

Operating and Maintenance Manual

refresh Fresh-Air System with Avent R100

Preliminary version for initial installation

For the customer



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1. GENERAL SAFETY INSTRUCTIONS

Caution:

The following safety instructions should be observed:

- Read this operating and maintenance manual thoroughly before beginning with the operation and maintenance of the refresh fresh-air system.
- All covers must be closed during operation of the refresh fresh-air system.
- No liability whatsoever is assumed for any damage caused by non-product-specific storage, inappropriate operation, insufficient maintenance or improper use.
- The technical specifications of this operating and maintenance manual must be observed to ensure the legal fulfilment of any warranty claims.
The warranty can be extended to five years by agreement if only genuine Pluggit components are used.
- Technical modifications reserved.

2. GENERAL NOTES

2.1. INTENDED USE

The refresh fresh-air system is used for the controlled ventilation of flats and residential houses. For this purpose the supplied outside air is directed through the fresh-air unit and distributed among the respective living areas by means of a ring distribution system. Humid and used air is extracted and discharged to the outside by the fresh-air unit.
The fresh-air unit may be switched off only for repair work.

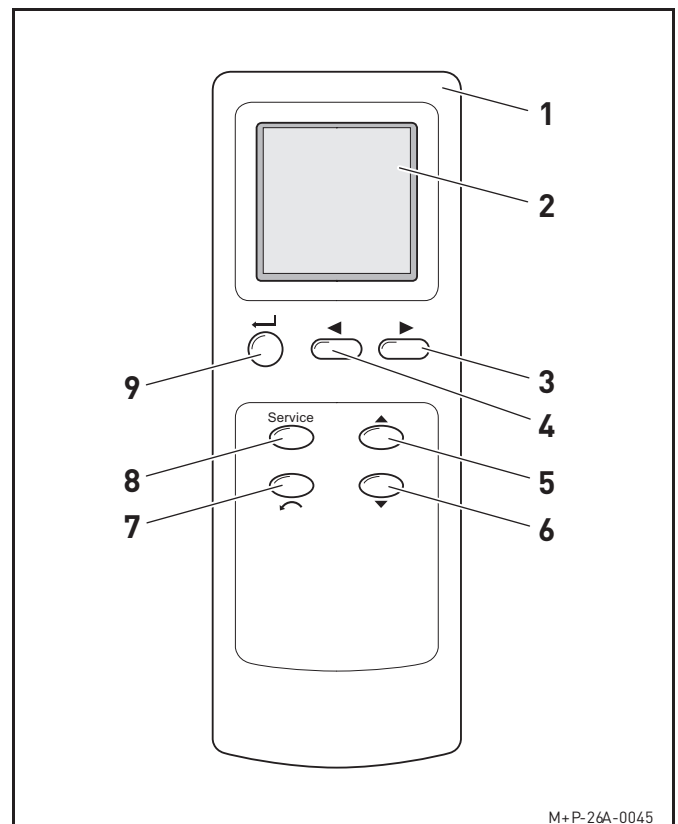
3. OPERATION

3.1. REMOTE CONTROL

Press any key to activate the remote control.

Note:

The remote control switches to idle mode if no key is pressed within a minute.



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- 1 Remote control
- 2 Display
- 3 Move to the right in the menu
- 4 Move to the left in the menu
- 5 Multifunction key
 - For moving up in the menu
 - For increasing values
- 6 Multifunction key
 - For moving down in the menu
 - For decreasing values
- 7 One menu level back
- 8 Service key
- 9 Save settings

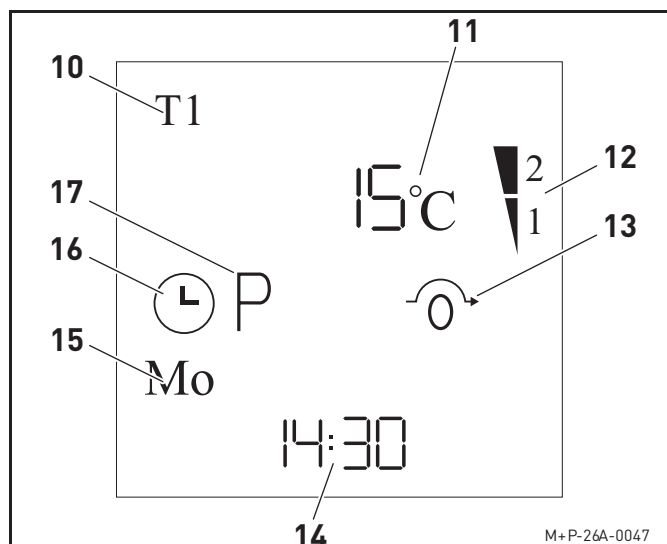


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3.2. STANDARD DISPLAY

The display switches to standard mode after activating the remote control or saving settings.



10 Outside temperature

11 Multifunction indicator

- Temperature indicator
- Program indicator (01-20)
- Stand-by mode indicator
- Error code indicator

12 Fan stage

13 Summer mode

14 Multifunction indicator

- Time
- Program starting time
- Program end time
- Remaining time in stand-by mode

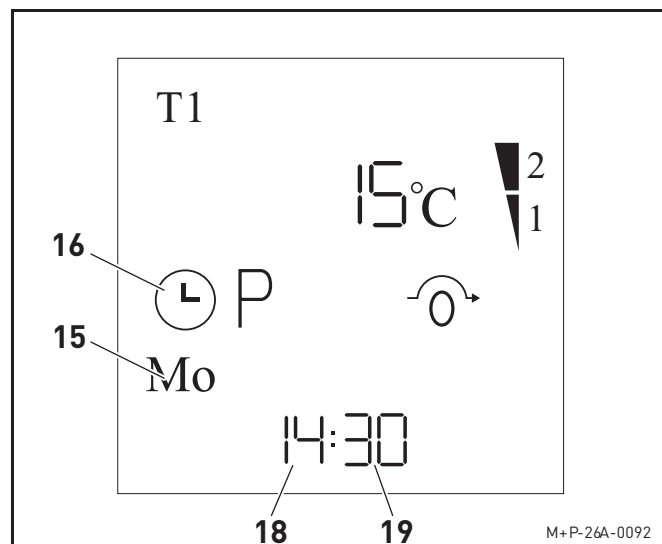
15 Weekday (Mo, Tu, We, Th, Fr, Sa and Su)

16 Time

17 Program

3.3. SETTING THE WEEKDAY AND TIME

1. Press any key to activate the remote control.



15 Weekday

16 Time

18 Hour

19 Minutes

2. Press the key \leftarrow .

The indicator (16) flashes.

3. Press the key \leftarrow .

The indicator (15) flashes.

4. Press the key \blacktriangleleft or \blacktriangleright until the desired weekday is selected.

5. Press the key \leftarrow .

The indicator (18) flashes.

6. Press the key \blacktriangleup or \blacktriangledown until the desired hour is set.

7. Press the key \blacktriangleright .

The indicator (19) flashes.

8. Press the key \blacktriangleup or \blacktriangledown until the desired minutes are set.

9. Press the key \leftarrow .

The settings are saved.

The display switches to standard mode.



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3.4. SETTING THE PROGRAM

The weekday, time and fan stage can be set when making program settings.

The fresh-air unit is automatically switched to fan stage 2 during the periods of time in which no program is set.

- A total of 20 programs can be set.
- Only fan stages 1 and/or 3 can be programmed.
- Programs can be set only for one day.
Two program must be set if, for example, a program is to run from Monday 7:00 am to Tuesday 7:00 am.
- There must be a minute between the end time of a program and the starting time of the following program in order for the second program to be identified.

3.4.1. Example

Fan stage 3 is to be switched on from Monday to Friday, between 8:00 am and 5:00 pm.

Fan stage 1 is to be switched on at night from Monday to Friday, between 10:00 pm and 6:00 am and from Friday to Sunday, between 12:00 midnight and 10:00 am.

The following programs are required for this purpose:

Program 01:

Monday to Friday from 8:00 am to 5:00 pm, fan stage 3

Program 02:

Monday to Friday from 10:00 pm to 11:59 pm, fan stage 1

Program 03:

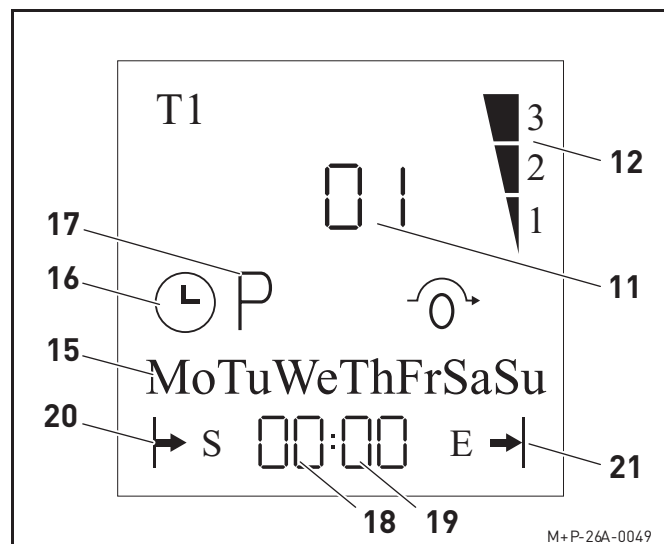
Monday to Friday from 12:00 midnight to 6:00 am, fan stage 1

Program 04:












Friday to Sunday from 12:00 midnight to 10:00 am, fan stage 1

3.4.2. Programming

1. Press any key to activate the remote control.



- 11 Program (01-20)
 - 12 Fan stages
 - 15 Weekdays
 - 16 Time
 - 17 Program
 - 18 Hour
 - 19 Minutes
 - 20 Starting time
 - 21 End time
2. Press the key .
The indicator (16) flashes.
 3. Press the key .
The indicator (17) flashes.
 4. Press the key .
The indicator (11) flashes.
 5. If necessary, press the key or until the desired program 01-20 (11) flashes.
 6. Press the key .
The indicator (15) flashes.
 7. Select the desired weekdays with the key or .
 8. Activate the flashing weekday with the key .
The marked weekday lights up.
 9. Deactivate the flashing weekday with the key .
The marked weekday flashes.

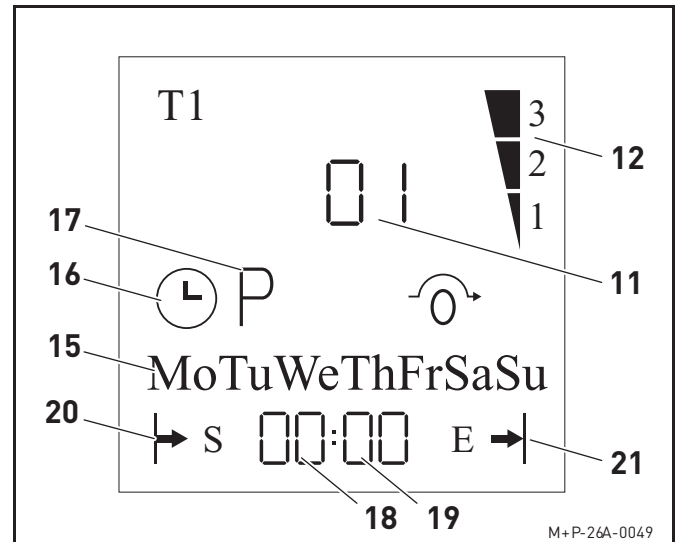
10. Press the key  .
The indicator (20) lights up and the indicator (18) flashes.
11. Press the key  or  until the desired hour is set.
12. Press the key  .
The indicator (19) flashes.
13. Press the key  or  until the desired minutes are set.
14. Press the key  .
The starting time settings are saved.
The indicator (20) disappears, the indicator (21) lights up and the indicator (18) flashes.
15. Set the end time in the same way as the starting time.
16. Press the key  .
The end time settings are saved.
The indicator (21) disappears and the indicator (12) flashes.
17. Press the key  or  until the desired fan stage (1 or 3) is selected.
18. Press the key  .
The settings are saved.
The display switches to standard mode.

Note:

The indicators (20) and (21) are lit up whenever a program is running.

3.4.3. Viewing a program

1. Press any key to activate the remote control.



11 Program (01-20)

12 Fan stages

15 Weekdays

16 Time








17 Program

18 Hour

19 Minutes

20 Starting time

21 End time

2. Press the key  .
The indicator (16) flashes.
3. Press the key  .
The indicator (17) flashes.
4. Press the key  .
The indicator (11) flashes.
5. If necessary, press the key  or  until the desired program (01-20) flashes.
6. Press the key  repeatedly until the indicators (12), (15), (18), (19), (20) and (21) light up one after another and view the settings.
7. Press the key  .
The display switches to standard mode.

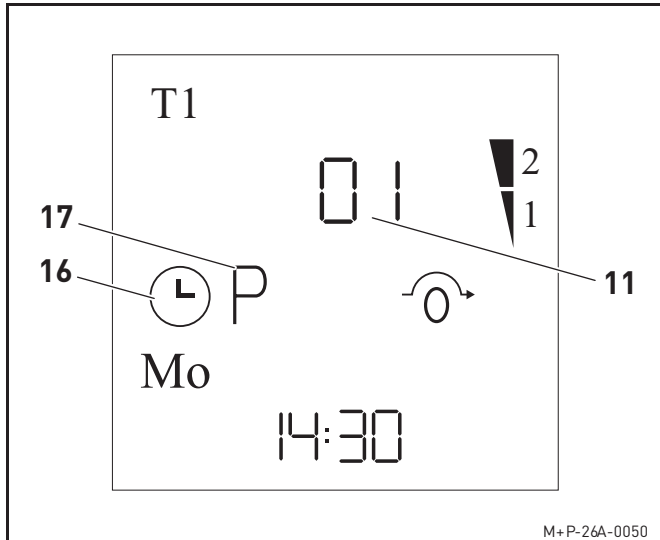


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3.5. DELETING A PROGRAM

1. Press any key to activate the remote control.



11 Program [01-20]

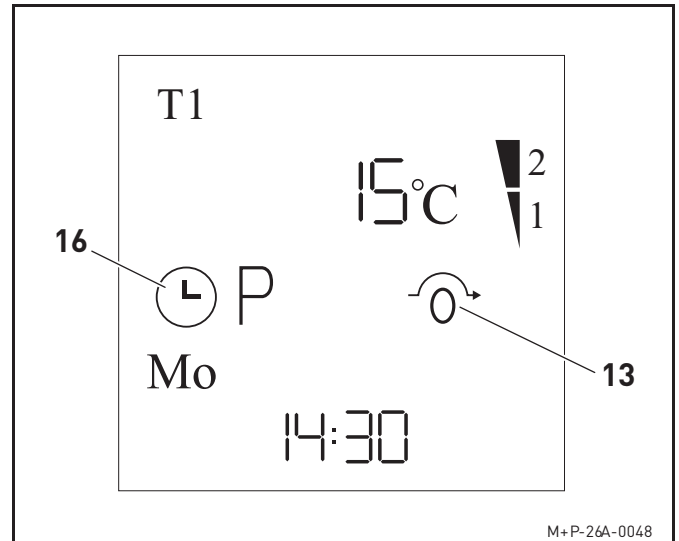
16 Time

17 Program

2. Press the key .
The indicator (16) flashes.
3. Press the key .
The indicator (17) flashes.
4. Press the key .
The indicator (11) flashes.
5. If necessary, press the key or until the desired program [01-20] flashes.
6. Keep the **SERVICE** key pressed until the indicator (11) switches from a flashing **E** back to a flashing program 01-20.
7. Press the key .
The program is deleted.
The display switches to standard mode.

3.6. ACTIVATING AND DEACTIVATING SUMMER MODE

You can prevent the room air from heating up at high outside temperatures by activating summer mode. The fresh-air fan is switched off in the process. Summer mode can only be activated if the outside air temperature is above the preset temperature (see page 15). Summer mode is deactivated if the outside air temperature falls below this value.



13 Summer mode

16 Time

3.6.1. Activation

1. Press any key to activate the remote control.
2. Press the key .
The indicator (16) flashes.
3. Press the key repeatedly until the indicator (13) flashes.
4. Press the key .
Summer mode is activated.
The indicator (13) flashes constantly.

3.6.2. Deactivation

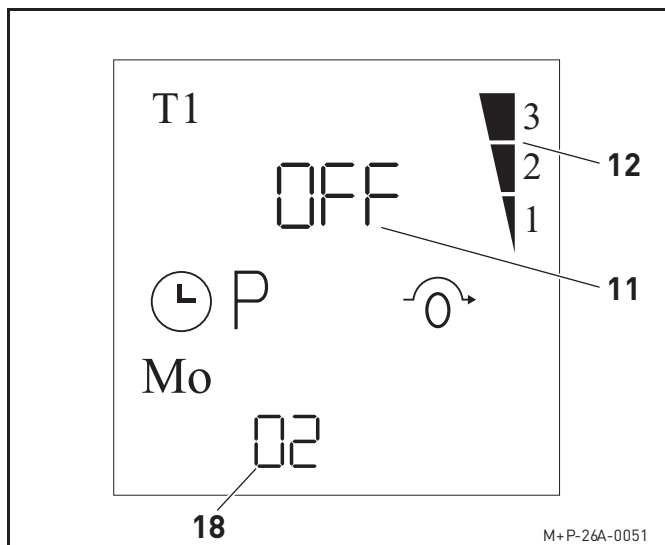
1. Press any key to activate the remote control.
The indicator (13) flashes.
2. Press the key .
The indicator (13) lights up and the indicator (16) flashes.
3. Press the key repeatedly until the indicator (13) flashes again.
4. Press the key .
Summer mode is deactivated.
The indicator (13) is lit up.

3.7. ACTIVATING/DEACTIVATING STAND-BY MODE

- The preset programs will not start if stand-by mode is activated.
- By default, stand-by mode is activated for 2 hours.
- The fresh-air unit starts at fan stage 2 at the end of stand-by mode.

3.7.1. Activation

1. Press any key to activate the remote control.



11 Stand-by mode

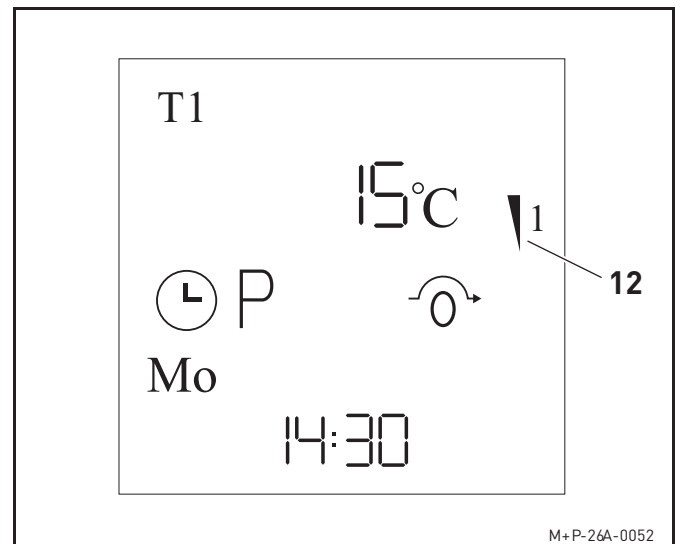
12 Fan stages

18 Remaining runtime

2. Press the key ▼ until the indicator (12) disappears. The indicator (11) lights up and the remaining runtime (18) is displayed.
3. The remaining runtime (18) can be increased to up to 48 hours by pressing the key ▼ again. The fresh-air unit goes off after the selected runtime.

3.7.2. Deactivation

1. Press any key to activate the remote control.



12 Fan stages

2. Press the key ▲. The indicator (12) is lit up. The fresh-air unit starts at fan stage 1.
3. Select the fan stage manually if necessary (see page 8).

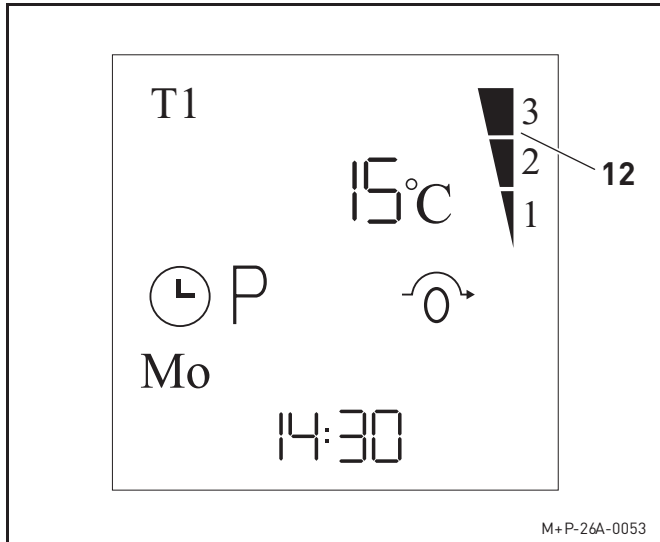


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3.8. SELECTING THE FAN STAGE MANUALLY

1. Press any key to activate the remote control.



12 Fan stages

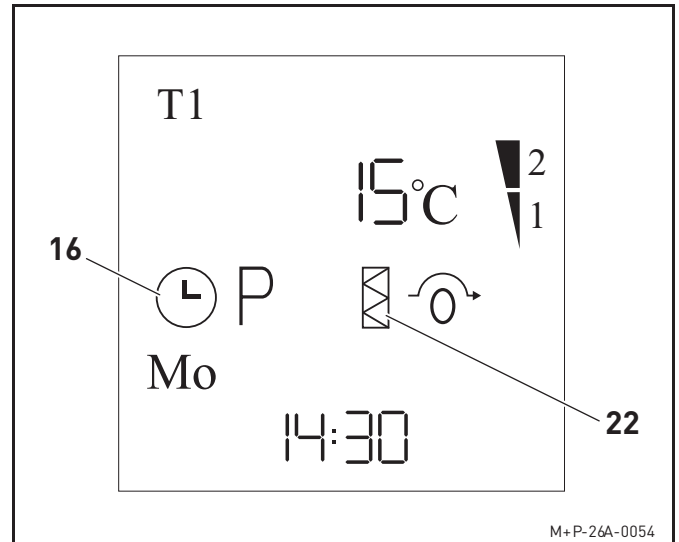
2. Press the key ▼ or ▲ and select the desired fan stage 1 - 3 (12).

Note:

If fan stage 3 is selected, the fresh-air unit runs a maximum of 4 hours in this stage and then automatically switches to fan stage 2.

3.9. RESETTING THE FILTER ALARM

By default, the filter alarm flashes after 12 months. The filter must be replaced and the filter alarm reset (see page 11).



16 Time

22 Filter alarm

1. Press any key to activate the remote control. The indicator (22) flashes.
2. Press the key ← . The indicator (22) lights up and the indicator (16) flashes.
3. Press the key ► repeatedly until the indicator (22) flashes again.
4. Press the key ← . The filter alarm is reset. The indicator (22) disappears.

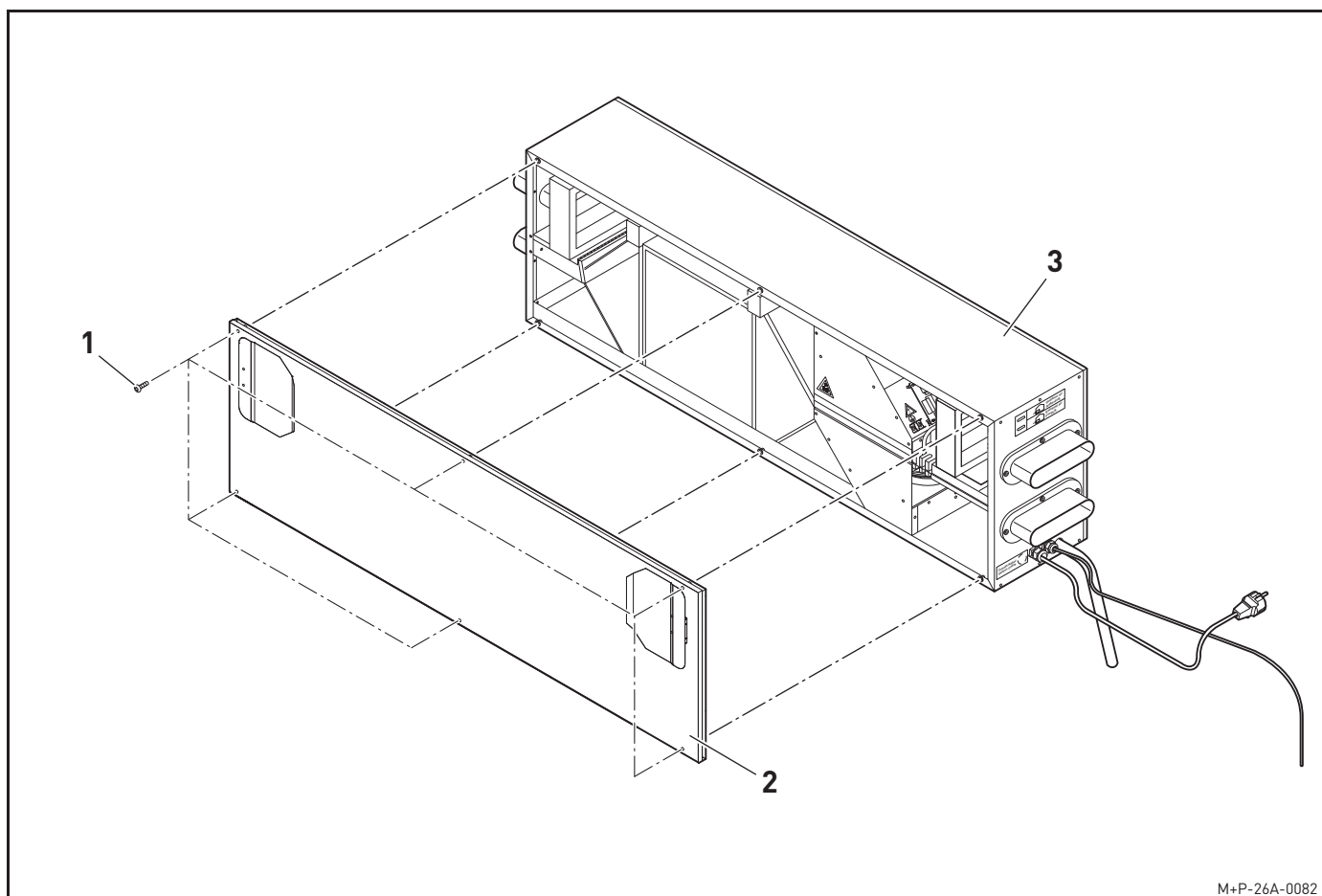
4. MAINTENANCE

4.1. CLEANING

4.1.1. Fresh-air unit

Caution:

Disconnect the fresh-air unit from the mains supply prior to any cleaning work.



1. Unscrew the screws (1) and remove the cover (2).
2. Clean the inner surfaces of the fresh-air unit (3) with a wet cloth and neutral cleaning agent.
3. Screw the cover tight (2) with the screws (1) after drying it.



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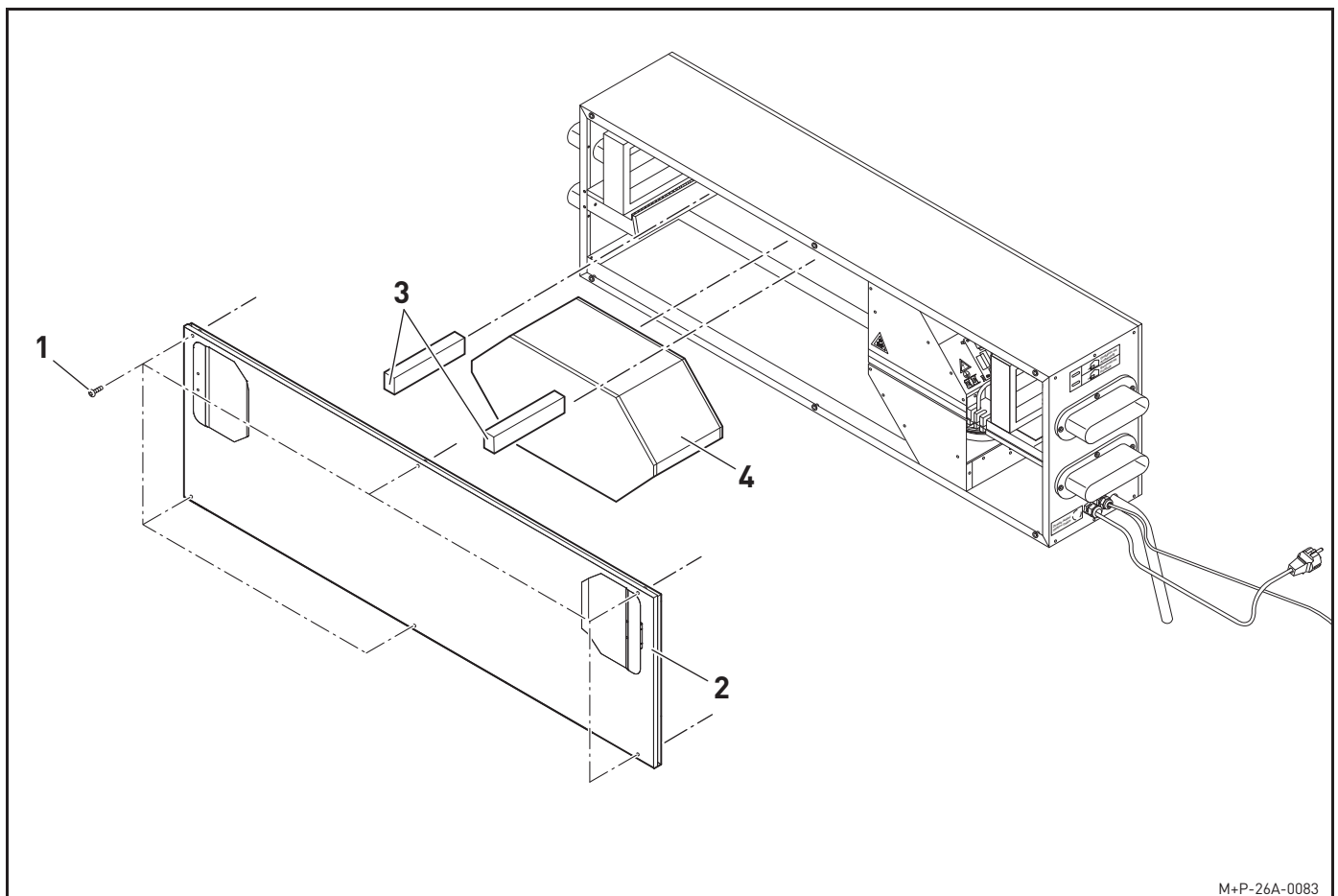
4.1.2. Heat exchanger

Caution:

Disconnect the fresh-air unit from the mains supply prior to any cleaning work.

Note:

Check the heat exchanger for dirt and clean it every 24 months.



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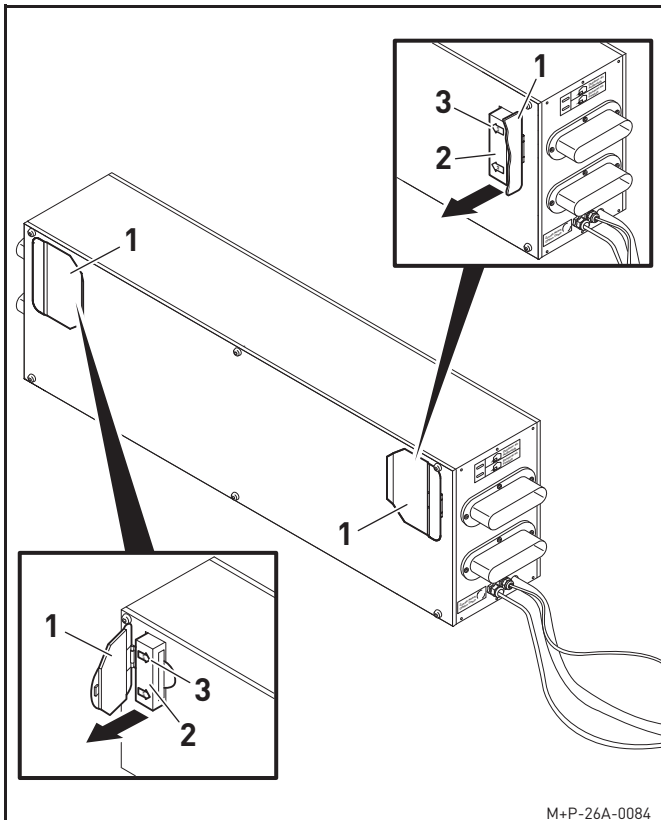
1. Unscrew the screws (1) and remove the cover (2).
2. Pull out the foam insulation pieces (3), raise the heat exchanger (4) and remove it.
3. Soak the heat exchanger (4) with a mixture of water and washing agent.
4. Rinse the heat exchanger (4) with water and drain the entire water.
5. The heat exchanger is installed in the reverse order.

4.2. REPLACING A FILTER

The installed filters are used to filter the supplied outside air from large dirt particles and prevent the fresh-air unit from becoming dirty.

It cannot be ensured that the hygienic requirements are met if the fresh-air unit is operated without a filter.

- Check the filter approx. every 6 months and replace it, depending on the level of dirt, however at least once a year.
- The filter must also be replaced if the filter alarm is displayed (see page 8).
- Install a filter of at least G4 filter quality.
- Alternatively, a filter of F7 filter quality can be installed, depending on the level of pollution of the ambient air.



1. Open the flaps (1).
2. Pull out the old filters (2) and clean them or insert new filters in the direction of the arrow (3) towards the centre of the housing.
3. If the filters are only cleaned, they must not be swapped before they are installed.
Mark the filter (2) and insert it on the same side in the fresh-air unit.
4. Close the flaps (1).
5. Reset the filter alarm (see page 8).



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5. TROUBLESHOOTING

5.1. MALFUNCTIONS

Malfunction	
The air supplied to the living areas is cold.	
Possible cause	Remedy
The air is cooled down in the ducts.	Check the insulation of the ducts.
The heat exchanger is clogged up.	Check the heat exchanger for dirt and clean it if necessary (see page 10).
The filter is clogged up.	<ul style="list-style-type: none">• Check whether the filter is dirty and replace it if necessary (see page 11).• Reset the filter alarm (see page 8).

Malfunction	
<ul style="list-style-type: none">• The fresh-air unit has stopped.• The fans are not turning.• The remote control is not working.	
Possible cause	Remedy
A fuse has blown.	<ul style="list-style-type: none">• Request customer service and check the fuse and replace it if necessary.

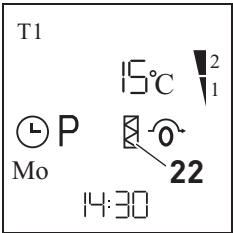
Malfunction	
The fresh-air unit is making too much noise and is wobbling.	
Possible cause	Remedy
A fan is out of balance.	<ul style="list-style-type: none">• Request customer service and check the fan and replace it if necessary.

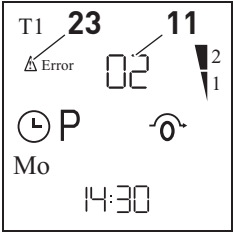
Malfunction	
Water is dripping out of the fresh-air unit.	
Possible cause	Remedy
The condensate is unable to drain.	Check the condensate line and clean it.

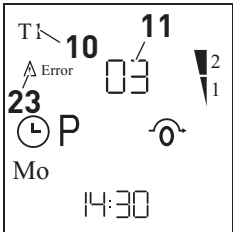
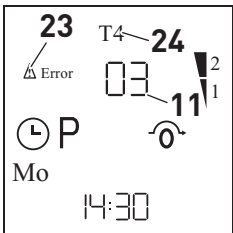
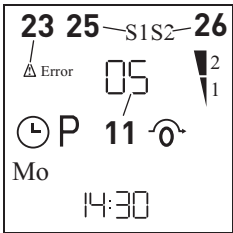
Malfunction	
The fresh-air fan is not running.	
Possible cause	Remedy
The fresh-air unit is running in summer mode.	Deactivate summer mode (see page 6).

Malfunction	
<ul style="list-style-type: none"> The fresh-air unit has stopped. A speed of 0 revolutions is indicated. 	
Cause	Remedy
The fireplace function is switched on.	<ul style="list-style-type: none"> Wait four hours until the fresh-air unit automatically goes on again. Request customer service and have the fireplace function switched off.

5.2. ERROR MESSAGES

Malfunction	
	The indicator (22) is flashing.
Cause	Remedy
The filter alarm is activated.	<ul style="list-style-type: none"> Check whether the filter is dirty and replace it if necessary (see page 11). Reset the filter alarm (see page 8).

Malfunction	
	<ul style="list-style-type: none"> The fresh-air unit has stopped. The indicator (23) is lit up. The error code 02 (11) is displayed.
Cause	Remedy
The filter alarm has been activated for 3 months. The fresh-air unit goes off.	<ul style="list-style-type: none"> Check whether the filter is dirty and replace it if necessary (see page 11). Reset the filter alarm (see page 8).

Malfunction	
 <ul style="list-style-type: none"> • The indicator (10) is flashing. • The indicator (23) is lit up. • The error code 03 (11) is displayed. 	
Cause	Remedy
The T1 temperature sensor is not working.	<ul style="list-style-type: none"> • Request customer service and check the temperature sensor and replace it if necessary.
Malfunction	
 <ul style="list-style-type: none"> • The fresh-air unit has stopped. • The indicator (24) is flashing. • The indicator (23) is lit up. • The error code 03 (11) is displayed. 	
Cause	Remedy
The T4 temperature sensor is not working.	<ul style="list-style-type: none"> • Request customer service and check the temperature sensor and replace it if necessary.
Malfunction	
 <ul style="list-style-type: none"> • The indicator (25) or (26) is flashing. • The indicator (23) is lit up. • The error code 05 (11) is displayed. 	
Cause	Remedy
One or two fans are defective.	<ul style="list-style-type: none"> • Request customer service and check the fans and replace them if necessary.

6. INFORMATION ON STARTING AND OPERATION

Please have the following tables filled in by the installer and keep them at a safe place.
They will be required to set the same values if the remote control has to be replaced.

6.1. SPEED OF THE FAN STAGES

The following values are set for the speed of the fan stages:

Fan stage	Speed (rpm)
Stage 1	
Stage 2	
Stage 3	

6.2. FRESH AIR / EXHAUST AIR RATIO

The following ratio between the fresh air and exhaust air is set:

Setting	Percent (%)
Ratio between fresh air and exhaust air	

6.3. AIR VOLUMES

Based on the fan stage settings and the ratio between the fresh air and exhaust air, the following values have been set for the air volume:

Fan stage	Fresh air (m ³ /h)	Exhaust air (m ³ /h)
Stage 1		
Stage 2		
Stage 3		

6.4. TEMPERATURE SETTINGS

The following values are set as temperature settings:

Temperature setting	Function	Temperature (C°)
T _{min}	Post heating (with additional heating element), if the fresh air falls below the following value.	
T _{max}	Summer mode if the exhaust air exceeds the following value	

6.5. GENERAL NOTE



The fresh air unit is installed in a frost-free environment.

Company stamp

Date and signature

The technology makes the difference.

Pluggit innovations with added value for the user and the environment.

Pluggit refresh now also allows existing flats to benefit from the market leader's years of experience and expertise in top-class ventilation of new buildings.



Coanda effect – the fresh air is directed almost silently along the ceiling without any draughts and distributed evenly in the room.



Energy efficiency – a high heat recovery level on its own makes a ventilation system look effective and energy efficient only at first glance. Decisive for the evaluation is rather the ratio between the energy applied and the heat recovery level achieved – referred to as electrical energy-efficiency. A high level of tightness, an economic design and state-of-the-art heat exchanger technology ensure excellent values for our ventilation systems in terms of heat recovery and energy efficiency.



The CleanSafe principle ensures an almost impossible level of pollution of our distribution system due to technically smooth surfaces supplemented with a trouble-free cleaning concept, with convincing results confirmed by an independent testing institute.

be fresh

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The unique fresh-air system for new buildings.**

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How about fresh air?

Pluggit GmbH | Wamslerstr. 2 | 81829 München, Germany | Telephone +49 (0)89 35 77 31-0 | Fax +49 (0)89 35 77 31-79
www.pluggit.com | www.lueftungsblog.de