



NASHIRA

Maintenance Manual
Disposal manual

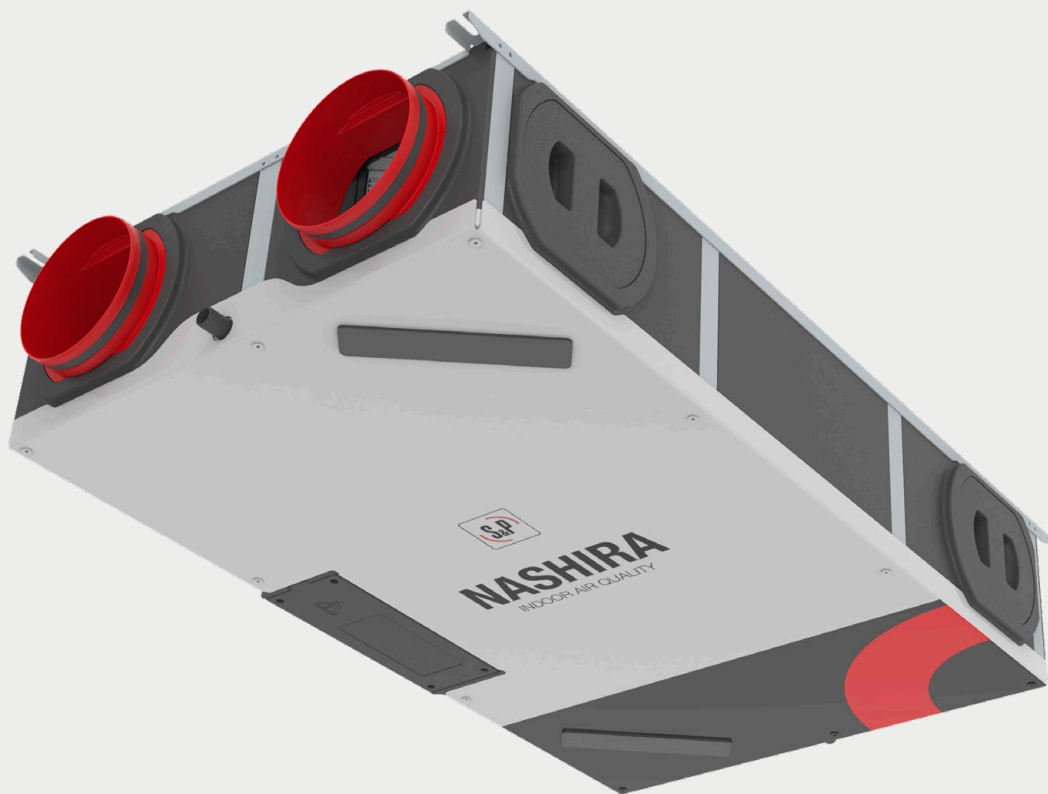


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FOREWORD



Carefully read this document before using the product.

With this document, you will be able to carry out maintenance and repair of a NASHIRA heat recovery unit safely and efficiently. In this document, the NASHIRA equipment will be referred to as “the unit”. The unit is subject to continuous improvement, therefore the unit may be slightly different from the descriptions given.

This document also offers information about what to do with the unit at the end of its useful life, so that the technician can disassemble the unit for recycling or process those parts that are suitable for recycling.



PRECAUTION

Before starting a maintenance or repair operation on the unit, carefully read the instructions supplied with the product.

Installation, repair and disposal tasks must only be carried out by qualified personnel.

- Always comply with current national safety regulations, as well as the instructions supplied in this manual.
- Always comply with applicable general and local regulations on construction and safety.
- Do not modify the unit or the specifications given in this manual. A modification can cause personal injury or affect the performance of the equipment.
- Always disconnect all the electrical power supply terminals before carrying out any work on the unit. The unit can cause injury if it is open while in operation. Ensure that nobody can accidentally reconnect the power supply.
- Always take safety measures while working with electronic components. Electronic components can be damaged by static charges.
- Do not change the filters when the unit is running. For safety reasons, switch off the unit before carrying out any maintenance.
- We reserve the right to carry out technical modifications.

If the power supply cable is damaged, it must be replaced by the manufacturer, your technical service or persons with similar qualifications to prevent any risks.



INTENDED USE

The unit is designed for controlled mechanical ventilation of single-family dwellings. As standard, the unit is supplied with air supply and extraction filters to ensure that indoor conditions are adequate and healthy. Furthermore, the filters protect the unit as they prevent the accumulation of dirt in the heat exchanger and the air ducting.

- Replace the filters (at least) every 12 months to ensure a healthy indoor space and good air quality.

- While the unit is in operation, all the covers must remain closed.

1. LIST OF SPARE PARTS

| Description | Spart part reference |
|--------------------------------|--|
| Nozzle plug 150 & 200 | R153193799 NASHIRA-TT (1 ud) |
| Fan nozzle 150 | R153193899 NASHIRA-TV 150 (1 ud) |
| Fan nozzle 200 | R153193132 NASHIRA-TV 200 (1 ud) |
| Filter nozzle 150 | R153193999 NASHIRA-TFL 150 (1 ud) |
| Filter nozzle 200 | R153193332 NASHIRA-TFL 200 (1 ud) |
| Sensible exchanger 150 & 200 | R153193102 NASHIRA-SHE (1 ud) |
| Enthalpy exchanger 150 & 200 | R153193002 NASHIRA-LHE (1 ud) |
| Bypass motor 150 & 200 | R153193049 NASHIRA-BP |
| Electronic circuit board 150 | R153193301 NASHIRA-PCB 150 |
| Electronic circuit board 150 E | R153193201 NASHIRA-PCB 150 E |
| Electronic circuit board 200 | R153193101 NASHIRA-PCB 200 |
| Electronic circuit board 200 E | R153193001 NASHIRA-PCB 200 E |
| Fan-motor 150 & 200 | R153193006 NASHIRA-FAN MOTOR (150 & 200) |
| Temperature sensors kit | R153193090 NASHIRA-TEMP SENSORS KIT |
| Humidity sensor | R153193017 NASHIRA-RH SENSOR |
| Filter cover | R153193004 NASHIRA-TAP |

1.1. FILTERS

We have different filter KITS according to your needs:

| Filter KIT reference | Description |
|----------------------|--|
| NASHIRA-F-G4G4 | Includes 2 x G4 filters Recommended for pollen filtration |
| NASHIRA-F-G4M5 | Includes 1 x G4 filter and 1 x M5 filter. Recommended for filtering fine particles |
| NASHIRA-F-G4F7 | Includes 1 x G4 filter and 1 x F7 filter. Recommended for filtering bacteria |
| NASHIRA-F-G4F9 | Includes 1 x G4 filter and 1 x F9 filter. Recommended for filtering viruses |
| NASHIRA-F-G4CA | Includes 1 x G4 filter and 1 x CA filter. Recommended for removing odours |

2. MAINTENANCE INTERVALS

| Task | Frequency |
|--|--|
| Filter replacement | <ul style="list-style-type: none"> – At least once every 12 months – Filter clogging depends on outdoor conditions. – If it is detected that the filters are becoming excessively fouled, increase the replacement frequency. |
| Maintenance of the enclosure | Once every 4 years. |
| Cleaning of ducts and inlets/outlets | Once every 12 months. |
| Check of the leak-tightness of the ducts | Once every 5 years. |
| Cleaning of the heat exchanger | Once every 2 years. |
| Cleaning of the fans | Once every 2 years. |
| Inspect condensate siphon level (min 100 mm) Clean the siphon if necessary. | Once every 6 months. |

3. PREVENTIVE MAINTENANCE PROTOCOL

It is recommended to inspect the following points at least once a year:

| | Yes | No |
|---|-----|----|
| Are the fans clean with no signs of corrosion? | | |
| Do the fans vibrate or make a noise during operation? | | |
| Do the fan blades rotate freely? | | |
| Are the ducts damaged or excessively dirty? | | |
| Is the unit insulation damaged? | | |

4. FILTER REPLACEMENT

! Replacing the filters is essential to ensuring that the unit operates correctly and provides excellent air quality.

i The remote control will indicate “filter alarm” every 12 months (a value which can be changed on the controller) as notification for their replacement.

Note: The following depictions of the NASHIRA unit are schematic diagrams. The unit is permanently mounted on the ceiling. The position shown in the following images is not possible.

- 4.1. Switch off the unit. Disconnect the electrical supply.
- 4.2. Prepare a sealable plastic bag. Dirty filters will be placed in this bag.
- 4.3. Remove the filter covers (arrow 1).

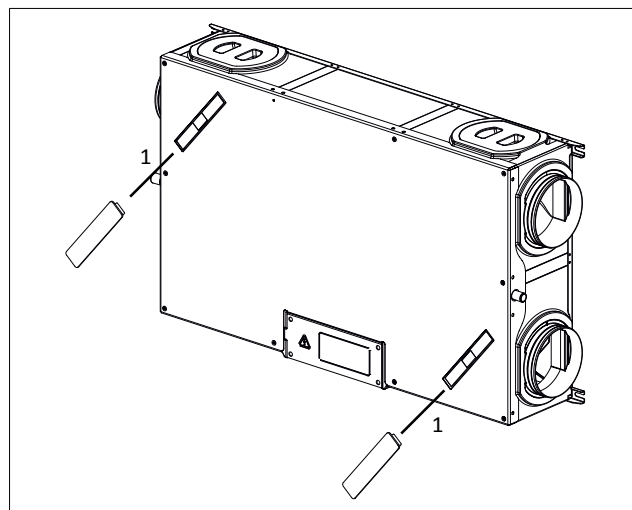


Illustration 1. Remove filter covers

- 4.4. Remove the filters (arrow 2)

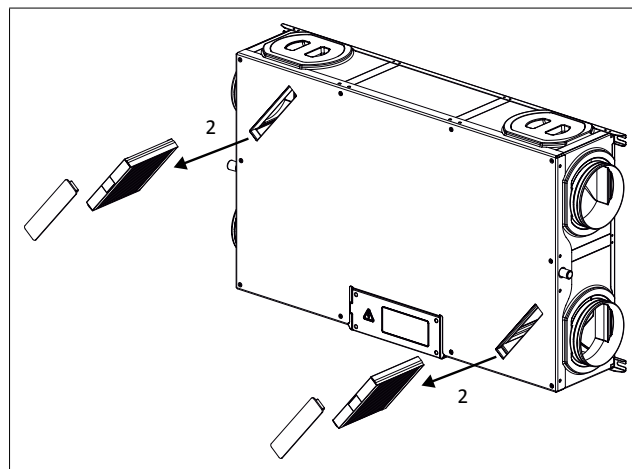


Illustration 2. Removing filters

- 4.5. Place the dirty filters in the sealed plastic bag. The filters contain dust and fine particles among other contaminants. Do not shake the filters and carefully place them in the plastic bag to prevent the transmission of contaminants to the environment.



Throw the filters in the general waste container.

4.6. Fit the new filters inside the unit. On the filter frame, you will find indications on the air direction. Fit the filters as shown below (arrow 3).

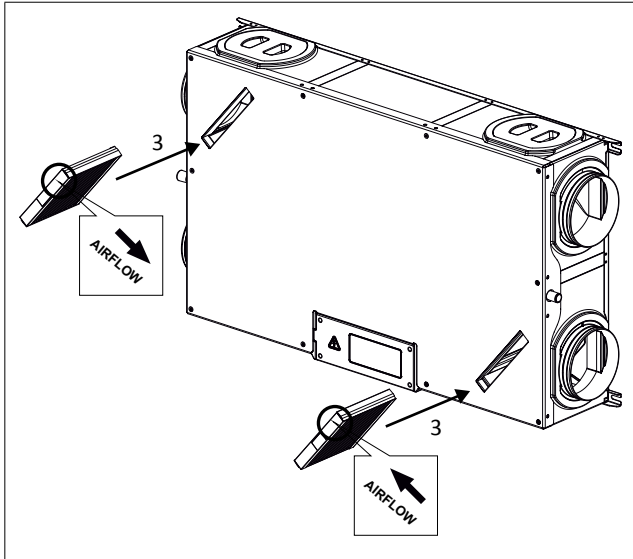


Illustration 3. Fit new filters

4.7. Place the filter covers in their original position and switch on the unit.

4.8. Reset the filter alarm. To do this, press button "A" for 3 seconds.

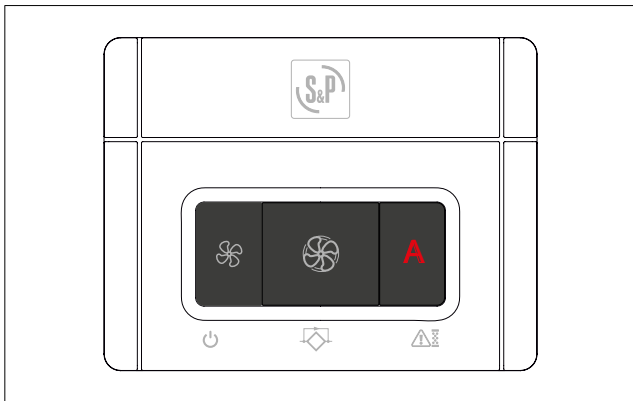


Illustration 4. NASHIRA Controller

5. MAINTENANCE OF THE ENCLOSURE

5.1. Disconnect the unit

5.2. Remove the front cover

Loosen the 10 Torx 25 screws

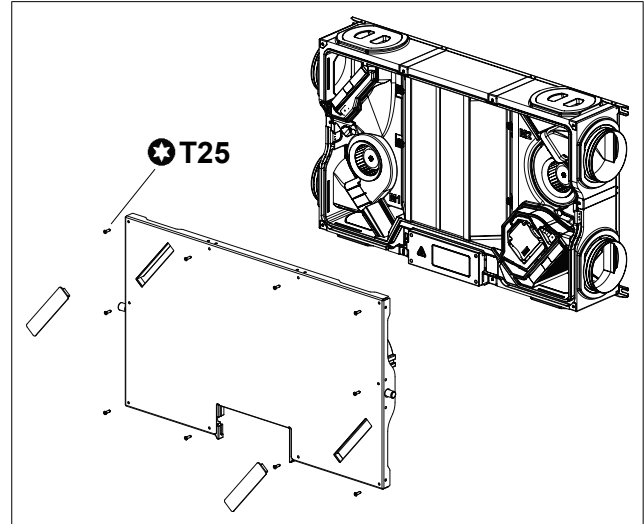


Illustration 5. Removing the front cover

i To clean the front cover, use alcohol-free cleaning products.

! It is recommended to place the cover horizontally on the floor. If the cover is placed vertically on the floor, the drain may be damaged.

5.3. Check the following points:

- The interior structure is not damaged
- The sealing elements are not damaged
- There is no dirt inside the unit
- There is no corrosion inside the unit

5.4. Cleaning the inside of the unit

Use a damp cloth to remove the dirt and then dry the inside of the unit with another clean and dry cloth.

! Do not use soap for the EPP parts (black parts). Soap will affect the leak tightness of the unit.

6. AIR DUCT MAINTENANCE

6.1. Remove the valves or grilles in the ventilation system.

6.2. Carry out the following checks on the air ducts:

- There is no contamination (dirt or grease inside the ducts).
- There are no air leaks (check that all the joints are well sealed).
- There have been no "accidents" that block the air circulation.
- The valves or grilles are not blocked.

6.3. Resolve any noticed problem

If necessary, clean the ducts, we recommend:

- 5.3.1. Detach the dirt from the surface with the help of a brush for duct cleaning.

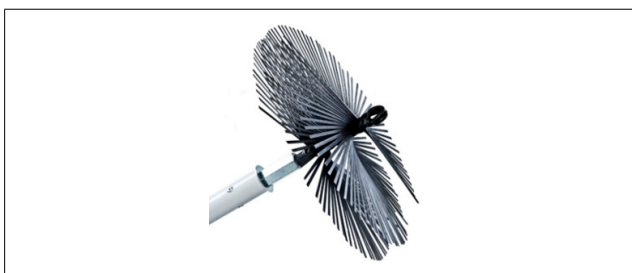


Illustration 6. Duct brush

- 5.3.2. Remove the dirt using a vacuum cleaner



Illustration 7. Vacuum cleaner

7. CLEANING/REPLACEMENT OF THE HEAT EXCHANGER

7.1. Disconnect the unit

7.2. Remove the front cover

Loosen the 10 Torx 25 screws

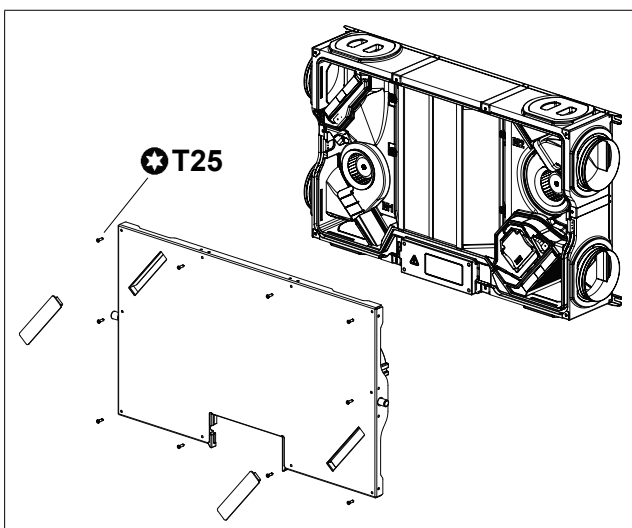


Illustration 8. Removing the front cover

7.3. Remove the heat exchanger

Rotate the 4 tabs that secure the exchanger (a) and pull the heat exchanger belt (b).

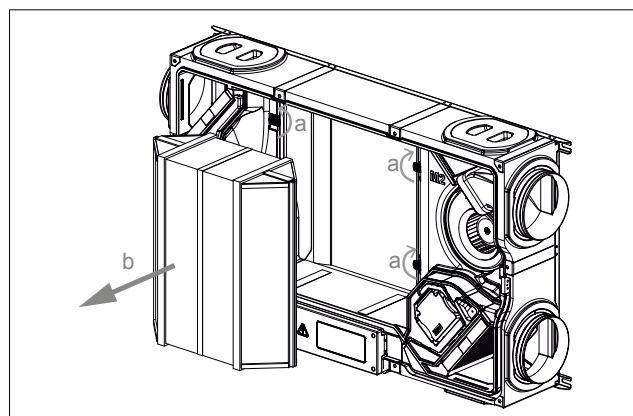


Illustration 9. Removing the heat exchanger

- ⚠ Do not cut the belt. The belt is needed to remove the heat exchanger.

7.4. Examine the heat exchanger and, if necessary, clean as described below:

- 7.4.1. Submerge the heat exchanger several times in hot water (maximum 40°C).
- 7.4.2. Rinse the heat exchanger with clean and hot running water (maximum 40°C).
- 7.4.3. Hold the heat exchanger with both hands (by the solid side surfaces) and shake the heat exchanger to remove any excess water.

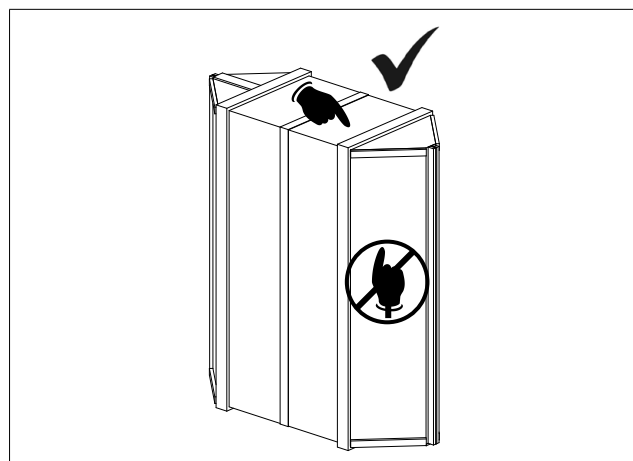


Illustration 10. Exchanger precautions

- 7.4.4. Allow the exchanger to fully dry before refitting to the unit.

- ⚠ Do not use abrasive cleaning agents or solvents. They can cause damage to the structure and the seals of the heat exchanger.
- ⚠ If you decide to use an air heater to dry the heat exchanger, ensure that the temperature does not exceed 40°C, otherwise the structure and seals of the heat exchanger could be damaged.

8. CLEANING/REPLACEMENT OF THE FANS

8.1. Disconnect the unit.

8.2. Remove the front cover.

Loosen the 10 Torx 25 screws

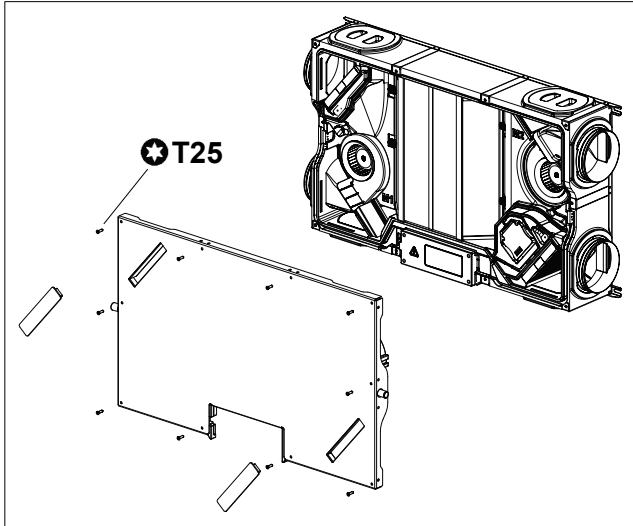


Illustration 11. Removing the front cover

8.3. Remove the fans.

Disconnect the cables that go to each one of the motors. The connectors are located on the side of each motor.

Pull the fans carefully so as not to damage any of the components.. The fans are housed in the body of the heat recovery unit. Do not pull from the cables that go to the motor.

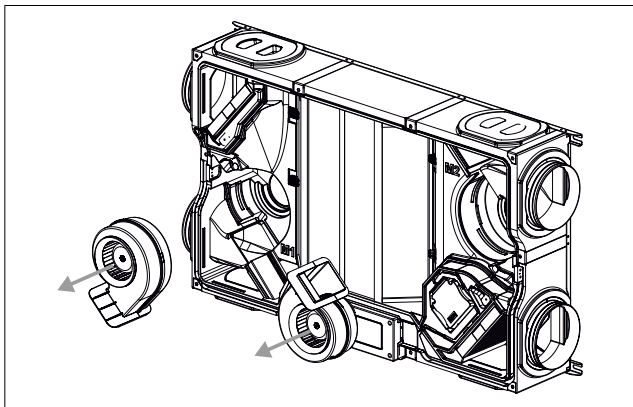


Illustration 12. Removing fans



TAKE CARE: The fan blades can cut. It is recommended to use gloves for your safety.

8.4. Carry out the following checks.

- Absence of dirt and damage on the impeller blades.
- Absence of dirt and damage on the fan volute/housing.
- The fan rotates freely by hand.

8.5. Clean the fans if necessary.

- Use a soft brush to clean the impeller blades.
- Use a vacuum cleaner or a clean cloth to remove dust.

9. REPLACEMENT OF THE BYPASS MOTOR

Before starting the replacement of the bypass motor, ensure that the bypass is deactivated.

For this, see sections "2. UNIT CONTROL" OR "7. OPERATION OF THE CONTROLLER" in the user and start-up manuals respectively.

9.1. Disconnect the unit.

9.2. Remove the front cover.

Loosen the 10 Torx 25 screws

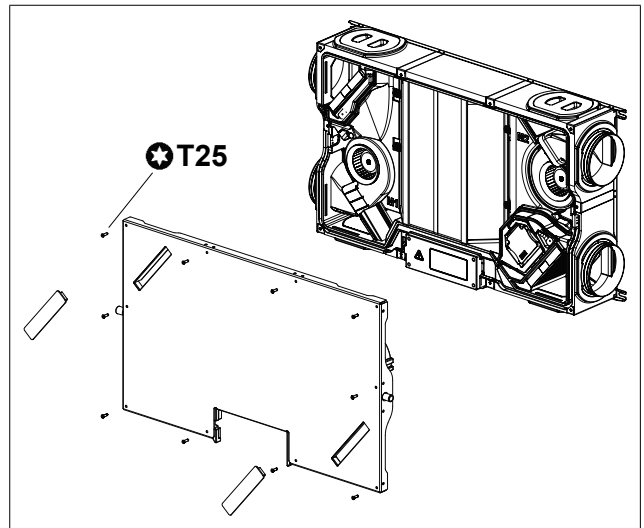


Illustration 13. Removing the front cover

9.3. Remove the bypass motor and the adjacent filter.

Pull the bypass motor carefully so as not to damage any of the components. The bypass motor is housed in the body of the heat recovery unit. Do not pull from the cables that go to the bypass motor.

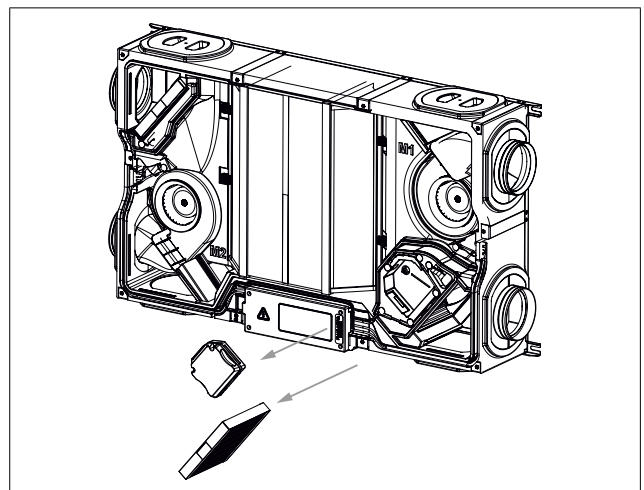


Illustration 14. Remove the bypass motor and filter.

9.4. The damper (a) must be aligned with the line (b) marked on the EPP body.

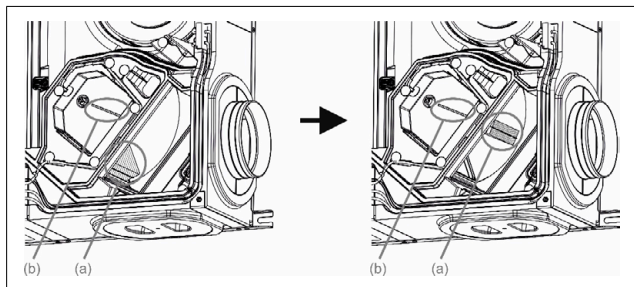


Illustration 15. Align damper

9.5. Install a new bypass motor and refit the filter in its original position.

10. REPLACEMENT OF THE ELECTRONIC CIRCUIT BOARD

10.1. Disconnect the unit.

10.2. Remove the cover that gives access to the electronics.

Loosen the 4 Torx 10 screws

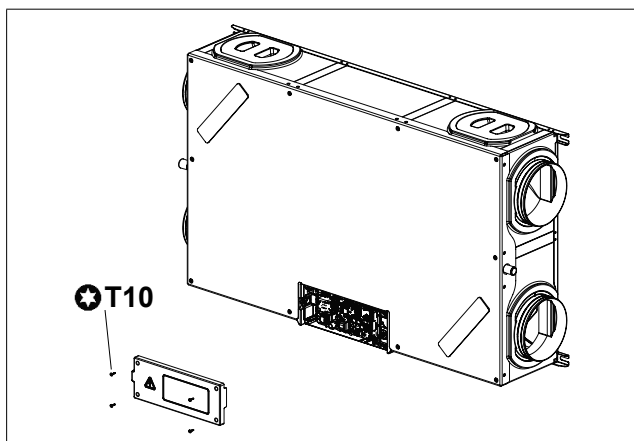


Illustration 16. Removing Electronics cover

10.3. Take a photograph of the electronic circuit board and all its connections.

The photograph will be a guide for making the connections on the new electronic circuit board.

10.4. Disconnect all the cables that go to the electronic circuit board.

10.5. Remove the electronic circuit board.

Loosen the 4 Torx 10 screws that fix the electronic circuit board.

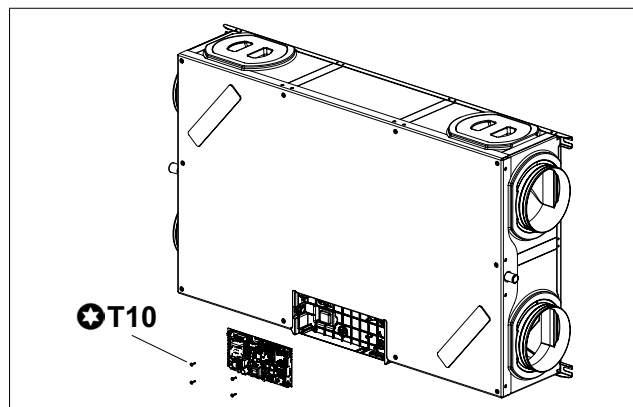


Illustration 17. Removing the PCB

10.6. Install the new electronic circuit board.

Place the new board in the same position as the original. Make the electrical connections as shown in the image taken in step 9.3.

Do not forget to fix the electronic circuit board with the 4 Torx 10 screws.

10.7. Refit the cover that gives access to the electronics.

Fix the cover with the 4 Torx 10 screws.

10.8. Connect the unit.

11. PUTTING OUT OF SERVICE/DISPOSAL

11.1. PACKAGING

The packaging is manufactured entirely in cardboard so it is easily recyclable.

Please place both the complete packaging and assembly template in the corresponding container after installation.

11.2. CONTROLLER

The controller can be separated into 5 components as shown in the following exploded diagram:

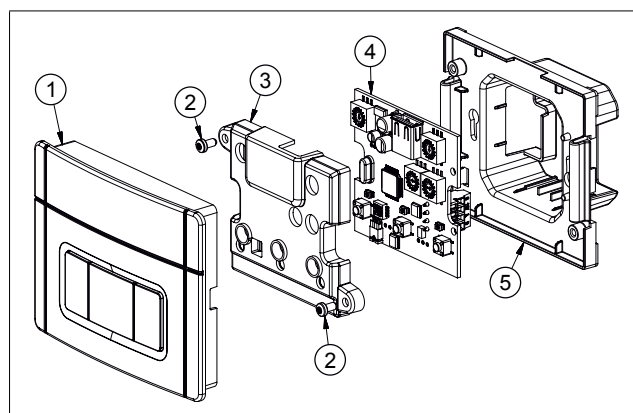


Illustration 18. NASHIRA controller exploded diagram.

- 1 → Controller cover. Material: Controller made in ABS, Keys in Polycarbonate. Both materials can be recycled together.
- 2 → Metal screws.
- 3 → Intermediate cover. Material: ABS.
- 4 → Electronic circuit board. Material: various, electronic components.
- 5 → Controller base. Material: Polypropylene 20% talc

All these components (except the electronic circuit board) can be taken to a waste management point for recycling.

As regards the electronic circuit board, it must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

11.3. VENTILATION UNIT

The unit can be separated into 11 components plus the main body of the unit as shown in the following exploded diagram:

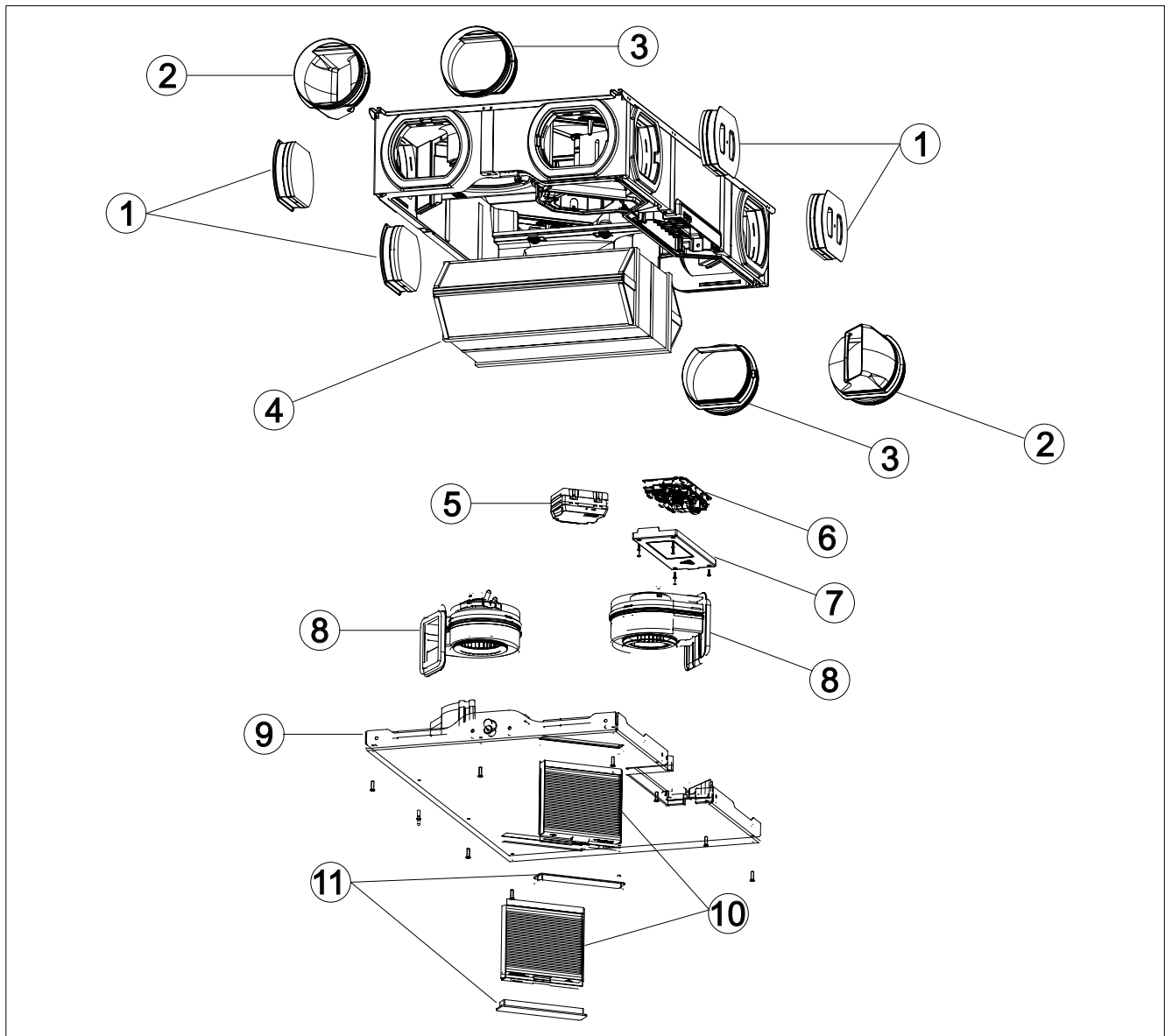


Illustration 19. NASHIRA exploded diagram.

- 1 → Nozzle plug. Material: Polystyrene.**
- 2 → Fan nozzle. Material: Polypropylene.**
- 3 → Filter nozzle. Material: Polypropylene.**
- 7 → Electronic box cover. Material ABS.**
- 11 → Filter cover. Material: PVC.**

These components (1, 2, 3, 7 and 11) can be taken to a waste management point for recycling.

4 → Heat exchanger

The sensible heat exchangers are constructed in high-impact polystyrene and aluminium.

The enthalpy exchangers are constructed in ABS, copolymer and galvanised steel.

In both cases, the exchanger must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

5 → Bypass motor

Assembly made up of an external housing in ABS and Polycarbonate. These materials can be recycled together.

There are several electronic components inside the housing. These must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

6 → Electronic circuit board and cables

The electronic circuit board must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

8 → Motors

Assembly made up of an ABS volute, an impeller in galvanised steel sheet and an electric motor.

The electric motor is made up of various materials (aluminium, copper, electronic elements, etc.) and must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

9 → Front cover

Constructed in galvanised steel sheet with EPP internal insulation. It must be taken to a specialist treatment plant for these types of components for separation of materials and recycling.

10 → Filters

At the end of their useful life, filters can contain a large quantity of environmental contaminants such as viruses, bacteria and fine particles. This means that the filters cannot be recycled. Remove the filters carefully and place in a sealed bag before throwing them in the general waste container.



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