

CITY MULTI

CM07WD4-B



Our Latest Technologies

VRF system

VRF stands for Variable Refrigerant Flow. A VRF air conditioning system modulates the flow of refrigerant depending upon the capacity requirements of the building. A VRF system comprises of condensing unit sited externally and a series of multiple heating to the occupied space.

Intelligent Power Module (IPM) technology

The City Multi range from Mitsubishi Electric provides precise control of energy input, through utilization of Intelligent Power Module (IPM) technology. Employing this technology it is possible to closely match the building requirements, achieving more accurate control of the occupied space. By using incremental 1Hz steps of capacity control, the amount of power input required is significantly reduced, resulting in greatly improved COP's.

Inverter driven technology

At Mitsubishi Electric we strive to continually meet the increasing demands of our customers, being the first in the industry to offer highly advanced 'inverter driven' systems. Using inverter technology our systems produce just the right amount of output to match the exact requirement of any building. These systems work so efficiently that they don't waste valuable energy by over-heating or over-cooling, resulting in greatly reduced running costs. Alternative systems that may appear cheaper, can often cost substantially more to run, making us the most cost effective choice all round.

R410A refrigerant

As scientific evidence points to man-made chemicals for the damage caused to the ozone layer, we only use chlorine-free refrigerants that are safe and have 'zero ozone depletion potential'. Accordingly, as our systems require less energy to run, they have a significantly lower indirect global warming potential too. In short, our constant investment and product development possible, whilst protecting the environment at the same time.

Air conditioning is an ideal way of controlling the temperature, movement and cleanliness of air inside any building, large or small. With today's buildings being so well insulated and increasingly full of electronic equipment, the need for effective climate control is greater than ever. Not only does it cool in the summer months, but air conditioning can also heat, doing away with the need for separate heating systems altogether. More and more people today are enjoying the benefits of comfortable working and living environments made possible with air conditioning.

Unsurpassed air conditioning from Mitsubishi Electric

Known the world over, the name Mitsubishi is a trusted household name associated with a variety of products and services. Founded in 1907, the company known today as Mitsubishi Electric, quickly rose to the forefront of the air conditioning industry - a position we still enjoy today. We pride ourselves on offering some of the most energy efficient systems available on the market.





VRF system

Our answer to VRF

Mitsubishi Electric sets the boundaries of VRF technology with the City Multi range, which is available using R410A refrigerant with zero ODP (Ozone Depletion Potential). The range has been specifically designed for today's building requirements and addresses key market issues such as energy efficiency, adaptability and reliability. With user friendly control systems utilizing Internet technology and integrated cooling and ventilation indoor units, City Multi is the benchmark and market leader in VRF technology.

VRF is a multi and direct expansion type air conditioning system that one outdoor unit can be connected with multiples of indoor units. The amount of refrigerant can be changed freely according to the load in the indoor unit because inverter compressor is used in the outdoor unit. Zoning in a small office is possible with a small capacity indoor unit. Energy conservation is easily handled because individual indoor unit can stop and start its operation as needed. Indoor unit has a lot of models in order to suit various interior design needs. Appliance to control separating heat of cooling in evaporation from heat in condensation is becoming important in air conditioning in the building.

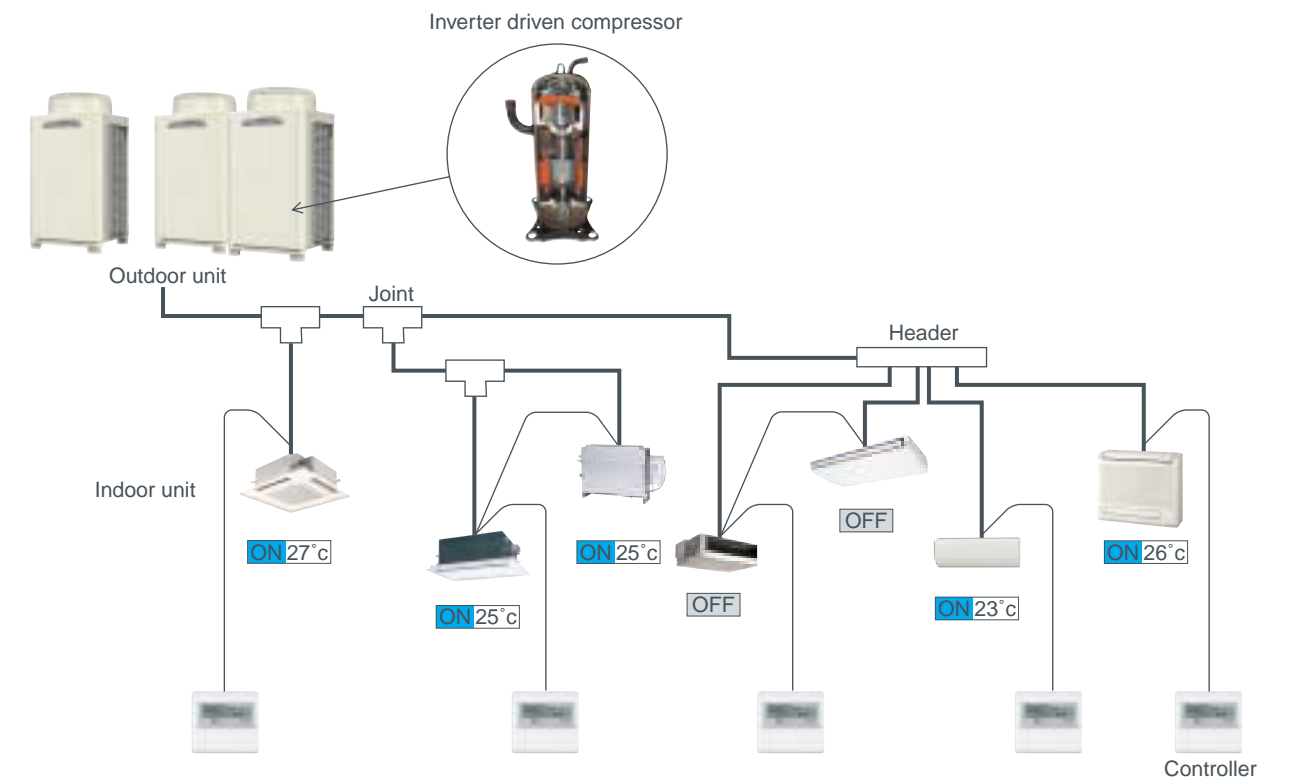
Sophisticated
yet simple technology

Reliable

Designed and manufactured to the highest standards, the City Multi range offers one of the most reliable air conditioning systems available. Simple to install and easy to maintain, this range provides ideal solutions you can trust to protect your investment.



>All the City Multi outdoor units are made in Japan under stringent control.



Inverter Driven Compressor Technology - now up to 50HP



Low Starting Currents

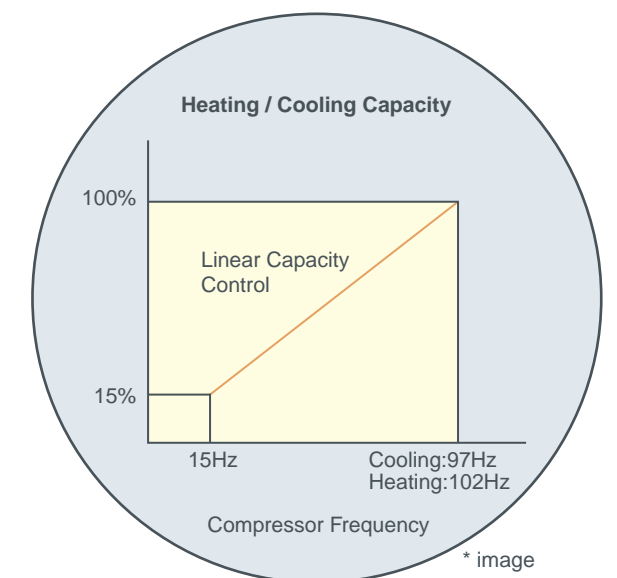
Using inverter driven technology saves energy for several reasons:

The compressor varies its speed to match the indoor cooling or heating demand and therefore only consumes the energy that is required.

When an inverter driven system is operating at partial load, the energy efficiency of the system is significantly higher than that of a standard fixed speed, non inverter system.

The fixed speed system can only operate at 100%, and partial load conditions prevail for the majority of the time. Therefore fixed speed systems cannot match the annual efficiencies of inverter driven systems.

Using proven single inverter driven compressor technology, the City Multi range is favoured by the industry for low starting currents (only 15 amps for a 16HP YHM-A outdoor unit), a smooth transition across the range of compressor frequencies and for eliminating systems.



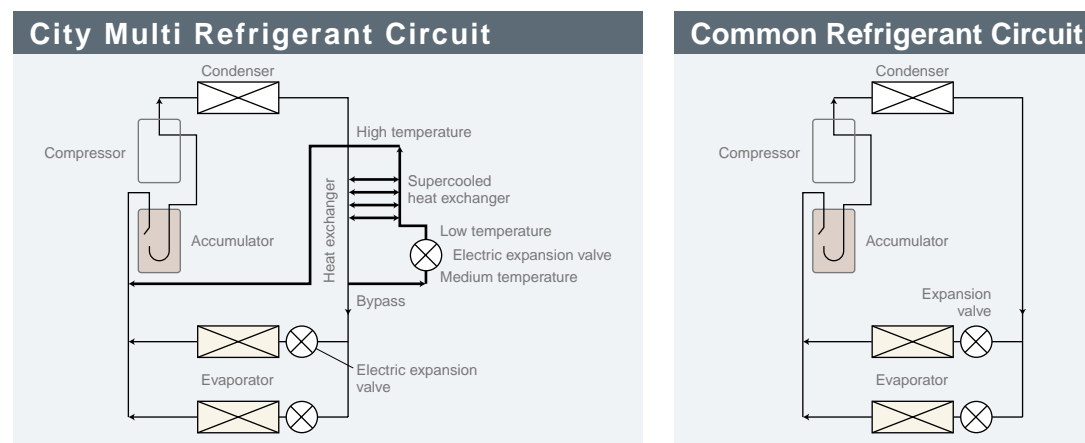
>All the City Multi compressors are inverter-driven type (4~50HP).



Unbeatable Efficiency

Heat Interchange Circuit

The unique Heat Interchange Circuit (HIC) enhances efficiency by providing additional sub-cooling and allows the expansion device to control more effectively the refrigerant distribution, thereby increasing the operating efficiency and reducing the volume of refrigerant in each system.

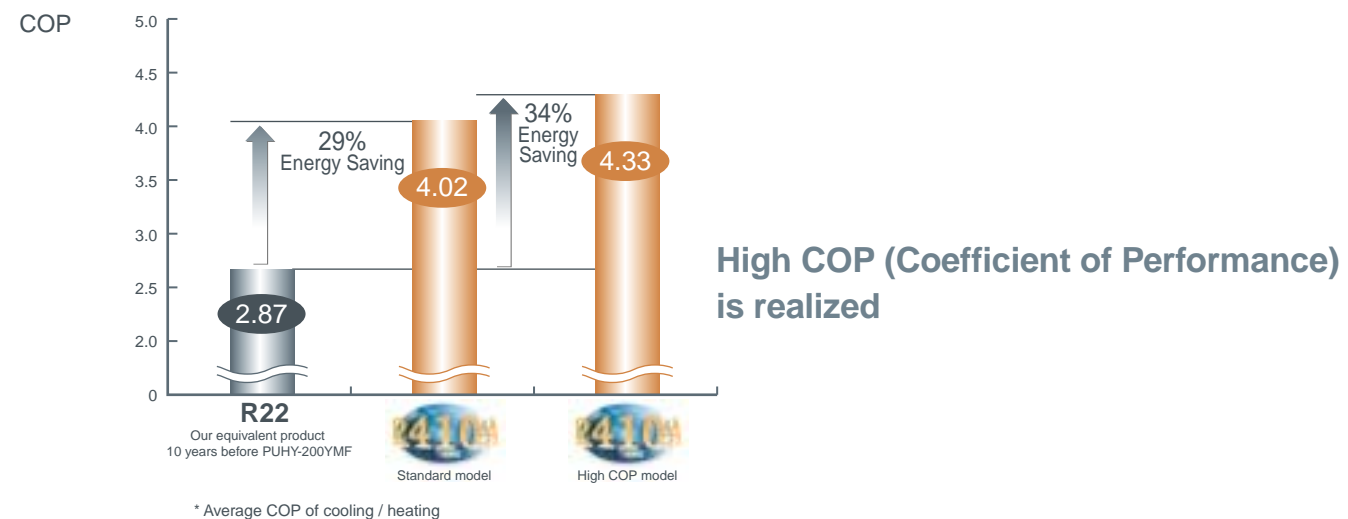




Total Energy Conservation



Comparison of COP (energy efficiency) – 8HP system



Intelligent Power Module (IPM) Technology

The YHM-A range from Mitsubishi Electric provides precise control of energy input, through utilization of Intelligent Power Module (IPM) technology. Employing this technology it is possible to closely match the building requirements, achieving more accurate control of the occupied space. By using incremental 1Hz steps of capacity control, the amount of power input required is significantly reduced, resulting in greatly improved COP's.

In addition, IPM technology ensures effective performance under partial load conditions, a condition that most systems will be in for the majority of the normal working life cycle. By taking account the efficiency at both part load, and peak load conditions, R410A City Multi is designed to provide unbeatable year round/seasonal efficiency.

The difference between YHM-A and previous Mitsubishi Electric models

Technology is key when increased efficiency is demanded. The City Multi YHM-A range is able to deliver this in simple ways.

A highly efficient R410A scroll compressor design results in less friction losses at the motor. A simplified refrigerant circuit (low pressure loss) including new accumulator design also adds a few more points to the efficiency scale. Enhancements to the heat interchange circuit, an inverter driven fan motor and a heat exchanger design again add vital increases to overall system efficiency and COP's.

The importance of COP

COP stands for "Co-efficient of performance". It is a measure of the useful energy a system can deliver compared to the energy it consumes. It is calculated by dividing the energy output by the energy input of a system. The higher the figure then the more efficient the system is deemed to be, with commensurate reduced running costs. Mitsubishi Electric VRF models, the world's highest energy-efficient ACs, will undoubtedly reduce millions of tons of CO₂ emissions.





For the Environment

Enhancing environmental care(measures for the RoHS Directive and the refrigerant reduction)
Every unit is in compliance with the RoHS Directive,* which stands for the restriction of hazardous substances: Lead-free soldering is used to avoid Lead Groundwater Contamination on the print board. The amount of refrigerant on the unit has also been reduced to enhance environmental care.

* RoHS Directive: the restriction of the use of certain hazardous substances in electrical and electronic equipment that has been sold in EU since July 2006

Efficient R410A refrigerant



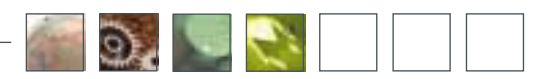
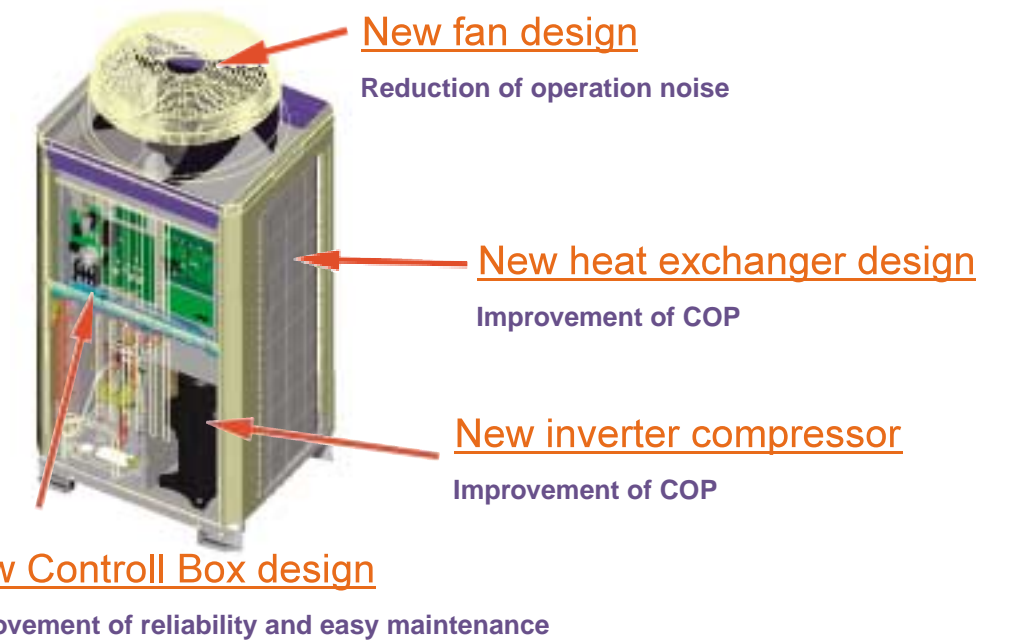
History of refrigerant

R22, an HCFC-based refrigerant, has been a popular choice for most chillers. R22 has been targeted by the Montreal Protocol to be phased out in new equipment. Additionally, the European Union and other countries governments are enforcing a ban of HCFC-based refrigerants for new installations.

Because of these restrictions, R410A refrigerants is increasingly available. R410A is a blend of HFCs, which do not deplete the ozone but may contribute to global warming.

Technical aspects of refrigerant

R410A is a more efficient refrigerant as it has a higher specific heat capacity when compared to R407C or R22. This higher energy carrying capacity allows for smaller pipe sizes, longer pipe runs and reduces the volume of refrigerant within a system. This is a major factor when complying with ISO5149, an International Organization for Standardization concerning, "safety of persons and property for the design, construction, installation and operation of refrigerating systems".





Compact Design of New Outdoor Unit

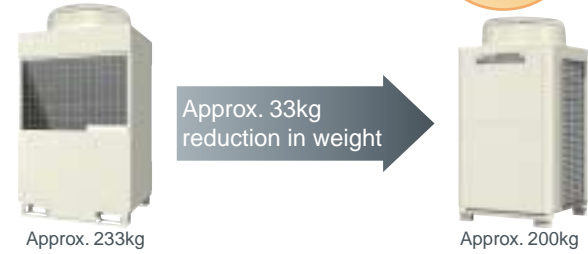
Industry leading weight saving is realized.

As of September, 2006 (based on internal survey)

Industry Leader

The manageability of the outdoor unit has been improved due to drastic reduction in unit weight, leading to easy transportation, installation, and reduction in withstand load.

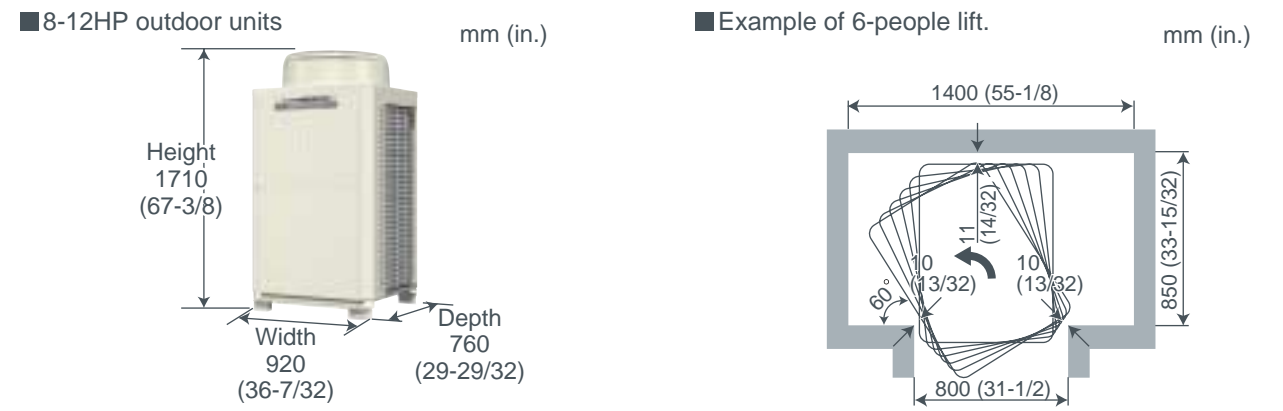
10HP outdoor unit



	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP
Weight(kg)	185	200	215	245	245	245	400	415	445	460	490
	30HP	32HP	34HP	36HP	38HP	40HP	42HP	44HP	46HP	48HP	50HP
Weight(kg)	490	490	490	490	660	675	705	735	735	735	735

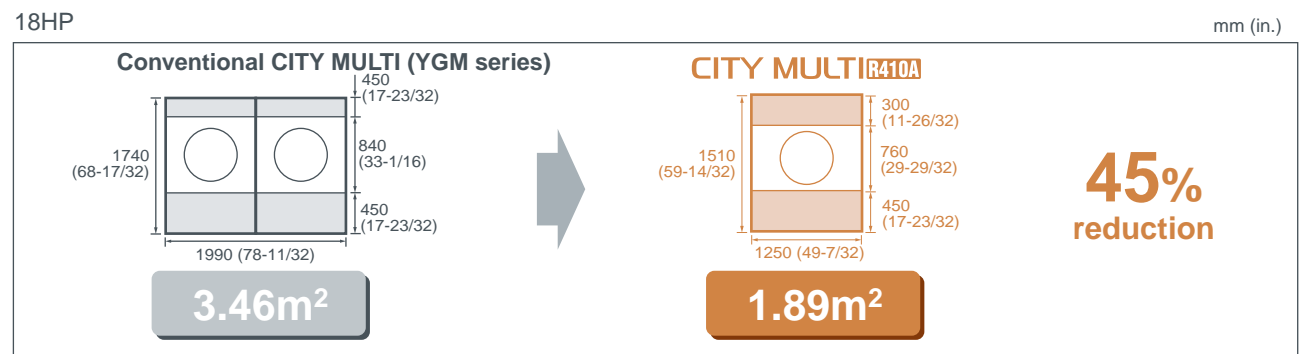
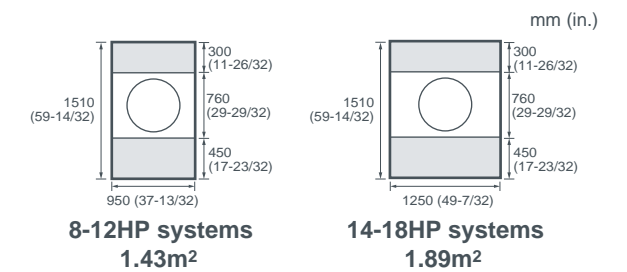
Due to the compact design of outdoor unit, industry leading space saving is realized.

The downsized outdoor unit can be transported through a 800mm wide door.

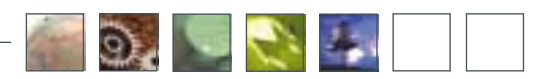


Effective Use of Space

The new models have a smaller foot print and service space requirement than the R22 models.



The unit can easily be transported even into slender buildings.





Features and Benefits

New Improved Figures

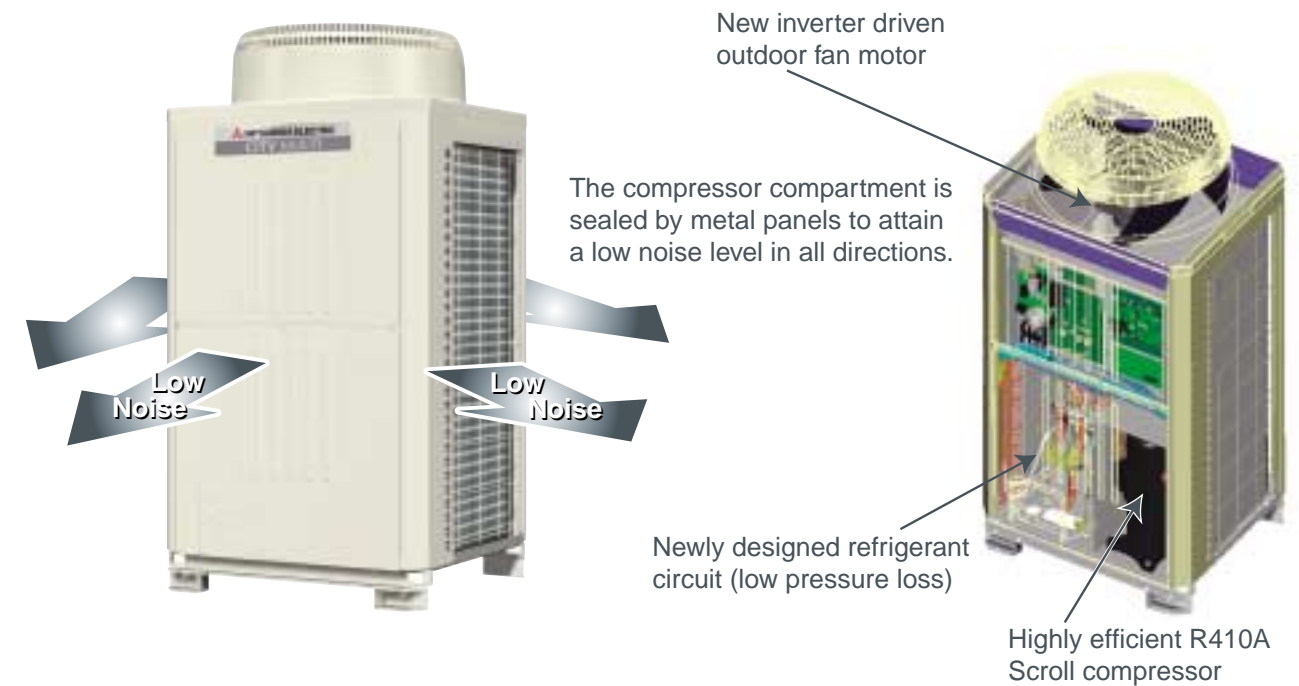
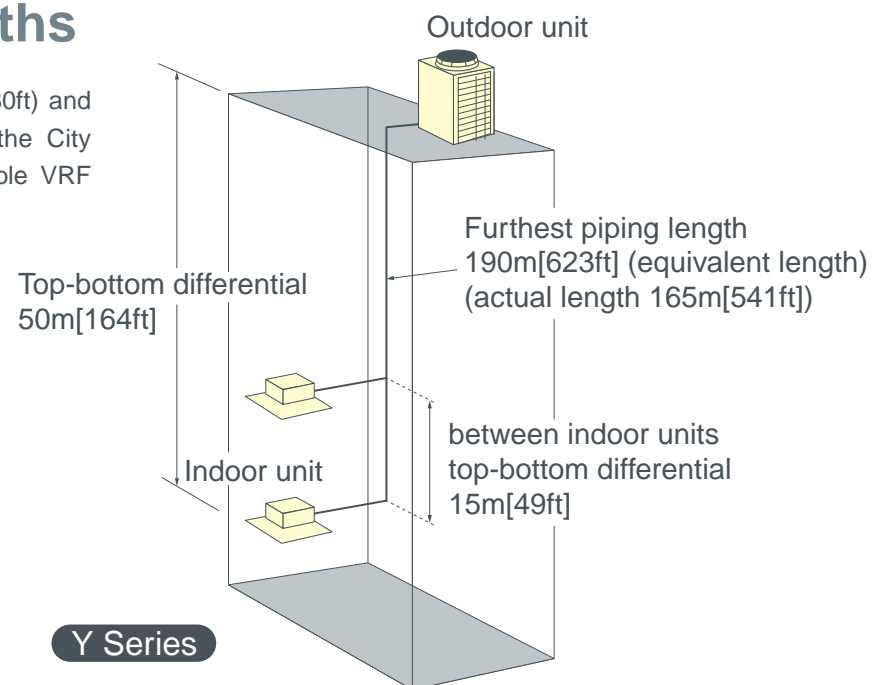
Low Noise Levels New Fan Design

City Multi VRF systems led the introduction of larger single fan rotors some ten years ago, achieving substantially lower noise levels over multiple designs. Continuing the development in the areas of blade shape and weight, Mitsubishi Electric have managed to achieve even higher performance and lower noise levels. To reduce noise levels further and comply with inner city residential noise regulations, all outdoor units include Night Set-back mode. This function works by lowering the fan speed and compressor frequency proportionally with reduction in demand.

The Strength of City Multi

Increased Pipe Lengths

Total system pipe lengths of up to 1000m(3280ft) and furthest pipe lengths of 165m(541ft) make the City Multi Y series system one of the most flexible VRF systems in the market

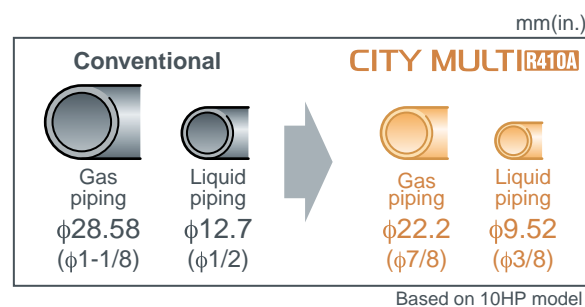




The Strength of New City Multi

R410A Pipe Sizing

As R410A has a higher specific heat capacity than R22, the pipework is smaller. This means the pipe itself is cheaper, easier to install and therefore less riser space is required within the building.



Cooling Operation Set Temperature of 14°C[57°F]

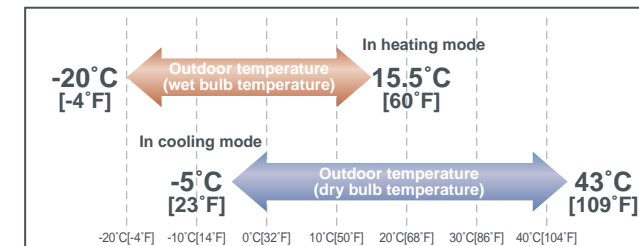
Gyms, laboratories etc often require the ability to cool lower than the standard comfort cooling setpoint. By selecting a dip switch on the unit, a cooling operation set temperature of 14°C[57°F] DB is possible on PFFY-VLEM/VLRM and PEFY series. The indoor unit fan will be fixed at high speed during this operation. (except PUMY)

* CITY MULTI is an air conditioning system designed for rooms and areas where people work or relax, not for machine rooms.



Heating Operation Range

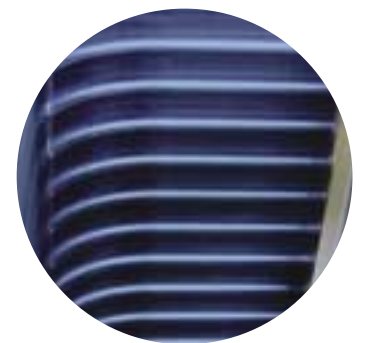
At low ambient temperature the guaranteed operating range is now expanded to **-20°C[-4°F]** in heating and **43°C[109°F]** in cooling.



Operating range in cooling is from an outdoor temperature of -5°C[23°F], while that in heating has expanded to an outdoor temperature of -20°C[-4°F]

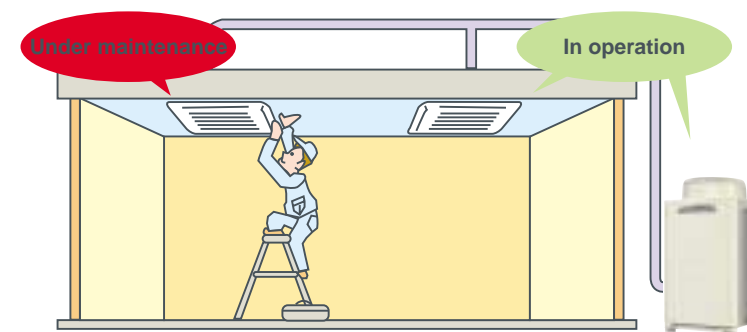
Blue Fin Treatment

The anti-corrosion Blue Fin treatment of the heat exchanger is especially effective in urban environments where the traffic pollutions can damage the aluminum fins reducing the capacity and life expectancy of the unit. All City Multi R410A outdoor units have been treated with Blue Fin.



Easy Maintenance

- Even when one of the indoor units in the system is under maintenance, the other indoor unit can be operated.



* Not applicable to all situations.
* Be sure to turn off the power to the indoor unit when repairing or servicing the unit.

Automatic System Check

Ensuring simple and easy maintenance, automatic system tests are possible for wiring, sensors and refrigerant amount.





Remote Controller

Individual Remote Controller

Centralized Remote Controller

The importance of control

The need for control is paramount in order to optimise the performance of any air conditioning system and minimize its running costs. Mitsubishi Electric offers a wide range of control options designed to meet such needs.

Operating an air conditioning system without the right control can prove costly. It's therefore important to ensure that every system is correctly specified to the degree of control it requires. Mitsubishi Electric have a wide range of controls available 'off-the-shelf' and individual control systems can be specifically designed to match.

Good controls will benefit any application, large or small. Air conditioning products need to react to a variety of factors: different room sizes, usage and staff levels; changes in the climate; electronic equipment and lighting ...the list goes on. So whatever the application, optimum control of air conditioning systems is essential and will result in a constant, comfortable environment, which in turn is both energy and cost efficient.

A degree of difference

When an air conditioning system is not properly controlled, it will not run as efficiently as it should. For every degree that the system deviates from the required temperature, energy costs can rise by up to 5%. Specify one of the many control options from Mitsubishi Electric to ensure air conditioning works as intended, whilst giving the optimum amount of control.

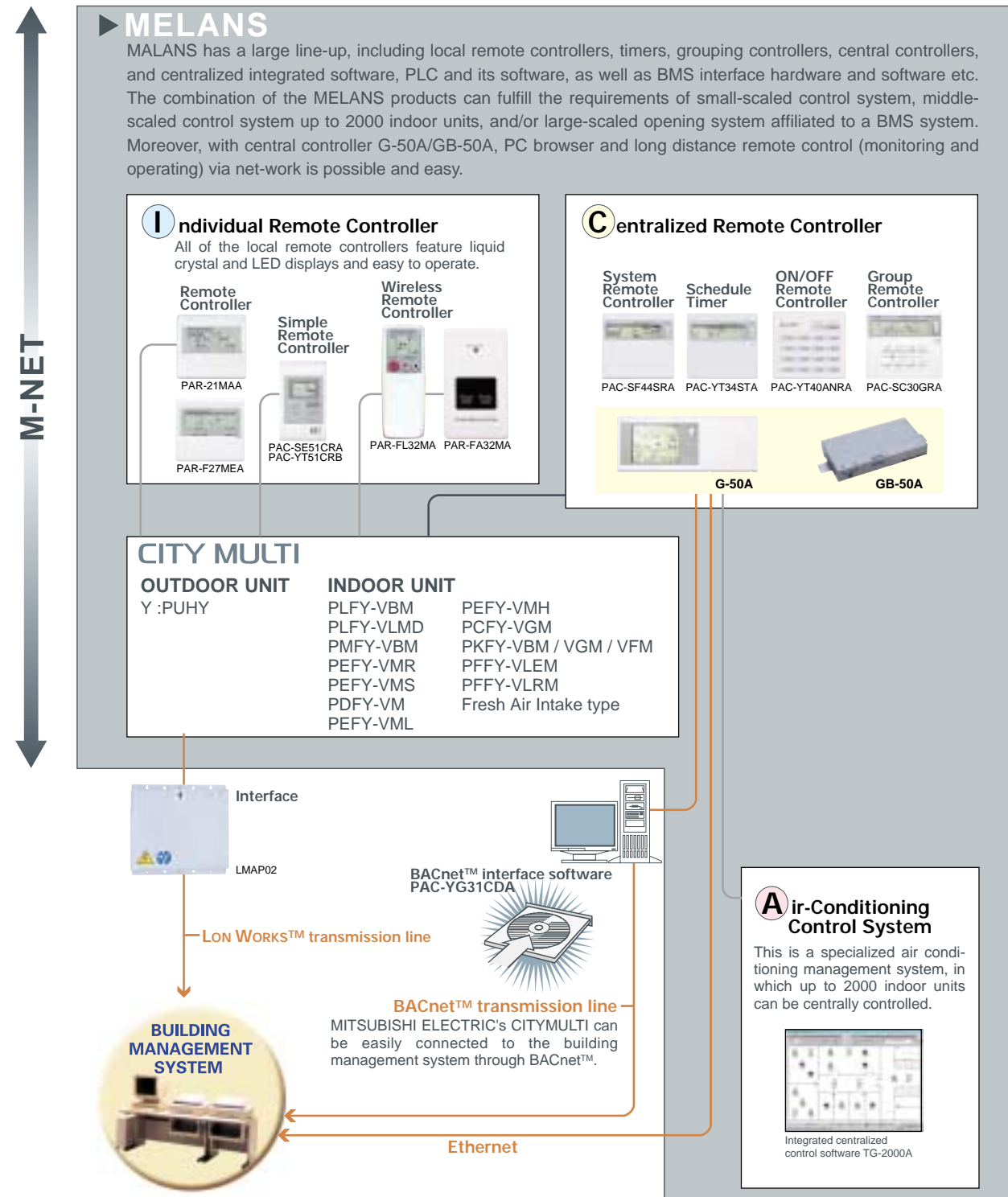
The simpler, the better

With the array of comprehensive control systems available from Mitsubishi Electric, it becomes simple to design and install air conditioning systems. From a simple hand-held controller to a G50 system - you are in control.



System Controller

MITSUBISHI ELECTRIC's Air-conditioner Network System (MELANS) leads air conditioner management a PC browser and Network era.



Integrated Communications Control with Mitsubishi's Unique Transmission Network (M-NET)

Model	Local remote controller				System controller							
	Remote controller		Simple remote controller	Wireless remote controller	System remote controller	Schedule timer	ON/OFF remote controller	Group remote controller	Centralized controller			
	PAR-21MAA	PAR-F27MEA	PAC-SEY51CRA/B	PAR-FL32MA PAR-FA32MA	PAC-SF44SRA	PAC-YT34STA	PAC-YT40ANRA	PAC-SC30GRA	G-50A		GB-50A	TG-2000A
No. of units controllable (Groups (G) / units)	1G/16units	1G/16units	1G/16units	1G/16units	50/50	50G/50U	16/50	8G/16units	50G/50units G-50A browser		50G/50units GB-50A browser	2000G/ 2000units
Start / Stop	○	○	×	○	◎	◎	◎	◎	◎	◎	▲	◎
Operation mode	○	○	×/○	○	◎	○ ⁻⁴	×	◎	◎	◎	×	◎
Temperature setting	○	○	○	○	◎	○ ⁻⁴	×	◎	◎	◎	×	◎
Permit / Prohibit direction	×	×	×	×	◎	○ ⁻⁴	×	×	◎	◎	×	◎
Fan speed	○	○	○	○	◎	×	×	◎	◎	◎	×	◎
Air flow direction	○	○	×	○	◎	×	×	◎	◎	◎	×	◎
ON/OFF	○	○	○	○	◎	◎	○	◎	◎	◎	▲	◎
Error flashing	○	○	○	○	○	○	○	○	○	○	▲	○
Error content	○	○	○	○	○	○	○	○	○	○	×	○
Filter sign	○	○	×	×	○	×	×	○	○	○	×	○
Operating hour	×	×	×	×	×	×	×	×	×	×	×	●
Operation mode	○	○	○	×	○	×	×	○	○	○	×	○
Set temperature	○	○	○	×	○	×	×	○	○	○	×	○
Indoor temperature (intake)	○	○	×	×	×	×	×	○	○	○	×	○
Permit / Prohibit	○	○	○	○	○	○	△	○	○	○	×	○
Fan speed	○	○	○	×	○	×	×	○	○	○	×	○
Air flow direction	○	○	×	×	○	×	×	○	○	○	×	○
Weekly	○ ⁻⁵	×	×	×	×	○	×	×	◎ ⁻⁵	○	●	●
Annual (Designated day setting)	×	×	×	×	×	×	×	×	×	●	×	●
One day	○	○	×	○	×	×	×	×	×	●	×	●
Times of stops / Starts per day	8 ⁻⁵	1/1	×	1/1	×	16	×	×	X/48 ⁻⁵	3/3	12	12
Times of stops / Starts per week	56	×	×	×	×	112	×	×	X/336 ⁻⁵	21/21	84	84
Auto off timer	○	○	×	×	×	×	×	×	×	×	×	×
Minimum setting unit (minutes)	1 ⁻⁵	10 ⁻⁵	×	10	×	5	×	×	X/30 ⁻⁵	10	1	1
Error history	×	×	×	×	○	×	×	○	○	○	×	○
Daily / Monthly reports	×	×	×	×	×	×	×	×	×	×	×	○
Electricity charges	×	×	×	×	×	×	×	×	×	×	×	●
Set temperature range limit	○	○	×/○	×	△	×	×	×	×	×	○ ⁻²	○
Auto lock	○	○	×	×	×	×	×	×	×	×	×	×
Ventilation (group / interlocked)	×/○	×/○	×	×	○	○	○/×	×/○	○	○/○ ⁻²	×	○/○
Group setting	○ ⁻¹	○	×	×	○	○	○	○	○	○ ⁻²	×	○ ⁻²
Block setting	×	×	×	×	×	×	×	×	×	○ ⁻²	×	○ ⁻²
Revision of electricity charges	×	×	×	×	×	×	×	×	×	×	×	■
Start / Stop	-/○	-/○	-/○	-/○	◎/◎	◎/◎	◎/◎ ⁻³	-/◎	◎/◎	◎/◎	▲/▲	◎/◎
Fan speed	-/○	-/○	-/×	×	◎/◎	×	×	-/○	◎/◎	◎/◎	-/×	◎/◎
Ventilation mode	-/×	-/×	-/×	×	◎/×	×	×	-/×	◎/×	◎/×	-/×	◎/×
Status	-/○	-/○	-/×	×	○/○	×	×	-/○	◎/◎	◎/◎	▲/▲	◎/◎
Fan speed	-/○	-/○	-/×	×	○/○	×	×	-/○	◎/◎	◎/◎	-/×	◎/◎
Ventilation mode	-/×	-/×	-/×	×	○/×	×	×	-/×	◎/×	◎/×	-/×	◎/×

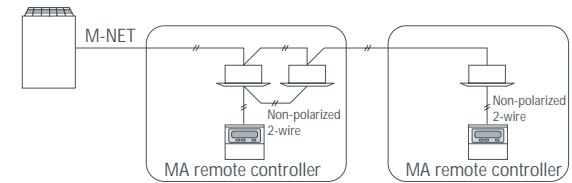
*1: For group operation, cross-over wiring is required between indoor unit. *2: Installation possible at Initial setting tool.
*3: Interlock setting from local remote controller. *4: From schedule setting *5: When PAC-YT32PTA is connected.

Control Systems Individual Control Systems

Wired MA remote controller PAR-21MAA

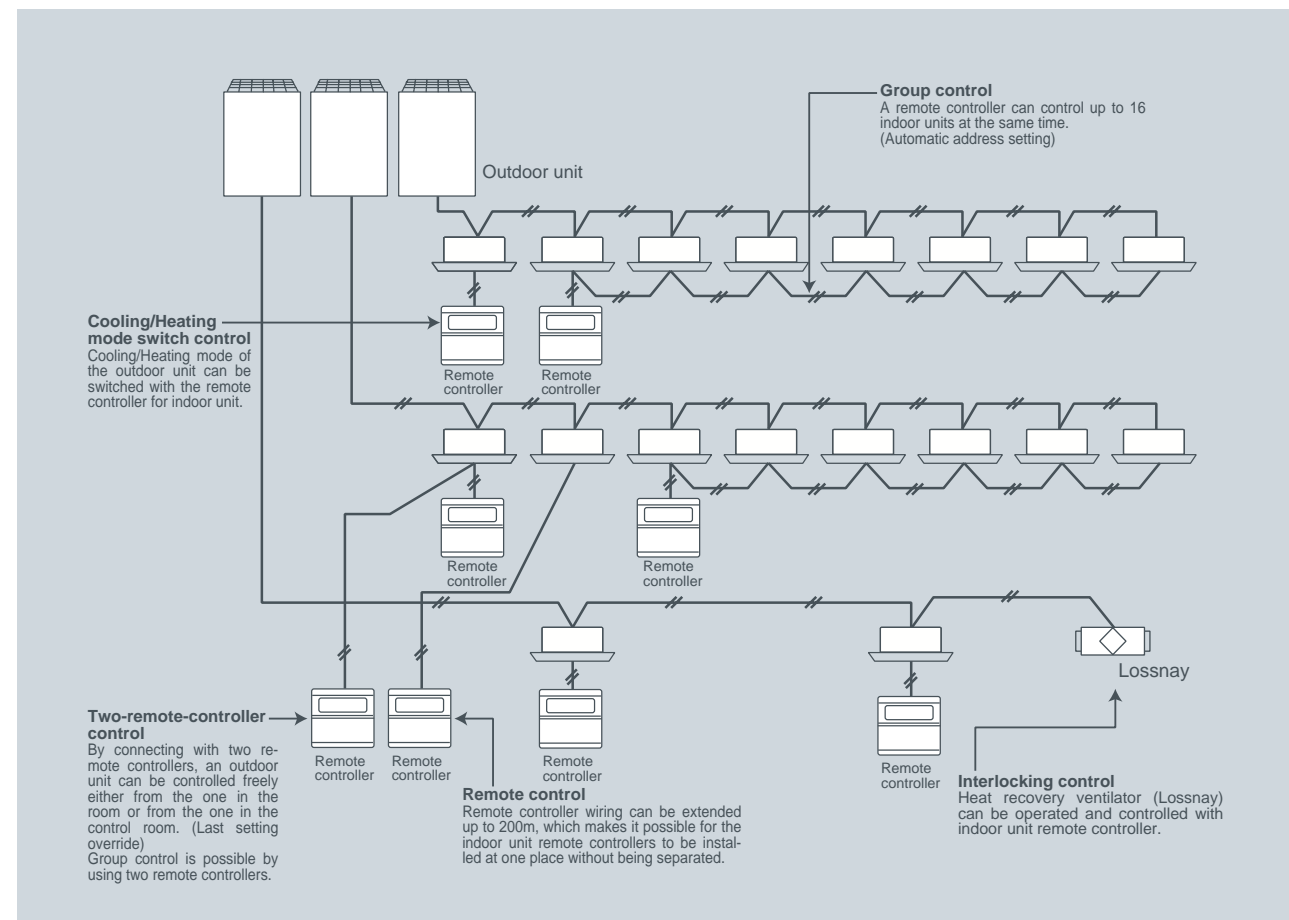


Example of system configuration



- Dot matrix liquid crystal screen displays complete operating status.
- Digital display lets you set temperature in 1°C/°F increments.
- Weekly Timer: up to 8 ON/OFF/Temperature Settings can be made per day. The time can be set in 1-minute increments. The setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- Equipped with a thermostat sensor in the remote controller that makes possible more comfortable room temperature control.
- Ability to limit the set temperature (upper and lower temperature can be set.)
- Ability to restrict setting changes (either all changes or all except ON/OFF)
- Constantly monitors for malfunctions in the system, and is equipped with a "self-diagnosis function" that lets you know by error code immediately when a malfunction occurs.
- Dimensions: 120(W) x 100(H) x 19(D) mm

■ Various control systems can be offered with indoor unit remote controller.



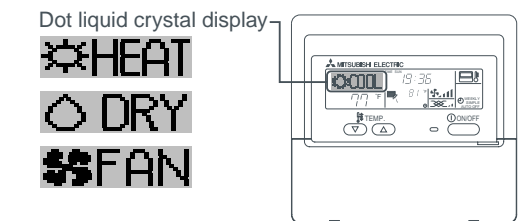
New display-Larger, easier-to-see characters

Various information is displayed and conveyed clearly, enabling more accurate operation of the air conditioner.

Dot Liquid Crystal Display (LCD)

The dot liquid crystal display enables quick understanding of the operation state.

- Display example [Operation mode]



Multi-language Display

In addition to English, contents can be displayed in seven other languages.

This function makes the remote controller very useful in facilities where foreigners are present.

- Display example [Cool mode]



Multi Language Display Example

[Dot display table]

Selecting language	English	Germany	Spanish	Russian	Italy	Chinese	French	Japanese	
Waiting for start-up	PLEASE WAIT	←	←	←	←	←	←	←	
Operation mode	Cool	☉COOL	☉Kühlen	☉FRÍO	☉Холод	☉COOL	☉制冷	☉FROID	☉冷房
	Dry	☉ DRY	☉Trocknen	☉DESHUMIDIFICACION	☉Сушка	☉ DRY	☉除湿	☉DESHU	☉ドライ
	Heat	☼HEAT	☼Heizen	☼CALOR	☼Тепло	☼HEAT	☼制热	☼CHAUD	☼暖房
	Auto	☼AUTO	☼AUTO	☼AUTOMÁTICO	☼АВТО	☼AUTO	☼自动	☼AUTO	☼自動
	Auto(Cool)	☼COOL	☼Kühlen	☼FRÍO	☼Холод	☼COOL	☼制冷	☼FROID	☼冷房
	Auto(Heat)	☼HEAT	☼Heizen	☼CALOR	☼Тепло	☼HEAT	☼制热	☼CHAUD	☼暖房
	Fan	☼FAN	☼Lüfter	☼ VENTILACIÓN	☼ВЕНТ	☼VENTILAZIONE	☼送风	☼VENTIL	☼送風
	Ventilation	☼VENTILATION	☼Gelüfte	☼ VENTILACIÓN	☼ВЕНТИЛЯЦИЯ	☼ARIA ESTERNA	☼换气	☼VENTI	☼換気
	Stand by (Hot adjust)	STAND BY	STAND BY	CALENTANDO	ОБОГРЕВ: ПАЗА	STAND BY	准备中	ERRUFFAGE	準備中
Defrost	DEFROST	Auftauen	DESCONGELACION	ОТТАИВАНИЕ	SPRINAMENTO	除霜中	DEGIVRAGE	霜取中	
Not use button	NOT AVAILABLE	Nicht verfügbar	NO DISPONIBLE	НЕ ДОСТУПНО	NON DISPONIBILE	无效按钮	NON DISPONIBILE	無効ボタン	
Check (Error)	CHECK	Prüfen	COMPROBAR	ПРОВЕРКА	CHECK	検査	CONTROLE	点検	
Test run	TEST RUN	Testbetrieb	TEST FUNCIONAMIENTO	ТЕСТОВЫЙ ЗАПУСК	TEST RUN	试运行	TEST	试运行	
Self check	SELF CHECK	Selbst-diagnose	AUTO REVISIÓN	САМОАНАЛИЗ	SELF CHECK	自我诊断	AUTO CONTROL	自己診断	
Unit function selection	FUNCTION SELECTION	Funktionsauswahl	SELECCIÓN DE FUNCIÓN	ВЫБОР ФУНКЦИИ	SELEZIONE FUNZIONI	功能选择	SELECTION FUNCTIONS	メニュー選択	
Setting of ventilation	SETTING OF VENTILATION	Lüftungseinstellen	CONFIG. VENTILACIÓN	НАСТРОЙКА ВЕНТИЛЯЦИИ	IMPOSTAZIONE ARIA ESTERNA	换气设定	SELECTION VENTILATION	换气設定	

Control Systems

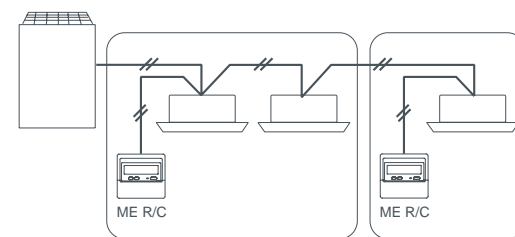
Individual Control Systems

Wired ME remote controller PAR-F27MEA



- This remote control requires non-polar wiring to only one indoor unit.
- Group operation over multiple outdoor units is possible. Grouping can be changed without re-wiring, which makes dividing rooms for tenant easier.
- **Timer operation**
 *Daily timer operation of one ON/OFF setting everyday
 *Auto-off timer : 0:30, 1:00, 1:30, 2:00...4:00
 *The setting is kept in nonvolatile memory.
- **Function lock**
 All functions or all functions except ON / OFF can be selected.
- **Set temperature range limit**
- **Interlock setting and operation of LOSSNAY**
- Dimensions:130(W) x 120(H) x 19(D) mm

Example of system configuration



Simple remote controller PAC-YT51CRB(MA)

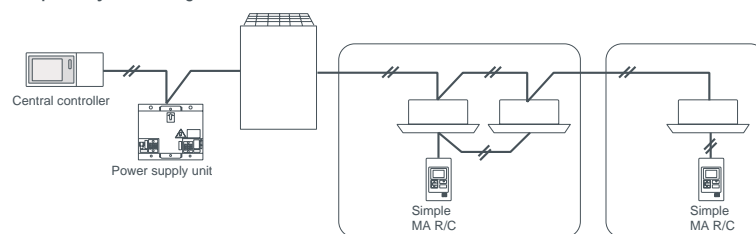


PAC-SE51CRA

- **Control: START/STOP, room temperature, fan speed, and operation mode**
- The only wiring required is cross-over wiring based on two-wire signal lines.
- Room temperature sensors are built-in.
- LCD temperature setting and display in 1°C /1°F unit.
- **Set temperature range limit**
- **Can operate all types of indoor units**
 *Since this controller has limited functions, it should always be used in conjunction with standard controller or centralized controller.
- Dimensions:70(W) x 120(H) x 41(D) mm

Note) PAC-SE51CRA, easy group changing type, is available. Refer to the specification sheet for details.

Example of system configuration



Wireless remote controller PAR-FL32MA / PAR-FA32MA

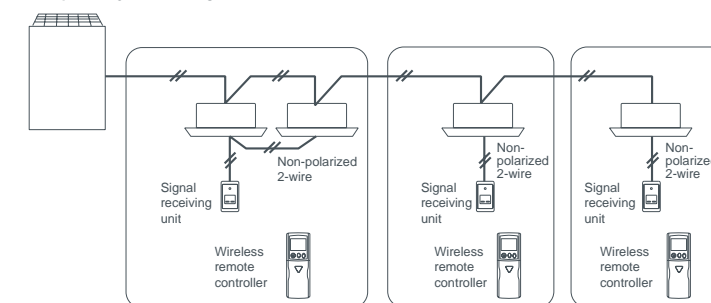


PAR-FL32MA

PAR-FA32MA

- No need to configure addresses for group operation.
- Lit LED keeps you informed of operation - blinking even gives you the error code via the number of blinks.
- Can be used with the MA remote controller.
 *When used in group configurations, wiring between indoor units is required.
 *Combining ME remote controller and/or LOSSNAY remote-controller in a group is not possible.
- **LCD temperature setting and display in 1°C /1°F unit.**
- Dimensions:58(W) x 159(H) x 19(D) mm

Example of system configuration



Centralized Remote Controller

One system controller can control up to fifty indoor units from one location. The PAC-SF44SRA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

System remote controller PAC-SF44SRA

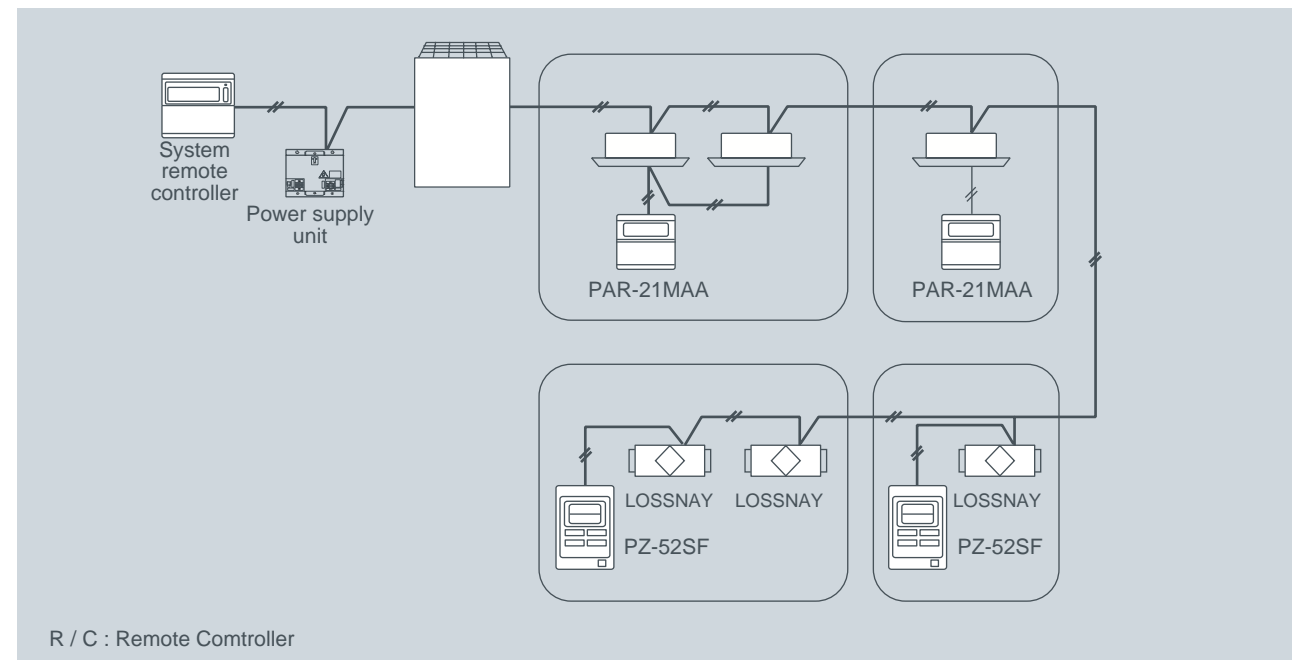


- The group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

System Controller			
FUNCTION	DESCRIPTION	PAC-SF44SRA	
UNITS	Max No.Units	50 units/50 group	
		Operation	Displays
ON/OFF	Run and stop operation	✓	✓
MODE SELECTION	Switches between Cool/Dry/Auto/Fan/Heat. Operation Mode will vary depending on the indoor unit. Auto mode is available with only R2 and WR2 systems	✓	✓
TEMPERATURE SETTING	Sets the groups temperature control. Cool/Dry:19-30°C Heat:17-28°C Auto:19-28°C	✓	✓
FAN SPEED SETTINGS	4 speed – Hi-Mid2-Mid1-Low, Auto 3 speed – Hi-Mid-Low, Auto 2 speed – Hi-Low	✓	✓
AIR FLOW DIRECTION SETTING	Air flow angles: 4-angle or 5-angle, Swing, Auto, Louver ON/OFF	✓	✓
PERMIT/PROHIBIT FUNCTION	Run/Stop, Temperature Setting, Mode Selection and Filter Reset functions can be prohibited.	✓	✓
ERROR INDICATION	Displays a 4 digit code and the affected unit address		✓
VENTILATION INTERLOCK	Allows the group to be interlocked with a heat recovery Lossnay unit	✓	✓
EXTERNAL INPUT	On/Off/Fire Alarm	✓	
EXTERNAL OUTPUT	On/Off/Faults		✓

• Dimensions:130(W) x 120(H) x 19(D) mm

System example



R / C : Remote Controller

Mitsubishi Electric controllers are complimented by a weekly programmable timer, being able to control up to fifty indoor units. The PAC-YT34STA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

Schedule timer PAC-YT34STA

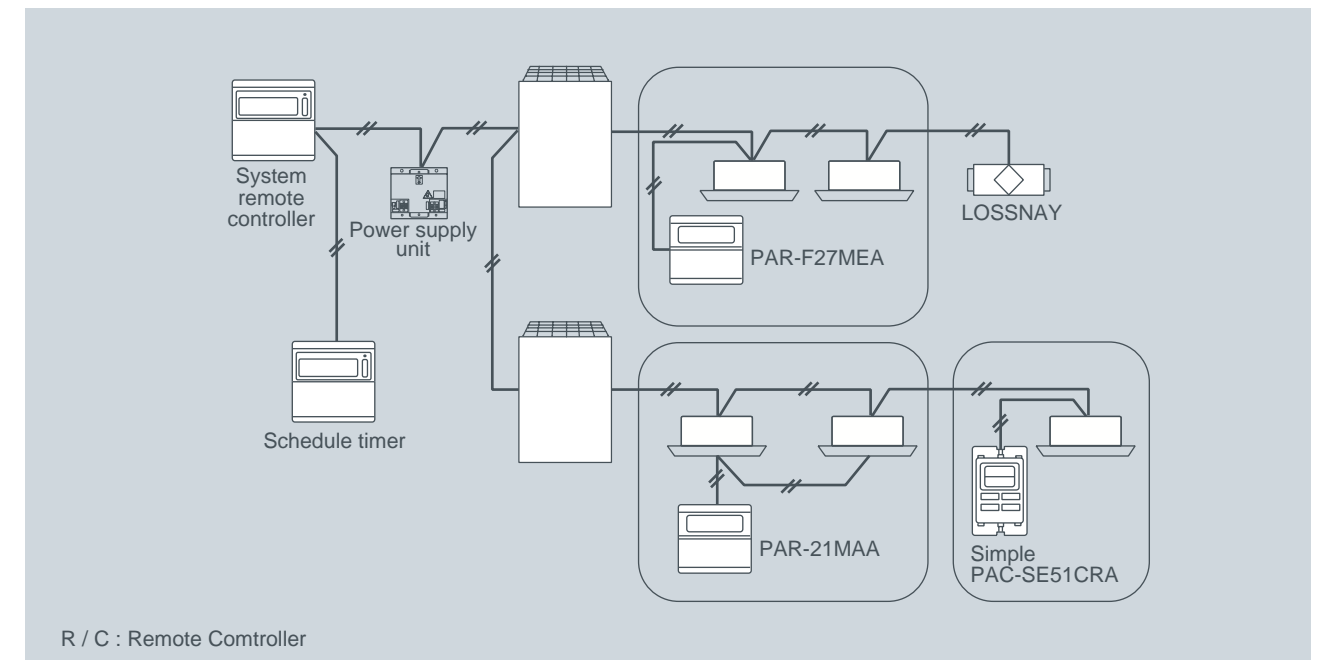


- The schedule group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

Programmable Timer				
FUNCTION	DESCRIPTION	PAC-YT34STA		
UNITS	Max No.Units	50 units/50 group		
		Operation	Displays	
ON/OFF	Run and stop operation	✓	✓	
SCHEDULE FUNCTION	Content	On/Off Mode:Cool/Heat/Auto Set temperature:19°C to 28°C Operation Prohibit: On/Off, Mode, Set temperature	✓	✓
	Number	Weekly timer for each group 9 setting patterns + no setting 16 operations per day	✓	✓
	Unit	5 minutes		
CURRENT TIME	Set the time	✓	✓	
ERROR INDICATION	Displays a 4 digit code and the affected unit address		✓	
EXTERNAL INPUT	On/Off/Fire Alarm	✓		
EXTERNAL OUTPUT	On/Off/Faults		✓	

• Dimensions:130(W) x 120(H) x 19(D) mm

System example



R / C : Remote Controller

Centralized Remote Controller

Just press a switch to start. All of the units can be On/Off by pressing the main switch, and each unit in the group can be On/Off with individual switch. The PAC-YT40ANRA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

ON/OFF remote controller PAC-YT40ANRA

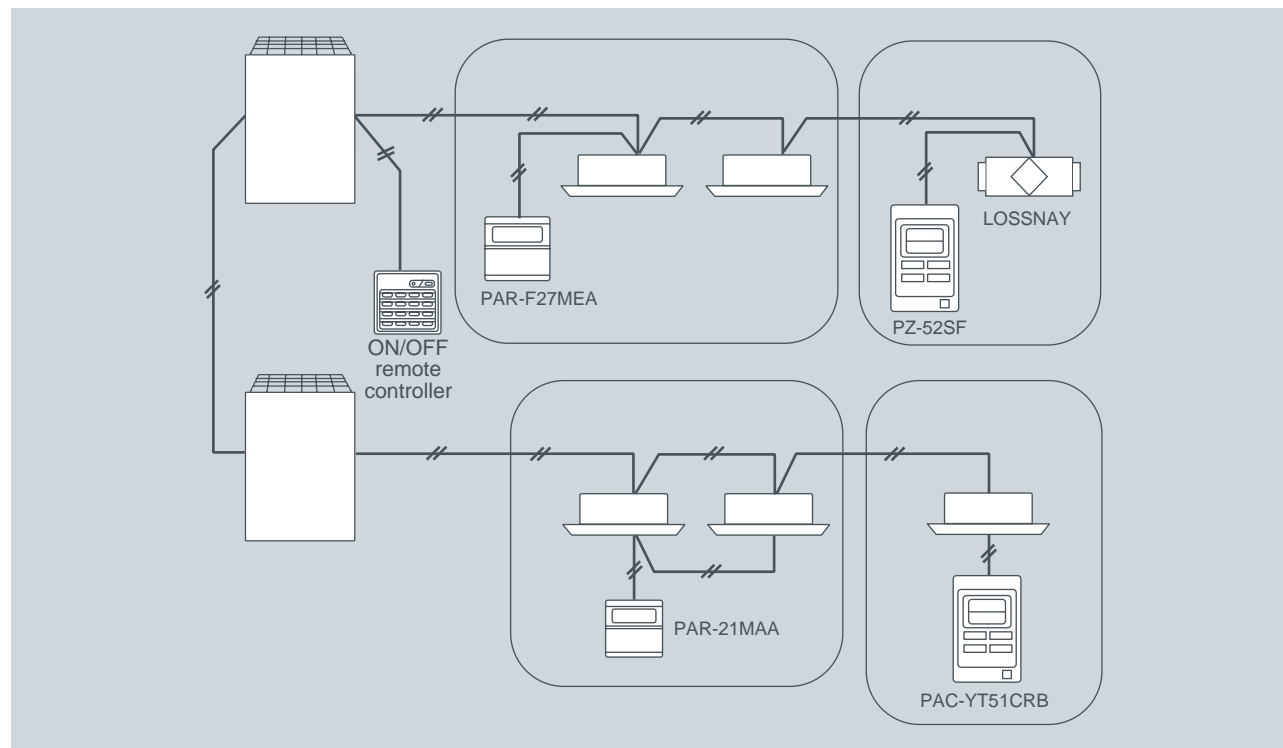


FUNCTION	DESCRIPTION	PAC-YT40ANRA	
		OPERATIONS	DISPLAY
UNITS	Max No.Units	50 units/16 group	
ON/OFF	Run and stop operation	✓	✓
ERROR INDICATION	LED flashes during failure. (The error code can be confirmed by removing the cover.)	-	✓
VENTILATION OPERATION (INDEPENDENT)	Group operation of only LOSSNAY units possible. *Only ON/OFF of group.	✓	✓
VENTILATION OPERATION (INTERLOCKED)	The LOSSNAY will run in interlock with the operation of indoor unit. *The fan rate and mode cannot be changed. The LED will turn ON only during operation after interlocking.	✓	✓
EXTERNAL INPUT	On/Off/Fire Alarm	✓	
EXTERNAL OUTPUT	On/Off/Faults		✓

• Dimensions:130(W) x 120(H) x 19(D) mm

- The group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

System example



Up to 8 groups can be operated (maximum of 16 units). Just by pressing PAC-SC30GRA switches, groups can be On/Off as a batch. Suitable for small office and residential project.

Group remote controller PAC-SC30GRA

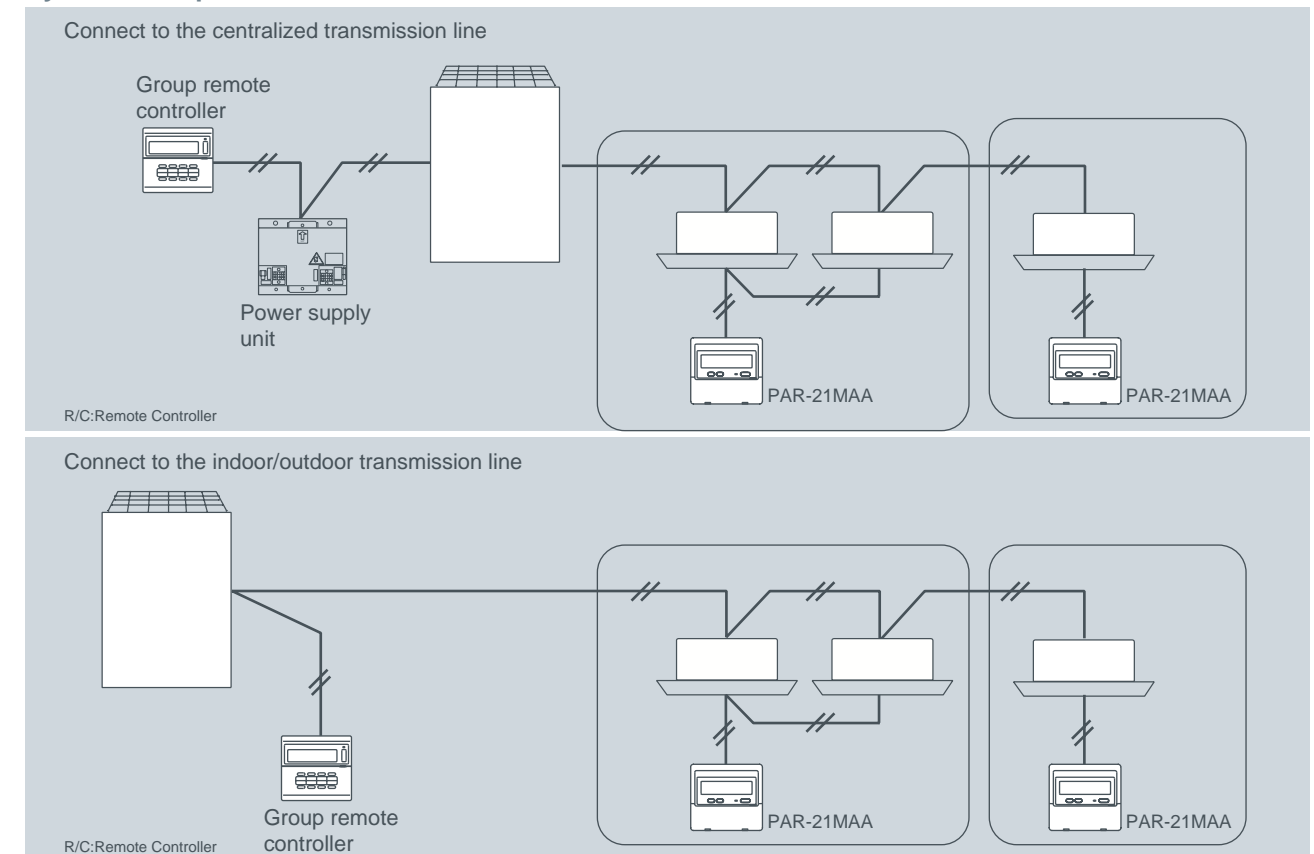


FUNCTION	DESCRIPTION	PAC-SC30GRA	
		OPERATIONS	DISPLAY
UNITS	Max No.Units	16 units/ 8 group	
ON/OFF	Run and stop operation	✓	✓
MODESELECTION	Switches between Cool/Dry/Auto/Fan/Heat. Operation Mode will vary depending on the indoor unit. Auto mode is available with only R2 and WR2 systems	✓	✓
TEMPERATURE SETTING	Sets the groups temperature control. Cool/Dry:19-30°C Heat:17-28°C Auto:19-28°C	✓	✓
FAN SPEED SETTINGS	4 speed – Hi-Mid2-Mid1-Low, Auto 3 speed – Hi-Mid-Low, Auto 2 speed – Hi-Low	✓	✓
AIR FLOW DIRECTION SETTING	Air flow angles: 4-angle or 5-angle, Swing, Auto, Louver ON/OFF	✓	✓
PERMIT/PROHIBIT FUNCTION	Run/Stop, Temperature Setting, Mode Selection and Filter Reset functions can be prohibited via main system controller		✓
INDOOR RETURN AIR TEMPERATURE	Measures the intake temperature of the master unit within the group		✓
ERROR INDICATION	Displays a 4 digit code and the affected unit address		✓
VENTILATION INTERLOCK	Allows the group to be interlocked with a heat recovery Lossnay unit	✓	✓

• Dimensions:130(W) x 120(H) x 19(D) mm

- The group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

System example



Centralized Remote Controller

Central controller G-50A/GB-50A

Up to 50 indoor units can be monitored and operated!
Furthermore, it has enabled the Monitoring and Operation Via a Web Browser on a Personal Computer connected by using a LAN or telephone line!



G-50A (with display)

First in the industry With Web Server Functions!



GB-50A

- Simple and Flexible**
 This new generation controller is suitable for small to large systems with simple to complex functions available.
- Web Browser**
 Enables monitoring and operation of air conditioning units using a PC with Microsoft® Internet Explorer.
- Remote Access**
 Allows users to remotely monitor and operate the air conditioning units using a PC connected to a telephone line.
- Auto Alarm**
 In case of any malfunction, necessary information will be sent to a mobile phone and/or personal computer by e-mail.
- Easy to Upgrade**
 Various new functions will be introduced gradually and can easily be down loaded into any existing G-50A/GB-50A.
 Example: Personal web by Macintosh PC
 Night setback
 Auto Cool/Heat changeover
- Powerful combination with PLC MELSEC-Q series**
 (Programmable logic controller from Mitsubishi Electric)

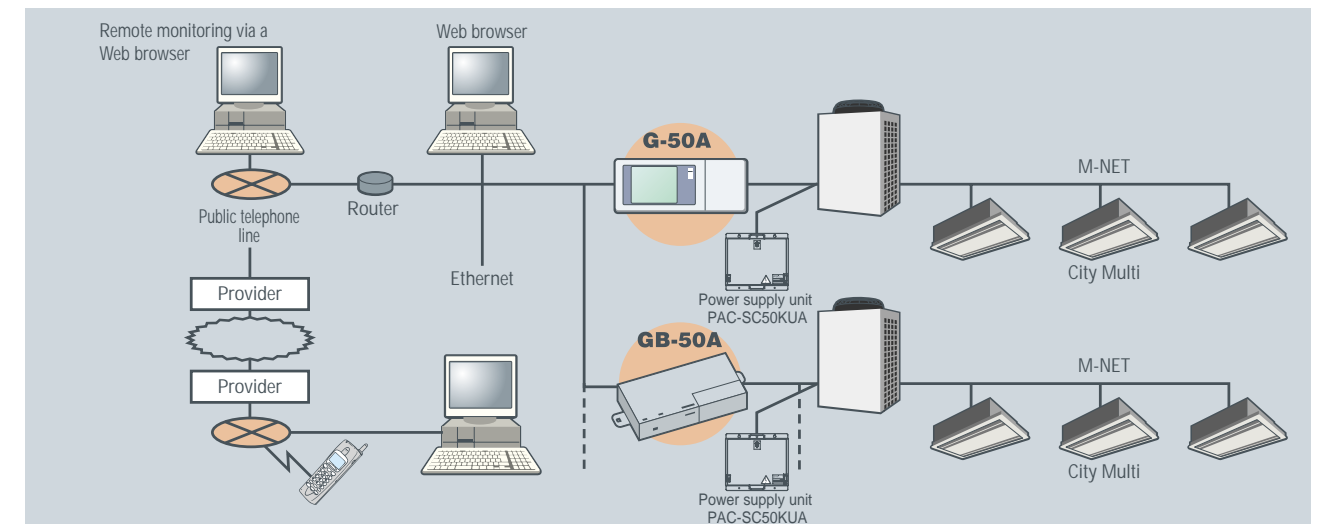


Example of display icons (air conditioner icons)

	Operation		In timer operation
	Stop		Lossnay on
	Occurrence of abnormality		Under energy-saving control
	Operation/ Occurrence of a filter sign		

Multi language display with easy-understanding icons on web browser.
(English, French, German, Italian, Spanish, Russian, Chinese)

System Structure



* Microsoft is a trademark or trademark of Microsoft corporation.

G50 Centralized Controller

FUNCTION	DESCRIPTION
MAX No.OF INDOOR UNITS	Up to 50 indoor units can be connected
ON/OFF	Run and Stop operation
MODE SELECTION	Switches between Cool/Dry/Auto/Fan/Heat.Operation Mode will vary depending on the indoor unit.
TEMPERATURE SETTING	Sets the groups temperature control.Cool/Dry:19-30°C,Heat:17-28°C,Auto:19-28°C
FAN SPEED SETTING	4 speed – Hi-Mid2-Mid1-Low/Auto, 3 speed – Hi-Mid-Low/Auto, 2 speed – Hi-Low
AIR FLOW DIRECTION SETTING	Air flow angles: 4-angle or 5-angle, Swing, Auto, Louver ON/OFF
TIMER OPERATION	Maximum of 3 time sequences with 3 Start/Stop times per day for all groups can be allocated
PERMIT/PROHIBIT FUNCTION	Individual prohibit operations for each remote controller function (Run/Stop, Temperature Setting,Mode Selection and Filter Reset) can be activated
INDOOR RETURN AIR TEMPERATURE	Displays the measured intake temperature from each group
ERROR INDICATION	Displays a 4 digit code and the affected unit address.An error log is held showing the last 64 date stamped alarms
TEST RUN FUNCTION	Allows each unit within the group to operate in test mode
VENTILATION INTERLOCK	Allows the group to be interlocked with a heat recovery Lossnay unit
WEB SETPOINT/LIMIT	Reduce the setpoint band of each individual unit (exp.23°C to 25°C)
WEB AUTO/CHANGEOVER	Automatically switch heat pump outdoor unit to cooling or heating mode depending on the requirements
WEB INITIAL/SETTING	Commission the G50 from the web pages
WEB LOGIN	Two types of login available (Administrator & Guest).Administrator able to allow specific function access to guest
EXTERNAL INPUT/OUTPUT	Hardwired connections are available for : Inputs: Level Signal-Batch Start/Stop,Batch Emergency Stop Pulse Signal-Batch Start/Stop,Enable/Disable Local R/C Outputs: Start/Stop Status,Error/Normal Status
POWER SUPPLY UNIT	PAC-SC50KUA

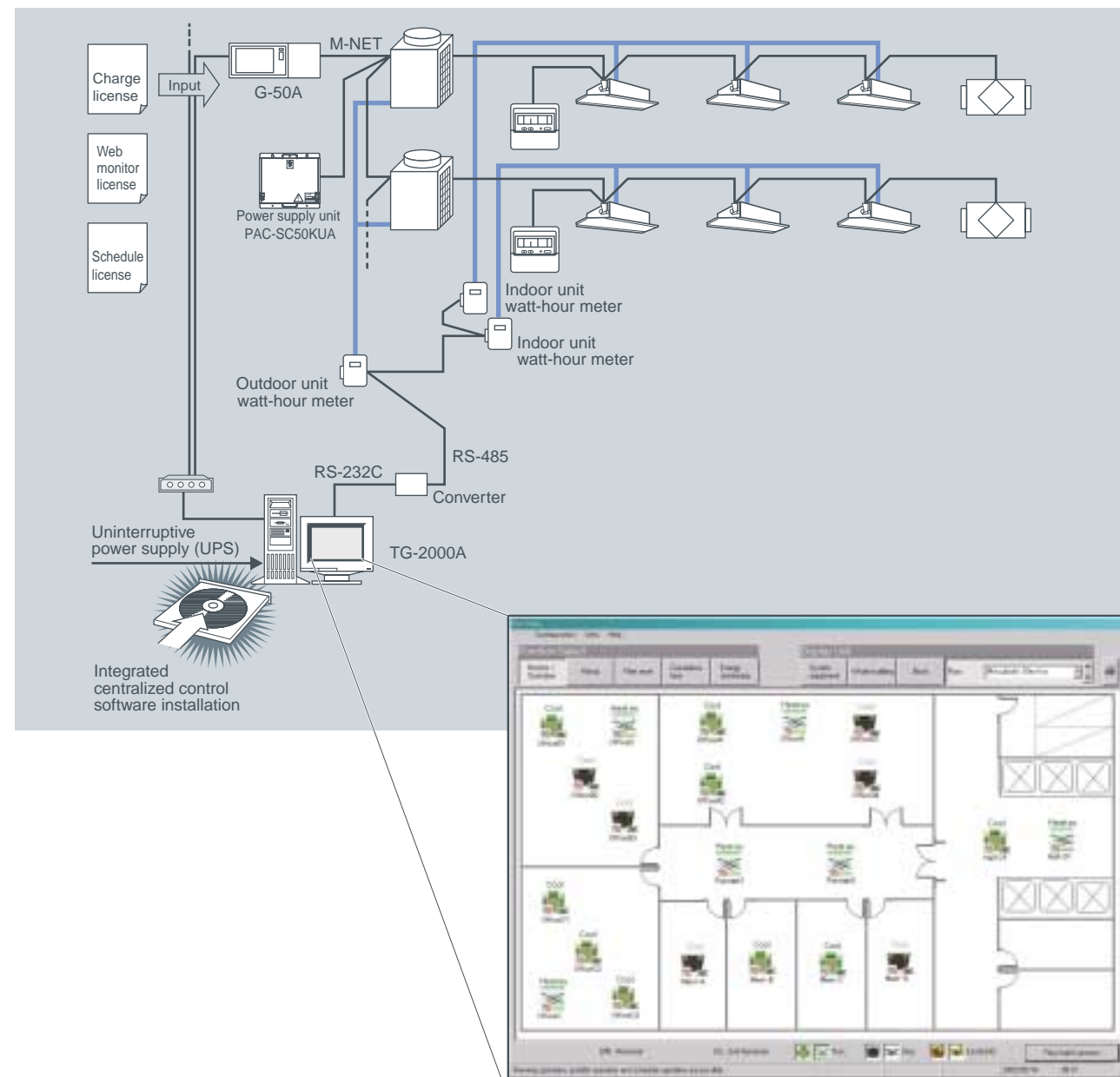
G50 Software Options

G50 -Web Monitor	Control and Monitor the G50 via Internet Explorer	G50 - Saving Energy	Energy Saving Capability
G50 - Email	Enable E-mail activation on fault conditions	G50 - Peak Cut	Peak Cut Control
G50 - Schedule	Weekly / Annual Scheduling	G50 - Personal Web	Virtual Remote Controllers
G50 - Charge	Energy Charge	G50 - BacNet	Bacnet interface

Centralized Remote Controller

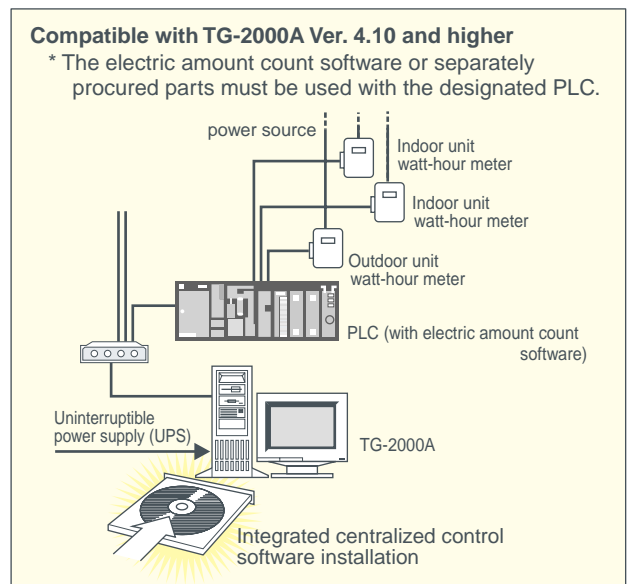
Integrated centralized control software TG-2000A

Example of Basic System Configuration.



Main features of TG-2000A

- ① Up to 2000 indoor units (40 G-50A/GB-50A units) can be operated and monitored simultaneously.
- ② The air-conditioner layout can be displayed on the screen, making control and operation easier.
- ③ The annual and weekly schedules can be set. Two schedules, such as the summer master and winter master, can be saved in the weekly schedule.
- ④ Multiple air-conditioning charges can be calculated. The power apportionment percentage data and apportioned power rate can be calculated for each indoor unit using the power apportionment function, and can be output as a CSV format file.
 - * Power apportionment charging is not possible with the old model, A control or K control.
 - Charging without WHM : The user manually inputs the power rate to calculate the air-conditioning charges. (Using a tool)
 - RS-485 WHM charging : The RS-485 WHM value is automatically tabulated to calculate the air-conditioning charges.
 - PLC + pulse WHM charging : The pulse output WHM value is automatically tabulated by the PLC to calculate the air-conditioning charges.
- ⑤ Energy saving operation is possible using the "ON/OFF", "set temperature change", "fan operation changeover" and "performance save operation (60% to 90%)" functions. Energy saving operation matching the amount of power in use is possible by using the PLC's electric amount count software.
- ⑥ Night set-back operation is possible with schedule settings. *1*4
- ⑦ General equipment can be operated and monitored. *2
- ⑧ General equipment can be schedule-controlled when using PAC-YG21CDA with PLC. For details of PLC refer to Installation Manual of PAC-YG21CDA. *3
 - *1: Compatible with TG-2000A Ver. 4.10 and higher, G-50A Ver. 2.51 and higher.
 - *2: Compatible with TG-2000A Ver. 4.30 and higher, G-50A Ver. 2.51 and higher.
 - *3: Compatible with TG-2000A Ver. 4.60 and higher, G-50A Ver. 2.70 and higher.
 - *4: With Night Set-Back function, the CITY MULTI system can run at heating mode with target temperature set to 12°C/54°F under schedule control. This function can protect the room from dropping down to extremely low temperature at mid-night.



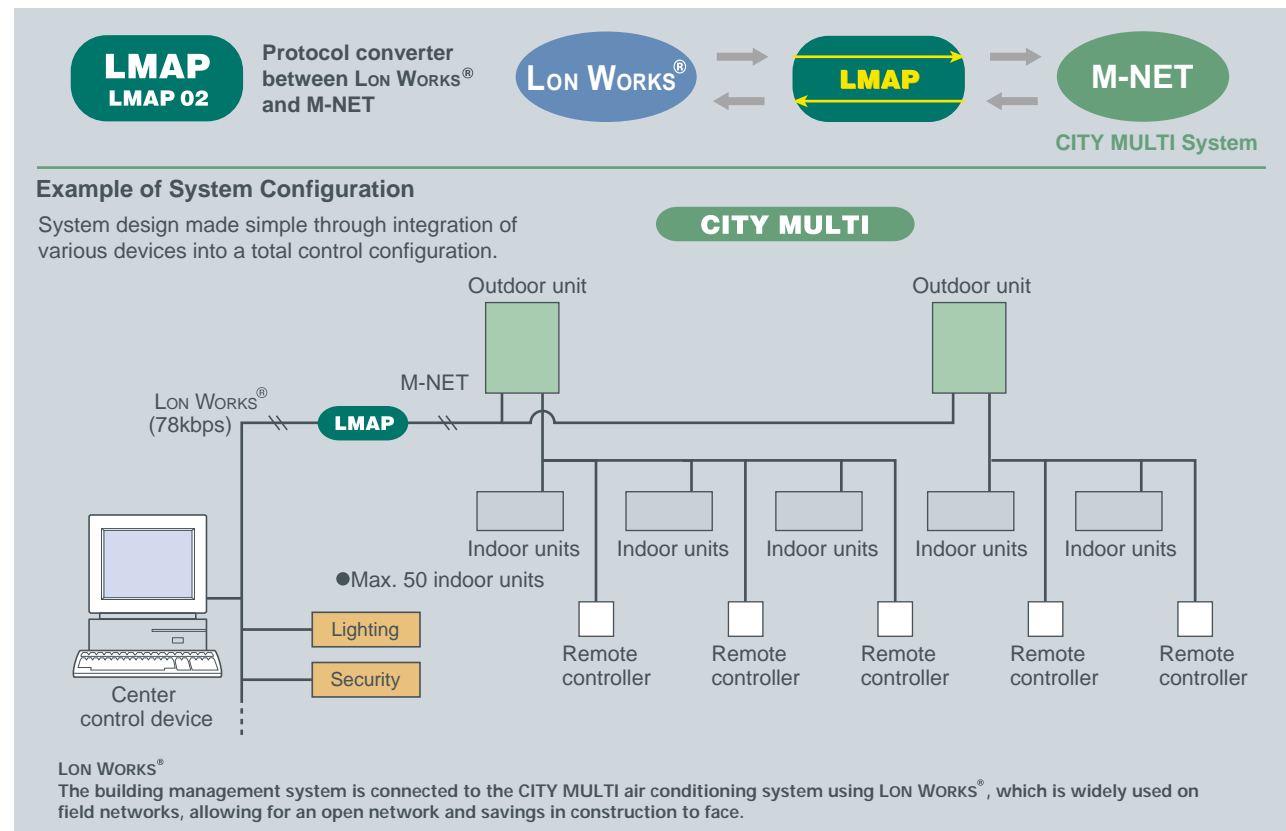
The TG-2000A enables the following functions using the G-50A/GB-50A option (license).

- * Operation/monitor
- * Annual/weekly schedule
- * Calculating electricity
- * Energy saving *1
- * Peak cut *1
- *1: Compatible with TG-2000A Ver. 4.10 and higher, G-50A Ver. 2.51 or later.

LONWORKS® (LMAP02)

CITY MULTI can easily combine into a Building Management System (BMS) via the LonWorks™ and M-NET adapter LMAP02. LonWorks™ is an opened transmission protocol widely used at BMS, and related equipment control. CITY MULTI is therefore compatible with large-scaled BMS management via LonWorks™.

One LM ADAPTER unit can connect up to 50 Groups/50 indoor units.
Using a single LONWORKS adapter (LM ADAPTER), you can connect up to a maximum of 50 indoor units.



LON, LON WORKS® and the Echelon logo are trademarks of Echelon Corporation registered in the United States and other countries.

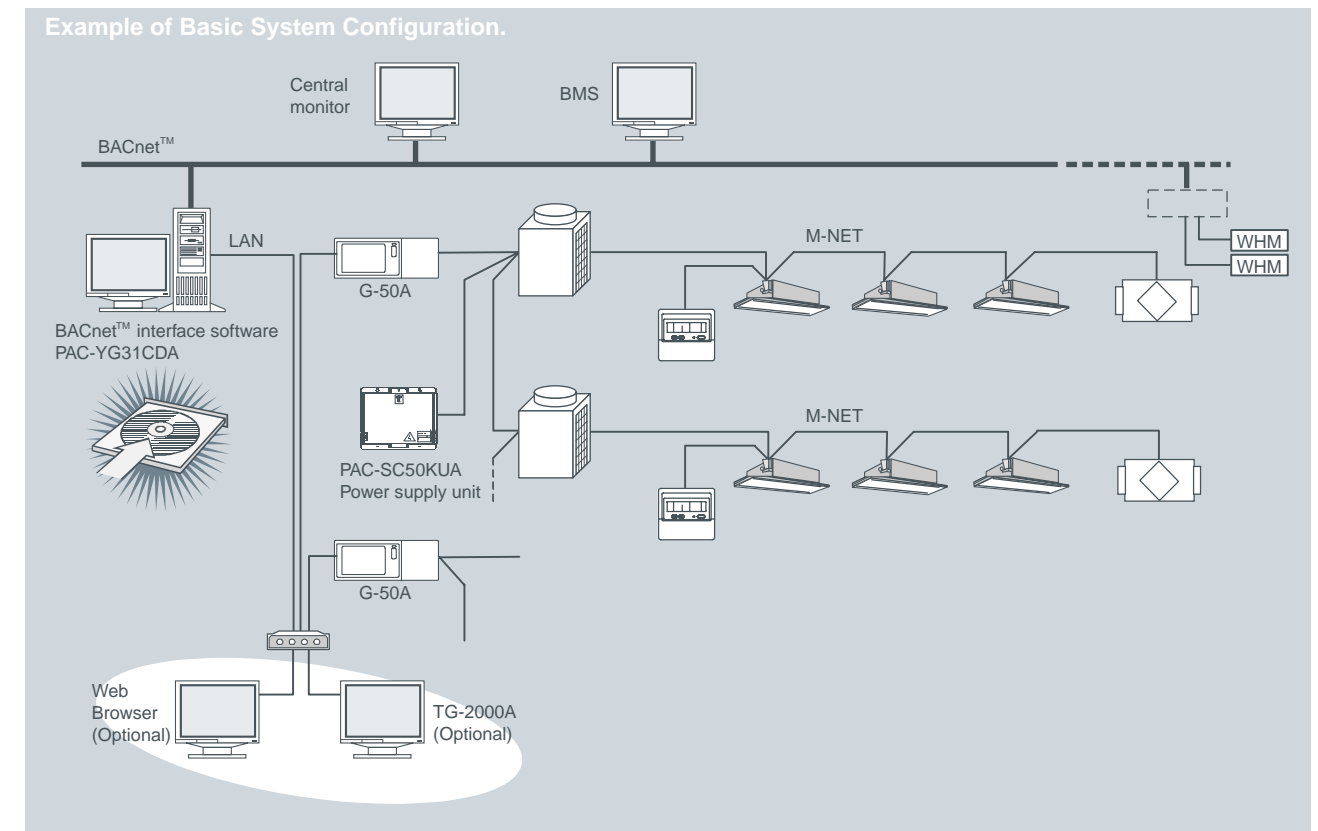
LONWORKS® INTERFACE

FUNCTION	CONTENT
Control	
ON/OFF	Run/Stop
MODE OPERATION	Cooling/Drying/Heating/Auto/Fan
SETPOINT ADJUSTMENT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED CONTROL	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint
EMERGENCY STOP	-
Monitoring	
ON/OFF	Run/Stop
MODE	Cooling/Drying/Heating/Auto/Fan
SETPOINT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint
ALARM STATE	-
ROOM TEMPERATURE	-10°C-50°C
THERMO ON/OFF	On/Off

BACnet™ interface(PAC-YG31CDA)

MITSUBISHI ELECTRIC's CITYMULTI can be easily connected to the building management system through BACnet™. BACnet™ is the appropriate transmission method and used in many of the backbone networks and also it is easy to combine with other equipment corresponding to BACnet™.

One BACnet™ interface software manages up to 500 Groups/500 Indoor units. (10 G-50A/GB-50A units).




BACnet® INTERFACE

FUNCTION	CONTENT
Control	
ON/OFF	Run/Stop
MODE OPERATION	Cool/Dry/Heat/Auto/Fan
SETPOINT ADJUSTMENT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED CONTROL	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint, Filter sign reset, Air flow direction
AIRFLOW DIRECTION	Horizontal - 60°-80°-100° swing
FILTER DIRTY RESET	Normal/Reset, Emergency stop
Monitoring	
ON/OFF	Run/Stop
MODE	Cool/Dry/Heat/Fan
SETPOINT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint, Filter sign reset
AIRFLOW DIRECTION	Horizontal - 60°-80°-100° swing
FAULT CODE	2 Character code - Indicates all unit alarms
FILTER SIGN	-
ROOM TEMPERATURE	-
COMMUNICATION STATUS	-





I ndoor unit

- Ceiling cassette type 4-way airflow
- Ceiling cassette type 2-way airflow
- Ceiling cassette type 1-way airflow
- Ceiling concealed type
- Ceiling suspended type
- Wall mounted type
- Floor standing type
-  Logsnay
- OA Processing Units

Wide selection of indoor units

Ceiling cassette (4way air flow) Page37 - Page38


New  **PLFY-P VBM-E**
PLFY-P VCM-E



Model	P20	P25	P32	P40	P50
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW
Model	P63	P80	P100	P125	
Capacity	7.1kW	9.0kW	11.2kW	14.0kW	

Fresh Air Intake Page53 - Page54


PEFY-P VMH-E-F



Model	P80	P140	P200	P250
Capacity	9.0kW	16.0kW	22.4kW	28.0kW

Ceiling cassette (2way air flow) Page39 - Page40


PLFY-P VLMD-E



Model	P20	P25	P32	P40	P50
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW
Model	P63	P71	P80	P100	P125
Capacity	7.1kW	8.0kW	9.0kW	11.2kW	14.0kW

Ceiling suspended Page55 - Page56


PCFY-P VGM-E



Model	P40	P63	P100	P125
Capacity	4.5kW	7.1kW	11.2kW	14.0kW

Ceiling cassette (1way air flow) Page41 - Page42


PMFY-P VBM-E



Model	P20	P25	P32	P40
Capacity	2.2kW	2.8kW	3.6kW	4.5kW

Wall mounted Page57 - Page58


New **PKFY-P VBM-E**
PKFY-P VFM-E
PKFY-P VGM-E



Model	P20	P25	P32	P40	P50	P63	P100
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW	11.2kW

Ceiling concealed Page43 - Page52


New **PEFY-P VMR-E-L/R** **PEFY-P VML-E**
New **PDFY-P VM-E** **PEFY-P VMH-E**
PEFY-P VMS-E



Model	P20	P25	P32	P40	P50	P63	P71
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW	8.0kW
Model	P80	P100	P125	P140	P200	P250	
Capacity	9.0kW	11.2kW	14.0kW	16.0kW	22.4kW	28.0kW	

Floor standing Page59 - Page62

PEFY-P VLRM-E **New** **PEFY-P VKM-E**
PEFY-P VLEM-E

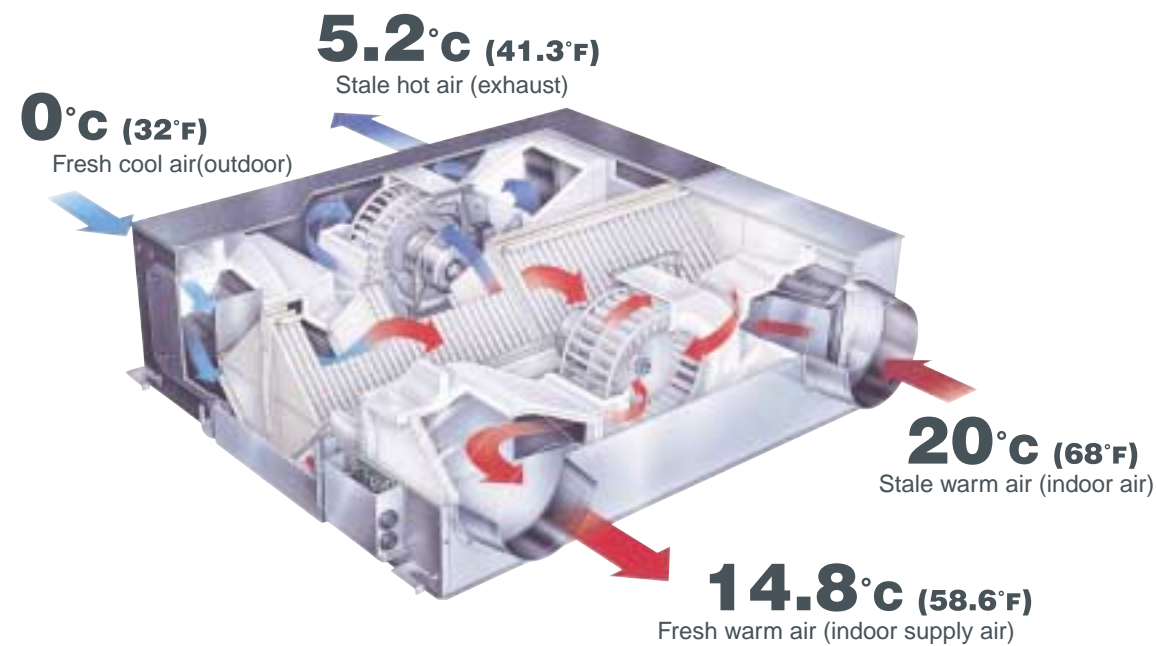


Model	P20	P25	P32	P40	P50	P63
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW



The Ventilation System for Enhanced Air Quality - Lossnay

Combine with Lossnay Ventilation System Enhanced Air Quality.
Unified Control System Allows Greater Design Freedom.



LGH-15RX4 [150m³/h Single phase 220-240V 50Hz/60Hz]
LGH-25RX4 [250m³/h Single phase 220-240V 50Hz/60Hz]
LGH-35RX4 [350m³/h Single phase 220-240V 50Hz/60Hz]
LGH-50RX4 [500m³/h Single phase 220-240V 50Hz/60Hz]

LGH-80RX4 [800m³/h Single phase 220-240V 50Hz/60Hz]
LGH-100RX4 [1000m³/h Single phase 220-240V 50Hz/60Hz]
LGH-150RX4 [1500m³/h Single phase 220-240V 50Hz/60Hz]
LGH-200RX4 [2000m³/h Single phase 220-240V 50Hz/60Hz]

Heat-Exchange Efficiency Obtainable Only with Lossnay.

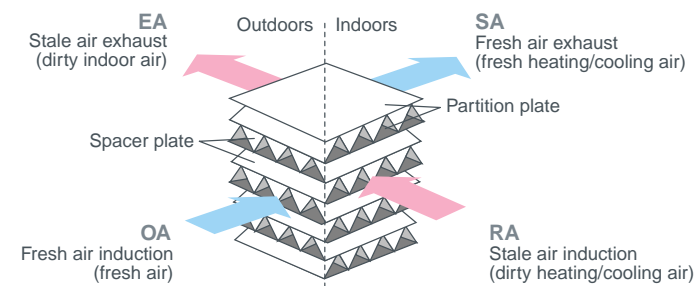
The secret to the unmatched comfort provided by Lossnay core is the cross-flow, plate-fin structure off the heat-exchange unit. A diaphragm made of a specially processed paper fully separates inducted and exhausted air supplies, ensuring that only fresh air is introduced to the indoor environment.

The superior heat-transfer and moisture permeability of the special paper assure highly effective total heat exchange (temperature and humidity) when inducted and exhausted air supplies cross in the Lossnay core.

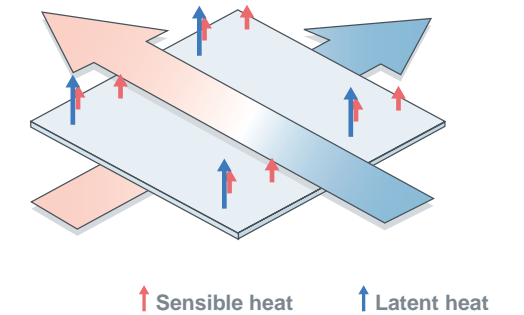
LOSSNAY Technology

- **Two paths ventilation**
LOSSNAY simultaneously intakes Fresh Air and exhausts Dirty Air.
- **Total energy recover**
LOSSNAY returns BOTH sensible heat and latent heat.

A. Two paths ventilation



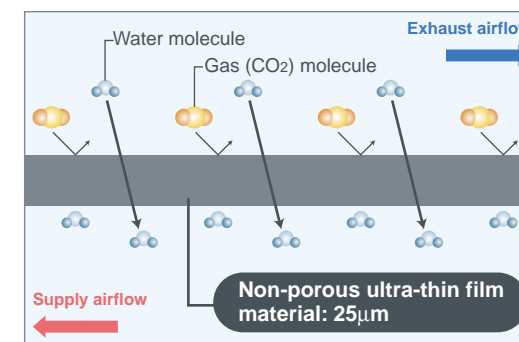
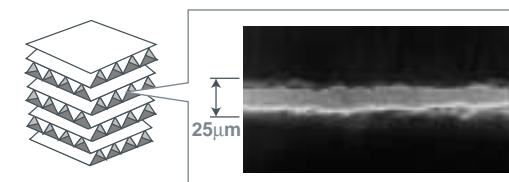
B. Total Energy transfer



- **Hyper Performance [HYPER CORE]**
Mitsubishi developed "HYPER CORE" of World No.1

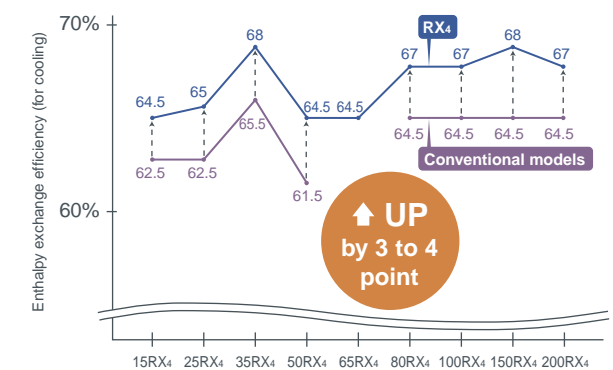
No dirty air return

LOSSNAY recovers energy but does NOT return dirty air to indoor by Non porous paper.



High Performance

Mitsubishi has World No.1 Energy exchange efficiency.



Why LOSSNAY is necessary.

• Without ventilation...

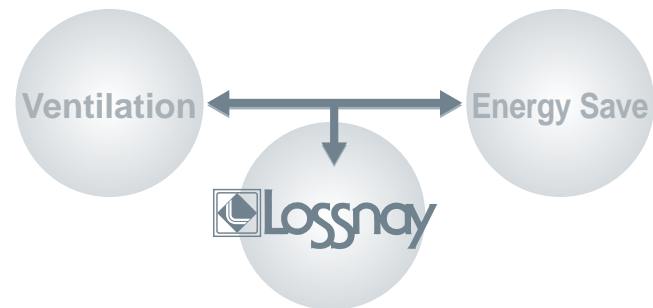
Lack of Ventilation makes people sick by dirty indoor air including CO2, Dust, Bacteria.

• If just opening windows...

Opening windows eliminates dirty air BUT wastes much air-con energy.

• So we recommend LOSSNAY

LOSSNAY is simultaneous pursuit of Ventilation and Energy Saving.



• This is LOSSNAY !

ADVANTAGES

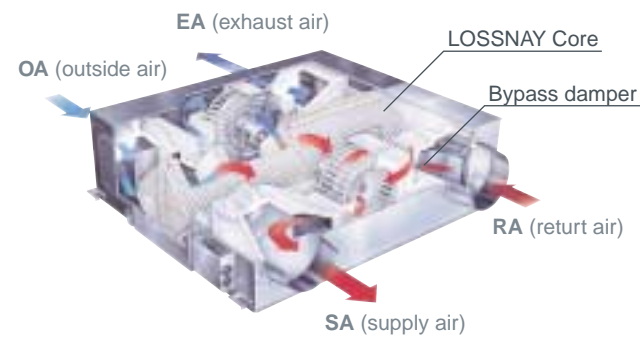
Clean air supply, dirty air exhaust by Two air paths (OA → SA and RA → EA)

Energy recovery by LOSSNAY Core

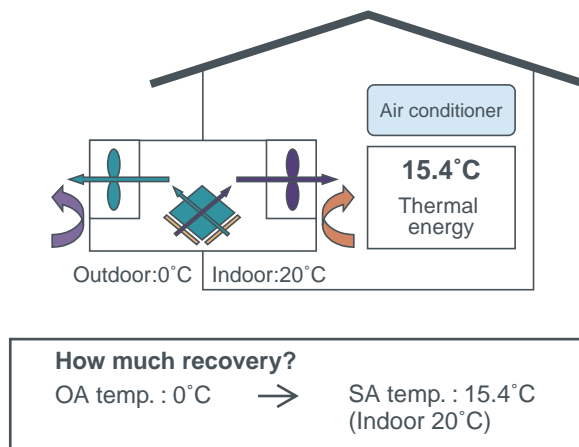
Free cooling by bypass damper

MULTI VENTILATION MODE for multi ventilation request (Power supply, Power supply/exhaust, Power exhaust)

UNIT STRUCTURE



Energy Recovery Image



LOSSNAY features

■ Multi Ventilation Mode to control air volume balance

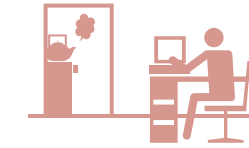
Normal office, etc.



Many people in an office

Power air supply/exhaust

Smaller offices or tenant buildings, etc.



Extractor fan working place

Power air supply

Smoking areas, etc.



Priority air exhaust

Power air exhaust

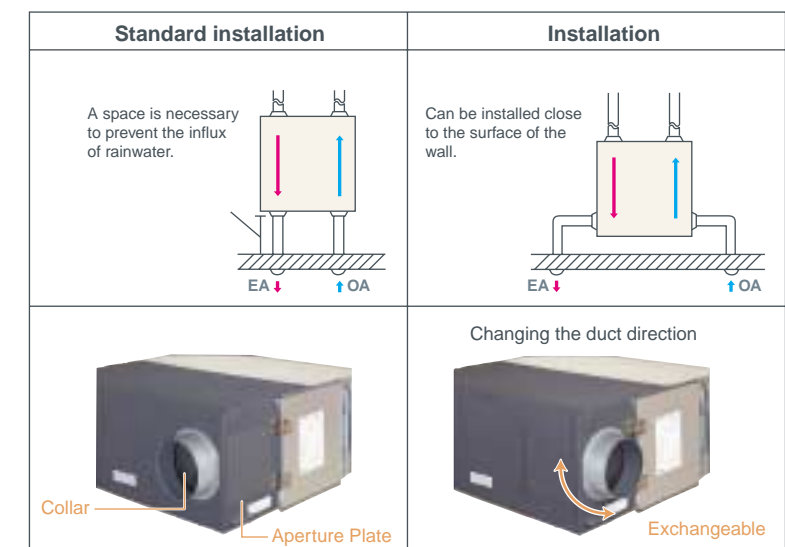
All LGH models feature the "Multi-ventilation Mode," which allows the air supply/exhaust balance to be varied dynamically to suit the usage environment and location. Modes can be selected easily by setting the connectors on the circuit board.

Ventilation Mode	Supply Airflow	Exhaust Airflow
Power air supply/exhaust mode	High	High
Power air supply mode	High	Low
Power air exhaust mode	Low	High
Energy-saving ventilation mode	Low	Low

* "High" can be further set to "Extra high" using the dip switch.

■ Easy Installation

Flexible duct work is available.



Model line up

■ Appearance



LGH-50RX4-E

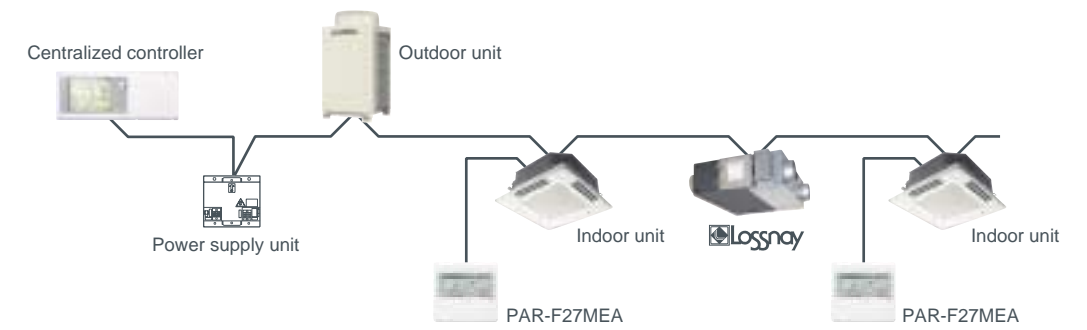


LGH-200RX4-E

■ Specification

			Model: LGH-RX4 series								
Model			15R	25R	35R	50R	65R	80R	100R	150R	200R
Power source			200/240V 1Ph 50/60Hz								
Size	L mm		780	780	888	1016	954	1164	1263	1413	1413
	W mm		610	735	874	888	908	1004	1164	1004	1231
	H mm		275	275	317	317	388	398	398	800	800
Volume	m ³		0.13	0.16	0.25	0.29	0.34	0.47	0.59	1.13	1.39
Weight	kg		17	21	30	33	46	61	69	138	161
Duct diameter [mm]			100	150	150	200	250	250	250	350	350
Air Volume	Shi	CMH	150	250	350	500	650	800	1000	1500	2000
	Static Pressure	Pa	95	80	150	150	110	140	160	140	150
Sound level A	Shi	dB	26	26.5	31	33	34.5	33.5	36	36.5	39
Sound level B	Shi	dB	33	34.5	39	41	42.5	44.5	47	49	51.5
Ex. Efficiency	Temp.	%	77	78	79	77	77	78	79	79	79
	Heating	%	70	70	70	67.5	67.5	71	71	72	71
	Cooling	%	65.5	65	68	64.5	64.5	67	67	68	67

■ M-NET system with City Multi Flexible system, for your multi demand



Installation

LOSSNAY ventilation combined with Air-con

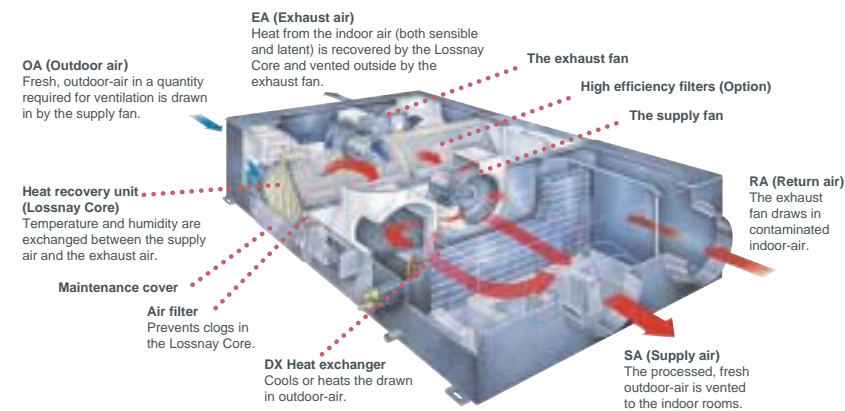


OA Processing Units



Ideal Indoor-Air Quality — For Your Comfort and Health

The OA (outdoor-air) Processing Unit creates an optimum indoor-air environment at an unparalleled rate of cost efficiency providing substantial energy savings. Forced air ventilating and humidifying functions unique to this system keep indoor-air fresh and free of contaminants preventing “sick building syndrome” and the spread of airborne viruses such as the flu. Another novel feature of the OA Processing Unit is the “Lossnay core,” a heat-exchange unit that functions to transfer heat efficiently, cutting ventilation load by as much as 70%. This special combination of functionality and performance designed to ensure users ample comfort and year-round health which cannot be found anywhere else on the market.



GUF-50RD(H)3 *1
 Cooling Capacity
 5.29 (DX coil:3.63, Lossnay:1.66)KW
 Heating capacity
 6.42 (DX coil:4.17, Lossnay:2.25)KW
 500m³/h Single phase 220-240V 50Hz

GUF-100RD(H)3 *1
 Cooling Capacity
 10.81 (DX coil:7.32, Lossnay:3.49)KW
 Heating capacity
 13.00 (DX coil:8.30, Lossnay:4.70)KW
 1000m³/h Single phase 220-240V 50Hz
 *1 H : Humidifying Type

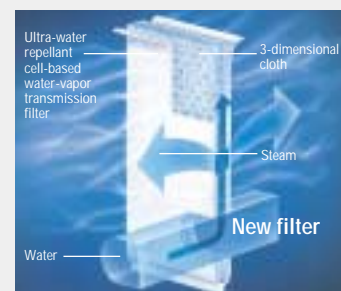
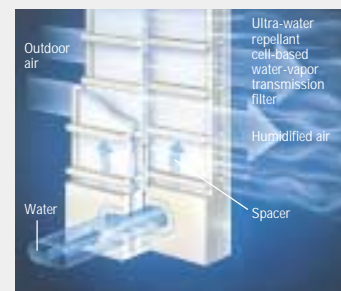
New Permeable Film Humidifier (RDH3 model)

Comfortable Level of Humidity for Exceptionable Air Quality

The OA Processing Unit is equipped with a new permeable film humidifier developed and patented by Mitsubishi Electric. Steam transmission efficiency has been improved remarkably by lowering the resistance of the material. The use of a 3-layer film that allows only the transfer of steam prevents the production of white powder, so there is no need for the use of a water purifier.

Highly Efficient Humidification

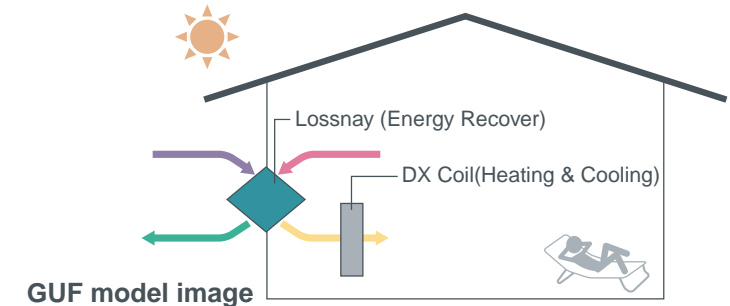
Improvements in the system of airflow patterns and water injection techniques have resulted in a substantial increase in humidifying volume.



RDH3 SERIES OUTDOOR AIR PROCESSING UNIT GUF type

General

GUF - For the finest indoor quality
 GUF = [LOSSNAY] + [HEATING & COOLING]



Specification

Model		GUF-50RDH3	GUF-100RDH3	GUF-50RD3	GUF-100RD3
Power source		1-phase 220-240V 50Hz, 1-phase 220V 60Hz			
Cooling capacity	*1 kW	5.46 <1.83>	11.17 <3.85>	5.46 <1.83>	11.17 <3.85>
Figure in < > is the recovery capacity by LOSSNAY core.	*1 kcal / h	4,700 <1,600>	9,600 <3,300>	4,700 <1,600>	9,600 <3,300>
	*1 Btu / h	18,600 <6,200>	38,100 <13,100>	18,600 <6,200>	38,100 <13,100>
	*2 kcal / h	4,500 <1,400>	9,300 <3,000>	4,500 <1,400>	9,300 <3,000>
	Power input kW	235-265	480-505	235-265	480-505
	Current input A	1.15	2.20	1.15	2.20
Heating capacity	*3 kW	6.18 <2.01>	12.50 <4.20>	6.18 <2.01>	12.50 <4.20>
Figure in < > is the recovery capacity by LOSSNAY core.	*3 kcal / h	5,300 <1,700>	10,800 <3,600>	5,300 <1,700>	10,800 <3,600>
	*3 Btu / h	21,100 <6,900>	42,700 <14,300>	21,100 <6,900>	42,700 <14,300>
	Power input kW	235-265	480-505	235-265	480-505
	Current input A	1.15	2.20	1.15	2.20
Capacity equivalent to indoor unit		P32	P63	P32	P63
Humidifying capacity	kg / h	2.7	5.4	-	-
	lb / h	6.0	12.0	-	-
Humidifier		Permeable film humidifier		-	
External finish		Galvanized, with grey insulation sheet			
External dimension H X W X D	mm	317 X 1,016 X 1,288	398 X 1,231 X 1,580	317 X 1,016 X 1,288	398 X 1,231 X 1,580
	in.	12-1/2 X 40 X 50-3/4	15-11/16 X 48-1/2 X 62-1/4	12-1/2 X 40 X 50-3/4	15-11/16 X 48-1/2 X 62-1/4
Net weight	kg (lb)	57 (126)	98 (217)	54 (120)	92 (203)
Heat exchanger	LOSSNAY core	Partition, Cross-flow structure, Special preserved paper-plate.			
	Refrigerant coil	Cross fin (Aluminum fin and copper tube)			
FAN	Type X Quantity	SA: Centrifugal fan (Sirocco fan) X 1 EA: Centrifugal fan (Sirocco fan) X 1			
	External static press.	Pa	125	135	140
		mmH.O	12.7	13.8	14.3
	Motor type	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2units			
	Motor output	kW			
	Driving mechanism	Direct-driven by motor			
	Airflow rate (High value)	m ³ / min	500	1,000	500
		L / s	139	139	139
		cfm	294	589	294
Noise level (Low-High) (measured in anechoic room)		dB <A>	33.5-34.5	38-39	33.5-34.5
Insulation material		Polyester sheet			
Air filter	Supplying air	Non-woven fabrics filter (Gravitational method 82%) & Optional part: High efficiency filter (Colorimetric method 65%)			
	Exhausting air	Non-woven fabrics filter (Gravitational method 82%)			
Protection device		Fuse			
Refrigerant control device		LEV			
Diameter of refrigerant pipe	Liquid	mm (in.)	ø6.35 (ø1/4) Flare	ø9.52 (ø3/8) Flare	ø6.35 (ø1/4) Flare
	Gas	mm (in.)	ø12.7 (ø1/2) Flare	ø15.88 (ø5/8) Flare	ø12.7 (ø1/2) Flare
Diameter of drain pipe		mm (in.)	ø15.88 (ø5/8) Flare		

VP25




O Outdoor unit

- **Heat Pump Series**
- **Heat Pump Series - High COP**
- **Water Cooled Series**

Wide selection of outdoor units

Heat Pump Series


S Series (4HP-6HP) Page75,76



PUMY-P VHM
PUMY-P YHM

Model	4HP	5HP	6HP
Model Name	PUMY-P100VHM PUMY-P100YHM	PUMY-P125VHM PUMY-P125YHM	PUMY-P140VHM PUMY-P140YHM


Y Series (28HP-36HP) Page80,81



PUHY-P YSHM-A

Model	28HP	30HP	32HP	34HP	36HP
Model Name	PUHY-P700YSHM-A	PUHY-P750YSHM-A	PUHY-P800YSHM-A	PUHY-P850YSHM-A	PUHY-P900YSHM-A

Y Series (8HP-12HP) Page77



PUHY-P YHM-A

Model	8HP	10HP	12HP
Model Name	PUHY-P200YHM-A	PUHY-P250YHM-A	PUHY-P300YHM-A


Y Series (38HP) Page82



PUHY-P YSHM-A

Model	38HP
Model Name	PUHY-P950YSHM-A

Y Series (14HP-18HP) Page78



PUHY-P YHM-A

Model	14HP	16HP	18HP
Model Name	PUHY-P350YHM-A	PUHY-P400YHM-A	PUHY-P450YHM-A

Y Series (40HP-42HP) Page82



PUHY-P YSHM-A

Model	40HP	42HP
Model Name	PUHY-P1000YSHM-A	PUHY-P1050YSHM-A

Y Series (20HP-26HP) Page79



PUHY-P YSHM-A

Model	20HP	22HP	24HP	26HP
Model Name	PUHY-P500YSHM-A	PUHY-P550YSHM-A	PUHY-P600YSHM-A	PUHY-P650YSHM-A

Y Series (44HP-50HP) Page83,84




PUHY-P YSHM-A

Model	44HP	46HP	48HP	50HP
Model Name	PUHY-P1100YSHM-A	PUHY-P1150YSHM-A	PUHY-P1200YSHM-A	PUHY-P1250YSHM-A

Wide selection of outdoor units

Heat Pump Series - High COP

Y Series - High COP (8HP/12HP) Page85



PUHY-EP YHM-A

Model	8HP	12HP
Model Name	PUHY-EP200YHM-A(-BS)	PUHY-EP300YHM-A(-BS)

Y Series - High COP (32HP-34HP) Page89



PUHY-EP YSHM-A

Model	32HP	34HP
Model Name	PUHY-EP800YSHM-A(-BS)	PUHY-EP850YSHM-A(-BS)

Y Series - High COP (16HP-20HP) Page86



PUHY-EP YSHM-A

Model	16HP	18HP	20HP
Model Name	PUHY-EP400YSHM-A(-BS)	PUHY-EP450YSHM-A(-BS)	PUHY-EP500YSHM-A(-BS)

Y Series - High COP (36HP) Page90



PUHY-EP YSHM-A

Model	36HP
Model Name	PUHY-EP900YSHM-A(-BS)

Y Series - High COP (22HP-26HP) Page87




PUHY-EP YSHM-A

Model	22HP	24HP	26HP
Model Name	PUHY-EP550YSHM-A(-BS)	PUHY-EP600YSHM-A(-BS)	PUHY-EP650YSHM-A(-BS)

Water Cooled Series

WY (Heat Pump) Series (8,10,16,20HP) Page91



PQHY-P YGM-A

Model	8HP	10HP	16HP	20HP
Model Name	PQHY-P200YGM-A	PQHY-P250YGM-A	PQHY-P400YGM-A	PQHY-P500YGM-A

Y Series - High COP (28HP-30HP) Page88



PUHY-EP YSHM-A

Model	28HP	30HP
Model Name	PUHY-EP700YSHM-A(-BS)	PUHY-EP750YSHM-A(-BS)

*The PUHY-P-YSHM-A series requires a Twinning kit (optional). Refer to the data book for details.

*The PUHY-P-YSHM-A series requires a Twinning kit (optional). Refer to the data book for details.
*Unit photos are all standard models.