

LTR-3 eAir

Operating and maintenance instructions for the ventilation unit



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READ FIRST

This instruction manual is intended for all the users of the Enervent ventilation units. Only qualified professionals may install the equipment described in this manual in accordance with the manufacturer's instructions and the local laws and regulations. If the instructions provided in this manual are not followed, the warranty for the equipment becomes void and damages may be caused to persons or property.

The equipment described in this manual may not be used by persons (including children) with reduced physical, sensory or mental capacity or without sufficient experience or knowledge, unless a person responsible for their safety is supervising and advising them in the use of the equipment.

INTENDED USE

The intended use of the unit is the improvement of indoor air quality, and its primary function is ventilation.

The unit is also used for the recovery of heat energy from the exhaust air. Depending on the model and the accessories, the unit can also be used for cooling the supply air in the summer. Moreover, the unit can also be used for adjusting the humidity and carbon dioxide levels of indoor air.

General information

DANGER

Always check that the supply voltage to the equipment is switched off before opening the service hatch.

WARNING

In case of a malfunction, always determine the reason for the malfunction before restarting the unit.

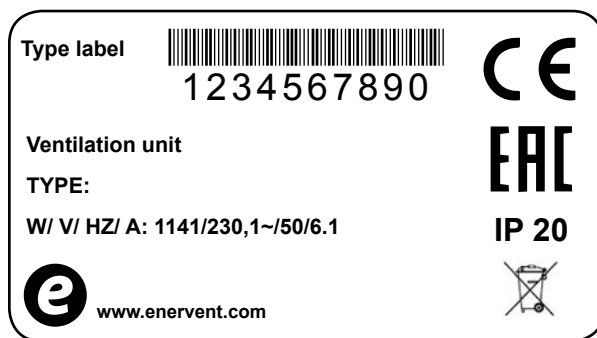
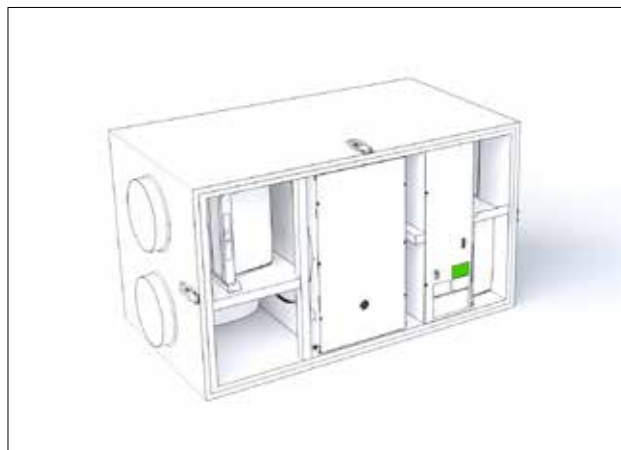
WARNING

When you have switched off the power to the unit, wait for two (2) minutes before starting the maintenance work. Even though the power is switched off, the fans continue running and the post-heating coil remains hot for a while.

Electrical safety

DANGER

Only an authorised electrician may open the electrical box.



If you need technical support, please check the equipment type and serial number from the type plate.

USING VENTILATION UNIT

Once the ventilation system is carefully designed and installed, user actions are not required. The user can relax and enjoy good ventilation.

This instruction is for the users of the Enervent ventilation unit and control panel.

Be patient! The control panel takes some time to react.

General instructions

FOR INFORMATION

Do not shut down the ventilation unit. The ventilation unit must always be kept in operation at the power level set by the ventilation system designer.

- Ventilation must be sufficient.

If ventilation is not sufficient, the indoor air humidity will rise, which can cause condensation on cold surfaces.

- The indoor air humidity levels must be checked at regular intervals.

The recommended relative room air humidity is 40–45% at most (with room temperature at 20–22°C). By adhering to these values, the indoor air humidity remains at a healthy level and the risk of condensation lowers significantly. Humidity can be measured with a hygrometer. When air humidity rises over 45%, ventilation must be boosted. When air humidity drops under 40%, ventilation can usually be reduced.

- The cleanliness of filters must be checked regularly.

In winter, the exhaust air filter collects dirt faster than the replacement air filter. This means that the replacement air flow is reduced, which can lead to a rise in indoor air humidity, which in turn weakens the efficiency of heat recovery.

More information about cleaning and changing the filters is in the **Maintenance** section.

- Check monthly that the heat exchanger is functioning correctly, i.e. rotating.
- More information on the checking and cleaning the heat exchanger is in the **Maintenance** section.
- If ventilation unit is not used for a long time, it can be shut down as long as the fresh air intake vent and exhaust air blowout vent are covered.

This prevents humidity from condensing on the electric motors of blower, for example.

- In the autumn, before the beginning of heating period and before beginning cooling (if the unit has a cooling function), the condensation water sewage functionalities must be checked by pouring water in the condensation water sewer and making sure that the water drains away.

FOR INFORMATION

Always keep the panel in the wall mount.

FOR INFORMATION

If you encounter issues with using the ventilation unit, check for answers in the Troubleshooting table at the end of this manual.

WARNING

Do not damage the control panel screen with a sharp or scratching object.

WARNING

Do not try to set the system settings by yourself! Installing a ventilation system is a job for a trained installer.

How do I begin to use the unit?

Ventilation system should be installed and ready to use.

Tap the control pane screen. Its keylock might be on. Open the lock by pressing the lock button for a few seconds.

The main page of the control panel should open:

The main page of control panel



The circle around the operating mode button changes its color depending on what the ventilation unit is doing. The circle is green, when heat recovery is active. The circle is orange and red when heating is active, and blue when cooling is active.

If the text **Select language** displays on screen instead, the system has not been installed yet. In this case do not continue using the panel. Contact the installing technician instead.



If nothing happens when you tap the screen, the control panel battery may have run out. Load the battery by putting the panel in the wall mount.

What is the ventilation unit used for?

The unit is meant to better indoor air quality, mainly by ventilating.

The unit recovers heat also from exhaust air. Some models can be used for cooling supply air during summer. The indoor humidity and carbon dioxide levels can be managed with the unit.

How does the ventilation unit work?

Functioning ventilation is the basis of living comfortably. In mechanical ventilation, fresh air is blown into the house, and used air is blown out. The purpose of ventilation is to bring in clean, filtered air for people and pets to breathe, and to extract impurities from indoor air.

Rotating heat exchanger recovers the heat energy from exhaust air. Exhaust air warms the aluminium vanes in the exchanger, which in turn release the heat energy into the supply air when rotating, with an 80% efficiency.

How is the ventilation unit used?

When ventilation is carefully designed and installed well, you do not have to do anything. Sit comfortably and enjoy the fresh air.

FOR INFORMATION

Some control panel functions are meant only for installation or maintenance use. Because usually these functions are not needed, they are password-protected.



Check that the central circle on the control panel main page has the status "At home". If it is not so, change it by doing the following:



1. Tap the green circle in the middle of the main page of the control panel.

Choose operating mode window opens.

2. Tap the **At home** icon.

Ventilation system is adapting to new conditions.

Using ventilation daily

Ventilation is controlled with a simple and easy to use touch screen, that has functions based on actual operating conditions. The modes available in the panel cover all your home ventilation needs. Selecting a function changes the ventilation unit operations accordingly. The installing technician configures the mode parameters (= your wishes) when the ventilation unit is commissioned.

Functionalities of the unit

- **At home** (when at home)
- **Away** (when not at home)
- **Overpressure** (when lighting the fireplace)
- **Boosting** (when additional ventilation is needed)
- **Silent*** (when ventilation needs to be as silent as possible)
- **Max. heating / Max. cooling**
- * To be activated separately

When at home

When at home, the ventilation mode should be **At home**.

WARNING

Never shut down the ventilation system!

FOR INFORMATION

If the ventilation unit is used in business premises or in a public space, its operating mode is likely to be Office. When the ventilation is operating normally, the center circle of the control panel main page displays the At office symbol.

When away



If you are going for a trip, for example, or spending time away from the building, you can configure ventilation accordingly.

1. Tap the green circle in the middle of the main page of the control panel.

Choose operating mode window opens.

2. Tap the **Away** icon.

The ventilation system adapts to using less energy when you are away.

This function can be timed to switch on when you are not usually at home, e.g. during working hours.

In the section *I want the ventilation system to automatically follow my schedule* there is more information about configuring the ventilation system.

When you want to boost ventilation temporarily



If you have invited guests, the ventilation designed for your normal living situation may not be enough. This function is especially important in houses with a sauna, because the heat and humidity produced by saunas must be ventilated efficiently.

When a stronger ventilation is temporarily needed:

1. Tap the green circle in the middle of the main page of the control panel.
Choose operating mode window opens.
2. Tap the **Boost** icon.
Ventilation is boosted.

The ventilation system returns to normal mode in 30 minutes.

When you want to light the fireplace



You may need the overpressure function when lighting the fireplace.

To activate the *Overpressure* mode:

1. Tap the green circle in the middle of the main page of the control panel.
Choose operating mode window opens.
2. Tap the **Overpressure** icon.

The ventilation system adapts to function so that lighting the fireplace is easy.

The ventilation system returns to normal mode in ten minutes.

WARNING

Overpressure mode is meant for making lighting the fireplace easier, not for producing extra oxygen for the burning fire.

TIP

Use the overpressure function sparingly. Using the function for no reason wastes enormous amounts of energy.

When you want to silence the ventilation temporarily

If you need a moment of silence, e.g. when going to sleep or putting the children to bed, you can switch on the *Silent* mode.

You must activate the *Silent* mode before it is used for the first time.



Activating Silent mode

1. Tap the upward arrow on the main page of the control panel.
Main menu window opens.
 2. Tap **Settings**.
The *Settings* menu opens.
 3. Tap **Usage modes**.
The *Usage modes* menu opens.
 4. Tap **Silent mode settings**.
- Activate the *Silent mode* by tapping the Inactive command.
"Inactive" is replaced with "Active", and the mode is activated.
5. You can change the duration of Silent mode, if you want to.
Default value is 60 minutes.

The settings are saved automatically.

Silencing the ventilation temporarily

1. Tap the green circle in the middle of the main page of the control panel.
Choose operating mode window opens.
Tap the *Silent* icon.
2. When *Silent* mode is in use, the CO₂, %RH, and maximum heating boost are reduced so that the ventilation system will operate as quietly as possible.

The ventilation system returns to normal mode in 60 minutes or after a period set by you. Configuration is done in the *Silent mode settings* menu.

Using the *Silent* mode is limited. The mode can be activated only twice a day.

I want the ventilation to follow my schedule automatically

If your life has a regular rhythm, you can make things easier by configuring some of the ventilation functions to activate automatically at certain times. The following functions can be timed:

Function	Description
<i>Away</i>	Ventilation unit can be configured to operate in Away mode by using a time program, for example during working days when nobody is at home.
<i>Heating prevented</i>	Heating is prevented at certain time. This mode is practical in the summer, for example, when sudden changes in temperature can activate heating even though it is not needed.
<i>Cooling prevented</i>	Cooling is prevented at certain time. This function is useful in the spring, for example, when sudden changes in temperature can trigger cooling even though it is not needed. Cooling can begin when sun is warming the roof.
<i>Drop in temperature</i>	Ventilation is functioning at a normal level, but allows the indoor temperature to drop.
<i>Time relay</i>	Sets time relay (DO2) to activate at a certain time. The function can be used to make sure that you get your morning coffee at the same time every morning.
<i>Boost</i>	The ventilation unit will have boosted operations during the time defined in the time program.

To schedule functions:

1. Tap the upward arrow on the main page of the control panel.
Main menu window opens.
2. Tap the **Time programs** icon. You can choose from weekly and annually run programs.
3. Tap **New weekly program** or **New annual program**.
4. Tap **Not selected** to display a list programmable functions.
5. Tap the function you want.
The function setting window opens.

6. Set the start and end times for the function.
7. Tap the **OK** button.
A window listing the time programs displays, and the time program you created is shown in the screen.

How can I save money and energy, and advance the healthiness of my living environment?

Correctly designed and used ventilation saves money and energy. Additionally, it promotes healthy living environments and healthy inhabitants.

- Use the ventilation system according to the designed plan throughout the year.
- Clean or change the filters at set intervals and vacuum the inside of the unit regularly. Dust and other air impurities can easily dirty the unit. Dirt blocks the filters and adheres to the heat exchanger, which in turn weakens the efficiency of ventilation. The ventilation unit access door needs to be opened regularly - once a month, for example - and the condition of the unit must be checked.
- Use special modes like **Silent** and **Overpressure** only when they are really needed. Unnecessary use of special modes will show in your electric bill.
- Besides controlling the ventilation system, you can add to your comfort by traditional means. For example, closing curtains and windows on a hot day, or dressing warm on cold days can save a lot of energy.
- Use only Enervent-approved spare parts.

The ventilation system Eco mode saves energy and money without compromising air quality.

FOR INFORMATION

The control panel main screen displays a time program reminder two hours before the program starts. When the ventilation unit is operating under a time program, the panel main screen displays a clock symbol.

When using Eco mode



Selecting Eco mode allows the ventilation system to save energy by making small changes in temperature and ventilation values. In the Eco mode, the system does not react to changes in temperature as quickly as in normal mode. Instead it waits for a moment for the temperature to settle before beginning to heat or cool the supply air.

This green choice saves money without affecting living comfort significantly.

When using Eco mode

1. Tap the leaf symbol on the upper right corner of the control panel main page.

Eco mode is now activated, and the leaf icon has turned green to signal this.

Should ventilation be powered down in winter in order to save energy?

Do not lower ventilation power or turn off ventilation even when the outdoor temperature drops. Instead of savings, it can cause additional expenses.

Your ventilation system is designed by a professional. The changes in the outdoor temperature have been taken into account in designing the system and units. If you do not change your daily routines, there is no reason to change functions of the ventilation system.

If the supply air intake is lessened during cold weather, ice can accumulate in the ventilation unit. The risk grows in extremely cold conditions, and when indoor air is very humid (e.g. after using the shower and when drying the laundry).

If you are suspecting that the ventilation system settings need to be updated, contact the system designer.

WARNING

Never shut down the ventilation system!

What other properties does the ventilation unit have?

Network interface



You can control your ventilation unit over internet. This is why the ventilation unit motherboard must be connected to internet. The technician will tell your user ID (unit serial number) and password once the installation is done. Go to my.enervent.com and log in with these credentials. You can monitor and control your ventilation unit over internet.

You can check you passport from the System information menu. Tap the arrow at the bottom of the control panel main screen > **Main menu** > **System information** > **eAir web PIN code**.

Measurements



You can check the temperature, air humidity, heat recovery efficiency, and other values from the **Measurements** menu.

To open the **Measurements** menu:

1. Tap the upward arrow on the main page of the control panel.
Main menu window opens.
2. Tap the icon in the **Measurements** menu.
Open the submenu of the meter you want.
3. A list of measurement results opens on the screen. Tap the arrow at the end of the result row, if you want to check the more specific measurement data.
4. Graphical presentations are available for the daily and weekly results.

Settings



Most submenus in the **Settings** menu are read only menus. Their function is to show which settings have been selected for your ventilation system.

WARNING

Only trained ventilation technicians can change the unit settings. Making changes requires a password.

You can make changes in the following menus, if necessary:

Menu	Description of change
Screen settings	- Changing language, date, time, brightness, and other screen properties.
Heat recovery settings	- Heat recovery anti-freezing start and shutdown. The technician has configured the rest of the heat recovery anti-freezing settings.
Summer night cooling	- Turning the summer night cooling on and off. - Setting the dates and times for summer night cooling. - Preventing or allowing active cooling. Summer night cooling is an efficient way to cool indoor air. Summer night cooling activates at night and brings in cool night air, which in turn lowers the indoor temperature. The installer has configured the other summer night cooling settings.
Boost functions	- Start and shutdown of humidity, carbon dioxide, and temperature boost Other values are not editable.

Menu	Description of change
Usage mode settings	<ul style="list-style-type: none"> - Setting the boost time in the Manual boost settings. - Setting the overpressure time in the Manual overpressure settings. - Activating and deactivating Silent mode. - setting the duration of the Silent mode <p>When the Silent mode is activated, the mode symbol appears in the mode menu on the main page (behind the green circle).</p> <ul style="list-style-type: none"> - Activating and de-activating the Maximum heating/cooling mode in the Maximum heating/cooling settings menu. <p>The technician has configured most Mode settings when installing the unit.</p>
Alarm settings	<ul style="list-style-type: none"> - Changing the alarm or maintenance notification for changing filters. - Resetting the alarm or maintenance notification for changing filters. <p>By setting the times and dates for alarms in the Alarms menu, you can decide when to receive B alarms. B alarms do not require immediate action.</p> <ul style="list-style-type: none"> - Activating and de-activating the filter pressure guard. <p>If your unit has installed filter guards (very rare in detached houses), you can activate and de-activate them in the Alarms settings menu.</p>

Office usage mode



If the ventilation unit is used in business premises or in a public space, its operating mode is likely to be **Office**.

Office usage modes are:

- **Office** (during normal working hours)
- **Overtime** (when people are present outside normal working hours)
- **Boosting** (when additional ventilation is needed)

When the ventilation is operating in **Office** mode, the center circle on the control panel main page displays the **At office** symbol.

Office mode means that the ventilation unit is often programmed to function only when there are people at the premises. Other times the center circle of the control panel says "Stop".

I want to work overtime (only Office mode)

If you are working for longer than the ventilation is in operation, you can switch on the **Overtime** mode.

To activate the **Overtime** mode:

1. Tap the green circle in the middle of the main page of the control panel.
Choose operating mode window opens.
2. Tap the **Overtime** icon.
Ventilation is left on.

and ends only after the set time. Default value is 2 hours.

What to do if ventilation is not working as wanted?

Supply air is too warm

If the air flowing from the ventilation is too warm:

1. Tap the minus symbol (-) on the main page of the control panel.
The temperature reading on the panel changes, and the ventilation system begins to adapt for the set temperature.

The set temperature is shown in green below the temperature reading. The temperature reading can show the temperature of indoor air, supply air, or exhaust air, depending on the settings.

The unit uses all available options for reaching the set temperature. If your system is missing elements, such as a cooling coil, it will not necessarily be able to reach the set temperature.

Supply air is too cold

If the air flowing from the ventilation is too cold:

1. Tap the plus symbol (+) on the main page of the control panel.
The temperature reading on the panel changes, and the ventilation system begins to adapt for the set temperature.

The set temperature is shown in green below the temperature reading. The temperature reading can show the temperature of indoor air, supply air, or exhaust air, depending on the settings.

The unit uses all available options for reaching the set temperature. If your system is missing elements, such as a post-heater, it will not necessarily be able to reach the set temperature.

Ventilation is too weak

If ventilation is not efficient enough, check the following:

- the filters are clean and do not need to be changed. If the filters are dirty, change them as described in the instructions in chapter **Changing a filter**.
- ventilation needs have not changed significantly after designing and installing the system. If, for example, the number of people using the building or the your daily routines have changed, your ventilation system may require updating. Contact the system designer.

Ventilation is too noisy

Although our ventilation units are fairly quiet, it is impossible to make them completely silent. A well-planned and built system, where the units are not near the bedrooms, and where sound-proofed doors and dampers are used, reduces the disturbance caused by ventilation.

If the ventilation system is noisier than usual, check that:

- the filters are clean and do not need to be changed. If the filters are dirty, change them as described in the instructions in section **Changing a filter**.
- the blowers are clean and do not need to be cleaned. If they are dirty, clean them as described in the instructions in section **Cleaning the blowers**.
- automatic humidity booster is not in operation. If the ventilation boost is constantly on*, it can be a sign of too high a indoor air humidity. Contact the system designer.

If ventilation needs to be silenced only temporarily, you can activate the **Silent** mode by tapping the green circle on the main page of the control panel and choosing **Silent** mode. The ventilation unit automatically reverts to normal operation after a time period configured in the settings.

* You can check this from the **system information** menu.

Control panel is not working

If controlling the ventilation unit with the control panel is not working, check that:

- the control panel battery is not functioning. If the battery is empty, recharge it by placing the control panel in the wall mount.

Air is too humid.

Besides your own observations, you can notice high humidity by checking the control panel and listening to the noises the ventilation system makes. If the automatic humidity boost is on constantly*, it can be a sign that air is too humid and the ventilation system is trying to fix the issue. If the indoor air is too humid, check that:

- the filters are clean and do not need to be changed. If the filters are dirty, change them as described in the instructions in section **Changing a filter**.
- ventilation needs have not changed significantly after designing and installing the system. If, for example, the number of people using the building and/or the use of sauna and showers has changed, your ventilation system may require updating. Contact the system designer.

* You can check this from the **system information** menu.

Ventilation is not on

If ventilation is not working, check that:

- the ventilation unit switch is in ON position.
- the unit power cable is plugged in
- unit is connected to electric input
- fuse is working

If the problem is any of the ones mentioned before, and the ventilation is not working, contact a maintenance company.



The control panel sends an alarm – what must be done?

If the control panel is alarming, it is shown in yellow on the main page, reading *Alarm is active*.

If you notice that the ventilation system has sent an alarm:

1. On the control panel main page you can
 - tap the alarm notification text or
 - tap the arrow at the bottom of the screen and then tap the **Alarms** icon.
2. Alarms window opens and the new alarm is shown first in the list.
At first glance you can see:
 - which alarm was sent
 - when the alarm was sentIf you need more information, tap the alarm row and an instruction will display on the screen. Tapping the active alarm row also displays Acknowledge button.
3. Check the **Troubleshooting** table at the end of this document to see if the issue can be solved. If it is a more difficult problem, contact the installing technician.

WARNING

Do not acknowledge the alarm before you have solved the issue causing the alarm.

MAINTENANCE

The unit does not need much maintenance. Sufficient maintenance usually covers the following tasks:

- changing filters
- cleaning the heat exchanger (when sweeping the ventilation ductwork)
- cleaning the filters (when sweeping the ventilation ductwork)
- checking the condensation water removal pipe.

DANGER

Before starting maintenance, switch off the power by removing the plug from the socket. Wait approximately two (2) minutes before starting maintenance. Although power has been shut down, the blowers will rotate and the electric coil will be hot for a while.

The hardware contains moving parts (e.g. blowers, the motor and the belt of the rotating heat exchanger) that wear down in use. Because of normal wearing, these parts must be changed during the hardware lifetime. The normal lifetime of wear parts is defined by the operating conditions and periods, which means that a normal maintenance period cannot be defined for the wear parts.

Maintenance notification

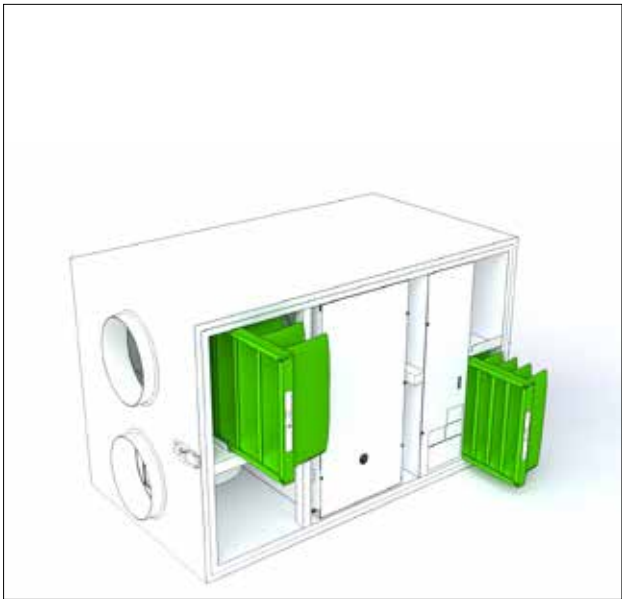
Control panel reminds about the performing of regular maintenance actions.

NOTE

When some part of the hardware is maintained, check if the other parts are clean or worn.

For more information on maintenance actions, see a video in the Help Center on our website at www.enervent.com.

Filters



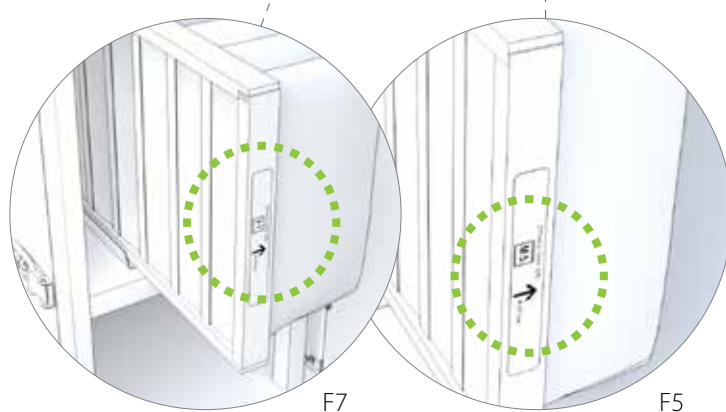
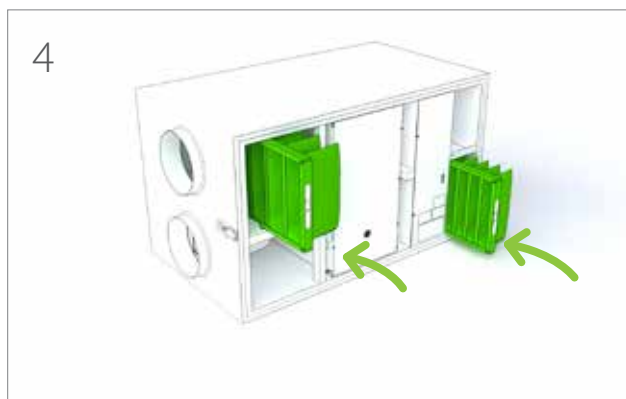
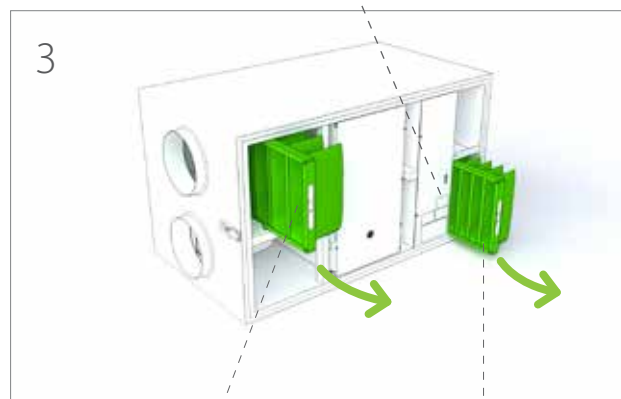
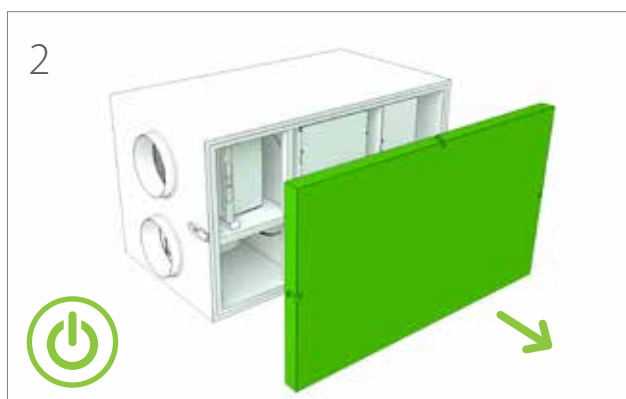
The ventilation unit uses F7 and M5 bag filters.

Filter type	Service interval
Bag filter	6 months

NOTE

Vacuuming/cleaning of the F7 bag filters is not allowed.

Changing filters



Fans

Inspecting

DANGER

Before opening the service hatch, always make sure that the unit's supply voltage is switched off.

1. Inspect the cleanness of the fans visually when changing the filters.
- If they look dirty, clean them.

TIP

Vacuum the inside of the unit for better performance and cleaner indoor air.

Cleaning

DANGER

Before opening the service hatch, always make sure that the unit's supply voltage is switched off.

1. Remove the fans from the unit.
2. Clean the fans with a toothbrush or pressurized air.
3. Place the fans back into the unit.

Heat exchanger

Inspecting

1. Check the cleanness of the heat exchanger visually when changing the filters.
- If it looks dirty, clean it.

TIP

Vacuum the inside of the unit for better performance and cleaner indoor air.

Cleaning

DANGER

Before opening the service hatch, always make sure that the unit's supply voltage is switched off.

1. Remove the heat exchanger from the unit.
2. Wash the heat exchanger with water and neutral detergent or use pressurized air.

WARNING

Do not submerge the heat exchanger in water. The electric motor inside the exchanger must not get wet.

The use of a pressure washer is strictly forbidden.

3. Dry the heat exchanger properly.
4. Place the heat exchanger back into the unit.
5. Start the unit up to verify the rotation.
6. Close the service hatch.

Replacing heat exchanger belt

If the heat exchanger has stopped rotating, the reason for it may be a broken drive belt. Check the condition of the belt from the round opening at the front of the heat exchanger. There is one spare belt attached to all heat exchangers.

NOTE

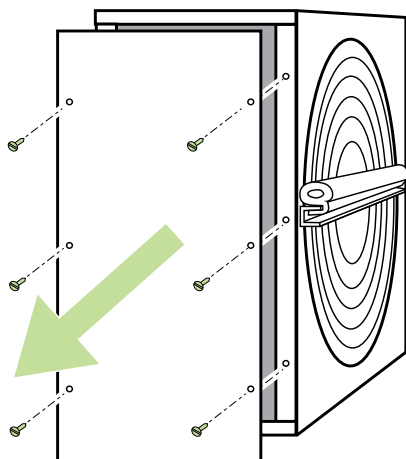
Visit the HelpCenter on our webpage www.enervent.fi for videos showing the maintenance tasks.

To replace:

DANGER

Turn off the ventilation unit by switching off the main power supply, by removing the fuse or by disconnecting the wall plug.

1. Detach the bayonet connector from the socket.
2. Remove the heat exchanger from the unit carefully.
3. Unscrew the six screws on the heat exchanger maintenance hatch lid at the front side of the heat exchanger.

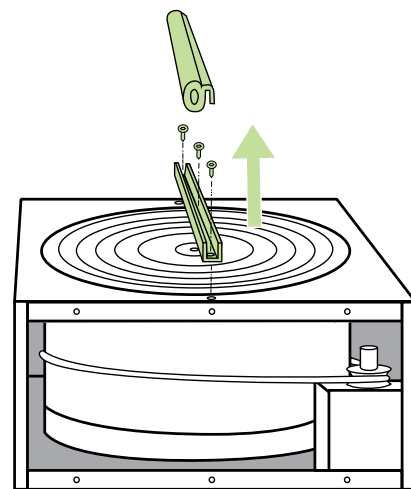


4. Open the maintenance hatch with the help of a flat tool.
 - Use for example a Stanley knife.
5. Pull off the broken heat exchanger belt.

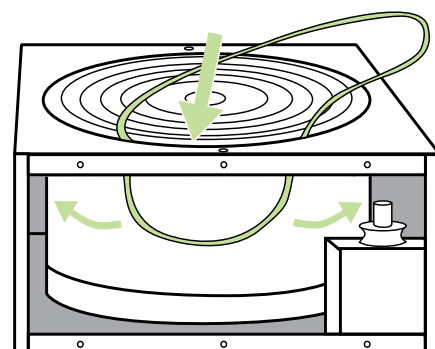
6. Inspect the belt wheel to make sure it is undamaged, in its place and rotating properly.
7. Clean the heat exchanger and the belt wheel.
 - Use water and neutral detergent with a soft, lint-free cloth.
 - Rotate the heat exchanger to make sure everything gets cleaned.
 - Make sure that the heat exchanger is rotating freely, without excessive force. You should be able to rotate the heat exchanger with only one finger.

Go to step 8 if a spare belt is not attached on your heat exchanger.

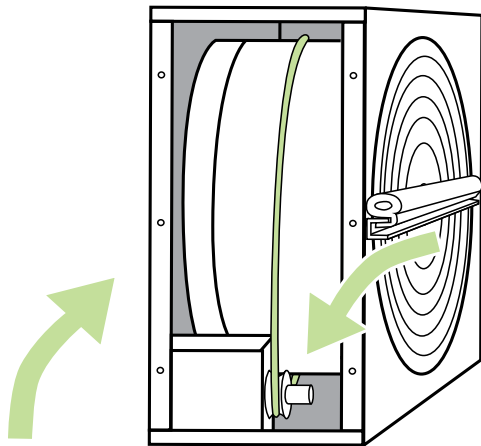
- Pull the spare exchange belt from the holders by rotating the exchanger. Leave the holders on the heat exchanger.
8. Loosen the U-beam on one side of the heat exchanger by removing the screws under the U-beam rubber gasket.



9. Unscrew the hexagonal screw of the axle in the middle of the U-beam and remove the beam.
10. Slide the new belt inside around the heat exchanger through the opening in the casing and the gasket.

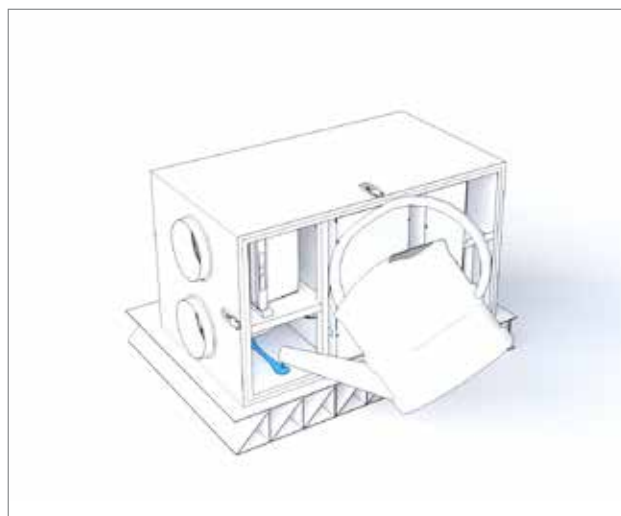
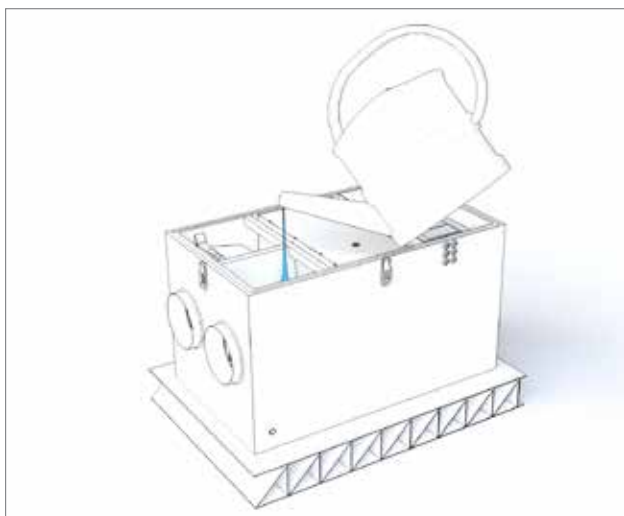


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11. Rotate the heat exchanger to get the belt properly in place.
 12. Replace the U-beam and reattach the axle and U-beam screws.
 13. Go through the new belt with the cleaning cloth to make sure it is free of dirt.
 14. Pull the belt onto the belt wheel.



15. Rotate the heat exchanger to see that the belt is in its place and everything looks fine.
16. Vacuum clean the heat exchanger casing.
 - Rotate the heat exchanger when you are vacuuming to be sure to clean everywhere.
17. Close the maintenance hatch.
18. Add some silicone onto the rubber strips outside the heat exchanger casing.
19. Place the heat exchanger back into the unit.
20. Reconnect the bayonet connector to the socket.
21. Reconnect the power.
22. Make sure the heat exchanger rotates.

ADDING WATER TO WATER LOCK (REMOVAL OF CONDENSATION WATER)



TROUBLESHOOTING

Alarm	Reason	Instruction	Solution
LTO supply air cold (TE-05 min)	Heat exchanger trace has broken	A green trace circles the heat exchanger. Check if the trace can be seen from the LTO cell review hole. If it cannot be seen, the trace has broken.	Change the trace
	The heat exchanger trace is lubricated so that it can slide	A green trace circles the heat exchanger. Check from the LTO trace review hole if the pulley is rotating even though the LTO cell is not rotating.	Change the trace
	Exhaust blower has stopped	Open the access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press with a screwdriver and check, if the blower starts.	Change blowers
	Exhaust air filter is blocked	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the exhaust filter
	Exhaust air valves adjusted wrong		Contact the company that installed the ventilation unit and find out if the air flow and valves are correctly adjusted. Contact the maintenance.
	Ducts have inadequate insulation		Check the thickness of insulation in supply and exhaust ducts, and add insulation if necessary. Contact the maintenance.
	The protection against additional heating overheating has launched.		Find out the cause for the failure and reset the protection against overheating (* button in the radiator). Contact the maintenance.
	The motor/gearbox in the heat exchanger is faulty	Open the access door while the machine is operating and listen, if the sound comes from the LTO.	Contact the maintenance.
	The LTO controller card is faulty (EDA models)	The LTO cell is controlled by a separate controller card that is located in the electric box of the machine.	Contact the maintenance.
Supply air cold (TE-10 min)	LTO pulley has separated from the shaft	Check from LTO trace review hole if the shaft is rotating empty and the pulley is in its place.	Tighten the screw on the pulley. Contact the maintenance.
	Heat exchanger trace has broken	A green trace circles the heat exchanger. Check if the trace can be seen from the LTO cell review hole. If it cannot be seen, the trace has broken.	Change the trace
	The heat exchanger trace is lubricated so that it can slide	A green trace circles the heat exchanger. Check from the LTO trace review hole if the pulley is rotating even though the LTO cell is not rotating.	Change the trace
	Exhaust blower has stopped	Open the access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press with a screwdriver and check, if the blower starts.	Change blowers
	Exhaust air filter is blocked	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the exhaust filter
	Exhaust air valves adjusted wrong		Contact the company that installed the ventilation unit and find out if the air flow and valves are correctly adjusted. Contact the maintenance.

Alarm	Reason	Instruction	Solution
	Ducts have inadequate insulation		Check the thickness of insulation in supply and exhaust ducts, and add insulation if necessary. Contact the maintenance.
	The protection against additional heating overheating has launched.		Find out the cause for the failure and reset the protection against overheating (* button in the radiator). Contact the maintenance.
	TE-10 temperature sensor is faulty		Check from the measurements menu on the control panel if the supply temperature measurement is off the charts. Contact the maintenance.
	The motor/gearbox in the heat exchanger is faulty	Open the access door while the machine is operating and listen, if the sound comes from the LTO.	Contact the maintenance.
	The LTO controller card is faulty (EDA models)	The LTO cell is controlled by a separate controller card that is located in the electric box of the machine.	Contact the maintenance.
	LTO pulley has separated from the shaft	Check from LTO trace review hole if the shaft is rotating empty and the pulley is in its place.	Tighten the screw on the pulley. Contact the maintenance.
Hot supply air (TE-10 max) Fire risk	Electrical post-heating faulty		Contact the maintenance.
	Water heating radiator has a faulty control valve actuator		Contact the maintenance.
	TE-10 temperature sensor faulty		Check from the measurements menu on the control panel if the supply temperature measurement is off the charts. Contact the maintenance.
Hot room air (TE-20 max)	Fire risk		Contact the maintenance.
	TE-20 temperature sensor faulty		Check from the measurements menu on the control panel if the room temperature measurement is off the charts. Contact the maintenance.
Exhaust air cold (TE-30 min)	Ducts have inadequate insulation		Check the thickness of insulation in supply and exhaust ducts, and add insulation if necessary. Contact the maintenance.
	The protection against additional heating overheating has launched.		Find out the cause for the failure and reset the protection against overheating (* button in the radiator). Contact the maintenance.
	The ventilation unit door is open		Close the door. Contact the maintenance.
	Low room temperature		Raise the room temperature. Contact the maintenance.
	TE-30 temperature sensor is faulty		Check from the measurements menu on the control panel if the supply temperature measurement is off the charts. Contact the maintenance.
Exhaust air hot (TE-30 max)	Fire risk		Contact the maintenance.

Alarm	Reason	Instruction	Solution
	TE-30 temperature sensor faulty		Check from the measurements menu on the control panel if the exhaust temperature measurement is off the charts. Contact the maintenance.
Electric radiator overheated (SLP fault)	Electrical post-heating faulty		Contact the maintenance.
	Supply blower stopped	Open the machine access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press the door switch with a screwdriver and check, if the blower starts.	Contact the maintenance.
	Supply filter blocked	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the supply filter. Contact the maintenance.
	Outdoor louvre blocked	Check if the louvre on the outside of the house is blocked.	Clean the outdoor louvre. Contact the maintenance.
	The heating controller card is broken		Change the heating controller card. Contact the maintenance.
Water radiator freezing risk (TE-45 min)	Heat exchanger trace has broken	A green trace circles the heat exchanger. Check if the trace can be seen from the LTO cell review hole. If it cannot be seen, the trace has broken.	Change the trace
	The heat exchanger trace is lubricated so that it can slide	A green trace circles the heat exchanger. Check from the LTO trace review hole if the pulley is rotating even though the LTO cell is not rotating.	Change the trace
	Exhaust blower has stopped	Open the machine access door while the machine is operating. The exhaust blower should be rotating. In LTR model machines, press the door switch with a screwdriver and check, if the blower starts.	Change blowers
	Exhaust air filter is blocked	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the exhaust filter
	Exhaust air valves adjusted wrong		Contact the company that installed the ventilation unit and find out if the air flow and valves are correctly adjusted. Contact the maintenance.
	Ducts have inadequate insulation		Check the thickness of insulation in supply and exhaust ducts, and add insulation if necessary. Contact the maintenance.
	The protection against additional heating overheating has launched.		Find out the cause for the failure and reset the protection against overheating (* button in the radiator). Contact the maintenance.
	Water heating radiator has a faulty control valve actuator		Contact the maintenance.
	The circulator has shut down	Check if the heating/cooling circulator is rotating.	Start the pump. If the issue persists, contact maintenance. Contact the maintenance.
	The LTO controller card is faulty (EDA models)	The LTO cell is controlled by a separate controller card that is located in the electric box of the machine.	Contact the maintenance.
	LTO pulley has separated from the shaft	Check from LTO trace review hole if the shaft is rotating empty and the pulley is in its place.	Tighten the screw on the pulley. Contact the maintenance.

Alarm	Reason	Instruction	Solution
Cooling error	The external cooling unit has shut down	Check that the safety switch of the external unit is on.	Start the external unit. If the issue persists, contact maintenance. Contact the maintenance.
External emergency shutdown	Ventilation stopped with the emergency shutdown button.	If the house has an external shutdown switch, check if it has been pressed.	Find the root cause before resetting. Contact the maintenance.
External fire risk	Ventilation shut down with an external fire risk controller.	If your house has an external fire risk controller, check if it has been activated.	Find the root cause before resetting. Contact the maintenance.
Maintenance notice	Normal notice every 4 or 6 months (depending on the model)		Change the filters and clean the unit from inside. Check that the machine functions. Contact the maintenance.
Filter alarm: Supply (extra)	Supply filter is blocked.	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the supply filter. Contact the maintenance.
Filter alarm: Exhaust (extra)	Exhaust air filter is blocked.	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the exhaust filter. Contact the maintenance.
Supply air filter rotation guard	Supply blower has stopped.	Open the machine access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press the door switch with a screwdriver and check, if the blower starts.	Contact the maintenance.
Exhaust air filter rotation guard	Exhaust blower has stopped.	Open the machine access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press the door switch with a screwdriver and check, if the blower starts.	Change blowers. Contact the maintenance.
PDS 10 alarm	Supply blower has stopped.	Open the access door while the machine is operating. The supply blower should be rotating. In LTR model machines, press with a screwdriver and check, if the blower starts.	Contact the maintenance.
	Supply filter blocked.	Open the access door when the machine is off. Pull out the filter and check the dirtiness of the filter.	Change the supply filter. Contact the maintenance.
	Outdoor louvre blocked.	Check if the louvre on the outside is blocked.	Clean the outdoor louvre. Contact the maintenance.

Enervent LTR-3

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PRODUCT INFORMATION ACCORDING TO
EU COMMISSION REGULATION NO 1253/2014 AND 1254/2014

Supplier's name or trade mark	Enervent
Supplier's model identifier	LTR-3
Specific energy consumption (sec) in kWh/(m ² .A)	
• Cold climate	-82,05
• Average climate	-39,45
• Warm climate	-15,04
Declared typology in accordance with article 2 of this regulation	RVU / BVU
Type of drive installed or intended to be installed	Multi-speed drive
Type of heat recovery system	Regenerative
Thermal efficiency of heat recovery	78,5
Maximum flow rate in m ³ /h	328
Electric power input of the fan drive, including any motor control equipment, at maximum flow rate (W)	190
Sound power level (L _{WA}), rounded to the nearest integer	44
Reference flow rate in m ³ /s	0,064
Reference pressure difference in Pa	50
SPI in W/(m ³ /h)	0,39
Control factor and control typology in accordance with the relevant definitions and classification in annex VIII, table 1	0,65
Declared maximum internal and external leakage rates (%) for bidirectional ventilation units	<4% / <2%
Position and description of visual filter warning for rvus intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	Filter warning on control panel. Instructions in user manual.
Internet address for disassembly instructions as referred to in point 3	https://doc.enervent.com/out/out.ViewFolder.php?folder-id=957
The annual electricity consumption (AEC) (in kWh electricity/a)	204
The annual heating saved (AHS) (in kWh primary energy/a) for each type of climate	
• Cold climate	8716
• Average climate	4445
• Warm climate	2015

The information on the energy label for this product has been defined with local demand control. Local demand control means that the ventilation unit continuously regulates the fan speed(s) and flow rates based on more than one sensor. Please remember to connect all local sensors (some sold as extra equipment) in order to achieve the declared energy class.

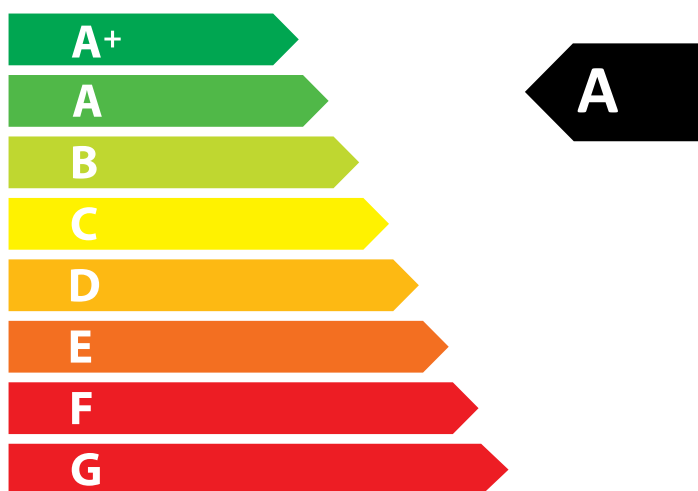
enervent



ENERG
енергия · ενεργεια



LTR-3



45
dB



230 m³/h



ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI

2016

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