

CITY MULTI® CATALOG

VARIABLE REFRIGERANT FLOW ZONING SYSTEMS



MITSUBISHI ELECTRIC IS A WORLD LEADER IN PRODUCTS THAT HELP PEOPLE LIVE BETTER.

When it comes to providing personalized comfort in every room of every building, we are here to help. No other company is as committed to creating environmentally friendly and affordable technology that's ideal for today's home and work environments no matter the size or shape.

QUALITY

Mitsubishi Electric is consistently recognized by HVAC contractors as the #1 preferred brand with the highest quality rating among manufacturers. With over 30 years of industry leadership, we are proud to be America's #1 selling brand of variable refrigerant flow (VRF) zoning technology.

PERFORMANCE

We deliver a complete range of compact and powerful cooling and heating products that are also intelligent, energy-efficient and quiet.

TRAINING

We provide comprehensive product and applications instruction through our regional training centers across the United States.

SUPPORT

We offer the most experienced sales, engineering and service professionals, national TV and digital campaigns, co-op and advertising assistance, social media exposure and training, and apps for iPhone and iPad.

GROWTH

Our products and services provide opportunities for architects, engineers, distributors and contractors to enhance and grow their businesses. With nearly 20 years of consistent double-digit percentage growth, we continue to lead the market's growth acceleration.

AMERICA'S #1 SELLING BRAND OF VRF ZONING TECHNOLOGY

TABLE OF CONTENTS

Overview	of CITY	MULTI®			5
----------	---------	--------	--	--	---

OUTDOOR UNITS

Outdoor Units Showcase10	
R2-Series Overview12	
Y-Series Overview	
H2i TM Y-Series Overview18	
S-Series (PUMY) Overview20	
W-Series Overview	
Low Ambient Cooling24	

INDOOR UNITS

Indoor Units Overview	30
PKFY (Wall-mounted)	31
PLFY (4-way Ceiling-recessed Cassette)	32
PMFY (1-way Ceiling-recessed Cassette)	34
PCFY (Ceiling-Suspended)	35
PEFY (Ceiling-concealed Ducted)	36
FBM/FBL/FBH Filter Boxes	
PFFY (Floor-standing)	
PVFY (Vertical Ducted)	40
PWFY (Hydronic Heat Exchanger)	41

Centralized Controller AG-150
Centralized Controller GB-50ADA53
Centralized Controller GB-2454
Centralized Controller TC-24
Input/Output Control Boards
Zone Controllers
iPhone Mobile Application
System Integration
Maintenance Tool Software61
Diamond System Builder
SPECIFICATIONS64

VENTILATION

Lossnay [®] Energy Recovery Ventilators (ERVs)44
Dedicated Outdoor Air System (DOAS)45

CONTROLS AND SOFTWARE TOOLS

CITY MULTI [®] Controls Network48	
TG-2000 Integrated System Software	
Software Options for Central Controllers50	

JOHN C. STENNIS MEMORIAL HOSPITAL DEKALB, MS

. 1

I II

THEORY OF THE TRADUCED CONTROL OF THE TRADUCED CONTROL

PRODUCT OVERVIEW

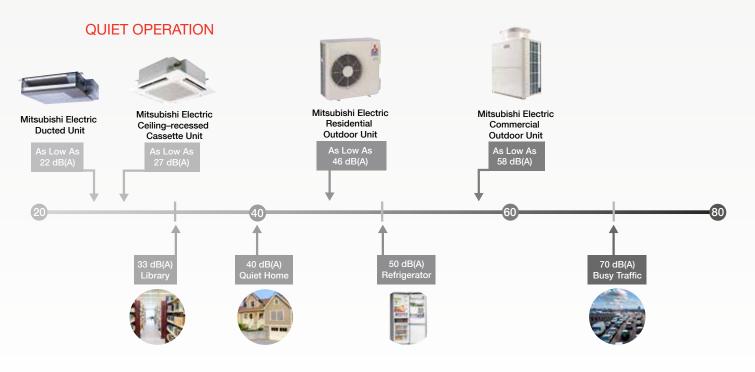
WHY CITY MULTI® VRF ZONING SOLUTIONS?

As a global leader in VRF zoning solutions, you can trust that you're getting the most advanced technology and dedicated support in the industry.

ADVANTAGES CITY MULTI OFFERS:

- **Ultra efficient design** to ensure total comfort in any commercial space
- Advanced INVERTER technology varies the speed of the compressor for more efficient cooling and heating
- **Complete zoning control** so you heat and cool the areas that need it without paying for the ones that don't
- **Design flexibility** for any application, from modern designs to historic renovations

- **Complete product family** to handle every job from the smallest spaces to the largest buildings and campuses
- **Green technology** that contributes to LEED credits and saves energy
- Quiet operation that's even softer than a human whisper
- **Simultaneous operation** to cool and heat with just two pipes



PRODUCT OVERVIEW

Mitsubishi Electric offers an extensive outdoor air-source and water-source unit line-up that can be tailored to any building design need.









S-Series



WATER-SOURCE **HEAT RECOVERY**



WY-Series

WATER-SOURCE HEAT PUMP

AIR-SOURCE HEAT RECOVERY

Y-Series

AIR-SOURCE HEAT PUMPS



INDOOR UNITS

Mitsubishi Electric's wide selection of indoor units enables you to choose the style and size that meets your requirements for layout and design.



PKFY Wall-mounted



PLFY-NBMU (33"x33") PLFY-NCMU (22"x22") Ceiling-recessed Cassette (4-Way)



PMFY Ceiling-recessed Cassette (1-Way)



PWFY-P36/72NMU-E-AU (HEX) PWFY-P36NMU-E-BU (Booster) Hydronic Heat Exchanger



PFFY-NEMU Exposed PEFY-NRMU Concealed Floor-standing



PCFY Ceiling-suspended



PEFY-NMSU Low Profile PEFY-NMAU Medium Static PEFY-NMHU /NMHSU High Static Ceiling-concealed Ducted

PVFY Vertical Ducted

CITY MULTI® CONTROLS NETWORK (CMCN)

The flexibility of CITY MULTI controls allows you to select the level of control and integration that suits your needs.

CENTRAL CONTROLLERS



AG-150 Touch Screen Centralized Controller (Browser Capable)



Centralized Controller (Browser Capable)



GB-24 Centralized Controller (Browser Capable)



TC-24 Touch Screen Centralized Controller

ZONE CONTROLLERS



meZO iPhone App



PAR-30MAAU Remote Controller



PAR-FL32MA Wireless Remote



PAC-YT53CRAU Simple Remote

CUSTOM CONTROL SOLUTIONS



I/O Control Boards



LonWorks® Interface



BACnet[®] Interface



TG-2000[™] Integrated System Software

PRODUCT ADVANTAGES

R2-Series / Y-Series / H2i™ Y-Series

CITY MULTI[®] HIGH PERFORMANCE, MODULAR VRF ZONING SYSTEMS

CITY MULTI outdoor units feature a lightweight modular design with a smaller footprint, lower sound level, easy piping, maintenance and much more.

1. INVERTER-DRIVEN COMPRESSOR TECHNOLOGY

The compressor varies its speed to match the indoor cooling or heating demand to consume only the energy that is required. No other compressor design can match the efficient performance.

2. EASY MAINTENANCE

In many cases, our systems allow an indoor unit to be serviced while other indoor units within the same piping system are still in operation. Indoor units only require periodic filter changes and cleaning. Optional blue fin treatment (-BS) provides longer coil life with enhanced protection in sea coast environments.

3. LONGER LINE LENGTH

The R2- and Y-Series outdoor units allow for increased line lengths to the connected indoor units. Maximum combined 1-way piping lengths can be up to a total combined length of refrigerant piping up to 2,624 feet for R2–Series and up to 3,280 feet for Y–Series.

4. ADJUSTABLE STATIC PRESSURE

R2–, Y– and H2i[™] Y–Series outdoor fan features adjustable static pressure up to 0.24" WG, enabling the use of louvers or ductwork in its installation. The static pressure setting is adjustable by changing a dip switch. The default setting is 0" W.G. with options 0.12" and 0.24" W.G.

5. QUIET OPERATION

CITY MULTI outdoor units operate at sound levels as low as 58 dB(A)—the level of a common office environment, restaurant conversation or background music. Contributing features include our INVERTER-driven compressor compartment sealed by metal panels lined with insulation, vibration absorbing compressor mounts, INVERTER-driven fan and Low Noise operating mode.

LOW AMBIENT OPERATION

CITY MULTI systems provide 100% cooling capacity down to -10° F with the optional low ambient kit. Systems provide guaranteed heat down to -13° F (requires H2i Y-Series).

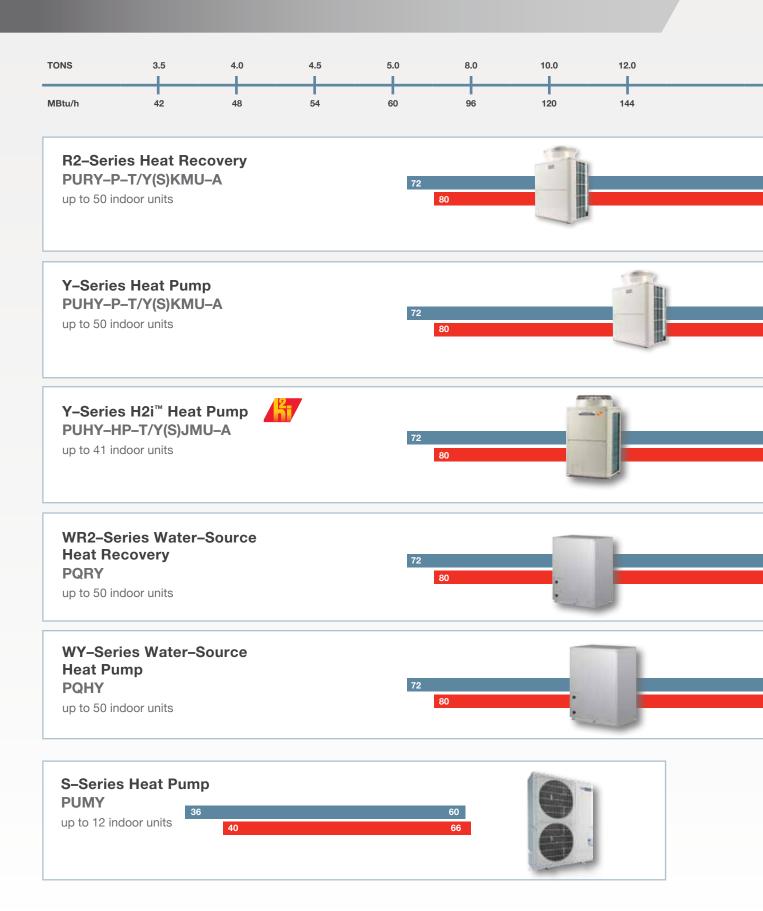




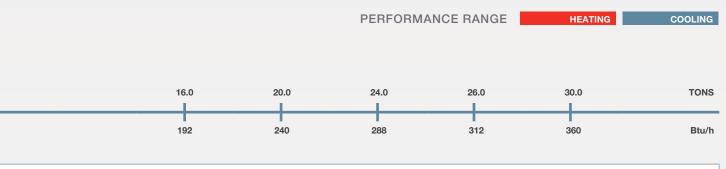
OUTDOOR UNITS

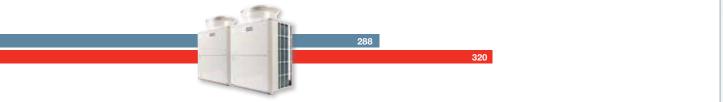
R2-Series / Y-Series / H2i™ Y-Series / S-Series / W-Series

OUTDOOR UNITS SHOWCASE















TOWSON UNIVERSITY TOWSON, MD

R2-SERIES

The only two-pipe heat recovery system that simultaneously cools and heats

The R2-Series simultaneously cools and heats different zones within a building to provide energy-saving heat-recovery operation through the use of the Branch Circuit (BC) Controller.



KEY FEATURES

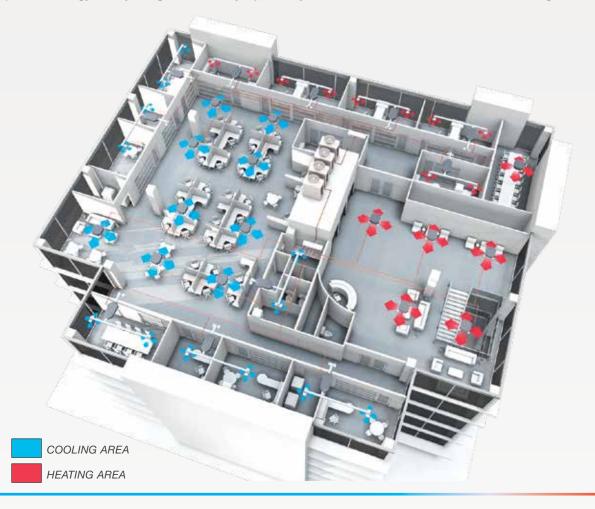
- Heat recovery cools one zone while heating another
- Available in both 208/230V and 460V, up to 24 tons
- Supports up to 50 indoor units per outdoor unit
- INVERTER-driven compressor for outstanding performance and optimized energy usage
- Uses a two-pipe system for increased installation savings
- Total pipe length: 2,624 feet
- 50%-150% connectable capacity

Refrigerant Piping Lengths (Maximum Feet)	
Total Length (Maximum Total Length is dependent on the outdoor unit model and distance between BC Controller)	1,804–2,624
Farthest Indoor from Outdoor	541 (623 equivalent)
Maximum Length between Outdoor & Single/Main BC Controller	360
Maximum Length between Single/Main BC Controller & Indoor	131–196
Vertical Differentials Between Components (Maximum Feet)	
Indoor/Outdoor (Outdoor Higher)	164
Indoor/Outdoor (Outdoor Lower)	131
Indoor/BC Controller (Single/Main) (Maximum length between single/main BC Controller and indoor is dependent upon the vertical differential between the single/main BC Controller and the indoor unit)	49
Indoor/Indoor	49
	49

benefits

SIMULTANEOUS OPERATION

CITY MULTI[®] VRF zoning systems provide simultaneous cooling and heating any time of year. This innovation optimizes energy use by using heat normally rejected by the condenser to be used within the building.





BRANCH CIRCUIT Controller

The BC Controller is the technological heart of the CITY MULTI® R2–/WR2– Series. It works in unison with the outdoor unit to provide simultaneous cooling and heating, something no other two–pipe system can do.

Single BC Controller:

Used when only one BC Controller is required. For systems with up to 120,000 Btu/h nominal cooling capacity.

Main BC Controller:

For systems with up to 288,000 Btu/h nominal cooling capacity and when use of Sub BC Controllers is desired.

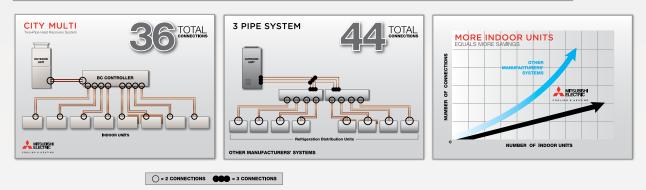
Sub BC Controller:

Used with a Main BC Controller to connect additional indoor units. A maximum of two Sub BC Controllers can be connected to one Main BC Controller per system.

THE TWO-PIPE ADVANTAGE

Provides simultaneous cooling and heating with just two pipes, something no other VRF manufacturer can do. As the number of indoor units grow, so do the two–pipe installations savings, in terms of connections (refrigerant and electrical) as well as maintenance access.

FEWER CONNECTIONS REQUIRED FOR SIMULTANEOUS OPERATION

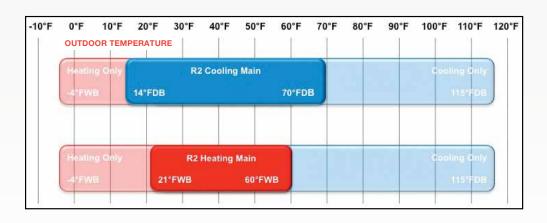


EFFECTIVE ENERGY USAGE

The total applied capacity of the R2–Series system's indoor units can be up to 150% of the capacity of the outdoor unit. This is made possible by taking advantage of load diversity and simultaneous cooling/heating operation. CITY MULTI VRF zoning systems can satisfy a significantly higher building load by efficiently distributing the capacity to the outdoor unit and indoor units while using much less energy. CITY MULTI systems, in combination with Mitsubishi Electric's TG-2000 integrated system software configured with Tenant Billing, are able to monitor and log each zone's energy usage via a networked PC.

MODULAR SCALABILITY

With the Twinning Kit accessory, the modular units easily combine in the field to create a larger capacity system. Only two refrigerant pipes need to be twinned, saving time and materials. Oil and pressure equalization lines aren't needed when combining modules. This also helps to reduce installation cost.



SIMULTANEOUS OPERATING RANGE

Y-SERIES

Two-pipe zoned system designed for heat pump operation

Y-Series outdoor units are flexible enough to cool or heat up to 50 individual zones, maximizing building design options. The modular unit design features a small footprint and low operating sound.



KEY FEATURES

- Heat pump that provides either all-cool or all-heat operation
- System supports up to 50 indoor units per outdoor unit
- 50%-130% connectable capacity
- Available sizes: 6-30 tons
- Available in both 208/230V and 460V
- Maximum operating sound: 65 dB(A) for 30-ton condenser
- 100% cooling capacity to -10° F with optional low ambient kit
- Uses T-branches and headers to provide piping design flexibility
- INVERTER-driven compressor for outstanding performance and efficiency

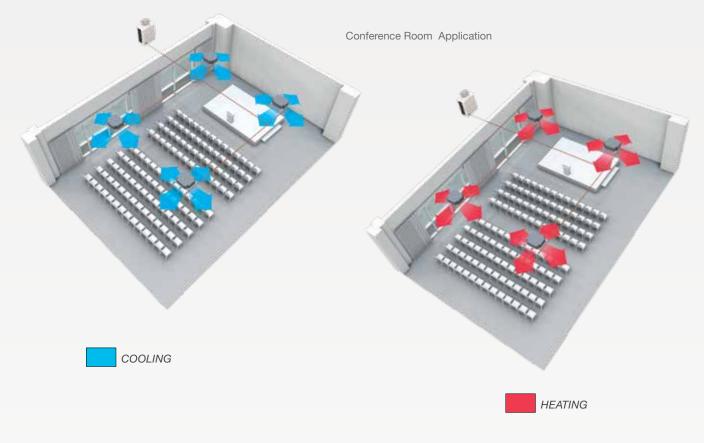
Maximum Refrigerant Piping Lengths (Feet)	
Total Length	3,280
Indoor to Outdoor	541
Indoor to First Branch	295
Vertical Differentials Between Units (Maximum Feet)	
Indoor/Outdoor (Outdoor Higher)	164
Indoor/Outdoor (Outdoor Lower)	131
Indoor/Indoor	98



benefits

ULTIMATE IN ZONING

The CITY MULTI[®] Y–Series uses a two–pipe system with a wide variety of indoor units and individual zone controllers to provide the ultimate zoning system. Headers and T–branches simplify the piping design and provide design freedom for placement of both piping and indoor units. Individual zones are managed by remote controllers placed in each zone or by the centralized controller.



INTELLIGENT ENERGY USAGE

The highly responsive INVERTER technology and customized individual zones of the CITY MULTI Y–Series provide year–round savings. In warm summer months, the Y–Series provides exceptional zoned cooling; and in cold winter months the INVERTER–driven compressor provides outstanding heating performance. CITY MULTI systems, in combination with Mitsubishi Electric's TG–2000 integrated system software configured with Tenant Billing, are able to monitor and log each zone's energy usage via a networked PC.

DESIGN FLEXIBILITY

Flexibility is the key with the CITY MULTI Y–Series. The Y–Series, just like the R2–Series, can condition up to 50 zones intelligently. By using T–branches and headers, the Y–Series provides the ultimate in piping design flexibility that is truly simple in application.

H2i[™] Y-SERIES

Bringing year-round comfort to extreme climates

Hyper-Heating INVERTER (H2i[™]) technology enhances the Y-Series by providing full heating capacity to -4° F outdoor ambient. H2i[™] patent-pending technology is exclusively from Mitsubishi Electric and is available in select CITY MULTI[®] VRF models.



KEY FEATURES

- Heat pump that provides either all-cool or all-heat operation to up to 41 zones
- Available sizes: 6, 8, 12, and 16 ton
- 50-130% connectable capacity
- Extreme performance provides up to 100% heating output at -4° F and 85% heating capacity at -13° F
- Uses T-branches and headers to provide piping design flexibility
- INVERTER-driven compressor for outstanding performance and optimized energy usage
- Connects to CITY MULTI indoor units; controlled via CITY MULTI Controls Network (CMCN)

Maximum Refrigerant Piping Lengths (Feet)	
Total Length	984
Indoor to Outdoor	492
Indoor to First Branch	131
Vertical Differentials Between Units (Maximum Feet)	
Indoor/Outdoor (Outdoor Higher)	164
Indoor/Outdoor (Outdoor Lower)	131
Indoor/Indoor	49



benefits

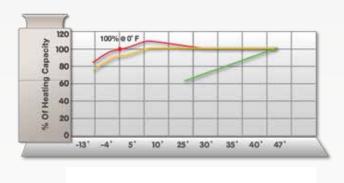
EXTREME HEATING PERFORMANCE

With its expanded heating capabilities, the CITY MULTI[®] H2i Y-Series provides year-round comfort, even in extreme climates.

- At -13° F outdoor temperature, the H2i system can provide 100° F discharge air temperature from the indoor unit.
- At 5° F outdoor temperature and above, the discharge temperature reaches an impressive 110° F with a 40° F temperature rise.
- At start-up, a special circuit assures that normally dormant refrigerant quickly enters the conditioning cycle. This process rapidly increases the mass flow rate in the system, which quickly provides comfortable discharge temperatures from the indoor units.

UNEQUALED COMFORT

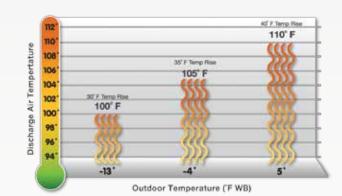
The patented flash injection process cools the compressor, allowing higher speeds at a lower outdoor temperature without overheating. This also allows the system to maintain indoor coil temperatures providing phenomenal heating performance at low temperatures. The Hyper–Heating INVERTER Y–Series combines the ultimate in application flexibility, powerful cooling and heating capabilities to deliver precise comfort control to multiple zones of a commercial or institutional building. The outdoor units deliver full–sized performance from a compact, space–saving design for ease of transportation and installation. The INVERTER–driven scroll compressor delivers the precise amount of comfort to the zones as required.



HYPER-HEATING INVERTER VS. OTHERS

(96,000 Btu/h, 70° F W.B. entering Indoor Unit)

INDOOR UNIT HEATING DISCHARGE TEMPERATURE (PEFY-P24 NMAU-E with 70° F Entering Air)

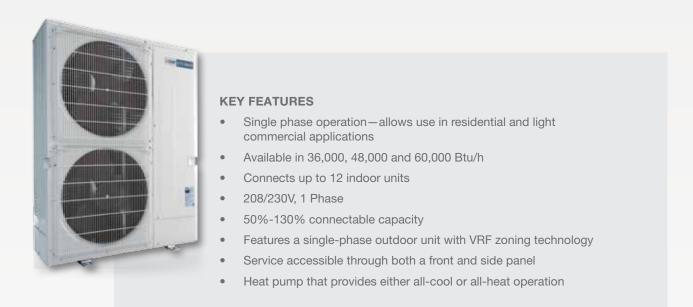


Hyper-Heat (High Heat Setting)
 Hyper-Heat (Standard Setting)
 Traditional Heat Pump Technology

S-SERIES (PUMY)

Solutions for light commercial and large residential

The CITY MULTI[®] S-Series is a single-phase heat pump system perfect for light commercial or large residential applications. It uses the CITY MULTI[®] Controls Network (CMCN) to cool or heat up to 12 individual zones with a choice of indoor unit styles.



Maximum Refrigerant Piping Lengths (Feet)	
Total Length	393
Farthest Indoor from Outdoor	262
Farthest Indoor Unit from First Branch	98
Vertical Differentials Between Units (Maximum Feet)	
Indoor/Indoor (Outdoor Higher)	98
Indoor/Indoor (Outdoor Lower)	65
Indoor/Indoor	39



60°

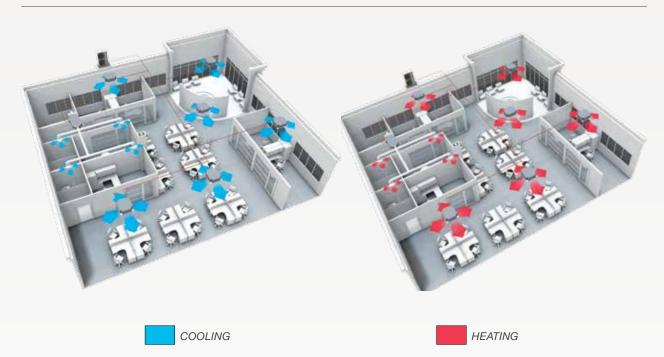
benefits

EASY INSTALLATION AND SERVICE

208/230V provides easy installation in light commercial and residential applications. The unit's compact dimensions and easy accessibility allow multiple units to be stacked side–by–side in tight areas, saving valuable space and resources. The S–Series outdoor can be accessed for service through both a front and side panel.

FLEXIBLE APPLICATIONS

Connect up to 12 indoor units in various combinations using T-branches and headers with a total connecting capacity of up to 130%.



S-SERIES TWO PIPE COOLING OR HEATING SYSTEM

OUT	rdoo	RUN	IT OP	PERAT	TING I	RANG	ES											
				Dutdoor D	ry Dulb Te	mperatur								Outsoor	wet Built Te	mperature		
20*F	30°F	40'F	50'F	60'F	70*F	80*F	90*F	100'F	110°F	120°F	-20°F	-10°F	0°F	10°F	20°F	30'F	40'F	50°F
23	۴	-			5-Series				1157				078	1. 191	i.	s-senes		
23	۹F.	-		R2-1	ieries, Y-S	erics			11977		14		47		R2-Ser	ios, Y-Serier		
23	16			Y-Ser	es Hyper	Heat			115'F			-1319			Y-Se	ies Hyper H	eat	
	1				1.		1,-											

W-SERIES

Modular heat pump systems that combine the convenience of water source with VRF technology

W-Series units are easily installed indoors, which means that system performance efficiency is independent of outdoor ambient temperatures. W-Series includes WR2 models for simultaneous cooling and heating, and WY models for independent cooling and heating operation.



KEY FEATURES

- Modular design up to 30-ton maximum capacity
- 208/230V, 3-Phase, 60Hz and 460V, 3-Phase, 60Hz options
- Designed for closed water loops
- Self-cooling cabinet design
- Inlet water temperature range: 23°-113° F
- Max. Total Refrigerant Piping Length: 984' (P72, 96, 120), 1,640' (P144, 168, 192, 216, 240, 264, 288, 312, 336, 360)
- Connects to CITY MULTI indoor units; controlled via CITY MULTI Controls Network (CMCN)
- External finish: Acrylic-painted steel
- May help qualify for up to a 10% commercial tax credit for the total installed cost of the CITY MULTI geothermal system

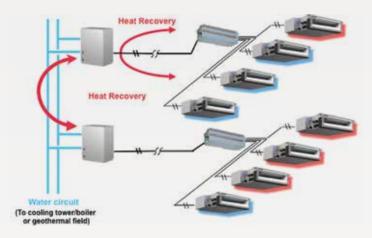
CITY MULTI® SYSTEMS AND GEOTHERMAL APPLICATIONS

CITY MULTI water cooled systems, used in geothermal applications, work by taking heat or rejecting heat from/ to the ground. Closed loop systems accomplish this by circulating water through a series of wells or loops that are installed in the ground, turning the ground into a large heat exchanger. Because the ground remains relatively unaffected by outdoor ambient temperatures, the loop runs at temperatures lower than ambient throughout the cooling season and higher than ambient throughout the heating season.

benefits

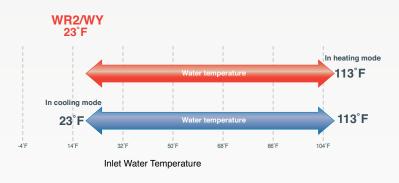
DOUBLE HEAT RECOVERY

The double-heat recovery feature of the WR2–Series helps recover energy that would normally be rejected to the condensing water loop. First, within the system, energy is absorbed in units providing cooling. The energy is redirected by refrigerant to units that are in heating mode. Second, energy can be recovered between systems through the water loop.



EXTENDED TEMPERATURE RANGE

WR2- and WY-Series CITY MULTI® water source units can handle entering water temperatures down to 23° F (with the addition of glycol to the condenser water loop) in both heating and cooling mode allowing more possibilities for geothermal applications. Coupling the water source units with a geothermal loop will not only provide the benefit of higher efficiencies by using a lower entering water temperature, but will also provide all the benefit of an INVERTER–driven CITY MULTI system.



AVAILABLE TAX CREDITS

Coupling the water source units with a geothermal loop will not only provide the benefit of higher efficiencies from the milder loop temperatures, but will also provide all the benefits of an INVERTER-driven CITY MULTI system. The power required by the outdoor units may be reduced by as much as 35% versus air cooled systems.

LOW AMBIENT COOLING

Full cooling performance at extreme conditions

The specially designed wind deflectors will block unwanted wind that could impede operation and will allow full airflow when required at higher ambient temperatures or in heating mode. The assembly also provides a more efficient defrost cycle when the unit is operating in heating mode. Complete Low Ambient Kit requires hood with control damper assembly and wind deflectors.



KEY FEATURES

Allows system to operate at 100% cooling capacity at reduced outdoor temperatures:

- Y–Series Outdoor Units–(down to –10° FDB Outdoor Temp.)
- R2–Series Outdoor Units–(down to –10° FDB Outdoor Temp.)

ADDITIONAL FEATURES

- Hood and wind deflectors constructed of 20 gauge Hot–dipped galvanized G–90 steel
- · Heavy-duty polyester-based powder paint finish
- Designed to work with both 208/230 and 460V 3-phase units
- NEMA 4X control box protects electrical components from the elements
- Kit easily connects to outdoor unit with plug-in electrical connections
- · Wind deflectors easily install in place of existing wire guard

APPLYING TO MULTIPLE OUTDOOR UNIT(S)

For outdoor units with multiple modules, a minimum 1–3/16" separation between the modules is recommended. If modules are placed more than 15" apart, more than one set of side wind deflectors may be needed. For multiple units or module sets placed in a row, only one side wind deflector is needed to cover the two outside module coil surfaces.

INDOOR UNITS



INDOOR UNITS

5.00

T

PKFY Wall-mounted / PLFY Cassette / PMFY Cassette / PCFY Ceiling-suspended / PEFY Ceiling-concealed Ducted / PFFY Floor-standing / PVFY Vertical-concealed

INDOOR UNITS

Complete Building Comfort Solutions

All models are quiet, easy to maintain and provide the ultimate in comfort. The chart below gives the capacity size for each model.

Capacity Code						No	minal Bt	u/h					
	6,000	8,000	12,000	15,000	18,000	24,000	27,000	30,000	36,000	48,000	54,000	72,000	96,000
Wall-mounted PKFY-P-N*MU-E	•	•	•	•	•	•		•					
Ceiling-recessed Cassette (4-way) PLFY-P-NBMU			•	•	•	•		•	•				
Ceiling-recessed Cassette (4-way) PLFY-P-NCMU		•	•	•									
Ceiling-recessed Cassette (1-way) PMFY-P-NBMU	•	•	•	•									
Ceiling-suspended PCFY-P-NKMU				•		•		•	•				
Ceiling-concealed (Ducted Low-Profile) PEFY-P-NMSU	•	•	•	•	•	•							
Ceiling-concealed (Ducted) PEFY-P-NMAU	•	•	•	•	•	•	•	•	•	•	•		
Ceiling-concealed (Ducted High-Static Option) PEFY-P-NMHU / NMHSU				•	•	•	•	•	•	•	•	•	•
Floor-standing (Exposed/ Concealed) PFFY-P-NEMU / NRMU	•	•	•	•	•	•							
Vertical-concealed Ducted PVFY-P-E00A			•		•	•		•	•	•	•		
PWFY-P-NMV-E-AU PWFY-P-NMV-E-BU									•			-AU only	

PKFY (Wall-mounted)

Elegant design and compact dimensions

Whatever the size or shape of your room, there's a Mitsubishi Electric PKFY wall-mounted unit that is just right for you. PKFY units mount high on the wall and blend beautifully into any space. Perfect for hotels, assisted living facilities, offices, residences and other applications where wall space is available.

KEY FEATURES

- Ranges from 6,000 to 30,000 Btu/h
- Compact, lightweight and features a built-in wireless sensor for use with an optional wireless remote controller
- Extremely quiet: as low as 32 dB(A)
- Auto-vane (on models P12, P15, P18) features deliver optimal air distribution and uniform temperatures throughout your space
- Front panel opens easily-no tools are needed to gain access to the filter
- Refrigerant and drain piping can be connected from the rear, right, base, or left of the unit

benefits

EASY FILTER CLEANING

The front grille hinges open easily-no tools are needed to gain quick access to the filter. The filter can be removed and cleaned as needed.

QUIET OPERATION

The unit incorporates a random–pitch fan to assure quiet operation. The optimal design of the airflow passage features a small fan diameter to allow for a compact installation. Thanks to practical casing configuration, airflow generated by the fan is distributed uniformly.

SUPERIOR AIR DISTRIBUTION

A user-selectable vane swing setting with PAR-30MAAU and PAC-YT53CRAU remote- controllers enhances air distribution in the conditioned space.

FLEXIBLE INSTALLATION

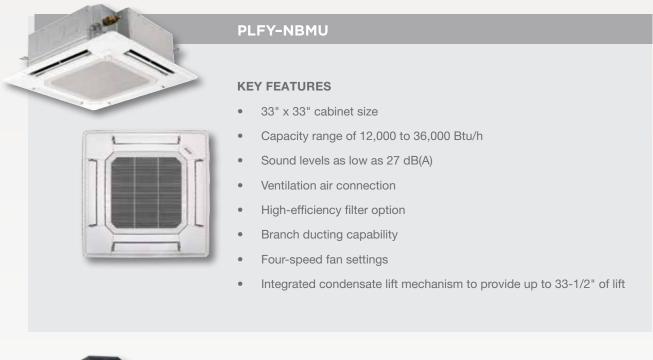
Refrigerant and drain piping can be connected from the rear, right, base, or left of the unit, providing much greater flexibility for piping and selecting an installation site.



PLFY (4-way Ceiling-recessed Cassette)

Adjustable airflow to meet your needs

The PLFY-Series four-way ceiling-recessed cassette provides exceptional performance and air coverage. Two styles are available: the PLFY-P-NBMU and the PLFY-P-NCMU.





PLFY-NCMU

KEY FEATURES

- 22" x 22" cabinet size to fit in standard T-grid ceiling
- Capacity range of 8,000 to 15,000 Btu/h
- Sound levels as low as 29 dB(A)
- Ventilation air connection
- Four-speed fan settings
- Integrated condensate lift mechanism to provide up to 19-11/16" of lift

benefits

HIGH PERFORMANCE AND VERSATILITY

The four–way cassette unit is compact and recesses easily into a ceiling space, so all you see is an attractive flush–mounted grille. The PLFY–NBMU has a unit height of only 10-1/4" or 11-3/4", depending on the model. At only 8-3/16" in height and only 22-7/16" x 22-7/16" width, the PLFY–NCMU makes accessing even the tightest of ceiling installations a possibility.

QUIET OPERATION

This powerful indoor unit is whisper–quiet, down to 27 dB(A) for the PLFY–NBMU and 29 dB(A) for the PLFY–NCMU.

CUSTOMIZE THE AIRFLOW PATTERN TO MEET YOUR NEEDS

The different airflow options provide the best solution for a variety of room layouts and air–conditioning requirements. For extra versatility, you can select up to 72 airflow patterns with two–, three–, or four–way airflow.

BUILT-IN CONDENSATE LIFT MECHANISM

The drain piping of the PLFY–NBMU can be positioned anywhere up to 33-1/2" from the ceiling's surface, allowing for long piping and versatility. The PLFY–NCMU model has a built–in pump that lifts condensation 20" from the ceiling's surface. The unit recognizes if there is a pump failure and safeguards against leaks.

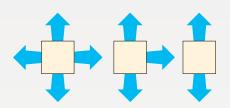
CORNER-POCKET DESIGN SIMPLIFIES MAINTENANCE AND INSTALLATION

PLFY–NBMU allows access through the pockets equipped on each of four corners of the grille to complete installation, maintenance work, and height adjustment.

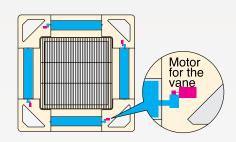
EASY MAINTENANCE, LONG-LIFE FILTER

The washable filter provides about 2,500 hours of use in a normal office environment before cleaning is needed.





FIXED AIRFLOW DIRECTION PER VANE



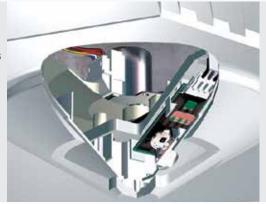
INDEPENDENT VANE MOTOR CONTROL



X Î-see Sensor™

This amazing technology constantly monitors and adjusts temperatures for maximum comfort and efficiency.

- Measures infrared rays generated from surrounding walls and surface angles
- Rotates 90 degrees slowly in five second intervals
- Efficiently adjusts temperatures to ideal comfort levels for occupants



PMFY (1-way Ceiling-recessed Cassette)

Compact and lightweight, perfect for office spaces with windows

The PMFY model is a ductless, one-way, ceiling-recessed cassette that moves air in one direction, and has the capability of introducing ventilation air.



Capacity Range: 6,000–15,000 Btu/h

KEY FEATURES

- The PMFY is available in 6,000, 8,000, 12,000 and 15,000 Btu/h
- Standardized cabinet size for all models: 31-31/32"
- Airflow control technology operates as low as 27 dB(A) for industryleading quiet performance
- Integrated condensate lift mechanism to provide up to 23 5/8" of lift
- Full unit access through front cover panel

benefits

QUIET OPERATION

Specialized airflow control technology operates as low as 27 dB(A) for industry–leading quiet performance.

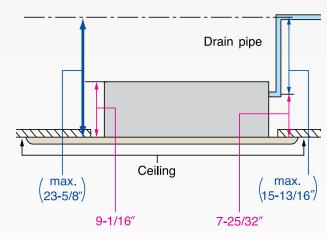
BUILT-IN CONDENSATE LIFT MECHANISM

The drain pipe can be extended anywhere up to 23-5/8" above the ceiling's surface.

EASY INSTALLATION AND MAINTENANCE

PMFY body size has been standardized for all models at 31-31/32" for easier installation. With a height of only 9-1/16", the profile is one of the smallest of all CITY MULTI® ceiling models. Unit weight is only 31 pounds for the main unit and seven pounds for the panel, making this unit one of the lightest available.





PCFY (Ceiling-suspended)

Compact design ideal for classrooms, restaurants and stores

The PCFY model features powerful air throw to cover entire spaces quietly and efficiently.



KEY FEATURES

- Available in 15,000, 24,000, 30,000 and 36,000 Btu/h capacities
- Auto-vane and wide-range outlet swings conditioned air and distributes it uniformly to all corners of the room
- Four-speed fan settings
- Accessory filters are available to increase filtration effectiveness
- Optional pump kit is available for condensate removal

benefits

POWERFUL PERFORMANCE

The easy-to-install, ceiling-suspended unit delivers enough cold or hot air to make any space more comfortable. Manually adjusted, over-sized swing louvers direct the airflow left or right, covering the entire space quietly and efficiently.

THE I-SEE SENSOR™ ACCESSORY

This amazing technology constantly monitors and adjusts temperatures for maximum comfort and efficiency.

- Measures infrared rays generated from surrounding walls and surface angles
- Rotates 90 degrees slowly in five second intervals
- Efficiently adjusts temperatures to ideal comfort levels for occupants

QUIET, EFFICIENT AIRFLOW

Appropriate airflow can be selected to enhance air–conditioning efficiency and comfort while operating at a low sound level. PCFY's auto–vane and wide–range outlet swings the conditioned air and distributes it uniformly to all corners of the room.

EASY INSTALL

The PCFY's direct suspension allows installation on most ceiling surfaces quickly and securely using only suspension bolts and the durable attachment fixture. An optional pump kit is available to dispose of condensate.

PEFY (Ceiling-concealed Ducted)

Flexible design allows elegant interior layout

The PEFY models are high-performance, ceiling-concealed, ducted indoor units. An excellent choice for office buildings, schools, hotels, assisted-living facilities and other applications where ceiling space is available.

KEY FEATURES

- External static pressure settings are adjustable to meet different application conditions
- Choice of fan speed settings
- Side access to control panel
- Integrated condensate lift mechanism (low and mid-static)



LOW PROFILE (NMSU)

- Extremely quiet, with sound ratings as low as 26 dB(A)
- Capacities range from 6,000 to 24,000 Btu/h
- Integrated condensate lift mechanism to provide up to 21-11/16" of lift



MEDIUM STATIC (NMAU)

- Provides up to 0.60" external static pressure
- Extremely quiet, with sound ratings as low as 26 dB(A)
- Capacities range from 6,000 to 54,000 Btu/h
- Integrated condensate lift mechanism to provide up to 27-9/16" of lift



HIGH STATIC (NMHU/NMHSU)

- Provides up to 1.00" external static pressure (P72 and P96-NMHSU only)
- Extremely quiet, with sound ratings as low as 34 dB(A)
- Capacities range from 15,000 to 96,000 Btu/h



benefits

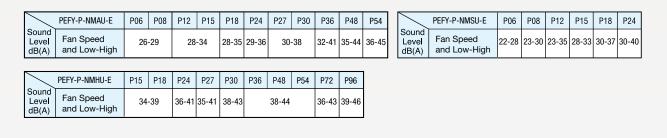
CHOICE OF EXTERNAL STATIC PRESSURE

Additional external static pressure capacity provides flexibility for duct extension, branching, and air outlet configuration. The factory setting of 0.20" W.G. can be field–adjusted to 0.14" W.G. or 0.60" W.G. to match installed duct work for PEFY Medium static indoor units. The PEFY indoor unit is available in a low–profile option with up to 0.20" W.G. and a high–static option for up to 1.00" W.G. (P72 and P96-NMHSU).

QUIET OPERATION

The specially designed centrifugal fan provides exceptionally quiet operation, even at high operating speeds.

OPERATING SOUND RANGE



BUILT-IN CONDENSATE LIFT MECHANISM

The drain piping can be positioned anywhere up to 21-11/16" NMSU/27-9/16" NMAU from the ceiling's surface, allowing for long piping and versatility. A built–in switch halts operation if an error with the pump occurs, ensuring that no water leaks from the unit.

COMPACT OPTIONS (PEFY-P-NMSU)

The PEFY–P–NMSU–E model is very compact, with a height of 7-7/8". Standard features include brazed refrigerant connections, rear air return, and auto fan mode. The unit is extremely quiet, as low as 22 dB(A), and the control panel is located on the opposite side from other ducted models. This unit is an ideal choice for guest rooms in hotels, dormitories, assisted living centers or any application with tight vertical clearances and minimal duct work.

FB(M,L,H) FILTER BOXES

Designed for CITY MULTI[®] Ceiling-concealed Ducted Indoor Units

Low Profile FBL1 boxes include 1" thick pleated MERV 8 filter(s).Medium Static FBM2 boxes include 2" thick pleated MERV 13 filter(s).High Static FBH4 boxes include 4" thick pleated MERV 13 filter(s).



KEY FEATURES

- Rated Class 2 under UL Standard 900
- Cabinet is constructed of non-insulated 20 gauge G-60 galvanized steel
- Foam gasket provides air-tight connection to indoor unit and access door
- Return connection in rear easily field converted to bottom

Part Number	Used on CITY MULTI® Models	Filters Included	Net Weight (lbs.)
FBM2-1	PEFY-P06, P08, P12-NMAU-E	(1) – 14" x 25" x 2"	20
FBM2-2	PEFY-P15, P18-NMAU-E	(1) - 14" x 20" x 2" (1) - 14" x 14" x 2"	26
FBM2-3	PEFY-P24, P27, P30-NMAU-E	(2) – 14" x 20" x 2"	32
FBM2-4	PEFY-P36, P48-NMAU-E	(2) - 14" x 20" x 2" (1) - 14" x 14" x 2"	41
FBM2–5	PEFY-P54-NMAU-E	(3) – 14" x 20" x 2"	46

Part Number	Used on CITY MULTI® Models	Filters Included	Net Weight (lbs.)
FBL1-1	PEFY-P06, P08, P12-NMSU-E	(1) – 13" x 25" x 1"	12
FBL1–2	PEFY-P15, P18-NMSU-E	(1) - 12" x 20" x 1" (1) - 12" x 14" x 1"	15
FBL1-3	PEFY-P24-NMSU-E	(3) – 12" x 20" x 1"	18

Part Number	Used on CITY MULTI® Models	Filters Included	Net Weight (lbs.)
FBH4-4	PEFY-P72, P96-NMHSU-E	(2) - 24" x 24" x 4" MERV 13	40

PFFY (Floor-standing)

Effectively use perimeter areas for space conditioning

PFFY floor-standing models are available as exposed or concealed indoor units. At less than nine inches deep, these units are easy to install in peripheral spaces, yet offer highly efficient air-conditioning performance. Their low operating sound and compact size make them ideal for hotel rooms, schools and office buildings.



KEY FEATURES

- 1. PFFY-NEMU—exposed-type model, perfect for most applications and requires no finish work.
- 2. PFFY-NRMU—designed for applications requiring a built-in, concealed, floor-standing unit.
- Available in 6,000, 8,000, 12,000, 15,000, 18,000 and 24,000 Btu/h
- Two-speed fan settings
- The PFFY-P-NRMU-E unit can be field-converted from top discharge to front discharge

benefits

PFFY-P-NRMU-E Concealed Type

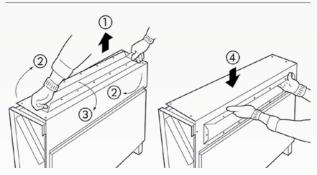
OPTIONAL MOUNTING FOR REMOTE CONTROLLER

PFFY units can house a remote controller in the top corner (under a cover panel). The remote controller can be mounted on the wall or in the PFFY unit.

INSTALLATION FLEXIBILITY

The PFFY–P–NRMU–E unit can be field–converted from top discharge to front discharge to increase installation flexibility.

INSTALLATION FLEXIBILITY



PVFY (Vertical Ducted)

Ideal for closet, attic, or equipment room installations

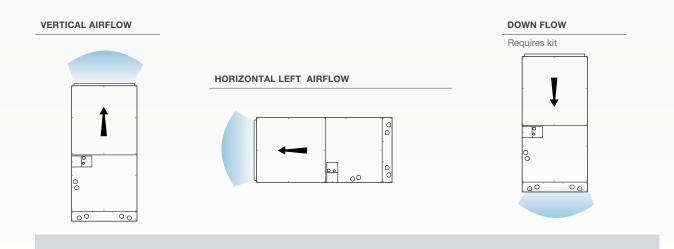
PVFY vertical ducted air handlers can be connected to a system with all other CITY MULTI[®] indoor units for complete system design flexibility. The PVFY unit features a side drain pan allowing installation in a horizontal left position.



Capacity Range: 12,000-54,000 Btu/h

KEY FEATURES

- Capacities between 12,000-54,000 Btu/h
- Extremely quiet, with sound ratings as low as 29 dB(A)
- An adjustable blower static pressure of
 - · Model P12: .20 .40 .60 ESP
 - · Models P18 P54: .30 .50 .80 ESP
- High efficiency DC Motors and a forward curved blower provide quiet, efficient operation, even with varying input voltages
- The control board allows an easy connection for a condensate overflow safety switch
- The cabinets are constructed of heavy gauge pre-painted steel with one-inch insulation providing an R-4.2 insulating value
- Down flow kit available to reverse airflow direction
- Standard plug-in connection allows easy integration with auxiliary heat when using the optional relay kit



PWFY (Hydronic Heat Exchanger)

Heat and cool water, quickly and efficiently

The PWFY Hydronic Heat Exchanger is available in two configurations, the HEX (-AU) and the Booster (-BU). Each provides unique solutions to incorporate into an existing VRF system for an efficient means to heat and cool water. The PWFY Hydronic Heat Exchanger is a closed-circuit water heater that works with the Y-Series and R2-Series outdoor units.



Available Sizes: 36,000 and 72,000 Btu/h

PWFY-P36/72NMU-E-AU

KEY FEATURES

- Heats water to 115° F
- Hydronic heat exchanger transfers energy from refrigerant to water
- Can be used to recover waste heat from cooling operation to water when combined with R2- or WR2-Series, resulting in large energy savings
- Applications include radiant heating, snow melting, reheating air, preheating hot water and more
- Cools water to 41° F to be used for cooling outside air, cooling pool water, misting stations, process cooling, drinking water and more
- Unit is not suitable for direct potable water flow



Available Sizes: 36,000 Btu/h

PWFY-P36NMU-E-BU

KEY FEATURES

- Heats water to 160° F
- Hydronic heat exchanger transfers energy from refrigerant to water
- Can be used to recover waste heat from cooling operation to water when combined with R2- or WR2-Series, resulting in large energy savings
- Applications include radiant heating, hot water preheating, snow melting, reheating air, warming pools, and more
- Includes R134A compressor circuit for boosting water temperature
- Can only be used with R2 and WR2 systems
- Unit is not suitable for direct potable water flow



VENTILATION

Lossnay[®] Energy Recovery Ventilators (ERVs)/DOAS

1 1

1.

LOSSNAY[®] ENERGY RECOVERY VENTILATORS (ERVS)

See the Lossnay Technical Brochure for complete information.

Outdoor air solutions for improved indoor environmental quality



KEY FEATURES

- Lossnay[®] core
- Over 50% enthalpy exchange efficiency
- Four fan speeds on 300, 470, 600 models: Extra low, low, high, extra high
- M-NET connectivity for use with CITY MULTI central controllers and BMS interfaces.
- Sound pressure level: maximum sound level 42.5 dB(A)
- Three ventilation modes: Auto, Bypass, Heat Recovery

benefits

INTERLOCK

Networking systems with Mitsubishi Electric air conditioners has never been easier. The M-NET adapter comes standard, and there is no need to purchase additional parts. Systems can be assembled simply and logically, reducing construction times and keeping initial costs low.

SYSTEM COMPATIBILITY

The LGH–F–RX5–E series is fully compatible with our controls network, further increasing the scope of total system management.

MULTI-FUNCTION LCD REMOTE CONTROLLER

The compact and attractive remote controller with a liquid crystal display is designed for easy visibility.

- ON/OFF, Run mode, and Ventilation mode
- Filter Maintenance Display
- Controls up to 16 Lossnay units in a single group
- Night Purge
- Timer Operations

BYPASS VENTILATION STANDARD

Lossnay models offer three ventilation modes:

- Energy Recovery—Heat Exchange
- Bypass—No Exchange
- Automatic—Heat Exchange/Bypass

With conventional ERVs, bypass ventilation was impossible without attaching additional dampers and adapters. With the LGH–F–RX5–E series, however, this mode is available without the use of other parts. An automatic mode allows the system to select recovery or bypass as required. Mode selection is easy when interlocked with M–NET systems using the PZ–60DR remote controller, which is sold separately.



Functions:

- Night Purge
- Timer Operations
- 4 Fan speed settings for 300, 470, 600
- Temperature Display: Outside Air, Return Air, Supply Air

PZ-60DR

DEDICATED OUTDOOR AIR SYSTEM (DOAS)

Provides pre-conditioned outdoor air

The award-winning PEFY–AF Dedicated Outside Air System comes in two configurations, the CFM and the CFMR. Both configurations offer high capacity coils that will condition incoming air, making it suitable for distribution to down–stream fan coil units.

KEY FEATURES

- Single-speed 1200 CFM fan
- Multiple external static pressure set points
- Large DX coil with high latent capacity
- Entering air temperature and humidity sensors factory installed
- Thin 18-9/16" high cabinet installs in small areas
- Drain lift mechanism up to 21-11/16" included as standard
- 50° F to 70° F saturated air available in cooling mode (CFM/PUHY-P120)
- Reheat capabilities using recovered energy from cooling through the branch controller (CFMR/ PURY-P120)
- 50° F to 60° F saturated air available leaving cooling coil (CFMR/PURY-P120)
- 63° F to 83° F leaving air temperature available leaving reheat coil (CFMR/PURY-P120)

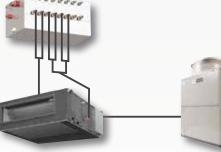
CFM



INDOOR UNIT PEFY-AF1200 CFM

OUTDOOR UNIT Y-SERIES P120





INDOOR UNIT PEFY-AF1200 CFMR

OUTDOOR UNIT R2-SERIES P120





0 0



CONTROLS & SOFTWARE TO

0 0

20.

CONTROLS NETWORK

Our CITY MULTI® Controls Network (CMCN) makes it easy to manage your building

The CITY MULTI Controls Network (CMCN) manages up to 2,000 indoor units from a single networked PC. The CMCN puts individual, personalized comfort in the hands of the tenants and the building manager.



benefits

FLEXIBLE DESIGN FOR CUSTOMIZED, INDIVIDUAL ZONE CONTROL

Building owners and engineers can select from a wide variety of remote controllers and timers to satisfy the exact level of tenant control on a zone–by–zone basis, while providing the ultimate in individualized control. The versatility of the CMCN customizes each building's controls network to address the specific design and tenant requirements, while providing unparalleled comfort conditioning.

OPTIONAL EASY-TO-USE CONTROL VIA PC WEB BROWSER

From Internet Explorer[®] on a PC, the building manager can now monitor, operate and schedule the HVAC system through the central controller. Plus, the building manager can enable tenants to control their own individual zones via a personal web browser on their networked PC.

EASY INSTALLATION

The CMCN uses simple, non–polar, two–wire control connections. All components are daisy–chained and addressed onto the M–NET communication bus. It all adds up to less labor and materials with quicker installation.

SINGLE-SOURCE CONTROL FOR UP TO 2,000 INDOOR UNITS

From a single networked PC configured with our TG–2000 software, you can control up to 2,000 units. This software, in conjunction with central controllers, empowers the building manager to control the HVAC system for multiple buildings in a business park, educational campus or retirement facility.

TENANT BILLING

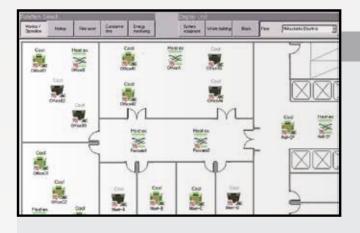
The TG–2000 software configured with the tenant billing option and interconnected with RS–485 watt–hour meter(s) can calculate the HVAC energy consumption relative to each indoor unit on a per–tenant basis and generate a CITY MULTI energy fee per–tenant.

SYSTEM INTEGRATION

Not only can our CMCN act as a stand–alone building management system, it can also integrate with existing systems via LonWorks[®] or BACnet[®] interfaces.

TG-2000™ INTEGRATED SYSTEM SOFTWARE

The TG-2000 integrated system software enables the user to control multiple AG-150/GB-50ADA controllers and provide enhanced functions from a single, dedicated networked PC configured with the TG-2000 software and AG-150/GB-50ADA software licenses. The TG-2000 configured PC is capable of controlling up to 2,000 indoor units with the AG-150/GB-50ADA Centralized Controllers.



TENANT BILLING

KEY FEATURES

- Calculates HVAC energy use per indoor unit
- Great for condos, multiple tenant spaces
- Requires SW-Charge optional software license

OPERATION SCREEN:







SCHEDULING:



SOFTWARE OPTIONS FOR CENTRAL CONTROLLERS

The centralized controllers support operations that supersede control of the remote controllers and include system configuration, daily/weekly scheduling, operation, and malfunction monitoring. Centralized controllers are equipped with an RJ–45 Ethernet port to support interconnection with a networked PC via a closed/direct Local Area Network (LAN).

10.
40
848 ·····
7 =

	2.00	-		- +7	۹,					-
	-							-		1.44
	4.0				-					
Workly Schedule										
and a local diversion of the local diversion	-	-	-	-		21	-	-	-	
	-	-				.88	4.04	-	-	
Factor -	12	197	-	79.9				а.,	- 1	
Access of the local division of the local di	10-10	-					10	22.	- 1	
- A	12-4	-		78.9			-	24	- 1	
ACCORDED IN	12-4		-					-	-	
*********	0	-	1	87				20		
	67	м.						100		
···········	8	-			. *			÷.,	12	
				1.146		-		· · · ·	-	

ž					2.47			10
	a bee							
ii.	_	-	And in case	-			1.1	
ii.	-	-	10.00	-	-	inger.		
÷.	-	-	49.410	-		-		
÷.	1000	10.00	10.00		10000			
н	-		41.00	14	minteri	218971		
		10.00	-	114	Antoine	10.1.0		
ĸ.	-	199	100.000	-	-			
i								

Place State Moder model Place State Moder model Place State State Place State Pla



PC MONITORING (SW-MON)

Enables the building manager to easily monitor and operate all 50 units from the PC's browser.

PC SCHEDULING (SW-SCH)

Enables the building manager to customize daily, weekly and yearly schedules for all 50 units. Schedules can be applied to a single unit, a group of units or collectively (batch) to all units.

ERROR EMAIL (SW-EMAIL)

If an error occurs on the CITY MULTI[®] system monitored by the centralized controller, the fault will be detected and isolated, and a detailed alert will be sent to the necessary personnel via real-time email. The user can then view and clear the error logs from the PC and use the information for troubleshooting.

ONLINE MAINTENANCE TOOL (SW-MAINT)

Performs maintenance diagnostics via a networked PC, the central controller and Maintenance Tool software. Eliminates the need to connect MN converter.

INDIVIDUAL PERSONAL BROWSER VIA PC WEB BROWSER (SW-PWEB)

Allows individual users to control their zone conditioning via personal networked PC's with or without remote controllers. Personal web browser is only supported on AG–150 and GB–50ADA Centralized Controllers.

	Part Number	Description	AG-150	GB-50ADA	GB-24
	SW-Mon	PC Monitoring	•	•	•
STANDARD SOFTWARE	SW-Sch	PC Scheduling	•	•	•
STANDARD SOFTWARE	SW–Email	Error Email	•	•	•
	SW-Maint	Online Maintenance Tool	•	•	•
	SW-Interlock		•	•	
OPTIONAL SOFTWARE	SW-Charge	Tenant Billing (requires TG-2000)	•	•	
OPTIONAL SOFTWARE	SW-Pweb	Personal Web Browser	•	•	
	PAC-YG83UT	Electric Box (Mounting Bracket)	•		
	PAC-YG85KTB	AG-150 & Power Supply Surface Mounting Kit	•		
OPTIONAL ACCESSORIES	PAC-YG81TB	AG-150 Surface Mounting Kit	•		
	PAC-YG71CBL	Black Surface Cover	•		



CENTRALIZED CONTROLLER AG-150





Option: Black surface cover. PAC-YG71CBL

Combines the power of a touch-screen interface with the remote capabilities of an Internet browser. The AG-150 is our most capable central controller for managing your CITY MULTI[®] and peripheral systems.



Function	Description
Touch Screen	9" high resolution color touch screen
Max No. of Indoor Units	Up to 50 indoor units can be connected
ON/OFF	On/Off operation for a single group & batch operation
Operation Mode	Cool / Dry / Auto / Fan / Heat (Auto mode is available with only R2 & WR2 systems)
Temperature Setting	Set temperature from 57° $\rm F$ – 87° $\rm F$ depending on operation mode and indoor unit
Fan Speed Setting	Hi / Mid–2 / Mid–1 /Low / Auto (Available fan speed settings depending on indoor unit)
Airflow Direction Setting	Airflow angles: $100^{\circ} - 80^{\circ} - 60^{\circ} - 40^{\circ}$ and swing / airflow direction settings vary depending on indoor unit model
Permit/Prohibit Function	Individual prohibit operations for each remote controller function (ON/OFF, Set Temperature, Operation Mode & Filter Reset)
Indoor Return Air Temperature	Displays the measured return air temperature from each group
Error Indication	Displays a 4 digit code & the affected unit address
Test Run Function	Allows indoor units to operate in test mode
Ventilation Interlock	Allows the group to be interlocked with Lossnay unit
Schedule Operation	Weekly schedule can be set by groups based on operation pattern
External Input/Output	Inputs: Level Signal–Batch Start / Stop, Batch Emergency Stop Outputs: Start / Stop Status, Error / Normal Status
Power Supply	PAC-SC51KUA
Dimensions – (W x D x H)	11-13/16" x 2-7/16" x 6-7/8"

CENTRALIZED CONTROLLER GB-50ADA



Function	Description
Max No. of Indoor Units	Up to 50 indoor units can be connected
ON/OFF	On/Off operation for a single group & batch operation
Operation Mode	Cool / Dry / Auto / Fan / Heat (Auto mode is available with only R2 & WR2 systems)
Temperature Setting	Set temperature from 57° F – 87° F depending on operation mode and indoor unit
Fan Speed Setting	Hi / Mid–2 / Mid–1 /Low / Auto (Available fan speed settings depending on indoor unit)
Airflow Direction Setting	Airflow angles: $100^{\circ} - 80^{\circ} - 60^{\circ} - 40^{\circ}$ and swing / Airflow direction settings vary depending on indoor unit model
Permit/Prohibit Function	Individual prohibit operations for each remote controller function (ON/OFF, Set Temperature, Operation Mode & Filter Reset)
Indoor Return Air Temperature	Displays the measured return air temperature from each group
Error Indication	Displays a 4 digit code & the affected unit address
Ventilation Interlock	Allows the group to be interlocked with Lossnay unit
Schedule Operation	Weekly schedule can be set by groups based on operation pattern
External Input/Output	Inputs: Level Signal–Batch Start / Stop, Batch Emergency Stop Outputs: Start / Stop Status, Error / Normal Status
Dimensions – (W x D x H)	9-7/8" x 3-7/8" x 8-9/16"

CENTRALIZED CONTROLLER GB-24



Function	Description
Max No. of Indoor Units	Up to 24 indoor units can be connected
ON/OFF	On/Off operation for a single group & batch operation
Operation Mode	Cool / Dry / Auto / Fan / Heat / Setback (Auto mode is available with only R2 & WR2 systems)
Temperature Setting	Set temperature from 57° F – 87° F depending on operation mode and indoor unit
Fan Speed Setting	Hi / Mid–2 / Mid–1 /Low / Auto (Available fan speed settings depending on indoor unit)
Airflow Direction Setting	Airflow angles: 100° - 80° - 60° - 40° and swing / Airflow direction settings vary depending on indoor unit model
Permit/Prohibit Function	Individual prohibit operations for each remote controller function (ON/OFF, Set Temperature, Operation Mode & Filter Reset)
Indoor Return Air Temperature	Displays the measured return air temperature from each group
Error Indication	Displays a 4 digit code & the affected unit address
Ventilation Interlock	Allows the group to be interlocked with Lossnay unit
Schedule Operation	Weekly schedule can be set by groups based on operation pattern *Requires PC Monitoring (SW–Mon) & PC Scheduling (SW–Sch)
External Input/Output	Inputs: Level Signal–Batch Start / Stop, Batch Emergency Stop Outputs: Start / Stop Status, Error / Normal Status
Power Supply	PAC-SC51KUA
Dimensions – (W x D x H)	9-7/8" x 1-1/2" x 5-1/8"

CENTRALIZED CONTROLLER TC-24



Customized individual zone control via a bright and easy to use touch-screen interface. The TC-24 is perfect for light commercial and residential applications.



Function	Description
Max No. of Indoor Units	Up to 24 indoor units can be connected
ON/OFF	On/Off operation for a single group & batch operation
Operation Mode	Cool / Dry / Auto / Fan / Heat / Setback (Auto mode is available with only R2 & WR2 systems)
Temperature Setting	Set temperature from 57° F – 87° F depending on operation mode and indoor unit
Fan Speed Setting	Hi / Mid–2 / Mid–1 /Low / Auto (Available fan speed settings depending on indoor unit)
Airflow Direction Setting	Airflow angles: 100° - 80° - 60° - 40° and swing / Airflow direction settings vary depending on indoor unit model
Permit/Prohibit Function	Individual prohibit operations for each remote controller function (ON/OFF, Set Temperature, Operation Mode & Filter Reset)
Indoor Return Air Temperature	Displays the measured return air temperature from each group
Error Indication	Displays a 4 digit code & the affected unit address
Ventilation Interlock	Allows the group to be interlocked with Lossnay unit
Schedule Operation	Weekly schedule can be set by groups based on operation pattern
External Input/Output	Inputs: Level Signal–Batch Start / Stop, Batch Emergency Stop Outputs: Start / Stop Status, Error / Normal Status
Power Supply	PAC-SC51KUA
Dimensions – (W x D x H)	7-8/8" x 1-3/16" x 4-3/4"

INPUT/OUTPUT CONTROL BOARDS

PAC-YG66DCA DIGITAL INPUT DIGITAL OUTPUT (DIDO) CONTROL BOARD

The DIDO controller used in conjunction with an AG-150, GB-50, GB-24 or TC-24 central controller can control and monitor third–party general equipment.

STANDARD FEATURES					
Function	Description				
Inputs	Qty 2 Analog Inputs (Non–Voltage Contacts)				
Outputs	Qty 2 Digital Outputs (Non–Voltage Relay Contact Use only VDC with outputs				
Monitor	Status, Fault Requires AG-150, GB-50ADA, GB-24 or TC-24 Centralized Controller				
Control	On/Off, Start/Stop, Enable/Disable Requires AG-150, GB-50ADA, GB-24 or TC-24 Centralized Controller				
Schedule Operation	Weekly schedule can be set by groups based on operation pattern Requires AG–150, GB–50ADA, GB–24 or TC–24 Centralized Controller				
Interlock Function	Interlock M–NET devices and output contacts according to status of input contacts				
Power Supply	24 VDC (5W plus loads)				
Communication	M-NET				
Dimensions – (W x D x H)	7–7/8" x 1–13/16" x 4–3/4"				



PAC-YG63MCA ANALOG INPUT (AI) CONTROL BOARD

The Analog Input (AI) Control Board is used in conjunction with a AG-150, GB-50 or GB-24 central controller to control and monitor third–party general equipment and/or trend temperature and humidity from a field supplied temperature or humidity sensor.

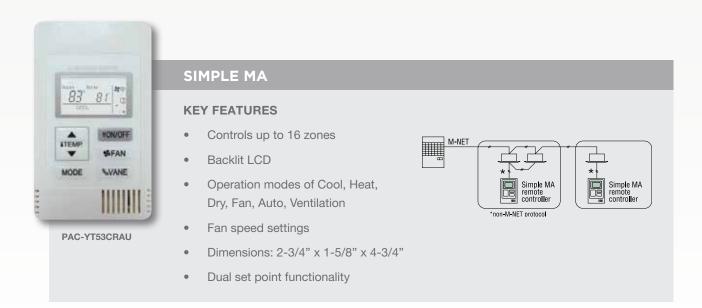
Function	Description
Inputs	Qty 2 Analog Inputs (0/10 VDC, 4/20 mA, 1–5 VDC)
Monitor	Temperature and/or Humidity Requires AG–150, GB–50ADA, or GB–24 Centralized Controller and field supplied sensor
Interlock Function	Interlock M–NET devices and output contacts according to measured values on inputs
Alarms	Generate alarm based on user defined high and low limits
Power Supply	24 VDC (5W)
Communication	M-NET
Dimensions – (W x D x H)	7-7/8" x 1-13/16" x 4-3/4"

ZONE CONTROLLERS

Remote controller for CITY MULTI[®] systems featuring a bright, backlit display for clear reading and easy system control

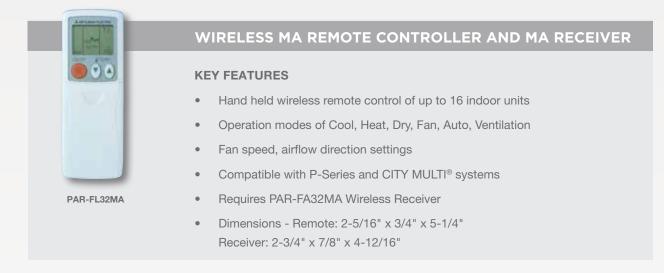
AMETSLESSHI ELECTRIC 2.18PH Fri	BACKLIT MA
Cool X X X X X X X X X X X X X	KEY FEATURES
	 Controls up to 16 indoor units Operation modes of Cool, Heat, Dry, Fan, Auto, Ventilation, Setback Mode
HERAL RETURN BLECT HOLD OFF	Fan speed, airflow direction settings
PAR-30MAAU	Timer Operation: Supports Weekly Timer operation (On/Off/Set Temperature). Supports Auto-Off Timer
	Timer hold function
	Backlit large font display
	Easy to read menus
	• Dimensions: 4-23/32" x 4-23/32" x 3/4"

Easy to use remote for basic temperature and operation mode control



ZONE CONTROLLERS

Easy-to-use hand held remote for basic temperature and operation mode control for CITY MULTI® and P-Series systems



iPhone[®] MOBILE APPLICATION

The meZO[™] (Mitsubishi Electric Zone) controller App allows monitoring and control of Mitsubishi Electric systems. meZO can be utilized by building or campus managers, maintenance personnel, building owners and homeowners.

meZO can control CITY MULTI[®] systems and M- and P-Series systems units connected to the M–NET and controlled from one of Mitsubishi Electric's Central Controllers, AG–150, GB–50ADA, or GB–24. The iPhone or iPod Touch's Wi–Fi connection allows meZO to communicate to the central controller across a Local Area Network (LAN). Network settings may vary by location, so check with your administrator for any login information that might be needed to access the LAN.



FEATURES OF INDOOR UNITS THAT meZO CAN CONTROL:

- On/Off
- Set Temperature
- Fan Speed
- Mode
- Space Temperature Display
- Vane Direction

benefits

meZO IS CONFIGURED THROUGH MENU-DRIVEN SETTINGS THAT SUPPORT:

- Multiple locations
- Multiple controllers per location
- · Customizable names for indoor units

Set up may need to be done with support from the installing contractor to create the network access point or assign the indoor unit location names



Note: You must press the 'Refresh' button when you are viewing the Controllers to update the indoor unit's settings.

SYSTEM INTEGRATION

The CMCN supports integration with Building Management Systems (BMS) via our LonWorks[®] *and BACnet*[®] *interfaces*

The Mitsubishi Electric LonWorks[®] interface, LMAP03U, supports up to 50 indoor units with a variety of network variables on a per indoor unit basis. Input variables include, but are not limited to: On/Off, Operation Mode, Fan Speed, Prohibit Remote Controller, and Filter Sign Reset. Output variables include but are not limited to: Model Size, Alarm State, Error Code, and Error Address.

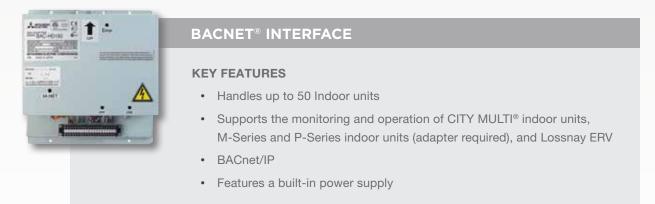


LONWORKS® INTERFACE

KEY FEATURES

- Up to 50 units (CITY MULTI[®], M-Series, P-Series and/or Lossnay) can be connected with one LonWorks interface
- Operation/Setting: Request On/Off, Set Point, Request Lossnay Mode, Request Fan Speed, Request Local Prohibit On/Off and Set Point, Request Forced Thermostat Off, Filter Sign Reset, Time Stamp, Request Limit Temperature Setting Range, Request Simplified Locking
- Dimensions: 13-7/16 H x 14-3/16 W x 2-3/8" D (340 x 360 x 59.6)

The BAC-HD150 BACnet controller is BTL[®] (BACnet Testing Laboratories) listed proving its compliance with ASHRAE standards and its compatibility with building management systems supporting the BACnet/IP protocol



MAINTENANCE TOOL SOFTWARE

Easy-to-use, Windows® based Maintenance Tool software

Use Maintenance Tool software to monitor pressure and temperature readings from CITY MULTI[®] system sensors, display and control system LEV settings and display and remotely control all connected indoor units. Maintenance Tool software also allows the technician to record and save system monitor data for the purposes of trending and system analysis off site as well as display malfunction logs and email error reports to personnel responsible for servicing the system.



CMS-MNG-E

MN CONVERTER

KEY FEATURES

- Allows technicians to monitor and collect CITY MULTI[®] system data and control various functions
- System monitoring accomplished through direct connection
 between your PC and the M–NET bus line using the MN–Converter

Kortnal mode	
C MN CONVERTER	
* Uni Ornidor	#ICHISANG-E
· P. Ramphi Chronettyn -	* Christophill
	* CHEMIST
# G-50 (Network)	COM1 2
# Local Connection (LAN) # Remote Connections (Datus)	
 Remote Connection2 (E-Mail) 	
1° Office Analyze	
Vide area access mode	
r Online Connection	
Cottine Analyze	

The mode select screen allows the user to select the method for connection to the CITY MULTI® system, whether direct or remotely, or choose to analyze previously recorded data offline.

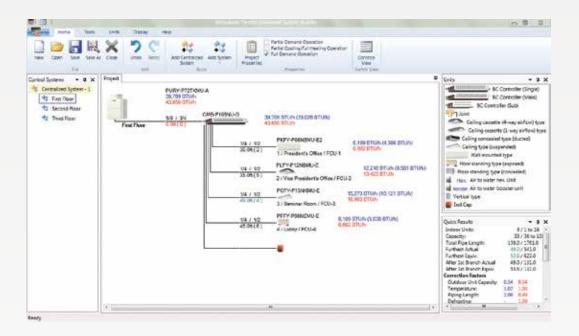
NAME Dist NAME Dist NAME Dist NAME DISMON COTT VIC-200.0 THE 55.3 THE 55.4 THE 55.4	Cit	1386) 1 HIQ	de+0 de+0	FF	1.5	1-		235-10 235-10	17 2.5	1		2	1148-0	5v1 6v2			powe-dia Rep+1
Six=120 Six	010	6040 6430 24 +	+07 U+07 CFF	ŗ	Vdevi Liter Liter	9.8 9.8 0.0		88940	785	25.2			98.2			30.1	4316+211.1 Top 73.0
IC DJ THE	\$1*	(220	.00		0.340	COPP			sci=	0.0	11+ 11+	122	12-110	.5/ 72	à.,	±0000	000000000000000000000000000000000000000
2 13 78.8 17.6 72.9 0.6 41 57 190 Twot Clocked Standby Cool CMM 5 5 73.0 11.0 73.0 0.9 41 67 190 Twot Cooling Standby Cool CMM Cool CMM Standby Cool CMM Cool CMM Cool CMM Cool CMM Cool CMM Cool CMM Standby Cool CMM Cool CM		1.6	(IST)		1.740			THURL	3450	14	110	1 fiam				2 Diate	KC S
4 25 75.0 12.5 72.3 0.9 41 57 100 Test Cooling Standby CostOFF	5																
4 25 75.0 12.3 72.3 0.4 41 67 190 Test Cooling Standby CostOFF	5	6									67						
5 5 726 728 750 0.7 41 (1 190 Tech Doding Tranche Cool OFF	4	1.78															
	5	5	1.7	26	-72.8	73	0		0.7	.41	1.97	100	Tett	(00	pénig:	Standby	Cool OFF

The operation status monitor screen displays the operational data for the connected system including system pressures, temperatures, LEV settings, compressor frequency, current operational mode, and more. Pre–recorded data can also be viewed in and off–line version of this screen.

DIAMOND SYSTEM BUILDER

Diamond System Builder is an interactive system layout tool that makes designing with CITY MULTI quick and easy.

The software helps users determine the cooling and heating output of selected equipment for projectspecific conditions. The program has error indicators and built-in safeguards against exceeding limitations, assuring line lengths, maximum connected capacities, component selection, control scheme, etc. are within the system requirements.



Design	Condition							
	# US/Canad	de O	Other i	Countries				
State	Massachuse	·m. +	Ċty	Besten		Lord	Seve	Default
Coole	e Entering Cal	Condi	101		Heating	Entering Coll C	inste	1998 B. B. B.
	Dry Bulb	80.0		4		iny Bulls	70.0	
Indeor	Wet Bulb	67.0		*	Cutdoor	Dry Bulb	0.0	
Indeer	Rel Humidity	51.8		N .	Outdoor	Wet Bulk	0.0	
Outdo	or Dry Bulb	91.0		4	Dutdoor	Rel Humidity	100.0	
Wate					Water			
Snlet	Water Tempera	thure :	73.0	19	Inlet W.	ater Temperah	10 0	10 .7

PROJECT PROPERTIES

System design conditions such as indoor and outdoor design conditions are easily entered for both cooling and heating. Customer and project names can be entered to identify the job on the outputs.

Horre Tools	Unita Disp X 2 a Cost Unita	ey Hep C Add Centralized	\$ \$ E	ect // Full Demand Operation	Operation Design View	- 0
ol Systems 🔹 🖡 🗙	Project	at and		Projettes	Setch Ven	Vinita 🔹 🕯
Centralized System - 1	Centralized Syst	em - 1 Interfaces PI/AU/DI	Wireless Remote Corr Lossnay Remote Cor			
Second Roor Third Roor	Groups	Indoor Units/Lossnays	Local Remote Controllers	System Remote Controllers		MHCI-Kit System Remote Controllers
	President's Offic	R2 PKPV-POSNBMU-E2 President's Office ERV-1	Mx	ж		Central Controller
	Vice Resident's	R2 PLFY-P12NBMU-E Vice President's Office (RV-1	MX -	я		Touch Controller Interfaces
	Seminar Room	R2 PCPY-PISNKMU-E Seminar Room ERV-1	M:	×		BA Adapter
	Lobby	R2 PFFY-POSNEMU-E Lobby ERV-1	Ru -	×		Lossnay Units ERV-1 LGH-F600RX5-E Interfacted
						[President's Office] RXV-2009 [Vice President's Office] RUY- [Semium Room] PCP-VPLSNC [Lobby] PFV-P05NEMU-E

Optional functions to customize the system layout to your project are available, such as labeling groups with a room name, adding equipment tags to pieces of equipment, and giving each system a project-specific name. Other features, like a custom equipment schedule, submittal packages, and AutoCAD drawings are available once the system layout has been finalized.



SPECIFICATION TABLES



PURY-P***T(Y)SKMU-A

SPECIFICATIONS: R2 SERIES **V**

Model N	ame	208V /230V	PURY-P72TKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P120TKMU-A (-BS)	PURY-P144TKMU-A (-B			
modelin		460V	PURY-P72YKMU-A (-BS)	PURY-P96YKMU-A (-BS)	PURY-P120YKMU-A (-BS)	PURY-P144YKMU-A (-B			
Power Source				208 / 230V, 3-Phase, 60Hz	/ 460V, 3-Phase, 60Hz	I			
		Btu/h Capacity	72,000	96,000	120,000	144,000			
	Cooling	kW Power Input	4.4	7.05	9.44	11.2			
		A Current Input	13.5 / 12.2 / 6.1 21.7 / 19.6 / 9.8 29.1 / 26.3 / 13.1		29.1 / 26.3 / 13.1	34.5 / 31.2 / 15.6			
Capacity (Nominal) *1		Btu/h Capacity	80,000	108,000	135,000	160,000			
	Heating	kW Power Input	5.92	8.28	10.86	13.54			
		A Current Input	18.2 / 16.5 <mark>/ 8.2</mark>	25.5 / 23.0 / 11.5	33.4 / 30.7 / 15.1	41.7 / 37.7 / 18.8			
	MCA	A	23 / 21 / 11	34 / 31 / 15	45 / 42 <mark>/ 21</mark>	53 / 48 / 24			
Electrical Supply	Recommended Fuse Size	А	25 / 15	35 / 20	50 / 25	60 / 25			
	Type X Quantity		Propelle	r Fan x 1	Propeller	Fan x 2			
Fan	Airflow Rate	CFM	6,2	00	11,300	11,300			
	External Static P	ressure		Selectable; 0, 0.12 or 0.24"W	.G.; factory set to 0"W.G.	1			
	Type X Quantity			INVERTER-driven So	roll Hermetic x 1				
	Operating Range	•	17% to 100%	16% to 100%	15% to	100%			
Compressor	Crankcase Heater	w		-					
	Lubricant			MELS	2				
Refrigerant	Туре			R410	A				
External Finish	1		Pre-coated galva	nized steel sheet (Plus Powder Coa	ting for -BS type) <munsell 5y="" 8<="" td=""><td>3/1 or similar></td></munsell>	3/1 or similar>			
	Height	In.		64-31/					
Dimensions H x W x D Depth In.		In.	48-		68-29	/32			
			29-5/						
Net Weight	Dopui	Pounds	503 / 534	538 / 574	715 /	743			
Sound Pressure Level				1					
(As Measured in an A		dB(A)	58	.0	60.0	61.0			
	High Pressure Pr	rotection	High pressure sensor, High pressure switch						
Protection Devices	Inverter Circuit (Compressor / Fa	an)		Over-current protection					
Fan Motor			Thermal s	witch					
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	5/8	з	/4	7/8			
Dimensions	Gas (Low Pressure) (Brazed)	In.	3/4	7/8	1-1/	/8			
Indees I heit	Total Capacity	1		50% to 150% of out	loor unit capacity				
Indoor Unit Connectable	Model / Quantity		P06 - P96 / 1 to 18	P06 - P96 / 1 to 24	P06 - P96 / 1 to 30	P06 - P96 / 1 to 36			
Operatir -	Cooling	D.B.		**Outdoor: 23					
Operating Temperature Range	Heating	W.B.		Outdoor: -4°					
Efficiency Ratings *2	3								
)		10.0 / 15.5	10.0 / 10.0	11 7 / 10 0	11 7 / 10 7			
EER (Ducted/Non-D	,		13.9 / 15.5	12.2 / 13.6	11.7 / 12.2	11.7 / 12.7			
IEER (Ducted/Non-I			21.1 / 22.1	19.7 / 20.9	18.6 / 20.8	18.0 / 20.9			
COP (Ducted/Non-E	Ducted) *2		3.81 / 3.72	3.64 / 3.71	3.45 / 3.61	3.41 / 3.28			
				17.4 / 23.5					

Notes: *1 Rating Conditions:

Gooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B. / 43° F (6° C) W.B.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage. Specifications are subject to change.

*2. Efficiency values based on AHRI 1230 test method

 ** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required.

PURY-P***T(Y)SKMU-A

SPECIFICATIONS: R2 SERIES **V**

				PURY-P168TSKMU-A (-BS) *2	PURY-P192TSKMU-A (-BS) *2	PURY-P216TSKMU-A (-BS) *2				
		208V /230V		With 1 PURY-P72TKMU-A (-BS) and 1 PURY-P96TKMU-A (-BS) *3	With 2 PURY-P96TKMU-A (-BS) *3	With 1 PURY-P96TKMU-A (-BS) and 1 PURY- P120TKMU-A (-BS) *3				
M	odel Name		PURY-P144YSKMU-A (-BS) *2	PURY-P168YSKMU-A (-BS) *2	PURY-P192YSKMU-A (-BS) *2	PURY-P216YSKMU-A (-BS) *2				
		460V	With 2 PURY-P72YKMU-A (-BS) *3	With 1 PURY-P72YKMU-A (-BS) and 1 PURY-P96YKMU-A (-BS) *3	With 2 PURY-P96YKMU-A (-BS) *3	With 1 PURY-P96YKMU-A (-BS) and 1 PURY- P120YKMU-A (-BS) *3				
Power Source			460V, 3-Phase, 60Hz	208V / 230V,	3-Phase, 60Hz / <mark>460V, 3-Phase</mark>	, 60Hz				
		Btu/h Capacity	144,000	168,000	192,000	216,000				
	Cooling	kW Power Input	10.31	12.8 *3	15.61 *3	18.22 *3				
Capacity		A Current Input	14.3 *3	39.4 / 35.7 / 17.8 *3	48.1 / 43.5 / 15.61 *3	56.1 / 50.8 <mark>/ 25.4</mark> *3				
(Nominal) *1		Btu/h Capacity	160,000	188,000	215,000	243,000				
	Heating	kW Power Input	12.54 *3	14.91 *3	17.2 *3	19.89 *3				
		A Current Input	17.4	45.9 / 41.5 / 20.7 *3	53.9 / 47.9 <mark>/ 23.9</mark> *3	61.3 / 55.4 <mark>/ 27.7</mark> *3				
	Type X Quantity		Refer to:	Refer to:	Refer to:	Refer to:				
Fan	Airflow Rate	CFM	PURY-P72YKMU-A (-BS)	PURY-P72TKMU-A (-BS) / PURY-P96TKMU-A (-BS)	PURY-P96TKMU-A (-BS)	PURY-P96TKMU-A (-BS) / PURY-P120TKMU-A (-BS)				
	External Static Pressure Type X Quantity	9	-	PURY-P72YKMU-A (-BS) / PURY-P96YKMU-A (-BS)	PURY-P96YKMU-A (-BS)	PURY-P96YKMU-A (-BS) / PURY-P120YKMU-A (-BS)				
	Operating Range		15% to 100%	7% to 100%	8% to	100%				
Compressor	Crankcase Heater	W								
	Lubricant		-							
Refrigerant			-	Refer to:		Refer to:				
External Finish			Refer to:	PURY-P72TKMU-A (-BS) / PURY-P96TKMU-A (-BS)	Refer to: PURY-P96TKMU-A (-BS)	PURY-P96TKMU-A (-BS) / PURY-P120TKMU-A (-BS)				
Dimensions H	Height In.		PURY-P72YKMU-A (-BS)	PURY-P72YKMU-A (-BS) /	PURY-P96YKMU-A (-BS)	PURY-P96YKMU-A (-BS) /				
x W x D	Width	In.	-	PURY-P96YKMU-A (-BS)		PURY-P120YKMU-A (-BS)				
	Depth In.		-							
Net Weight Sound Pressur	e Level	Pounds		01.0						
(As Measured i	n an Anechoic Room)	dB(A)	61.0	61.0		62.5				
	High Pressure Protection	on		High pressure sensor, High pressure switch						
Protection Devices	Inverter Circuit (Compre	essor / Fan)		Over-current protection						
	Fan Motor			Thermal sw	vitch					
Refrigerant	Liquid (High Pressure) (Brazed)	In.		7/8		1-1/8				
Pipe Dimensions	Gas (Low Pressure) (Brazed)	In.		1-1/8						
Indoor Unit Connectable	Total Capacity			50% to 150% of outdo	oor unit capacity					
Conneorable	Model / Quantity		P06-P96 / 1 to 36	P06-P96 / 1 to 42	P06-P96 / 1 to 48	P06-P96 / 2 to 50 *4				
Operating Temperature	Cooling	D.B.		**Outdoor: 23° t						
Range	Heating	W.B.		Outdoor: -4° t	0 60° F					
Efficiency Ratir	ıgs *5									
EER (Ducted	/Non-Ducted) *5		12.0 / 14.4	12.1 / 12.9	11.6 / 11.9	11.4 / 11.3				
	I/Non-Ducted) *5		18.8 / 20.6	19.4 / 19.1	19.3 / 18.2	18.7 / 18.3				
	/Non-Ducted) *5		3.54 / 3.65	3.63 / 3.52	3.64 / 3.47	3.54 / 3.43				
SCHE (Ducte	d/Non-Ducted) *5		21.8 / 24.0	20.0 / 22.6	17.4 / 21.81	17.1 / 20.11				

Notes: *1 Rating Conditions:

Cooling | Indoor: 80° F (27° C) D.B./67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Cooling Indoor: 80° F (27° C) D.B./87° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B.
Heating Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./43° F (6° C) W.B.
*2 Twinning Kit is required for combining two individual outdoor units in the field for PURY-P-T(Y)SKNU combined systems.
*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.
*4 Maximum connectable number of branch pipes is 48.
*5 Efficiency values based on AHRI 1230 test method

** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required.

MITSUBISHI ELECTRIC Cooling & Heating / CITY MULTI / 67

Notes:

In systems with considerably long piping runs, the outdoor units may exhibit slightly louder than normal sound pressure levels when in heating mode.

The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.

-BS indicates Seacoast Protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.



SPECIFICATIONS: R2 SERIES 🔻

		208V	PURY-P240TSKMU-A (-BS) *2	PURY-P264TKMU-A (-BS) *2	PURY-P288TSKMU-A (-BS) *2				
		/230V	With 2 PURY-P120TKMU-A (-BS) *3	With 1 PURY-P120TKMU-A (-BS) and 1 PURY-P144TKMU-A (-BS) *3	With 2 PURY-P144TKMU-A (-BS) *3				
Mo	odel Name	460V	PURY-P240YSKMU-A (-BS) *2	PURY-P264YKMU-A (-BS) *2	PURY-P288YSKMU-A (-BS) * *2				
		4000	With 2 PURY-P120YKMU-A (-BS) *3	With 1 PURY-P120YKMU-A (-BS)* and 1 PURY-P144YKMU-A (-BS) *3	With 2 PURY-P144YKMU-A (-BS) *3				
Power Source			208 / 230V 3-Phase, 60Hz / 460V, 3-Phase, 60Hz						
		Btu/h Capacity	240,000	264,000	288,000				
	Cooling	kW Power Input	21.11 *3	23.09 *3	24.57 *3				
Capacity		A Current Input	65.1 / 58.8 / 29.4 *3	71.2 / 64.4 / 32.1 *3	75.7 / 68.5 / 34.2 *3				
(Nominal) *1		Btu/h Capacity	270,000	295,000	320,000				
	Heating	kW Power Input	22.73 *3	24.95 *3	27.62 *3				
		A Current Input	70.1 / 63.3 <mark>/ 31.6</mark> *3	76.9 / 69.5 <mark>/ 35.3 *</mark> 3	85.1 / 77.0 <mark>/ 38.5</mark> *3				
	Type X Quantity			Refer to:					
Fan	Airflow Rate	CFM	Refer to: PURY-P120TKMU-A (-BS)	PURY-P120TKMU-A (-BS) / PURY-P144TKMU-A (-BS)	Refer to: PURY-P144TKMU-A (-BS)				
	External Static Pressur Type X Quantity	e	PURY-P120YKMU-A (-BS)	PURY-P120YKMU-A (-BS) / PURY-P144YKMU-A (-BS)	PURY-P144YKMU-A (-BS)				
Comprosor	Operating Range			7% to 100%					
Compressor	Crankcase Heater	W							
	Lubricant			Refer to:					
Refrigerant	Туре		Refer to: PURY-P120TKMU-A (-BS)	PURY-P120TKMU-A (-BS) / PURY-P144TKMU-A (-BS)	Refer to: PURY-P144TKMU-A (-BS)				
External Finish	Hainha	- In	-						
Dimensions	Height Width	In. In.	PURY-P120YKMU-A (-BS)	PURY-P120YKMU-A (-BS) / PURY-P144YKMU-A (-BS)	PURY-P144YKMU-A (-BS)				
x W x D Depth		In.	-						
Net Weight									
Sound Pressure L (As Measured in a	.evel In Anechoic Room)	dB(A)	63.0 63.5 64.0						
:	High Pressure Protection	on	High pressure sensor, High pressure switch						
Protection Devices	Inverter Circuit (Compr	essor / Fan)	Over-current protection						
	Fan Motor		Thermal switch						
Refrigerant Pipe Dimensions	Liquid (High Pressure) (Brazed) Gas (Low Pressure)	In.		1-3/8					
Dimensions	(Brazed)	In.	n. 1-1/8						
Indoor Unit Connectable	Total Capacity		50% to 150% of outdoor unit capacity						
	Model / Quantity P06-P96 / 2 to 50 *4								
Operating Temperature	emperature			**Outdoor: 23° to 115° F					
Range	Heating	W.B.		Outdoor: -4° to 60° F	1				
Efficiency Rating	ıs * 5								
EER (Ducted/N	lon-Ducted) *5		10.9 / 10.9	11.0 / 11.0	11.2 / 11.3				
IEER (Ducted/I	Non-Ducted) *5		17.8 / 18.5	17.7 / 18.4	17.6 / 18.6				
COP (Ducted/N	lon-Ducted) *5		3.38 / 3.42	3.4 / 3.25	3.41 / 3.20				
SCHE (Ducted	/Non-Ducted) *5		16.5 / 18.6	17.3 / 18.7	18.2 / 19.0				
			10.3 / 10.0 17.3 / 10.1 10.2 / 19.0						

Notes:

*1 Rating Conditions: Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B. / 43° F (6° C) W.B.

*2 Twinning Kit is required for combining two individual outdoor units in the field for PURY-P-T(Y)SKMU combined systems.

*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.

*4 Maximum connectable no. of branch pipes is 48.

PURY-P***T(Y)SKMU-A

*5 Efficiency values based on AHRI 1230 test method.

* 264 and 288 require use -HA, BC controller

** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required.

Notes: In systems with considerably long piping runs, the outdoor units may exhibit slightly louder than normal sound pressure levels when in heating mode.

The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.

-BS indicates Seacoast Protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

SPECIFICATIONS: BC CONTROLLER 🔻

CMB-P-NU-G (Single BC)		
		$\langle 0 \rangle$
	-NU-G (Sindle F	5(2)

Model Name			CMB-P105NU-G	CMB-P106NU-G	CMB-P108NU-G	CMB-P1010NU-G	CMB-P1013NU-G	CMB-P1016NU-G	
Number of Brand	ches		5	6	8	10	13	16	
Power Source					208 / 230V, 1	-phase, 60 Hz			
Description 1	Cooling	W	73	86	112	138	178	217	
Power Input	Heating	W	33	40	53	66	86	106	
Current	Cooling	A	0.35 / 0.32	0.41 / 0.37	0.54 / 0.49	0.66 / 0.60	0.86 / 0.77	1.04 / 0.94	
(208/230V)	Heating	А	0.16 / 0.14	0.19 / 0.17	0.25 / 0.23	0.32 / 0.29	0.41 / 0.37	0.51 / 0.46	
External Finish			Ur	nit: Galvanized steel p	late; Drain pan: Pre-	coated galvanized she	eets plus powder coa	ating	
	Height	Inches	11-3/16	11-3/16	11-3/16	11-3/16	11-3/16	11-3/16	
Dimensions	Width	Inches	25-17/32	25-17/32	25-17/32	25-17/32	43-1/4	43-1/4	
	Depth	Inches	17-1/32	17-1/32	17-1/32	17-1/32	17-1/32	17-1/32	
Net Weight		Pounds	72	76	84	94	126	138	
	To Outdoor Unit PURY-P72 and	Liquid (High Pressure) (in.)			5/8 (E	Brazed)			
Water-source Unit PQRY-P72	Gas (Low Pressure) (in.)			3/4 (E	Brazed)				
	To Outdoor Unit PURY-P96 and	Liquid (High Pressure) (in.)	3/4 (Brazed)						
Refrigerant Pipe	Water-source Unit PQRY-P96	Gas (Low Pressure) (in.)			7/8 (E	Brazed)	178 86 0.86 / 0.77 0.41 / 0.37 heets plus powder coa 11-3/16 43-1/4 17-1/32		
Dimensions	To Outdoor Unit	Liquid (High Pressure) (in.)			3/4 (E	Brazed)			
	PURY-P120	Gas (Low Pressure) (in.)	1-1/8 (Brazed)						
	To Indoor Unit *1	Liquid Pipe (in.)			3/8	(Flare)			
	To Indoor Unit "I	Gas Pipe (in.)			5/8	(Flare)			
Max. Connected All Branches	I Capacity for	Btu/h	189,000	189,000	189,000	189,000	189,000	189,000	
Indoor Unit Capa	city Connectable to On	e Branch			54,000 Btu/h o	r less per branch			
Drain pipe					O.D.	1-1/4"			

Notes:

*1 BC controller includes reducers for all branches. 5/8" flare to 1/2" braze, 3/8" flare to 1/4" braze.

Specifications are subject to change.

CMB-P-NU-GA/HA (Main BC)

Model Name			CMB-P108NU-GA	CMB-P1010NU-GA	CMB-P1013NU-GA	CMB-P1016NU-HA		
Number of Branches			8	10	13	16		
Power Source				208 / 230V, 1	-phase, 60 Hz			
Power Input	Cooling	W	112	138	178	274/353		
Power Input	Heating	W	53	66	86	137/177		
Current (208/230V)	Cooling	A	0.54 / 0.49	0.66 / 0.60	0.86 / 0.77	1.32 / 1.54		
Guilent (200/2004)	Heating	A	0.25 / 0.23	0.32 / 0.29	0.41 / 0.37	0.66 / 0.77		
External Finish			Unit: Galvanized	l steel plate; Drain pan: Pre-c	coated galvanized sheets plus	powder coating		
	Height	Inches	11-7/16	11-7/16	11-7/16	11-7/16		
Dimensions	Width	Inches	43-3/4	43-3/4	43-3/4	43-3/4		
	Depth	Inches	20-1/2	20-1/2	20-1/2	20-1/2		
Net Weight		Pounds	122	132	148	172		
	To Outdoor Unit PURY-P72 and Water-source	Liquid (High Pressure) (in.)		5/8 (E	Brazed)			
	Unit PQRY-P72	Gas (Low Pressure) (in.)		3/4 (E	Brazed)			
	To Outdoor Unit PURY-P96 and Water-source	Liquid (High Pressure) (in.)		3/4 (E	Brazed)			
	Unit PQRY-P96	Gas (Low Pressure) (in.)		7/8 (E	Brazed)			
	To Outdoor Unit PURY-P120	Liquid (High Pressure) (in.)	3/4 (Brazed)					
	and Water-source	Gas (Low Pressure) (in.)	1-1/8 (Brazed)					
Refrigerant Pipe Dimensions	To Outdoor Unit PURY-P144/168/192 and	Liquid (High Pressure) (in.)		3razed)				
	Water-source	Gas (Low Pressure) (in.)	1-1/8 (Brazed)					
	To Outdoor Unit PURY-P216/240	Liquid (High Pressure) (in.)	1-1/8 (Brazed)					
	and PQRY P216/240	Gas (Low Pressure) (in.)	1-1/8 (Brazed)					
	To Outdoor Unit	Liquid (High Pressure) (in.)	N/A 1-3/8					
	PURY-P240/264	Gas (Low Pressure) (in.)		N/A		1-1/8		
	To be do not be to the	Liquid Pipe (in.)		3/8 (Flare)			
	To Indoor Unit *1	Gas Pipe (in.)		5/8 (Flare)			
Max. connected capa	acity for all branches	Btu/h	360,000	360,000	360,000	432,000		
Max. Connected Cap Sub BC Controller(s)		Btu/h	126,000	126,000	126,000	126,000		
Indoor Unit Capacity	Connectable to One Branch			54,000 Btu/h or	r less per branch			
Drain pipe				0.D.	1-1/4"			

Notes:

*1 BC controller includes reducers for all branches. 5/8" flare to 1/2" braze, 3/8" flare to 1/4" braze.

 $^{\rm *2}$ If two sub BC controllers are connected and at least one is a CMB-P1016NU-HB, the maximum connected capacity is 168,000 Btu/h.

MITSUBISHI ELECTRIC Cooling & Heating / CITY MULTI / 69

SPECIFICATIONS: BC CONTROLLER 🔻

CMB-P-NU-GB/HB (Sub BC)

Model Name			CMB-P104NU-GB	CMB-P108NU-GB	CMB-P1016NU-HB *2		
Number of Branches			4	8	16		
Power Source			208 / 230V, 1-phase, 60 Hz				
Power Input	Cooling	W	53	106	314		
i ower input	Heating	W	27	53	157		
Current (208/230V)	Cooling	А	0.25 / 0.23	0.51 / 0.46	1.17 / 1.37		
	Heating	А	0.13 / 0.12	0.25 / 0.23	0.59 / 0.69		
External Finish			Unit: Galvanized steel plate; Drain pan: Pre-coated galvanized sheets plus powder coating				
	Height	Inches	11-3/16				
Dimensions	Width	Inches	25-17	43-1/4			
	Depth	Inches	17-1/32				
Net Weight Pounds			62	82	136		
Refrigerant Pipe	To Indoor Unit *1	Gas Pipe (in.)	5/8 (Flare)				
Dimensions	To moor onit	Liquid Pipe (in.)	3/8 (Flare)				
Max. Connected Capacity for All Branches Btu/h			126,000	126,000	126,000		
Indoor Unit Capacity Connectable to One Branch			54,000 Btu/h or less per branch				
Drain pipe			O.D. 1-1/4"				

Notes:

*1 BC controller includes reducers for all branches. 5/8" flare to 1/2" braze, 3/8" flare to 1/4" braze.

Specifications are subject to change.

Refrigerant Line Sizes from Main BC Controller to Sub BC Controller(s)

	Liquid (High Pressure)	Gas (Low Pressure)	Liquid Pipe	
Total downstream capacity < 72,000 Btu/h (nominal cooling capacity)	5/8" (Brazed)	3/4" (Brazed)	3/8" (Brazed)	
Total downstream capacity between 73,000 - 108,000 Btu/h (nominal cooling capacity)	3/4" (Brazed)	7/8" (Brazed)	3/8" (Brazed)	
Total downstream capacity between 109,000 - 126,000 Btu/h (nominal cooling capacity)	3/4" (Brazed)	1-1/8" (Brazed)	1/2" (Brazed)	
Total downstream capacity between 127,000 - 144,000 Btu/h (nominal cooling capacity)	7/8" (Brazed)	1-1/8" (Brazed)	1/2" (Brazed)	
Total downstream capacity between 145,000 - 168,000 Btu/h (nominal cooling capacity)	7/8" (Brazed)	1-1/8" (Brazed)	5/8" (Brazed)	

Specifications are subject to change.



Model numbers:

BV14FFSI2 / BV38FFSI2 / BV12FFSI2 / BV58FFSI2

- Size available: 1/4"; 3/8"; 5/8"
- Fully factory assembled
- · Furnace brazed and pressure tested
- Each ball valve is equipped with 4-1/4" Schrader[®] Valve for refrigerant service
- Design working pressure: 700 PSIG
- Temperature range:-40° F to +325° F (-40° C to +149° C)
- Forged and machined brass unibody designed with forged brass seal cap
- Teflon® seals and gaskets (no synthetic O-rings)
- Seal cap design permits valve operation without removal of seal cap
- One year limited materials and workmanship warranty on Ball Valves

Teflon® is a registered trademark of E.I. du Pont de Nemours and Company Schrader® is a registered trademark of Schrader – Bridgeport Inc.



- Engineered for Mini-split and Multi-split HVAC Units
- Forged and machined one piece unibody construction
- Full Port Design
- 700 PSIG Rated
- R-410A Compatible
- Flare Connections

Part Number	SAE Flare	А	В	С	D	E	F
BV14FFSI2	1/4"	6.26	2.67	1.81	1.23	1.42	1.10
BV38FFSI2	3/8"	6.30	2.67	1.81	1.23	1.42	1.10
BV12FFSI2	1/2"	6.51	2.67	1.81	1.23	1.42	1.10
BV58FFSI2	5/8"	6.64	2.67	1.81	1.23	1.42	1.10

*Ball valves come with an insulation piece

PUHY-P**T(Y)SKMU

SPECIFICATIONS: Y-SERIES 🔻

Model Name		208V/ 230V	PUHY-P72TKMU-A (-BS) PUHY-P96TKMU-		PUHY-P120TKMU-A (-BS)	PUHY-P144TKMU-A (-BS)		
		460V	PUHY-P72YKMU-A (-BS) PUHY-P96YKMU-A (-BS)		PUHY-P120YKMU-A (-BS) PUHY-P144YKMU-			
Power Source			208 / 230V, 3-Phase, 60Hz / 460V, 3-Phase, 60Hz					
		Btu/h Capacity	72,000	96,000	120,000	144,000		
Capacity (Nominal) *1	Cooling	kW Power Input	5.06	7.0	9.09	11.84		
		A Current Input	15.6 / 14.1 / 7.0	21.5 / 19.5 / 9.7	28.0 / 25.3 / 12.6	36.5 / 33.0 / 16.5		
		Btu/h Capacity	80,000	108,000	135,000	160,000		
	Heating	kW Power Input	5.62	7.47	10.28	12.47		
		A Current Input	17.3 / 15.6 / 7.8	23.0 / 20.8 / 10.4	31.7 / 28.6 / 14.3	38.4 / 34.7 / 17.3		
	MCA	А	25 / 23 <mark>/ 12</mark>	34 / 31 / 15	45 / 42 / 20	53 / 49 <mark>/ 24</mark>		
Electrical Supply	Recommended Fuse Size	А	30 / 15	35 / 20	50 / 25	60 / 25		
	Type X Quantity		Propeller Fan x 1		Propeller Fan x 2			
Fan	Airflow Rate	CFM	6,	200	11,300			
	External Static P	ressure	Selectable; 0, 0.12 or 0.24" WG; factory set to 0" W.G.					
	Type X Quantity		INVERTER-driven Scroll Hermetic x 1					
	Operating Range		15% to 100% 16% to 100% 15% to 100% 14% to 100%					
Compressor	Crankcase Heater	w			-	I		
	Lubricant		MEL32					
Refrigerant Type				R4	10A			
External Finish			Pre-coated galvanized steel sheet (Plus Powder Coating for -BS type) <munsell 1="" 5y="" 8="" or="" similar=""></munsell>					
	Height In.		64-31/32					
Dimensions H X W X D	Width	In.	36-1/4	48-1/16	68-2	9/32		
	Depth	In.						
Net Weight		Pounds	430 / 463	532 / 558	697 /	/ 726		
Sound Pressure Leve (As Measured in an A		dB(A)	58.0	58.0	60.0	61.0		
	High Pressure Pr	otection	High pressure sensor, High pressure switch					
Protection Devices	Inverter Circuit (Compressor / Fa	an)	Over-current protection					
	Fan Motor		Thermal switch					
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	3/8	3/8 (1/2", length to first joint≥ 295')	3/8 (1/2", length to first joint≥ 131')	1/2		
Dimensions	Gas (Low Pressure) (Brazed)	In.	7	/8	1-1/8			
Indoor Unit	Total Capacity		50% to 130% of outdoor unit capacity					
Connectable	Model / Quantity		P06 - P96 / 1 to 15	P06 - P96 / 1 to 20	P06 - P96 / 1 to 26	P06 - P96 / 1 to 31		
Operating	Cooling	D.B.		**Outdoor: 23° to 115° F				
Temperature Range	Heating	W.B.		Outdoor: -	4° to 60° F			
System Efficiencies *	2							
EER (Ducted/Non-I	Ducted) *2		13.0 / 14.2	12.6 / 13.7	12.5 / 12.7	11.6 / 11.8		
IEER (Ducted/Non-Ducted) *2			19.8 / 21.3	19.7 / 20.7	19.1 / 19.1	19.3 / 20.2		
COP (Ducted/Non-Ducted) *2				3.95 / 4.22	3.66 / 3.83	3.56 / 3.72		

Notes:

*1 Rating Conditions: Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./43° F (6° C) W.B.

*2 Efficiency values based on AHRI 1230 test method.

** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required.

-BS indicates Seacoast Protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.



PUHY-P**T(Y)SKMU

SPECIFICATIONS: Y-SERIES **V**

PUHY-P**											
				PUHY-P168TSKMU-A (-BS) *2	PUHY-P192TSKMU-A (-BS) *2	PUHY-P216TSKMU-A (-BS) *2	PUHY-P240TSKMU-A (-BS) *2				
208V/ 230V Model Name 460V			With 1 PUHY- P72TKMU-A (-BS) and 1 PUHY-P96TKMU-A (-BS) *3	With 1 PUHY- P72TKMU-A (-BS) and 1 PUHY-P120TKMU-A (-BS)	With 1 PUHY- P96TKMU-A (-BS) and 1 PUHY-P120TKMU-A (-BS) *3	With 2 PUHY- P120TKMU-A (-BS) *3					
			PUHY-P144YSKMU-A (-BS) *2	PUHY-P168YSKMU-A (-BS) *2	PUHY-P192YSKMU-A (-BS) *2	PUHY-P216YSKMU-A (-BS) *2	PUHY-P240YSKMU-A (-BS) *2				
		460V	With 2 PUHY- P72YKMU-A (-BS) *3	With 1 PUHY- P72YKMU-A (-BS) and 1 PUHY-P96YKMU-A (-BS) *3	With 1 PUHY- P72YKMU-A (-BS) and 1 PUHYP120YKMU- A (-BS) *3	With 1 PUHY- P96YKMU-A (-BS) and 1 PUHY-P120YKMU-A (-BS) *3	With 2 PUHY- P120YKMU-A (-BS) *3				
Power Source			460V, 3-Phase, 60Hz	208 / 230V, 3-Phase, 60Hz / 460V, 3-Phase, 60Hz							
		Btu/h Capacity	144,000	168,000	192,000	240,000					
	Cooling	kW Power Input	10.57	12.71 *3	14.81 *3	16.90 *3	19.12 *3				
Capacity (Nominal)		A Current Input	14.7	39.1 / 35.4 <mark>/ 17.7</mark> *3	45.6 / 41.3 <mark>/ 21.7</mark> *3	52.1 / 47.1 <mark>/ 23.5</mark> *3	58.9 / 53.3 <mark>/ 26.6</mark> *3				
*1		Btu/h Capacity	160,000	188,000	215,000	243,000	270,000				
	Heating	kW Power Input	11.68 *3	14.02 *3	16.91 *3	19.26 *3	21.86 *3				
		A Current Input	16.2	43.2 / 39.1 <mark>/ 19.5</mark> *3	52.1 / 47.1 <mark>/ 23.1</mark> *3	59.4 / 53.7 / 26.8 *3	67.4 / 60.9 <mark>/ 30.4</mark> *3				
	Type X Quantity Airflow Rate CFM			Refer to:	Refer to:	Refer to: PUHY-P96TKMU-A (-BS) / PUHY-P120TKMU-A	Refer to: PUHY-P120TKMU-A				
Fan				PUHY-P72TKMU-A (-BS) /	PUHY-P72TKMU-A						
	External Static	Pressure	Refer to: PUHY-P72YKMU-A (-BS)	PUHY-P96TKMU-A (-BS)	(-BS) /	(-BS)	(-BS)				
	Type X Quantit	ty	FUHT-F72TRIVIU-A (-B3)	PUHY-P72YKMU-A (-BS) / PUHY-P96YKMU-A (-BS)	PUHY-P120TKMU-A (-BS)	PUHY-P96YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P120YKMU-A (-BS)				
Compressor	Operating Range		9% to 100%	6% to 100%	6% to 100%	8% to 100%	8% to 100%				
	Crankcase Heater	W				Defector					
	Lubricant		-	Refer to:	Refer to:	Refer to: PUHY-P96TKMU-A (-BS)	Refer to:				
Refrigerant	Туре		Refer to:	PUHY-P72TKMU-A (-BS) / PUHY-P96TKMU-A (-BS)	PUHY-P72TKMU-A (-BS) / PUHY-P120TKMU-A (-BS)	/ PUHY-P120TKMÙ-A (-BS) PUHY-P96YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P120TKMU-A (-BS)				
External Finish	Llainht	In.	PUHY-P72YKMU-A (-BS)								
Dimensions	Height Width	In.					PUHY-P120YKMU-A				
HXWXD	Depth	In.	-				(-BS)				
Net Weight	Bopti	Pounds									
Sound Pressure Leve (As Measured in an A		dB(A)	61.0	61.0	62.5	62.5	63.0				
	High Pressure	Protection		High pressure sensor, High pressure switch							
Protection Devices	Inverter Circuit										
Protection Devices	(Compressor /	Fan)	Over-current protection								
	Fan Motor				Thermal switch						
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	1/2	5/8							
Dimensions	Gas (Low Pressure) (Brazed)	In.		1-1/8							
Indoor Unit	Total Capacity		50% to 130% of outdoor unit capacity								
Connectable	Model / Quant	ity	P06 - P96 / 1 to 31 P06 - P96 / 1 to 36 P06 - P96 / 1 to 41 P06 - P96 / 2 to 46 P06 - P96 / 2 to 50								
Operating Cooling D.B. Temperature Range Heating W.B.			**Outdoor: 23 to 115° F Outdoor: -4 to 60° F								
System Efficiencies					000000						
EER (Ducted/Non-			12.8 / 13.2	12.6 / 12.9	12.4 / 12.5	12.3 / 12.3	12.1 / 12.0				
IEER (Ducted/Non-Ducted) *4			19.3 / 20.3	19.6 / 19.7	18.9 / 19.1	18.9 / 18.6	18.6 / 18.1				
COP (Ducted/Non-E	-		3.79 / 3.95	3.78 / 3.83	3.63 / 3.61	3.65 / 3.56	3.55 / 3.53				
Uncrea/1401-L	-40104) 4		0.1970.90	0.707 0.00	0.007 0.01	0.007 0.00	0.007 0.00				

*2 Twinning Kit is required for combining two or three individual outdoor units in the field for PUHY-P(T)YSKMU combined systems.

*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.

*4 Efficiency values based on AHRI 1230 test method.

** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

Specifications are subject to change.

-BS indicates Seacoast Protection option.

Notes: *1 Rating Conditions: Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B. / 43° F (6° C) W.B.



SPECIFICATIONS: Y-SERIES **V**

PUHY-P	**T(Y)Sk									
		208V/	PUHY-P264TSKMU-A (-BS) *2 With 2 PUHY-P72TKMU-A	PUHY-P288TSKMU-A (-BS) *2 With 1 PUHY-P72TKMU-A (-BS)	PUHY-P312TSKMU-A (-BS) *2 With 1 PUHY-P72TKMU-A	PUHY-P336TSKMU-A (-BS) *2 With 1 PUHY-P96TKMU-A	PUHY-P360TSKMU-A (-BS) *2			
Model Name		230V	(-BS) and 1 PUHY- P120TKMU-A (-BS) *3	(-BS) 1 PUHY-P96TKMU-A (-BS) and PUHY-P120TKMU-A (-BS) *3		(-BS) and 2 PUHY- P120TKMU-A (-BS) *3	With 3 PUHY- P120TKMU-A (-BS) *3			
			PUHY-P264YSKMU-A (-BS) *2	PUHY-P288YSKMU-A (-BS) *2	PUHY-P312YSKMU-A (-BS) *2	PUHY-P336YSKMU-A (-BS) *2	PUHY-P360YSKMU-A (-BS) *2			
	460V		With 2 PUHY-P72YKMU-A (-BS) and 1 PUHY- P120YKMU-A (-BS) *3	With 1 PUHY-P72YKMU-A (-BS), 1 PUHY-P96YKMU-A (-BS) and 1 PUHY- P120YKMU-A (-BS) *3	With 1 PUHY-P72YKMU-A (-BS) and 2 PUHY- P120YKMU-A (-BS) *3	With 1 PUHY-P96YKMU-A (-BS) and 2 PUHY- P120YKMU-A (-BS) *3	With 3 PUHY-P120YKMU-A (-BS) *3			
Power Source				× 7	v, 3-Phase, 60Hz / <mark>460V, 3-Ph</mark>	ase, 60Hz				
		Btu/h Capacity	264,000	288,000	312,000	336,000	360,000			
	Cooling	kW Power Input	20.35 *3	22.39 *3	24.87 *3	27.21 *3	29.65 *3			
Capacity [Nominal] *1		A Current Input	62.7 / 56.7 <mark>/ 32.0</mark> *3	69.0 / 62.4 <mark>/ 31.2</mark> *3	76.7 / 69.3 <mark>/ 36.0</mark> *3	83.9 / 75.8 <mark>/ 39.8</mark> *3	91.4 / 82.6 <mark>/ 41.3</mark> *3			
	Heating	Btu/h Capacity	295,000	323,000	350,000	378,000	405,000			
		kW Power Input	23.11 *3	25.36 *3	28.71 *3	31.73 *3	35.39 *3			
		A Current Input	71.2 / 64.4 / 33.7 *3	78.2 / 70.7 <mark>/ 35.3</mark> *3	88.5 / 80.0 <mark>/ 38.0</mark> *3	97.8 / 88.4 / 42.1 *3	109.1 / 98.7 / 49.3 *3			
Ai Fan Ra	Type X Quar	ntity	Refer to:	Refer to: / PUHY-P72TKMU-A (-BS) /	Refer to:	Refer to:	Refer to: PUHY-P120TKMU-A (-BS)			
	Airflow Rate	CFM	PUHY-P72TKMU-A (-BS) / PUHY-P120TKMU-A (-BS)	PUHY-P96TKMU-A (-BS) / PUHY-P96TKMU-A (-BS) /	PUHY-P72TKMU-A (-BS) / PUHY-P120TKMU-A (-BS)	PUHY-P96TKMU-A (-BS) / PUHY-P120TKMU-A (-BS)	PUHY-PI2UIKMU-A (-BS)			
	External Sta	tic		PUHY-P120TKMU-A (-BS			PUHY-P120YKMU-A (-BS)			
	Pressure		PUHY-P72YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P72YKMU-A (-BS) / PUHY-P96YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P72YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P96YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)				
Compressor	Type X Quantity									
	Operating R Crankcase	ange W	5% to 100% Refer to:	4% to 100% Refer to:	4% to 100% Refer to:	5% to 100% Refer to:	5% to 100% Refer to:			
	Heater		-							
Refrigerant	Lubricant Type				PUHY-P72TKMU-A (-BS) /	PUHY-P72TKMU-A (-BS) /	PUHY-P72TKMU-A (-BS) /	PUHY-P96TKMU-A (-BS) /	PUHY-P120TKMU-A (-BS)	
External Finish					PUHY-P120TKMU-A (-BS)	PUHY-P96TKMU-A (-BS) / PUHY-P120TKMU-A (-BS)	PUHY-P120TKMU-A (-BS)	PUHY-P120TKMU-A (-BS)	PUHY-P120YKMU-A (-BS	
	Height	In.	PUHY-P72YKMU-A (-BS) /	PUHY-P72YKMU-A (-BS) /	PUHY-P72YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)	PUHY-P96YKMU-A (-BS) /	FURT-F1201KW0-A (-63)			
Dimensions H X W X D	Width	In.	PUHY-P120YKMU-A (-BS)			PUHY-P120YKMU-A (-BS)				
	Depth	In.		PUHY-P96YKMU-A (-BS) / PUHY-P120YKMU-A (-BS)						
Net Weight		Pounds								
Sound Pressure I (As Measured in Anechoic Room)	an	dB(A)	63.5	64.0	64	1.5	65.0			
Protection	High Pressu Protection			High pressure sensor, High pressure switch						
Devices	Inverter Circ (Compresso		Over-current protection							
	Fan Motor			Thermal switch						
Liquid (High Pressure)		In.			3/4					
Refrigerant Pipe	(Brazed)		1-3/8 1							
	(Brazed) Gas (Low Pressure) (Brazed)	In.		1-3/8		1-4	5/8			
Dimensions	Gas (Low Pressure)				to 130% of outdoor unit capa		5/8			
Dimensions	Gas (Low Pressure) (Brazed)	ity			to 130% of outdoor unit capa P06 - P96 / 2 to 50		5/8			
Dimensions Indoor Unit Connectable Operating Temperature	Gas (Low Pressure) (Brazed) Total Capac Model / Qua Cooling	ity ntity D.B.			P06 - P96 / 2 to 50 *Outdoor: 23° to 115° F		5/8			
Dimensions Indoor Unit Connectable Operating Temperature Range	Gas (Low Pressure) (Brazed) Total Capac Model / Qua Cooling Heating	ity ntity			P06 - P96 / 2 to 50		5/8			
Dimensions Indoor Unit Connectable Operating Temperature Range System Efficience	Gas (Low Pressure) (Brazed) Total Capac Model / Qua Cooling Heating ies *4	ity ntity D.B. W.B.	12.5 / 12.5	50	P06 - P96 / 2 to 50 *Outdoor: 23° to 115° F Outdoor: -4° to 60° F	city				
Refrigerant Pipe Dimensions Indoor Unit Connectable Operating Temperature Range System Efficienci EER (Ducted/N IEER (Ducted/N	Gas (Low Pressure) (Brazed) Total Capac Model / Qua Cooling Heating ies *4 Ion-Ducted) */	ity ntity D.B. W.B.	12.5 / 12.5 19.0 / 18.7		P06 - P96 / 2 to 50 *Outdoor: 23° to 115° F		5/8 11.7 / 11.8 17.8 / 17.2			

Notes: *1 Rating Conditions: Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B. / 43° F (6° C) W.B.

*2 Twinning Kit is required for combining two or three individual outdoor units in the field for PUHY-P(T)YSKMU combined systems.

 $^{\ast}3$ Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.

*4 Efficiency values based on AHRI 1230 test method.

** Extended ambient cooling operation range down to -10° F DB Low Ambient Kit required. -BS indicates Seacoast Protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

SPECIFICATIONS: H2I[™] Y-SERIES ▼

PUHY-HP**TSJMU

Mede	el Name		PUHY-HP72TJMU-A	PUHY-HP96TJMU-A (-BS)	PUHY-HP144TSJMU-A (-BS) *2	PUHY-HP192TSJMU-A (-BS) *2	
Μοαε	a Name		(-BS)	PUNT-NP901JMU-A (-DS)	With 2 PUHY-HP72TJMU-A (-BS)	With 2 PUHY-HP96TJMU-A (BS)	
Power Source				208/230V,	3-Phase, 60Hz		
	Cooling	Btu/h	72,000	96,000	144,000	192,000	
Capacity *1	Heating	Btu/h	80,000	108,000	160,000	216,000	
	Cooling	kW	5.60	8.16	11.54 *3	16.81 *3	
Power Input	Heating	kW	6.14	8.80	12.65 *3	18.13 *3	
	Cooling	А	17.2-15.6	25.1-22.7	35.5-32.1 *3	51.8-46.8 *3	
Current (208/230V)	Heating	А	18.9-17.1	27.1-24.5	39.0-35.2 *3	55.9-50.5 *3	
	MCA	А	59 / 54	74 / 68	59 + 59 / 54 + 54 *3	74 + 74 / 68 + 68 *3	
Electrical Supply	Recommended Fuse/Breaker Size	А	60 / 60	75 / 75	60 + 60 *3	75 + 75 *3	
	Maximum Fuse Size	A	100 / 90	120 / 110	100 + 100 / 90 + 90 *3	120 + 120 / 110 + 110 *3	
	Type x Quantity		Propelle	er Fan x 1	Refer to	Refer to	
Fan	Airflow Rate	CFM	6,180	7,950	PUHY-HP72TJMU-A (-BS) Specifications	PUHY-HP96TJMU-A (-BS) Specifications	
	Motor Output	kW	0.	.92	Specifications		
	Operating Range	Cool- ing	30% to 100%	23% to 100%	15% to 100%	12% to 100%	
		Heat- ing	16% to 100%	13% to 100%	8% to 100%	6% to 100%	
Compressor	Туре		Inverter Sc	roll Hermetic			
	Motor Output kW		5.3	6.7			
	Crankcase Heater W		45				
	Lubricant		MEL32				
Refrigerant	Туре		R410A		Refer to	Refer to	
External Finish				eets (Plus Powder-coating for No. 5Y 8/1 or Similar>	PUHY-HP72TJMU-A (-BS) Specifications	PUHY-HP96TJMU-A (-BS) Specifications	
	Height	In.	65				
Dimensions	Width	In.	36-1/4	48-1/16			
	Depth	In.	29-15/16				
Net Weight		Lbs.	497	585			
Sound Pressure Level (As Measured in an Anechoic R	Room)	dB(A)	56 (61 in Heating at -5° F Outdoor Temperature)	57 (62 in Heating at -5° F Outdoor Temperature)	59 (64 in Heating at -5° F Outdoor Temperature)	60 (65 in Heating at -5° F Outdoor Temperature)	
	High Pressure Protection	on		High-pressure Sens	or, High-pressure Switch		
Protection Devices	Compressor/Fan			Overheat Protec	ction / Thermal Switch		
	Inverter			Overheat and O	Overcurrent Protection		
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.		1/2		5/8	
Dimensions	Gas (Low Pressure) (Brazed)	In.	3/4	7/8		1-1/8	
	Total Capacity			50 to 130% of C	outdoor Unit Capacity		
Indoor Unit	Quantity		P06-P72/1-15	P06-P96/1-20	P06-P96/1-31	P06-P96/1-41	
	Cooling			**Outdoor: 23° l	F D.B. to 109° F D.B.		
Operating Temperature	Heating		**Outdoor: 23° F D.B. to 109° F D.B. Outdoor: -13° F W.B. to +60° F W.B.				

Notes:

*1 Rating conditions (cooling)-Indoor: D.B. 26.7° C (80° F), W.B. 19.4° C (67° F); Outdoor: D.B. 35° C (95° F). Rating conditions (heating)-Indoor: D.B. 21.1° C (70° F); Outdoor: D.B. 8.3° C (47° F), W.B. 6.1° C (43° F).

*2 Twinning Kit CMY-Y100VBK2 is required for combining two individual outdoor units in the field for PUHY-HP-TSJMU combined systems.

*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit. ** For details on extended ambient cooling operation range down to 0° FDB see Low Ambient Cooling section.

-BS indicates Seacoast Protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

PUMY-HP**NHMU/NKMU

SPECIFICATIONS: S-SERIES 🔻

Model Name			PUMY-P36NHMU(-BS)	PUMY-P48NHMU(-BS)	PUMY-P60NKMU(-BS)		
Power Source			208 / 230V, 1-phase, 60Hz				
	Cooling	Btu/h	36,000	48,000	60,000		
Capacity *1	Heating	Btu/h	40,000	54,000	66,000		
	Cooling	kW	3.22	4.97	4.80		
Power Input	Heating	kW	2.93	4.88	6.15		
Current (208-230V) Current (208-230V)		A	14.2 / 15.7	24.0 / 21.7	21.5		
		A	12.9 / 14.2	23.6 / 21.3	27.6		
	MCA	A	26	26	25		
Electrical Supply	Maximum Fuse Size	A	30	30	40		
Type x Quantity			Propeller Fan x 2				
Fan	Airflow Rate CFM			530	4,940		
	Туре	1		INVERTER-driven Scroll Hermetic	1		
Compressor	Motor Output	kW	2	.4	3.0		
	Lubricant			FV50S			
Refrigerant			R410A				
External Finish	External Finish			s (plus Powder Coating for -BS Model) N	/unsell 3Y 7.8/1.1		
	Height	Inches	53-3	3/16	52-11/16		
Dimensions	Width	Inches	37-7/16		41-5/16		
	Depth	Inches	13 (+1-3/16)				
Net Weight		Pounds	28	313			
Sound Pressure Levels (As Measur Room)	ed in an Anechoic	dB(A)	49 / 51	50 / 52	58 / 59		
	High Pressure Protect	ction	High Pressure Switch				
Protection Devices	Compressor/Fan		Discharge Thermo and Over-current Detection		Compressor Thermo/Over-current Detection		
	Inverter		Over-current/Overheat Protection		Over-current/Voltage Protection		
Refrigerant Pipe	Liquid (High Pressure) (Flare)	Inches	3,	/8	3/8		
Dimensions	Gas (Low Pressure) (Flare)	Inches	5/8		3/4		
Indoor Unit	Total Capacity		50 - 130% of Outo	door Unit Capacity	50 - 130% of Outdoor Unit Capacity		
	Quantity		P06-36/1-6	P06-P54/1-8	P06-P54/1-12		
Operating Temperature Range	Cooling		50°FDB ~	Outdoor: 23° FDB ~ 115° FDB; - 115°FDB if connecting PKFY-P06/08 In	door Unit		
	Heating		Outdoor: 0° F\	$WB \sim 60^{\circ} FWB$	Outdoor: -4° FWB ~ 60° FWB		
System Efficiencies *2							
EER (Ducted / Non-Ducted) *2			10.75 / 11.20	8.40 / 9.00	11.3 / 12.5		
SEER (Ducted / Non-Ducted) *2			14.3 / 14.3	14.5 / 15.5	16.5 / 16.7		
COP (Ducted / Non-Ducted) *2			3.56 / 3.14	3.26 / 2.84	3.70 / 3.14		

Note: Rating Conditions:

*1 Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./ 43° F (6° C) W.B.

*2 Efficiencies values based in AHRI 210/240 test method.

-BS indicates seacoast protection option.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

SPECIFICATIONS: W-SERIES **V**

PQRY-P**THMU-A

Madalaha		208/230V	PQRY-P72THMU-A	PQRY-P96THMU-A	PQRY-P120THMU-A		
Model Na	me	460V	PQRY-P72YHMU-A PQRY-P96YHMU-A PQRY-P120YHMU				
Power source				208 / 230V, 3-Phase, 60Hz / <mark>460V, 3-Phase, 60H</mark> z	Z		
		BTU / h	72,700	96,300	120,000		
	Cooling	kW	3.97	5.77	7.73		
Capacity (Nominal)		А	12.6 / 11.4 / 5.7	17.9 / 16.2 / 8.1	23.6 / 21.4 / 10.6		
*1		BTU / h	80,000	108,000	135,000		
	Heating	kW	3.83 6.18 7.62				
		А	11.8 / 10.7 / 5.3	19.1 / 17.2 / 8.6	23.5 / 21.3 / 10.6		
	MCA	A	16 / 15 <mark>/ 8</mark>	23 / 21 / 11	30 / 27 / 14		
Electrical Supply	Max. Fuse Size	А	20 / 20 / 15	30 / 30 / 15	40 / 40 / 20		
	Type x Quantit	у		INVERTER-driven Scroll Hermetic x 1			
	Operating Ran	ge	23% to 100%	19% to 100%	14% to 100%		
Compressor	Direct-drive INVERTER Motor output	kW	4.5 / 4.6	6.2 / 6.3	8.5		
	Crankcase heater	W	51				
	Lubricant			MEL32			
Circulating Water	Water Flow Rate	GPM	25				
	Pressure Drop	Ft. (psi)		0.7(0)			
	Max Water Pre PSI / 2 MPA	essure 290		6 / (3)			
Refrigerant	Туре		R410A				
External finish			Acrylic-painted Steel Sheets				
	Height	In.	43-5/16				
Dimensions	Width	In.	34-11/16				
	Depth	In.	21-11/16				
Net Weight		Pounds		402 / 428			
Sound pressure level (in an Anechoic Room)		dB(A)	47.0	49.0	51.0		
	High Pressure	Protection		High pressure sensor, High pressure switch			
Protection devices	Compressor		Overheat protection				
	Inverter		Overheat and Overcurrent Protection				
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	5/8	3/4			
Dimensions	Gas (Low Pressure) (Brazed)	In.	3/4	7/8			
Indoor unit	Total capacity			50 to 150% of water-source unit capacity			
connectable	Model / Quanti	ity	P06 to P96 / 1 to 18	P06 to P96 / 1 to 24	P06 to P96 / 1 to 30		
Operating	Cooling	W.B.		Indoor: 59 to 75° F			
Temperature Range	Heating	D.B.		Indoor: 59 to 81° F			
Inlet Water	Cooling			*50 to 113° F			
Temperature Range	Heating			*50 to 113° F			

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

Note: Rating Conditions
*1 Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Water Temperature: 85° F (29° C) Heating: Indoor: 70° F (21° C) D.B.; Water Temperature: 70° F (21° C)
* Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent for a factor. freezing.



CITY MULTI® CATALOG

PAGE AMENDMENT



PQRY-P**THMU-A

TSHMU-A *2 P120THMU-A 3 YSHMU-A *2 P120YHMU-A 3 0000 3 *3 0/ 22.0 *3 0000 0 *3 3 /21.8 *3 100%		
3 YSHMU-A *2 P120YHMU-A 3 0000 0 *3 000 0 *3 8 / 21.8 *3		
P120YHMU-A 3 0000 3 *3 0 / 22.0 *3 000 0 *3 3 / 21.8 *3		
3 000 3 *3 0 / 22.0 *3 000 0 *3 3 / 21.8 *3		
3 *3 0 / 22.0 *3 000 0 *3 3 / 21.8 *3		
3 *3 0 / 22.0 *3 000 0 *3 3 / 21.8 *3		
0 / 22.0 *3 000 0 *3 3 / 21.8 *3		
000 0 *3 3 / 21.8 *3		
0 *3 3 <mark>/ 21.8</mark> *3		
3 / 21.8 *3		
100%		
	-P120THMU-A 120YHMU-A	
Specifications on page 76 of CITY MULTI catalog CMTECH_5.13		
.0		
1-1/8		
2 to 50 *4		
2 to 50 *4		

Note: Rating Conditions
*1 Cooling: Indoor: 80° F (27°C) DB / 67° F (19°C) WB; Water Temperature: 85° F (29°C) Heating: Indoor: 70° F (21°C) DB; Water Temperature: 70° F (21°C)
*2 Twinning kit is required for combining two individual outdoor units in the field for PQRY-P-T(S)SHMU
*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.

* Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent freezing.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

PQHY-P**THMU-A

SPECIFICATIONS: W-SERIES **V**

		208/230V	PQHY-P72THMU-A	PQHY-P96THMU-A	PQHY-P120THMU-A			
Model Na	me	460V	PQHY-P72YHMU-A PQHY-P96YHMU-A PQHY-P120YHM					
Power source			2	08 / 230V, 3-Phase, 60Hz / <mark>460V, 3-Phase, 60</mark> H	lz			
		BTU / h	72,700	96,000	120,000			
	Cooling	kW	3.85 5.61		7.51			
AL 1 0.44		A	12.2 / 11.0 / 5.5	17.4 / 15.8 / 7.8	22.9 / 20.8 / 10.3			
(Nominal) *1		BTU / h	80,000	108,000	135,000			
	Heating	kW	3.83	6.18	7.62			
		А	11.8 / 10.7 / 5.3	19.1 / 17.2 / 8.6	23.5 / 21.3 / 10.6			
	MCA	А	16 / 14 / 7	22 / 22 / 10	29 / 26 / 13			
Electrical Supply	Max. Fuse Size	А	20 / 20 / 15 30 / 30 / 15		40 / 40 / 20			
	Type x Quantit	ty		INVERTER-driven Scroll Hermetic x 1				
	Operating Ran	ige	23% to 100%	19% to 100%	14% to 100%			
Compressor	Direct-drive INVERTER Motor output	kW	4.5 / 4.6	6.2 / 6.3	7.9 / 8.5			
	Crankcase heater	w	51					
	Lubricant		MEL32					
	Water Flow Rate	GPM		25				
Circulating Water	Pressure Drop	Ft. (psi)	6 / (3)					
	Max Water Pressure	PSI (MPA)	290 (2)					
External finish			Acrylic-painted Steel Sheets					
	Height	In.	43-5/16					
Dimensions	Width	In.	34-11/16					
	Depth	In.	21-11/16					
Net Weight		Pounds	433 / 459					
Sound pressure level in an Anechoic Room		dB(A)	47.0	49.0	51.0			
	High Pressure	Protection	High pressure sensor, High pressure switch					
Protection devices	Compressor		Overheat protection					
	Inverter			Overheat and Overcurrent Protection				
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	3/8	3/8 (1/2", total length ≥ 295')	3/8 (1/2",total length ≥ 131')			
Dimensions	Gas (Low Pressure) (Brazed)	In.	3/4	7/8				
Indoor unit	Total capacity			50 to 130% of water-source unit capacity				
connectable	Model / Quant	ity	P06 to P96 / 1 to 15	P06 to P96 / 1 to 20	P06 to P96 / 1 to 26			
Inlet Water	Cooling			*50 to 113° F				
Inlet Water Temperature Range	Heating			*50 to 113° F				

Note: Rating Conditions *1 Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19°C) W.B.; Water Temperature: 85° F (29° C) Heating: Indoor: 70° F (21° C) D.B.; Water Temperature: 70° F (21° C)

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

* Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent freezing.



PQHY-P**THSMU-A

SPECIFICATIONS: W-SERIES **V**

			PQHY-P144TSHMU-A *2	PQHY-P168TSHMU-A *2	PQHY-P192TSHMU-A *2	PQHY-P216TSHMU-A *2	PQHY-P240TSHMU-A *2			
		208/230V	With 2 PQHY- P72THMU-A *3	With 1 PQHY- P72THMU-A and 1 PQHY-P96THMU-A *3	With 2 PQHY- P96THMU-A *3	With 1 PQHY- P96THMU-A and 1 PQHY-P120THMU-A *3	With 2 PQHY- P120THMU-A *3			
Model Na	Model Name		PQHY-P144YSHMU-A *2	PQHY-P168YSHMU-A *2	PQHY-P192YSHMU-A *2	PQHY-P216YSHMU-A *2	PQHY-P240YSHMU-A *2			
		460V	With 2 PQHY- P72YHMU-A *3	With 1 PQHY- P72YHMU-A and 1 PQHY-P96YHMU-A *3	With 2 PQHY- P96YHMU-A *3	With 1 PQHY- P96YHMU-A and 1 PQHY-P120YHMU-A *3	With 2 PQHY- P120YHMU-A *3			
Power source				208 / 230V, 3-Phase, 60Hz / 460V, 3-Phase, 60Hz						
		BTU / h	145,400	169,100	192,600	216,000	240,000			
	Cooling	kW	7.94 *3	9.73 *3	11.55 *3	13.50 *3	15.47 *3			
Capacity		A	25.1 / 22.7 / 11.3 *3	30.5 / 27.6 / 13.7 *3	35.9 / 32.5 <mark>/ 16.2</mark> *3	41.6 / 37.6 / 18.8 *3	47.3 / 42.8 / 21.3 *3			
(Nominal) *1		BTU / h	160,000	188,000	216,000	243,000	270,000			
	Heating	kW	7.89 *3	10.32 *3	12.74 *3	14.22 *3	15.70 *3			
		A	24.3 / 22.0 / 11.0 *3	31.8 / 28.8 / 14.3 *3	39.3 / 35.5 / 17.7 *3	43.9 / 39.7 <mark>/ 19.8</mark> *3	48.4 / 43.8 / 21.8 *3			
	Operating R	ange	11% to 100%	10% to 100%	9% to 100%	8% to 100%	7% to 100%			
	Type x Quan	tity								
Compressor	Direct- drive INVERTER Motor output	kW					Refer to PQHY- P120THMU-A and PQHY-P120YHMU-A (-BS) Specifications on page 34			
-	Crankcase heater	w								
	Lubricant	1								
	Water Flow Rate	GPM (L/s)	Refer to PQHY-	Refer to PQHY- P72THMU-A / PQHY-	Refer to PQHY-	Refer to PQHY- P96THMU-A / PUHY-				
Circulating Water	Pressure Drop	Ft. (psi)	P72THMU-A and PQHY-P72YHMU-A Specifications on page 34	P96THMU-A and PQHY-P72YHMU-A / PQHY-P96YJMU-A	P96THMU-A and PQHY-P96YHMU-A Specifications on	P120THMU-A and PQHY-P96YHMU-A / PQHY-P120YHMU-A Specifications on page 34				
	Operation Volume Range	GPM (L/m)		Specifications on page 34	page 34					
Refrigerant	Туре									
External finish										
	Height	In.								
Dimensions	Width	In.								
	Depth	In.	-							
Net Weight		Pounds								
Sound pressure leve (measured in anech		dB(A)	50.0	51.0	52.0	53.0	54.0			
	High Pressu Protection	re		High pr	essure sensor, High pressure	e switch	·			
Protection devices	Compressor	/ Fan		Ove	rheat protection / Thermal sv	witch				
	Inverter			Ove	rheat and Overcurrent Prote	ction				
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	In.	1/2	5/8						
Dimensions	Gas (Low Pressure) (Brazed)	In.			1-1/8					
Indoor unit	Total capaci	ty		50 t	o 130% of outdoor unit cap	acity				
connectable	Model / Qua	-	P06-P96 / 1 to 31	P06-P96 / 1 to 36	P06-P96 / 1 to 41	P06-P96 / 2 to 46	P06-P96 / 2 to 50			
Inlet Water	Cooling			I	*50 to 113° F	I	I			
mot mator	Cooling Heating		*50 to 113° F							

Note: Rating Conditions *1 Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B; Water Temperature: 85° F (29° C) Heating: Indoor: 70° F (21° C) D.B.; Water Temperature: 70° F (21° C)

 * $\,$ Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent freezing.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts. See our website for details on specific additional application installation coverage.

*2 Twinning Kit is required for combining two or three individual outdoor units in the field for PQRY-P-T(Y)SHMU combined systems.

*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit. 78

PQHY-P**TSHMU-A



SPECIFICATIONS: W-SERIES **V**

			PQHY-P264TSHMU-A *2	PQHY-P288TSHMU-A *2	PQHY-P312TSHMU-A *2	PQHY-P336TSHMU-A *2	PQHY-P360TSHMU-A *2		
Mode	l Name	208/230V	With 1 PQHY- P72THMU-A and 2 PQHY-P96THMU-A *3	With 3 PQHY- P96THMU-A *3	With 2 PQHY- P96THMU-A and 1 PQHY-P120THMU-A *3	With 1 PQHY- P96THMU-A and 2 PQHY-P120THMU-A *3	With 3 PQHY- P120YHMU-A *3		
			PQHY-P264YHMU-A *2	PQHY-P288YSHMU-A *2	PQHY-P312YSHMU-A *2	PQHY-P336YSHMU-A *2	PQHY-P360YSHMU-A *2		
	460V		With 1 PQHY- P96YHMU-A and 2 PQHY- P96YHMU-A *3	With 3 PQHY- P96YHMU-A *3	With 2 PQHY- P96YHMU-A and 1 PQHY- P120YHMU-A *3	With 1 PQHY- P96YHMU-A and 2 PQHY- P120YHMU-A *3	With 3 PQHY- P120YHMU-A *3		
Power source				208 / 230V, 3-Phase, 60Hz / 460V, 3-Phase, 60Hz					
	BT		265,400	288,900	312,200	336,000	360,000		
	Cooling		15.49 *3	17.32 *3	19.27 *3	21.23 *3	23.21 *3		
Capacity		A	48.5 / 43.8 <mark>/ 21.9</mark> *3	53.8 / 48.7 <mark>/ 24.3</mark> *3	59.6 / 53.9 <mark>/ 26.9</mark> *3	65.2 / 59.0 <mark>/ 29.4</mark> *3	70.9 / 64.1 <mark>/ 32.0</mark> *3		
(Nominal) *1		BTU / h	296,000	324,000	351,000	378,000	405,000		
	Heating	kW	16.68 *3	19.10 *3	20.58 *3	22.07 *3	23.55 *3		
		A	51.4 / 46.5 / 23.2 *3	58.9 / 53.3 / 26.6 *3	63.5 / 57.4 / 28.7 *3	68.1 / 61.6 / 30.7 *3	72.6 / 65.7 / 32.8 *3		
	Operating Rar					5% to 100%			
	Type x Quanti	-	7% to 100%	6% to 100%	6% to 100%	5% 10 100%	5% to 100%		
Compressor	Direct-drive INVERTER Motor output	kW							
Crank heate Lubri	Crankcase heater	w							
	Lubricant	0.0014							
	Water Flow Rate	GPM (L/s)	Refer to PQHY- P72THMU-A / PQHY-	Refer to PQHY-	Refer to PQHY- P96THMU-A / PQHY-	Refer to PQHY- P96THMU-A / PQHY-	Refer to PQHY- P120THMU-A and PQHY-P120YHMU-A Specifications on page 34		
Circulation Water	Pressure Drop	Ft. (psi)	P96THMU-A and PQHY-P72YHMU-A /	P96THMU-A and PQHY-P96YHMU-A	P120THMU-A and PQHY-P96YHMU-A /	P120THMU-A and PQHY-P96YHMU-A /			
water	Operation Volume Range	GPM (L/m)	PQHY-P96YHMU-A Specifications on page 34	Specifications on page 34	PQHY-P120YHMU-A Specifications on page 34	PQHY-P120YHMU-A Specifications on page 34			
Refrigerant	Туре								
External finish	1	- Lu							
Dimensions	Height Width	In. In.							
	Depth	In.							
Net Weight		Pounds							
Sound pressur (As Measured Anechoic Roo	in an	dB(A)	53.0	54.0	54.5	55.0	56.0		
	High Pressure Protection			High p	ressure sensor, High pressure	switch			
Protection devices	Compressor /	Fan		Ove	erheat protection / Thermal sw	itch			
	Inverter		Overheat and Overcurrent Protection						
	Liquid (High Pressure) (Brazed)	In.	3/4						
Refrigerant Pipe Dimensions	Gas (Low Pressure) (Brazed)	In. 1-3/8			1-	5/8			
Indoor unit	Total capacity			50	to 130% of outdoor unit capa	city			
connectable	Model / Quant	tity			P06-P96 / 2 to 50				
Inlet Water	Cooling				*50 to 113° F				
Temperature Range	Heating				*50 to 113° F				
- Incutally									

- Note: Rating Conditions *1 Cooling: Indoor: 80° F (27°C) D.B. / 67° F (19°C) W.B. ; Water Temperature: 85° F (29°C) Heating: Indoor: 70° F (21°C) D.B.; Water Temperature: 70° F (21°C)
- *2 Twinning Kit is required for combining two or three individual outdoor units in the field for PQRY-P-T(Y)SHMU combined systems.
- *3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.
- * Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent freezing.

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts.

See our website for details on specific additional application installation coverage. Specifications are subject to change.

PWFY-P-NMU-E-AU/BU



SPECIFICATIONS: PWFY

Model Name				PWFY-P36NMU-E-AU	PWFY-P72NMU-E-AU	PWFY-P36NMU-E-BU
Power Source					208 / 230V, 1-phase, 60Hz	1
Cooling Capacity	*1		Btu/h	36,200	72,000	-
Heating Capacity	*1		Btu/h	39,900	79,800	39,900
Power	Cooling		W	1	5	N/A
Consumption	Heatir	ıg	W	1	5	2,480
Current	Coolir	ıg	А	0.072	/ 0.065	N/A
Current	Heatir	ıg	А	0.072	/ 0.065	12.30 /11.12
External Finish					Galvanized-steel Sheet	
	Heigh	t	In.		31-1/2	
Dimensions	Width		In.		17-3/4	
	Depth		In.		11-13/16	
Net Weight	Unit		Pounds	78	84	133
Operating Outdoo	or	Cooling		23° F to 109° F 23° F to 115° F	-	
Temperature Ran		Heating		-4 ° F to 90° F V -4 ° F to 60° F V	-4 ° F to 90° F WB	
Circulating Water Range	Operation	on Volume	GPM (L/m)	3-9 (10-35) 5-18 (20-72)		3-9 (10-35)
Circulating Water	Design	Pressure	MPa (psi)	1 (145)		
Water Piping	Inlet		In.	3/4 FPT	1 FPT	3/4 FPT
Dimensions	Outlet	:	In.	3/4 FPT	1 FPT	3/4 FPT
Refrigerant Pipe	Liquid (Braze	l (High Pressure) ed)	In.	3/8	3/8	3/8
Dimensions	Gas (L (Braze	∟ow Pressure) ed)	In.	5/8	3/4	5/8
Drainpipe Dimens	ions (O.I	D.)	In.		1-1/4	
Sound Pressure L	evels.		dB(A)	2	29	44
Connectable Outdoor Units				PURY-P72-288T/Y(S)KMU (-BS) PURY-P72-288T/Y(S)MU (-BS) PURY-P72-280T/Y(S)HMU (-BS) PURY-P72-240T/Y(S)HMU (-BS) PURY-P72-260T/Y(S)HMU (-BS) PUHY-P72-360T/Y(S)KMU (-BS) PUHY-P72-280T/Y(S)HMU (-BS) PUHY-P72-360T/Y(S)HMU (-BS) PUHY-P72-280T/Y(S)HMU (-BS) PUHY-P72-7200T/Y(S)HMU (-BS) PUHY-P72-360T/Y(S)HMU (-BS) PQRY-P72-240T/Y		

Note: Rating Conditions *1 Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19°C) W.B.; Water Temperature: 85° F (29° C) Heating: Indoor: 70° F (21° C) D.B.; Water Temperature: 70° F (21° C)

LIMITED WARRANTY | Seven-year warranty on compressor. One-year warranty on parts.

See our website for details on specific additional application installation coverage.

Specifications are subject to change.

*2 Twinning Kit is required for combining two or three individual outdoor units in the field for PQRY-P-T(Y)SHMU combined systems.

*3 Each individual outdoor unit requires a separate electrical connection. Reference electrical data for each individual outdoor unit.

* Inlet water temperature range can be extended down to 23° F by flipping dip switch 3-9 to on. When dip switch 3-9 is on a glycol solution should always be used to prevent freezing.

SPECIFICATIONS: PKFY

PKFY-P**N*MU-E2

						1	1	1	i .	
Model Name			PKFY- P06NBMU-E2	PKFY- P08NHMU-E2	PKFY- P12NHMU-E2	PKFY- P15NHMU-E2	PKFY- P18NHMU-E2	PKFY- P24NKMU-E2	PKFY- P30NKMU-E2	
Power Source			208 / 230V, 1-Phase, 60Hz							
Cooling Capacity Btu/h *1			6,000	8,000	12,000	15,000	18,000	24,000	30,000	
Heating Capacity Btu/h *1			6,700	9,000	13,500	17,000	20,000	27,000	34,000	
Power	Cooling	W	8 30				-	70		
Consumption Heating		W	30 30				70			
Current	Cooling	ng A .15 .30			0.	50				
ourient	Heating	А	.15		.3	30		0.	50	
External Finish	Munsell No.					1.0Y 9.2 / 0.2				
	Height	In.			11-5/8			14	-3/8	
Dimensions	Width	In.	32-1/8 35-3/8			32-1/8 35-3/8 46-1/16		1/16		
	Depth	In.	8-7/8	-7/8 9-13/16			8-7/8 9-13/16 11-5/8		-5/8	
Net Weight	Unit	Pounds	22 29				46		16	
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)							
	Type x Quantit	ty	Line Flow Fan x 1							
Fan	Airflow Rate *2	CFM	170 - 180 - 200 - 210	320-370-413			320-370-425	570-920	710-920	
	Motor Type		Single-phase Direct-driven DC Motor							
Air Filter			Polypropylene Honeycomb							
Liquid (High In. Refrigerant Pressure) Pipe Dimen- (Flare)		In.	1/4 3/8				/8			
sions	Gas (Low Pres- sure)(Flare)	In.	1/2				1/2 5/8		/8	
Drain Pipe Dimer	ision (I.D.)	In.				5/8				
Sound Pres- sure Levels *2		dB(A)	32 - 33 - 35 - 36		34 - 39 - 43		36 - 41 - 45	39 - 49	43 - 49	

J'-av

A

Notes:

*1 Cooling/Heating Capacity indicates the maximum value at operation under the following conditions: Cooling | Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating | Indoor: 70° F (21° C) D.B.; Outdoor: 45° F (7° C) D.B. / 43° F (6° C) W.B.

*2 Airflow Rate/Sound Pressure Levels are at Lo-Mid1-Mid2-Hi, Lo-Mid-Hi, or Lo-Hi



SPECIFICATIONS: PLFY

DI E	/_D_N	BMI	J-ER2
		DIVIC	

Model Name			PLFY-P12NBMU-ER2	PLFY-P15NBMU-ER2	PLFY-P18NBMU-ER2		
Power Source			208 / 230V, 1-phase, 60Hz				
Cooling Capacity		Btu/h *1	12,000	15,000	18,000		
Heating Capacity		Btu/h *1	13,500	17,000	20,000		
Power Consumption	Cooling	W	30	30 40			
Power Consumption	Heating	W	20	30	40		
Current	Cooling	А	0.22	0.29	0.36		
Guirein	Heating	A	0.14	0.22	0.29		
External Finish Color (Munsell No	o.)			Grille 6.4Y 8.9/0.4			
	Height	Inches		10-3/16			
Dimensions	Width	Inches	33-3/32				
	Depth	Inches	33-3/32				
Net Weight *2	Unit/Panel	Pounds	49/	/13	51/13		
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)				
	Type x Quantity		Turbo Fan x 1				
Fan	Airflow Rate *3	CFM	388-424-459-494 424-459-494-565 494-530-565-636				
	Motor Type		DC Motor				
Air Filter			Polypropylene Honeycomb				
	Liquid (High Pres- sure) (Flare)	Inches		1/4			
Refrigerant Pipe Dimensions	Gas (Low Pressure) (Flare)	Inches		1/2			
Condensate Lift Mechanism (Sta	ndard)	Inches	33-1/2				
Drain pipe Dimension (O.D.)		Inches		1-1/4			
Sound Pressure Levels (As Measured in an Anechoic Room)*3	Sound Pressure Levels (As Measured in an Anechoic Hind) dB(A)			27-28-30-31	28-29-30-32		

Model Name			PLFY-P24NBMU-ER2	PLFY-P30NBMU-ER2	PLFY-P36NBMU-ER2		
Power Source				208 / 230, 1-phase, 60Hz			
Cooling Capacity		Btu/h *1	24,000	30,000	36,000		
Heating Capacity		Btu/h *1	27,000	34,000	40,000		
Power Consumption	Cooling	W	60 70		160		
Power Consumption	Heating	W	50	60	150		
Current	Cooling	А	0.43	0.51	1.07		
ourient	Heating	А	0.36	0.43	1.00		
External Finish Color (Munsell N	o.)			Grille 6.4Y 8.9/0.4			
	Height	Inches	10-	3/16	11-3/4		
Dimensions	Width	Inches		33-3/32			
	Depth	Inches		33-3/32			
Net Weight *2	Unit/Panel	Pounds	51	/13	60/13		
Heat Exchanger			Cross	Fin (Aluminum Plate Fin and Copper Tube	e)		
	Type x Quantity		Turbo Fan x 1				
Fan	Airflow Rate *3	CFM	530-565-636-706	565-636-706-777	777-883-989-1,059		
	Motor Type			DC Motor			
Air Filter			Polypropylene Honeycomb				
Refrigerant Pipe Dimensions	Liquid (High Pres- sure) (Flare)	Inches		3/8			
	Gas (Low Pressure) (Flare)	Inches		5/8			
Condensate Lift Mechanism (Sta	indard)	Inches	33-1/2				
Drain pipe Dimension (O.D.)		Inches	1-1/4				
Sound Pressure Levels (As Measured in an Anechoic Room)*3	(Low-Mid1-Mid2-High)	dB(A)	28-30-32-34	30-32-35-37	35-38-41-43		

Note: *1 Cooling / Heating capacity indicates the maximum value at operation under the following conditions: Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) DB / 43° F (6° C) W.B.

*2 Net weight is shown for unit / grille

*3 Airflow rate / sound pressure levels are at (Low-Mid1-Mid2-High).

Ventilation Air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirements. Also check local codes.

PLFY-P-NBMU-ER2



Model Name			PLFY-P08NCMU-ER2	PLFY-P12NCMU-ER2	PLFY-P15NCMU-ER2		
Power Source				208 / 230V, 1-phase, 60Hz			
Cooling Capacity		Btu/h *1	8,000	12,000	15,000		
Heating Capacity		Btu/h *1	9,000	13,500	17,000		
D	Cooling	w	50	6	0		
Power Consumption	Heating	w	50	6	0		
0	Cooling	А	0.23	0.2	28		
Current	Heating	А	0.23	0.2	28		
External Finish (Munsell No.)	·			Grille: White (6.4Y 8.9/0.4)			
	Height	Inches		8-3/16			
Dimensions	Width	Inches		22-7/16			
	Depth	Inches		22-7/16			
Net Weight *2	Unit/Panel	Pounds	34/7	37	/7		
Heat Exchanger			Cro	ss Fin (Aluminum Plate Fin and Copper Tu	ıbe)		
	Type x Quantity		Turbo Fan x 1				
Fan	Airflow Rate *3	CFM	280-320-350 320-350-390				
	Motor Type			Single-phase Induction Motor			
Air Filter			Polypropylene Honeycomb				
Refrigerant Pipe Dimensions	Liquid (High Pressure) (Flare)	Inches		1/4			
	Gas (Low Pres- sure) (Flare)	Inches		1/2			
Condensate Lift Mechanism (Sta	indard)	Inches	19-11/16				
Drain pipe Dimension (O.D.)		Inches	1-1/4				
Sound Pressure Levels (As Measured in an Anechoic Room) *3	(Low-Mid-High)	dB(A)	29-32-38	30-34-39	31-35-40		

Note:

Note: *1 Cooling / Heating capacity indicates the maximum value at operation under the following conditions: Cooling: Indoor: 80° F (27° C) D.B. / 67°F (19° C) W.B.; Outdoor: 95°F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B. / 43°F (6° C) W.B.

*2 Net weight is shown for unit / grille

*3 Airflow rate / sound pressure levels are at (Low-Mid-High).

Ventilation Air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirements. Also check local codes.



SPECIFICATIONS: PMFY

РМ	FY-P	-NBM	U-ER5

Model Name			PMFY-P06NBMU-ER5	PMFY-P08NBMU-ER5	PMFY-P12NBMU-ER5	PMFY-P15NBMU-ER5		
Power Source				208 / 230V, 1	-phase, 60Hz			
Cooling Capacity		Btu/h *1	6,000	8,000	12,000	15,000		
Heating Capacity		Btu/h *1	6,700	9,000	13,500	17,000		
	Cooling	w		40 50				
Power Consumption	Heating	w	40			50		
Current	Cooling	А	0.	20	0.21	0.26		
Current	Heating	Α	0.	20	0.21	0.26		
External Finish Color (Munsell No	o.)			Grille: 6.4	Y 8.9/0.4			
	Height	Inches		9-1	/16			
Dimensions	Width	Inches		31-3	1/32			
	Depth	Inches	15-9/16					
Net Weight	Unit	Pounds	31					
Heat Exchanger				Cros	s Fin			
	Type x Quantity		Line flow fan x 1					
Fan	Airflow Rate *2	CFM	230-254-283-307	258-283-304-328	258-283-304-328	272-307-343-378		
	Motor Type			DC Brush	less Motor			
Air Filter			Polypropylene Honeycomb					
	Liquid (High Pres- sure) (Flare)	Inches		1	/4			
Refrigerant Pipe Dimensions	Gas (Low Pressure) (Flare)	Inches		1	/2			
Condensate Lift Mechanism (Sta	ndard)	Inches	23-5/8					
Drain pipe Dimension (O.D.)		Inches	1					
Sound Pressure Levels (As Measured in an Anechoic Room) *2	(Low-Mid1-Mid2- High)	dB(A)	27-30-33-35	32-34-36-37	32-34-36-37	33-35-37-39		

Note:
*1 Cooling/Heating capacity indicates the maximum value at operation under the following conditions:
Cooling: Indoor: 80° F (27° C) D.B./67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) DB/43° F (6° C) W.B.

Ventilation Air: Providing sufficient ventilation air is an important part of every building design.

ASHRAE standard 62 provides the minimum ventilation air requirements. Also check local codes.

Specifications are subject to change.

*2 Airflow rate/sound levels are at (Low-Mid1-Mid2-High).



SPECIFICATIONS: PCFY

PCFY-P**NKMU-ER1

Model Name			PCFY-P15NKMU-ER1	PCFY-P24NKMU-ER1	PCFY-P30NKMU-ER1	PCFY-P36NKMU-ER1		
Power Source				208 / 230V, 1	Phase, 60Hz			
Cooling Capacity		Btu/h *1	15,000	24,000	30,000	36,000		
Heating Capacity		Btu/h *1	17,000	27,000	34,000	40,000		
D	Cooling	w	30	40	90	110		
Power Consumption	Heating	w	30	40	90	110		
o	Cooling	А	0.35	0.41	0.83	0.97		
Current	Heating	А	0.35	0.41	0.83	0.97		
External Finish	Munsell No.		6.4Y 8.9 / 0.4					
	Height	Inches		9-1	/16			
Dimensions	Width	Inches	37-13/16	50-3/8	6	3		
	Depth	Inches		26-	3/4			
Net Weight	Unit	Pounds	53	71	79	84		
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)					
	Type x quantity		Sirocco Fan x 2	Sirocco Fan x 3	Sirocco Fan x 4			
Fan	Airflow Rate *2	CFM	353-388-424-459	494-530-565-636	703-777-883-989	742-847-953-1,095		
	Motor Type		Direct-driven DC Motor					
Air Filter				Polypropylene	e Honeycomb			
Refrigerant Pipe	Liquid (High Pres- sure) (Flare)	Inches	1/4		3/8			
Dimensions	Gas (Low Pressure) (Flare)	Inches	1/2	1/2 5/8				
Drain Pipe Dimension	(O.D.)	Inches		1	1			
Sound Pressure Levels *2	Lo-Mid1-Mid2-Hi	dB(A)	29-32-34-36	31-33-35-37	34-37-40-43	36-39-42-44		

Note: *1 Cooling/Heating Capacity indicates the maximum value at operation under the following conditions: Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 45° F (7° C) D.B. / 43° F (6° C) W.B.

Ventilation Air: Providing sufficient ventilation air is an important part of very building design ASHRAE Standard 62 provides the minimum air requirements. Also check local codes.

*2 Airflow rate/sound pressure levels are at Low-Mid1-Mid2-Hi.



SPECIFICATIONS: PEFY

PEFY-P**NMSU-ER2	PE	FY-	P**	NM	SL	J-E	R 2
------------------	----	-----	-----	----	----	-----	------------

Model Name			PEFY-P06NM- SU-ER2* 1	PEFY-P08NM- SU-ER2	PEFY-P12NM- SU-ER2	PEFY-P15NM- SU-ER2	PEFY-P18NM- SU-ER2	PEFY-P24NM- SU-ER2		
Power Source				•	208 / 230V, 1	-phase, 60Hz	1	'		
Cooling Capacity	*2	Btu/h	6,000	8,000	12,000	15,000	18,000	24,000		
Heating Capacity	*2	Btu/h	6,700	9,000	13,500	17,000	20,000	27,000		
Power Con-	Cooling	w	50 / 50	60 / 60	70 / 70 90 / 90			120 / 120		
sumption	Heating	w	30 / 30	40 / 40	50	/ 50	70 / 70	100 / 100		
0	Cooling	A	0.42 / 0.41	0.51 / 0.49	0.56 / 0.53	0.57 / 0.55	0.74 / 0.70	0.98 / 0.93		
Current	Heating	А	0.32 / 0.31	0.41 / 0.39	0.46 / 0.43	0.47 / 0.45	0.64 / 0.60	0.88 / 0.83		
External Finish			Galvanized Steel Sheets							
	Height	Inches			7-	7/8				
Dimensions	Width	Inches		31-1/8		3	39	46-7/8		
	Depth	Inches			27-	9/16				
Net Weight	Unit	Pounds	2	2	46	Ę	54	62		
Heat Exchanger				(Cross Fin (Aluminum Pla	ate Fin and Copper Tube	э)	·		
	Type x Quantity		Sirocco Fan x 2			Sirocco	Fan x 3	Sirocco Fan x 4		
	Airflow Rate *3	CFM	176-212-247	194-247-317	211-282-370	282-335-388	353-441-529	423-565-706		
Fan	External Static Pressure *4	In.W.G.	0.02-0.06-0.14-0.20							
	Motor Type				DC Brush	less Motor				
Air Filter			Polypropylene Honeycomb Fabric (washable)							
	Liquid (High Pressure) (Brazed)	Inches			1/4			3/8		
Refrigerant Pipe Dimensions	Gas (Low Pres- sure) (Brazed)	Inches			1/2			5/8		
Condensate Lift M (standard)	lechanism	Inches	21-4/16							
Drain pipe Dimens	ions (O.D.)	Inches			1-	1/4				
Sound Pressure Levels *3	Low-Mid-High	dB(A)	22-24-28	23-26-30	23-28-35	28-30-33	30-34-37	30-35-40		

Note:

*1 PEFY-P06NMSU-E cannot be used with PUHY/PURY-P-TGMU or PQHY/PQRY-P-TGMU units.

*2 Cooling/Heating capacity indicates the maximum value at operation under the following conditions: Cooling: Indoor: 80° F (27° C) D.B./67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./43° F (6° C) W.B.

*3 Airflow rate/sound pressure levels are at (Low-Mid-High).

*4 External static pressure is factory set to 0.06 in.WG.

Ventilation Air: Providing sufficient ventilation air is an important part of very building design ASHRAE Standard 62 provides the minimum air requirements. Also check local codes.



SPECIFICATIONS: PEFY

PEFY-P**NMAU-E2

Model Name			PEFY-P06NMAU-E2	PEFY-P08NMAU-E2	PEFY-P12NMAU-E2	PEFY-P15NMAU-E2	PEFY-P18NMAU-E2	PEFY-P24NMAU-E2	
Power Source					208 / 230V, 1	-Phase, 60Hz			
Cooling Capacity		Btu/h *1	6,000	8,000	12,000	15,000	18,000	24,000	
Heating Capacity		Btu/h *1	6,700	9,000	13,500	17,000	20,000	27,000	
Power Consump-	Cooling	W	6	0	g	0	110	170	
tion	Heating	W	4	0	7	0	90	150	
	Cooling	А	0.	56	0.66	0.67	0.77	1.31	
Current	Heating	А	0.	45	0.55	0.56	0.66	1.20	
External Finish					Galvanized	Steel Sheet			
	Height	In.			9-"	7/8			
Dimensions	Width	In.		27-9/16		35-	7/16	43-5/16	
	Depth	In.			28-	-7/8			
Net Weight	Unit	Pounds		49		5	8	67	
Heat Exchanger					Cross Fin (Aluminum pl	ate fin and copper tube)			
	Type x Quantity				Sirocco Fan x 1			Sirocco Fan x 2	
	Airflow Rate *2	CFM	212-20	65-300	265-318-371	353-424-494	424-512-600	618-742-883	
Fan	External Static Pressure	In. W.G.	0.14 - 0.20 - 0.28 - 0.40 - 0.60						
	Motor Type		Direct-driven DC Brushless Motor						
Air Filter			Polypropylene Honeycomb						
Refrigerant Pipe	Liquid (High Pres- sure) (Flare)	Liquid High Pres- sure) In. 1/4						3/8	
Dimensions	Gas (Low Pres- sure) (Flare)	In.		1/2					
Drain Pipe Dimensi	ion (O.D.)	In.			1-1	/4 ["]			
Sound Pressure Levels	Lo-Mid-Hi	dB(A)	26 - 2	8 - 29	28 - 3	0 - 34	28 - 32 - 35	30 - 34 - 39	

Model Name			PEFY-P27NMAU-E2	PEFY-P30NMAU-E2	PEFY-P36NMAU-E2	PEFY-P48NMAU-E2	PEFY-P54NMAU-E2		
Power Source					208 / 230V, 1-Phase, 60Hz				
Cooling Capacity		Btu/h *1	27,000	30,000	36,000	48,000	54,000		
Heating Capacity		Btu/h *1	30,000	34,000	40,000	54,000	60,000		
Power Consump-	Cooling	w	17	70	240	340	360		
tion	Heating	w	15	50	220	320	340		
• • •	Cooling	А	1.	31	1.50	2.08	2.24		
Current	Heating	А	1.:	20	1.39	1.97	2.13		
External Finish			Galvanized Steel Sheet						
	Height	In.			9-7/8				
Dimensions	Width	In.	43-5	5/16	55-	-1/8	63		
	Depth	In.			28-7/8				
Net Weight	Unit	Pounds	6	7	8	6	93		
Heat Exchanger				Cross Fir	n (Aluminum plate fin and cop	oper tube)			
	Type x Quantit	у			Sirocco Fan x 2				
	Airflow Rate *2	CFM	618 - 74	42 - 883	812 - 989 - 1,165	989 - 1,201 - 1,412	1,042 - 1,254 - 1,483		
Fan	External Static Pres- sure	In. W.G.	0.14 - 0.20 - 0.28 - 0.40 - 0.60						
	Extended Stati Type	c Motor	Direct-driven DC Brushless Motor						
Air Filter			Polypropylene Honeycomb						
Liquid (High Pressure) Refrigerant Pipe (Flare)		In.	3/8						
Dimensions	Gas (Low Pres- sure) (Flare)	In.			5/8				
Drain Pipe Dimensi	on (O.D.)	In.			1-1/4				
Sound Pressure	Lo-Mid-Hi	dB(A)	30 - 3	4 - 39	32 - 37 - 41	35 - 40 - 44	36 - 41 - 45		

Note:

*1 Cooling/Heating Capacity indicates the maximum value at operation under the following conditions: Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 45° F (7° C) D.B. / 43° F (6° C) W.B.

*2 Airflow rate/sound pressure levels are at Low-Mid-Hi.

Ventilation Air: Providing sufficient ventilation air is an important part of very building design ASHRAE Standard 62 provides the minimum air requirements. Also check local codes.

MITSUBISHI ELECTRIC Cooling & Heating / CITY MULTI / 87

PEFY-P-NMHU-E

SPECIFICATIONS: PEFY **V**

Model Name			PEFY-P15NMHU-E	PEFY-P18NMHU-E	PEFY-P24NMHU-E	PEFY-P27NMHU-E	PEFY-P30NMHU-E		
Power Source					208 / 230V, 1-phase, 60Hz				
Cooling Capacity	*1	Btu/h	15,000	18,000	24,000	27,000	30,000		
Heating Capacity	*1	Btu/h	17,000	20,000	27,000	30,000	34,000		
Power	Cooling	W	188 / 207	7 188 / 207 245 / 270		270 / 297	326 / 360		
Consumption	Heating	W	188 / 207	188 / 207	245 / 270	270 / 297	326 / 360		
Current	Cooling	A	0.96 / 1.06	0.96 / 1.06	1.25 / 1.38	1.37 / 1.51	1.66 / 1.83		
ourient	Heating	A	0.96 / 1.06	0.96 / 1.06	1.25 / 1.38	1.37 / 1.51	1.66 / 1.83		
External Finish					Unit: Galvanized Steel Plate	e			
	Height	Inches	14-31/32	14-31/32	14-31/32	14-31/32	14-31/32		
Dimensions	Width	Inches	29-17/32	29-17/32	29-17/32	39-3/8	39-3/8		
	Depth		35-7/16	35-7/16	35-7/16	35-7/16	35-7/16		
Net Weight	Unit	Pounds	98	100	100	111	111		
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)						
	Type x Quantity		Sirocco Fan x 1	Sirocco Fan x 1	Sirocco Fan x 1	Sirocco Fan x 1	Sirocco Fan x 1		
	Airflow Rate *2	CFM	353-494	353-494	477-671	547-777	636-883		
Fan	Ext. Static Pressure (208/230V)	In. W.G.		0.	201-0.642/0.401-0.602-0.8	03			
	Motor Type		Single-phase Induction Motor						
Air Filter			Optional Part						
Refrigerant Pipe Dimensions	Liquid (High Pressure) (Flare)	Inches	1/4	1/4	3/8	3/8	3/8		
Dimensions	Gas (Low Pres- sure) (Flare)	Inches	1/2	1/2	5/8	5/8	5/8		
Drain pipe Dimen	ision (O.D.)	Inches	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4		
Sound Pressure	Levels (Low-High) *2	dB(A) @ 230V	34-39	34-39	36-41	35-41	38-43		

Model Name			PEFY-P36NMHU-E	PEFY-P48NMHU-E	PEFY-P54NMHU-E	PEFY-P72NMHSU-E	PEFY-P96NMHSU-E	
Power Source					208 / 230V, 1-phase, 60Hz			
Cooling Capacity	/ *1	Btu/h	36,000	48,000	54,000	72,000	96,000	
Heating Capacity	/ *1	Btu/h	40,000	54,000	60,000	80,000	108,000	
Power	Cooling	W	683 / 754	683 / 754	695 / 767	63	82	
Consumption	Heating	W	683 / 754	683 / 754	695 / 767	63	82	
	Cooling	A	3.38 / 3.73	3.38 / 3.73	3.43 / 3.78	3.67 / 3.32	4.89 / 4.43	
Current	Heating	А	3.38 / 3.73	3.38 / 3.73	3.43 / 3.78	3.67 / 3.32	4.89 / 4.43	
External Finish	·				Unit: Galvanized Steel Plate	9	·	
	Height Inches		14-31/32	14-31/32	14-31/32	18-	9/16	
Dimensions	Width	Inches	47-1/4	47-1/4	47-1/4	49-	-1/4	
	Depth	Inches	35-7/16	35-7/16	35-7/16	44-1/8		
Net Weight	Unit	Pounds	155	155	155	214 221		
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)					
	Type x Q	uantity	Sirocco Fan x 2	Sirocco Fan x 2	Sirocco Fan x 2	Sirocco Fan x 2	Sirocco Fan x 2	
	Airflow Rate *2	CFM	936-1,342	936-1,342	989-1,412	1,766 - 2,154 - 2,542	2,048 - 2,507 - 2,966	
Fan	Ext. Static Pressure (208/230V)	In. W.G.	0.	201-0.642/0.401-0.602-0.8	03	0.20 - 0.40 - 0.60 - 0.80 - 1.00		
	Motor	Гуре	S	ingle-phase Induction Mot	or	DC Motor		
Air Filter				1	Optional Part			
Refrigerant Pipe	Liquid (High Pressure)	Inches	3/8 (Flare)	3/8 (Flare)	3/8 (Flare)	3/8 (Brazed)	3/8 (Brazed)	
Dimensions	Gas (Low Pres- sure)	Inches	5/8 (Flare)	5/8 (Flare)	5/8 (Flare)	3/4 (Brazed)	7/8 (Brazed)	
Drain pipe Dimer	nsion (O.D.)	Inches	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	
Sound Levels *2	(Low-High)	dB(A) @ 230V	38-44	38-44	38-44	36 - 39 - 43	39 - 42 - 46	

Note:
*1 Cooling/Heating capacity indicates the maximum value at operation under the following conditions:
Cooling: Indoor: 80° F (27° C) D.B./67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./43° F (6° C) W.B.

*2 Airflow rate/sound levels are at (Low-High)

Ventilation Air: Providing sufficient ventilation air is an important part of every building design.

ASHRAE standard 62 provides the minimum ventilation air requirements. Also check local codes.

PFFY-P**N(E,R)MU-E

SPECIFICATIONS: PFFY-P-NEMU/NRMU

Model			PFFY-P06NEMU-E	PFFY-P08NEMU-E	PFFY-P12NEMU-E	PFFY-P15NEMU-E	PFFY-P18NEMU-E	PFFY-P24NEMU-E
Power Source					208 / 230\	/, 1 Phase, 60Hz		
Cooling Capacity	/	Btu/h *1	6,000	8,000	12,000	15,000	18,000	24,000
Heating Capacity	/	Btu/h *1	6,700	9,000	13,500	17,000	20,000	27,000
Power	Cooling	W	51 / 61	51 / 61	55 / 67	65 / 78	78 / 93	96 / 114
Consumption	Heating	W	51 / 61	51 / 61	55 / 67	65 / 78	78 / 93	96 / 114
Current	Cooling	A	0.25 / 0.27	0.25 / 0.27	0.27 / 0.30	0.32 / 0.35	0.38 / 0.42	0.47 / 0.51
Current	Heating	A	0.25 / 0.27	0.25 / 0.27	0.27 / 0.30	0.32 / 0.35	0.38 / 0.42	0.47 / 0.51
External Finish (M	Vunsell No.)				Acrylic Pain	ted (5Y 8/1)		
	Height	Inches	24-13/16	24-13/16	24-13/16	24-13/16	24-13/16	24-13/16
Dimensions	Width	Inches	41-11/32	41-11/32	46-3/32	46-3/32	55-17/32	55-17/32
	Depth	Inches	8-11/16	8-11/16	8-11/16	8-11/16	8-11/16	8-11/16
Net Weight	Unit	Pounds	51	51	56	58	67	71
Heat Exchanger				C	Cross Fin (Aluminum Pla	te Fin and Copper Tub	e)	
	Type x Quantity		Sirocco Fan x 1	Sirocco Fan x 1	Sirocco Fan x 2	Sirocco Fan x 2	Sirocco Fan x 2	Sirocco Fan x 2
F	Airflow Rate *2	CFM	194-229	194-229	247-317	300-388	353-459	353-494
Fan	Motor Type				Single Phase I	nduction Motor		
	Motor Output	W	15	15	18	30	35	63
Air Filter					Standa	rd Filter		
Refrigerant Pipe	Liquid (High Pressure) (Flare)	Inches	1/4	1/4	1/4	1/4	1/4	3/8
Dimension	Gas (Low Pres- sure) (Flare)	Inches	1/2	1/2	1/2	1/2	1/2	5/8
Drain Pipe Dimer	nsion	Inches			0.D. *	1-3/32		
Sound Levels *2	(Low-High)	dB(A)	36-41	36-41	37-41	38-43	38-43	40-46

Note:

*1 Cooling / Heating capacity indicates the maximum value at operation under the following conditions:

Cooling: Indoor: 80° F (27° C) DB / 67° F (19° C) WB; Outdoor: 95° F (35° C) DB Heating: Indoor: 70° F (21° C) DB; Outdoor: 45° F (7° C) DB / 43° F (6° C) WB Ventilation Air: Providing sufficient ventilation air is an important part of every building design ASHRAE standard 62 provides the minimum ventilation air requirements. Also check local codes.

*2 Airflow rate/sound levels are at (Low-High)

Specifications are subject to change.



Model			PFFY- P06NRMU-E	PFFY- P08NRMU-E	PFFY- P12NRMU-E	PFFY- P15NRMU-E	PFFY- P18NRMU-E	PFFY- P24NRMU-E			
Power Source			208 / 230V, 1 Phase, 60Hz								
Cooling Capacity	/	Btu/h *1	6,000	8,000	12,000	15,000	18,000	24,000			
Heating Capacity	/	Btu/h *1	6,700	9,000	13,500	17,000	20,000	27,000			
Power	Cooling	W	51/61	51 / 61	55 / 67	65 / 78	78 / 93	96 / 114			
Consumption	Heating	W	51/61	51 / 61	55 / 67	65 / 78	78 / 93	96 / 114			
Current	Cooling	А	0.25 / 0.27	0.25 / 0.27	0.27 / 0.30	0.32 / 0.35	0.38 / 0.42	0.47 / 0.51			
	Heating	A	0.25 / 0.27	0.25 / 0.27	0.27 / 0.30	0.32 / 0.35	0.38 / 0.42	0.47 / 0.51			
External Finish (I	Vunsell No.)				Galvanized	Sheet Metal					
	Height	Inches	25-3/16	25-3/16	25-3/16	25-3/16	25-3/16	25-3/16			
Dimensions	Width	Inches	34-29/32	34-29/32	39-5/8	39-5/8	49-1/16	49-1/16			
	Depth	Inches	8-11/16	8-11/16	8-11/16	8-11/16	8-11/16	8-11/16			
Net Weight	Unit	Pounds	41	41	45	47	56	60			
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)								
	Type x Quantity		Sirocco Fan x 1	Sirocco Fan x 1	Sirocco Fan x 2						
Fan	Airflow Rate *2	CFM	194-229	194-229	247-317	300-388	353-459	353-494			
ran	Motor Type		Single Phase Induction Motor								
	Motor Output	kW	0.015	0.015	0.018	0.030	0.035	0.063			
Air Filter			Standard Filter								
Refrigerant Pipe	Liquid (High Pressure) (Flare)	Inches	1/4	1/4	1/4	1/4	1/4	3/8			
Dimension	Gas (Low Pressure) (Flare)	Inches	1/2	1/2	1/2	1/2	1/2	5/8			
Drain Pipe Dime	nsion	Inches				O.D. 1-3/32					
Sound Levels *2	(Low-High)	dB(A)	36-41	36-41	37-41	38-43	38-43	40-46			

Note:

*1 Cooling / Heating capacity indicates the maximum value at operation under the following conditions:

Cooling: Indoor: 80° F (27° C) D.B. / 67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B. Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 45° F (7° C) D.B. / 43° F (6° C) W.B. Ventilation Air: Providing sufficient ventilation air is an important part of every building design ASHRAE standard 62 provides the minimum ventilation air requirements. Also check local codes.

Specifications are subject to change.

*2 Airflow rate/sound levels are at (Low-High)

PVFY-P**E00B

Model Name			PVFY-P12E00B	PVFY-P18E00B	PVFY-P24E00B	PVFY-P30E00B	PVFY-P36E00B	PVFY-P48E00B	PVFY-P54E00B			
Power Source				208 / 230V, 1-phase, 60Hz								
Cooling Capacity		Btu/h *1	12,000	18,000	24,000	30,000	36,000	48,000	54,000			
Heating Capacity		Btu/h *1	13,500	20,000	27,000	34,000	40,000	54,000	60,000			
Power	Cooling	kW	0.08	0.11	0.14	0.19	0.23	0.29	0.32			
Consumption	Heating	kW	0.08	0.11	0.14	0.19	0.23	0.29	0.32			
Our	Cooling	A	0.42 / 0.38	0.63 / 0.57	0.79 / 0.72	1.07 / 0.97	1.21 / 1.10	1.62 / 1.47	1.63 / 1.48			
Current	Heating	А	0.42 / 0.38	0.63 / 0.57	0.79 / 0.72	1.07 / 0.97	1.21 / 1.10	1.62 / 1.47	1.63 / 1.48			
	Height	Inches		42-3/4		4	18	58	-3/4			
Dimensions	Width	Inches		17-3/4		2	24	24-1/2				
	Depth Inches				21			21-3/4				
Net Weight	Unit	Pounds	88	98	108	115	120	160	168			
Heat Exchanger			Aluminum Fin and Copper Tube									
	Type x Qty.		Forward Curved Blower x 1									
	Airflow Rate *2	CFM	341-391-469	431-508-559	504-642-716	702-844-901	829-1001-1066	1072-1310-1414	1224-1519-1585			
Fan	External Static Pressure	In. W.G.	(Size P12 = 0.20, 0.40, 0.60), (Sizes P18 - P54 = 0.30, 0.50, 0.80)									
	Motor Type					High Efficiency DC	(ECM)					
Refrigerant Pipe	Liquid (High Pressure) (Brazed)	Inches	1	/4			3/8					
Dimensions	Gas (Low Pressure) (Brazed)	Inches	1	/2			5/8					
Drain Pipe	Primary	Inches		3/4 FPT								
Dimension	Secondary	incnes				3/4 FPT						
Sound Data	Pressure	dB(A)	33-33-34	35-35-36	37-38-39	37-39-39	37-38-39	38-39-39	40-42-42			
(Low-Med-Hi) *3	Power	dB(A)	47-47-48	49-49-50	51-52-54	52-53-54	51-53-53	52-53-54	54-56-57			

Note:
 *1 Cooling/Heating capacity indicates the maximum value at operation under the following conditions:
 Cooling: Indoor: 80° F (27° C) D.B./67° F (19° C) W.B.; Outdoor: 95° F (35° C) D.B.
 Heating: Indoor: 70° F (21° C) D.B.; Outdoor: 47° F (8° C) D.B./43° F (6° C) W.B.

*2 Airflow rate/sound pressure levelsare at (Low-Med-High).

*2 Sound data measured at medium static setting.

Ventilation Air: Providing sufficient ventilation air is an important part of every building design. ASHRAE standard 62 provides the minimum ventilation air requirements. Also check local codes.



SPECIFICATIONS: LOSSNAY ENERGY 🔻

LGH-F***RX5-E

Model Name			LGH-F300RX5-E									
Power Source			208 / 230V, 1-Phase, 60Hz									
Ventilation Mode				Lossnay	Ventilation			Bypass	Ventilation			
Fan speed			Extra Low	Low	High	Extra High	Extra Low	Low	High	Extra High		
Current		А	0.32 / 0.36	0.81 / 0.86	1.12 / 1.18	1.33 / 1.35	0.32 / 0.36	0.81 / 0.86	1.12 / 1.18	1.33 / 1.35		
Power Consumption		kW	0.067 / 0.082	0.168 / 0.197	0.232 / 0.268	0.274 / 0.300	0.067 / 0.082	0.168 / 0.197	0.232 / 0.268	0.274 / 0.300		
Air Volume		CFM	91 / 112	203 / 235	260 / 300	300	91 / 112	203 / 235	260 / 300	300		
		m³/min	155 / 190	345 / 400	441 / 510	510	155 / 190	345 / 400	441 / 510	510		
External Static Pressure		In. W.G.	0.06 / 0.08	0.28 / 0.33	0.46 / 0.54	0.60 / 0.78	0.06 / 0.08	0.28 / 0.33	0.46 / 0.54	0.60 / 0.78		
		Pa	14 / 19	70 / 83	115 / 135	150 / 195	14 / 19	70 / 83	115 / 135	150 / 195		
Temperature Exchange Efficiency		%	81 / 79	71 / 69	67.5 / 65.5	65.5	-	-	-	-		
Enthalpy Exchange	Heating	%	79 / 77	68 / 66	65 / 63	63	-	-	-	-		
Efficiency	Cooling	%	63 / 61	55 / 53	52 / 50	50	-	-	-	-		
Sound Pressure Level		dB(A)	18	25.5 / 27.5	30.5 / 33	34 / 37	18 / 18.5	25.5 / 28.5	31.5 / 34.5	35 / 37.5		
Starting Current		А				2.5	5					
Dimensions	Height	In.				12-3	/8					
	Width	In.				40						
	Depth	In.				34-15	/16					
Weight		Lbs.				73						

Model Name			LGH-F470RX5-E								
Power Source			208 / 230V, 1-Phase, 60Hz								
Ventilation Mode				Lossnay \	/entilation			Bypass V	entilation		
Fan speed			Extra Low	Low	High	Extra High	Extra Low	Low	High	Extra High	
Current		А	0.60 / 0.64	1.59 / 1.71	2.10 / 2.20	2.40 / 2.50	0.60 / 0.64	1.59 / 1.71	2.10/2.20	2.40 / 2.50	
Power Consumption		kW	0.120 / 0.145	0.330 / 0.393	0.425 / 0.490	0.485 / 0.538	0.120 / 0.145	0.330 / 0.393	0.425 / 0.490	0.485 / 0.538	
Air Volume		CFM	147 / 177	330 / 365	420 / 470	470	147 / 177	330 / 365	420 / 470	470	
		m³/min	250 / 300	560 / 620	714 / 799	799	250 / 300	560 / 620	714 / 799	799	
External Static Pressure		In. W.G.	0.07 / 0.09	0.33 / 0.40	0.54 / 0.66	0.80 / 0.96	0.07 / 0.09	0.33 / 0.40	0.54 / 0.66	0.80 / 0.96	
		Pa	17 / 23	83 / 99	135 / 165	200 / 240	17 / 23	83 / 99	135 / 165	200 / 240	
Temperature Exchange Efficiency		%	82 / 80	74 / 72	70.5 / 69	69	-	-	-	-	
Enthalpy Exchange Efficiency	Heating	%	80 / 78	70 / 68	66 / 64	64	-	-	-	-	
Enciency	Cooling	%	69 / 67	58 / 55	53 / 51	51	-	-	-	-	
Sound Pressure Level		dB(A)	18 / 18.5	28.5 / 31	33 / 35.5	36 / 38	18	28.5 / 31.5	33 / 36	36 / 39	
Starting Current		А				4.	5				
Dimensions	Height	In.				15-0	3/4				
	Width	In.				39-	1/2				
	Depth	In.				45-1	/16				
Weight		Lbs.				11	9				

SPECIFICATIONS: LOSSNAY ENERGY 🔻

LGH-F***RX5-E

Model Name			LGH-F600RX5-E									
Power Source						208 / 230V, 1-	Phase, 60Hz					
Ventilation Mode				Lossnay Ve	ntilation			Bypass \	/entilation			
Fan speed			Extra Low	Low	High	Extra High	Extra Low	Low	High	Extra High		
Current		А	0.72 / 0.79	1.56 / 1.69	2.50 / 2.70	2.80 / 2.90	0.72 / 0.79	1.56 / 1.69	2.50 / 2.70	2.80 / 2.90		
Power Consumption		kW	0.146 / 0.180	0.324 / 0.387	0.517 / 0.605	0.577 / 0.637	0.146 / 0.180	0.324 / 0.387	0.517 / 0.605	0.577 / 0.637		
Air Volume		CFM	200 / 235	370 / 430	520 / 600	600	200 / 235	370 / 430	520 / 600	600		
		m³/min	340 / 400	628 / 730	884 / 1020	1020	340 / 400	628 / 730	884 / 1020	1020		
External Static Pressure		In. W.G.	0.07	0.24	0.48	0.56 / 0.80	0.07	0.24	0.48	0.56 / 0.80		
		Ра	18	61	120	139 / 199	18	61	120	139 / 199		
Temperature Exchange Efficiency		%	80 / 78	75 / 73	68 / 67	67	-	-	-	-		
Enthalpy Exchange	Heating	%	79 / 77	71 / 68	65 / 64	64	-	-	-	-		
Efficiency	Cooling	%	68 / 67	59 / 56	53 / 50	50	-	-	-	-		
Sound Pressure Level		dB(A)	19 / 21	26.5 / 29	34 / 36.5	36 / 38	18.5 / 20	27 / 30	35 / 37.5	37 / 39		
Starting Current		А				5						
Dimensions	Height	In.				15-3	3/4					
	Width	In.				48-	1/2					
	Depth	In.				45-1	/16					
Weight		Lbs.				13	2					

Model Name			LGH-F1200RX5-E						
Power Source									
Ventilation Mode			Lc	ssnay Ventilatior	1		Bypass Ventilation	1	
Fan speed		Low	High	Extra High	Low	High	Extra High		
Current		А	3.1 / 3.4	5.0 / 5.3	5.7 / 5.8	3.1	5.1 / 5.4	5.8	
Power Consumption		kW	0.639 / 0.765	1.040 / 1.219	1.185 / 1.303	0.639 / 0.765	1.040 / 1.219	1.185 / 1.303	
Air Volume		CFM	695 / 824	1012 / 1200	1200	695 / 824	1012 / 1200	1200	
		m³/min	1180 / 1400	1720 / 2039	2039	1180 / 1400	1720 / 2039	2039	
External Static Pressure		In. W.G.	0.20	0.43	0.43 / 0.75	0.20	0.43	0.43 / 0.75	
		Pa	51	108	108 / 188	51	108	108 / 188	
Temperature Exchange Efficiency		%	75 / 73	68 / 67	67	-	-	-	
Enthalpy Exchange Efficiency	Heating	%	71 / 68	65 / 64	64	-	-	-	
	Cooling	%	59 / 56	53 / 50	50	-	-	-	
Sound Pressure Level		dB(A)	29 / 32	36 / 39	38 / 40.5	30.5 / 33.5	38 / 41	40 / 42.5	
Starting Current		А			1) D			
Dimensions	Height	In.			31-7	/16			
	Width	In.			48-	2/1			
	Depth	In.			45-1	/16			
Weight		Lbs.	265						



SPECIFICATIONS: DEDICATED OUTDOOR **AIR SYSTEMS**

PEFY-AF

Model Name			PEFY-AF1200CFM	PEFY-AF1200CFMR				
Power Source			208 / 230V, 1	Phase, 60Hz				
Cooling Capacity		Btu/h *1	112,000	112,000				
Heating Capacity		Btu/h *1	61,400	61,400				
Reheat Capacity		Btu/h	-	24, 200				
	Cooling	w	660 /	/ 780				
Power Consumption	Heating	w	660 /	/ 780				
Current	Cooling	А	3.19 /	/ 3.45				
Current	Heating	А	660 /	/ 670				
External Finish	Munsell No.		6.4Y 8	.9 / 0.4				
	Height	Inches	18-5	9/16				
Dimensions	Width	Inches	49-	1/4				
	Depth	Inches	55-	1/8				
Net Weight	Unit	Pounds	287	309				
Heat Exchanger			Cross Fin (Aluminum Pla	te Fin and Copper Tube)				
	Type x quantity		Sirocco Fan x 2					
	Airflow Rate *2	CFM	1,2	200				
Fan	External Static	In.WG	0.40-0.60-0.88 (208V)	0.28-0.48-0.80 (208V)				
	Pressure	11.000	0.64-0.80-1.04 (230V)	0.52-0.72-0.96 (230V)				
	Motor Type		Single-phase Ir	nduction Motor				
Air Filter			Field Supply					
Main Coil Refrigerant Pipe	Liquid (High Pres- sure) (Flare)	Inches	3,	/8				
Dimensions	Gas (Low Pressure) (Flare)	Inches	7/	/8				
Reheat Coil Refrigerant Pipe	Liquid (High Pres- sure) (Flare)	Inches	-	7/8				
Dimensions	Gas (Low Pressure) (Flare)	Inches	-	3/8				
Drain Pipe Dimension	(O.D.)	Inches	1-1/4 x 2					
Sound Pressure Level *3	Low-Mid-High	dB(A)	36-38-4 39-41-4					
Operating Tempera-	Cooling	<u> </u>	50° F WB to 95° F WB (109° F DB) (10° C WB to 35° C WB [43° C DB])					
ture Range	Heating		-4° F WB +60° F WB (-20° C WB +16° C WB)					
Connectable Outdoor	Unit		PUHY-P120TKMU (-BS), PUHY-P120YKMU (-BS) PUHY-P120TJMU (-BS), PUHY-P120YJMU (-BS)	PURY-P120TKMU (-BS), PURY-P120YKMU (-BS) PURY-P120TJMU (-BS), PURY-P120YJMU (-BS)				

Note:
*1 Cooling/Heating Capacity indicates the maximum value at operation under the following conditions:
Cooling | Entering Indoor Unit: 87° F (31° C) D.B. / 80° F (27° C) W.B.; Outdoor Unit: 87° F (31° C) D.B.
Heating | Entering Indoor Unit: 32° F (0° C) D.B.; Outdoor Unit: 32° F (0° C) D.B. / 28° F (-2° C) W.B.

Ventilation Air: Providing sufficient ventilation air is an important part of very building design ASHRAE Standard 62 provides the minimum air requirements. Also check local codes.

Specifications are subject to change.

*2 Airflow rate/sound pressure levels are at Low-Mid-Hi.

INDUSTRY STANDARDS

Mitsubishi Electric HVAC continues to drive acceptance of VRF technology in the U.S. engineering and regulatory arenas.

LEADING THE VRF INDUSTRY

Mitsubishi Electric HVAC has been at the forefront of the charge to develop proper testing standards and procedures for VRF systems, providing clients the necessary information to properly incorporate these systems into their building designs.

AHRI STANDARDS

Air-conditioning, Heating and Refrigeration Institute (AHRI) Standards 210/240 and 340/360 had been used as the benchmark for establishing the testing methods of traditional unitary HVAC equipment. These standards have formalized the use of such terms as EER, IPLV, COP, SEER, and HSPF– terms which are recognized and applied throughout the HVAC industry today. The simple testing procedures detailed in these existing AHRI standards, however, were not adequate to appropriately measure efficiency levels within advanced VRF systems, and could not account for such technologies as inverter-driven compressors, simultaneous cooling and heating, and variable-capacity ductless and ducted indoor units.

AHRI STANDARD 1230

Mitsubishi Electric worked with the Department of Energy (DOE) and AHRI to gain regulatory acceptance for VRF systems. Initially, Mitsubishi Electric requested DOE grant waivers from the existing testing standards for VRF systems. It was quickly recognized that waivers weren't a long-term solution, and Mitsubishi Electric immediately assisted in developing a proper testing standard for VRF systems–a standard that is now known as AHRI Standard 1230.

INTEGRATED ENERGY EFFICIENCY RATIO

IEER is the new measure of partial-load cooling performance for unitary equipment and VRF systems. IEER greatly improves the industry methodology for part-load testing by collecting data for four different outdoor testing conditions based on load on the system. The formula (shown below) used for testing, more accurately demonstrates the value and capabilities of INVERTER-driven VRF systems at part-load operation.

ASHRAE STANDARD 90.1-2007

ASHRAE Standard 90.1 is synonymous with energy efficiency requirements in commercial buildings. Many city, state, and national codes reference the efficiency levels listed in

Test Condition "A"	=	100% Capacity @ 95° FDB
Test Condition "B"	=	75% Capacity @ 81.5° FDB
Test Condition "C"	=	50% Capacity @ 68° FDB
Test Condition "D"	=	25% Capacity @ 65° FDB

IEER = 0.02A + 0.617B + 0.238C + 0.125D

this standard. With the development and approval of AHRI Standard 1230, Mitsubishi Electric and other VRF system manufacturers had a platform that supported the introduction of VRF efficiency standards as an addendum to Standard 90.1-2007, and incorporated these standards as a part of Standard 90.1-2010. The minimum VRF efficiency standards are shown in Table 1.

VRF PARTIAL LOAD VS. UNITARY

A section taken directly from the ASHRAE-90.1-2007 addendum for VRF equipment:

"Cooling EER and heating COP efficiency levels are proposed for a full range of product cooling capacities at standard rating conditions listed in AHRI Standard 1230. The proposed SEER, HSPF, EER, and COP levels are identical to the minimum efficiencies for conventional ducted air cooled air conditioners and applied heat pumps listed in ASHRAE 90.1. **Higher IEER** levels are being proposed because these products are primarily designed to operate in zoning applications and at part-load conditions. The first tier of IEER values is effective immediately, while the second phase will become effective on July 1, 2012."

The minimum IEER requirements for VRF systems have been set at 10% higher than minimum unitary equipment requirements with approval from the VRF industry.

On July 1,2012 that minimum will be increased to 15% above the unitary requirement, further emphasizing the superior partload performance of VRF equipment.

ELECTRICALLY OPERATED VARIABLE

REFRIGERANT FLOW AIR-TO-AIR AND APPLIED HEAT PUMPS-MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Sub-Category or Rating Condition	Minimum Efficiency	Test Procedure	
	<65,000 Btu/h	All	VRF Multi-split System	13.0 SEER		
	≥65,000 Btu/h and <135,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System	11.0 EER 12.3 IEER 12.9 IEER (as of 7/1/2012)		
	≥65,000 Btu/h and <135,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System with Heat Recovery	10.8 EER 12.1 IEER 12.7 IEER (as of 7/1/2012)		
VRF Air Cooled, (cooling mode)	≥135,000 Btu/h and <240,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System	10.6 EER 11.8 IEER 12.3 IEER (as of 7/1/2012)	AHRI 1230	
	≥135,000 Btu/h and <240,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System with Heat Recovery	10.4 EER 11.6 IEER 12.1 IEER (as of 7/1/2012)		
	≥240,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System	9.5 EER 10.6 IEER 11.0 IEER (as of 7/1/2012)		
	≥240,000 Btu/h	Electric Resistance (or none)	VRF Multi-split System with Heat Recovery	9.3 EER 10.4 IEER 10.8 IEER (as of 7/1/2012)		
	<65,000 Btu/h	All	VRF Multi-split System 86°F entering water	12.0 EER		
	≥65,000 Btu/h h	All	VRF Multi-split System with Heat Recovery 86°F entering water	11.8 EER		
VRF Water Source,	≥65,000 Btu/h and <135,000 Btu/h	All	VRF Multi-split systems 86°F entering water	12.0 EER		
(cooling mode)	≥65,000 Btu/h and <135,000 Btu/h			11.8 EER	- AHRI 1230	
	≥135,000 Btu/h	All	VRF Multi-split systems 86°F entering water	10.0 EER		
	≥135,000 Btu/h	All	VRF Multi-split System with Heat Recovery 86°F entering water	9.8 EER		
	≥135,000 Btu/h	All	VRF Multi-split System 59°F entering water	16.2 EER		
VRF Ground	≥135,000 Btu/h	All	VRF Multi-split System with Heat Recovery 59°F entering water	16.0 EER	AHBI 1230	
Water Source, (cooling mode)	≥135,000 Btu/h	All	VRF Multi-split System 59°F entering water	13.8 EER	ARKI 1230	
	≥135,000 Btu/h	All	VRF Multi-split System with Heat Recovery 59°F entering water	13.6 EER		

Note: For efficiency values tested in accordance with AHRI-1230, contact your local Mitsubishi Electric sales representative





____ live Retter

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO), based on a review of quality warranties for the production of refrigeration and air conditioning equipment.

ISO Authorization System

The ISO 9000 series is a plant authorization system relating to quality warranties as stipulated by the ISO. ISO 9001 certifies quality warranties based on the "design, development, production, installation and auxiliary services" for products built at an authorized plant.

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired environmental management system standard ISO 14001 certification. The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).

© 2013 Mitsubishi Electric US, Inc. CITY MULTI® is a registered trademark of Mitsubishi Electric. Mitsubishi Electric is a registered trademark of Mitsubishi Electric Corporation. The three-diamond logo is a registered logo of Mitsubishi Electric Corporation.

Windows and Excel are registered trademarks of Microsoft Corporation. AutoCAD is a registered trademark of Autodesk. LON, LON WORKS[®], and the Echelon logo are trademarks of Echelon Corporation, registered in the United States and other countries. BACnet[®] is a registered trademark of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).

Specifications shown in this brochure are subject to change without notice.













AMERICA'S #1 SELLING BRAND OF VRF TECHNOLOGY