnerhall.com/publicportal.asp
ECOi Web Based Dealer Training Video: panasonic.com/airconvideos
- Includes ECOi Installation & Commissioning procedures and much more.

For further information and training or to request additional product catalogs, please contact:

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Web: www.panasonic.com/aircon