SINGLE-ROOM HEAT RECOVERY AIR HANDLING UNIT

FRESHBOX E120

EN OPERATION MANUAL

BLAUBERG Ventilatoren

CONTENTS

BLAUBERG Ventilatoren GmbH Company is happy to offer your attention single-room heat recovery air handling unit **FRESHBOX E120**.

INTRODUCTION

The present operation manual contains a technical description, technical data sheets, operation and mounting guidelines, safety precautions and warnings for safe and correct operation of the unit. Read carefully and understand the operation manual, especially the safety requirements, before the unit mounting and start up. Keep the operation manual available as long as you use the unit.

GENERAL

The heat recovery air handling unit is designed for efficient and energy saving ventilation of flats, houses, cottages and other small premises.

The unit is designed for wall mounting. The unit is available for round Ø125 mm air ducts. The unit is rated for non-stop operation.

The unit is rated for indoor application at ambient temperature from +1 °C up to +60 °C and relative humidity not exceeding 80%. The transported air temperature must be within -25 °C up to +50 °C.

Hazardous parts access and water ingress protection rating:

- ☐ Unit motors - IP 44;
- ☐ Assembled unit connected to air ducts - IP 22.

The unit design is regularly improved, so some models can slightly differ from those ones described in this service instruction.

SAFETY RULES

All operations related to the unit electrical connections, servicing and repair works are allowed only after the unit disconnection from power mains.

The unit is rated as a Class I electrical appliance. All mounting and servicing operations are allowed by duly qualified personnel. Please follow the safety regulations and working instructions (DIN EN 50 110, IEC 364).

Make sure the impeller and the casing are not damaged before connecting the unit to power mains. The casing internals must be free of any foreign objects which can damage the impeller blades. The unit maintenance and repair is allowed only after power cut-off and full stop of the rotating parts.

Misuse of the unit or any unauthorized modification are not allowed.

The unit is designed for connection to ac single-phase power mains, see «Technical Data».

The unit is rated for permanent operation. Take steps to prevent ingress of smoke, carbon monoxide and other combustion products into the room through open chimney flues or other fire-protection devices. Sufficient air supply must be provided for proper combustion and exhaust of gases through the chimney of fuel burning equipment to prevent back drafting. The maximum permitted pressure difference per living units is 4 Pa.

The transported air must not contain any dust or other solid impurities, sticky substances or fibrous materials.

The unit is not rated for operation in a flammable or explosive medium.

Fulfil the operation manual requirements to ensure a trouble-free and long service life of the unit.

TRANSPORTATION AND STORAGE RULES

Transportation of the unit is allowed by any vehicle provided the unit is transported in the original package and is protected against weather and mechanical damages.

Use hoist machinery for handling and transportation to prevent possible mechanical damages of the unit. Fulfil the requirements for transportation of the specified cargo type during cargo-handling operations.

Store the unit in a dry and cool place in the original packing. The storage environment must not be subjected to any aggressive and/or chemical evaporations, admixtures, foreign objects that may provoke corrosion and damage connection tightness.

Store the unit in an environment with minimized risk of mechanical damages, temperature and humidity fluctuations. Do not expose the unit to the temperatures below +10 °C and above +40 °C .

Connection of the unit to power mains is allowed after the unit has been kept indoor for minimum two hours.

MANUFACTURER'S WARRANTY

The unit complies with the requirements according to the EU norms and directives, to the relevant EU-Low Voltage Equipment Directives, EU-Directives on Electromagnetic Compatibility.

We hereby declare that the unit complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This certificate is issued following test carried out on samples of the product referred to above. Assessment of compliance of the product with the requirements relating to electromagnetic compatibility was based on the following standards.

The manufacturer hereby warrants normal operation of the unit over the period of two years from the retail sale date provided observance of the installation and operation regulations. In case of failure due to manufacturing fault during the warranty period the consumer has the right to exchange it.

The replacement is offered by the Seller.

If case of no confirmation of the sale date, the warranty period shall be calculated from the manufacturing date.

The manufacturer shall not be liable for any damage resulting from any misuse of or gross mechanical interference with the unit.

The manufacturer is not responsible for the damages resulted due to the use of third party equipment or to third party equipment.

WARNING

The unit is not allowed for use by children and persons with reduced physical, mental or sensory capacities, without proper practical experience or expertise, unless they are controlled or instructed on the product operation by the person(s) responsible for their safety. Supervise the children and do not let them play with the product.

WARNING

Do not dispose in domestic waste. The unit contains in part material that can be recycled and in part substances that should not end up as domestic waste. Dispose of the unit once it has reached the end of its working life according to the regulations valid in your country.

DESIGN

The double-skinned unit casing is made of white polymer-coated steel plates, internally heat- and sound insulated with 10 mm cellular rubber layer. The unit casing is equipped with fixing elements for wall mounting. The spigots for connection to the air ducts are located at the side of the unit and are equipped with rubber seals for airtight connection to the air ducts.

The unit is equipped with high-efficient external rotor EC motors and centrifugal impellers with forward curved blades for air supply and exhaust.

The unit is equipped with a high-efficient counter-flow polystyrene heat exchanger with a large surface area. The air flows are fully separated within the heat exchanger. Odour and contaminants contained in the extract air are not transferred to the supply air flow. The electronic frost protection system is used to prevent the heat exchanger freezing in cold seasons. The air temperature behind the heat exchanger falls down as ice gets accumulated in the heat exchanger. If exhaust air temperature falls down below +3 °C the supply fan is shut down. Meanwhile the warm extract air flow warms up the heat exchanger and the ice melts. As air temperature behind the heat exchanger rises above +3 °C, the supply fan restarts and the unit reverts to the rated operation mode. The drain pan under the heat exchanger unit is designed for condensate collection. As the drain pan is filled with condensate the unit is turned off and the status is displayed by the indicator on the control panel. Empty the condensate from the drain pan and restart the unit.

The unit is equipped with a 350 electric posistor heater used for operation of the unit at low outside air temperatures. The electric heater has integrated overheating protection.

Two integrated panel filters are used for efficient air supply and air extraction.

The units incorporates an integrated control system and a multifunctional external control panel with LCD display and a remote control.

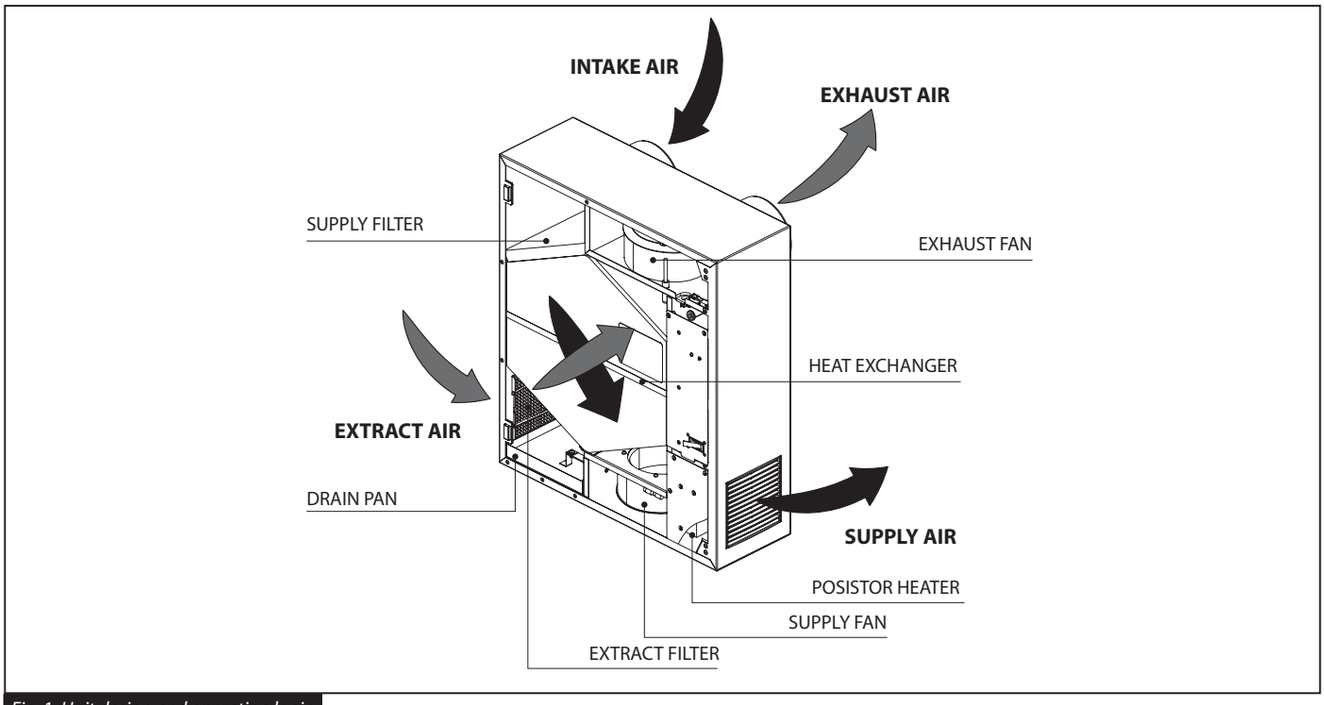


Fig. 1. Unit design and operating logic

OPERATING LOGIC

Cold fresh air from outside flows through the heat exchanger and is moved to the room with the supply fan.

Warm extract air is extracted from the room with the exhaust fan and is moved through the heat exchanger, where it transfers its heat energy to the intake air. After that it is exhausted outside.

Heat energy of warm and humid extract air is transferred to the cold fresh air. The air flows are fully separated while flowing through the heat exchanger.

Heat recovery minimizes heat losses caused by traditional window ventilation and saves energy.

In summer the heat exchanger performs reverse and transfers cold from the cooled extract air to the warm fresh air. This contributes to better performance of the air conditioner in ventilated premises.

DELIVERY SET

- ✓ Air handling unit - 1 item;
- ✓ Operation manual - 1 item;
- ✓ Control panel - 1 item;
- ✓ Master plate - 1 item;
- ✓ Packing box - 1 item;
- ✓ Fixing kit - 1 item.

WARNING

Make sure the unit has no visible transport damages while accepting the goods. Check the ordered and the delivered goods for compliance.

TECHNICAL DATA

Table 1. Technical data of the unit

Parameters	FRESHBOX E120		
Speed	1	2	3
Unit voltage, 50 Hz [V]	1~ 230		
Max. fan power [W]	9	16	40
Electric heater power [kW]	0.35		
Electric heater current [A]	1,6		
Total unit power [kW]	0.39		
Max. unit current [A]	1.7		
Air capacity [m³/h]	40	80	120
RPM	450	780	2000
Sound pressure level at 3 m distance [dB(A)]	30	35	38
Transported air temperature [°C]	-25 up to +60		
Casing material	painted steel		
Insulation	10 mm cellular rubber		
Extract filter	panel G2		
Supply filter	panel G4		
Replaceable filter kit*	FP-FRESHBOX E120		
Connected air ducts diameter [mm]	125		
Weight [kg]	20		
Heat recovery efficiency [%]	82 up to 92		
Heat exchanger type	counter-flow type		
Heat exchanger material	polystyrene		

*replaceable filter kits and summer blocks are specially ordered accessories and are available on a separate order.

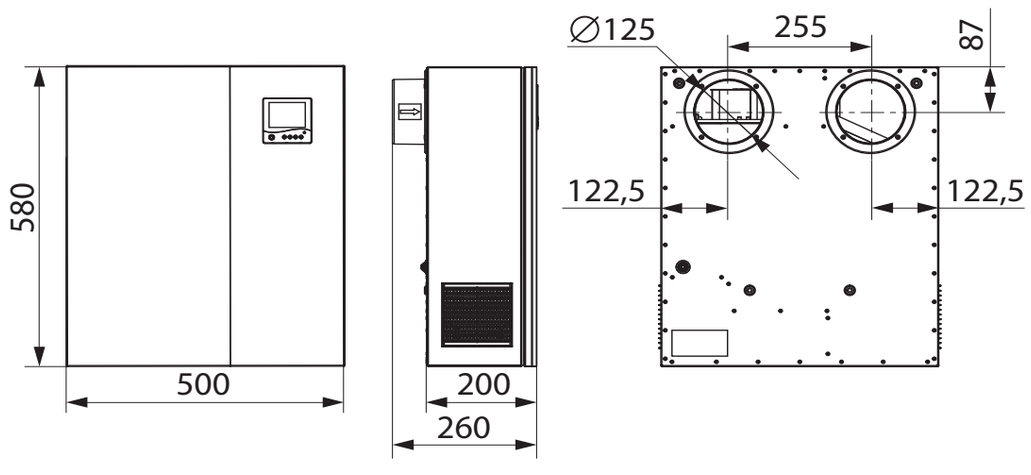


Fig. 2. Overall dimensions

MOUNTING

WARNING!

Safety precautions:

The unit must be mounted to a rigid and stable structure.
The unit mounting is performed by means of anchor bolts. Before starting mounting check that the mounting structure has sufficient loading capacity for the unit weight.
The unit mounting is allowed only after power cut-off and full stop of the rotating parts.

Warning!

Do not operate the unit beyond the determined temperatures, in aggressive and in explosive medias.
Do not connect clothes dryer or other similar equipment to the ventilation system.
Do not use the unit for air/dust mixture handling.

The unit mounting location must provide sufficient service access to the unit. The unit must be mounted on the even surface to avoid the unit casing distortion and operation disturbances. Provide airtight connection of the air ducts to the unit spigots and fittings.

While mounting the unit consider the need to ensure access to the service panel for filter maintenance and replacement. The minimum required distance from the unit to the surfaces is shown in Fig. 3.

The unit is mounted using a mater plate included in the delivery set, Fig. 4 as well as two air ducts of required length and the outer ventilation hood AH FRESHBOX E120 or MS2 FRESHBOX E120 mounting kit.

The mounting kit MS2 FRESHBOX E120 includes:
- two air ducts, 500 mm long.
- a master plate for hole marking.
- AH FRESHBOX E120 outer ventilation hood for prevention of ingress of foreign objects inside the unit.

In case of the unit mounting in the walls above 500 mm thickness two air ducts Ø 125 mm of required length must be provided.

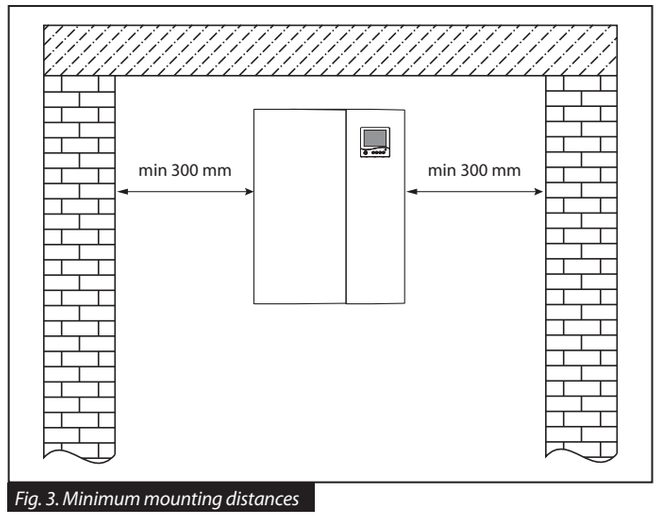


Fig. 3. Minimum mounting distances

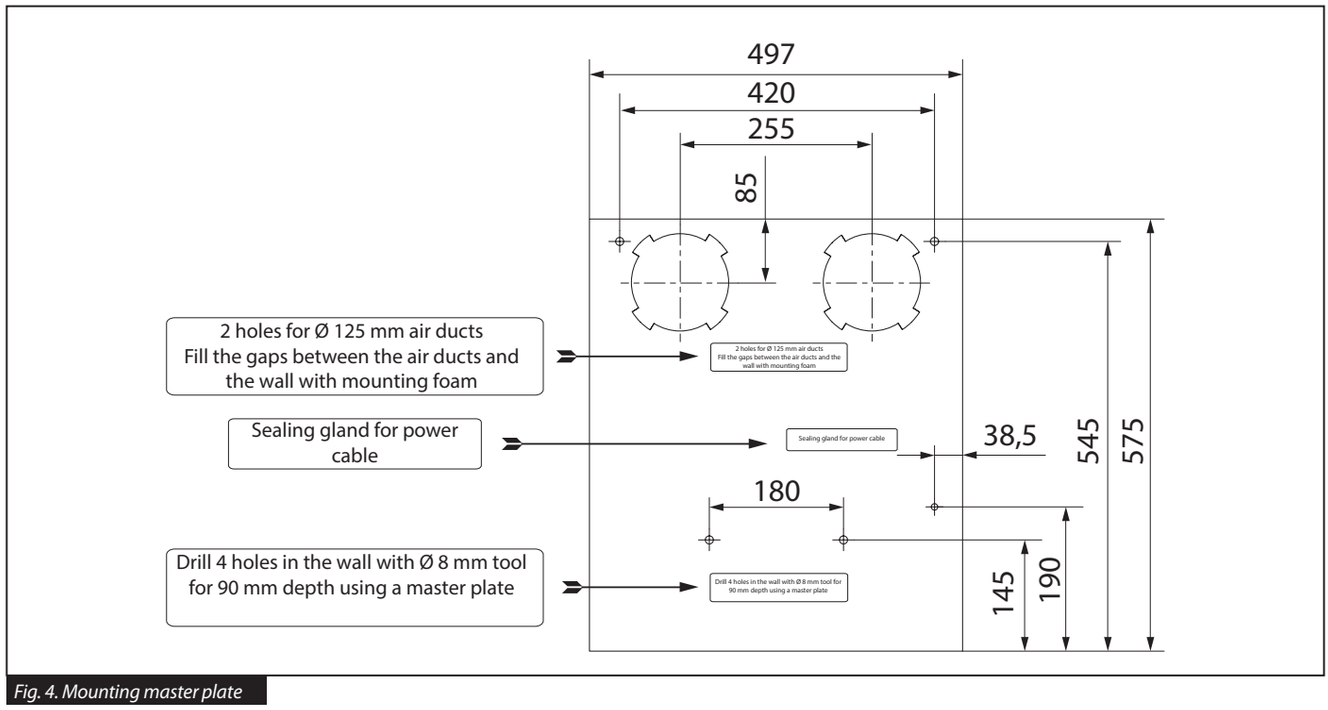


Fig. 4. Mounting master plate

General mounting sequence is shown in Fig. 5.

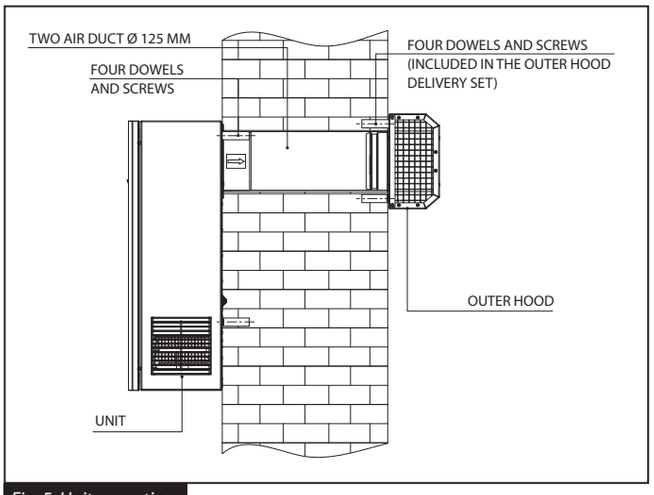
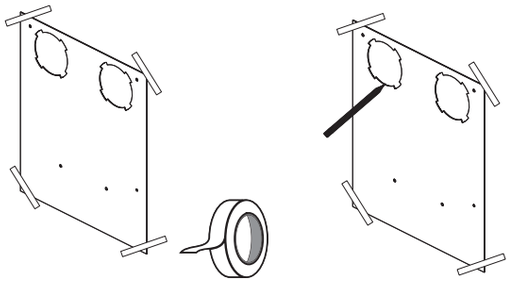


Fig. 5. Unit mounting

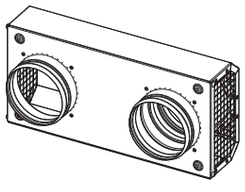
Unit mounting using **MS2 FRESHBOX E120**:

☐ Fix the master plate on the wall at a required height using a sealing tape. Use the master plate to mark two Ø 130 mm holes for the air ducts and four Ø 8 mm holes for the fasteners.

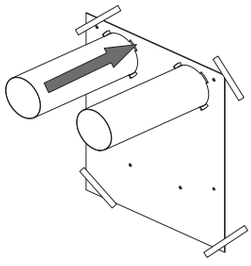


☐ Remove the master plate and drill through holes for the air ducts and 90 mm deep holes for the fasteners. Install the dowels, remove the perforated master plate parts and fix the master plates on both sides of the wall using a sealing tape.

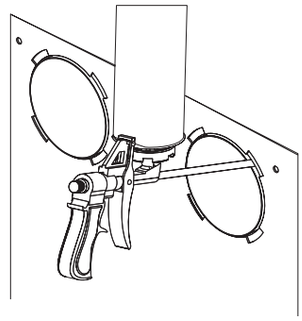
☐ Fix the outer ventilation hood AH FRESHBOX E120 on outer side.



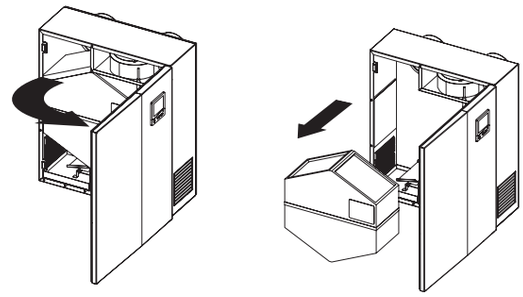
☐ Insert the air ducts into the mating master plate holes and connect those to the outer hood connection piece.



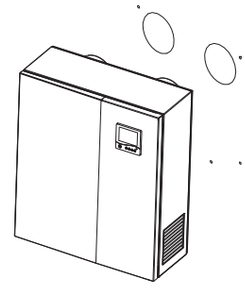
☐ Fix the gaps between the air ducts and the wall with a mounting foam through openings in the master plate. After the mounting foam hardening remove the master plate, the foam excess and cut the protruding parts of the air ducts to be flush with the wall.



☐ Open the unit panel and remove the heat exchanger.

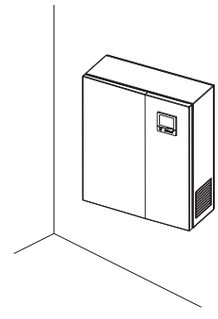


☐ Insert the unit spigots into the air ducts.



☐ Fix the unit on the wall with countersunk screws and 8x80 dowels included in the delivery set by installing those in four Ø 8 mm holes.

☐ Install the heat exchanger and close the unit panel.



CONNECTION TO POWER MAINS

WARNING

Read the operation manual prior to any electric installations. Connection of the unit to power mains is allowed by a qualified electrician only.

The rated electrical parameter are stated on the rating plate. No modifications of internal connections are allowed and will result in void warranty service.

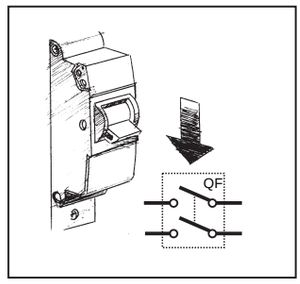
Connect the unit only to power mains with valid electric standards.

Follow the respective electric standards, safety rules (DIN VDE 0100), TAB der EVUs. The house cabling system must be equipped with an automatic switch at the external input. Connect the unit to power mains through the automatic switch. The contact gap on all poles at least 3 mm (VDE 0700 T1 7.12.2 / EN 60335-1).

The automatic switch trip current must be not below the rated current consumption, refer Table 1. Install the automatic switch to ensure prompt access.

Cut power supply to the unit off by turning the automatic electric switch QF to OFF position prior to any operations.

Take steps to prevent activation of the automatic switch.



The unit is rated for connection to single-phase alternating current power mains 230 V / 50 Hz via a pre-wired power cable with plug, Fig. 6. In case of need to connect a longer cable follow the wiring diagram in Fig. 7. The electric connections must be performed with insulated, durable and heat-resistant conductors (cables, wires) with a matching cross section. While selecting the conductors with respective cross section consider the wire type, the maximum permissible conductor heating temperature, its insulation, length and layout.

Use copper wires only! The unit must be grounded in compliance with the valid electrical standards of the user country!

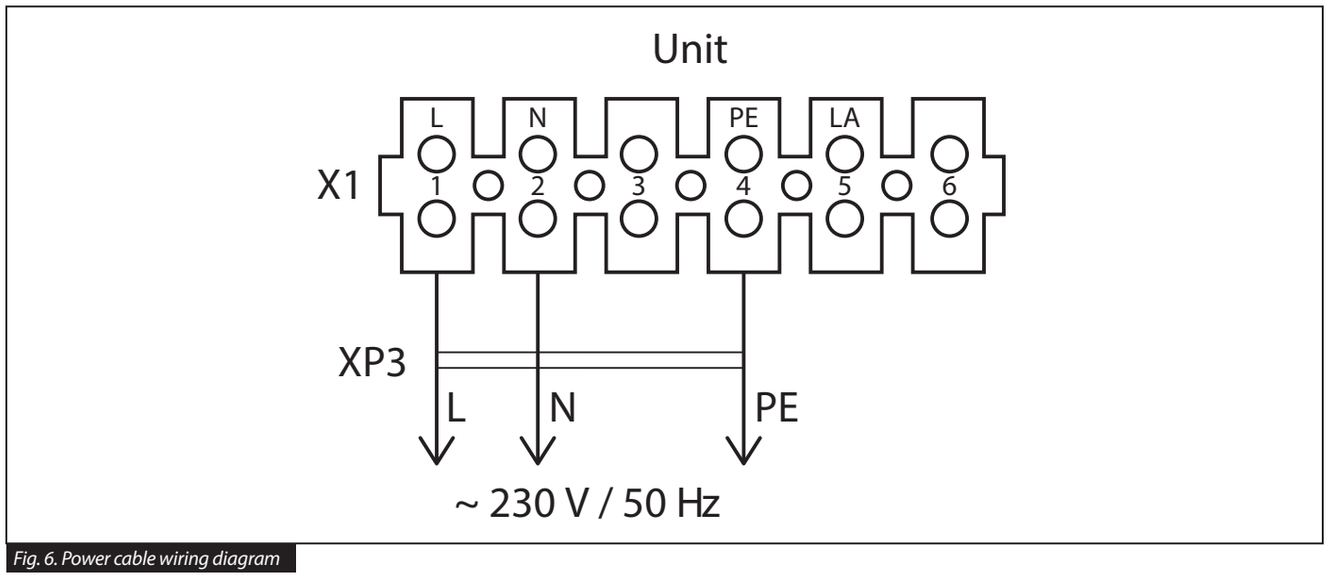


Fig. 6. Power cable wiring diagram

UNIT CONTROL

The unit is controlled via a control panel and a remote control, Fig. 7.

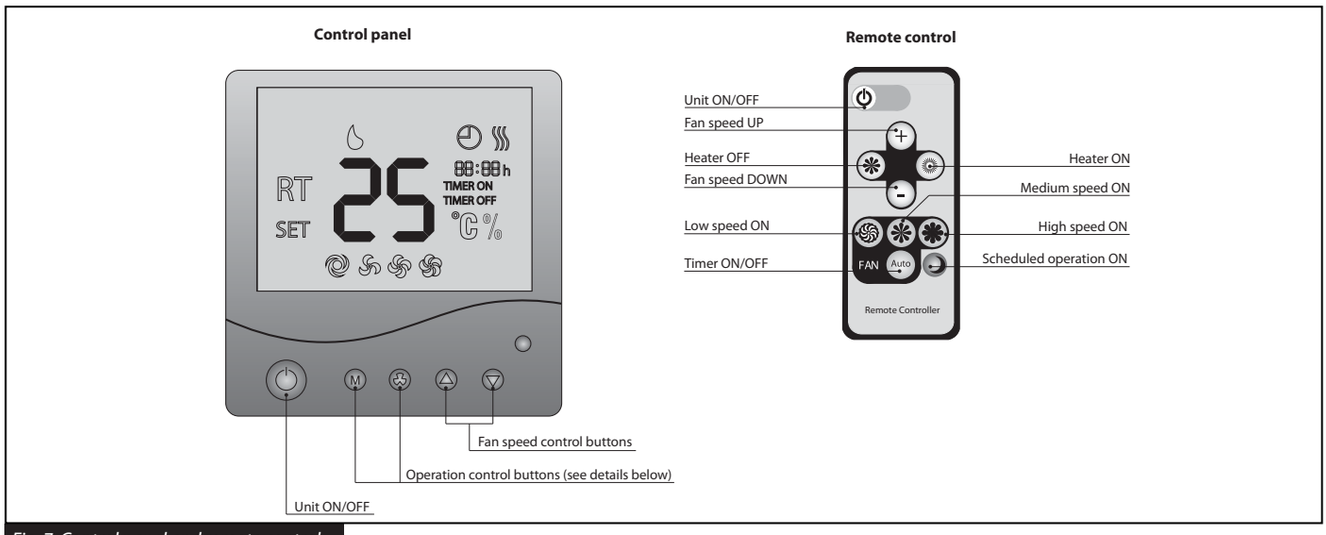


Fig. 7. Control panel and remote control

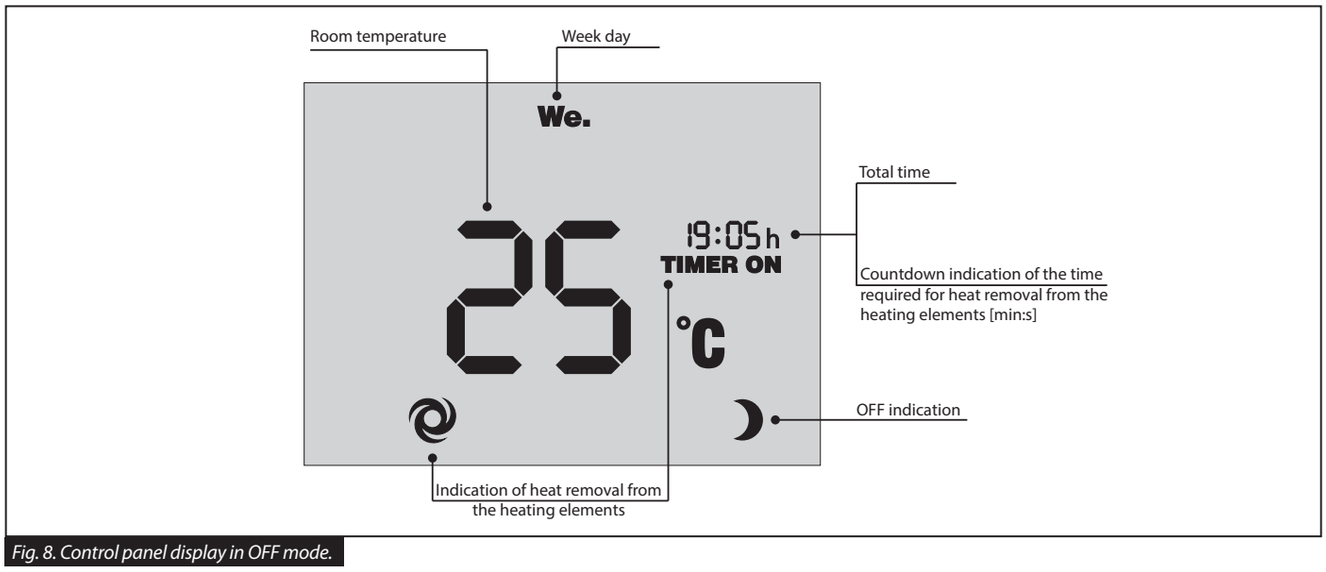


Fig. 8. Control panel display in OFF mode.

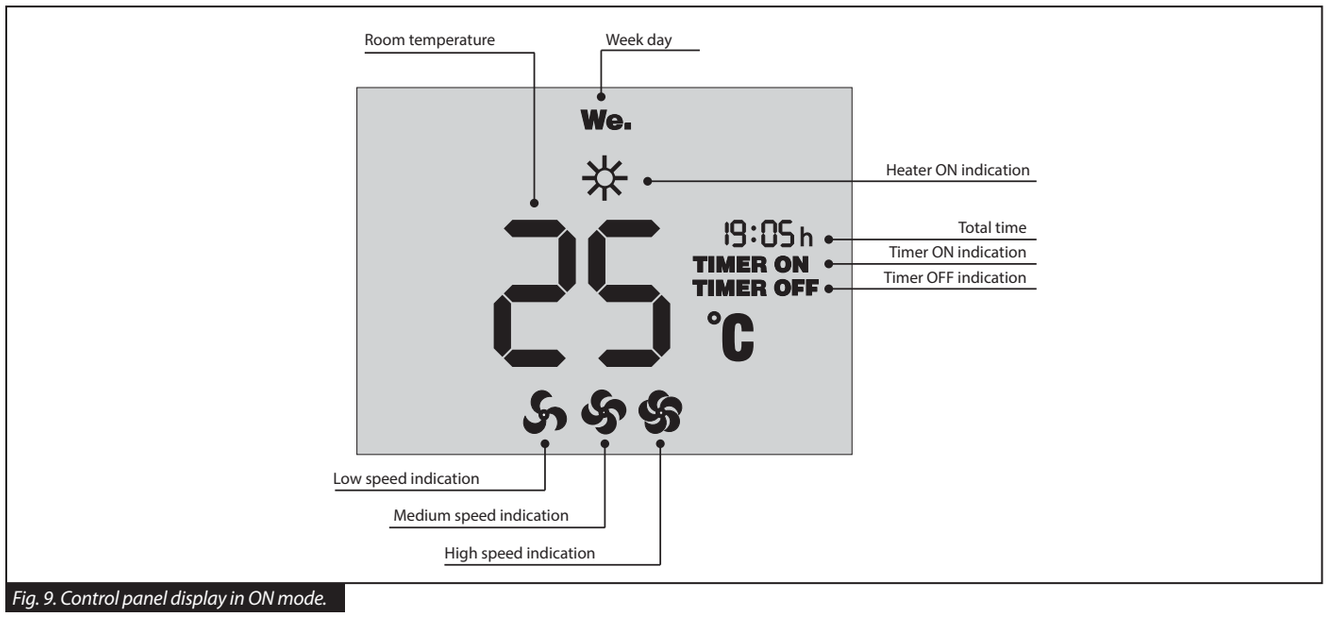


Fig. 9. Control panel display in ON mode.

Table 2. Unit control and setup

Function	Button/Button combination	Indication
1 Unit activation/deactivation		
Using the remote control.		Fig. 8 Fig. 9
Using the control panel.		
2 Speed selection Low speed - 40 m³/h, medium speed - 80 m³/h, high speed - 120 m³/h.		
Speed setting up via the control panel (low-medium-high).		Fig. 9
Speed step-down via the control panel (low-medium-high).		
Speed step-up via the remote control (low-medium-high).		
Speed step-down via the remote control (low-medium-high).		
Low speed activation via the remote control.		
Medium speed activation via the remote control.		
High speed activation via the remote control.		
3 Supply air heating The unit is equipped with a posistor electric heater for warming of supply air during cold seasons.		
Heater activation/deactivation via the control panel.	press and hold  press 	
Heater activation via the remote control.		
Heater deactivation via the remote control.		
WARNING!!! The unit continues operating within 30 seconds after turning off to ensure heat removal from the heating elements.		
4 Timer The timer ensures automatic changeover from a current operation mode into high speed mode and revert to the previous operation mode in set time period. To activate/deactivate timer:		
Via the control panel: press the button once to set the timer for 20 minutes, each subsequent pressing prolongs the timer operation for 10 minutes, till maximum 60 minutes.	press and hold  press 	TIMER ON
Timer deactivation via the control panel.	press and hold 3 sec 	TIMER OFF
Timer activation using the remote control. The only available timer setting is 20 minutes.	Auto	TIMER ON
Timer deactivation using the remote control: turn the unit off and restart it.		

Table 2. Unit control and setup (continued)

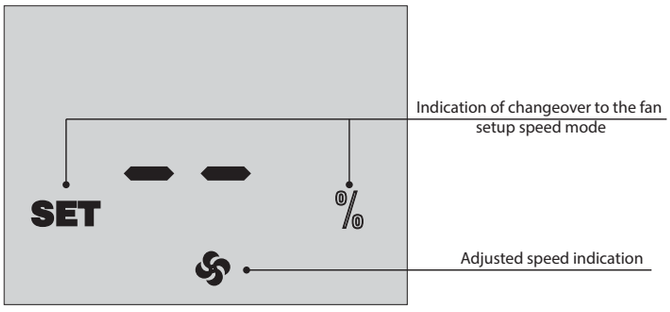
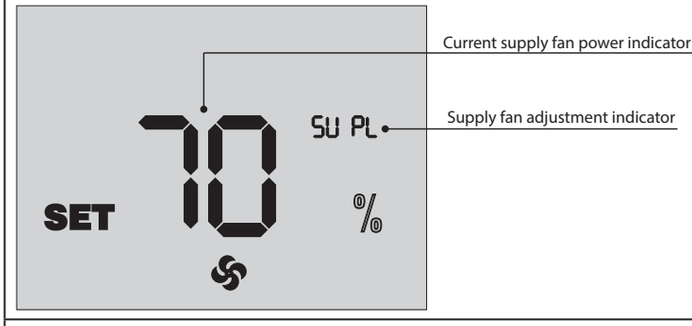
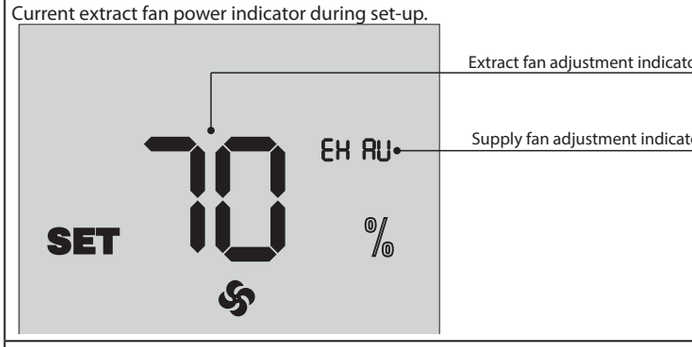
Function	Button/Button combination		Indication
ATTENTION! Changing the unit parameters results in loss of default settings for the fan power! ATTENTION! The fan power adjustment is possible via the control panel only!			
5 **Fan speed adjustment** The fan power is adjusted during the fan speed setup mode. Changeover to the fan speed setup mode is possible only when the unit if OFF.			
Changeover to the fan setup speed mode. 	press and hold M	press and hold for 3 seconds	SET %
Adjusted speed selection	or		
Supply fan power step-up and step-down. Each pressing increases/decreases the fan power by 1%.	press and hold M	press: – stepping up – stepping down	-
Current supply fan power indicator during set-up 	when pressed M		-
Extract fan power step-up/down. Each pressing increases/decreases the fan power by 1%.	press and hold	press: – stepping up – stepping down	-
Current extract fan power indicator during set-up. 	when pressed		-
Exiting the fan speed setup mode.			-
Reset to the default settings. Enter the fan power adjustment mode. The default fan speed settings: Low speed - 40 m³/h, medium speed - 80 m³/h, high speed - 120 m³/h.	press and hold 3 sec and		-

Table 2. Unit control and setup (continued)

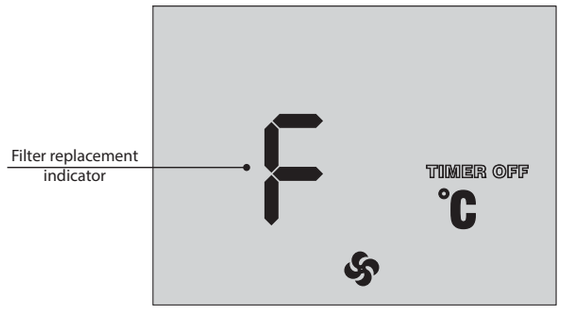
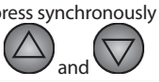
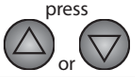
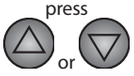
	Function	Button/Button combination	Indication
6	**Filter replacement indicator.** After 3000 operating hours the control panel display shows the warning filter cleaning or replacement indicator instead of the operating temperature to communicate the need of filter cleaning or replacement. Clean or replace the filters and then reset the motor meter.		
		-	F
	Press the button on the control panel to turn the unit off and disconnect it from power supply. Replace the filters as stated in the "Maintenance" section.		-
	After the filter replacement connect the unit to power supply and press a respective button on the control panel or on the remote control to activate the unit.		-
	Resetting motor hours	press synchronously 	-
7	**Date and time setting**		
	Press a respective button on the control panel to deactivate the unit.		-
	Changeover to the date and time setup mode	press and hold  press 	-
	Selection of the adjusted set point. The set point blinks during setup. The date and time set points are displayed as follows: 1. Minutes; 2. Hours; 3. Week day; 4. Date; 5. Month; 6. Year.	when pressed  press 	-
	Setting of the set point	press 	-
	Exit the date and time setup mode	press 	-

Table 2. Unit control and setup (continued)

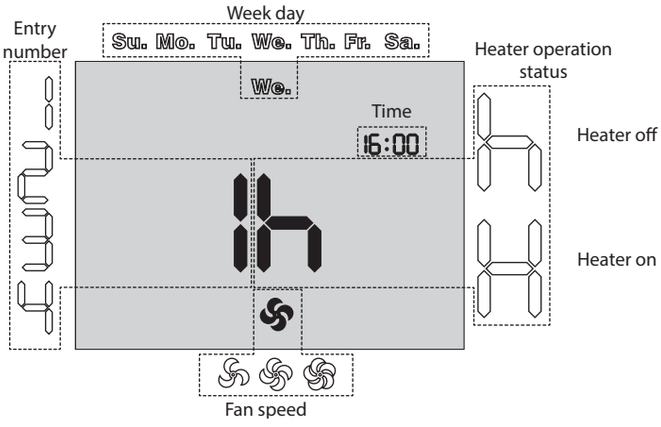
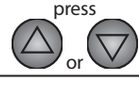
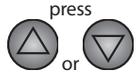
	Function	Button/Button combination		Indication
8	**Scheduled operation** Each week day has four entries that determine the time for switching the unit to a set fan speed as well as the time for the heater activation or deactivation. The timer function always prevails over scheduled operation function. By default the scheduled operation is set for the warm season and the heater is disabled. While adjusting the scheduled operation for the cold season set the heater ON parameter.			
	Activation of the scheduled operation mode via the control panel.	press and hold 	press 	
	Deactivation of the scheduled operation mode via the control panel.	press and hold 	press 	-
	Activation of the scheduled operation mode via the remote control.			
	Deactivation of the scheduled operation mode from the remote control.			-
	For access to the scheduled operation mode settings turn the unit off by pressing the respective button on the control panel or using the remote control.	 or		-
	Entering the scheduled operation setup mode using the control panel. 	press and hold 	press 	-
	Selection of the scheduled operation mode parameters. The set point blinks during setup.	press and hold 	press  or	-
	Setting the required set point. Parameters for scheduled operation setup: • **Entry number** - each week day has four entries. • **Week day** - setting week day. • **Heater operation status** - setting the heater operating status for a current entry. • **Fan speed** - setting the fan speed for a current entry. • **Time** - time setting for a current entry.	press  or		-
	Entry copying for the next day. ATTENTION! The Sunday parameters may not be copied for Monday.	press and hold 	press 	-
	Exiting the scheduled operation setup mode using the control panel or the remote control.	 or		-

Table 3. Scheduled operation programming example

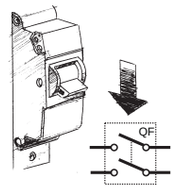
Week day	Entry number											
	1			2			3			4		
	Start time	Speed	Heater operation status	Start time	Speed	Heater operation status	Start time	Speed	Heater operation status й	Start time	Speed	Heater operation status
Mo.	07:00	2	Off	08:00	1	Off	17:00	2	Off	22:00	1	Off
Tu.	07:00	2	Off	08:00	1	Off	17:00	2	Off	22:00	1	Off
We.	07:00	2	Off	08:00	1	Off	17:00	2	Off	22:00	1	Off
Th.	07:00	2	Off	08:00	1	Off	17:00	2	Off	22:00	1	Off
Fr.	07:00	2	Off	08:00	1	Off	17:00	2	Off	22:00	1	Off
Sa.	10:00	2	Off	12:00	2	Off	17:00	2	Off	23:00	1	Off
Su.	10:00	2	Off	12:00	2	Off	17:00	2	Off	23:00	1	Off

TECHNICAL MAINTENANCE

WARNING!

Cut power supply to the unit off by turning the automatic electric switch QF to OFF position prior to any maintenance operations.

Take steps to prevent re-activation of the automatic switch.



Regular technical supervision and maintenance of the unit are required to ensure the product long service life and non-stop operation.

Disconnect the unit from power mains prior to any maintenance operations.

Warning! Consider the unit sharp edges! Fulfil maintenance operations in work gloves!

Fulfil the unit maintenance 3-4 times per year.

The unit technical maintenance includes regular cleaning and other works:

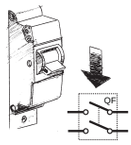
1. Filter maintenance (3-4 times per year).

Dirty filters increase air resistance and decrease supply air. Clean the filter with a vacuum cleaner or flush it with water. After two consecutive cleanings the filter must be replaced. Install dry filters only! Contact a local distributor for the filters stated above in the section «Technical data».

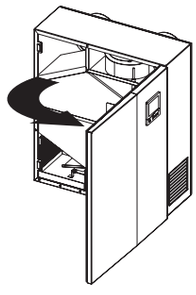
Dirty filters are not considered as a warranty case! Replace immediately humid and mouldy filters!

Filter removing as follows:

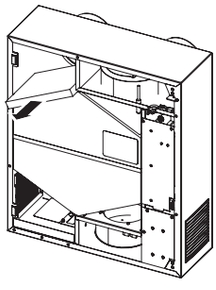
☐ Make sure the unit is disconnected from power mains.



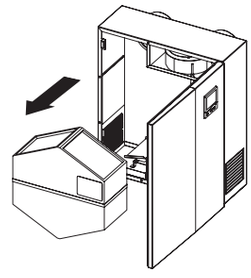
☐ Open the unit panel.



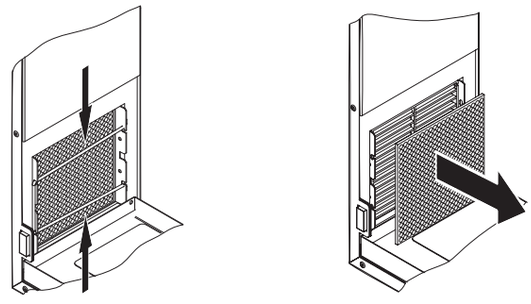
☐ Remove the supply filter located above the heat exchanger.



☐ Pull the band to remove the heat exchanger from the unit.



☐ Remove the extract filter.



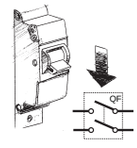
Perform the actions in the reverse order after filter maintenance.

2. Heat exchanger maintenance (once per year).

The heat exchanger must be regularly cleaned to maintain high heat recovery efficiency even in case of the regular filter cleaning. Clean it with warm detergent solution. Remove the heat exchanger from the unit and flush it with warm detergent solution. Install the dry heat exchanger back to the unit.

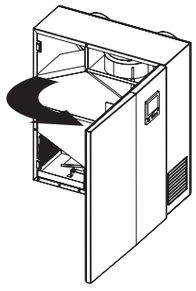
To remove the heat exchanger:

☐ Make sure the unit is disconnected from power mains.

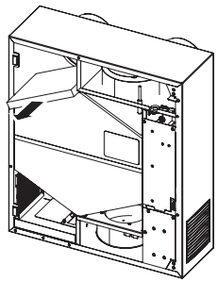


BLAUBERG Ventilatoren

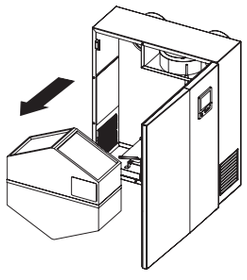
☐ Open the unit panel.



☐ Remove the supply filter located above the heat exchanger.



☐ Pull the band to remove the heat exchanger from the unit.



Perform the actions in the reverse order after completion of the heat recovery maintenance.

3. Fan maintenance (once per year).

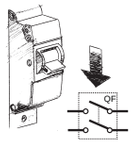
The regular filter cleaning may not completely prevent the dust ingress into the unit, which results in the unit capacity decrease. Clean the fan with a soft cloth or a brush. Cleaning with water, abrasive detergents, sharp object or chemicals is not allowed.

4. Condensate removal (once per year).

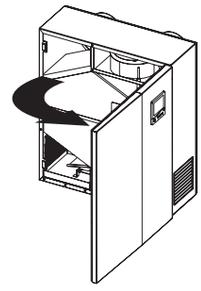
Some condensate may collect in the drain pan during heat recovery. As the drain pan gets filled with condensate, the control panel display shows the indicator , that communicates the full drain pan status and the need to remove condensate.

Condensate removal:

☐ Make sure the unit is disconnected from power mains.

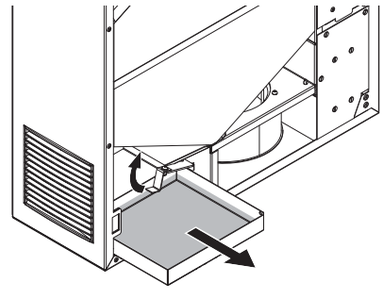


☐ Open the unit panel.

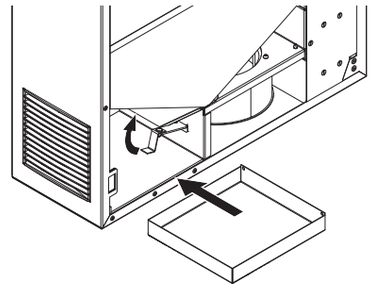


☐ Lift up the condensate level switch.

☐ Hold the condensate level switch and pull carefully the condensate drain pan.



☐ Empty the drain pan and re-install it back. Lift up the condensate level switch prior to its installation.



5. Outer ventilation hood (supply grille) maintenance (twice per year).

Check the outer hood (supply grille) condition and remove foreign objects to maintain free air intake.

6. Air ducts maintenance (once in 5 years).

The regular unit maintenance in compliance with the above rules may not completely prevent dust ingress into the air ducts which may result in air flow decrease. The air duct maintenance consist in periodical cleaning or replacement.

7. Outer ventilation hood (exhaust grille) maintenance (as required).

Check the outer hood (exhaust grille) condition and remove foreign objects to maintain free air exhaust.

TROUBLESHOOTING AND FAULT HANDLING

In case of alarm the unit is turned off and the display shows the alarm indicators, Fig. 11. The possible alarms are listed in the table 4. The alarms must be removed ONLY in a service centre or by a service expert, duly authorized for unassisted operations at the units up to 1000 V after careful reading of the operation manual.

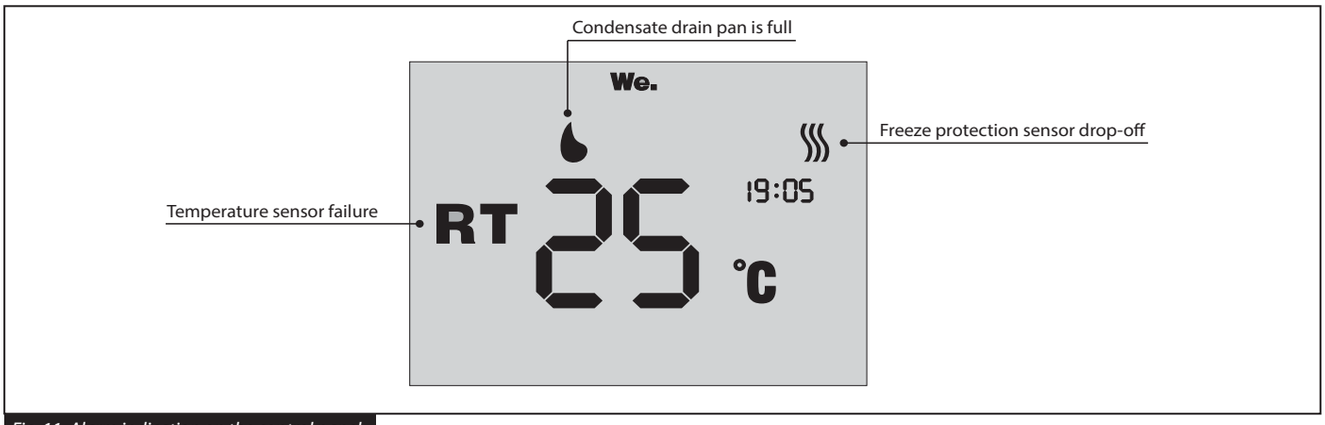


Fig. 11. Alarm indication on the control panel

Table 4. Unit alarm list

ALARM	INDICATION	REMEDY
Temperature sensor failure	RT	Short circuit of one or two temperature sensors. Contact the unit seller for troubleshooting of a short circuit.
Freeze protection sensor dropping off	RT	Contact the unit seller for troubleshooting of dropping off of the freeze protection sensor.
Condensate drain pan is full		Follow the steps described in the Maintenance.

Table 5. Alarm list and troubleshooting

Fault	Possible reason	Troubleshooting
The fan does not start when the unit is on	No power supply or wrong connection to power mains.	Connect the unit to power mains. Troubleshoot the connection error.
	Jammed motor, soiled impeller blades.	Remove the motor jam, clean the impeller blades.
Automatic switch tripping	Short circuit in power grid.	Turn the unit off and contact the seller for troubleshooting.
Low air flow	Too low set speed.	Set higher speed.
	The filters and the fans are soiled, the heat exchanger is soiled.	Clean or replace the filters, fans and heat exchanger.
	The supply and extract grilles, air ducts, the outer hood are closed or soiled.	Remove and clean the ventilation system components to ensure free air flow.
Low supply air temperature	The extract filter is soiled.	Clean or replace the extract filter.
	The heat exchanger is frozen.	Check the heat exchanger condition. Shutdown the unit if required and turn it on after the freezing danger is no longer imminent.
	The electric heater is defective.	Contact the unit Seller.
Noise, vibration	The impeller is soiled.	Clean the impeller.
	The screw connection is loose.	Tighten the screws.
Condensate outflow	The condensate limit switch is defective.	Contact the unit Seller.

ACCEPTANCE CERTIFICATE

Single-room heat recovery air handling unit

FRESHBOX E120	

is recognizes as serviceable.

The unit complies with the requirements according to the EU norms and directives, to the relevant EU-Low Voltage Equipment Directives, EU-Directives on Electromagnetic Compatibility.
We hereby declare that the following product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

This certificate is issued following test carried out on samples of the product referred to above.

Approval mark Manufacturing date _____

CONNECTION CERTIFICATE

Single-room heat recovery air handling unit

FRESHBOX E120	

is connected to power mains in compliance with the operation manual requirements by the professional:

Company: _____

Name:_____

Date_____Signature_____

WARRANTY CARD

FRESHBOX E120	

SELLER

SALES DATE

REPRESENTATIVE IN EU

BLAUBERG Ventilatoren GmbH
Aidenbachstr. 52a,
D-81379 Munich,
Germany

NOTES

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