drexel und weiss

pioneering the energy revolution

aerosilent topo

Operating, Maintenance, Commissioning

Contents

Technical data

Mains supply ..... 230 VAC / 50 Hz
Recommended fuse ..... 13 A

Nominal air quantity ..... 120 m^3/h
Max. air quantity at 100 Pa external ..... 180 m^3/h

Heat provision level ..... approx. 85%
Max. power consumption of the fans (180 m^3/h and 150 Pa external) ..... 75 W

Thermal power of the optional PWW heat register
(nominal air quantity and VL/RL 60/45) ..... 1350 W

Sound power level at nominal air quantity and 100 Pa external:
Housing ..... 31 dB(A)
Air inlet ..... 32 dB(A)
Air vent ..... 34 dB(A)

Weight ..... 68 kg

Heat recovery level of the plate heat exchanger
according to VDI 2071 with nominal volumetric flow ..... 85 %

Customer information

This handbook contains important notes and tips for the operation of your comfort ventilation unit which will protect you from personal injury and guarantee a long service life for the unit. The figures all depict the right-hand version of the unit (supply air connection located on the right). All instructions are equally applicable to the left-hand version (supply air connection located on the left). Please keep the operating instructions for future reference. Please pay attention to the safety notes.

Product description

The aerosilent topo comfort ventilation unit consists of a ventilation module with highly efficient heat recovery characteristics and an optional heat register.

Proper application

The unit is designed for the ventilation and heating (optional) of living rooms and lounges in passive houses and, if applicable, for near-passive buildings depending on the calculation and building design.

Unsuitable application

No uses other than those specified under 'Proper usage' are permissible.

The unit must not be used to dehumidify buildings under construction. Drying and heating a building structure can cause considerable damage to the unit.. The ventilation of rooms with extremely high humidity levels, such as saunas, or heavily contaminated extract air (fumes, air with a high fat content, explosive extract air) is also not permitted..

Safety notes

WARNING: Indicates that failure to follow the recommended safety procedures could result in damage to the unit or personal injury.

CAUTION: Indicates that failure to observe the recommended safety procedures could result in damage to the unit.

NOTE: Helpful information and useful tips.

Operation

The aerosilent topo is operated using a room operating panel. Two different room operating panels are available that provide different functions:

- 3-level switch
- 3-stage timer

The 3-level switch provides simple, manual fan control. In contrast, the 3-stage timer can be used to set an individual weekly programme.

3-level switch

Selecting the fan level

You use the function button to select the required fan level. Once you have pressed the button, the LED for the activated level lights up.

0 ... System off
1 ... Reduced air quantity
2 ... Nominal air quantity
3 ... Increased air quantity

Special 'Party' mode

This function sets the ventilation unit to level 3 for one hour. Press the function button until LED "3" flashes. Once the hour has elapsed, the fan level automatically returns to the level that was previously set.

Filter/Fault LED

LED constantly illuminated:

Coarse particle filter needs replacing in the unit. Please refer to the 'Maintenance' section.

LED flashes:

A fault has occurred. Possible causes are:

- The supply air or extract air fan has failed.
- Electrical contact failure in the fan monitor.

Please contact customer service.

3-stage timer

The following functions are available with the 3-stage timer:

- Manual selection of one of the 6 operating modes
- Programming an automatic weekly schedule for the fan levels 1, 2, 3 and 0
- Monitoring fan failure
- Monitoring the condition of the filter

General functions of the buttons

The "Arrow Up" and "Arrow Down" buttons can be used to select or change values depending on the cursor position.

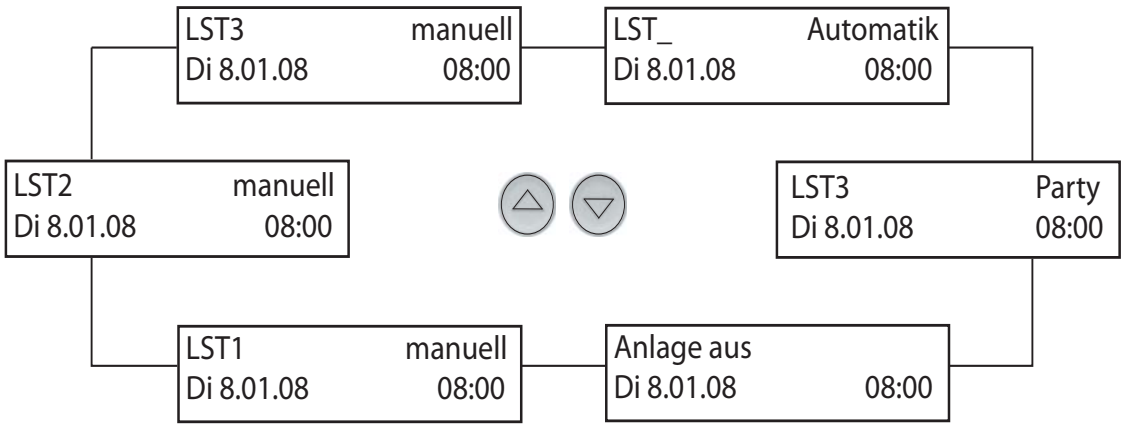
The "Enter" button is used to save the values that have been set or select menu options.

Operating modes

The unit can be used in 6 different operating modes which are selected using the "Arrow Up" and "Arrow Down" buttons.

The following operating modes are available: system off, manual fan level 1, manual fan level 2, manual fan level 3, automatic and party.

The date and time are displayed alongside the operating mode in the main menus.



Anlage aus (System off)

Both fans are switched off and the controller works solely in standby mode. The message "Anlage aus" appears on the screen.

Manual fan level 1/2/3

The ventilation unit works permanently with the selected fan level. The message "LSTx - manuell" appears on the screen, whereby "x" represents the relevant fan level.

Automatik (Automatic)

The ventilation unit works at the fan level specified in the weekly programme. The message "LSTx - Automatik" appears on the screen, whereby "x" represents the respective fan level.

Party

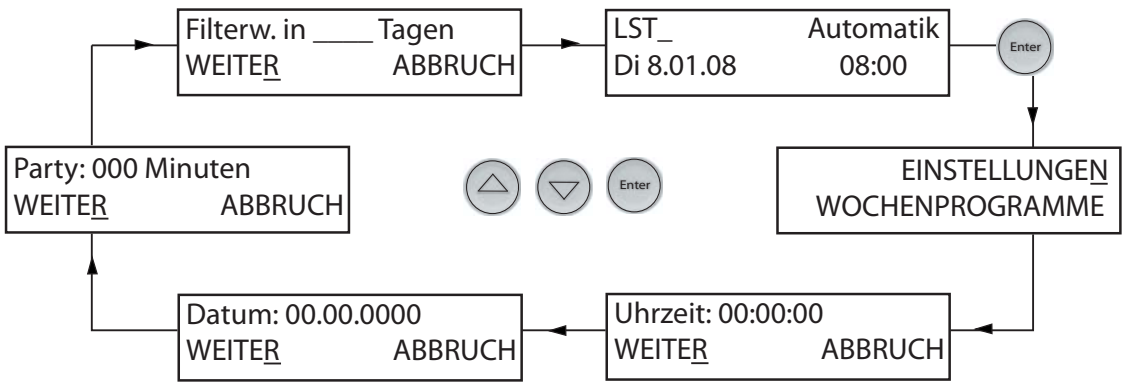
In "Party" mode, the ventilation unit is set to fan level 3 for a limited period of time for high-power ventilation. The time period for "Party" mode can be changed to a value between 15 and 120 minutes in the "Settings" menu. The screen displays the message "LST3 – Party". After this time period has elapsed, the system reverts back to the mode previously set.

Settings

The time, date and duration of "Party" mode can be changed in the settings for the the 3-stage timer. You can also check the remaining service life for the filters in the ventilation unit. The "Einstellungen" (Settings) submenu is selected using the "Enter" button.

Confirm values and options by pressing the "Enter" button.

Use the arrow buttons to select options and change values.



Weekly programmes

The weekly programme defines which fan level is activated at various points in time.

From a technical perspective, the ventilation unit has 4 levels - 0, 1, 2 and 3 - whereby fan level 0 (LST0) is equivalent to switching off the unit.

After commissioning, the following values apply for the ventilation system:

Fan level 0: Both fans are switched off

Fan level 1:

Approx. 30% below the nominal air quantity

Fan level 2: Nominal air quantity

Fan level 3:

Approx. 30% above the nominal air quantity

Since the nominal air quantity for the building is set using fan level 2, it is not necessary to set a time period for fan level 2. This is always active when no other fan level has been programmed. Therefore, only the settings for levels 0, 1 and 3 are available in the menus.

Creating the weekly programme:

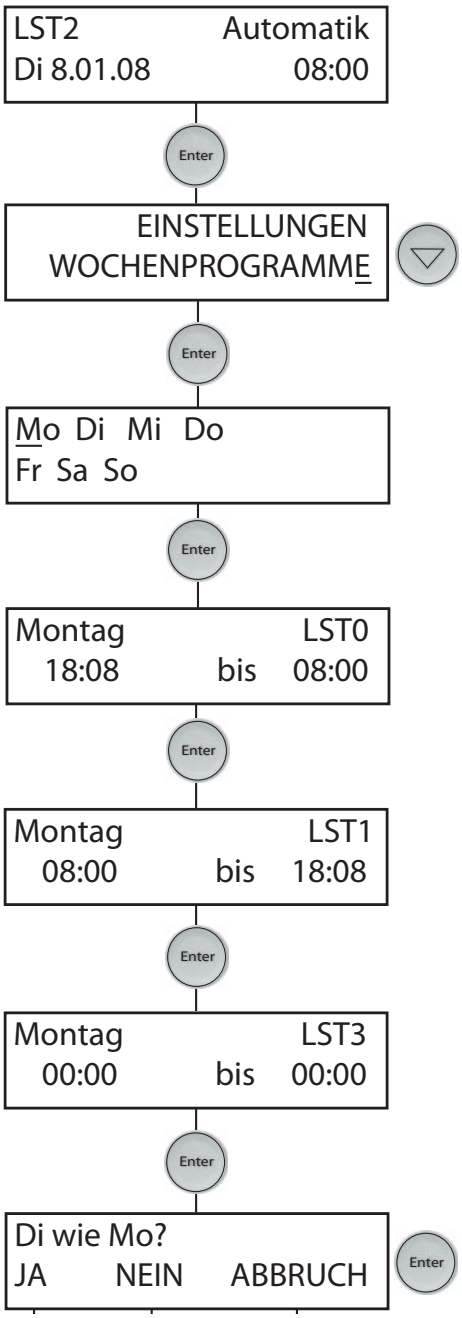
The fan levels can be set for each day of the week. It is thus possible to set reduced ventilation during the nights and the weekends or to programme a short period of high-power ventilation prior to the commencement of business hours.

In order to access the weekly programme, press the "Enter" button. Select "Wochenprogramme" using the arrow buttons and confirm this with the "Enter" button.

Use "Enter" to select and confirm values; use the arrow buttons to change values.

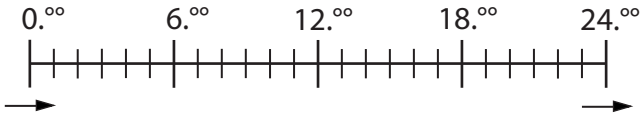
The programme for one day of the week can be copied to the following day.

The example on the right illustrates the setting for Monday (Montag). The settings for Tuesday (Dienstag), Wednesday (Mittwoch), Thursday (Donnerstag), Friday (Freitag), Saturday (Samstag) to Sunday (Sonntag) are made in the same way.



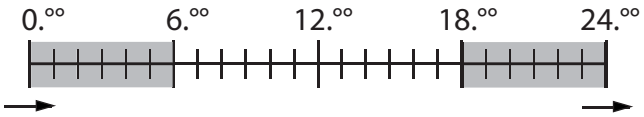
Programming during the night:

A time period of 0°° to 24°° hours is available for each day of the week.



Each fan level can be set once for each timeframe. If you wish to set a specific fan level for throughout the night, the applicable time period is always from evening until morning on the same day.

E.g.: Monday, from 18:00 to 06:00

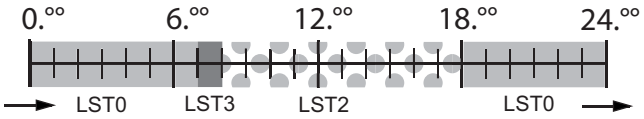


Example:

In the following example, the system is switched off during the night and over the week-end. High-power ventilation takes place prior to business hours.

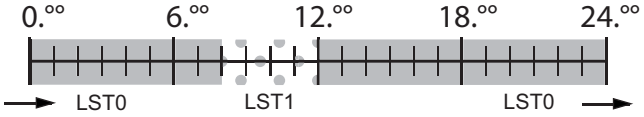
Weekly programme:

Monday, LST3 from 07:00 to 08:00, LST0 from 18:00 to 06:59

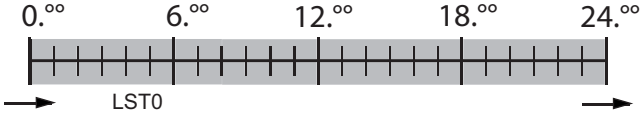


Copy the programme for all weekdays including Friday.

Saturday, LST1 from 08:00 to 11:59, LST0 from 12:00 to 07:59



Sunday, LST0 from 00:00 to 23:59



Fan level 2 is always used if a different fan level is not programmed.

Faults/messages

If faults occur or messages are issued, they are displayed instead of the date and time and the background illumination of the display flashes.

"Störung Venti." (Fan fault)

This error message appears if a fault occurs on one of the two fans. For safety reasons, the second fan is also deactivated.

Please contact your authorised technician.

"Filterwechsel" (Filter change)

The 3-stage timer includes a background counter that monitors the service life of the filters and prompts you to change them when necessary.

Maintenance

Maintenance of your comfort ventilation system is mainly limited to changing the coarse particle filters and the fine particle air filter in the ventilation unit.

The operating panel shows when a coarse particle filter needs to be changed. However, this is not shown for the fine particle air filter, which needs to be changed at a fixed time each year; for example, at the start of the heating period.

The fine particle air filter needs to be changed once or twice each year, depending on the filter type and environment. You should also make a note of the date on which the filter change was carried out.

The flow capacity and acoustics of the ventilation unit are affected by the amount of dirt in the filters. We therefore recommend that filters are changed regularly. No tools are required.

Caution: Possible damage to the unit resulting from dust and contamination. The coarse particle filters in the unit not only improve your air quality, but also protect the entire ventilation system. The system must not be operated without a coarse particle filter.

Note: The filter should be changed within 2-4 weeks of the 'Filter change' message appearing..

Safety notes for filter changes

Caution: The filter change intervals are only valid for a completely run-in system. After the initial commissioning, the filters can sometimes become very dirty after a relatively short period of time (construction dust). An error message is not displayed in this case.

Caution: Filters cannot be washed or vacuum cleaned, as this would drastically affect their effectiveness. Contaminated filters must always be replaced with clean filters. Used filters should be disposed of in the residual waste.

Caution: To ensure that the ventilation unit continues to operate correctly, we recommended that a service is carried out by an authorised technician after two years of operation (check the fans, clean the air module). Local laws and regulations governing maintenance intervals must be adhered to.

Changing the filters

Do not switch off the unit or unplug it from the mains as the controller will not detect the change of filter.

Open the latches for the inspection doors on the top of the unit.
When the inspection doors are opened, the contact switch (4) is activated and the unit switches off.

▼

To change the coarse particle filter, remove both filter slots
(See the figures on the following page; no. 1 + 2).

▼

Remove the contaminated filter pads.

▼

Insert new filter pads and push the slots back into the openings.

▼

To change the fine particle air filter, remove the filter cartridge by pulling it forwards (see fig. 3).

▼

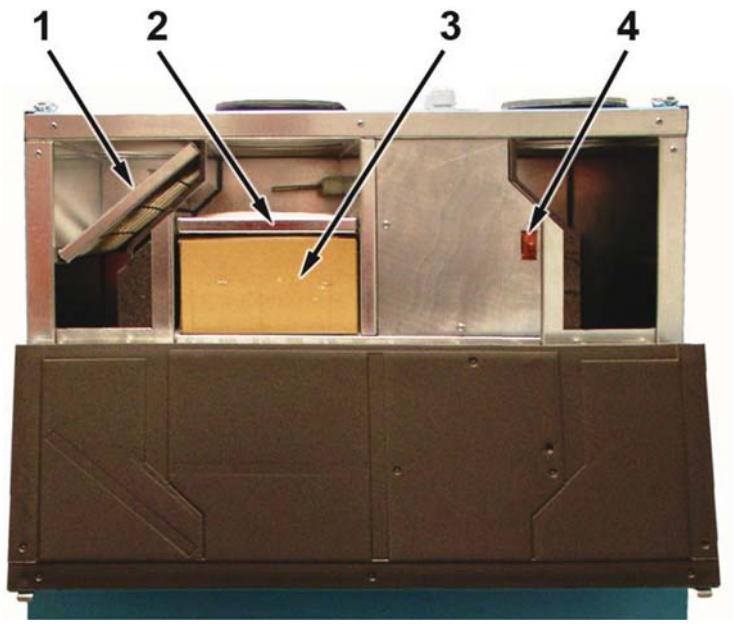
Insert new filters in the openings. Please note the direction of insertion (indicated by an arrow on the fine particle air filter).

▼

Close the inspection doors and fasten the latches.
The contact switch (4) is activated and the unit starts up automatically.

▼

Note the filter change date in the unit data.



Spare filters:
Please order filters from your authorised technician.

Part description	**Number**
Coarse particle filters ..... (10 per packet)	193.0201
Fine particle air filters (F7) ..... (3 per packet)	193.0205

Commissioning

Prerequisites for commissioning

The water, air, electrical and mechanical connections for the comfort ventilation unit must be carried out in accordance with the installation instructions. This particularly applies to the insulation of the air pipes and the condensation connection.

Caution: The unit must not be operated without complete insulation of the air pipes (exhaust and outside air) as any condensation could damage the individual unit components, such as the electronics or the fans.

Initial commissioning

Warning: Electrically conductive components may cause serious personal injury. Improper working procedures could damage unit components. The initial commissioning may only be carried out by suitably qualified and authorised technicians.

When the controller is powered on for the first time, it first performs a self-test. (If you are operating the unit using a 3-stage timer, the version number of the controller appears on the display when the unit is switched on.)

Fault messages during initial commissioning

Please note that the filters can become clogged very soon after initial commissioning of the unit as the air can contain high levels of dust (construction dust). An error message is not displayed in this case. Should abnormal sounds occur or condensation form on the outside of the unit, please arrange for the entire system to be checked by an authorised technician.

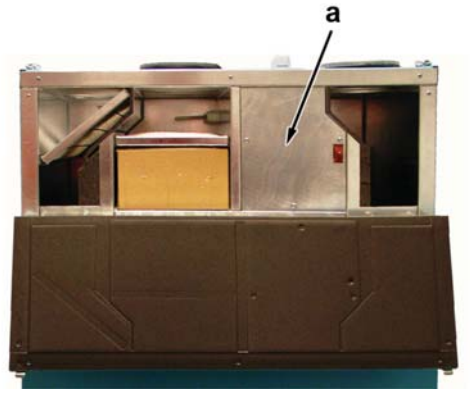
Setting the nominal air quantity

Warning: Serious personal injury may result from improper working procedures. The nominal air quantity may only be set by suitably qualified and authorised technicians. Before setting the nominal air quantity, the unit must be fully disconnected from the mains.

Open the latches for the inspection doors at the top of the unit.

▼

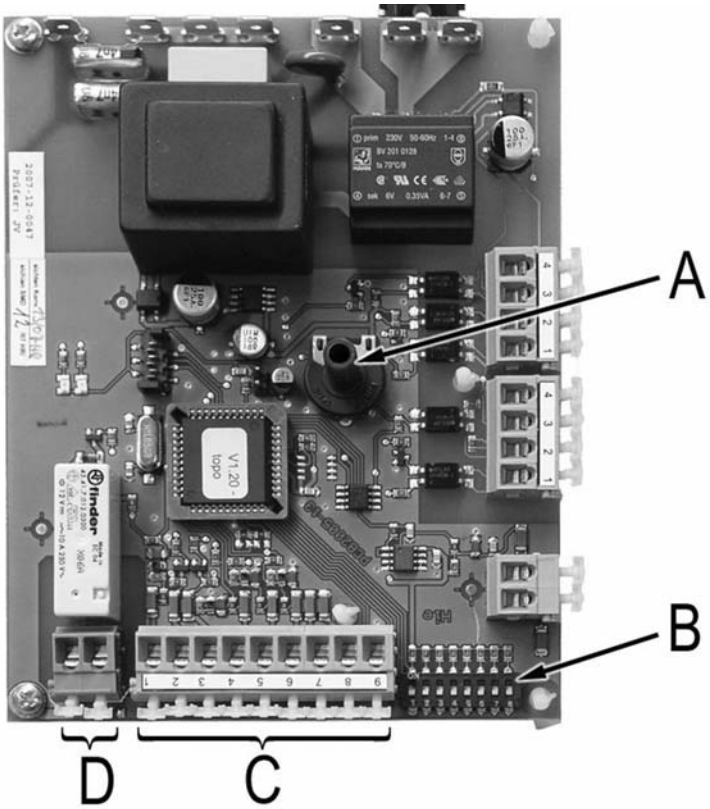
Remove the cover guard from the controller unit (a) using a suitable Phillips screwdriver.



▼

The nominal air quantity for the unit is set using DIP switches 5 to 8 on the controller board.

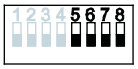
Controller board:

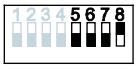


A) FSH switching point
B) DIP switch
C) Room operating panel
D) Total error

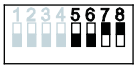
The nominal air quantity only needs to be set for fan level 2. The air quantity for fan level 1 and fan level 3 is calculated automatically as -30% and +30% respectively.

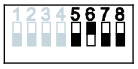
Example: Nominal air quantity, 80 m³/h, 5=OFF, 6=OFF, 7=OFF, 8=OFF 

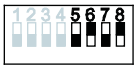
 80 m³/h

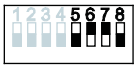
 90 m³/h

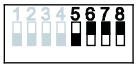
 100 m³/h

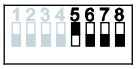
 110 m³/h

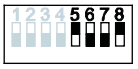
 120 m³/h

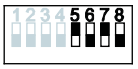
 130 m³/h

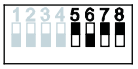
 140 m³/h

 150 m³/h

 160 m³/h

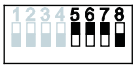
 170 m³/h

 180 m³/h

 190 m³/h

 200 m³/h

 210 m³/h

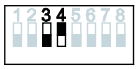
 220 m³/h

 230 m³/h

Setting the fan balance

DIP switches 3 and 4 are used to set a higher air quantity for the supply air fan in comparison to the extract air fan.

 0 %

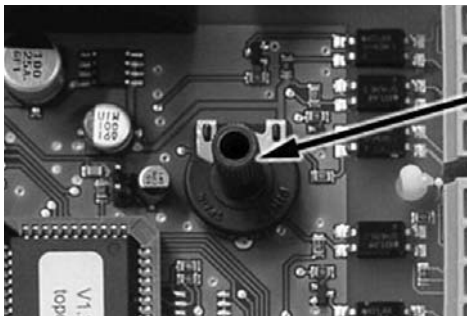
 +10 %

 +20 %

 +30 %

Switching point for frost protection heating (FSH)

The FSH switching point can be set between -5°C and 0°C using the potentiometer on the controller board.



FSH switching point:

Left stop / - 5°C

Right stop / 0°C

Note: After completing all procedures, replace the cover guard and close the inspection doors. Never leave the opened unit unattended at the installation site.

Fault prevention / checklist

✓	
Nominal air quantity set	
Condensation connection in place	
Filters in the unit (2x coarse particle filters, 1x fine particle air filter - optional)	
All inspection covers installed	
Door contact switch checked	
Unit is leak-proof; all screws for the inspection covers tightened using a suitable Phillips screwdriver.	
FSH (frost protection unit - optional) temperature set	

Settings on the overall system

After initial commissioning of the unit, check the supply and extract air valve flow rates as given in the plans.

▼

Measure and record the air quantities.

Decommissioning

Warning: Serious personal injury may result from improper working procedures. Decommissioning may only be carried out by suitably qualified and authorised technicians.

Disconnect all electrical connectors from the unit and remove the water and ventilation connections in accordance with local safety regulations. The unit still contains valuable materials, as well as substances that may not be disposed of in the residual waste. Please arrange for your old unit to be taken to a collection point for recyclable materials.

Important unit information (logbook)

Your authorised technician has handed over the unit to you with the following settings. Please keep this information to hand in case you have any queries.

Customer:	
Location:	
Unit type:	
Serial number:	
Initially commissioned on:	
Installation company:	
Authorised technician:	

Set air quantity (m^3/h)	

Filter change (date):			

Maintenance (date):			

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