



**H2i**

# HYPER-HEATING INVERTER FAMILY



# 100% HEATING CAPACITY EVEN AT 0° F.

## mitsubishi electric has revolutionized heat pumps, again.

As the recognized quality leader and top preferred ductless and VRF zoning heat pump brand, Mitsubishi Electric continues to pioneer on-demand building comfort technologies.



**30 YEARS  
AGO**

Mitsubishi Electric boldly introduced ductless technology to a ducted market. Then, we changed the playing field with our INVERTER-driven compressor technology.



**2003**

We pushed the envelope again. This time with variable refrigerant flow technologies that continue to revolutionize how buildings are designed and built.



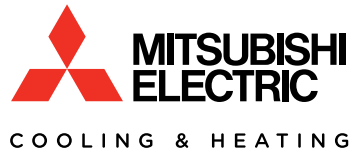
**2007**

Hyper-heating became a reality, even in extreme climates. That put all other heating technologies on notice.



**NOW**

The leader in VRF has revolutionized the industry again, with heat pumps that work effectively even in outside temperatures at -13° F.



In our 30+ years of heat pump leadership, we have built the broadest network of qualified design, installation and technical professionals available.

Behind them stand the most extensive groups of applications, engineering and customer support staff with a mantra of *building a better business together.*





MITSUBISHI CITY MULTI



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# WHY H2i™?

## MITSUBISHI ELECTRIC H2i™ PRODUCTS PROVIDE:

- Superior heating performance.
  - Simultaneous heating and cooling down to -4° F outdoor ambient (R2-Series, two-pipe design).
  - 100% heating capacity at between 0° F and 5° F outdoor ambient.
  - Up to 85% heating capacity heating performance down to -13° F outdoor ambient.
- Most complete family of hyper-heating, cold climate products from single-zone (9KBtu/h) to VRF multi-zone systems (up to 16 tons).
- Connection of indoor units, totaling 50% to 150% of capacity.
- Built-in base pan heater.
- FH wall-mounted ductless units offer **i-see Sensor™ 3D**.



## HOW DOES THE REVOLUTION IN COOLING AND HEATING BENEFIT YOU?

Our highly efficient hyper-heating systems will help decrease your overall equipment tonnage of heating dominated projects. This translates to lower first cost and a smaller outdoor system footprint, while eliminating the need for additional fossil fuel burning, or inefficient electric, heating systems. That's better for the planet and your bottom line. Our proven residential and commercial success with H2i has now extended to areas of the country where historically heat pumps just couldn't work. Regions where subzero temperatures are the norm, like Sturgeon Bay, Wisconsin and Buffalo, New York.

# H2i™ TECHNOLOGY FROM MITSUBISHI ELECTRIC IS BECOMING THE NEW NORMAL, PROVIDING EXCEPTIONAL YEAR-ROUND COMFORT EVEN IN EXTREME CLIMATES.



"During the coldest months of the year, the Mitsubishi Electric split-ductless system has consistently maintained the temperature selected."

**First Congregational UCC Reverend Neil D. Partington, Lake Mills, WI**



"We liked this product because it was so simple and efficient. In high-performance buildings, you need to keep the mechanical system simple."

**Jung Passive House, Michael Klinger, certified Passive House consultant, Holly, MI**



"The arguments for the H2i system made a lot of sense, and we wound up recommending this new system to the Board," Burke said. "Everything came together beautifully. Village neighbors love the fact that they cannot even tell when the system is running."

**Montserrat College of Art, Jim Burke, Windover Construction, Inc., Manchester, MA**

"We found this VRF system – two Hyper-Heating (H2i™) INVERTER outdoor units with 40 tons of cooling and heating—that would immediately save us in monthly energy costs and drop the 300 amps of electrical service demanded by the groundsource equipment. When the 32 kilowatts from the solar array kicks in, we will actually be returning electrical service to the electric provider, New York's National Grid."



**Newfane Town Hall and Community Center, Project Architect William L. Henderson, Buffalo, NY**

"The Mitsubishi Electric system used in the project is very effective because it requires less duct work, the small outdoor unit tucks in easily on the rooftop, provides good indoor air quality, is energy-efficient and is extremely quiet. We're thrilled that the Northampton, Mass KFC-Taco Bell has been granted LEED Gold certification."



**Yum Brands' KFC Project Architect Jonathan Balas, AIA, LEED AP**

Visit [mitsubishipro.com](http://mitsubishipro.com) to see more.



# H2i™ RESIDENTIAL SOLUTIONS M-SERIES



**THE NEW  
NORMAL.**

(MSZ-FH)

Ductwork is inefficient, costly and soon to be a thing of the past. The MSZ-FH family of Hyper-Heating INVERTER residential systems offer year-round, high-efficiency cooling and heating for bedrooms, basements, sunrooms and more. Essentially, heat pumps are now a realistic option for any home, in any climate.

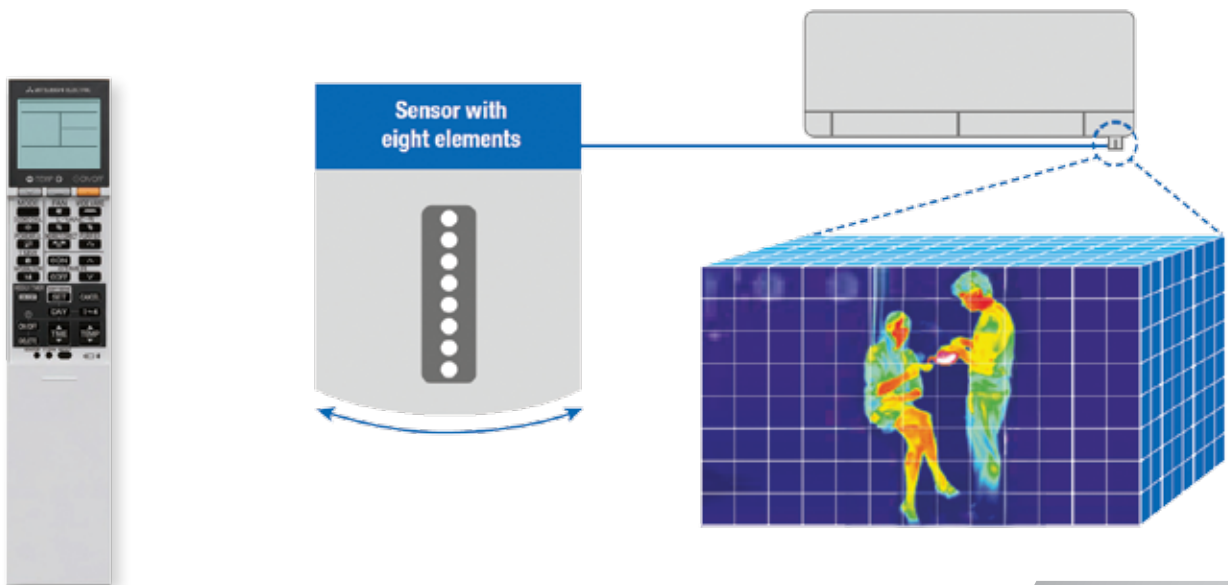
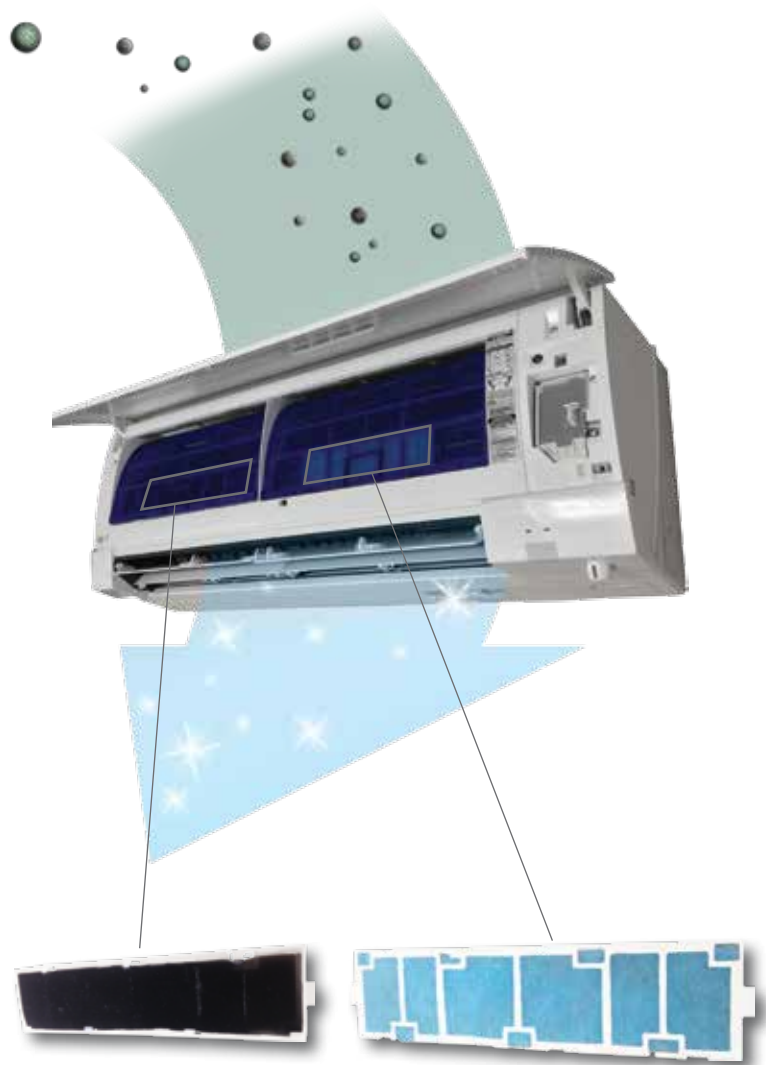
## **M-Series (MSZ-FH) *NEW***

- Industry-leading efficiencies.
  - MSZ-FH09NA [30.5 SEER].
  - MSZ-FH12NA [26 SEER].
  - MSZ-FH15NA [21.5 SEER].
- Hyper-Heating performance down to -13° F outdoor ambient.
- 100% heating capacity at 5° F outdoor ambient.





- Triple-action Filtration.
  - Nano-platinum Filter.
  - Electrostatic Anti-allergen Enzyme Filter.
  - Deodorizing Filter.
- Double-vane air delivery for enhanced circulation.
  - Set each vane individually.
  - Indirect or direct setting option.
  - Natural flow setting.
- i-see Sensor™ 3D.
  - Infrared human sensing technologies to measure location of human (heat signatures) and i-see sensing floor temperature to deliver conditioned air to those areas by double-vane airflow.
- **NEW** multi-function wireless controller.
- Optional MHK1 wireless wall-mounted controller (works with Honeywell RIG for smart phone control).
- Wired wall-mounted controller (PAR-31MAA requires MAC-333IF).
- Simple MA remote controller (PAC-YT53CRAU requires MAC-333IF).



# H2i™ LIGHT COMMERCIAL SOLUTIONS P-SERIES



(PUZ-HA)

**NASTY OUTSIDE.  
COZY INSIDE.**

It's below freezing outside? No sweat. The P-Series Hyper-Heating INVERTER systems work to provide the perfect temperature inside. It's all possible thanks to our responsive INVERTER compressor and patented flash injection technology. Even at 0° F, air-conditioning is possible with our wind baffle accessory. These light commercial zone solutions are perfect for any business, place of worship or school in any region of the country.

- 80% Hyper-Heating performance down to -13° F outdoor ambient.
- 100% heating capacity at 5° F outdoor ambient.
- PUZ-HA30NHA4: 18,000 - 30,000 Btu/h cooling / 18,000 - 34,000 Btu/h heating.
- PUZ-HA36NHA4: 18,000 - 34,200 Btu/h cooling / 18,000 - 40,000 Btu/h heating.
- Many ENERGY STAR tax credit qualifying systems.
- Low ambient cooling to 0° F with wind baffle.

**100% HEATING** @ **5° OUTDOOR**  
M-SERIES P-SERIES



Our exclusive H2i P-Series units recover heat energy that is normally wasted in the flash process at the outdoor coil. H2i flash technology helps the system overcome issues associated with conventional heat pumps, such as decreases in low-side pressure, refrigerant mass flow rate, and operational capacity. What you'll see is that the H2i P-Series units deliver 100% of rated heating capacity at 5° F and 80% at minus 13° F outdoor ambient temperatures (without the use of energy-consuming electric-resistance heaters).

## P-Series (PUZ-HA) Features

**HOT START PROCESS**  
means warm air flows from the start

**LINE LENGTHS**  
up to 245 ft

**TWINNING OF TWO**  
18KBtu/h indoor units possible from one 36KBtu/h outdoor unit for wider distribution of capacity

**AUTOMATIC RESTART**  
Peace of mind and ease of use in the event of power outage

**MULTIPLE FAN SPEEDS**

**AUTO COOLING/ HEATING CHANGEOVER**

**DRY MODE**



### PKA Wall-mounted *ductless*

- Sleek design.
- Adjustable vane control.
- Easy-clean washable filter.



### PCA Ceiling-suspended *ductless*

- Powerful air distribution.
- Ventilation air knockout.
- Four different airflow positions.
- Optional i-see Sensor™ kit.



### PEA(D) Horizontal *ducted*

- Low profile ceiling-concealed design for tight applications.
- Built-in condensation lift pump.
- Adjustable static pressure: PEA up to 0.2, PEAD up to 0.6.
- Optional filter boxes.

### PLA Ceiling-recessed cassette *ductless*

- Low profile for tight spaces.
- Branch ducting and fresh air knockouts.
- Auto wave airflow in heating mode.
- Independent vane motor control.
- Optional i-see Sensor™ kit.
- Built-in condensation lift pump.
- Easy-clean washable filter.



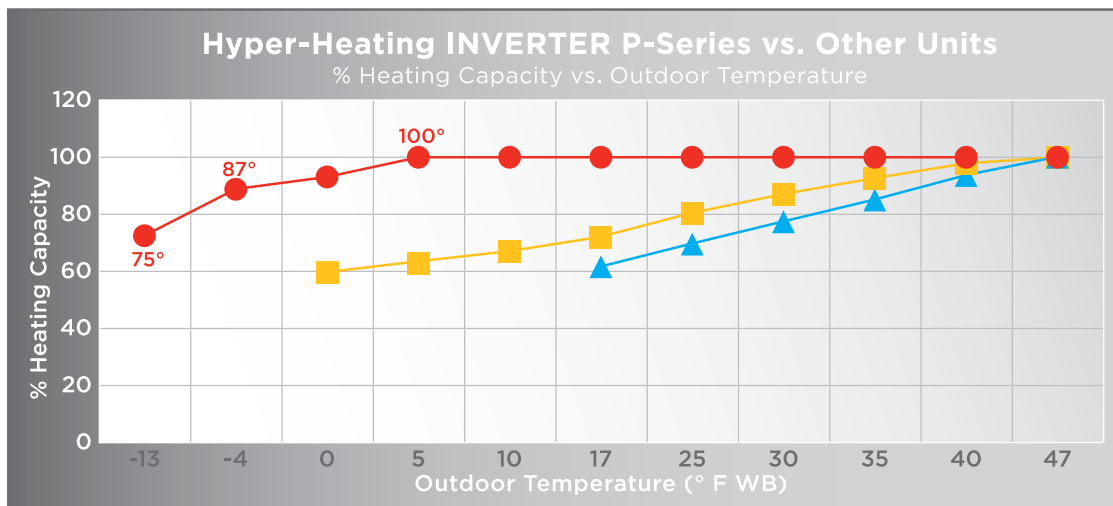
### Low Temperature Heating Performance

PUZ-HA30NHA

COP if	PKA	PLA	PCA	PEAD
47° F	3.20	2.72	3.13	3.41
17° F	1.84	1.63	1.81	1.90
5° F	1.62	1.41	1.60	1.73

PUZ-HA36NHA

COP if	PKA	PLA	PCA	PEAD	PEA18 (x2)
47° F	3.26	3.44	3.40	3.53	3.61
17° F	1.85	2.10	1.94	2.06	2.06
5° F	1.64	1.90	1.70	1.82	1.82



● Mitsubishi Electric Hyper-Heating Inverter (H2i™) PUZ-HA-NHA2 ■ Mitsubishi Electric Standard INVERTER heat pump system  
 ▲ Typical Unitary Equipment Performance  
 Does not include correction factor for defrost



# H2i™ M- AND P-SERIES CONTROLLERS

All systems are RedLink™ enabled for MHK1 Wireless Remote Controller kit.



- Connects any RedLINK Comfort System to the Internet to provide remote access from PC, smartphone or tablet.
- No monthly fee, free app download.
- Remotely monitor and control your cooling and heating system, at any time, from any place.
- View/change system settings and access multiple systems/zones.
- Provides over 90° temperature/comfort alerts through a dedicated website.
- Upgrades automatically as new features become available.



**REDLINK**  
Wireless Technology

Just connect the Gateway device (far right) to your Internet router, download the free app, register a serial number with the Gateway website, and pair the system with the RedLINK™ enabled devices of your choice. You'll be ready to control in about 15 minutes.



### Wireless Wall-mounted Remote Controller and Wireless Receiver

- Installs anywhere with simple wall-mounted design.
- Large, backlit, easy-to-read display.
- Dual set point control with system changeover.
- Both controller and receiver enabled with RedLINK™ reliability.

The basic MHK1 Wireless Remote Controller Kit includes a Wireless Wall-mounted Remote Controller and a Wireless Receiver located with the indoor wall- or ceiling-mounted unit. You may choose to enhance your control convenience and flexibility with an optional Portable Central Controller, Outside Air Sensor and the new RedLINK™ Internet Gateway.



### Optional MCCH1 Portable Central Controller

- Control up to 16 RedLINK™ devices.
  - Requires MHK1 per indoor unit.
  - Monitor and control On/Off, Mode and Set Temperature.
  - Schedule override capability.
  - Does not interfere with other wireless devices.
- Displays outside air temperature and humidity when used with MOS1 Outside Air Sensor.



### Optional MOS1 Outside Air Sensor

- Monitors outside air temperature and humidity.
- Displays on MHK1 Remote Controller and MCCH1 Portable Central Controller.

### Optional Wired Remote Controller (PAR31MAA):

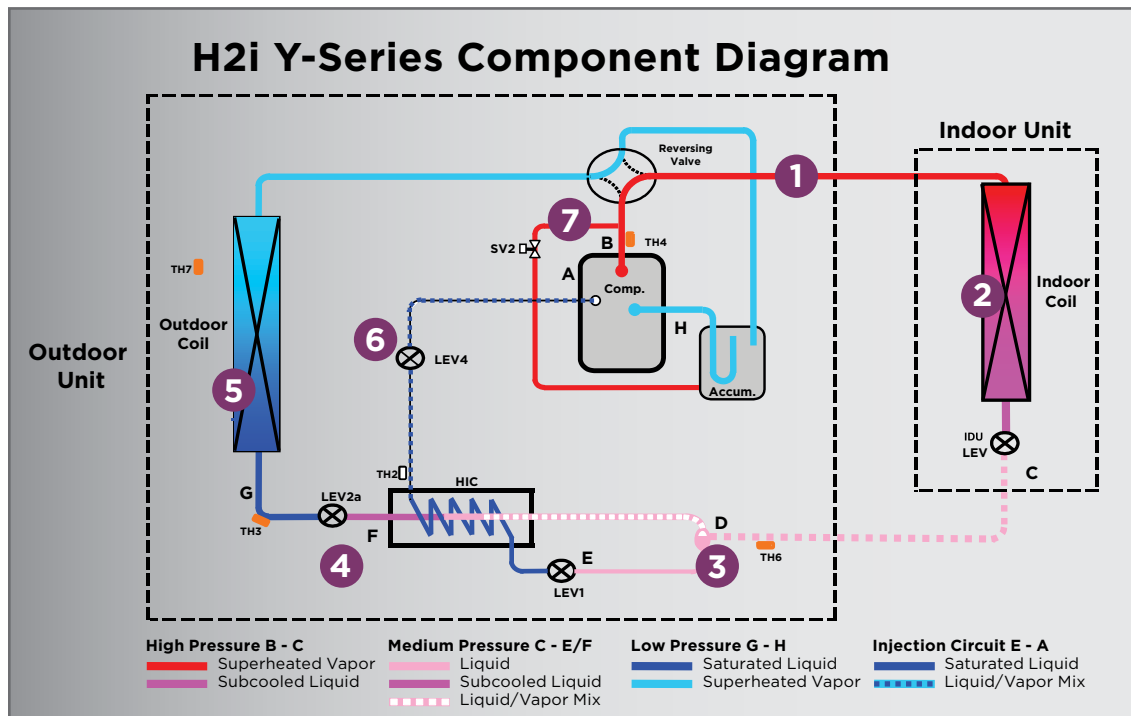
- Backlit Display.
- Operation Modes: Cool, Heat, Dry, Fan, Auto, Ventilation (Lossnay™ control).
- Fan speed, airflow direction settings.
- Eight language options on display.
- Grouping: Controls up to 16 indoor units.
- Compatible with M-Series (requires MAC-333IF Interface) and P-Series Systems.
- Supports weekly timer operation (Supports Auto-off Timer).



# H2i™ COMMERCIAL SOLUTIONS CITY MULTI®

## H2i™ Y- and R2- Series

### CITY MULTI HIGH PERFORMANCE HEATING



1. ODU in heat mode. Providing superheated gas to IDU.
2. Gas becomes liquid.
3. Gas/liquid separator. Liquid comes off the bottom and a liquid/gas mix comes off top.
4. The HIC circuit pulls any remaining heat from liquid/vapor mix to become subcooled liquid again.
5. ODU coil has to pull heat from the air outside to get the liquid to a gaseous form. In order for this to happen the refrigerant has to be colder than the air outside. This is why a freeze protection circuit is necessary. If the temperature outside is  $-10^{\circ}\text{F}$ , the refrigerant has to be even colder than that. Any moisture that comes in contact with coils would freeze.
6. Flash injection circuit used to cool down compressor.
7. Bypass circuit (goes from top of compressor to accumulator) used at startup only to balance out the refrigerant in accumulator and ensure it is gaseous.



ILLUSTRATION PURPOSES ONLY



# H2i™ COMMERCIAL SOLUTIONS CITY MULTI®



## TOTAL COLD CLIMATE CONTROL

(PURY-HP)

Add highly responsive multi-zone comfort to any building project, in any climate. Our H2i R2- and Y-Series VRF systems give you the flexibility to fit specific needs of any building. It doesn't matter if you're dealing with a historic building renovation or new building construction; the system components are compact for convenient application.

- 100% heating capacity at 0° F outdoor ambient.
- 85% heating capacity at -13° F outdoor ambient.



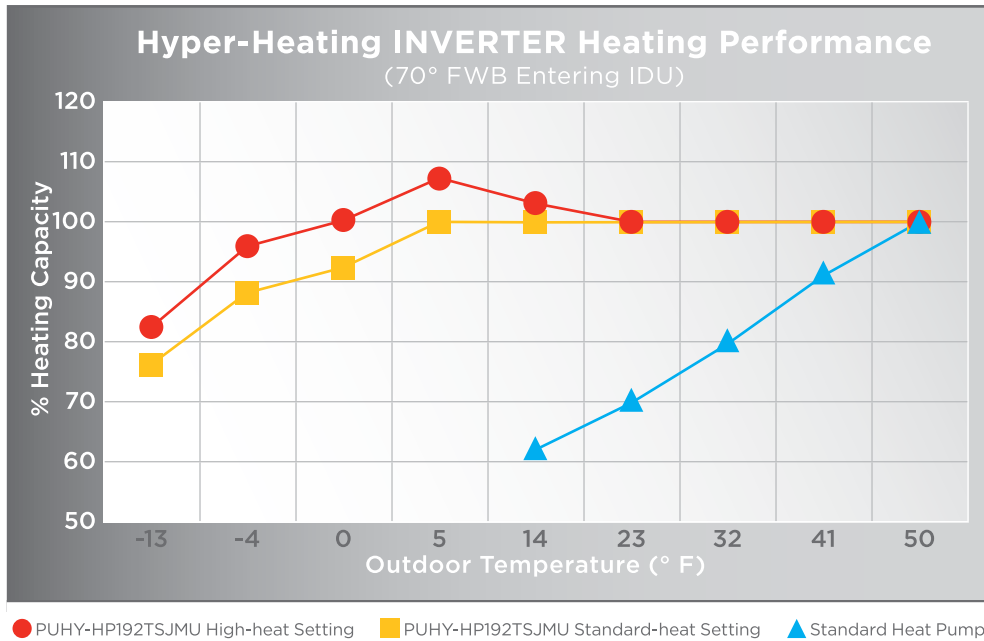
### R2-Series (PURY-HP) **NEW**

- Simultaneously heat and cool down to -4° F outdoor ambient.
- 2-pipe configuration for more efficient application.
- Built-in base pan heater (TKMU).
- Connects to all CITY MULTI indoor units.

### Y-Series (PUHY-HP)

- Proven performance.
- Connects to all CITY MULTI indoor units.

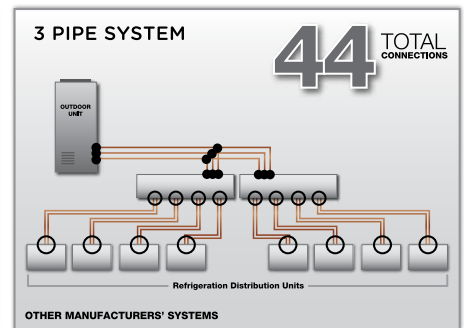
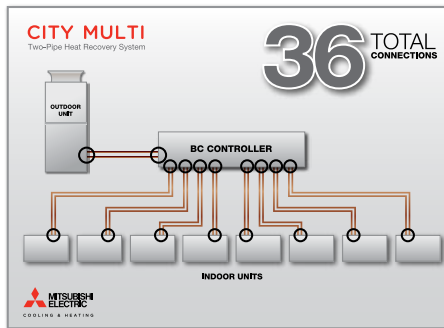




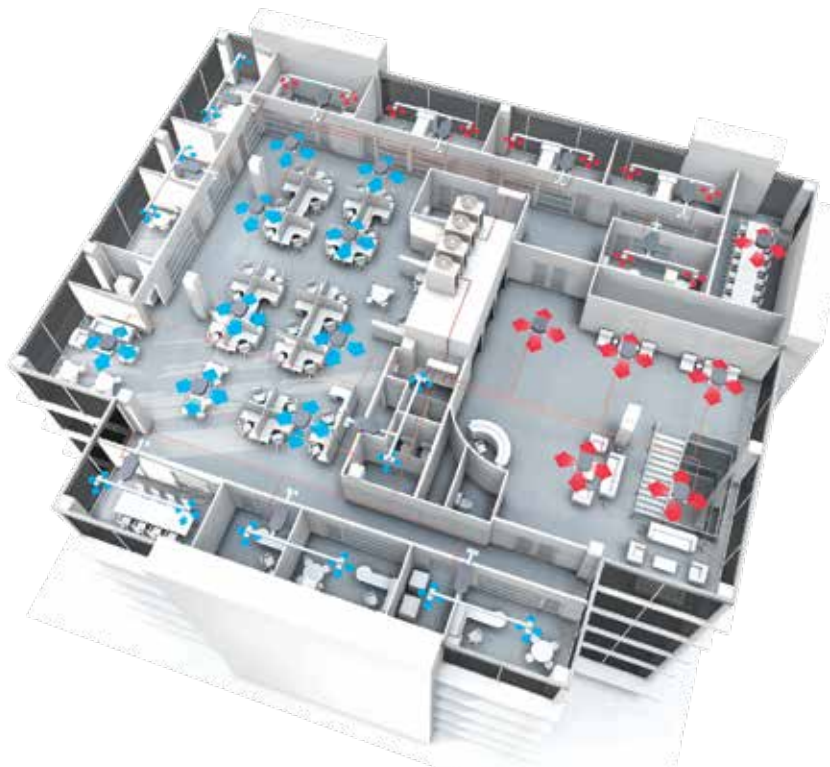
## The Two-pipe Advantage

Simultaneous cooling and heating with just two pipes is 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



○ = 2 CONNECTIONS    ●●● = 3 CONNECTIONS



## 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.

- Cooling area
- Heating area



# CITY MULTI® H2i™ R2- AND Y-SERIES INDOOR UNITS AND CONTROLS

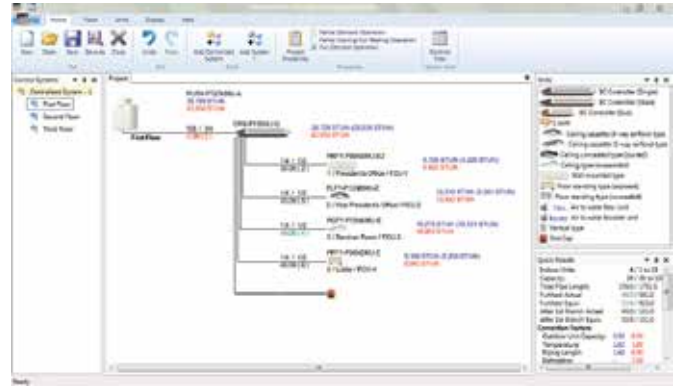
## INDOOR UNITS

	DUCTLESS					DUCTED			
Indoor Unit Type	Wall-mounted	Ceiling-recessed Cassette (four-way outlet)	Ceiling-recessed Cassette (single outlet)	Ceiling-suspended	Floor-standing (exposed or concealed)	Ceiling-concealed Ducted	Ceiling-concealed Ducted (low profile)	Ceiling-concealed Ducted (alternate high static)	Vertical-concealed Ducted
Nominal KBtu/h	 6-30	 8-36	 6-15	 15-36	 6-24	 6-54	 6-24	 15-96	 12-54

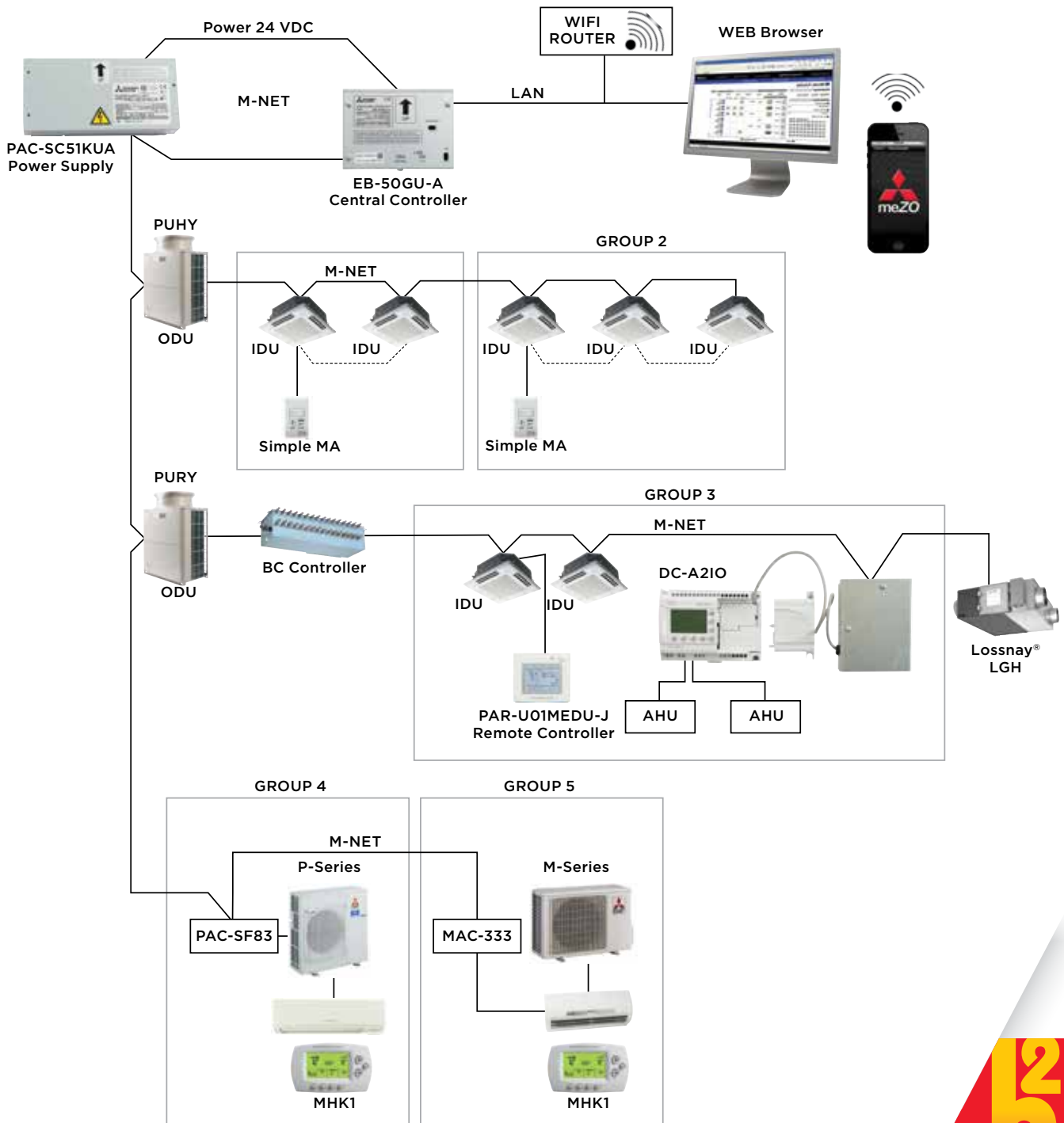
REMOTE CONTROLLERS	CENTRAL CONTROLLERS	ADVANCED HVAC CONTROLLER AND I/O CONTROLLERS	SYSTEM INTEGRATION
 SmartME LCD Touch-screen Controller (PAR-U01MEDU-J)	 Touch-screen Controller (TC-24B)	 Advanced HVAC Controller (DC-A210)	 LonWorks® Interface (LMAP04U)
 Handheld Wireless Controller (PAR-FL32MA)	 Touch-screen and Web Browser Controller (AG-150)	 Digital In/Digital Out Board (PAC-YG66DCA)	 BACnet® Interface (BAC-HD150)
 Simple Controller (PAC-YT53CRAU)	 Web Browser Controller (EB-50GU-A)	 Analog In Board (PAC-YG63MCA)	

# CONTROLS

Operate one indoor unit at a time remotely, control the entire system centrally, or manage your entire building comfort solution through our CITY MULTI® controls network (CMCN) integrated with a building management system (BMS). Beyond just our equipment, our Advanced HVAC Controller lets you interlock additional third party equipment into the CMCN.



Our popular Diamond System Builder program is an interactive system layout tool that speeds up the CITY MULTI system design process.





REDEFINING THE HEAT PUMP, AGAIN



Please recycle.

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