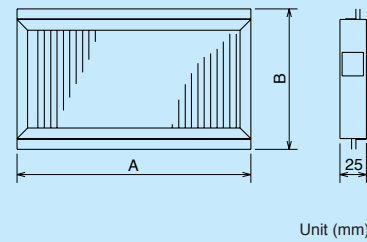


Optional parts - High-Efficiency Filter -

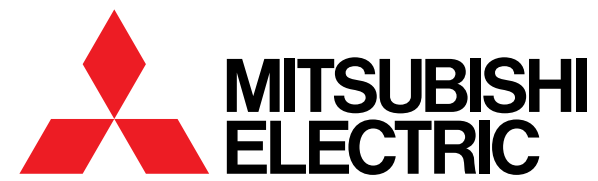


Outline Drawings



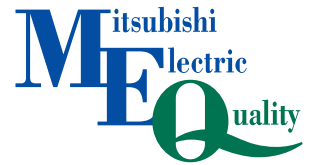
Model	Dimension	
	A	B
PZ-50RFM	466	174
PZ-100RFM	561	236

Unit (mm)



OA Processing Units for CITY MULTI
(For use with the R410A & R407C & R22)

Changes for the Better



MODEL

RDH3 SERIES

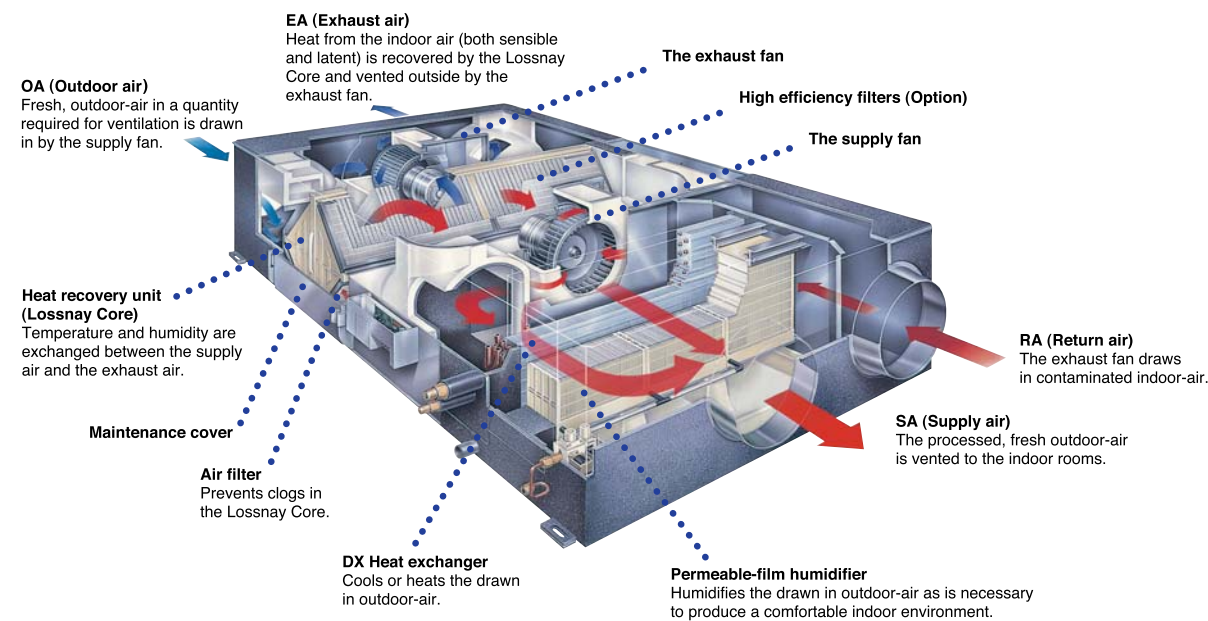
MITSUBISHI ELECTRIC
Ideal Indoor-Air Quality

Pure, Fresh, Efficient – The Total Package

 **MITSUBISHI ELECTRIC CORPORATION**
HEAD OFFICE : MITSUBISHI DENKI BLDG., 2-2-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
<http://Global.MitsubishiElectric.com>

Ideal Indoor-Air Quality — For Your Comfort and Health

The OA (outdoor-air) Processing Unit creates an optimum environment while 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 cannot be found anywhere else on the market.



Heat-Recovery Unit (Lossnay Core)

Energy-Efficient Ventilation

The Mitsubishi Electric OA Processing Unit uses a unique and highly effective system of ventilation resulting in a minimal loss of the energy required to heat and cool the circulating air. The Lossnay Core has a cross-flow, plate-fin configuration and incorporates a diaphragm made of specially processed paper. The advanced heat-transfer and moisture permeability properties of this specially designed paper ensure maximum heat recovery (temperature and humidity) as the circulating air passes through the element. The result is superior ventilation, a comfortable, healthy indoor environment, and substantial energy savings.

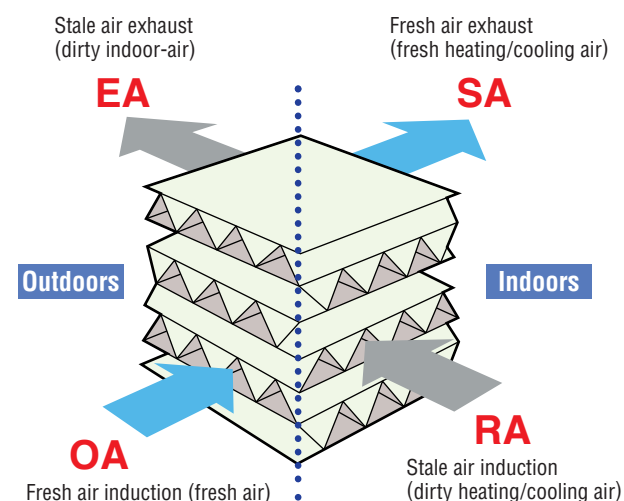
Superior Ventilation

The OA Processing Unit ensures a constant level of comfort without any fluctuation during heating and cooling cycles, eliminating instances of feeling warm or cool due to the influx of outdoor-air when the ventilator is running.

Economical Long Service Life

The OA Processing Unit's heat-exchanger contains no moving components. The simple structural design ensures a long service life and virtually cost-free maintenance. Dust particles accumulate only on the surface and can be easily removed with the use of a vacuum cleaner. The surface of the heat exchanger is therefore free of places where bacteria may form or clogs preventing airflow may occur, thus ensuring a long service life.

Lossnay Core Construction & Principle



These units can be used on R410A.

Outdoor units available in the GUF-RDH3 series:

(For details see Mitsubishi Electric □CITY MULTI□ catalogue)

R410A refrigerant units

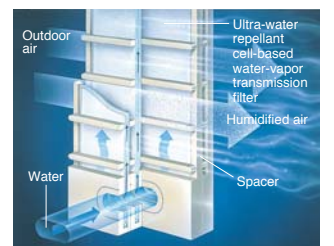
Model size		P200	P250	P300	P350	P400	P450	P500	P550	P600	P650	P700	P750	P800
Y series	PUHY-YGM-A	○	○	○	○	○	○	○	○	○	○	○	○	○
R2 series	PURY-YGM-A	○	○	○	○	○	○	○	○	○	○	○	○	○

*These units can be used on R407C and R22.

Permeable Film Humidifier

Comfortable Level of Humidity for Exceptionable Air Quality

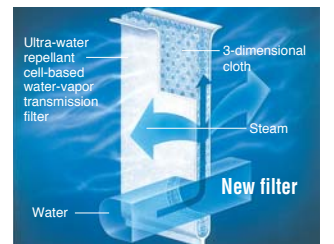
The OA Processing Unit is equipped with a permeable film humidifier developed and patented by Mitsubishi Electric. Steam transmission efficiency has been improved remarkably by lowering the resistance of the material. The use of a 3-layer film that allows only the transfer of steam prevents the production of white powder (such as with ultrasonic humidifiers), so there is no need for the use of a water purifier. By providing an optimum level of humidity, the OA Processing Unit creates a comfortable interior environment preventing irritations such as dried out eyes or a parched throat that can be caused by insufficiently low levels of humidity in the air.



Highly Efficient Humidification

Improvements in the system of airflow patterns and water injection techniques have resulted in a substantial increase in humidifying volume. The system also controls the humidity level of the air that is exhausted, ensuring an efficient, environmentally friendly manner of operation.

Note: In the case in which the level of residual impurities exceeds 100 mg/l please use a water purifier.



Dual-Fan System

Reliable Ventilation

The OA Processing Unit utilizes a dual-fan configuration for the intake and exhaust of air from a building. A forced air method is incorporated for the simultaneous supply and exhaust of air to guarantee effective ventilation even in highly insulated air-tight rooms. The Lossnay Core is designed such that the passages for air being drawn into and exhausted from a building are entirely separate. This setup prevents the mixing of indoor and outdoor air for safe, reliable ventilation.

High-Efficiency Filter (Optional)

This highly efficient filter (65% colorimetricity) can be installed in the OA Processing Unit without the use of additional attachments from other systems as has been necessary to date.

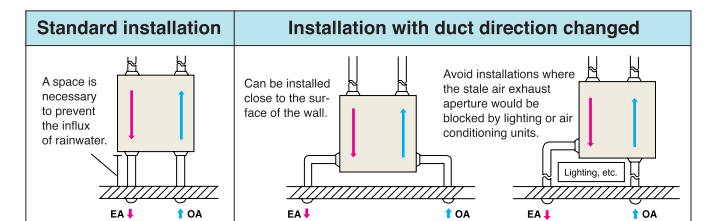
Model	Applicable filter
GUF-50RDH3	PZ-50RFM
GUF-100RDH3	PZ-100RFM

Free Cooling

When the air-conditioning system is operating in its cooling mode and the temperature of the air outdoors drops below the temperature indoors (e.g. a summer night), the OA Processing Unit detects this and automatically switches to a mode of operation which bypasses the heat recovery unit. Bringing in cool air from outside serves to help reduce the air conditioner's cooling load.

Variable Duct Positions

The connection position of the outside duct is variable allowing for more complicated duct installations.



*There is no pressure loss with a change in the duct position.

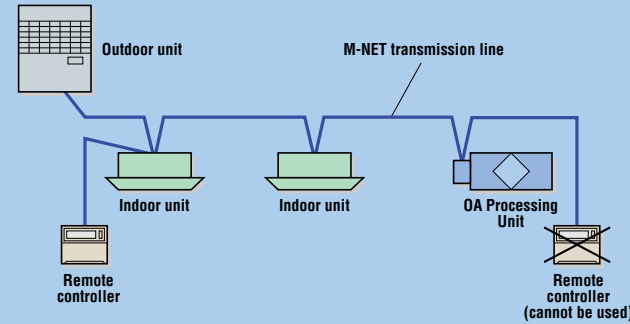
Heat-Processing

A direct expansion heat exchanger is incorporated to compensate for any heat loss that may occur during ventilation. It also improves the efficiency of humidification in the winter.

System Selection

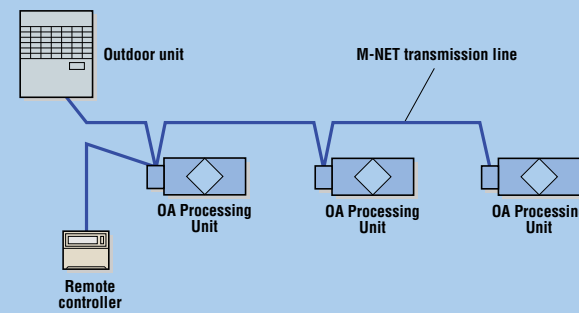
Interlocked with indoor units

OA Processing Unit fan in operation when indoor unit is not in operation	○
OA Processing Unit not in operation when indoor unit is in operation	○
Fan speed of OA Processing Unit	High / Low
Ventilation mode	Auto
Filter maintenance indicator (Optional setting)	○
OA Processing Unit error indicator	○
Maximum number of indoor units for each OA Processing Unit	16 units
Number of interlocked OA Processing Units for each indoor unit	1 unit

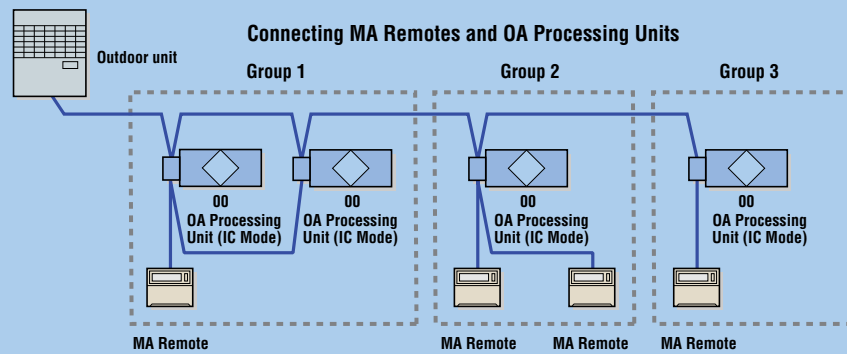


Non-interlocked OA Processing Units

Start/Stop	○
Fan speed of OA Processing Unit	High / Low
Ventilation mode	Auto
Filter maintenance indicator (Optional setting)	○
OA Processing Unit error indicator	○
Maximum number of OA Processing Units registered in one group	16 units
Maximum number of local and centralized controllers registered to one OA Processing Unit	5 units (Note)



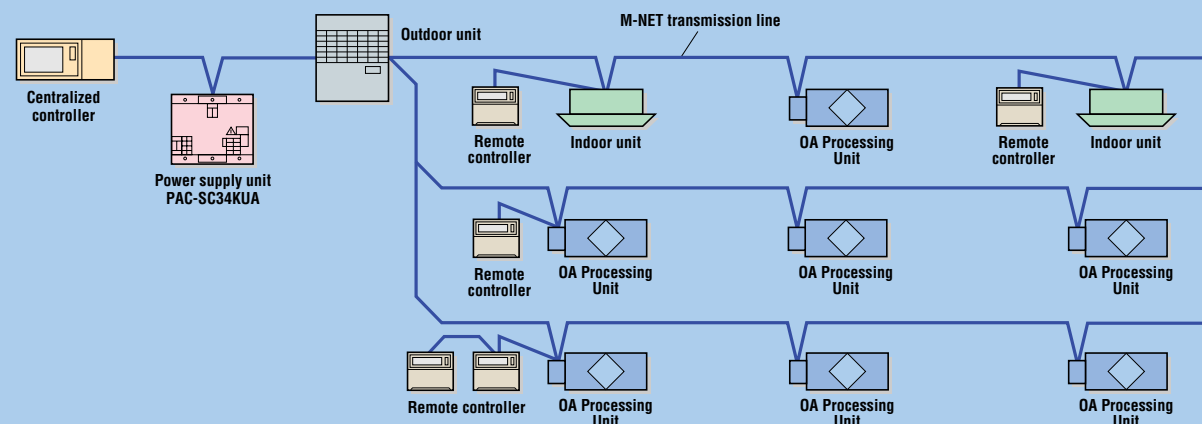
Note: Maximum number of local remote controllers is 2 units.



Group 1: Multiple OA Processing Units (IC mode) only
 Group 2: One OA Processing Unit (IC) and two remote controllers
 Group 3: One OA Processing Unit (IC) only

- Caution:
- The addresses of the entire system are set automatically so make sure the address of each unit is initially set at 00 (setting at time of delivery).
 - When indoor units are not interlocked with OA Processing Units switch the setting to IC mode (DIP-SW3-1 to ON).
 - When connecting two MA remotes to the same group be sure to set one as the sub-remote.
 - You cannot use both M-NET remotes and MA remotes with OA Processing Units in the same group.
 - You cannot connect more than three MA remotes to OA Processing Units in the same group.

Central Controller System



Caution: Connection Capacity Restrictions
 When all the terminals connected to the indoor unit are Fresh Master keep the capacity of the outdoor unit to 100 or less.

GU-F-50RDH3

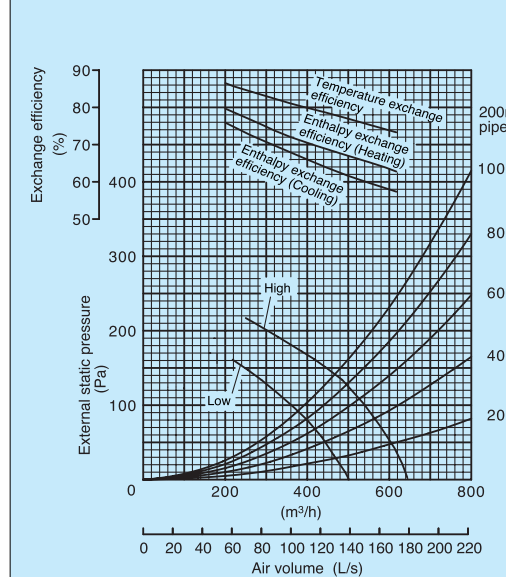
500 m³/h type



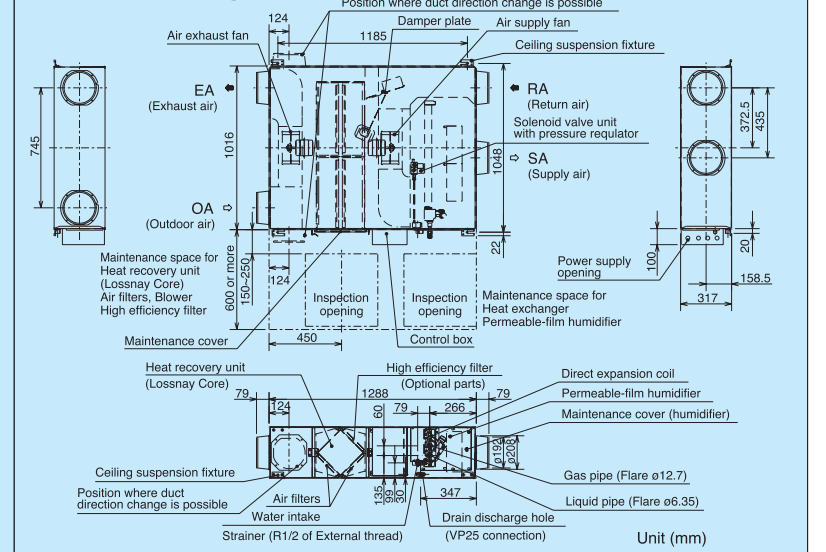
Specifications

Communication system	Serial forwarding system (M-NET transmission): Mitsubishi Electric Air-Conditioner Network System			
Heat exchanger form	Cross-fin			
Refrigerant	R410A or R407C or R22			
Lossnay Core (Heat recovery unit)	Air-to-air total heat (sensible heat+latent heat) recovery unit			
Heat exchanger material	Partition, spacing plate-special treated paper			
Cladding	Galvanized steel sheet			
Heat insulating material	Self-extinguishing urethane foam			
Motor	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units			
Blower	Supply air	220mm dia. centrifugal fan	Exhaust air	220mm dia. centrifugal fan
Filter material	Non-woven fabric filter			
Operating environment	0°C to 40°C, RH 80% or less			
Functions	Lossnay ventilation/Bypass ventilation High-Low switching			
Weight	57kg (filled with water 61 kg)			
Power source	Single phase 220-240V 50Hz			
Ventilation mode	Lossnay ventilation		Bypass ventilation	
Notch	High	Low	High	Low
Current (A)	1.15	0.70	1.15	0.70
Input (W)	235-265	150-165	235-265	150-165
Air volume	(m ³ /h)	500	400	500
	(L/s)	139	111	139
External static pressure (Pa)		125	80	125
Temperature exchange efficiency (%)		77	80	—
Enthalpy exchange efficiency (%)	Heating	67	71	—
	Cooling	61.5	66	—
Heating capacity (kW)	6.42 (DX coil 4.17 / Lossnay 2.25)			
Cooling capacity (kW)	5.29 (DX coil 3.63 / Lossnay 1.66)			
Capacity equivalent to the indoor unit	P 32			
Humidifier	Permeable film humidifier			
Humidifying capacity	2.7kg/h (heating)			
Water supply pressure	Minimum pressure: 2.0×10 ⁴ Pa Maximum pressure: 49.0×10 ⁴ Pa			
Noise (dB)	(Measured at 1.5m under the center of the unit)	33.5-34.5	29.5-30.5	35-36
Starting current	Under 2.8A			
Insulation resistance	10MΩ or more (DC 500V megger)			
Dielectric strength	AC 1500V (50Hz) 1 minute			

Characteristic Curve



Outline Drawings



Attention

- Two inspection openings (450×450-600×600) must be installed adjacent to both maintenance covers for air filters, Lossnay core and the permeable film humidifier.
- The exhaust, outdoor and supply air ducts must be covered with heat insulating material for preventing dew condensation.
- The water quality of the permeable-film humidifier's supply water should meet public waterworks standards, and have a hardness less than 100mg/ℓ. If the supply water does not meet these standards, use a deionizer.
- Water pipe for the unit must be set a servicing valve in locations accessible from the inspection opening.
- Set water pressure between 2.0×10⁴Pa to 49.0×10⁴Pa.
- The drain pipe work must be performed inevitably.
- The drain pipe must be conducted with condensation proof work.
- Drain pipe must be installed with gradient of more than 1/100.
- Ambient air around the unit must not be under 0°C.
- Supply water must not be over 40°C.
- Prevention for rain water seeping must be taken.
- *Downward gradient of the exhaust and outdoor ducts for the wall side is 1/30 or more.

Attention

- Cooling/Heating capacity indicates the maximum value at operation under the following condition.
 Cooling: Indoor: 27°CDB/19.5°CWB Outdoor: 35°CDB/24°CWB
 Heating: Indoor: 21°CDB/14.6°CWB Outdoor: 7°CDB/6°CWB
 The figures in () indicates the heat recovery at Lossnay core.
- The values given in the table for the noise level reflect the levels measured at a position 1.5 meters immediately below the unit in anechoic chamber.
- The noise at the air outlets (at 45° angle, 1.5 meters in front) is about 5-6dB (A) higher than the values given in the table.
- Specifications may be subject to change without notice.

GVF-100RDH3

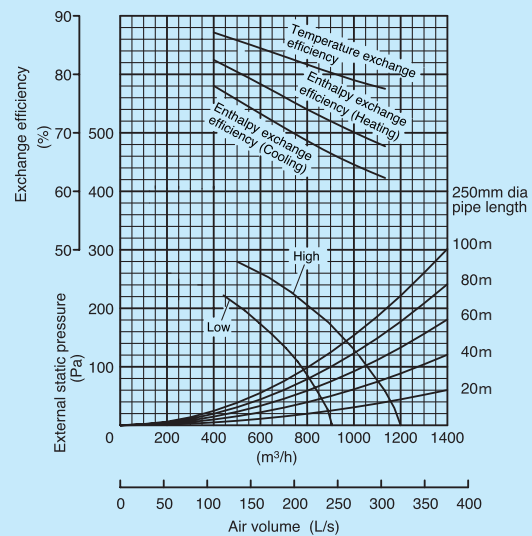
1000 m³/h type



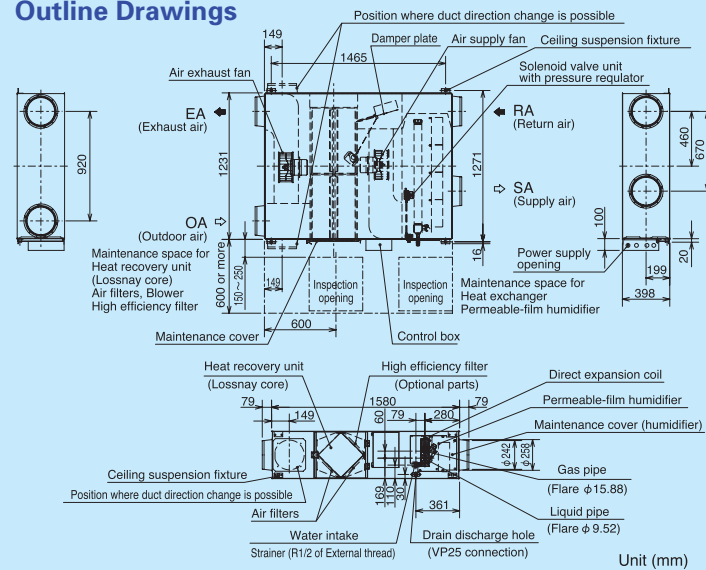
Specifications

Communication system	Serial forwarding system (M-NET transmission): Mitsubishi Electric Air-Conditioner Network System			
Heat exchanger form	Cross-fin			
Refrigerant	R410A or R407C or R22			
Lossnay Core (Heat recovery unit)	Air-to-air total heat (sensible heat+latent heat) recovery unit			
Heat exchange system	Partition, spacing plate-special treated paper			
Heat exchanger material	Galvanized steel sheet			
Heat insulating material	Self-extinguishing urethane foam			
Motor	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units			
Blower	Supply air	245mm dia. centrifugal fan	Exhaust air	245mm dia. centrifugal fan
Filter material	Non-woven fabric filter			
Operating environment	0°C to 40°C, RH 80% or less			
Functions	Lossnay ventilation/Bypass ventilation High-Low switching			
Weight	98kg (filled with water 106kg)			
Power source	Single phase 220-240V 50Hz			
Ventilation mode	Lossnay ventilation		Bypass ventilation	
Notch	High	Low	High	Low
Current (A)	2.20	1.76	2.25	1.77
Input (W)	480-505	385-400	490-515	385-410
Air volume	(m ³ /h)	1000	800	1000
	(L/s)	278	222	278
External static pressure (Pa)	135	86	135	86
Temperature exchange efficiency (%)	79	81.5	-	-
Enthalpy exchange efficiency (%)	Heating	74	-	-
	Cooling	64.5	-	-
Heating capacity (kW)	13.00 (DX coil 8.30 / Lossnay 4.70)			
Cooling capacity (kW)	10.81 (DX coil 7.32 / Lossnay 3.49)			
Capacity equivalent to the indoor unit	P 63			
Humidifier	Humidifying	Permeable film humidifier		
	Humidifying capacity	5.4kg/h (heating)		
	Water supply pressure	Minimum pressure: 2.0×10 ⁴ Pa	Maximum pressure: 49.0×10 ⁴ Pa	
Noise (dB)	(Measured at 1.5m under the center of the unit)	38-39	34-35	35-36
Starting current	Under 6.0A			
Insulation resistance	10MΩ or more (DC 500V megger)			
Dielectric strength	AC 1500V (50Hz) 1 minute			

Characteristic Curve



Outline Drawings



Attention

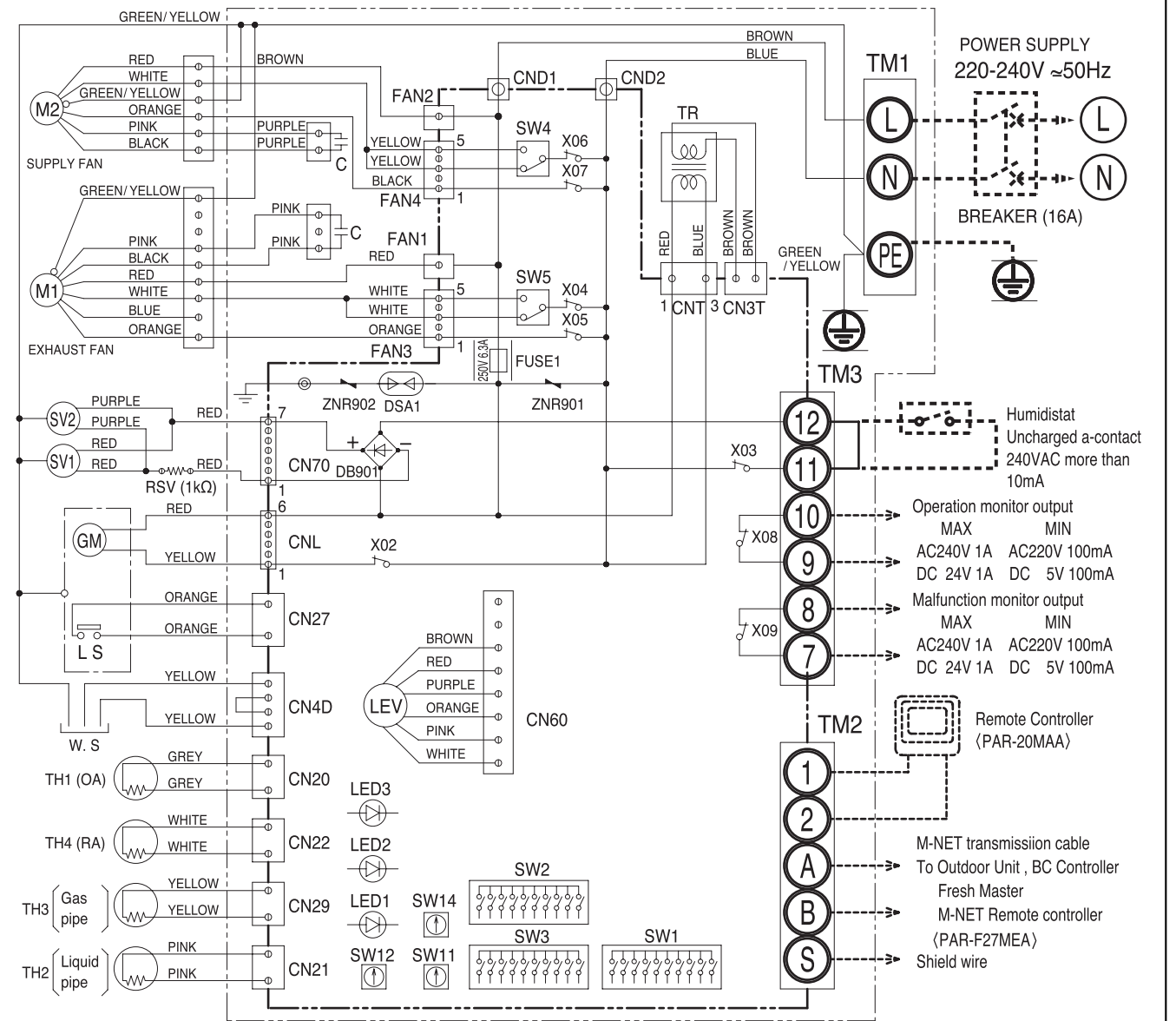
- Two inspection openings (450×450-600×600) must be installed adjacent to both maintenance covers for air filters, Lossnay core and the permeable film humidifier.
 - The exhaust, outdoor and supply air ducts must be covered with heat insulating material for preventing dew condensation.
 - The ceiling suspension fixtures can be removed to the upper side of the unit.
 - The water quality of the permeable-film humidifier's supply water should meet public waterworks standards, and have a hardness less than 100mg/l. If the supply water does not meet these standard, use a deionizer.
 - Water pipe for the unit must be set a servicing valve in locations accessible from the inspection opening.
 - Set water pressure between 2.0×10⁴Pa to 49.0×10⁴Pa.
 - The drain pipe work must be performed inevitably.
 - The drain pipe must be conducted with condensation proof work.
 - The drain pipe must be installed with gradient of more than 1/100.
 - Ambient air around the unit must not be under 0°C.
 - Supply water must not be over 40°C.
 - Prevention for rain water seeping must be taken.
- *Downward gradient of the exhaust and outdoor ducts for the wall side is 1/30 or more.

Wiring Diagram

- TM1, TM2, TM3 shown in dotted lines are field work.
- Be sure to connect the grounding wire.
- Breakers should be provided by the customer.

Warning

Before obtaining access to terminals, all supply circuits must be disconnected.



MARK ○ : indicates terminal block, ⊙ : connector
 ⊞ : board insertion connector or fastening connector of control board.

Symbol Explanation

Symbol	Name	Symbol	Name	Symbol	Name
M1	Fan motor (exhaust)	TM1	Terminal block (power supply)	1, 2	Remote controller terminal
M2	Fan motor (supply)	TM2	Terminal block (transmission)	A, B	M-NET transmission terminal
C	Capacitor	TM3	Terminal block (humidistat, monitor)	S	Shield
W. S	Water sensor	SW1	Switch (function selection)	CND1, CND2	Connector (power supply)
SV1	Solenoid valve (pressure regulator)	SW2	Switch (capacity code setting)	X02-X09	Relay
SV2	Solenoid valve (exhaust)	SW3	Switch (function selection)	TR	Transformer
TH1	Thermistor (outdoor air temp. detection)	SW4	Switch	GM	Damper motor
TH2	Thermistor (pipe temp. detection/liquid)	SW5	Switch	LS	Limit switch
TH3	Thermistor (pipe temp. detection/gas)	SW11	Switch (1st digit address set)	LED1	Power supply monitor
TH4	Thermistor (room air temp. detection)	SW12	Switch (2nd digit address set)	LED2	MA remote controller
LEV	Electronic linear expansion valve	SW14	Switch (branch NO. set)		Power supply monitor
RSV	Resistance (solenoid valve)			LED3	M-NET Power supply monitor