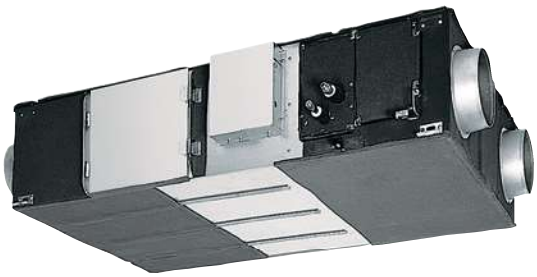
# GUF-RD(H)4

## MONOBLOCK INDOOR UNIT WITH FRESH AIR INTAKE FAN



| Standard filter (provided with the unit) | Optional filter |
|---|---|
| Standard filter G3 - Coarse 35% | High efficiency filter M6 - ePM10 75% |
| | High efficiency filter ePM1 75% (equivalent to F8) |

Monoblock indoor unit with fresh air intake fan, stale air exhaust fan, filtration system, Lossnay total heat recovery module, bypass shutter, permeable film humidifier (only for RDH4 version) and direct expansion coil.



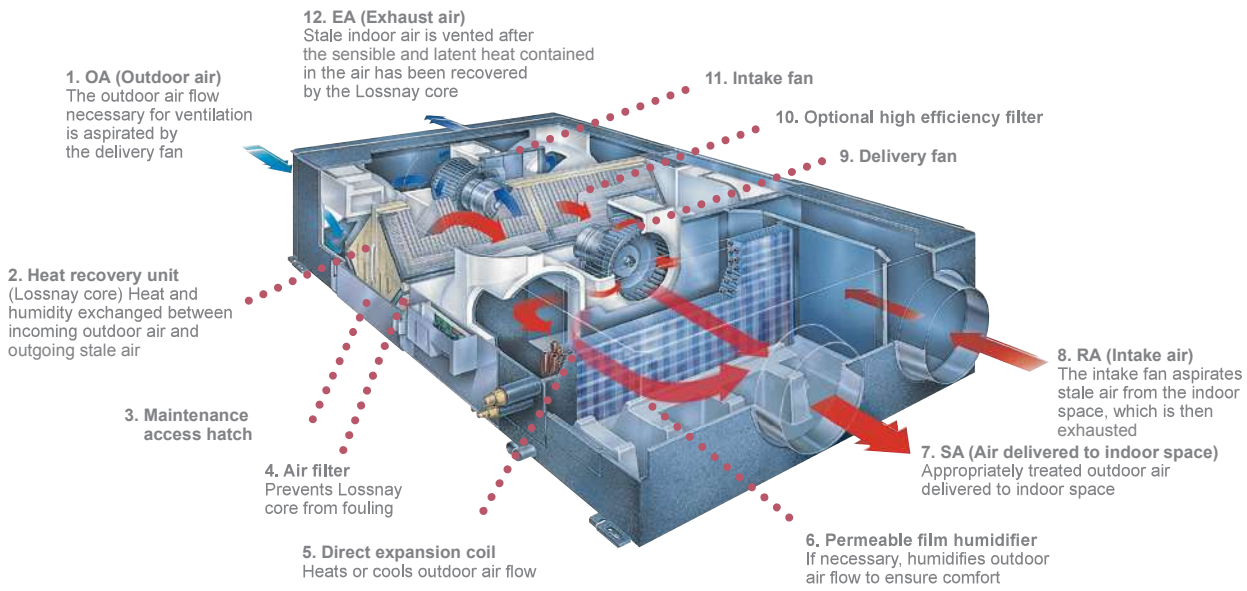
## Serie RD(H)4

GUF-50RD(H)4

Cooling capacity 5.57 (DX coil: 3.63, Lossnay core: 1.94) kW Heating capacity 6.18 (DX coil: 6.21, Lossnay core: 2.04) kW 500 m³/h 220-240V 50Hz single-phase

GUF-100RD(H)4

Cooling capacity 11.44 (DX coil: 3.63, Lossnay core: 3.85) kW Heating capacity 12.56 (DX coil: 8.30, Lossnay core: 4.26) kW 500 m³/h 220-240V 50Hz single-phase




## Lossnay technology

The Lossnay total heat recovery module has a cross-flow plate fin structure and heat transfer diaphragms in special treated paper. The excellent thermal transfer properties and permeability to moisture of this special paper ensure the highly efficient exchange of both sensible and latent heat between the two air flows passing through the recovery core. The result is a ventilation system with outstanding characteristics ensuring extremely high levels of comfort and wellbeing in the environment treated, which can also cut operating costs substantially.

The incoming fresh air and outgoing stale air cannot mix within the core. The diaphragm pores, which were already microscopic in previous generations, have been further reduced in size to reduce the possibility of the passage of waterborne soluble gases such as ammonia and hydrogen. To increase heat and moisture exchange, a special treatment is applied to the paper used for the diaphragms. These improvements have increased moisture permeability while reducing permeability to harmful gases, resulting in an overall increase in recovery efficiency and a more effective barrier action against the transfer of these gases.

IN GENERAL
GUF – For optimum indoor air quality
GUF = (Lossnay) + (heating & cooling)

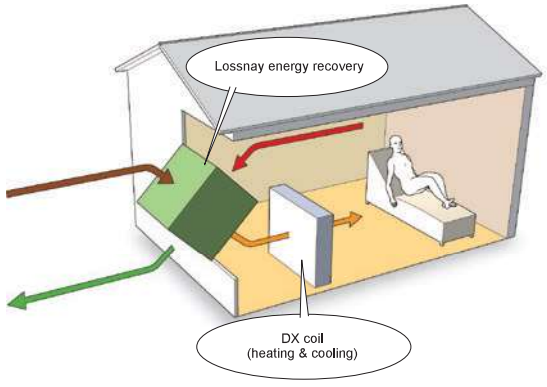
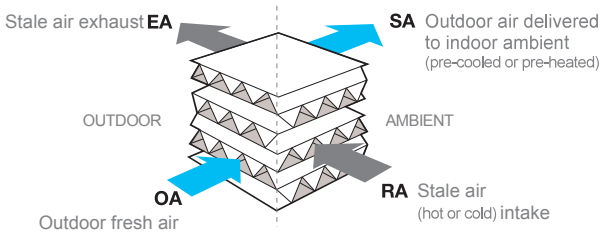



IMAGE OF GUF MODEL

CONSTRUCTION AND OPERATING PRINCIPLE OF LOSSNAY UNIT




## Heat exchanger

A direct expansion coil incorporated in the unit makes it possible to cover approximately 25% of the load of the system with the GUF unit. This also means that the terminal units installed in the indoor space can be smaller. Moreover, as the GUF unit covers the entire thermal load attributable to ventilation, this means that this load and the ambient load can be managed completely separately, simplifying the design process of the installation. The treated air heats the humidifier as it passes through it, further increasing humidification efficiency.

## Total comfort

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

## Humidification - RDH4 version

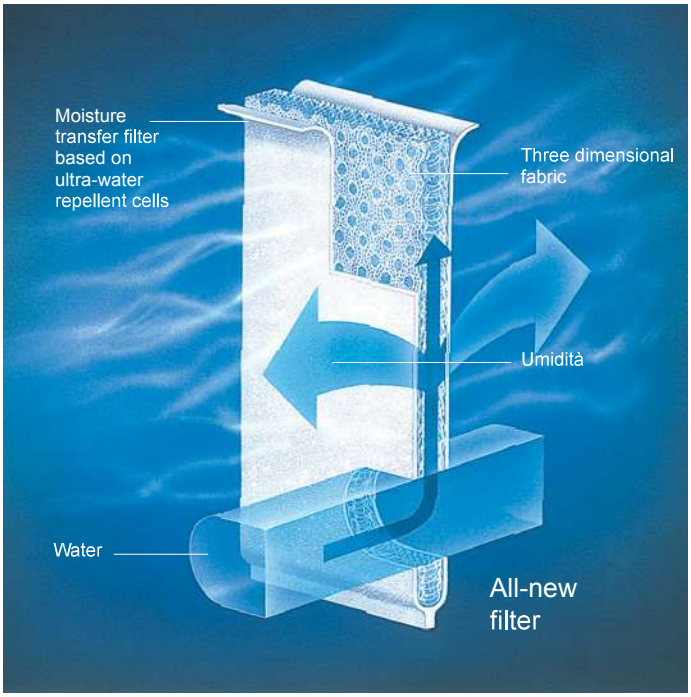
The innovative permeable film humidification system, which uses a natural evaporation process, is a particularly intelligent solution.

The efficiency with which the air is humidified has been significantly increased by reducing the resistance of the material used. A three-layer film ensures that only the necessary moisture is transferred to the air without any limescale dust release – a problem of certain conventional humidifiers.

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

Note: Use a demineraliser if residual total salt levels exceed 100 mg/l.




## Increased efficiency of humidification process - RDH4 version

Optimised air flows within the unit together with a water injection system have significantly increased the efficiency of the humidification process. The system also controls the humidity in the outgoing stale air to effectively improve the air quality of the outdoor environment as well. This solution prevents limescale and silica dust from being carried in the air, so purer, less dusty air is vented into the outdoor environment.

## Automatic free cooling

When the air conditioning is operating in cooling mode and the outdoor temperature is lower than the indoor ambient temperature (as normally occurs at night-time in summer), the GUF indoor unit recognises this condition and automatically bypasses the recovery core. The cooler outdoor air fed into the indoor space contributes to reducing the cooling demand sustained by the system.

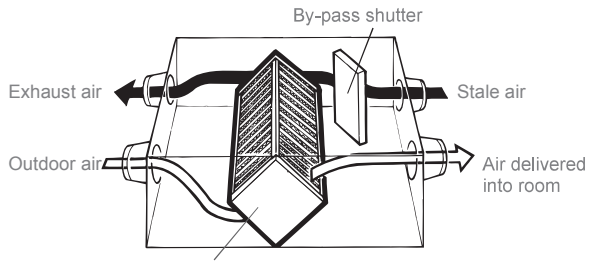
## Dust suppression

An optional high efficiency filter may be used for up to 3,000 hours while maintaining a filtration efficiency (evaluated with colorimetric testing) of over 65%. The filter may also be fitted in the GUF unit after initial installation and takes up no additional precious space.

## Automatic regulation

GUF ventilation and recovery units may be integrated into a Melans control and regulation system for Mitsubishi Electric air conditioner installations, as they use the same bus used for connecting indoor units.

BY-PASS

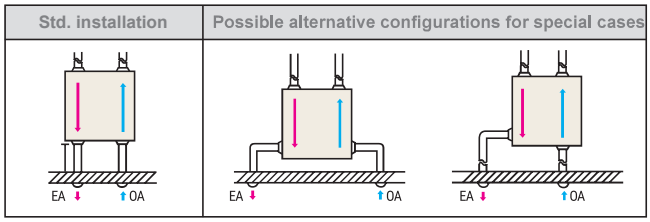


## Advantages

- Reduced energy consumption
- Reduced thermal power necessary to treat outdoor air, equating to lower rated power
- Healthier environment
- Quieter operation (noise baffles in inlet and outlet)
- Free Cooling function using exclusively external air
- Humidification with film permeable to water vapour only
- Total air treatment (neutral air returned to outdoor environment)
- Custom temperature and humidity control
- Compact dimensions
- Installable in double ceilings with limited vertical space.

## Flexible installation

The positions of air duct connections may be changed as needed to cater for different installation requirements.




* Changing the installation configuration causes no any additional pressure loss.

## Technical specifications

| MODEL | | | GUF-50RDH4 | GUF-100RDH4 | GUF-50RD4 | GUF-100RD4 |
|---|---|---|---|---|---|---|
| Power supply | | | 1-phase 220-240V 50Hz | | | |
| Comunication system | | | In serie tramite rete M-NET: Mitsubishi Electric Air Conditioners Network System | | | |
| Lossnay | Mode | | Air to Air Total heat recovery system | | | |
| | Material | | Partition, Cross-flow structure, Special preserved paper-plate. | | | |
| Cooling capacity*1 | | kW | 5,57 (1,94) | 11,4 (4,12) | 5,57 (1,94) | 11,44 (4,12) |
| | Power input | W | 235-265 | 480-505 | 235-265 | 480-505 |
| | Curren | A | 1,15 | 2,2 | 1,15 | 2,2 |
| Heating capacity*1 | | kW | 6,21 (2,04) | 12,56 (4,26) | 6,21 (2,04) | 12,56 (4,26) |
| | Power input | W | 235-265 | 480-505 | 235-265 | 480-505 |
| | Current | A | 1,15 | 2,2 | 1,15 | 2,2 |
| Temperature heat recovery efficiency | | % | 77,5/80 | 79,5/81,5 | 77,5/80 | 79,5/81,5 |
| Total heat recovery efficiency*2 | Heating | % | 68/71 | 71/74 | 68/71 | 71/74 |
| | Cooling | % | 65/67 | 69/71 | 65/67 | 69/71 |
| Capacity index | | | P32 | P63 | P32 | P63 |
| Humidifier capacity | | kg/h | 2,7 | 5,4 | - | - |
| Fan | Type x qty | | SA: Centrifugal fan (Sirocco FAN) x 1 - EA: Centrifugal fan (Sirocco FAN) x 1 | | | |
| | Static pressure | Pa | 125 | 135 | 140 | 140 |
| | | $mmH_2$ | 12,7 | 13,8 | 14,3 | 14,3 |
| | Motor | | Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units | | | |
| | Flow rate (High speed) | $m^3/h$ | 500 | 1000 | 500 | 1000 |
| | | L/s | 139 | 278 | 139 | 278 |
| SPL (Low-High) | | dB(A) | 33,5-34,5 | 38-39 | 33,5-34,5 | 38-39 |
| Ref. Piping diameter | Liquid | mm(in.) | Ø6,35(Ø1/4) | Ø9,52(Ø3/8) | Ø6,35(Ø1/4) | Ø9,52(Ø3/8) |
| | Gas | mm(in.) | Ø12,7(Ø1/2) | Ø15,88(Ø5/8) | Ø12,7(Ø1/2) | Ø15,88(Ø5/8) |

*1 () value from Lossnay heat recovery.
*2 High/Low speed values.