

# Installation and operating instructions



Flush-mounted exhaust air elements for Centro centralised ventilation system according to DIN 18017-3



Centro-M  
Centro-E  
Centro-H



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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.

These supplementary instructions are only valid in combination with the ER UP/Centro main instructions, see housing unit. The safety instructions listed there and the information on non-intended use apply.

### 1 Scope of delivery

- Exhaust air element, consisting of spiral housing and cover with G2 filter
- Centro-E with servomotor in spiral housing
- Centro-H with servomotor and H board in spiral housing

#### Other components

- Time strip on title page of these instructions
- Installation and operating instructions

### 2 Specialist installer qualifications

Installation may only be carried out by **trained specialists** who have the necessary knowledge and experience in **ventilation engineering**. The unit must be connected in accordance with the national technical approval.

Only a **qualified electrician** is permitted to work on the electrics. You are deemed a qualified electrician if you are familiar with the relevant standards and guidelines, can competently and safely connect units to an electrical power supply in line with the Wiring diagrams and are able to recognise and avoid risks and dangers associated with electricity on the basis of your technical training and experience.

### 3 Intended use

Centro-M/Centro-E/Centro-H exhaust air elements are intended for use in centralised ventilation units with a common main duct.

The exhaust air elements are used to ventilate interior bathrooms, toilet rooms and open-plan kitchens (with exterior windows), storage rooms, etc.

After completion of the interior building work, the exhaust air elements are inserted into the flush-mounted housing units (ER-UPB-, ER-UPD or ER-UP/G) already installed during the shell construction phase.

Exhaust air elements are only intended for domestic use and similar purposes. No other or additional use is intended.

## 4 Safety instructions and warnings

See ER UP/Centro main instructions for the housing unit.

## 5 System and product information

### 5.1 Centro centralised ventilation system

A central roof fan or ventilation box extracts the stale, humid air via the exhaust air elements installed in bathrooms, toilet rooms and kitchens.

At the same time, outside air flows draught-free into the apartment(s) via supply air elements. The Centro pressure controller keeps the air supply pressure of the central fan constant.

### 5.2 Certificates of approval

Certificates of approval on request.

### 5.3 Permitted exhaust air systems

Exhaust air system	Centro-M/-E/-H
Ceiling barrier system	yes
System with fire-proof shaft	yes

→ For permissible connection cables, specifications according to approval.

### 5.4 Installation conditions

**If installed in accordance with DIN 18017-3, use is only permitted:**

- in central ventilation systems with a common main duct;
- with an air supply via shaft or duct;
- with permitted connection ducts;
- with unit suitable for the system (Permitted exhaust air systems);
- for a flush-mounted installation in the wall or ceiling with approved flush-mounted housing unit.
- if correctly installed as per the instructions in this manual, the ER UP/Centro main instructions and national technical approval;
- with sufficient space from the wall or ceiling;

- with a fireproof installation shaft for ER-UPB housings;
- if unit is completely installed;
- with permissible air filters (Permitted exhaust air systems);
- with the outside air openings stated in the planning documents;
- Centro-E/Centro-H: pressure controller for the centralised fan required.

### 5.5 Exhaust air elements

#### Centro-M

**Manual** model. For use in systems with jointly variable volumetric flows. Fixed air volume setting by pushing out sealing plugs in each exhaust air element.

#### Centro-E

**Electric** model. With electro-thermal servomotor for switching between basic and demand-based ventilation. Fixed air volume setting of the basic ventilation by pushing out sealing plugs in each exhaust air element. Demand-based ventilation automatically via servomotor.

#### Centro-H

Model with automatic **humidity control**. Barrier-free product as the fan switches itself on and off automatically. With fixed air volume setting of the basic ventilation by pushing out sealing plugs in each exhaust air element. Demand-based ventilation automatically or via a switch (for example light switch).

### 5.6 Product features

- Fire protection identical with Maico ER single-room air extraction, see ER UP/Centro main instructions.
- No cold smoke barriers required.
- No additional telephony sound absorbers required.
- It is possible to rotate the cover by  $\pm 5^\circ$  (for housings which have been fitted at an angle).
- Control circuit board in spiral housing for Centro-H.
- Centro-H not approved for second room connection.
- The flush-mounted housing has easy to install snap-in exhaust air elements.
- Quick installation of E and H units thanks to electrical plug connection in flush-mounted housing.

- Shaft level difference according to DIN 4109, tested by IAB Oberursel (The Institute for Acoustics and Building Physics in Germany).
- Cover with exhaust air filter and time strip. Air filters are to be changed regularly when filter change is indicated (time strip).
- Trouble-free filter change without tools.
- Centro-M with protection class II. Installation also permissible with water jets (DIN VDE 0100-701, area 1).

The **1** **time strip** is visibly attached to a location of your choice (e.g. next to the cover) and after the filter change interval has elapsed, it can be disposed of in the domestic waste. Do not affix the time strip under the cover. New time strips are included in the scope of delivery of the exchange air filter.

## 6 Technical data

### 6.1 Environmental conditions and operating limits

- Permissible maximum temperature of air medium + 40 °C.
- The air supply to the home must be set up so that virtually no air can flow into the living areas from the kitchen, bathroom or WC.
- Minimum volumetric flow per exhaust air element 30 m<sup>3</sup>/h.
- A room from which the air is to be extracted must be fitted with a non-closable, free supply air cross section of at least 150 cm<sup>2</sup>, e.g. with MLK door ventilation grille.
- Centro-E and Centro-H with resistance to interference according to EN 55014-2 – 1000 to 4000 V depending on pulse type and energy component. When operating with fluorescent tubes, these values can be exceeded. In this case, additional interference suppression measures (L, C or RC modules, protection diodes, varistors) are required.

### 6.2 Regulations for operation with fireplaces

**Sufficient supply air intake** must be ensured during operation with **air-ventilated fireplaces**. The maximum permitted pressure difference per residential unit is 4 Pa.

The unit may only be installed in residential units with air-ventilated fireplaces under the following conditions:

- the evaluation criteria drawn up by the responsible, regional master chimney sweep are met;
- Parallel operation of air-ventilated fireplaces for liquid or gaseous fuels and air-extracting equipment can be prevented using safety devices or
- the extraction of exhaust gas from the air-ventilated fireplaces is monitored by special safety devices. The ventilation system or the fireplaces must be switched off if the equipment is triggered.

### 6.3 Technical data table

<b>Rated voltage</b> Centro-E/Centro-H	230 V
<b>Power frequency</b> Centro-E/Centro-H	50 Hz/60 Hz
<b>Degree of protection</b>	IP X5
<b>Protection class</b>	
Centro-E-APB	II
Centro-H-APB	II
Minimum volumetric flow	30 m <sup>3</sup> /h
Air volume	30 / 65 m <sup>3</sup> /h
<b>Sound pressure level</b> L <sub>WA7</sub>	26 to 33 dB(A), depending on unit model
<b>Weight</b>	0.8 kg

For more technical data → rating plate.

For characteristic curves → [www.maico-ventilatoren.com](http://www.maico-ventilatoren.com)

### 6.4 Storage

Only store unit horizontally in a suitable, dry room. Ambient temperature – 10 °C to + 60 °C.

**Maico** accepts no liability for corrosion damage caused by improper storage, e.g. storage in a damp environment.

## 7 Mounting preparations

**i** Suitable mounting material is to be provided by the customer.

## 8 Installation

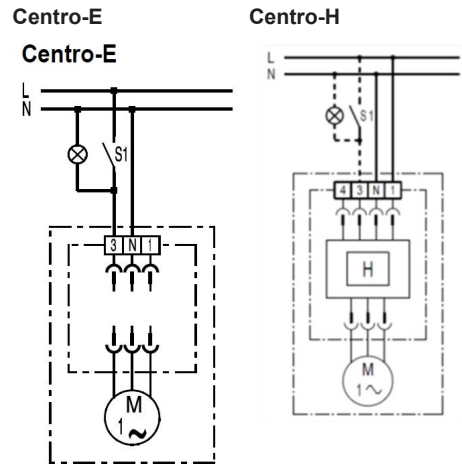
### 8.1 Installation information on flush-mounted housing

**i** The installation of flush-mounted housing and the shut-off device is described in detail in the ER/Centro main instructions. Be sure to proceed as described there. Also observe the requirements in line with the approval.

### 8.2 Electrical connection

**Centro-E and Centro-H**

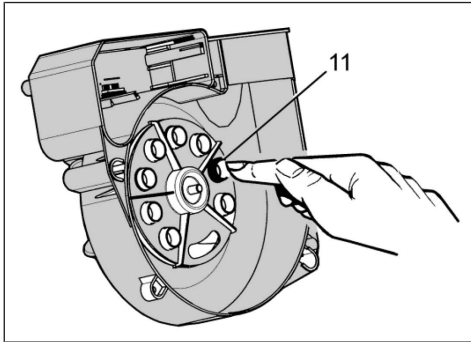
**i** The electrical connection of Centro-E and Centro-H devices is described in detail in the ER UP/Centro main instructions. Be sure to proceed as described there. The electrical connection must be made in accordance with the wiring diagram.



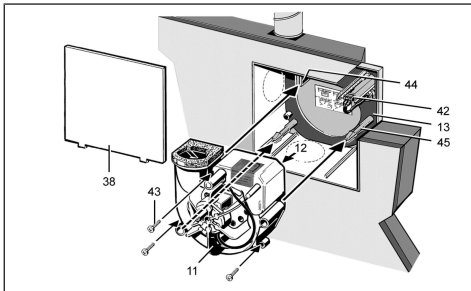
### 8.3 Installation of spiral housing and upper part of housing

**⚠ 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.



1. Press the desired number of sealing plugs out of the housing.  
Centro-M with fixed air volume setting.  
Centro-E and Centro-H with fixed air volume setting for basic ventilation.



11	Spiral housing	12	Electronic circuit board (control)
13	Housing floor seal	38	Plaster protective cover
42	Connection terminal	43	Optional fixing with screws (to be provided by the customer)
44	Locking lever	45	Stud

2. Switch off mains fuse and fit warning sign
3. Remove plaster protective cover and clean any dirt off the flush-mounted housing.
4. Ensure that the unit type ticked in the housing box matches the type to be fitted.
5. Check ease of movement of shut-off shutter/backflow preventer.  
When installed, the shut-off shutter/backflow preventer must close automatically. With ER-UPD and ER-UPB, this must close automatically due to the pressure of the inserted yoke

spring (exception – upwards air outlet, see ER UP/Centro main instructions). With ER-UPD and ER-UPB ensure that the soldered strut is inserted correctly, see ER UP/Centro main instructions).

6. Check that the housing floor seal is correctly positioned, then insert properly.

**NOTICE Risk of damage if ESD sensitive components on the board are touched.**

Avoid direct touching of the components or contact surfaces.

**NOTICE The noise level will increase if the housing floor seal is fitted incorrectly. Degree of protection not guaranteed if housing floor seal is positioned incorrectly.**

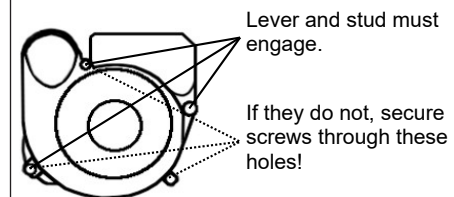
The housing floor seal must lie flat and without any creases in the housing.

7. Check that all screw connections are tight.
8. Check ventilation ducts for dirt and clean if necessary.
9. Check that connection data matches the technical data on the unit (rating plate).

**NOTICE Function will be impaired if fan insert is not inserted correctly.**

Ensure proper insertion in the locking hooks. If the fan insert is not firmly seated, screw it to the housing at the 3 positions shown in the figure above. Suitable mounting material is to be provided by the customer.

Note wiring diagrams in box base.  
Cables must not prevent the unit from being slid in.



→ Installation information in unit

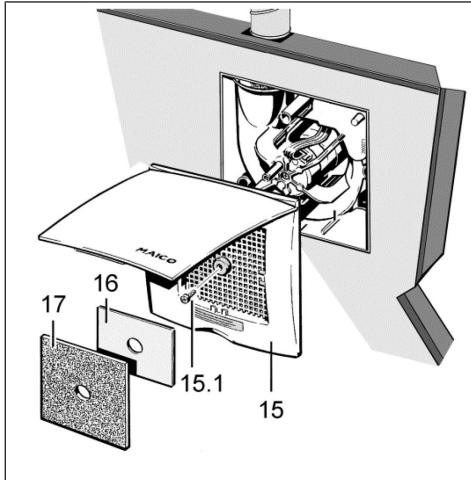
**NOTICE Function will be impaired if spiral housing is not inserted correctly.**

Ensure proper insertion in the 3 fixing points.

10. Slide spiral housing evenly, in parallel, onto both studs. Ensure that the two locking tabs of the stud and the locking lever audibly engage so spiral housing is secure.

11. Ensure that the spiral housing is correctly engaged. To do this, gently pull and press against the spiral housing. The spiral housing must not move in the process. Alternatively, screw the spiral housing tightly into the housing → previous figure.

## 8.4 Installing the cover

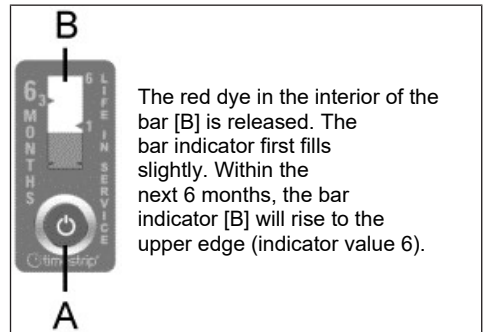


15	Cover with central screw [15.1]
16	Regulating plate for second room connection
17	Filter mat, filter class G2

### Installation information

- Cover can be turned up to  $\pm 5^\circ$  (to provide compensation if housing is inserted at too much of an angle). If installing on a wall, ensure that the Maico name is in the bottom right.
  - If the housing edge is flush with the plaster, use central screw, M6 x 16 mm, to secure the cover.
  - With a plaster overshoot of up to 20 mm to the housing edge, use spacing frame DR 60/100 between the wall and cover. The customer should provide a longer screw (M6 fillister head) to secure the cover.
  - If the housing is plastered in too deep, compensate for this with a two-part wall frame ER-MR (can be adjusted between 50...100 mm). This prevents air from being drawn in from the shaft. Use the supplied screw to fix the cover.
1. Fold up cover at the recessed grip, place on the housing and secure with the central screw.

2. If necessary, first fit a spacing or wall frame.
3. With second room extraction, insert regulating plate below locking tabs at the side on the intake grille of the cover, insert filter mat.
4. Lock cover. The lock must engage audibly.
5. Switch on mains fuse, remove warning sign.
6. Undertake initial commissioning and function test.
7. Affix time strip (supplied with the cover) and push the activation button [A] all the way. Installation location of time strip, e.g. near the cover.



## 9 Commissioning

1. Switch on mains fuse and remove warning sign.
2. Run function test. To do this, switch unit on and off, observe delay times (for control models Controls (circuit board types)).
3. Check that the unit is running smoothly. It is also important that the air can flow unhindered.
4. Switch off unit.

## 10 Operating the unit

### Centro-M

No operation of the standalone unit is possible. It is used in systems with a jointly variable volumetric flow. In combination with a timer and a step transformer, the volumetric air flow of the entire air extraction system can be controlled centrally.

### Centro-E

Exhaust air element with servomotor. For use in systems with variable volumetric flows for individual apartments. Basic and demand-based ventilation can be switched on and off via a light

switch. Demand-based ventilation after start delay of approx. 1 minute. Overrun time after switching off, approx. 3 minutes.

Control of the volumetric air flows within the ventilation system with Centro pressure controller. Speed control of the central fan automatically.

### Centro-H

Exhaust air element with servomotor and humidity control. For use in systems with variable volumetric flow for individual apartments. Standard operation – basic ventilation, automatic switchover to full load if required (switch-on/switch-off point adjustable). Demand-based ventilation can also be switched on by light switch.

Control of the air volume flows within the ventilation system by pressure or speed control of the central fan.

Once the exhaust air element has been installed, the unit regulates to the current room humidity (relative humidity). This humidity value is saved as the first reference value. The reference value does not have to be specified manually. If the room humidity rises by 7 % within 2 minutes, the exhaust air element switches to full load operation (demand-based ventilation). If the relative humidity falls below the reference value during operation, the newly established reference value is saved. The exhaust air element then automatically switches back to base load operation or to Off. Demand-based ventilation automatically or via a switch (e.g. light switch). After manual switch-on (light switch) the exhaust air element runs with a start delay of approx. 1 minute with demand-based ventilation (full load). After manual switch-off, the exhaust air element continues to run in nominal load operation with an overrun time of 15 minutes (valve closing time approx. 2 - 3 minutes).

**i** When switch is open, the exhaust air element can start up automatically as a result of high room humidity.

## 11 Cleaning, maintenance

The unit is practically maintenance-free. The air filter must be replaced **every 3 to 6 months**, depending on the degree of soiling.

**i** Replacement filter mats ZF 60/100 5-pack, filter class G2 according to EN 779, art. no. 0093.0331 + filter change indicator (time strip) **i**

For filter change and cleaning → ER UP/Centro main instructions.

## 12 Fault rectification

**i** Fault finding and repairs only permissible when carried out by qualified electricians.

**⚠ 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.



Fault	Cause → Measure
Fan performance inadequate.	<p>Dirty filter. → Replace filter.</p> <p>Locking hook not engaged. → Engage fan insert correctly.</p> <p>Incorrect duct diameter. → Check diameter of the main duct.</p> <p>Supply air cross section is too small. → Increase the supply air cross section.</p>
Spiral housing too loud.	<p>Dirty filter. → Replace filter.</p> <p>Fan insert incorrectly installed. → Insert fan insert correctly in accordance with these instructions.</p> <p>The main duct is undersized. → Re-calculate pressure losses.</p>
H model does not switch from base load to full load operation despite there being humidity in the room.	No rapid increase in humidity (7% in 2 minutes) took place.
H model no longer switches back to base load operation or off even after a long period in full load operation.	The level has not yet fallen below reference value. After 1 h, the valve automatically switches from full load operation to base load operation after an over-run time of 15 minutes and resets the reference value.
Additional consumers connected to terminal 4.	<p>Damage to the unit if connected incorrectly.</p> <p>Do not connect additional consumers to terminal 4.</p> <p>The unit may only be connected according to the wiring diagrams (Wiring diagrams).</p>

**i** If the fault persists or reoccurs: Disconnect the unit completely from the power supply. Let a qualified electrician determine the cause of the fault and eliminate it. If you have any question relating to troubleshooting: Service: +49 7720 6940.

## 13 Spare parts

**i** Spare parts may only be sourced from and fitted by a specialist installer.

Designation	Article no.
Spiral housing, cpl.	
Centro-M	E084.0182.0000
Centro-E	E084.0183.0000
Centro-H	E084.0187.0000
Cover ABD ER 60/100/ Centro	E059.1017.9000
Filter mat ZF 60/100: 5 pieces, filter class G2 according to EN 779 with filter change indicator (time strip)	0093.0331

### In case of questions, please contact:

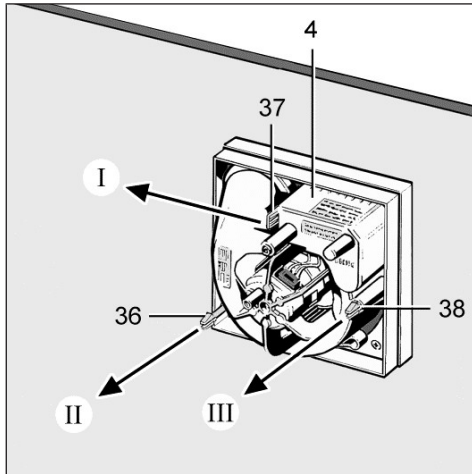
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Tel. +49 7720 694 445  
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**i** Spare parts can be ordered at  
[www.shop.maico-ventilatoren.com](http://www.shop.maico-ventilatoren.com).



## 14 Removing the housing



4	Fan insert	36	Locking tabs
37	Locking lever	38	Locking tabs

1. Switch off mains fuse, secure and fit warning sign.
2. Remove cover and upper part of housing.
3. Press locking lever slightly to the left (→ arrow I), release and raise the fan insert slightly.
4. Press together locking tabs of stud and raise fan insert slightly.
5. Press together locking tabs of stud and evenly pull entire fan insert out of lower part of housing in parallel (→ arrows I - III).
6. Installation is carried out in reverse order.

## 15 Removal

**i** Dismantling may only be undertaken by a qualified electrician.

**⚠ 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.

1. Remove spiral housing.
2. Remove all cables.
3. Remove lower part of housing from the wall.

## 16 Environmentally responsible disposal

The ventilation unit and the packaging contain parts that can be recycled, and should not end up in the domestic waste.

Dispose of the **packaging material** in an environmentally-friendly way, in compliance with the regulations valid in the country where you are.

Dispose of the **air filter** in an environmentally-friendly way, in compliance with the regulations valid in the country where you are.

At the end of its service life, dispose of the **unit** in an environmentally-friendly way, in compliance with the regulations valid in the country where you are.





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