




HomeVent® comfort FRT (251, 351, 451)

Comfort ventilation unit








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1 Key to symbols used

	Notice : Important information.
	Safety instructions: Indicate an immediate hazard to persons.
	Cautionary notes: Indicate danger to machines and installations.

2 Safety instructions

Persons performing work on the HomeVent® comfort ventilation unit must have read and understood the operating instructions before commencing work. The unit must not be taken into operation until the air ducts have been connected. Initial commissioning of a newly installed system must only be carried out by a qualified installer. The installation inspection must be carried out by a qualified technician trained by Hoval.

	In the event of danger: Switch the unit off and cut off the power supply.
	In the event of a fire: Switch the unit off and cut off the power supply.
	Do not carry out any modifications to the unit! Otherwise, all legal claims will be invalidated.
	Opening the filter cover/prefilter cover: Switch the unit off first and cut off the power supply.
	Opening the unit cover: The unit is only allowed to be opened by a qualified technician trained by Hoval.

3 Important information

3.1 Warranty

- The HomeVent® comfort ventilation unit is only allowed to be operated within the defined application limits.
- The HomeVent® comfort ventilation unit is only allowed to be used for supply and extract air handling of heated rooms.
- The pertinent laws, regulations and guidelines must be complied with during installation and operation, when performing maintenance and service work and when disposing of the unit.
- The HomeVent® comfort ventilation unit is only

allowed to be operated in rooms and on premises with fireplaces in compliance with the pertinent country-specific laws, regulations and guidelines. Flue gas from fireplaces must be routed off separately.

- Do not drill into the housing of the HomeVent® comfort ventilation unit.

The comfort ventilation unit is only allowed to be used for the purpose for which it was designed and which has been approved by Hoval. Any other use is impermissible.

Application in the following areas is prohibited:

- Operation during the construction phase, due to the high dust exposure.
- Use of the unit to dry out building shells and new buildings
- Ventilation of several residential units.
- Ventilation of rooms with extremely high air humidity levels, e.g. steam rooms, indoor swimming pools.
- Ventilation of rooms with extremely high air humidity levels, e.g. saunas, indoor swimming pools.
- The ventilation of rooms with highly contaminated extract air (flue gas, chlorine, air containing high amounts of grease, explosive extract air), e.g. rooms in the catering industry, swimming baths, rooms in which chemicals are stored.
- The conveyance of air contaminated with aggressive vapours and abrasive substances.
- The extraction of flue gas from fireplaces.

3.2 Liability

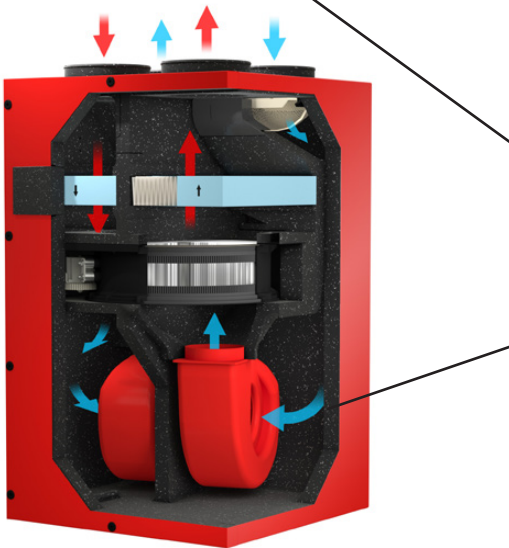
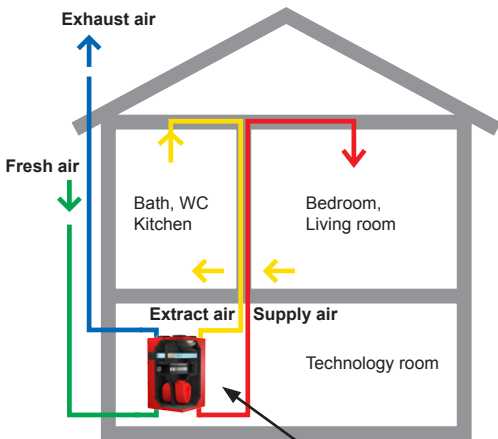
- The application limits are stated below. Any other use is deemed to be improper use and can lead to injury to persons or damage to the comfort ventilation unit. The manufacturer cannot be held liable for any such damage.
- The manufacturer accepts no liability for damage resulting from:
 - Failure to observe the safety, operating and maintenance instructions contained in these operating instructions.
 - Performance of work on the unit not described in these operating instructions and not expressly approved by the manufacturer.
 - Installation of spare parts (including filters) not supplied by the manufacturer.
 - Normal wear and tear.
- The general business terms and conditions of Hoval apply. See: www.hoval.com
- For details concerning service agreements, please contact Hoval Customer Service. You will find the addresses on the back page of this manual.

3.3 Guarantee

With the acquisition of a Hoval unit, you also obtain comprehensive warranty cover under the Hoval terms of warranty. This warranty is, however, dependent on observance of the operating instructions and on compliance with the applicable legal regulations. Non-compliance with the above will invalidate all liability and warranty claims against Hoval.

4 Technical information

4.1 Description



- Temperature efficiency up to 90%
- Degree of humidity recovery up to 95%
- Transmission performance can be adjusted continuously
- No preheating required (down to -20°C)
- No condensation
- No bypass required

Air filtration

The fresh air goes through two cleaning stages, ensuring the highest standard. A fine-meshed prefilter (washable) at the entry of the unit prevents insects, leaves, etc. from reaching the unit. Before the fresh air leaves the unit, it flows through a high-capacity fine pollen filter (ePM_{1,0}50%). In addition, an activated carbon filter can be installed on the supply air side (optional). The operator receives a message when it is time to change the filter.

Air delivery

Two backward-curved centrifugal fans with EC direct current motors deliver the air. The rotating wheel made of high-tech composite material is produced in one piece with optimised fluid mechanics, and ensures quiet operation of the unit. The electronics built into the motor enable the air volumes to be finely regulated.

! Fan failure:
If a fan fails - supply and/or extract air - the unit switches off. The state is displayed on the operator terminal. Contact the HomeVent specialist near you.

Suitability for winter

Due to the built-in enthalpy recovery unit, no condensate is formed in the unit. Ice formation is not possible. No preheating (electric air heater) is necessary for outdoor temperatures down to -20 °C. The air volume ratio between the supply air and extract air is not changed.

Summer operation

The energy recovery is reduced to a minimum according to the outdoor temperature. This enables night cooling (free cooling) in the summer as well as when the seasons change. It is not necessary to arrange for a bypass via dampers and a drive. In addition, the CoolVent option can actively recover cold in air-conditioned buildings. The hot fresh air is cooled and if necessary dried with the air-conditioned extract air.

Installation

The HomeVent® comfort ventilation unit is characterised by a compact design. Different air connections are possible using the three variable acoustic insulating boxes. No condensate accrues in the unit.

Energy recovery

The built-in enthalpy recovery unit withdraws energy from the extract air and transfers it to the supply air. This enables the intelligent (temperature) and the latent (humidity) energy to be transferred. The transmission performance is regulated between 0 and 100% depending on the outdoor temperature.

The advantages of the enthalpy recovery unit are:

Standard operator terminal BG02 E

The operator terminal is suitable for on-wall mounting. The target air volume and the maximum air humidity can be set with two rotary knobs. With the party button, the air volume can be increased for a limited period of time. Connection to the HomeVent® comfort ventilation unit via RJ45 plug connection. The unit can also be installed in a secondary room.

TopTronic® E room control module comfort plus

The TopTronic® E room control module comfort plus is available either with a black or white design. Operable via colour touchscreen (4.3-inch). The connection to the HomeVent® comfort ventilation unit is made via RJ45 plug connection or plug terminals (max. 0.75 mm²). The unit can be installed on the wall with an on-wall mounted frame or with a wall-mounting plate and flush-mounted boxes. The TopTronic® E room control module carries out the following functions:

- Operation of all Hoval units connected to the bus.
- Authorisation management for operation.
- Efficient control of the ventilation system by working with day programmes.
- Selection between different start screens possible during commissioning.
- Customer-specific configurable screen for displaying the following elements: date, time, target air volume in %, maximum target humidity in %, active day or week programme, display of the current air quality inside and outside the building based on a colour marking (only in combination with VOC air quality sensors), display of the current weather or weather forecast (only possible in combination with TopTronic® online), phases of the moon.

!	<p>Control error: If the unit control fails, the unit switches off. The state is displayed on the operator terminal. Contact the HomeVent specialist near you.</p>
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Air quality

Optionally, one or two VOC air quality sensors can be installed in the unit during commissioning. In addition, an activated carbon filter can be installed on the supply air side as an option. The VOC air quality sensor(s) continuously monitor(s) the air for volatile organic components and regulate the air volume that is supplied or extracted via the speed of the fans. This results in optimal air quality in the building with minimal energy input.

VOC air quality sensor on extract air side: The extract air is continuously monitored for odours, tobacco smoke, cleansing agents, etc. If the concentration of the extract air exceeds a certain value, the air volume is increased correspondingly.

VOC air quality sensor on fresh and extract air side: The extract and fresh air is continuously monitored for odours, tobacco smoke, cleansing agents, etc. If the

concentration of extract air exceeds a certain value, the air volume is increased correspondingly. If the concentration in the fresh air exceeds a certain value, the air volume is reduced correspondingly. The sensor registering the higher value takes priority. The sensitivity can be set to one of 3 stages. On the TopTronic® E room control module comfort plus, the air quality is displayed by a bar for the extract air and a bar for the fresh air, which will either be green (good air), orange (slightly contaminated air) or red (bad air).

The activated carbon filter can be inserted in place of the standard supply air filter. This is a high-capacity filter (ePM_{1.0}50%) with high efficiency against particles (pollen, fine dust, etc.) and against gaseous pollutants and odours (agriculture, traffic, etc.).

Cooling

The warm fresh air can be cooled using the CoolVent® option. However, this requires an air-conditioning system to be present in order to provide the necessary cooling in the room. The enthalpy recovery system extracts heat from the warm fresh air and feeds it to the cold extract air. The necessary output of the air-conditioning system is thereby reduced. The efficiency for this process is 85%. The CoolVent function is an option which must be activated during commissioning.

4.2 Use

Settings on the operator terminal

The operator terminal allows you to adjust your HomeVent® comfort ventilation system to suit your needs. Using the operator terminal or module, it is possible to set the basic flow rate at which the ventilation unit should always be operated as a minimum. Furthermore, the target humidity value can be selected. If this is exceeded in the room, the flow rate of the ventilation unit is increased. Please bear in mind that, especially during the change of seasons, setting a low target humidity value can result in a high volumetric current and thus noise. Detailed operating instructions were enclosed with your operator terminal.

Functional check

Reliable and safe functioning of the HomeVent® comfort ventilation unit and optimum efficiency can only be guaranteed if the unit is serviced regularly. Please also regularly check the other components of your comfort ventilation system, such as the fresh air intake, supply and extract air ports and exhaust air grille, Supply and extract air openings and exhaust air grille.

Opening the windows

As a rule, you will not require heating in summer and thus no heat recovery via your comfort ventilation unit. HomeVent® comfort ventilation unit. You can open doors and windows as you wish. However, bear in mind that pollen, insects and dust can enter the house through open doors and windows.

If you open the windows in winter or during the heating season, you lose the benefits of your HomeVent® comfort ventilation system. Valuable energy escapes through the windows. The humidity contained in the outgoing air cannot be recovered, meaning that the room and becomes drier. Your comfort ventilation system provides a constant supply of fresh air for your living area. Your comfort ventilation unit recovers both the heat and the moisture contained in the air. Your comfort ventilation system provides a constant supply of fresh air for your living area. Your comfort ventilation unit recovers both the heat and the moisture contained in the air.

Absence

If you are away for a prolonged period, set your comfort ventilation to an output of 15% and keep outside doors and windows closed - in particular in winter so that no heat is lost. Never switch your comfort ventilation system off completely in winter.

4.3 Application limits

Application limits for unit setup, weather-protected (EN 60721-3-3)

3K5 as per EN 50090-2-2

- Ambient temperature -16...45 °C
- Ambient humidity max. 12 g/kg
- Dew point temp. in installation room < 15 °C air conditions (Moderate outdoor climate EN 60721-2-1)
- Fresh air intake temperature -20...40 °C
- Fresh air intake humidity 5...95 % r.F.
- Extract air temperature 5...35 °C
- Extract air humidity 5...80 % r.F.
- Extract air humidity max. 12 g/kg

5 Components

5.1 Ventilation unit

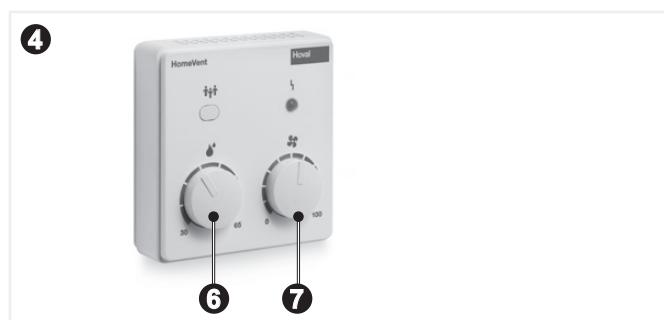
Comfort ventilation unit:



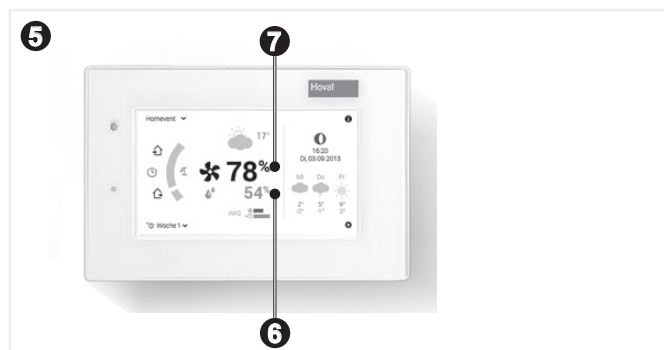
1	Supply air and extract air filter
2	Access panel
3	Prefilter cover

5.2 Appareil de commande

The HomeVent® comfort ventilation unit is operated via an operator terminal. You can choose between two operator terminals.



or




4	Operator terminal BG02 E
5	TopTronic® E room control module comfort plus
6	Target value max. air humidity
7	Air quantity in %

6 Commissioning

6.1 Installation inspection

Please check the following points:

- The HomeVent® comfort ventilation unit must be mounted securely and vibration-free on the wall, ceiling or floor.

	With ceiling installation: Beware of falling parts.
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- The HomeVent® comfort ventilation unit must be mounted securely and vibration-free on the wall or the original Hoval device base.
- One silencer each must be fitted for supply and extract air. A silencer may also be necessary in the fresh and exhaust air, depending on the positioning of the outlets. When using one of the three acoustic insulating boxes, all supply and exhaust air lines are insulated.
- The comfort ventilation unit must be connected in accordance with the rules of ventilation engineering.
- Fresh and extract air lines must be thermally insulated to prevent vapour diffusion.
- If the comfort ventilation unit is located in an unheated room, the supply and extract air lines must thermally insulated.
- The ducts must be leak-tight.
- Check the supply air outlets for dirt build-up and clean them if necessary.
- Extract air points must be free and clean.
- The fresh air intake must be clean and unobstructed.
- The filters must be clean.
- The HomeVent® comfort ventilation unit must be connected to the mains.
- Electrical connecting lines must be intact.
- The comfort ventilation unit must be inspected and serviced regularly. The cleaning and maintenance intervals depend to a great extent on the running time and the degree of contamination in the ambient air (e.g. dust, traffic etc.).
- The HomeVent® operator terminal must be connected to the comfort ventilation unit.

6.2 Switching on




- Connect the mains plug of the HomeVent® comfort ventilation unit to the device and in the socket.
- Set the operator terminal to the desired operating mode.

7 Maintenance

The comfort ventilation unit must be inspected and serviced regularly. The cleaning and maintenance intervals depend to a great extent on the running time and the degree of contamination in the ambient air (e.g. dust, traffic etc.).

	Thorough cleaning of the HomeVent® Comfort ventilation unit by Hoval Customer Service or an installer trained by Hoval.
	Conclude a service agreement with Hoval, and your HomeVent® comfort ventilation unit will be serviced regularly by Hoval Customer Service.

7.1 Supply air an extract air filter

	Caution: Do not operate the comfort ventilation unit unless the filters are fitted!
	Replace the filters after the pollen season if you have a pollen allergy.
	Filter message on operator terminal: In order to ensure optimal operation, filters must be replaced when a filter message appears on the operator terminal. The interval depends on the filter load.

7.1.1 Filter soiling

The supply air and extract air filters are time-monitored. The end of the set operating time is displayed on the operator terminal. The filter replacement interval can be adapted to local conditions.

- Operator terminal BG02 E:
Operating mode display LED lights up orange.
- TopTronic E® room control module comfort plus:
operating mode display LED lights up orange and is supplemented by a warning triangle on the display.

7.1.2 "Filter change" procedure

1. Disconnect the HomeVent® comfort ventilation unit power plug.



2. Pull out filter cover.



3. Pull out soiled filters. Remove filter support.



i Dispose of the soiled filters immediately after exchange.

4. Clean the filter chamber by hand or with a vacuum cleaner.
5. The filter support does not have to be reinserted.

! **Caution:** Observe the correct air flow direction when inserting the filters (arrows on the filter)!

6. Insert cover and push on firmly.
7. Connect the HomeVent® comfort ventilation unit power plug.

- i**
 - The filters are not reusable (washable).
 - The filters are 100 % incinerable (residual waste).
- i** Make a note of the date when you replaced the filters on the log sheet.
- i** Order new filters when you have replaced the old ones to ensure that you can change the filters without delay the next time this becomes necessary.

7.2 Prefilter

The prefilter is inside the unit on the fresh air inlet.

7.2.1 Cleaning interval

The prefilter should be cleaned regularly for hygiene reasons.

i Make a note of the date when you cleaned the filters on the log sheet.

7.2.2 Procedure

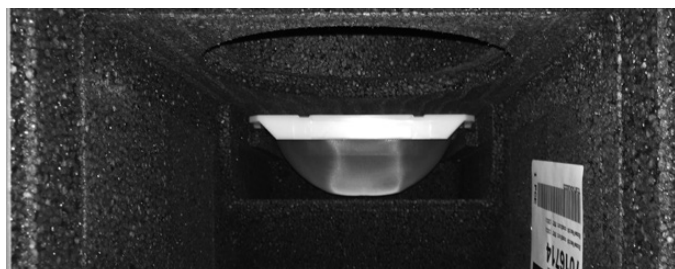
1. Pull out both prefilter cover.



2. Pull out, wash and dry the soiled prefilter.



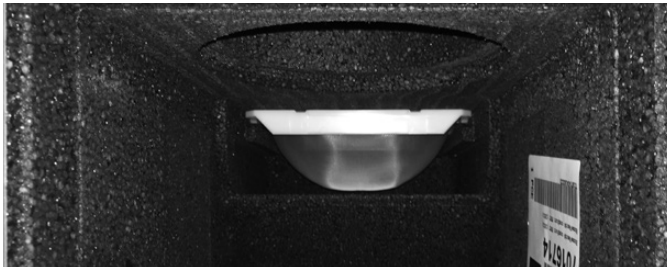
3. Pull out the dirty prefilter, wash and dry.



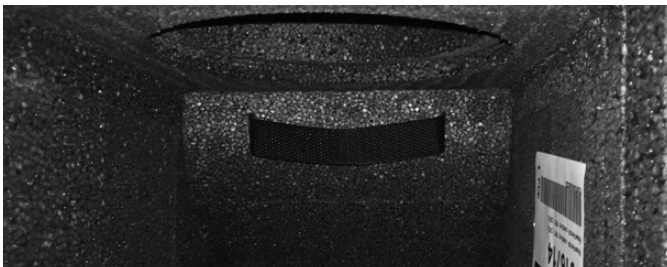


If the prefilter is damaged, please order a new filter.

- Clean the filter chamber by hand or with a vacuum cleaner.
- Slide in the cleaned filters.



- Push in both prefilter cover.



- Insert prefilter cover.

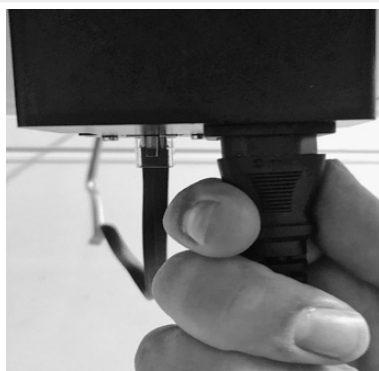


7.3 Fuse change

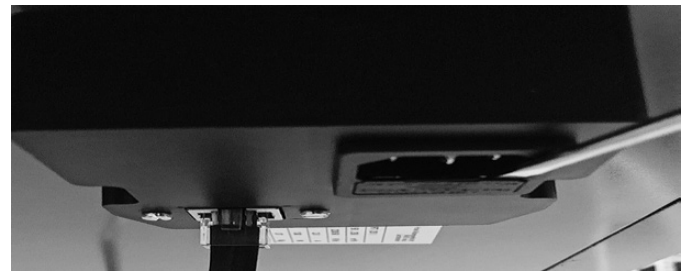
- Pull out plug.



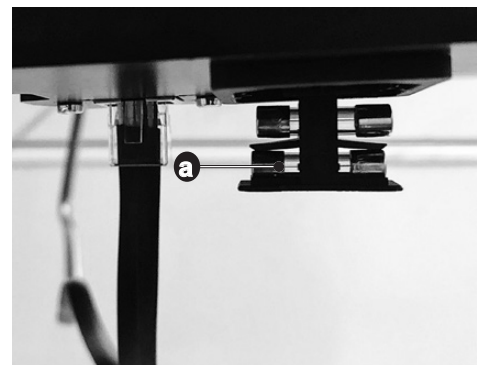
Caution high voltage!



- Place screw driver, pull out insert.



- Change fuse (a replacement fuse (a) is available in the unit).



- Slide in insert
- Insert plug

7.4 Spare parts



Use only genuine Hoval accessories. You will find the ordering addresses on the back page of this manual.

Designation	Filter class	Art.No.
Supply air filter pollen fine cassette filter	ISO ePM _{1,0} 50%	5043 550
Supply air active carbon filter ACF high-output SA filter alternative to supply air filter ZF-200	ISO ePM ₁₀ 52%	5043 778
Extract air filter AF coarse particulate cassette filter	ISO ePM ₁₀ 50%	5043 611



Order the spare parts directly at www.hoval.com

8 Logs

8.1 Plant logs

Installer

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Electrician

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Hoval Customer Service
(see back page of this manual)

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8.2 Filter maintenance log

Please make a note of the actions you have carried out in the log below! E.g.: When you have inspected the supply air filter, circle the 'I' in the supply air filter column and enter the date on which the inspection was carried out. If servicing tasks are performed by several persons, the person who carried out the task should enter their name in the last column in case any questions arise later.

I = Inspection

R = Replacement

C = Clearing

No.	Supply air filter	Extract air filter	Prefilter	Comment	Date	Carried out by
1	I / R	I / R	I / C	heavy dirt build-up	24.10.2011	K. Müller
2	I / R	I / R	I / C			
3	I / R	I / R	I / C			
4	I / R	I / R	I / C			
5	I / R	I / R	I / C			
6	I / R	I / R	I / C			
7	I / R	I / R	I / C			
8	I / R	I / R	I / C			
9	I / R	I / R	I / C			
10	I / R	I / R	I / C			
11	I / R	I / R	I / C			
12	I / R	I / R	I / C			
13	I / R	I / R	I / C			
14	I / R	I / R	I / C			
15	I / R	I / R	I / C			
16	I / R	I / R	I / C			
17	I / R	I / R	I / C			
18	I / R	I / R	I / C			
19	I / R	I / R	I / C			
20	I / R	I / R	I / C			
21	I / R	I / R	I / C			
22	I / R	I / R	I / C			
23	I / R	I / R	I / C			
24	I / R	I / R	I / C			
25	I / R	I / R	I / C			

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