Operation & Maintenance

AMX 4

AIRMASTER

Revision	*Date*	*Description*
01	*2024-02-08*	*First edition.*
01.1	*2024-04-12*	*Figures in section 5.1 updated.*
02	*2024-08-30*	*Sections 4, 7, and 8 updated.*
02.1	*2025-05-16*	*Section 5 updated.*

NOTICE

Read this manual thoroughly before using and maintaining the AMX 4 unit.

Keep it for later use. Manuals must be given to the owner of the unit for safekeeping.

Fill out this form for future reference:

Installation information	
Type	*AMX 4*
Delivery date	
Serial number	
Mounting location	

1 Table of Contents

Figures

Tables

2 Introduction

This manual will give you instructions on how to operate and maintain the AMX 4 unit correctly and safely.

Besides this manual, two other manuals providing instructions on mounting and installation are available. All three manuals are part of the delivery. All manuals can also be downloaded from our website, see section 4.4.

2.1 Target group

This manual has two target groups:

- Everyday users who operate the unit via Local Web Tool or Airlinq® Online.
- Qualified personnel performing maintenance on the unit.

2.2 Warning symbols

This manual may contain warning symbols. The colors and symbols adhere to the ISO 3864 and ISO 7010 standards. The visual depiction may vary depending on the type of media.

The symbols are described below:

	**DANGER** Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

	**WARNING** Flammable material.

	**WARNING** Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

	**CAUTION** Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

Continued on the next page

	**CAUTION** Wear safety footwear as personal protective equipment.

	**CAUTION** Wear eye protection as personal protective equipment.

	**CAUTION** Wear protective gloves as personal protective equipment.

	**CAUTION** Wear a face mask as personal protective equipment.

	**NOTICE** Failure to comply with the instructions can damage the device and/or its environment.

	Information, tips, and recommendations.

2.3 Liability

The manufacturer cannot be held liable for damages that occur due to usage in violation of this manual's instructions.

The manufacturer reserves the right to make changes without notice. All values stated are nominal values and may be affected by local conditions.

The warranty is voided should this manual not be followed.

3 Safety instructions

Breaching the instructions marked with a warning symbol carries a risk of personal injury or material damage.

WARNING

R290 (Propane) in the appliance - Highly Flammable Substance.

Extremely flammable gas. Forms explosive mixtures with air. Only slightly soluble in water.
Gas is heavier than air.

WARNING

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.

WARNING

Electrical work on the AMX 4 may only be carried out by an authorized electrician or by Airmaster A/S.

WARNING

Repair must be performed by authorized experts. Contact Airmaster A/S or your local representative.

WARNING

Do not open the service covers before you have disconnected the unit's power supply.

Make sure nobody turns the power on during service (prevent use).

CAUTION

Do not start the unit before all service covers are closed.

NOTICE

The unit must not be used without the filters specified in this manual. See section 4.3.1.

3.1 Responsibility

	CAUTION
	Maintenance tasks according to the instructions in this manual can be performed by the owner; however, service, repair, or improvements must be performed by authorized experts. Contact Airmaster A/S or your local representative.

3.1.1 Personnel requirements

Laypersons should not attempt to perform maintenance on the AMX 4 unit.

4 Product identification

4.1 Product name and type

Product name	AMX 4
Unit item number	9500004001
Type	Decentralized air handling unit

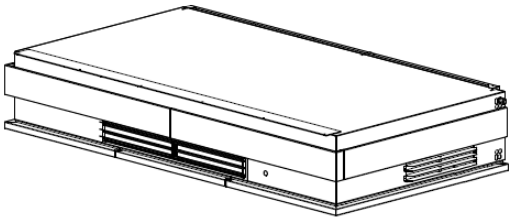


Figure 1: AMX 4 unit

Table 1: Product name and type

4.2 Intended use

AMX 4 is a decentralized room-based air handling unit. The unit is used in office environments and modular buildings accessible to the general public, where it provides ventilation, cooling, and heating – all in the same unit.

4.2.1 Unintended use

The unit is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or a lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

4.3 Specifications

Capacity, 30 dB(A)	256 m^3/h
Weight: complete unit excl. panels	232 kg
Weight: panels	6 kg
Weight: service cover (3 pcs.)	24 kg
Dimensions (W x H x D)	2055 x 358 x 1100 mm
Color, casing	RAL 9005 (Jet black)
Color, panels and service cover	RAL 9010 (Pure White)
Supply voltage	220-240V/50Hz, ~1N+PE
Duct connection	2 x Ø200 mm
Sound pressure level	<70 dB(A)
IP rating	IP10

Table 2: AMX 4 specifications

Please refer to the AMX 4 datasheet for further information. The datasheet is available on our website.

4.3.1 Filter class

Filter type	Standard filter	Optional
Supply air filter, fine	ePM_{10} 50%	ePM_1 55% or ePM_1 80%
Extract air filter, fine	ePM_{10} 50%	-
Supply air filter, coarse	ISO Coarse 30% (PPI)	-

Table 3: Filter class

Please contact Airmaster A/S or your local representative for purchase and further information.

4.4 Manufacturer

Airmaster A/S
Industrivej 59
9600 Aars
Denmark

Phone: +45 98 62 48 22
E-mail: info@airmaster.dk
Web site: www.airmaster.dk

5 Operation

Operation of the AMX 4 can be done in two different ways:

- Via the Local Web Tool.
- Via Airlinq® Online.

Both tools enable you to control, monitor, and manage the unit. The Local Web Tool is part of the standard delivery, while Airlinq® Online is optional and may not be part of the delivery. The main difference between Local Web Tool and Airlinq® Online is the graphical user interface.

Both tools require internet access; however, Local Web Tool can also run without internet access. In this case, the AMX unit creates an access point/hotspot that you connect to.

5.1 Local Web Tool with internet access

Local Web Tool has four user profiles: ‘viewer’, ‘basic’, ‘technical’, and ‘advanced’. Depending on the level of access, these provide you with options to control the unit.

1. To access the unit via Local Web Tool, insert the unit's IP address into a browser and press Enter.
2. Enter your user profile and password.
   Passwords can be obtained from Airmaster Technical Support; see contact information in section 4.4.
3. Depending on your user profile, you have access to different menus:

User profile	Menus
viewer	Settings, Status, Graphs
basic	Settings, Status, Graphs, Service, Override
technical	Settings, Status, Graphs, Service, Override, Network
advanced	Settings, Status, Graphs, Service, Override, Firmware, Network

Table 4. User profile and available menus

5.2 Local Web Tool without internet access

If you do not have internet access, the AMX unit can function as a Wi-Fi access point.

Do the following:

1. Turn the unit’s power off. Wait 10 seconds.
2. Turn the unit’s power on.
3. On your PC, search for available Wi-Fi networks. The unit will be listed as AM-xxxxxxxxx, where x is the serial number.
4. Connect to the unit. The password is: fresh_air. The website for Local Web Tool opens automatically.
5. Log in using one of the four user profiles.
   Passwords can be obtained from Airmaster Technical Support; see contact information in section 4.4.

5.3 Airlinq® Online

Airlinq® Online is a web portal for Airmaster units connected to Ethernet. It is designed to control, monitor, and manage ventilation solutions for one or more installations. The web portal is a cloud-based service, and all communication is securely encrypted.
You can access Airlinq® Online from a smartphone, a tablet, or a PC. You do not need to install any software or application. All you need is internet access through your internet browser.
Airlinq® Online has four user profiles similar to Local Web Tool: ‘viewer’, ‘basic’, ‘technical’, and ‘advanced’. Depending on the level of access, these provide you with options to control the unit.

After you have activated your access via the invitation email go to https://online.airlinq.eu/ and log in.

6 LED signals

The AMX 4 is equipped with an LED to display the operational status of the unit. The LED is located to the rear on the right-hand side of the unit.

Color	Light	Status	Meaning
Blue	Flashing	Booting phase	A flashing blue light indicates that the unit is in the booting phase. The booting phase can take up to 5 minutes. After this, the light will change to a constant blue. If the flashing blue light continues for more than 5 minutes, an unexpected error has occurred, and you need to contact Airmaster to resolve the error.
	Constant	Startup phase	A constant blue light indicates that the unit has passed the booting phase and is now in the startup phase. The startup phase can take up to 30 minutes. Once completed, the light will switch to a constant green.
Blue/green	Flashing	Test mode	The unit is in test mode.
Green	Flashing	Idle	A flashing green light indicates that the unit is idle, but ready to operate according to the configured parameters.
	Constant	In operation	A constant green light indicates that the unit operates according to the configured parameters.
Green/red	Flashing	Warning	A green/red flashing light indicates that an issue has occurred that the unit cannot resolve; however, it can still run but with limited functionality and/or reduced capacity.
Red	Flashing	Propane alarm	A flashing red light indicates that propane has been detected in the unit. The unit vents to the outside and then stops.
	Constant	Alarm	A constant red light indicates an alarm. The unit stops and can only be restarted once the issue has been resolved.

Table 5: LED signals

7 Control functions

The AMX 4 unit combines ventilation and recirculation with heating or cooling:

- Ventilation + cooling
- Ventilation + heating
- Recirculation + cooling
- Recirculation + heating

Internal control functions run automatically and influence airflow and inlet temperature.

7.1 Boost

The boost function can adjust the airflow temporarily. When activated, the unit automatically adjusts the supply air fan and the extract air fan according to pre-programmed values.
The default period for the boost function is 30 minutes with 100% airflow. After this period the unit returns to normal operation mode.

The length of the boost period can be adjusted using either Local Web Tool or Airlinq® Online.

7.2 CO_2 sensor

The built-in CO_2 sensor controls the unit depending on the room's indoor climate. If the CO_2 concentration in the room exceeds 400 ppm the unit automatically adjusts the airflow. Once the CO_2 concentration in the room is below 400 ppm the unit returns to normal operation mode.

7.3 Propane sensor

The unit is equipped with a propane sensor that monitors and detects if propane leaks from the heat pump circuit.

If propane is detected, the unit runs a venting procedure that sucks the propane out of the unit to the outside. At the same time, an alarm is sent to the controller that propane has been detected.
After the venting procedure, the unit stops and cannot be restarted until it has been inspected/repaired.

The propane sensor will continue to monitor the unit when it has stopped. If propane is detected the unit will run the venting procedure again.

7.4 External start (optional)

An external start function is available as an option. This function makes it possible to connect an external start contact.
The external start contact must be a "Sealed potential-free contact" with silver/gold contacts for small signals.

8 Adjusting the inlet air slats

You can adjust the inlet air throw (length) and dispersion by adjusting the slats. The slats are located behind the louvers, see Figure 2 below.

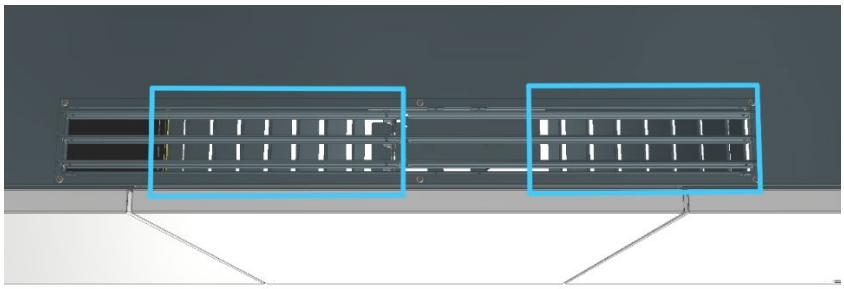


Figure 2: Inlet air slats (front side of the unit)

By changing the slat angles, you can change the throw and dispersion of the air, see general examples below:

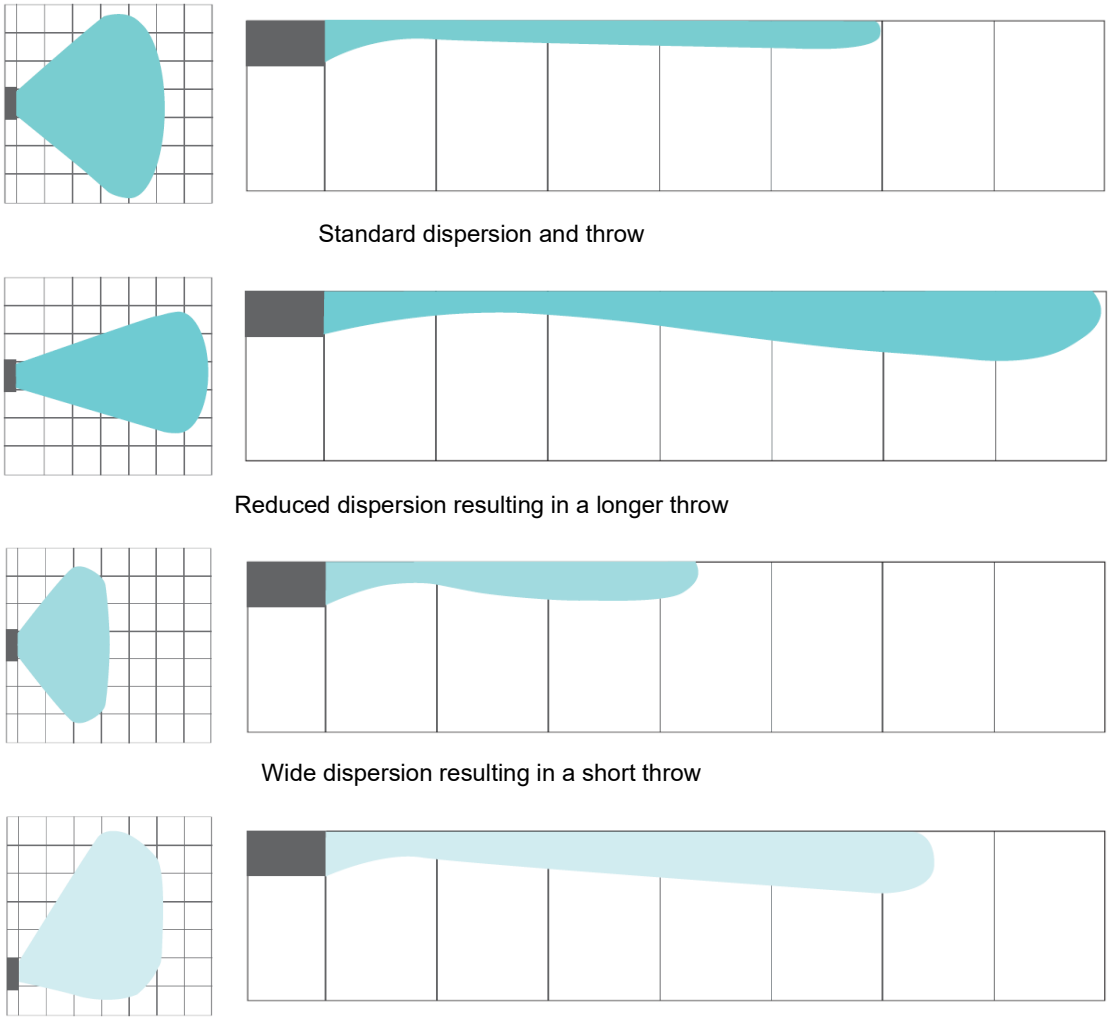


Figure 3: Dispersion and throw examples

Use long-nosed pliers to adjust the slats, however, be careful, it is only possible to bend the slats a few times, otherwise, they can break off.

Please follow the guidelines below for adjusting the slats.

- Standard factory setting at 45° angle dispersion looks like this:

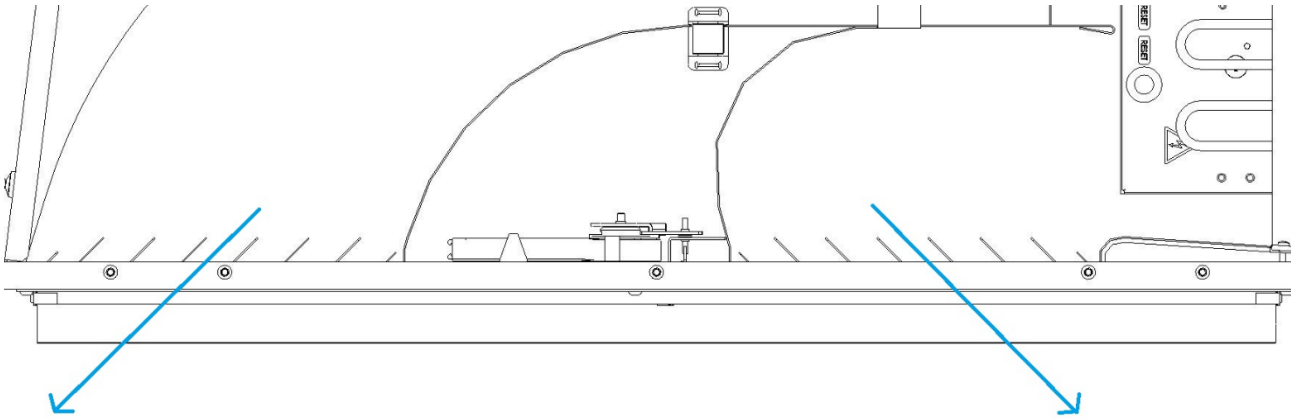


Figure 4: Slats 45 degrees

- Reduced dispersion and long throw. The outer slats on both sides are closed off to enable a longer throw:

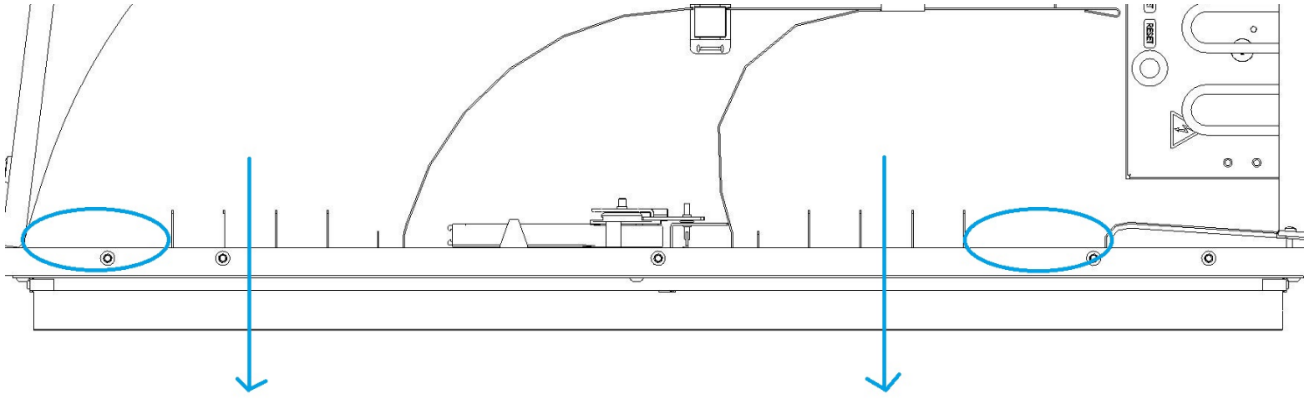


Figure 5: Reduced dispersion and long throw

- Wide angle dispersion and shorter throw. The outer slats on both sides are at a lower angle than the ones in the middle:

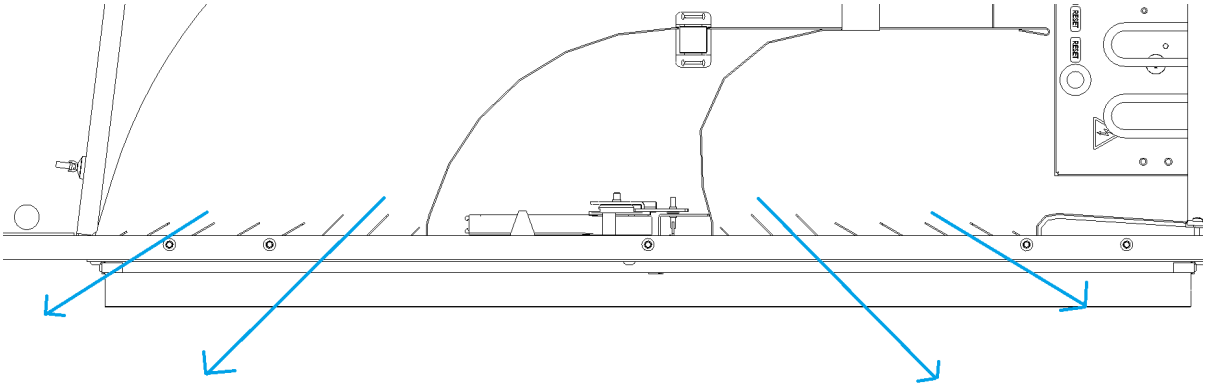


Figure 6: Wide-angle slats

- Asymmetrical throw. One of the sides has a lower slat angle than the other to create asymmetry:

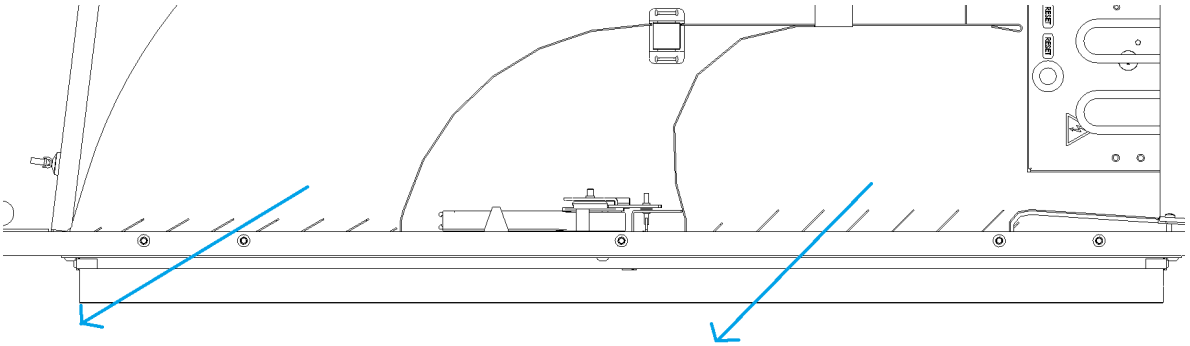


Figure 7: Asymmetrical angle slats

9 Maintenance

9.1 Maintenance schedule

Task	Frequency
External cleaning	External cleaning depends entirely on the local environment. *Clean the unit regularly.* Refer to section 9.3.1 for details.
Condensate system inspection and cleaning	Clean and inspect the condensate system a *minimum every 12 months.* If you replace filters more often than every 12 months inspect and clean the condensate system at the same time. Refer to section 9.3.3 for further details.
Replace filters	All filters in the AMX 4 unit are monitored by the unit's filter monitoring system. Replace the filters whenever the monitoring system indicates that a filter must be replaced, but a *minimum every 14 months*. Please be aware of any specific, deviating local rules. Refer to section 9.2 for details.
Internal cleaning	Clean the unit internally when you replace the filters, i.e. *minimum every 14 months*. Refer to section 9.3.2 for details.

Table 6: Maintenance schedule

9.2 Replace filters

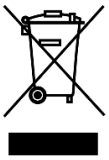
Before you replace the filters please observe the cautions below.

CAUTION

Wear safety goggles, disposable gloves, and a face mask when you replace the filters.

CAUTION

Used filters must be disposed of immediately once they are removed from the unit.
Use a dustproof bag to contain the filters.



NOTICE

Used filters must be disposed of according to their contamination with particles (waste code 1502), atmospheric particles (waste code 150203), or ‘hazardous’ substances (waste code 150202).

NOTICE

All filters must be replaced, do not try to wash or vacuum them.

The AMX 4 unit has two filters on the supply side and two filters on the exhaust side. Each side has a fine filter and a coarse filter.

9.2.1 Replace the exhaust air filters

1. Open the service cover on the right-hand side of the unit. Use the service cover key included in the delivery. See Figure 8 below.
2. Open the filter hatch, see Figure 9.

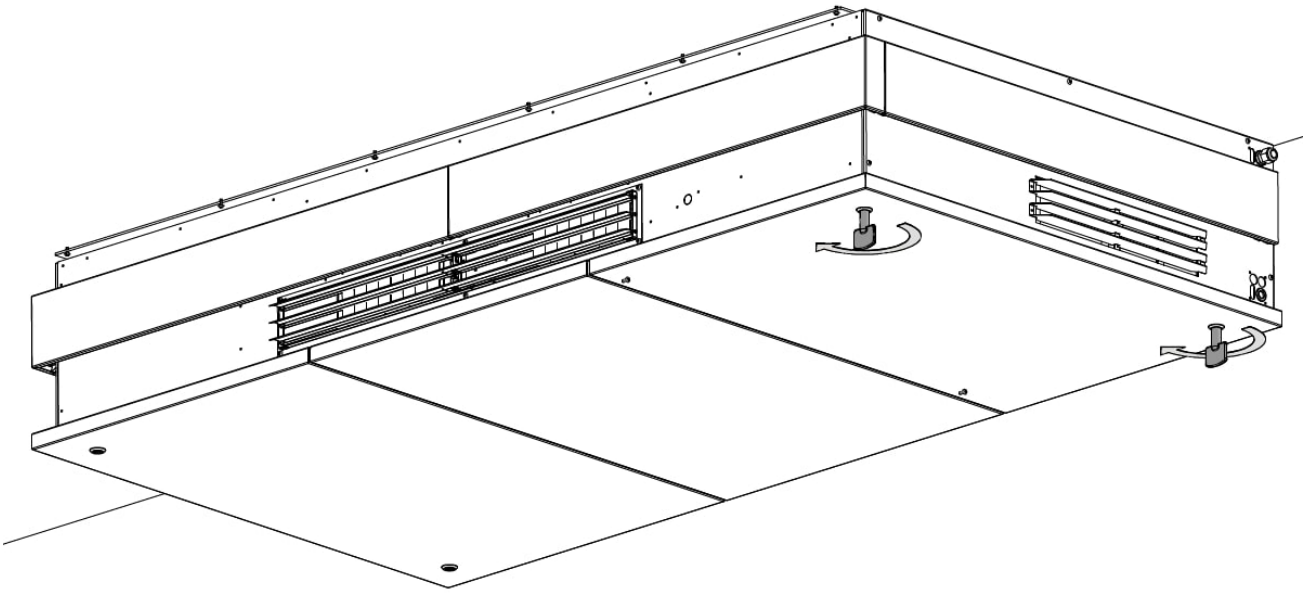


Figure 8: Open the service cover

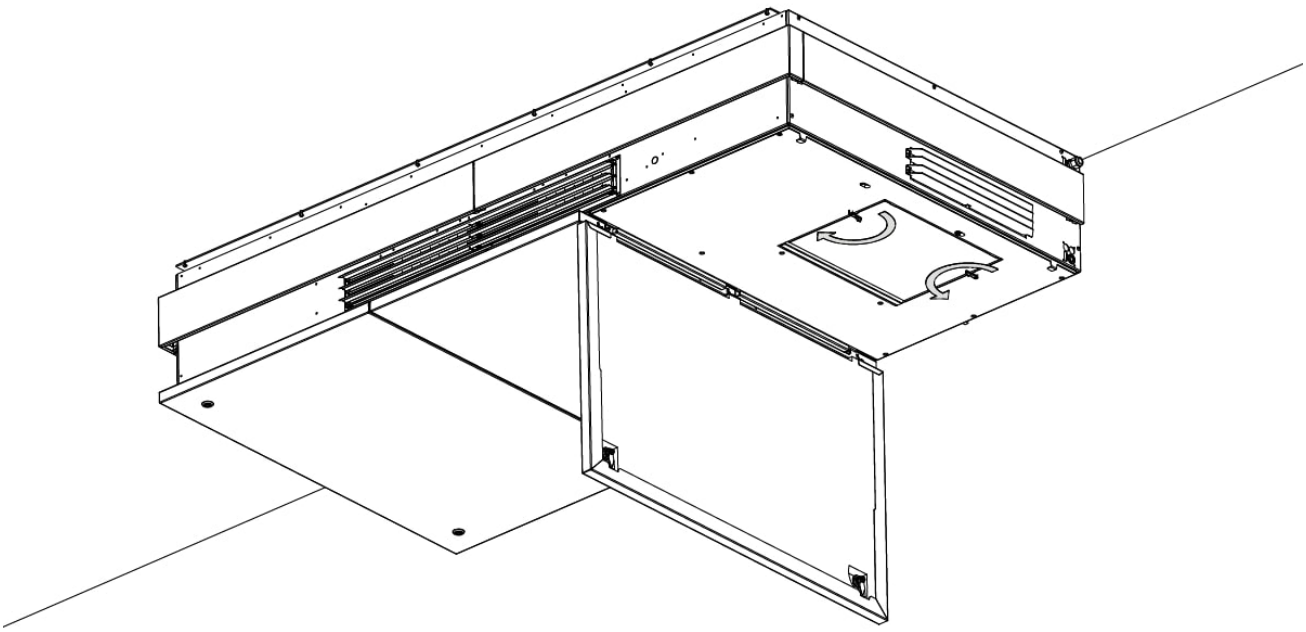


Figure 9: Open the filter hatch

3. Open the hinges that keep the coarse filter in place, see Figure 10 below.

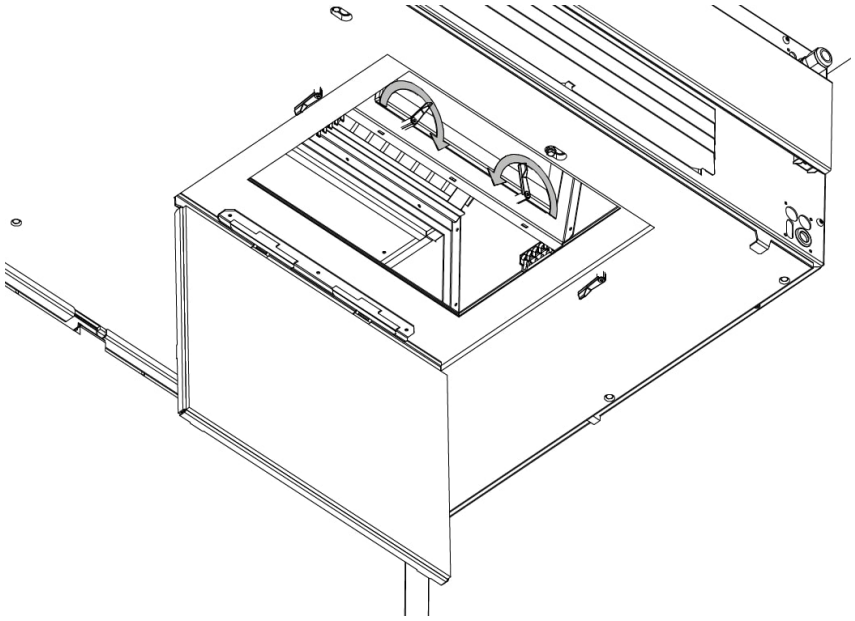


Figure 10: Open the hinges holding the coarse filter

4. Take the filter out and replace it with a new one, see Figure 11 and Figure 12.

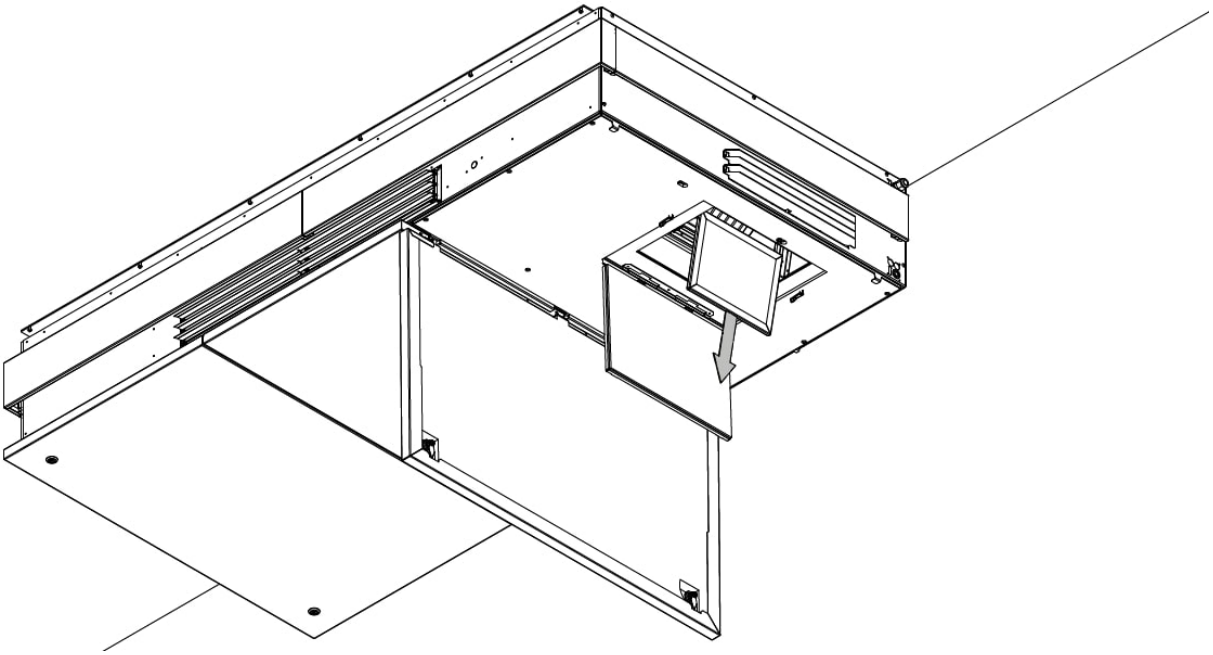


Figure 11: Take the coarse filter out

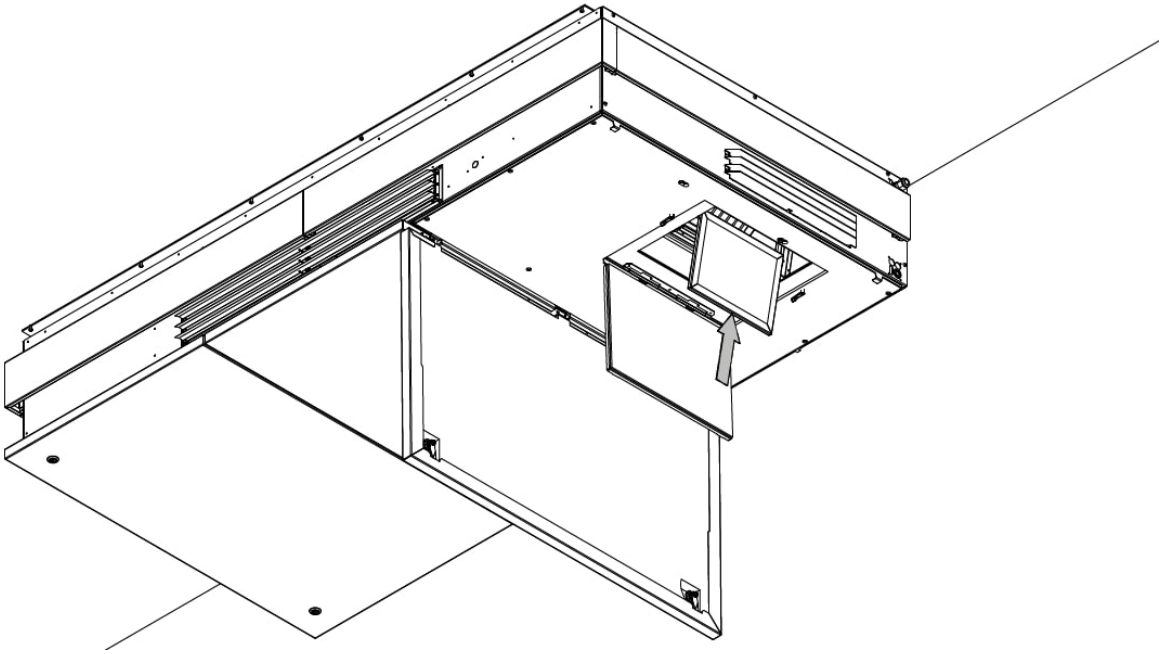


Figure 12: Replace the coarse filter with a new one

5. Close the coarse filter hinges, see Figure 13.

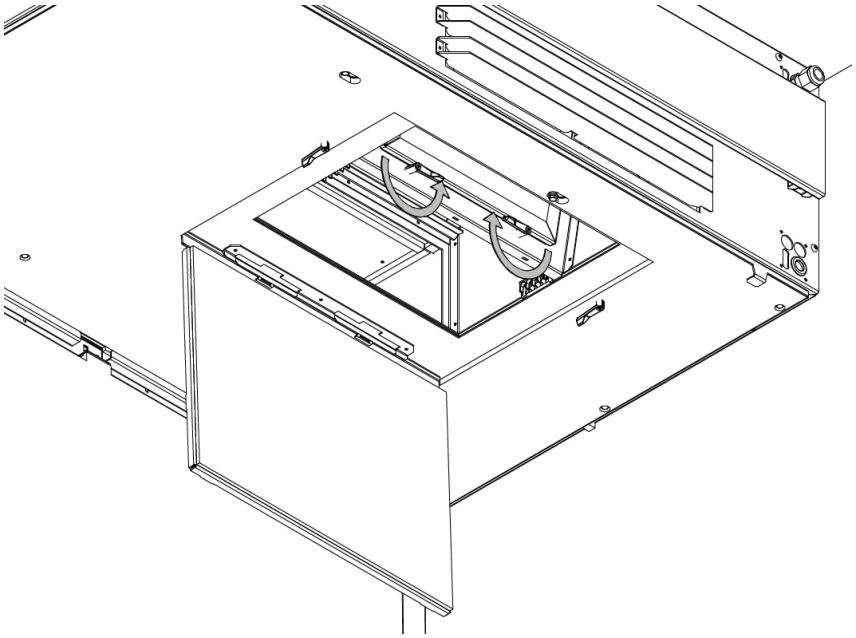


Figure 13: Close the coarse filter hinges

6. Open the hinge that keeps the fine filter in place, see Figure 14 below.

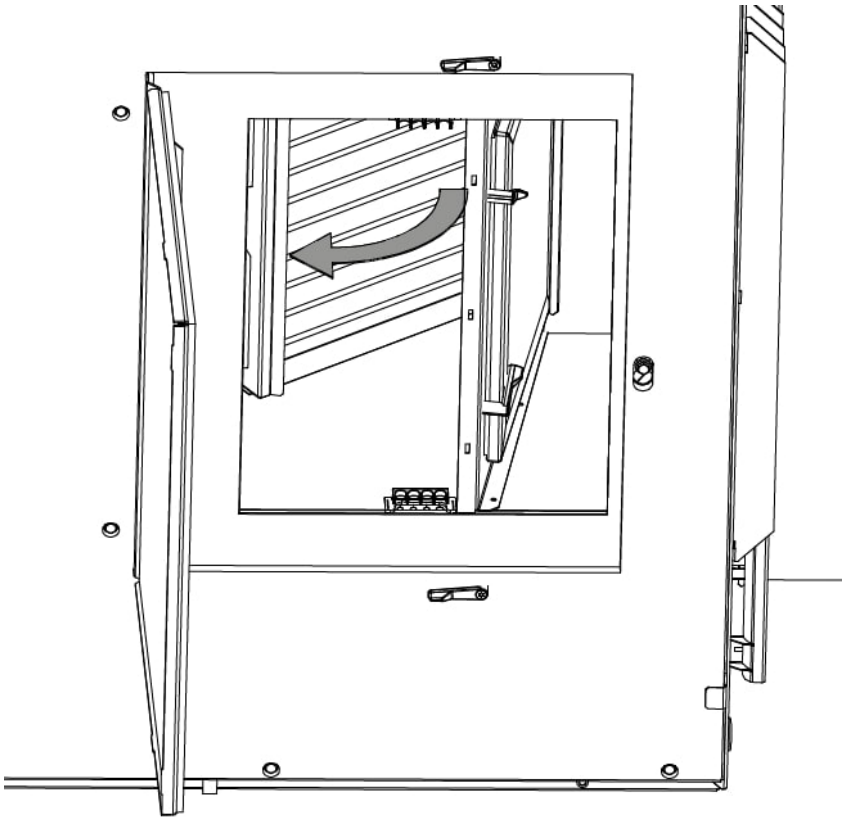


Figure 14: Open the hinge that keeps the fine filter in place

7. Take the filter out and replace it with a new one, see Figure 15 and Figure 16.

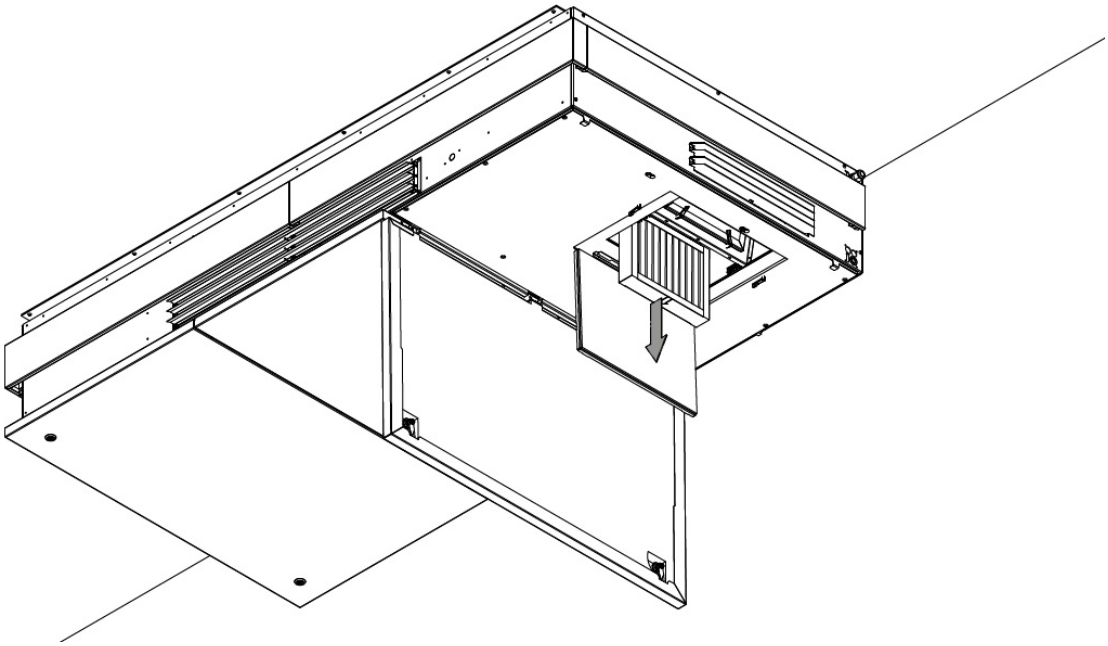


Figure 15: Take the fine filter out

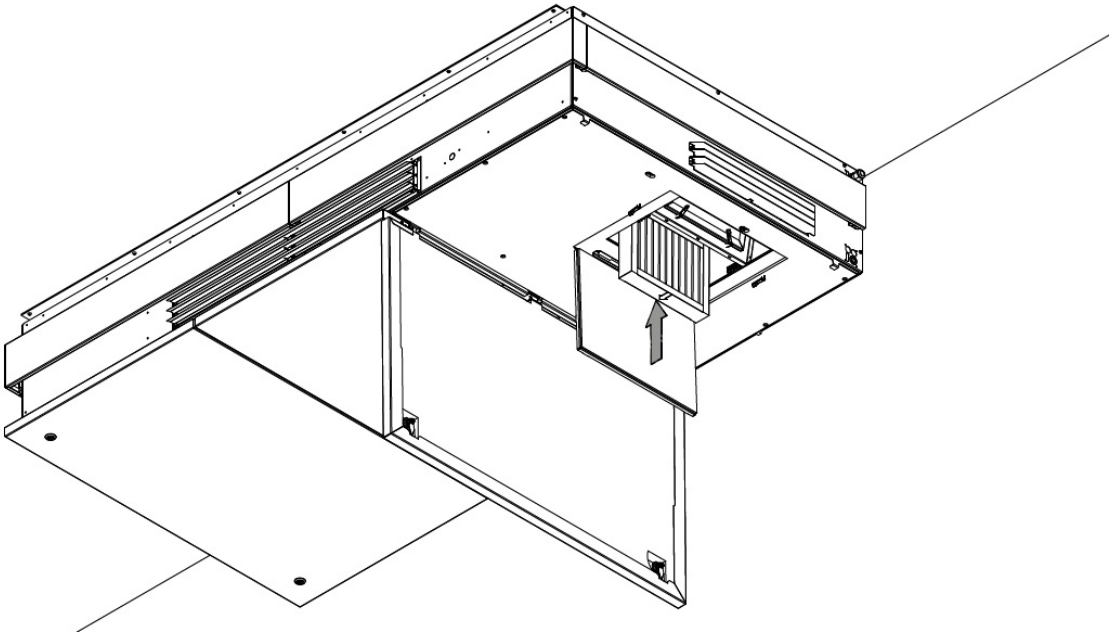
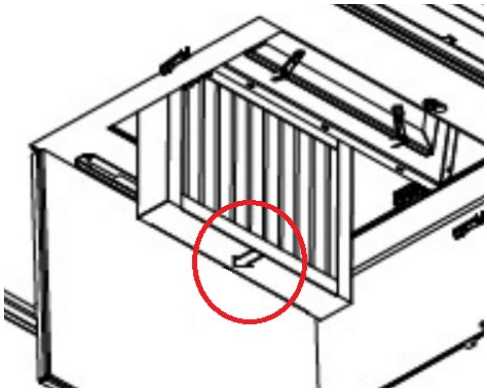


Figure 16: Replace the fine filter with a new one

ⓘ	The fine filter has an arrow marking on the bottom, this arrow should point toward the middle part of the unit. 

8. Close the filter hinge, see Figure 17.

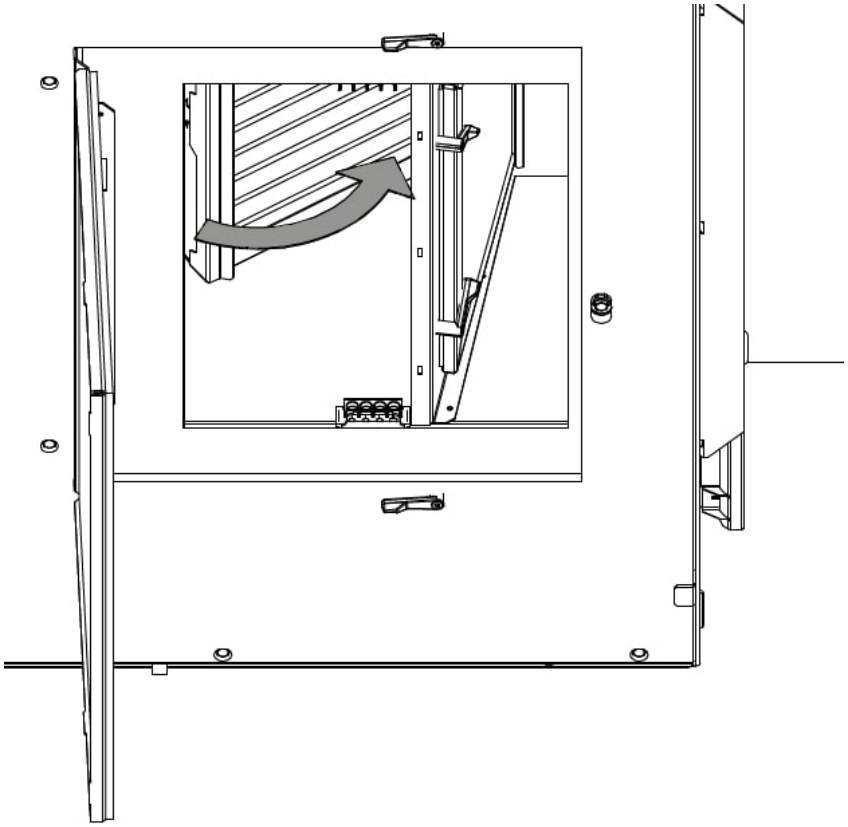


Figure 17: Close the filter hinge

9. Close the filter hatch, see Figure 18.

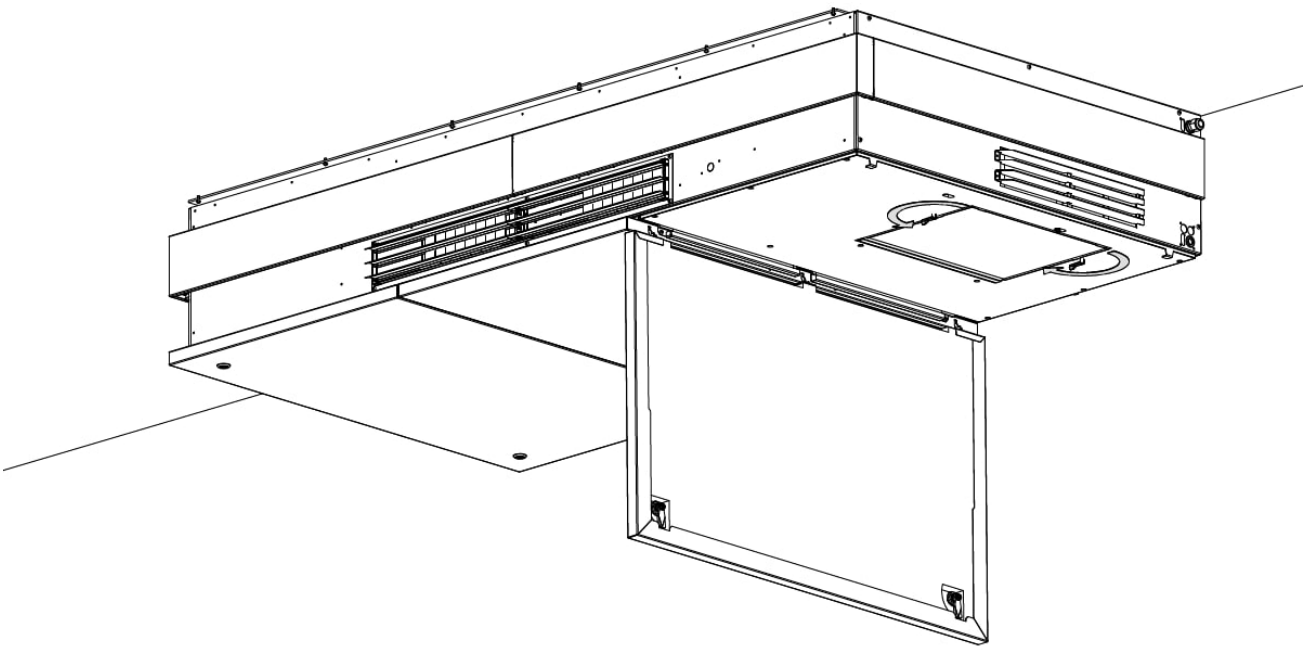


Figure 18: Close the filter hatch

10. Close the service cover, see Figure 19.

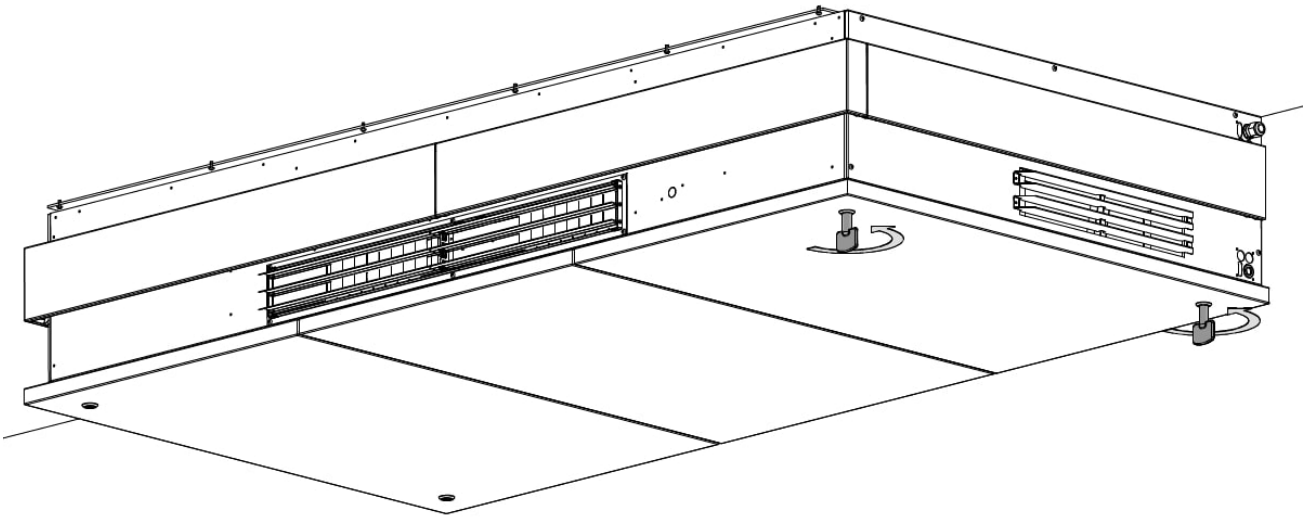


Figure 19: Close the service cover

This completes the exhaust filter replacement.

Proceed to replace the filters on the supply air side, see the next section for details.

9.2.2 Replace the supply air filters

Follow the instructions provided in section 9.2.1, ‘’Replace the exhaust air filters’’, this time on the left-hand side of the unit. See Figure 20, Figure 21, and Table 7.

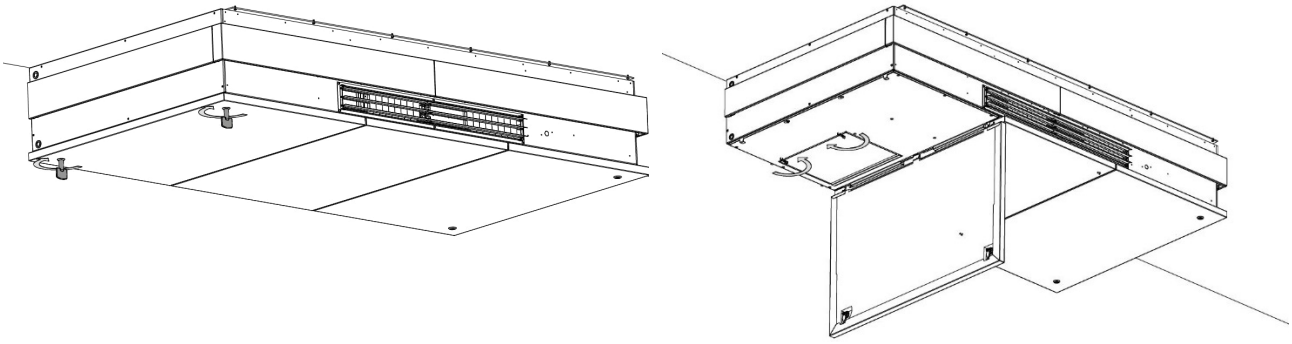


Figure 20: Open the service cover and the filter hatch

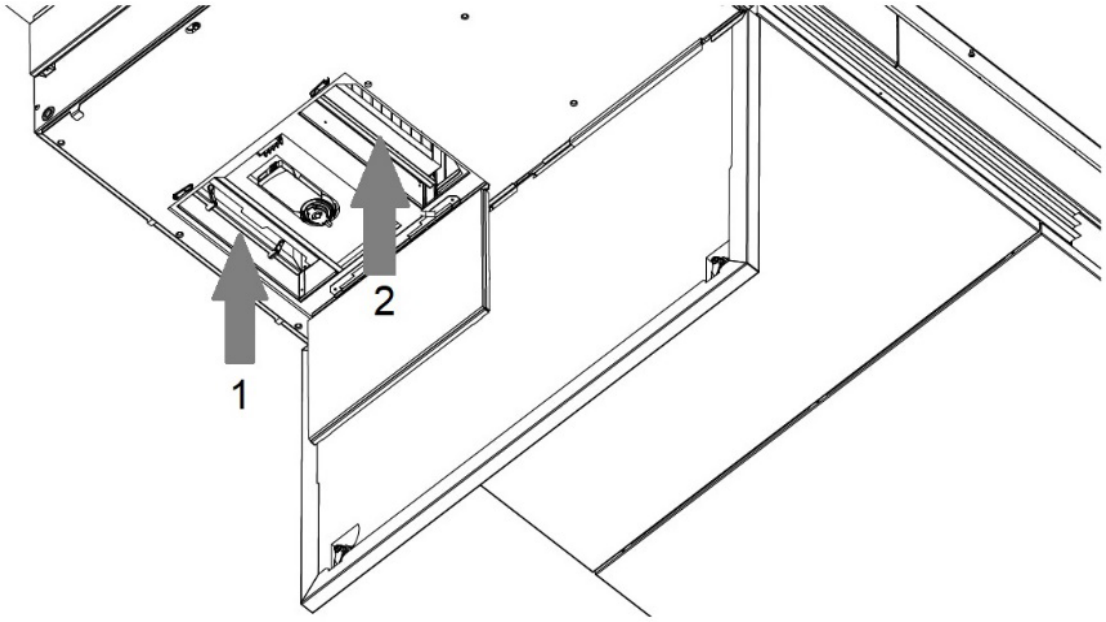


Figure 21: Replace the supply air filters

1	Coarse filter
2	Fine filter

Table 7: Supply air filters

Once the filters are replaced you need to reset the filter service, see section 9.2.3.

9.2.3 Reset service (after filter replacement)

The default code for resetting the filter service = 9732.

Filter reset is done in either Local Web Tool or Airlinq® Online.

9.3 Cleaning the unit

Regular cleaning helps to obtain problem-free operation. This section will provide guidelines for external as well as internal cleaning.

9.3.1 External cleaning

	CAUTION
	The unit must be switched off before cleaning.

Use a soft, damp cloth to remove dust and/or dirt from the unit. Do *not* use aggressive substances such as turpentine, instead use clean water or water with a mild detergent, e.g. washing up liquid.

The space between the unit and the ceiling/wall can be dusted using a feather duster. A soft brush vacuum nozzle can also be used if there is sufficient room.

The extract air grille and air vents must be cleaned regularly. We recommend vacuum cleaning using a soft brush nozzle.

9.3.2 Internal cleaning

	CAUTION
	The unit must be switched off and disconnected from the mains before the service covers are opened. Make sure nobody turns the power on (prevent use).

Use a vacuum cleaner or a soft brush to remove dust and/or dirt from the unit. Take special care to clean the heat exchanger and fans.

9.3.3 Condensate system

	CAUTION
	The unit must be switched off and disconnected from the mains before the service covers are opened. Make sure nobody turns the power on (prevent use).

To gain access to the condensate system you need to remove the service covers as well as the bottom steel plates, please refer to section 7 in the mounting manual.

9.3.3.1 Cleaning

The condensate system is divided into three parts. One part is located at the foremost left-hand corner, one part is located in the middle, and one part to the back of the unit, see Figure 22.

The middle part collects drainage from the other two parts, however, you need to clean and inspect all three parts.

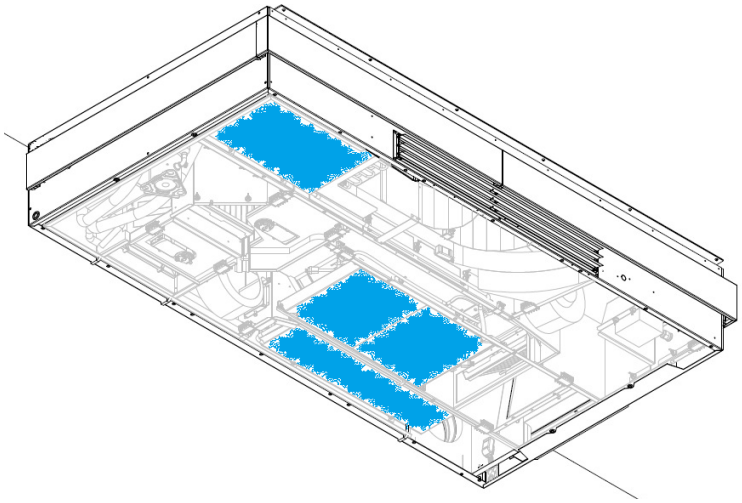


Figure 22: Condensate system locations within the AMX

We recommend that you empty the condensate trays before removing them, e.g. by siphon effect or simply using a cloth to soak up any condensation.

1. Disassemble the condensate tray to the back of the unit by unscrewing the bolts. Cut and remove the cable tie holding the condensate hose.
2. Clean the tray, drain, and hoses. Make sure no impurities are stuck in the drain and hose. If you remove the hose, make sure it is secured again with a suitable hose clip.
3. Reassemble the tray.
4. Do the same for the tray located at the front of the unit.
5. Disassemble the tray in the middle of the unit.
6. Clean the tray, drain and hoses. Make sure no impurities are stuck in the drain and hose. Make sure that the hoses are secured again if you remove them.

7. Refer to Figure 23 below: if needed, clean the condensate pump with a damp cloth. There are two pumps, one on each side of the middle tray.
8. Reassemble the middle tray.
9. Perform inspection, see section 9.3.3.2 below.
10. Once the inspection is completed satisfactorily reassemble the bottom steel plates and service covers. Remember to insert a new cable tie to hold the condensate hose, the hose must not be hanging loose.
11. Switch the unit on.

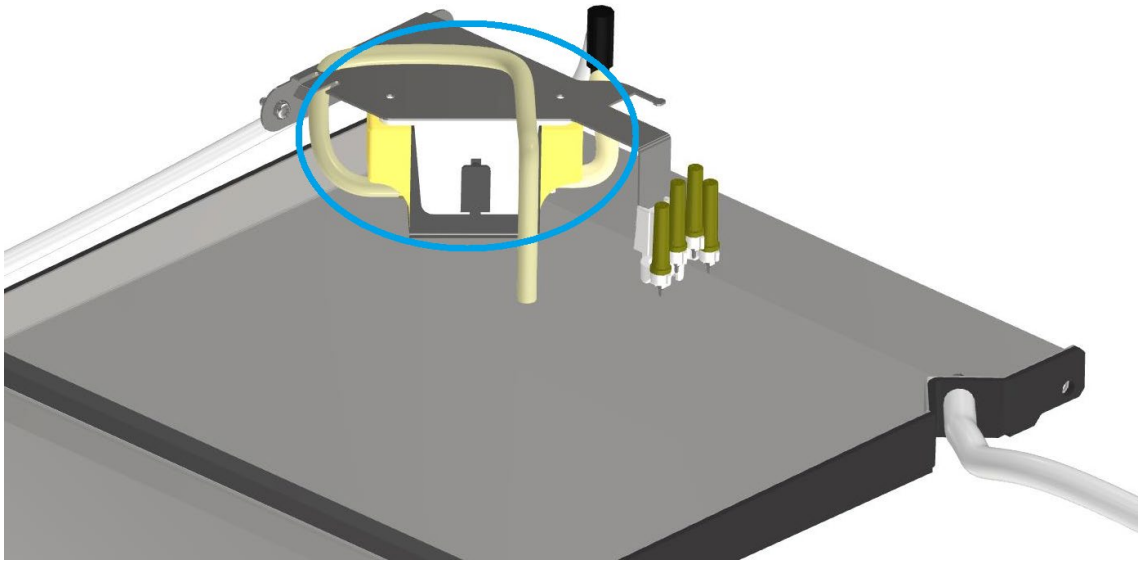


Figure 23: Condensate pump

9.3.3.2 Inspection

Start by pouring approx. ½ liter of water into the condensate tray at the back of the unit. The water is drained from the tray by gravity into the middle tray. Check that this happens. Check for leaks.

Do the same for the condensate tray to the front of the unit, check that the water is drained into the middle tray, and check for leaks.

To inspect the condensate pumps in the middle tray you must switch the power on briefly and check that the water is pumped out and that no leaks appear.

9.4 Service/Repair

For service or repair, please call Airmaster A/S or your local representative. Contact information for Airmaster is available in section 4.4 on page 11.

10 Dismantling and disposal

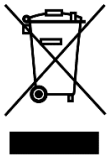
10.1 Dismantling

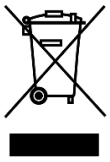
If you need to dismantle the AMX 4 unit follow the instructions in the Mounting manual and the Installation manual in reverse order.

- Mounting manual: section 7
- Installation manual: section 7 and section 8.

Please refer to the information regarding transportation and storage in the Mounting manual if you need to move and/or store the unit.

10.2 Disposal

	**NOTICE**
	The AMX 4 unit contains R290 (Propane) and oils. **Disposal must be carried out by authorized professionals following local applicable legislation and rules.** The unit must not be disposed of as domestic waste.

	**NOTICE**
	Electrical and electronic equipment (EEE) contains materials, components, and substances that may be hazardous and present a risk to human health and the environment when waste electrical and electronic equipment (WEEE) is not handled correctly. **Disposal must be carried out by authorized professionals following local applicable legislation and rules.** The unit must not be disposed of as domestic waste.

Product information according to ”Commission Regulation (EU) No 1253/2014, annex IV – Information requirements for RVUs as referred to in Article 4(1)” can be found on our website.
It contains a description of the required tools and procedures for manual disassembly for the effective recycling of materials.

Go to Downloads/Declarations, then choose ’Disassembly’.

Appendix A EU Declaration of Conformity

EU DECLARATION OF CONFORMITY

Manufacturer

Airmaster A/S
Industrivej 59
9600 Aars
Denmark

Herewith declare that the following air handling unit (series and type (serial numbers))

Product

AMX 4 (404000001 - 404099999)

Is in conformity with provisions of the following directives, regulations, and standards:

Directive(s)	Regulation(s)	Standard(s)
2006/42/EC - on machinery	626/2011 - supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of air conditioners	EN 60335-1:2012 A1:2019 A2:2019 A11:2014 A13:2017 A14:2019 A5:2021
2014/30/EU - on the harmonisation of the laws of the Member States relating to electromagnetic compatibility	206/2012 - implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners and comfort fans	EN 60335-2-40:2003 A1:2006 A2:2009 A11:2004 A12:2005 A13:2012
2011/65/EU - on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)	1253/2014 - implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units	EN 378-2:2016
		DS 469

Reservation

This declaration is not valid if modifications are made to the product without approval by Airmaster A/S.

Place

Aars

Date

2024-01-25

Signature

Jesper Mogensen
CTO

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