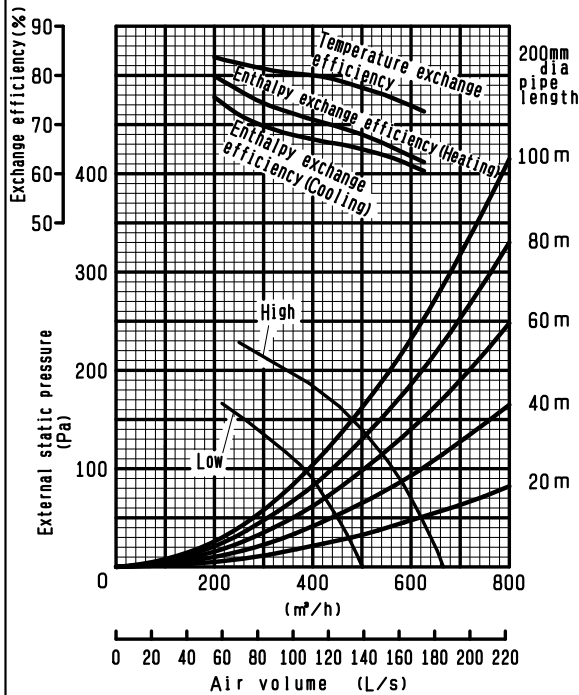


TYPE	Fresh Master	VOLUME	
MODEL	GUF-50RD4	SIGN	

Communication system	Serial forwarding system(M-NET transmission:Mitsubishi Electric Air-Conditioner Network System)			
Heat exchanger form	Cross-fin	Using Refrigerant	R410A or R407C	
Heat recovery unit	Heat exchange system	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 fabrics filter (Gravitational method 82% , EU-G3)			
Operating environment	0℃ to 40℃, RH 80% or less			
Outdoor and room air temperature	OA temperature shall be -15℃(※5) to +40℃, less than 80%RH. with general air conditioning room environment. Subject to outdoor air conditioning unit.			
Functions	Heat recovery ventilation / Bypass ventilation High-Low switching			
Weight	54kg			
Power supply	Single phase 220-240V 50Hz			
Ventilation mode	Heat recovery ventilation		Bypass ventilation	
Fan speed	High	Low	High	Low
Current (A)	1.15	0.70	1.15	0.70
Power consumption (W)	235-265	150-165	235-265	150-165
Air volume	(m <sup>3</sup> /h)	500	400	500
	(L/s)	139	111	139
External static pressure (Pa)	140	90	140	90
Temperature exchange efficiency (%)	77.5	80	-	-
Enthalpy exchange efficiency (%)	Heating	68	-	-
	Cooling	65	-	-
Cooling capacity (kW)	5.57 (1.94)			
Heating capacity (kW)	6.21 (2.04)			
Capacity equivalent to the indoor unit	P 32			
Noise (dB) (Measured at 1.5m under the center of the unit)	33.5-34.5	29.5-30.5	35-36	29.5-30.5
Starting current	Under 2.8A			
Insulation resistance	10MΩ or more (DC 500V megger)			
Dielectric strength	AC 1500V(50Hz) 1 minute			

### Characteristic curve



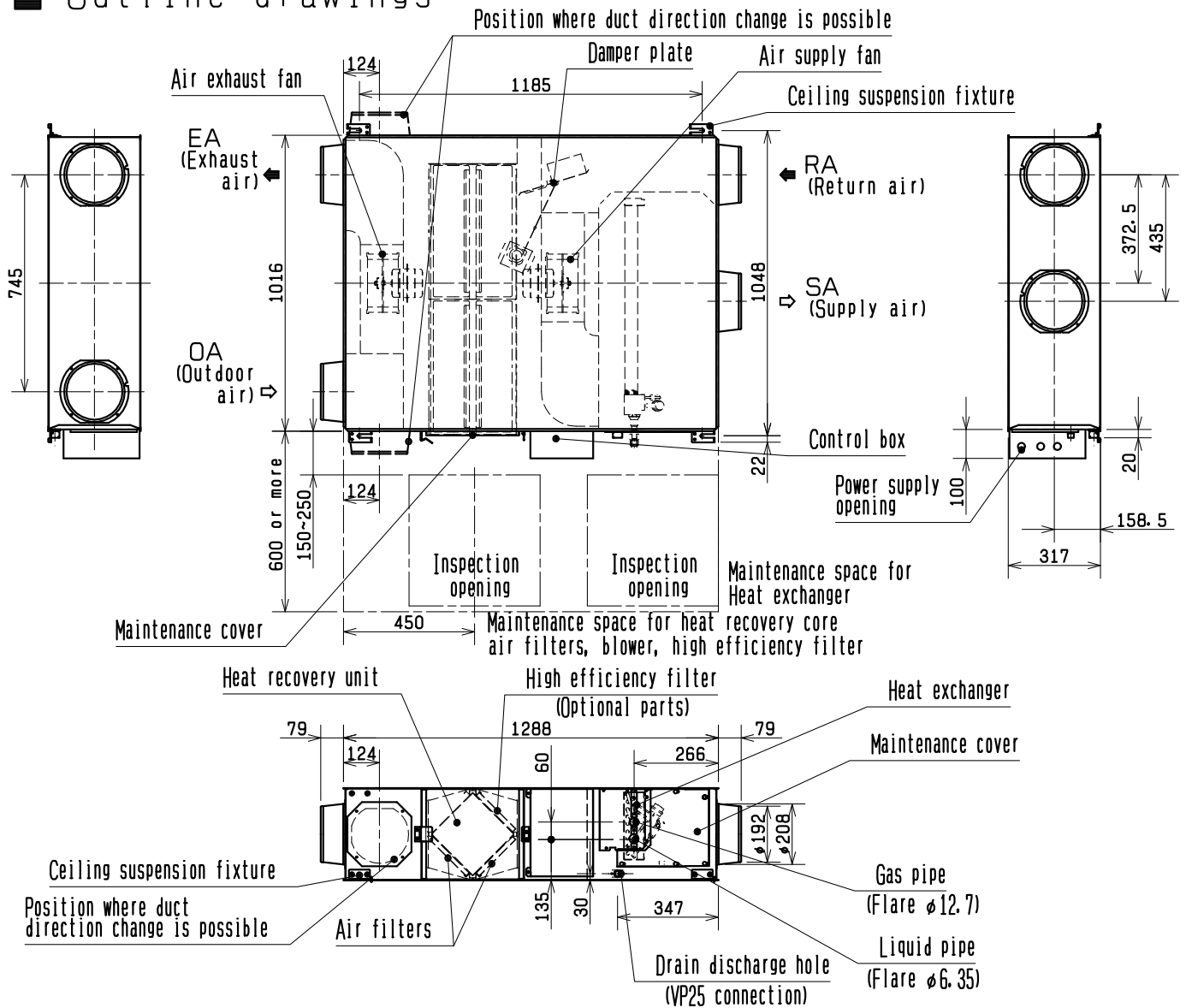
### Attention

- Cooling/Heating capacity indicates the maximum value at operation under the following condition.  
Cooling: Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB  
Heating: Indoor: 20°CDB/13.8°CWB Outdoor: 7°CDB/6°CWB
- The figures in ( ) indicates heat recovering capacity of heat exchange 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 current, power consumption and efficiency are based on the above air flow rate.
- The noise at the air outlets (at 45 degree angle, 1.5 meters in front) is about 5-6db(A) higher than the values given in the table.
- Cold area operation mode(※) repeats during OA temperature is less than -10℃.  
※ Stop supply fan for ten minutes every 60 minutes.
- Temperature exchange efficiency(%) are based on winter condition.
- Mitsubishi Electric measures products according to Japan Industrial Standard(JIS B 8628), therefore Q-H curves are measured by chamber method.
- In United Kingdom, on-site measurements by pitot tube method could be as much 20% difference from JIS test room conditions.  
If the measuring point is close to sources of turbulence like bends, contractions and dampers etc, it is difficult to measure airvolume correctly.  
A straight duct length more than 10D(D=duct diameter) from the source of turbulence is recommended for correct measurement.  
On-site measurement should therefore be measured in accordance with BSRIA guideline (Commissioning Air Systems. Application procedures for buildings AG3/89.3(2001))

※Specifications may be subject to change without notice.

SPECIFICATIONS	DATE	TYPE MODEL	Fresh Master	
	15-Apr.-13		GUF-50RD4	
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# Outline drawings



## Attention

1. Two inspection openings (450×450-600×600) must be installed adjacent to both maintenance covers for air filters, heat recovery core and the heat exchanger.
2. Drain pipe work must be performed inevitably and conducted with condensation proof work.
3. The drain pipe must be installed with gradient of more than 1/100.
4. Ambient air around the unit must be higher than 0°C.
5. 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.  
 \*When using the deep hoods, more than 1m length ducts must be provided from the unit to the deep hoods (wall).

	UNIT	SCALE
	mm	N. T. S

\*Specifications may be subject to change without notice.

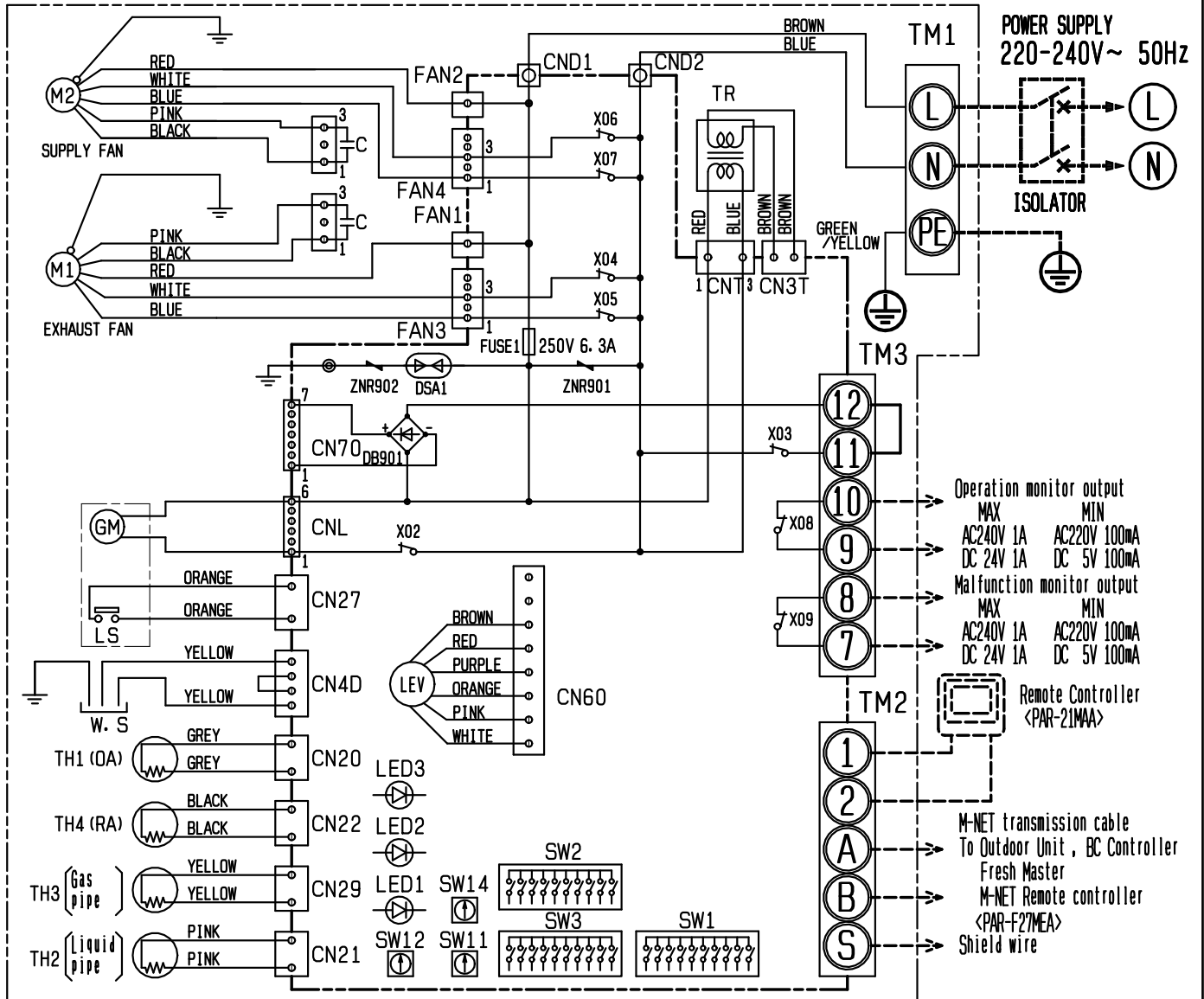
OUTLINE DRAWINGS	DATE	TYPE MODEL	Fresh Master	
	15-Apr.-13		GUF-50RD4	
MITSUBISHI ELECTRIC CORPORATION		NUMBER	ND512003B	2/5

## Wiring diagram

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

## 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)	S	Shield
M2	Fan motor (supply)	TM2	Terminal block (transmission)	CND1, CND2	Connector (power supply)
C	Capacitor	TM3	Terminal block (humidistat, monitor)	X02-X09	Relay
W. S	Water sensor	SW1	Switch (function selection)	TR	Transformer
TH1	Thermistor (outdoor air temp. detection)	SW2	Switch (capacity code setting)	GM	Damper motor
TH2	Thermistor (pipe temp. detection/liquid)	SW3	Switch (function selection)	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)	LED3	Power supply monitor
		1, 2	Remote controller terminal		M-NET Power supply monitor
		A, B	M-NET transmission terminal		

\*Specifications may be subject to change without notice.

WIRING DIAGRAM	DATE	TYPE MODEL	Fresh Master	
	15-Apr.-13		GUF-50RD4	
MITSUBISHI ELECTRIC CORPORATION		NUMBER	ND512003B	3/5

## ■ Fresh Master model selection advices

### 1. Operating environment

Install this product in an environment where the temperature ranges from 0°C to +40°C and the relative humidity is less than 80%RH. If condensation is expected to form, heat up the fresh outside air should be treated.

### 2. Do not use under high temperature and humidity condition

Condensation will occur and water will gather inside the cores under high temperature and humidity condition, such as warm swimming pool, bathroom, greenhouse or foggy place.

### 3. Condition of outdoor, indoor and return air

Avoid using the unit under air condition with acid, alkalis, organic solvent, oil mist, paint, or harmful gas as pesticide, corrosive gas, etc.

### 4. Insulation failure caused by salt or sulphur air and hot spring steam, rust, fire or malfunction may occur.

Installing high quality filters inside outdoor air duct if the unit operates in salt or sulphur air conditions.

### 5. Intake of mist or outdoor air during off-mode operation

Outdoor air or mist may flow through the duct into your room when the unit is in off-mode at windy and foggy area. To prevent intake of outdoor air or fog, a damper is advised to be installed.

### 6. Entry of insects

When using the product in an environment where there is a window, or opening near the outdoor hood, so that insects are likely to gather around the interior or exterior light, take note that small insects may intrude into the filters.

### 7. By-pass ventilation

In the case of "By-pass" ventilation, the supply air temperature slightly rises more than the outside air temperature because of the effect around the ducts or the unit motors.

### 8. Usage of M-NET.

When solely using Lossnay units, power supply unit is required to connect to centralized control. Number of power supply units or the transmission boosters should correspond with the connected units.

## ■ Caution for installation

### 1. Do not modify the unit as it may cause malfunction.

### 2. Location of air outlet

Take care of locating air inlet to prevent entering dirty air from factory or disgusting smell of rubbish disposal.

### 3. Take precautions when using the product in a quiet location.

### 4. Take care as below to prevent the contaminate ceiling by duct condensation.

① The two outdoor ducts (OA and EA) must be covered with heat-insulating material in order to prevent condensation.

② If the ambient temperature around the unit becomes high during the summer air conditioning season, it is recommended to cover indoor side duct with insulation material to prevent condensation and decrease of heat recovery.

③ Because of strong wind or pressure difference between indoor and outdoor, unfavorable air, such as fog or cold air, may come into the unit even it is not operating. Electrical damper is recommended to prevent.

④ It is possible for condensation and freezing to occur inside the unit or duct in the cold regions, because of the outdoor air or humidity condition above ceiling. Make sure to install supplemental insulation foam.

※Specifications may be subject to change without notice.

SAFETY NOTES	DATE	TYPE MODEL	Fresh Master	
	15-Apr. -13		GUF-50RD4	
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5. Install weather louvre or "Weather cover" for OA inlet & EA outlet to prevent entry of rainwater into the unit
6. Install anchor bolts to ensure the product's weight or earthquake load. (Correctly rated wire/chain may also be used)
7. Do not install this product in a place where it is exposed to ultraviolet light. (UV damages covering insulation.)
8. Electrical Work
  - ① A single pole isolator must be installed at the origins of main power supply.
  - ② Use single flush box, to support remote controller.
  - ③ Must connect ground wiring.
  - ④ When connecting external devices (electrically operated damper, lamp, monitoring unit, etc.) using output signals of PCB, make sure to install safety equipment for the external devices. (It could cause fire, damage, etc. without safety equipment)
9. In a cold weather area, or others, dewing or freezing could occur on the main unit, where the duct is connected, or other sections, depending on the conditions of outdoor air and indoor temperature and moisture, even if they are within the range of operating conditions. Make sure to confirm the operating conditions and other precautions, and do not use the product if dewing or freezing is anticipated.

## ■ Maintenance

Refer to each model's operation instructions for the suggested maintenance period and methods.

General indication of lifetime of the main parts is as below.

Time below is unrelated to guaranteed period for service. And parts replacement period varies with usage condition.

Heat recovery cores	: around 10 years with maintenance as stated periods.
Air Filters	: around 5 years with maintenance as stated periods
High efficiency filters	: 3000 hours (Optional parts)
Motor	: 30000 hours

※Specifications may be subject to change without notice.

SAFETY NOTES	DATE	TYPE MODEL	Fresh Master GUF-50RD4	
	15-Apr.-13			
<b>MITSUBISHI ELECTRIC CORPORATION</b>		NUMBER	<b>ND512003B</b>	5/5