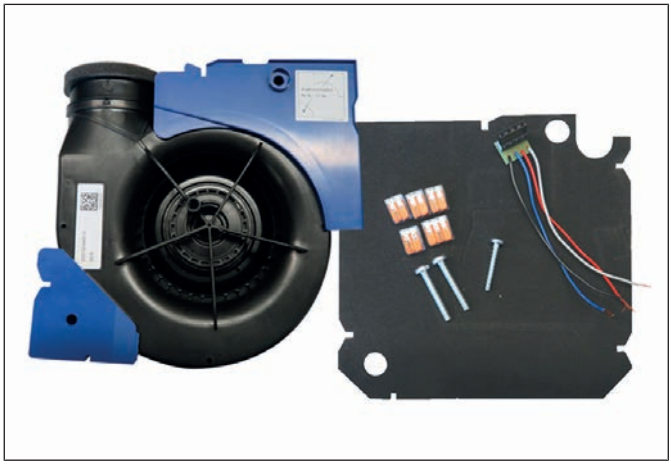
Installation and operating instructions

ER EC flush-mounted exhaust air systems (according to DIN 18017-3)



ER EC RF17

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Preface

Please read the instructions carefully before installing and using for the first time. Follow the instructions. Pass these instructions on to the owner for safekeeping.

1 Qualification

Installation, electrical connection, commissioning, fault rectification, maintenance and repair may only be undertaken by **qualified electricians** in accordance with the applicable electrical engineering regulations (DIN EN 50110-1, DIN EN 60204-1 etc.). Read these instructions carefully, in full. Note the safety instructions. Follow the instructions. Pass these instructions on to the owner for safekeeping.

Also observe the installation and operating instructions **ER covers**.

2 Scope of delivery

- Installation instructions
- 1x ER EC RF17 fan insert
- 1x central retaining bolt for the cover
- 1x adapter board
- 1x black seal for the housing floor
- 2x fixing covers
- 2x fillister head screws for fastening the fixing covers
- 5x terminals (4x 2-pin, 1x 3-pin)

3 Intended use

ER EC fans are used to extract air from interior bathrooms and toilets rooms, storage rooms or open plan kitchens (with outside windows), for example in multi-storey residential buildings, retirement homes or hotel complexes.

They serve to replace ER 17 fan units in respective ER 17 flush-mounted housing. The fans are installed in the ER 17 flush-mounted housing (available on site) in a wall, a front wall or a suspended ceiling and are connected to a ventilation shaft. They can also be used as individual units in the wall or ceiling or for toilet seat air extraction.

The fans are only intended for domestic use and similar purposes.

4 Impermissible operation

The unit must not be used in the following situations under any circumstances:

⚠ DANGER Risk of combustion/fire from flammable materials, liquids or gases in the vicinity of the unit.
Do not place any flammable materials, liquids or gases near the unit, which may ignite in the event of heat or sparks and catch fire.

⚠ DANGER Explosion hazard due to gases and dust.
Explosive gases and dust may ignite and cause serious explosions or fire.
Never use unit in an explosive atmosphere (risk of explosion).

⚠ DANGER Explosion hazard due to explosive substances in the lab extraction units.
Explosive substances in lab extraction units may ignite and cause serious explosions or fire.
Aggressive substances may damage the unit.
Never use unit in combination with a lab extraction unit (risk of explosion).

⚠ WARNING Risk to health from chemicals or aggressive gases/vapours.
Chemicals or aggressive gases/vapours may harm health, especially if they are distributed throughout the rooms by the unit.
Never use unit to distribute chemicals or aggressive gases/vapours.

NOTICE Damage to unit due to steam-saturated or greasy air or adhering solid particles.
Steam-saturated or greasy air or solid particles which may adhere to the unit, can soil the unit and reduce the efficiency.
Never use unit to convey these substances.

NOTICE Damage to unit due to grease and oil vapours from range hoods.
Grease and oil vapours from range hoods may contaminate the unit and air ducts and reduce efficiency.
Never use unit to convey these substances.

NOTICE Damage to the unit when continuously conveying steam-saturated air.
Never use unit to convey steam-saturated air

NOTICE Damage to the unit due to imbalance of the impeller when conveying solid particles.
Never use unit to convey solid particles that could adhere to the unit.

NOTICE Unit damage during the construction phase, caused by soiling of the unit and air ducts.
Unit operation is not permitted during the construction phase.
Do not operate unit during the construction phase.

NOTICE Damage to unit in the event of moisture ingress.
IP X5 (protection against water jets).
Never use unit outdoors.

Observe all safety instructions.

5 General safety instructions

⚠ DANGER Risks for children and people with reduced physical, sensory or mental capabilities or a lack of knowledge.
Unit may only be installed, commissioned, cleaned and maintained by persons who can safely recognise and avoid the risks associated with this work.

⚠ DANGER Danger of electric shock from operating the unit when not fully mounted.
Electric components are a potential source of electric shock.
If the unit is open, all off the supply circuits must be switched off (mains fuse off), secured against being accidentally switched back on and a visible warning sign must be attached.
Only operate the unit when it is completely installed.

⚠ DANGER Risk of death from carbon monoxide when operating with air-ventilated fireplaces.
The maximum permitted pressure difference per residential unit is 4 Pa. The consent of a professional chimney sweep is needed in all cases.
Ensure sufficient supply air intake during operation with an air-ventilated fireplace.

⚠ WARNING Risk of injury due to suction from the unit and rotating impeller.
Hair, clothing, jewellery etc. may be pulled into the unit if you get too close to it.
During operation, always keep far enough away to prevent this from happening.

⚠ WARNING Risk to health if filters are not replaced or if there are no air filters.
Heavily soiled or moist air filters can accumulate harmful substances (mould, germs, etc.). This may also happen if the unit is shut down for an extended period. If the air filter is missing, the unit and air ducts become soiled.
Never operate the unit without air filters.
Only use original filters.
Regularly change air filter when a filter change is indicated (LED or TimeStrip).
If the unit has not been used for a long time, always replace the air filters.

⚠ WARNING Risk of injury when working at heights.
Use appropriate climbing aids (ladders).
Stability should be ensured, if necessary have the ladders steadied by a 2nd person.
Ensure that you are standing securely and cannot lose your balance and that there is no one under the unit.

⚠ WARNING Risk of injury and risk to health from parts which may affect the ventilation system which are added or modified at a later date.
Parts (range hood, air-ventilated fireplace etc.) which are added or modified at a later date may result in health risks and operation which is not permitted. Parts may only be added or modified at a later date if system compatibility is established/ensured by a planning office. If using an exhaust air range hood or air-ventilated fireplace, this must be accepted by a regional master chimney sweep.

⚠ WARNING Risk of injury and health risk in the event of changes or modifications or if components which are not permitted are used.
The unit may only be operated with original components. Changes and modifications to the units are not permitted and release the manufacturer from any guarantee obligations and liability, **e. g. if the housing is drilled at a point which is not permitted**.

⚠ CAUTION Exercise caution when handling packaging materials.
Observe applicable safety and accident prevention requirements.
Store packaging material out of the reach of children (risk of suffocation).

NOTICE Non-intended operation/impermissible operation due to incorrectly mounted unit.
Only install unit in accordance with the planning documents.
In particular, note the information on ventilation channels and sound deadening.
Observe planning instructions regarding unit position and distance to other façade components.
If necessary, use isolating elements.
Ensure that foreign bodies cannot be sucked into the unit and ducts.
With a free inlet, fit a protective grille (e.g. SG protective grille).
The unit may be operated only if the protection against accidental contact with the impeller is guaranteed to be in accordance with DIN EN ISO 13857.

6 Safety instructions for electrics

⚠ DANGER Danger if the relevant regulations for electrical installations are not observed.
Before removing the housing cover or removing the fan insert and before installing the electrics, switch off all supply circuits, switch of mains fuse and secure it against being accidentally switched back on again. Attach a warning sign in a clearly visible place.
Be sure to observe the relevant regulations for electrical installation; e.g. DIN EN 50110-1. In Germany, particularly observe VDE 0100, with the corresponding sections.
A mains isolation device with contact openings of at least 3 mm at each pole is mandatory.
Only connect unit to permanently wired electrical installation and with NYM-O or NYM-J cables, depending on the unit variant, 3 x 1.5 mm² or 5 x 1.5 mm².
Units may only be operated using the voltage and frequency shown on the rating plate.
Unit may be energized even when at a standstill and may switch on automatically due to sensors (time delay, humidity etc.). Maintenance and fault finding only permissible when carried out by qualified electricians.
The degree of protection stated on the rating plate is only guaranteed if installation is undertaken correctly and if the connecting cable is correctly guided through the stepped grommet (The grommet must completely enclose the cable sheathing). The fan insert must also be engaged and the housing cover installed.
Ensure sufficient supply air during operation.

⚠ DANGER Danger due to fire transmission if an incorrect connection duct is connected to the housing. Always use the correct cable material for the respective housing. Requirements in line with approval.
if an incorrect ceiling compound is used for exhaust air systems with an intermediate ceiling **(ceiling barrier system)**. Ensure that the gap remaining between the main duct and wall or ceiling is fully sealed with non-flammable materials resistant to deformation, such as concrete, cement mortar or plaster.

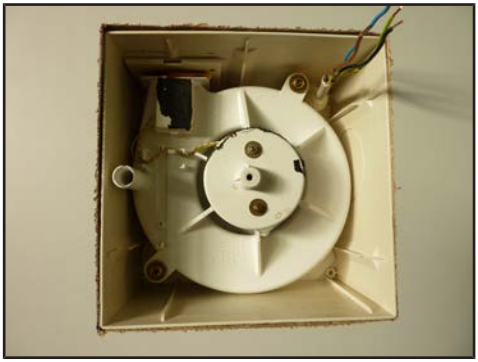
7 Technical data

For further technical data → rating plate or unit.

- Rated voltage: 230 V
- Power frequency: 50 Hz
- Power consumption: 2-17 W
- Degree of protection: IP X5
- Mains cable 4x1.5 mm²
- Weight: 0.72 kg
- W x H x D: 250 x 250 x 150 mm
- Airstream temperature with $I_{Max.}$ 40°C

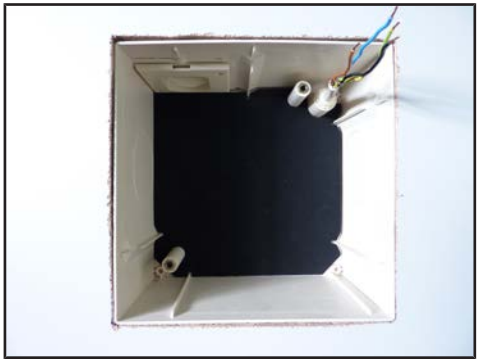
8 Preparation for installation

1. Remove the cover and remove the fan insert.



2. Remove the white seal on the housing floor.

3. Place the seal, included in the scope of delivery, on the housing floor. When doing so, pay attention to the guide edges of the seal.



4. Make the electrical connection: Electrical connection and installation of the fan insert [▸ 6].

9 Electrical connection and installation of the fan insert

9.1 Electrical connection of the fan insert

ER EC RF17 may only be connected according to the wiring diagrams: Wiring diagrams [▸ 8].

To prevent the unit and/or electric components from malfunctioning as a result of reverse polarity voltages and induction (incorrect ignition or glowing/flaring of LED, energy-saving or neon lamps), the unit and electric components connected in parallel, such as room lighting, should be connected via a double-pole switch.

⚠ DANGER Danger to life from electric shock.
Prior to accessing the connection terminals, switch off all supply circuits. Switch off mains fuse, secure against being accidentally switched back on and position a visible warning sign.

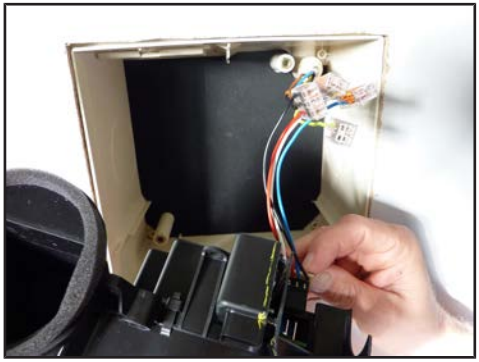
⚠ DANGER Danger to life from electric shock/The unit will be damaged if installed incorrectly with too long a power cable.
If the cable feed is too long inside the housing, the fan insert cannot be installed correctly. The power cable may be damaged when inserting the fan unit.
Do not cut the power cable inside the housing too short.

ℹ Risk of damage to unit in the event of short-circuits.
→ Cut off and insulate PE conductor and individual cable cores that are not required.

Always note the relevant specifications for electrical installations and when fitting equipment. In Germany, observe DIN VDE 0100 and the corresponding parts in particular.

- Take ambient conditions and technical data into account.
- Prior to accessing the connection terminals, switch off all supply circuits. Switch off mains fuse, secure against being accidentally switched back on and position a visible warning sign.
- Cut off and insulate PE conductor and individual cable cores that are not required.
- Remove power cable's sheathing and cut to length.
- Wire power cable to the terminal box according to the wiring diagram.
- The degree of protection is only guaranteed:
  - for intended installation;
  - if the power cable is correctly guided through the intended cable grommet, if fan unit is correctly engaged in ER-UP housing and if cover is closed and engaged.
- Observe permitted duct cross-section of max. 1.5 mm².

Close the fan insert using the adapter board and the terminals in accordance with the desired control variant. To do so, observe the wiring diagrams: Wiring diagrams [▸ 8].

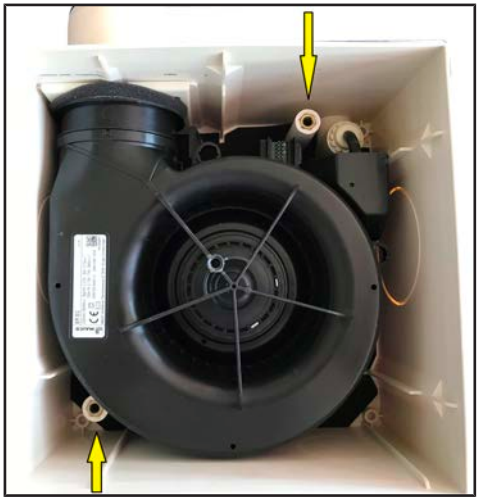


9.2 Installation of the fan insert

No tools are needed for the final assembly of the fan insert.

1. **Carefully** push the fan insert into the flush-mounted housing. When doing so use the screw dome as the guide.

Notice: If the fan insert is pushed in with too much force, the screw domes can break.

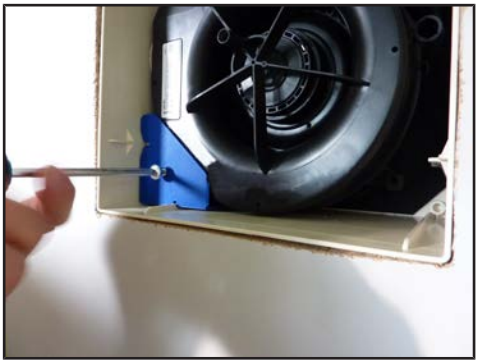


2. Check for firm seating of the fan insert.

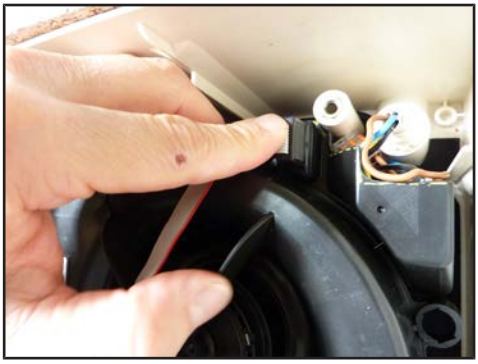
10 Installation of covers ER-A/ ER-AK/ ER-AH/ ER-AB

It is possible to rotate the cover by ± 5° to compensate for housings which have been fitted at an angle.

1. Mount the fixing cover, included in the scope of delivery, at the bottom left with the respective fillister head screw.



2. For ER-A: continue with step 3.
   For ER-AK, ER-AH, ER-AB, plug cover's flat cable with plug into interface connector. Ensure correct connection.



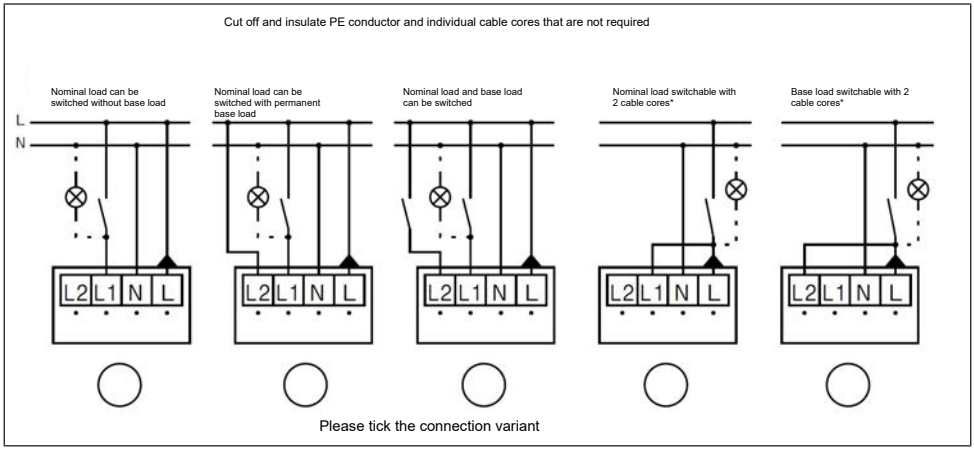
3. Mount the fixing cover, included in the scope of delivery, at the top right with the respective fillister head screw.
   Before installing the fixing cover, make sure to guide the flat cable through the provided slot.
   Note: This applies only to covers ER-AK/ER-AH and ER-AB.
4. ER-A, ER-AK, ER-AH, ER-AB: Screw the cover to the fan insert using the supplied central screw from the ER EC RF17 set. If installing on a wall, ensure that the Maico name is on the bottom right.

5. Run function test: Test all unit functions (overrun time, interval, humidity control etc.)

For ER-A, no setting functions. For ER-AK, ER-AH, ER-AB, the operating parameters can be changed.

6. Fold down the upper part of the cover (upper part must audibly engage).

11 Wiring diagrams



*If the units are connected with 2 cable cores (nominal load switchable with 2 cable cores, base load switchable with 2 cable cores), the ER-A cover is to be used. The ER-AK, ER-AH and ER-AB covers require a permanent electrical connection.

12 Dismantling

Dismantling is only permissible by persons with electrical training.

13 Environmentally responsible disposal

Once they are no longer needed, packaging materials and used units should be disposed of in compliance with local regulations. Do not dispose of old units in the normal household waste.

Notes

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