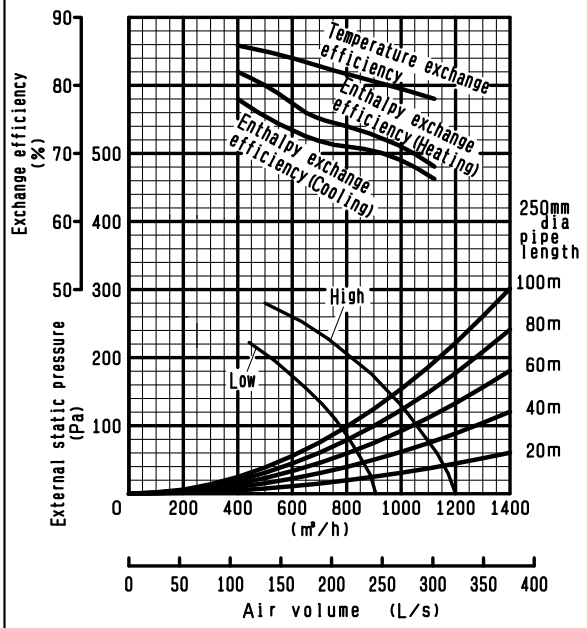
| TYPE | Fresh Master | VOLUME | |
|---|---|---|---|
| MODEL | GUF-100RD4 | SIGN | |

| | | | | | |
|---|---|---|---|---|---|
| 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 | 245mm dia. centrifugal fan | Exhaust air | 245mm 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 | | 92kg | | | |
| Power supply | | Single phase 220-240V 50Hz | | | |
| Ventilation mode | | Heat recovery ventilation | | Bypass ventilation | |
| Fan speed | | High | Low | High | Low |
| Current | (A) | 2.20 | 1.73 | 2.25 | 1.77 |
| Input | (W) | 480-505 | 370-395 | 490-515 | 385-410 |
| Air volume | (m³/h) | 1000 | 800 | 1000 | 800 |
| | (L/s) | 278 | 222 | 278 | 222 |
| External static pressure | (Pa) | 140 | 90 | 140 | 90 |
| Temperature exchange efficiency | (%) | 79.5 | 81.5 | — | — |
| Enthalpy exchange efficiency (%) | Heating | 71 | 74 | — | — |
| | Cooling | 69 | 71 | — | — |
| Cooling capacity | (kW) | 11.44(4.12) | | | |
| Heating capacity | (kW) | 12.56(4.26) | | | |
| Capacity equivalent to the indoor unit | | P 63 | | | |
| Noise (dB) | (Measured at 1.5m under the center of the unit) | 38-39 | 34-35 | 38-39 | 35-36 |
| Starting current | | Under 6.0A | | | |
| Insulation resistance | | 10MΩ or more (DC 500V megger) | | | |
| Dielectric strength | | AC 1500V (50Hz) 1 minute | | | |

## ■ Characteristic curve



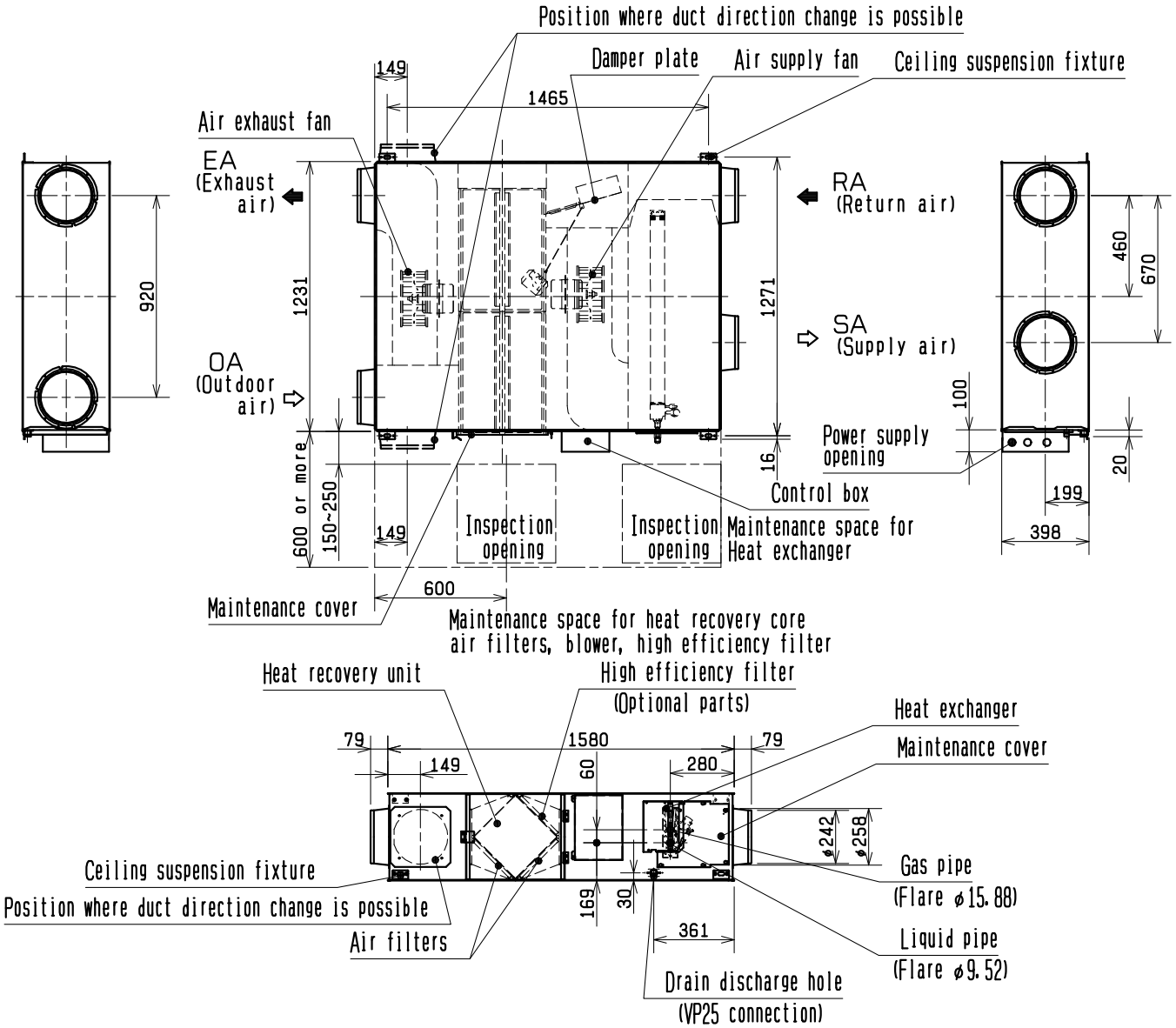

## ■ Attention

1. Cooling/Heating capacity indicates the maximum value at operation under the following condition.
   Cooling: Indoor: 27℃DB/19℃WB Outdoor: 35℃DB/24℃WB
   Heating: Indoor: 20℃DB/13.8℃WB Outdoor: 7℃DB/6℃WB
2. The figures in( ) indicates heat recoverying capacity of heat exchange core.
3. 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.
4. The current, power consumption and efficiency are based on the above air flow rate.
5. 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.
6. Cold area operation mode(※) repeats during OA temperature is less than -10℃.
   ※ Stop supply fan for ten minutes every 60 minutes.
7. Temperature exchange efficiency(%)are based on winter condition.
8. Mitsubishi Electric measures products according to Japan Industrial Standard(JIS B 8628), therefore Q-H curves are measured by chamber method.
9. 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 | Fresh Master | |
|---|---|---|---|---|
| | 15-Apr.-13 | MODEL | GUF-100RD4 | |
| MITSUBISHI ELECTRIC CORPORATION | | NUMBER | ND512004B | 1/5 |

## ■ Outline drawings




| | UNIT | SCALE |
|---|---|---|
| | mm | N. T. S |

## 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 permeable film humidifier.
2. Ceiling suspension fixtures can be changed to the upper side of the unit.
3. Drain pipe work must be performed inevitably and conducted with condensation proof work.
4. The drain pipe must be installed with gradient of more than 1/100.
5. Ambient air around the unit must be higher than 0℃.
6. 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 2.5m length ducts must be provided from the unit to the deep hoods(wall).

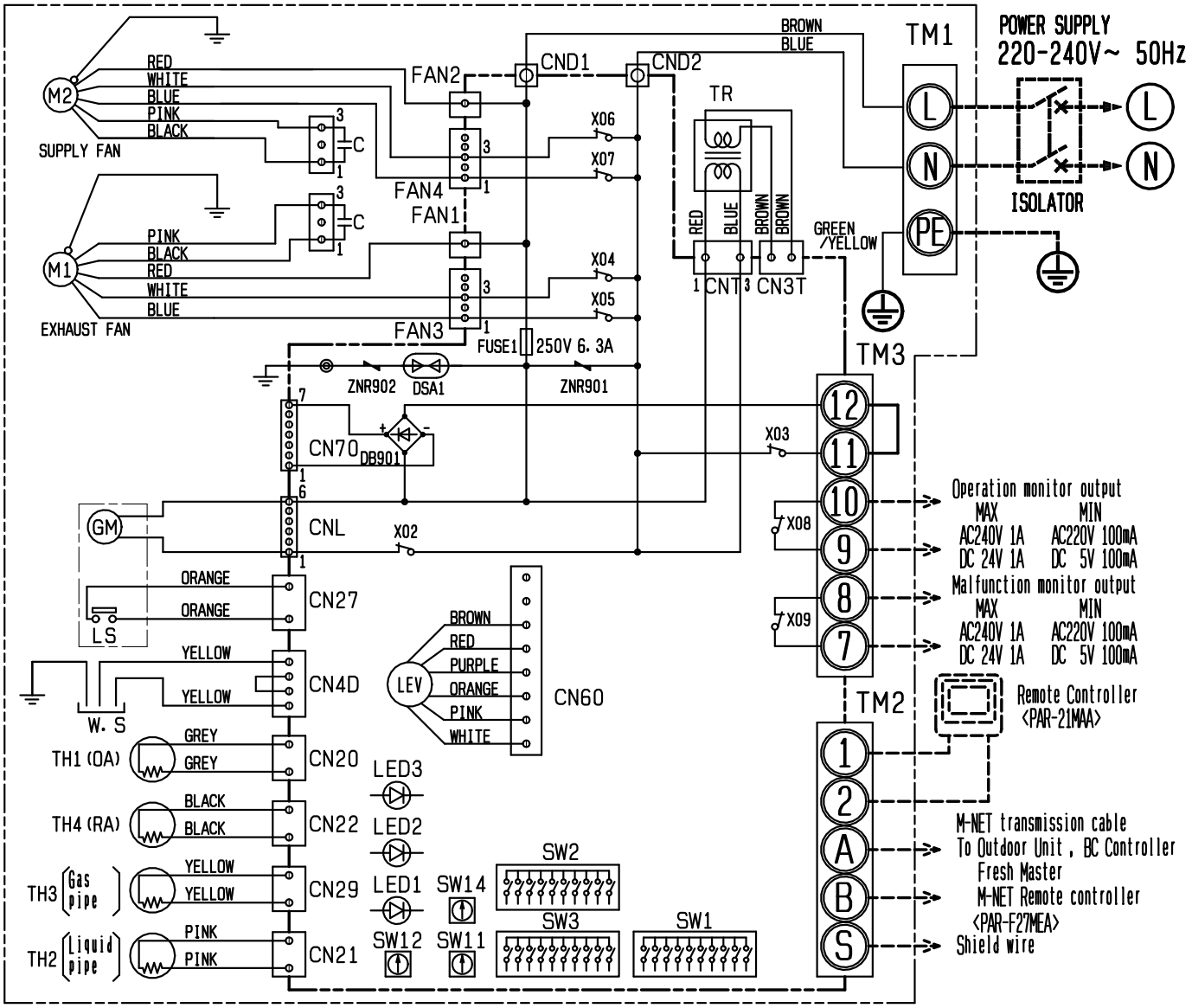
※Specifications may be subject to change without notice.

| OUTLINE DRAWINGS | DATE | TYPE | Fresh Master | |
|---|---|---|---|---|
| | 15-Apr.-13 | MODEL | GUF-100RD4 | |
| MITSUBISHI ELECTRIC CORPORATION | | NUMBER | ND512004B | 2/5 |

## Wiring diagram

- TM1, TM2, TM3 shown in dotted lines are field work.
- Be sure to connect the grounding wire.
- Isolator 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) | | Power supply monitor |
| | | 1,2 | Remote controller terminal | LED3 | M-NET Power supply monitor |
| | | A,B | M-NET transmission terminal | | |

※Specifications may be subject to change without notice.

| WIRING DIAGRAM | DATE | TYPE | Fresh Master | |
|---|---|---|---|---|
| | 15-Apr.-13 | MODEL | GUF-100RD4 | |
| MITSUBISHI ELECTRIC CORPORATION | | NUMBER | ND512004B | 3/5 |

## ■Fresh Master model selection advices

1. Operating environment
   Install this product in an environment where the temperature ranges from 0℃ to +40℃ 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 presticide, 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.

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.