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OPERATING AND INSTALLATION INSTRUCTIONS HEAT RECOVERY AND HEATING SYSTEM ROOMMASTER

Version 3 - EN (25.05.2024) D-502-0152

1. General information

1.1. Introduction

- This document "Operating and installation instructions" is intended for Roommaster decentralized heat recovery systems (hereinafter referred to as "unit") with a possible combination of water or electric heating - 2in1. At the same time, it is superior to the "Quick Guide" located directly on the unit.
- **The installation and connection of the unit may only be carried out by a trained person who has the appropriate authorization for the electrical connection of the systems and is equipped with the appropriate tools and resources. All instructions and recommendations in this manual must be followed during installation.**
- Detailed knowledge of this document is important for the correct and safe installation and operation of the unit. Failure to comply with the conditions described in this document may result in the unit not working.
- After reading the unit manual, keep it for future reference.
- It is forbidden to interfere with the internal wiring of the device in any way except as described in this manual. Due to the continuous development of our products, we reserve the right to change these instructions without prior notice.
- Children and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge may only use the unit under supervision or if they have been instructed in the safe use of the unit and understand the potential hazards.

1.2. Warnings and symbols

- The following names and symbols are used for particularly important information in the operating instructions, on the packaging and on the product:

Warning, observe all risk warnings and cautions, as well as the instructions for precautionary measures.

Danger, observe all warnings, there is a risk of electric shock or a situation that can lead to death or serious injury if not avoided.

Reference to another part of the manual.

Attention - read the operating instructions

Connection of the protective conductor.

Indication of the correct position for manipulation with the packaging and storage.

Reference to the need to protect against moisture. The product - the packaging marked with this label must not be transported in open vehicles and must not be stored in unroofed buildings or on the ground without a base.

Indicates the fragility of the contents of the product and the need to handle the packaged product with care.

Indicates the need for protection against moisture and the fragility of the product in the packaging.

Caution - do not cover the exhaust of the unit under any circumstances. This "DO NOT COVER" symbol on the appliance warns that any material covering the appliance may cause a fire.

Caution - parts of the appliance can reach high temperatures and cause burns. Pay particular attention when children are present

1.3. Application of the Roommaster unit

1.3.1. Determination of the unit

- The Roommaster unit is an air handling unit with heat recovery (counterflow heat exchanger) and humidity recovery (enthalpy exchanger) with the option of independent room heating at the unit's installation location (depending on the selected unit type). The unit is equipped as standard with a CO_2 air quality sensor (alternatively a RH humidity sensor) so that it only ventilates when required. The user simply sets the output of the unit (flow rate, temperature - according to the selected type) depending on the location (how many people are in the room) and the unit ventilates and heats according to the actual demand.
- The unit can be connected to the BMS system via the Modbus RTU communication protocol and controlled remotely from there (provided it is equipped with the unit). Described in separate chapter 4.2.3.3.
- The unit can be used in rooms with a maximum nominal flow rate:
  - 100 m^3/h - Roommaster 100 - normal living areas, smaller offices, hotel rooms etc.
  - 250 m^3/h - Roommaster 250 - larger offices, classrooms, hospital rooms etc.
- The unit is designed for horizontal installation on an external wall, which ensures easy access to the outside environment (fresh air).
- The unit can be installed in a wall with a minimum thickness of 180 mm.
- The unit is designed for continuous operation, with a choice between manual operation (ventilates continuously) and automatic operation (ventilates as required - required by air quality sensors - AQS).
- The unit can be used not only for controlled ventilation, but also for rooms with heating requirements (ventilation and heating are independent of each other). In the case of the configuration type with:
  - electric heater, the unit is equipped with an advanced control system with a temperature sensor in a specific room (installation location). With the help of the integrated temperature sensor, the user can select a temperature level suitable for their needs,
  - water heating, the unit is equipped with a water heat exchanger, which is connected via an external thread G ¾" is connected to the normal heating system and controlled via an independent thermostatic valve and head (not included). The control of the unit is equipped with a temperature sensor that detects the hot water in the heat exchanger and triggers the heating function. The function of the water heater depends on the function of the boiler heating system.
  - For hot water heating and cooling, the appliance is equipped with a condensation tray for draining condensate and a water exchanger, which is connected to the heating system via a G ¾" external thread and enables the supply of hot water in winter and cold water in summer (2-pipe system). The heating/cooling control must be carried out via an independent temperature controller that enables switching between heating and cooling mode (not included in the scope of delivery). The appliance control is equipped with a temperature sensor that detects hot water for heating (factory setting) and, after switching (manually on the appliance body or remotely via the BMS - covered in separate chapters), cold water for cooling. The function of the water heater/cooler depends on the heating or cooling water source.
- The unit also has a frost protection function (temperature control to prevent the heated room from freezing). In the electric version, the setting is located on the control unit, in the water version on the thermal head (snowflake symbol).
- The unit is designed for covered and dry indoor areas with a room temperature of +5 °C to +30 °C and a maximum relative humidity of 70% non-condensing.
- **The supply air temperature of the outside fresh air can be between -20 °C and +40 °C (applies to the preheated version). If the supply air temperature below -20 °C, the unit can be switched off automatically to protect it from possible damage.**

1.3.2. Non-permitted environment/application/installation of the Roommaster- unit:

- **for extracting flammable, glowing substances!**
- **for extracting highly flammable or explosive gases,**
- **for extracting aggressive media,**
- **for extracting liquids of all kinds,**
- **in environments with an increased risk of explosion, flammable substances, increased dust formation or in environments with air containing other harmful impurities**
- **in environments with higher humidity, e.g. bathrooms, swimming pools, saunas, etc: Bathrooms, swimming pools, saunas, etc.,**
- **the unit must not be installed directly under a socket outlet or switch box,**
- **the unit must not be installed in a position that may impair its correct functioning or near curtains or other flammable materials**

- Neither the manufacturer nor the supplier shall be liable for damage caused by improper use of the units. The risk is borne by the user.

1.4. Transportation, delivery control and storage

1.4.1. Transportation

- Transport the product in the position marked with the symbol on the packaging.
- The packaging must not be loaded with more weight than permitted by the manufacturer.
- The packaging must not be exposed to environmental influences.
- The transport temperature must be between -25 and 55 °C.
- The relative humidity during transportation must be between 10 and 90 % (non-condensing).
- **Use suitable aids for transportation to prevent damage to the goods and the health and safety of persons**.
- If the device is transported without its original packaging or with modified original packaging, it must be ensured that the device is optimally secured and protected against damage.

1.4.2. Checking the delivery

- Before you start the installation and unpack the unit from the box, you must check the packaging for signs of damage. If the packaging is damaged, please write a damage report and contact your carrier.
- Check that the product you have ordered fits. After unpacking, check that the unit and the other components are in order. Please report any discrepancies to your order to the supplier immediately. If the order is not claimed immediately after delivery, it cannot be considered later.

1.4.3. Storage

- If you do not install the unit immediately after purchase, it must be stored indoors without condensation at temperatures between +5 and +40 °C. If the product is transported at temperatures below 0 °C, it must remain in the working environment in which it is installed for at least 2 hours after unpacking.

1.5. Storage

1.5.1. Roommaster 100

Box 1 - Roommaster unit

- Housing of the Roommaster unit with the front metal cover 1x
- Installation template with mounting mandrels 1x
- M6x25 screw 5x
- M6x20 screw with plastic head 2x
- Quick Manual+ Safety Data Sheet 1x
- Type plate 1x

Box 2 prescribed installation accessories (for installation in the wall thickness max. 500 mm)

- white plastic tube Ø125 mm, length 500 mm 1x
- Supply line assembly with flap Ø125 mm, length 500 mm 1x
- Square plastic outlet with flap 1x
- Square outlet made of plastic without flap 1x
- Self-tapping screw Ø4x22 4x
- Insulating carpet pad 170x170x5 with hole Ø127mm 2x

1.5.2. Roommaster 250

Box 1 - Roommaster unit

- Housing of the Roommaster unit with the front metal cover 1x
- Installation template with mounting mandrels 1x
- M6x25 screw 5x
- M6x20 screw with plastic head 3x
- Quick Manual+ Safety Data Sheet 1x
- Type plate 1x

Box 2 - prescribed mounting accessories (for mounting in the wall thickness max. 500 mm)

- White plastic tube Ø125 mm, length 500 mm 1x
- Supply line assembly with flap Ø125 mm, length 500 mm 1x
- Plastic square outlet with flap 1x
- Plastic square outlet without flap 1x

- Self-tapping screw Ø4x22 4x
- Insulating carpet pad 170x170x5 with hole Ø153mm 2x

1.6. Before starting the installation

- Before starting the installation, we recommend sticking the type plate (loose in the packaging as standard) in the operating documents (e.g.: operating log of the system etc.), which are then kept for later maintenance records and any service work.
- **Check that there is no electrical or other lines (e.g. gas, water, etc.) in the area where the unit is to be mounted on the wall that could be disturbed installation.**
- **Make sure that the installation of the appliance does not affect the building structure and meets all legal safety requirements.**
- Select how the condensate is to be drained:
  - Through the supply line via the façade outlet - the standard solution.
  - By means of a condensation piece - not included the scope of delivery, to be provided by the customer.
- **If condensate is discharged through the façade outlet, check that no damage to the building or contact with live devices occurs.**

2. Technical parameters

2.1. Construction of the Roommaster unit

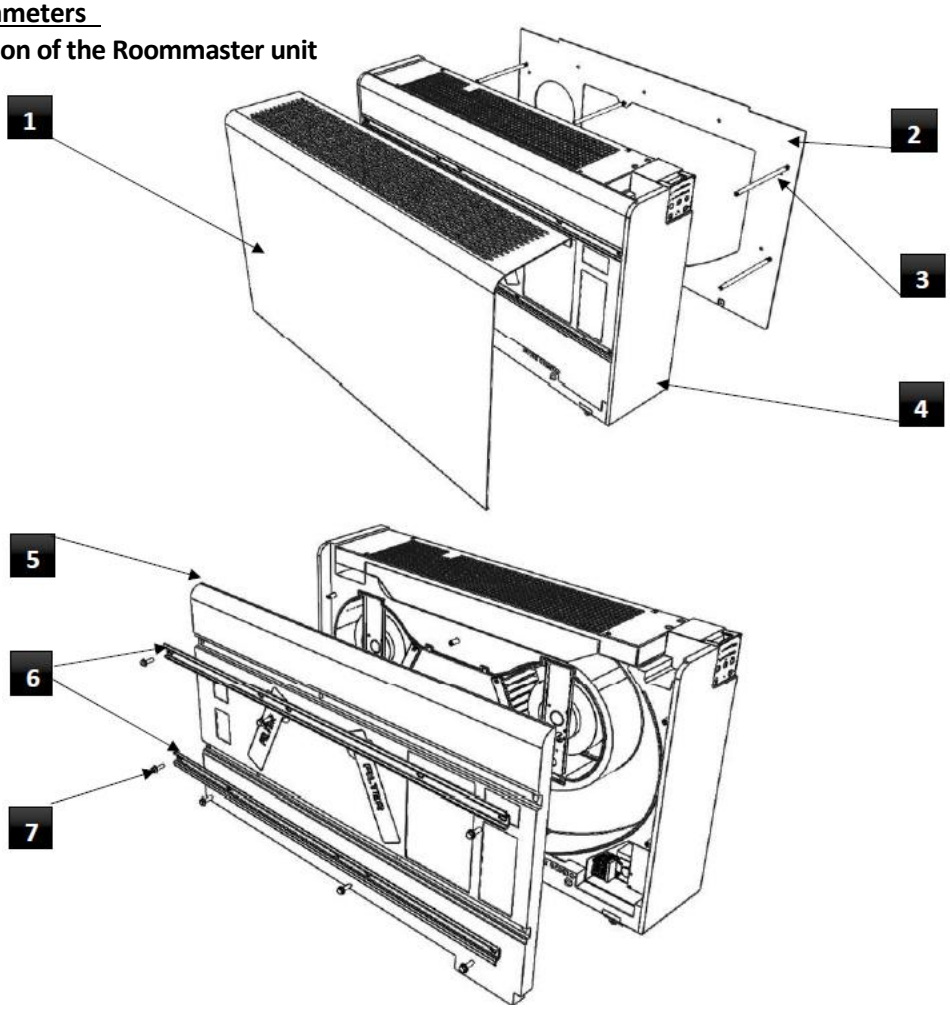

Fig. 1

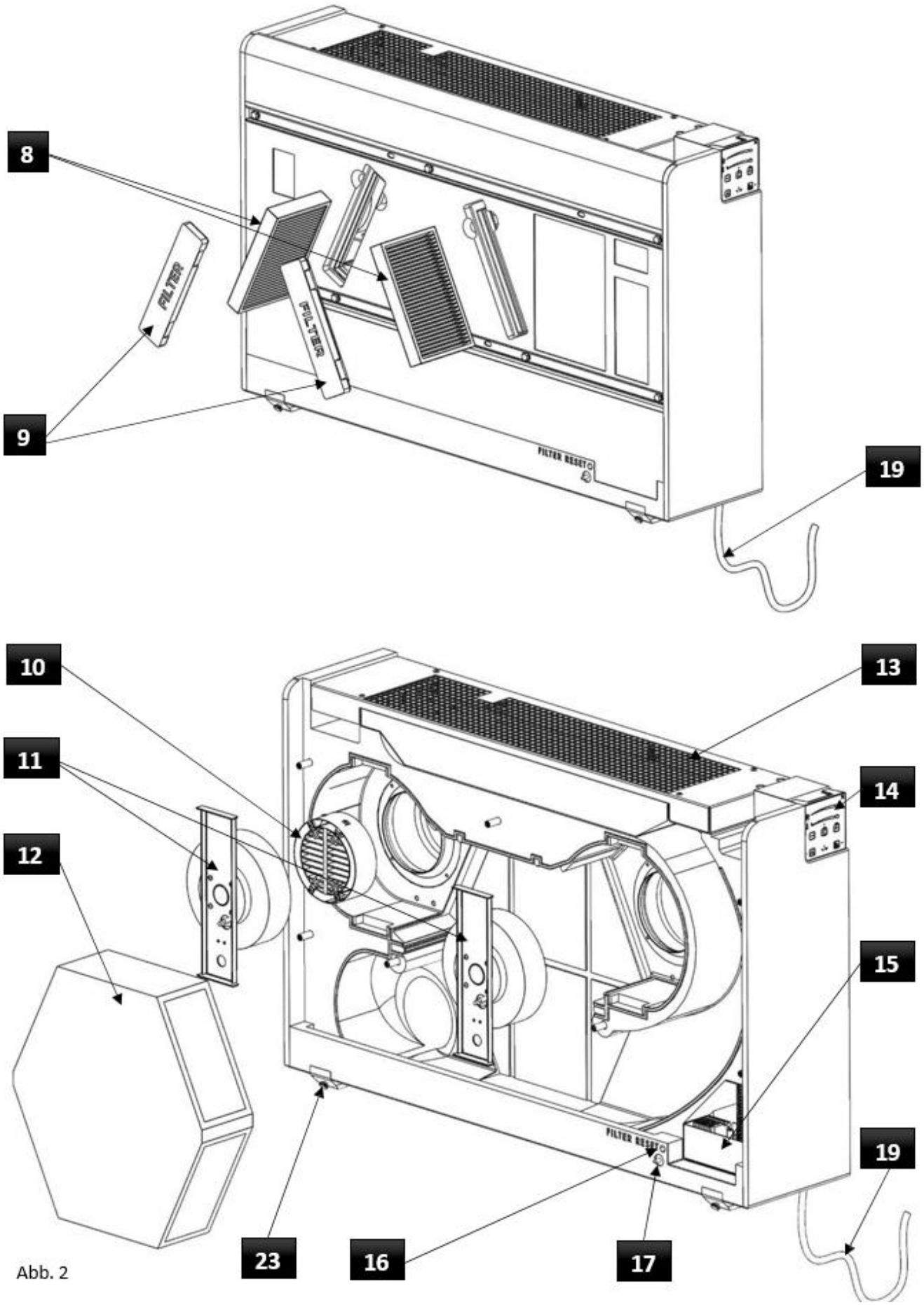
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Abb. 2

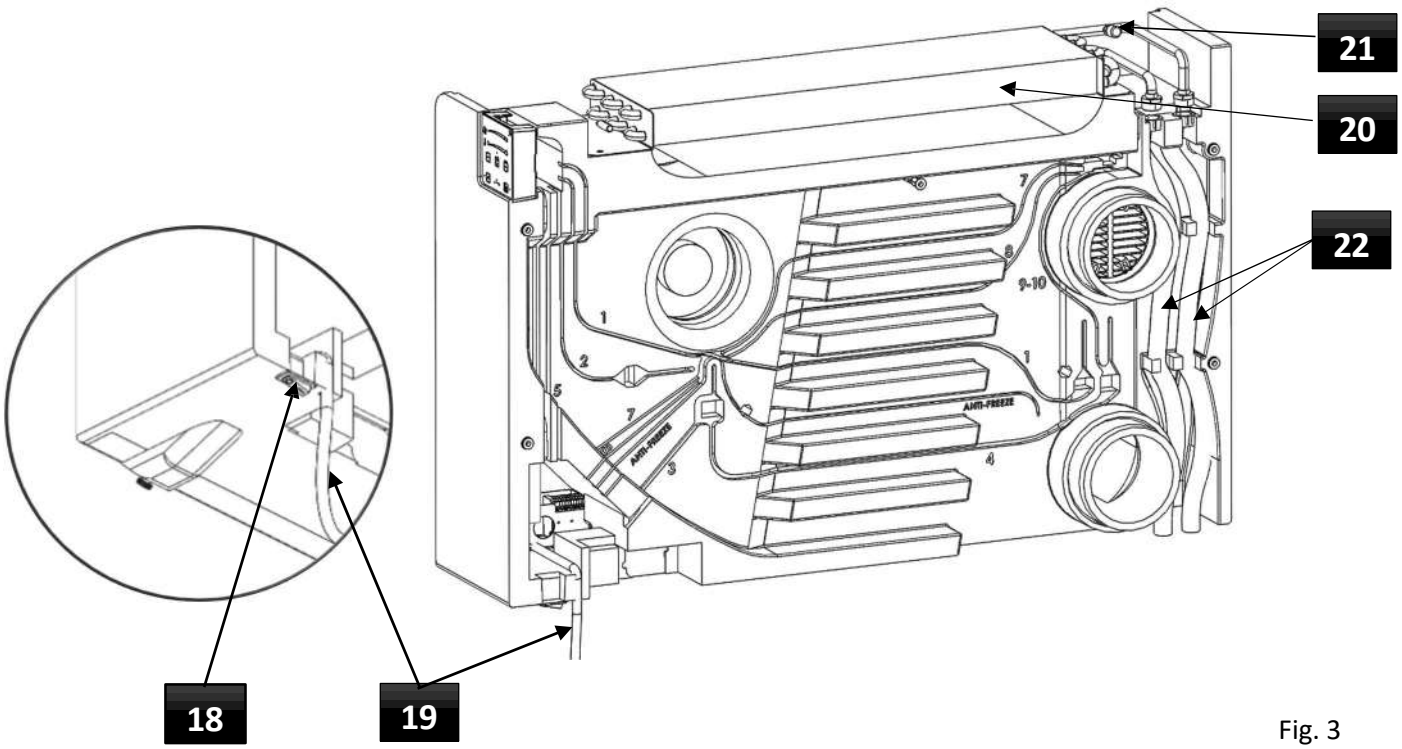


Fig. 3

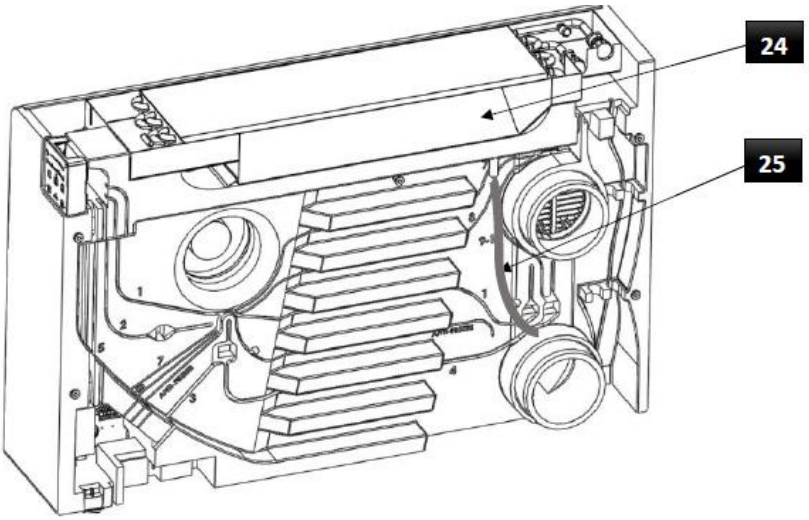


Fig. 4

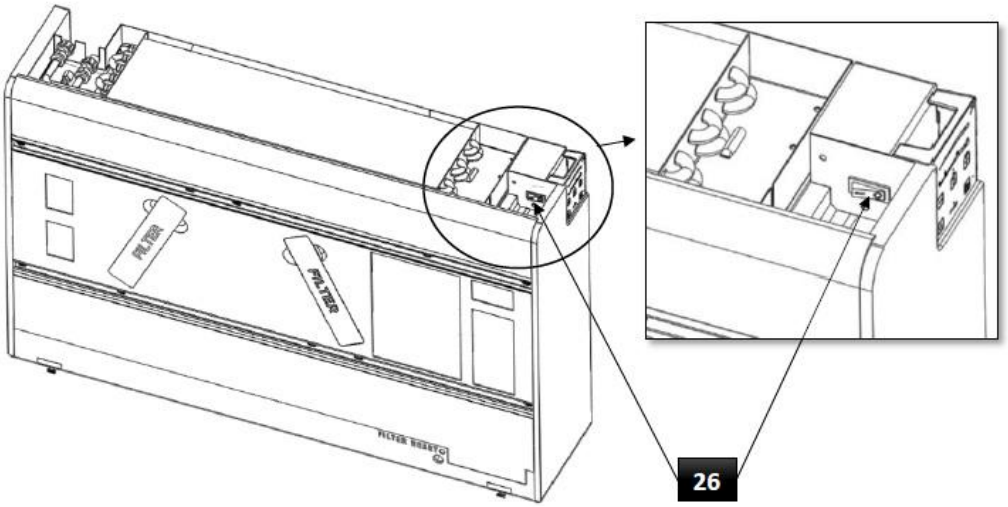


Fig. 5

2.1.1. Front metal cover (position 1.)

- Metal cover made of 2 mm thick aluminum sheet, powder-coated against corrosion. Standard version in two colors RAL 9003 (white), RAL 7016 (anthracite)

2.1.2. Installation template (position 2.)

- Construction made of 2 mm thick aluminum sheet, treated with powder coating against corrosion. Standard version in two colors RAL 9003 (white), RAL 7016 (anthracite). The color of the front metal cover and the installation template is always the same. No combination possible.

2.1.3. Mounting mandrels (position 3.)

- The mandrels are made of Ø9 mm round steel and galvanized against corrosion. There is an M6 internal thread on one side of the mandrel. On the other side, the mandrel is provided with an external M6 thread, on which surfaces are produced for tightening the mandrel into the installation template.

2.1.4. Unit housing - molded part (position 4.)

- The housing of the unit is made of black EPP (expanded polypropylene) molded material. It ensures the precision and repeatability of the assembly of components. The material itself is a highly developed technical material with a unique combination of properties, such as strength at low weight, rebound resilience, thermal insulation, chemical resistance, sound insulation and recyclability.

2.1.5. Appliance cover (position 5.)

- The appliance cover is made of black EPP (expanded polypropylene) molded material. It ensures the precision and repeatability of component assembly. The material itself is a highly developed technical material with a unique combination of properties, such as strength at low weight, rebound resilience, thermal insulation, chemical resistance, sound insulation and recyclability.

2.1.6. Reinforcement (position 6.)

- The metal reinforcements are made of 2 mm thick sheet steel and powder-coated with RAL 9005 anti-corrosion paint.

2.1.7. M6x30 screw (position 7.)

Galvanized screw M6x30 with hexagon head.

2.1.8. Filter (position 8.)

- M5 filters (ISO COARSE 70%) are included the scope of delivery. F7 filters (ISO ePM1 60%) can be supplied on request. The filter performance complies with the ČSN EN ISO 16890 standard.

2.1.9. Filter caps (position 9.)

- The filter caps are used to close the filters in the appliance cover. They are made of black EPP plastic (expanded polypropylene).

2.1.10. Preheating (position 10.)

- The preheater is used to heat the air before it enters the recuperator. It ensures the proper functioning of the ventilation at sub-zero temperatures - frost protection. It is automatically controlled by sensors and regulation.

2.1.11. Fans (position 11.)

- The plastic centrifugal fan with EC motors from leading European manufacturers ensures smooth operation, minimal power consumption and a long service life for the appliance.

2.1.12. Recuperator (position 12.)

- The counterflow recuperator ensures heat recovery with maximum efficiency. In the version with enthalpy heat exchanger, it also enables moisture to be returned to the ventilated room.

2.1.13. Electrical heat exchanger (position 13.)

- It is used to heat the air supplied to the room. It also works independently without any ventilation requirements. The heat exchanger is controlled fully automatically according to the user's temperature requirements and the integrated temperature sensor, which records and evaluates the room temperature.

2.1.14. Control unit (position 14.)

- The integrated touch controller is used to control the entire appliance.

2.1.15. Control box (position 15.)

- Enables the individual components to be connected to each other and is also used for customer connection.

2.1.16. FILTER RESET button (position 16.)

- The red "Filter reset button" is used to reset the filters after a physical filter change. Resetting the filter is displayed on the control unit.

2.1.17. Limit switch (position 17.)

- The switch is used to disconnect the appliance from the power supply immediately after the front metal cover (position 1.) has been opened or removed, e.g. for maintenance work on the filters.

2.1.18. Main switch (position 18.)

- The 1-pole main switch is used to connect/disconnect the appliance from the mains.

2.1.19. Supply cable (position 19.)

- Connects the unit and the connection point to the mains. Cable length approx. 1.5 m. Cable type CYSY 3x1.5mm2 with 50 mm stripped and marked ends.

2.1.20. Water exchanger (position 20.)

- The 2-row water exchanger consists of copper pipes and aluminum fins to increase the heat transfer surface. The entire heat exchanger is powder-coated with RAL 9005 to increase corrosion resistance.

2.1.21. Vent valve (position 21.)

- The bleed valve is used to bleed the heat exchanger. It is located on the drain/return line.

2.1.22. Flexible hoses for connection to the heating system (position 22.)

- The hoses are used to connect the water exchanger to the heating system and are fitted with a ¾" external thread

2.1.23. M6x20 screw with plastic head (position 23.)

- The screws are used to manually fasten the front metal cover (position 1.) and at the same time ensure the switching of the limit switch (position 17.), which is located under the cover.

2.1.24. Condensation tray (position 24.)

- Only in corresponding device variants
- The metal condensate tray is used to collect the condensate from the heat exchanger. The tray is powder-coated with RAL 9005 to increase corrosion resistance

2.1.25. Condensate drain (position 25.)

- Only in corresponding device variants
- The condensate drain hose is used to drain the condensate from the oil pan to the drain connection of the appliance, from where it drains to the outside. PVC hose material Ø18 x Ø14mm.

2.1.26. Heating/cooling switch (position 26.)

- Only in corresponding device variants
- Used to manually switch the mode to heating or cooling. Switches the switching logic of the fans when hot or cold water is detected in the heat exchanger.

2.2. Main dimensions of the Roommaster- unit

2.2.1. Roommaster 100

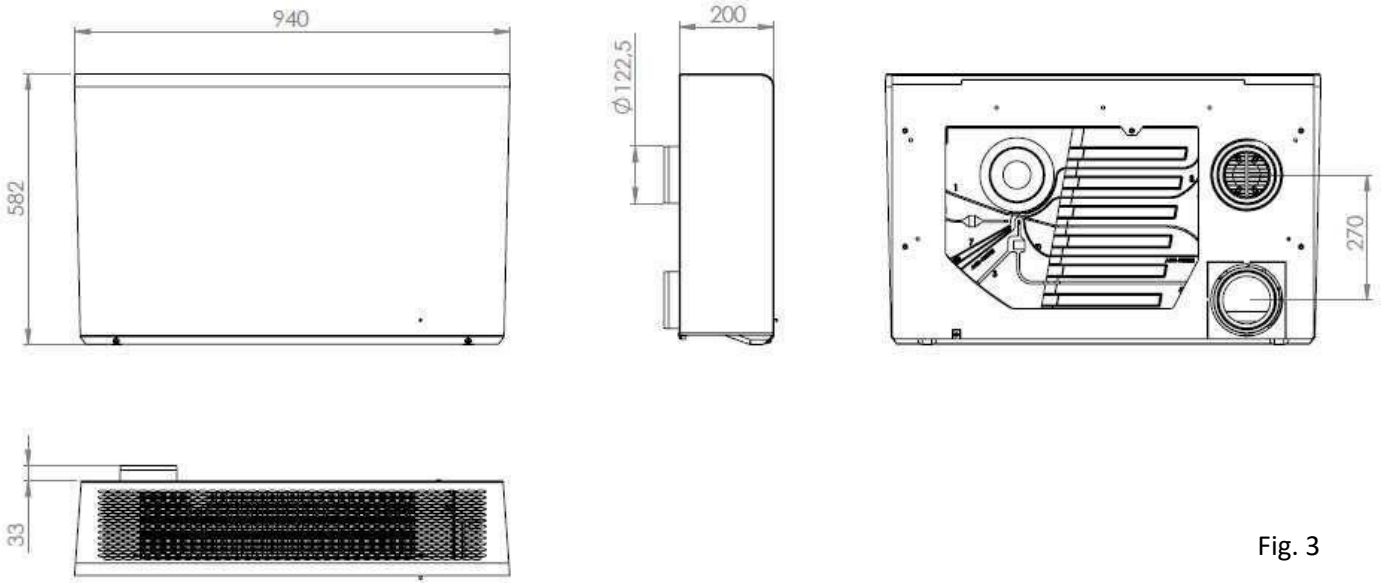


Fig. 3

2.2.2. Roommaster 250

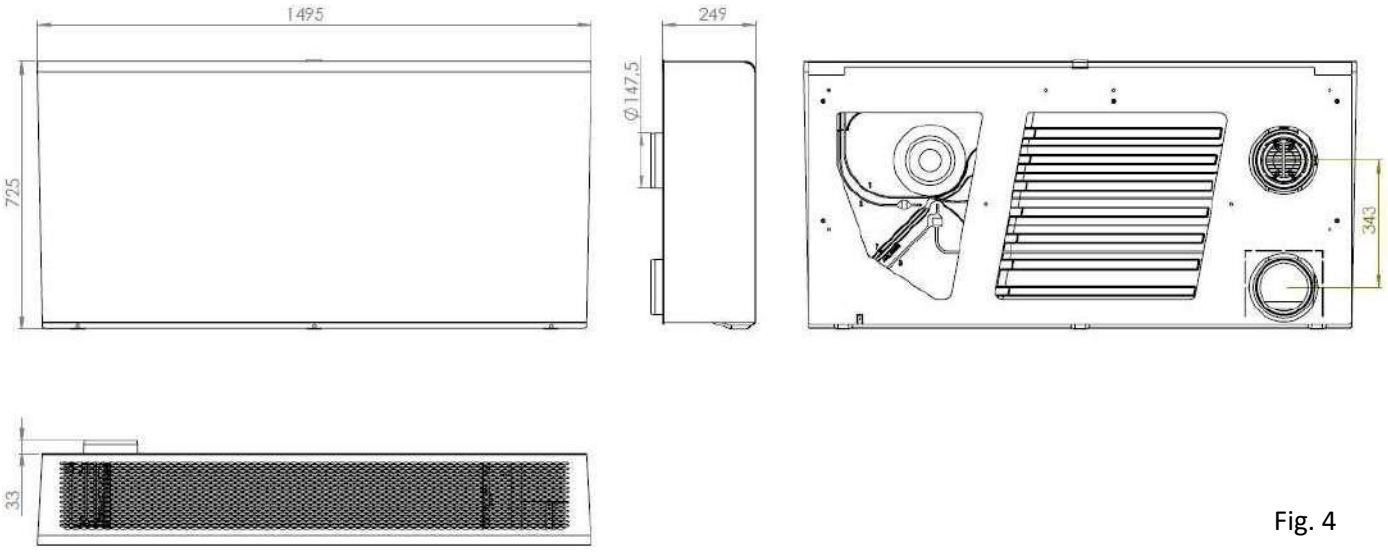


Fig. 4

2.3. Technical parameters of the Roommaster units

2.3.1. Basic technical parameters

- **Basic technical parameters - Roommaster-100 - Heat exchanger**

Type of recovery exchanger			HRV with temperature efficiency					
Unit equipment	pre-heater		-	-	-	electric	electric	electric
	heating		-	water	electric	-	water	electric
Nominal airflow/ BOOST*		m^3/h	100/215					
Heat output (range) of heating**		kW	-	0.33 - 1.38	0,5	-	0.33 - 1.38	0,5
Noise level**		dB(A)	32,1					
Weight****		kg	16,3	18,3	19,3	16,8	18,8	19,8
Water volume in exchanger		l	-	0,51	-	-	0,51	-
Power supply of the unit		V/Hz	1 ~ 230 / 50-60					
Nominal input power of the unit / BOOST*		W	30/167	30/167	530/667	300/437	300/437	800/937
Nominal current of the unit / BOOST*		A	0.3/1.32	0.3/1.32	2.5/3.5	1.5/2.5	1.5/2.5	3.7/4.7
Recovery efficiency per EN 308	heat	%	up to 87					
	humidity	%	-	-	-	-	-	-
Protection type		IP	20					
Energy efficiency class (ERP)			cold climate A+, medium climate A, warm climate A					

* BOOST mode - intensive ventilation for 10 minutes
** at the temperature gradient of 75/60 and an inlet air temperature of 20 °C
*** Sound pressure level in free space at a distance of 3 m
**** unit weight, without water and packaging

Tab. 1

- **Basic technical parameters - Roommaster-100 - Enthalpy exchanger**

Type of recovery exchanger			ERV with temperature and humidity efficiency					
Unit equipment	pre-heater		-	-	-	electric	electric	electric
	heating		-	water	electric	-	water	electric
Nominal airflow/ BOOST*		m^3/h	90/205					
Heat output (range) of heating**		kW	-	0.29 - 1.24	0,5	-	0.29 - 1.24	0,5
Noise level**		dB(A)	32,1					
Weight****		kg	16,3	18,3	19,3	16,8	18,8	19,8
Water volume in exchanger		l	-	0,51	-	-	0,51	-
Power supply of the unit		V/Hz	1 ~ 230 / 50-60					
Nominal input power of the unit / BOOST*		W	30/167	30/167	530/667	300/437	300/437	800/937
Nominal current of the unit / BOOST*		A	0.3/1.32	0.3/1.32	2.5/3.5	1.5/2.5	1.5/2.5	3.7/4.7
Recovery efficiency per EN 308	heat	%	up to 90					
	humidity	%	up to 85					
Protection type		IP	20					
Energy efficiency class (ERP)			cold climate A+, medium climate A, warm climate B					

* BOOST mode - intensive ventilation for 10 minutes
** at the temperature gradient of 75/60 and an inlet air temperature of 20 °C
*** Sound pressure level in free space at a distance of 3 m
**** unit weight, without water and packaging

Tab. 2

- **Basic technical parameters - Roommaster-250 - Heat exchanger**

Type of recovery exchanger			HRV with temperature efficiency					
Unit equipment	pre-heater		-	-	-	electric	electric	electric
	heating		-	water	electric	-	water	electric
Nominal airflow/ BOOST*		m^3/h	250/350					
Heat output (range) of heating**		kW	-	1.34 - 3.49	1	-	1.34 - 3.49	1
Noise level**		dB(A)	32,6					
Weight****		kg	36	39,4	41,2	37	40,4	42,2
Water volume in exchanger		l	-	1,17	-	-	1,17	-
Power supply of the unit		V/Hz	1 ~ 230 / 50-60					
Nominal input power of the unit / BOOST*		W	61/169	61/169	1061/1169	479/709	480/709	1480/1709
Nominal current of the unit / BOOST*		A	0.61/1.42	0.61/1.42	5/5.8	3/3.8	3/3.8	7.3/8.2
Recovery efficiency per EN 308	heat	%	up to 87					
	humidity	%	-	-	-	-	-	-
Protection type		IP	20					
Energy efficiency class (ERP)			cold climate A+, medium climate A, warm climate B					

* BOOST mode - intensive ventilation for 10 minutes
** at the temperature gradient of 75/60 and an inlet air temperature of 20 °C
*** Sound pressure level in free space at a distance of 3 m
**** unit weight, without water and packaging

Tab. 3

- **Technical parameters - Roommaster-250 - Enthalpy exchanger**

Type of recovery exchanger			ERV with temperature and humidity efficiency					
Unit equipment	pre-heater		-	-	-	electric	electric	electric
	heating		-	water	electric	-	water	electric
Nominal airflow/ BOOST*		m^3/h	240/335					
Heat output (range) of heating**		kW	-	1.34 - 3.49	1	-	1.34 - 3.49	1
Noise level**		dB(A)	32,6					
Weight****		kg	36	39,4	41,2	37	40,4	42,2
Water volume in exchanger		l	-	1,17	-	-	1,17	-
Power supply of the unit		V/Hz	1 ~ 230 / 50-60					
Nominal input power of the unit / BOOST*		W	61/169	61/169	1061/1169	479/709	480/709	1480/1709
Nominal current of the unit / BOOST*		A	0.61/1.42	0.61/1.42	5/5.8	3/3.8	3/3.8	7.3/8.2
Recovery efficiency per EN 308	heat	%	up to 86					
	humidity	%	up to 75					
Protection type		IP	20					
Energy efficiency class (ERP)			cold climate A+, medium climate A, warm climate B					

* BOOST mode - intensive ventilation for 10 minutes
** at the temperature gradient of 75/60 and an inlet air temperature of 20 °C
*** Sound pressure level in free space at a distance of 3 m
**** unit weight, without water and packaging

Tab. 4

- EC Declaration of Conformity - the current and complete version of the EC Declaration of Conformity can be found on our website www.xvent.cz in the "Documents for download" section for the Roommaster product

2.3.2. Acoustic Data

- **Roommaster-100 - Radiation of the unit into the interior (within the room)**

Tab. 5

Degree of air output	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Sound Power Level LWA [dB(A)]	Sound pressure level in the open field on the reflection plane	
									LPA [dB] in 1 m	LPA [dB] in 3 m
1.- min/heating mode	21,5 dB	25,9 dB	29,7 dB	27,6 dB	21,0 dB	18,7 dB	17,5 dB	33,7 dB	19,8 dB	12,1 dB
4.	28,8 dB	43,4 dB	41,3 dB	39,4 dB	34,3 dB	24,3 dB	18,0 dB	47,0 dB	33,1 dB	25,5 dB
7.- nominal flow	32,0 dB	49,1 dB	48,7 dB	46,9 dB	43,0 dB	33,2 dB	23,1 dB	53,6 dB	39,7 dB	32,1 dB
Boost*	42,0 dB	56,9 dB	67,1 dB	62,4 dB	59,5 dB	51,9 dB	45,2 dB	69,3 dB	55,4 dB	47,8 dB

* BOOST mode - intensive ventilation for 10 minutes

- **Roommaster-100 - Radiation of the unit to the outside (intake, exhaust air outside)**

Tab. 6

Degree of air output	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Sound Power Level LWA [dB(A)]	Sound pressure level in the open field on the reflection plane	
									LPA [dB] in 1 m	LPA [dB] in 3 m
1.- min/heating mode	34,7 dB	32,1 dB	35,8 dB	32,2 dB	22,0 dB	22,3 dB	24,7 dB	37,3 dB	23,7 dB	14,6 dB
4.	46,4 dB	53,7 dB	49,7 dB	45,9 dB	35,9 dB	28,9 dB	25,4 dB	52,1 dB	39,6 dB	30,8 dB
7.- nominal flow	51,7 dB	60,7 dB	58,6 dB	54,6 dB	45,0 dB	39,5 dB	32,5 dB	59,4 dB	47,5 dB	38,7 dB
Boost*	67,7 dB	70,4 dB	80,8 dB	72,7 dB	62,3 dB	61,8 dB	63,6 dB	76,8 dB	66,3 dB	57,6 dB

* BOOST mode - intensive ventilation for 10 minutes

- **Roommaster-250 - Radiation of the unit into the interior (within the room)**

Tab. 7

Degree of air output	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Sound Power Level LWA [dB(A)]	Sound pressure level in the open field on the reflection plane	
									LPA [dB] in 1 m	LPA [dB] in 3 m
1.- min/heating mode	18,6 dB	29,5 dB	28,9 dB	25,7 dB	22,2 dB	15,8 dB	13,3 dB	34,4 dB	20,1 dB	12,7 dB
4.	23,5 dB	42,6 dB	42,0 dB	37,6 dB	33,8 dB	21,9 dB	13,2 dB	46,3 dB	31,9 dB	24,5 dB
7.- nominal flow	27,9 dB	48,8 dB	50,9 dB	46,2 dB	43,2 dB	33,1 dB	19,7 dB	54,2 dB	39,8 dB	32,6 dB
Boost*	37,6 dB	56,6 dB	62,9 dB	59,6 dB	56,8 dB	47,7 dB	36,8 dB	65,9 dB	51,5 dB	44,2 dB

* BOOST mode - intensive ventilation for 10 minutes

- **Roommaster-250 - Radiation of the unit to the outside (intake, exhaust air outside)**

Tab. 8

Degree of air output	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Sound Power Level LWA [dB(A)]	Sound pressure level in the open field on the reflection plane	
									LPA [dB] in 1 m	LPA [dB] in 3 m
1.- min/heating mode	30,0 dB	36,5 dB	34,8 dB	29,9 dB	23,3 dB	18,9 dB	18,7 dB	38,1 dB	24,0 dB	15,3 dB
4.	37,9 dB	52,6 dB	50,6 dB	43,8 dB	35,4 dB	26,0 dB	18,7 dB	51,3 dB	38,2 dB	29,6 dB
7.- nominal flow	45,1 dB	60,4 dB	61,3 dB	53,8 dB	45,2 dB	39,4 dB	27,7 dB	60,1 dB	47,6 dB	39,3 dB
Boost*	60,7 dB	70,1 dB	75,7 dB	69,4 dB	59,5 dB	56,8 dB	51,8 dB	73,1 dB	61,6 dB	53,3 dB

* BOOST mode - intensive ventilation for 10 minutes

Sound permeability from the outside

Tab. 9

Line	Roommaster-100		Roommaster-250	
	Evaluated acoustic attenuation	Evaluated difference of the standard level	Evaluated acoustic attenuation	Evaluated difference of the standard level
Degree of air output	$R_{W,P}$ (C,C_{tr}) [dB]	$D_{n,e,w}$ (C,C_{tr}) [dB]	$R_{W,P}$ (C,C_{tr}) [dB]	$D_{n,e,w}$ (C,C_{tr}) [dB]
Standby	17 (-1; -3)	42 (-2; -3)	17 (-1; -3)	42 (-2; -3)
7.- nominal flow	17 (-1; -3)	42 (-1; -2)	17 (-1; -3)	42 (-1; -2)

2.3.3. Technical data of water heaters

- **Recuperative heat exchanger (Roommaster-100)**

Tab. 10

Temperature gradient			80/60				75/65				75/60				70/60				70/50			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/hr	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	0,47	75,3	0,02	0,2	0,42	72,9	0,03	0,4	0,42	71,6	0,03	0,4	0,39	67,8	0,04	0,6	0,37	64,1	0,01	0,2
	4.	66	1,25	65,7	0,06	1	1,26	64,7	0,11	3,2	1,22	63	0,07	1,5	1,15	60,2	0,1	2,8	1,07	56,3	0,05	0,7
	7.- nominal flow	100	1,78	60,6	0,08	1,7	1,76	60,1	0,16	5,8	1,7	58,3	0,1	2,7	1,62	56	0,14	5,1	1,48	52	0,06	1,3
15	1.- min/heating mode	28	0,4	74,9	0,01	0,2	0,38	72,9	0,04	0,6	0,38	71,7	0,02	0,3	0,34	67,9	0,03	0,6	0,33	64,2	0,02	0,2
	4.	66	1,16	66,5	0,05	0,8	1,14	65,5	0,1	2,7	1,1	63,7	0,06	1,3	1,04	60,9	0,09	2,3	0,95	56,8	0,04	0,6
	7.- nominal flow	100	1,62	61,7	0,07	1,2	1,6	61,3	0,14	4,9	1,54	59,4	0,09	2,3	1,41	57,1	0,13	4,2	1,32	53	0,06	1,1
20	1.- min/heating mode	28	0,35	74,9	0,01	0,2	0,35	73	0,03	0,5	0,33	71,5	0,02	0,2	0,31	67,9	0,02	0,5	0,29	64,2	0,01	0,1
	4.	66	1,05	67,1	0,05	0,7	1,03	66,2	0,09	2,3	0,99	64,5	0,06	1	0,93	61,7	0,08	1,9	0,83	57,2	0,04	0,5
	7.- nominal flow	100	1,46	62,7	0,06	1,2	1,44	62,4	0,13	4,1	1,38	60,5	0,08	1,9	1,3	58,1	0,11	3,5	1,16	53,9	0,05	0,8

- connection dimension male thread 3/4"

Temperature gradient			65/50				55/45				45/35				40/30			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	0,35	60,9	0,02	0,3	0,28	52,4	0,03	0,4	0,21	41,9	0,03	0,2	0,18	36,8	0,02	0,1
	4.	66	0,68	57,4	0,04	0,6	0,56	49,5	0,05	0,8	0,42	39,6	0,04	0,5	0,35	34,6	0,03	0,3
	7.- nominal flow	100	1,4	49,8	0,08	2	1,17	43,4	0,1	3,1	0,88	34,9	0,08	1,9	0,72	30,4	0,06	1,4
15	1.- min/heating mode	28	0,31	60,9	0,03	0,2	0,25	52,3	0,02	0,3	0,19	41,9	0,02	0,1	0,15	36,9	0,01	0,1
	4.	66	0,6	57,7	0,04	0,4	0,49	49,8	0,04	0,7	0,35	39,8	0,03	0,3	0,28	34,9	0,02	0,2
	7.- nominal flow	100	1,24	50,9	0,07	1,6	1,02	44,4	0,09	2,4	0,72	35,8	0,06	1,3	0,56	31,1	0,05	0,9
20	1.- min/heating mode	28	0,26	60,8	0,01	0,2	0,2	52,1	0,03	0,2	0,16	42,1	0,01	0,1	0,12	36,9	0,01	0,1
	4.	66	0,52	57,9	0,03	0,4	0,41	50	0,04	0,5	0,28	40,1	0,02	0,2	0,21	35,1	0,02	0,2
	7.- nominal flow	100	1,09	51,8	0,06	1,3	0,86	45,4	0,08	1,8	0,56	36,4	0,05	0,9	0,4	31,8	0,03	0,3

- connection dimension male thread 3/4"

- **Recuperative enthalpy exchanger (Roommaster-100)**

Tab. 11

Temperature gradient			80/60				75/65				75/60				70/60				70/50			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	0,423	67,77	0,018	0,2	0,378	65,61	0,027	0,5	0,378	64,44	0,027	0,3	0,351	61,02	0,036	0,6	0,333	57,69	0,009	0,2
	4.	66	1,125	59,13	0,054	0,9	1,134	58,23	0,099	2,88	1,098	56,7	0,063	1,35	1,035	54,18	0,09	2,52	0,963	50,67	0,045	0,63
	7.- nominal flow	100	1,602	54,54	0,072	1,53	1,584	54,09	0,144	5,22	1,53	52,47	0,09	2,43	1,458	50,4	0,126	4,59	1,332	46,8	0,054	1,17
15	1.- min/heating mode	28	0,36	67,41	0,009	0,2	0,342	65,61	0,036	0,6	0,342	64,53	0,018	0,2	0,306	61,11	0,027	0,5	0,297	57,78	0,018	0,1
	4.	66	1,044	59,85	0,045	0,72	1,026	58,95	0,09	2,43	0,99	57,33	0,054	1,17	0,936	54,81	0,081	2,07	0,855	51,12	0,036	0,54
	7.- nominal flow	100	1,458	55,53	0,063	1,08	1,44	55,17	0,126	4,41	1,386	53,46	0,081	2,07	1,269	51,39	0,117	3,78	1,188	47,7	0,054	0,99
20	1.- min/heating mode	28	0,315	67,41	0,009	0,1	0,315	65,7	0,027	0,5	0,297	64,35	0,018	0,2	0,279	61,11	0,018	0,4	0,261	57,78	0,01	0,1
	4.	66	0,945	60,39	0,045	0,63	0,927	59,58	0,081	2,07	0,891	58,05	0,054	0,9	0,837	55,53	0,072	1,71	0,747	51,48	0,036	0,45
	7.- nominal flow	100	1,314	56,43	0,054	1,08	1,296	56,16	0,117	3,69	1,242	54,45	0,072	1,71	1,17	52,29	0,099	3,15	1,044	48,51	0,045	0,72

- connection dimension male thread 3/4"

Temperature gradient			65/50				55/45				45/35				40/30			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	0,315	54,81	0,018	0,2	0,252	47,16	0,027	0,3	0,189	37,71	0,027	0,2	0,162	33,12	0,018	0,1
	4.	66	0,909	48,51	0,054	0,99	0,756	41,94	0,063	1,53	0,567	33,57	0,045	0,99	0,468	29,16	0,036	0,72
	7.- nominal flow	100	1,26	44,82	0,072	1,8	1,053	39,06	0,09	2,79	0,792	31,41	0,072	1,71	0,648	27,36	0,054	1,26
15	1.- min/heating mode	28	0,279	54,81	0,027	0,2	0,225	47,07	0,018	0,3	0,171	37,71	0,018	0,1	0,135	33,21	0,01	0,1
	4.	66	0,801	49,05	0,045	0,81	0,657	42,57	0,054	1,17	0,459	33,93	0,036	0,63	0,369	29,61	0,036	0,45
	7.- nominal flow	100	1,116	45,81	0,063	1,44	0,918	39,96	0,081	2,16	0,648	32,22	0,054	1,17	0,504	27,99	0,045	0,81
20	1.- min/heating mode	28	0,234	54,72	0,009	0,2	0,18	46,89	0,027	0,2	0,144	37,89	0,01	0,1	0,108	33,21	0,009	0,1
	4.	66	0,702	49,5	0,045	0,63	0,558	43,11	0,045	0,9	0,36	34,29	0,045	0,45	0,27	29,97	0,027	0,18
	7.- nominal flow	100	0,981	46,62	0,054	1,17	0,774	40,86	0,072	1,62	0,504	32,76	0,045	0,81	0,36	28,62	0,027	0,27

- connection dimension male thread 3/4"

- **Recuperative heat exchanger (Roommaster-250)**

Tab. 12

Temperature gradient			80/60				75/65				75/60				70/60				70/50			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	1,68	73,8	0,07	3,2	1,61	70,9	0,14	10	1,58	70	0,1	4,8	1,48	66,1	0,13	8,8	1,42	63,9	0,06	2,4
	4.	66	2,87	68,1	0,12	8,1	2,78	66,3	0,27	26,1	2,71	64,9	0,17	12,3	2,55	61,7	0,22	22,9	2,41	58,8	0,11	6,1
	7.- nominal flow	100	4,38	61,8	0,22	16,9	4,26	60,7	0,4	55,7	4,16	59,2	0,26	26	3,94	56,6	0,35	48,8	3,66	53,3	0,16	12,8
15	1.- min/heating mode	28	1,56	73,9	0,06	2,8	1,48	71,1	0,12	8,7	1,46	70,1	0,09	4,2	1,36	66,3	0,12	7,6	1,3	64	0,06	2,1
	4.	66	2,65	68,6	0,11	7	2,57	66,8	0,23	22,7	2,5	65,5	0,15	10,7	2,34	62,3	0,21	19,6	2,19	59,2	0,1	5,2
	7.- nominal flow	100	4	62,7	0,2	14,7	3,96	61,7	0,37	48,5	3,83	60,1	0,23	22,5	3,61	57,5	0,32	41,8	3,32	54,1	0,15	10,8
20	1.- min/heating mode	28	1,43	74,1	0,05	2,4	1,36	71,4	0,11	7,5	1,34	70,3	0,08	3,6	1,23	66,5	0,11	6,4	1,17	64	0,05	1,7
	4.	66	2,44	69,1	0,1	6,1	2,35	67,4	0,21	19,5	2,28	66	0,13	9,1	2,13	62,8	0,19	16,6	1,97	59,7	0,09	4,3
	7.- nominal flow	100	3,71	63,6	0,18	12,7	3,63	62,6	0,3	41,6	3,49	61,1	0,21	19,2	3,27	58,5	0,29	35,3	2,98	55	0,13	8,9

- connection dimension male thread 3/4"

Temperature gradient			65/50				55/45				45/35				40/30			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	1,32	60,2	0,08	3,6	0,85	51,9	0,07	3,5	0,84	41,7	0,07	3,5	0,7	36,7	0,06	2,7
	4.	66	2,26	55,7	0,13	9,2	1,44	49	0,13	8,8	1,42	38,9	0,12	9	1,2	34,2	0,1	6,7
	7.- nominal flow	100	3,45	50,8	0,2	19,4	2,2	45,9	0,19	18,5	2,17	35,7	0,19	18,8	1,81	31,5	0,16	14
15	1.- min/heating mode	28	1,2	60,3	0,07	3	0,97	51,7	0,08	4,4	0,71	41,8	0,06	2,6	0,57	36,7	0,05	1,9
	4.	66	2	56,2	0,12	7,7	1,66	48,6	0,15	11,3	1,2	39,3	0,1	6,7	0,97	34,6	0,08	4,7
	7.- nominal flow	100	3,1	51,7	0,18	16,2	2,54	45	0,22	23,9	1,83	36,6	0,16	13,9	1,46	32,3	0,13	9,6
20	1.- min/heating mode	28	1,07	60,5	0,06	2,5	1,1	51,5	0,1	5,5	0,58	41,8	0,05	1,9	0,44	36,5	0,04	1,2
	4.	66	1,82	56,7	0,11	6,3	1,88	48	0,16	14	0,98	39,7	0,09	4,7	0,74	34,8	0,06	2,9
	7.- nominal flow	100	2,77	52,6	0,16	13,2	2,88	44,1	0,25	29,7	1,48	37,4	0,13	9,6	1,11	33	0,1	5,9

- connection dimension male thread 3/4"

- **Recuperative enthalpy exchanger (Roommaster-250)**

Tab. 13

Temperature gradient			80/60				75/65				75/60				70/60				70/50			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	1,68	73,8	0,07	3,2	1,61	70,9	0,14	10	1,58	70	0,1	4,8	1,48	66,1	0,13	8,8	1,42	63,9	0,06	2,4
	4.	66	2,87	68,1	0,12	8,1	2,78	66,3	0,27	26,1	2,71	64,9	0,17	12,3	2,55	61,7	0,22	22,9	2,41	58,8	0,11	6,1
	7.- nominal flow	100	4,38	61,8	0,22	16,9	4,26	60,7	0,4	55,7	4,16	59,2	0,26	26	3,94	56,6	0,35	48,8	3,66	53,3	0,16	12,8
15	1.- min/heating mode	28	1,56	73,9	0,06	2,8	1,48	71,1	0,12	8,7	1,46	70,1	0,09	4,2	1,36	66,3	0,12	7,6	1,3	64	0,06	2,1
	4.	66	2,65	68,6	0,11	7	2,57	66,8	0,23	22,7	2,5	65,5	0,15	10,7	2,34	62,3	0,21	19,6	2,19	59,2	0,1	5,2
	7.- nominal flow	100	4	62,7	0,2	14,7	3,96	61,7	0,37	48,5	3,83	60,1	0,23	22,5	3,61	57,5	0,32	41,8	3,32	54,1	0,15	10,8
20	1.- min/heating mode	28	1,43	74,1	0,05	2,4	1,36	71,4	0,11	7,5	1,34	70,3	0,08	3,6	1,23	66,5	0,11	6,4	1,17	64	0,05	1,7
	4.	66	2,44	69,1	0,1	6,1	2,35	67,4	0,21	19,5	2,28	66	0,13	9,1	2,13	62,8	0,19	16,6	1,97	59,7	0,09	4,3
	7.- nominal flow	100	3,71	63,6	0,18	12,7	3,63	62,6	0,3	41,6	3,49	61,1	0,21	19,2	3,27	58,5	0,29	35,3	2,98	55	0,13	8,9

- connection dimension male thread 3/4"

Temperature gradient			65/50				55/45				45/35				40/30			
Inlet air temperature	Degree of air output	Air flow	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop	Heating power of a heater	Exhaust air temperature	Water flow	Water pressure drop
°C	-	m³/h	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa	kW	°C	m³/h	kPa
10	1.- min/heating mode	28	1,32	60,2	0,08	3,6	0,85	51,9	0,07	3,5	0,84	41,7	0,07	3,5	0,7	36,7	0,06	2,7
	4.	66	2,26	55,7	0,13	9,2	1,44	49	0,13	8,8	1,42	38,9	0,12	9	1,2	34,2	0,1	6,7
	7.- nominal flow	100	3,45	50,8	0,2	19,4	2,2	45,9	0,19	18,5	2,17	35,7	0,19	18,8	1,81	31,5	0,16	14
15	1.- min/heating mode	28	1,2	60,3	0,07	3	0,97	51,7	0,08	4,4	0,71	41,8	0,06	2,6	0,57	36,7	0,05	1,9
	4.	66	2	56,2	0,12	7,7	1,66	48,6	0,15	11,3	1,2	39,3	0,1	6,7	0,97	34,6	0,08	4,7
	7.- nominal flow	100	3,1	51,7	0,18	16,2	2,54	45	0,22	23,9	1,83	36,6	0,16	13,9	1,46	32,3	0,13	9,6
20	1.- min/heating mode	28	1,07	60,5	0,06	2,5	1,1	51,5	0,1	5,5	0,58	41,8	0,05	1,9	0,44	36,5	0,04	1,2
	4.	66	1,82	56,7	0,11	6,3	1,88	48	0,16	14	0,98	39,7	0,09	4,7	0,74	34,8	0,06	2,9
	7.- nominal flow	100	2,77	52,6	0,16	13,2	2,88	44,1	0,25	29,7	1,48	37,4	0,13	9,6	1,11	33	0,1	5,9

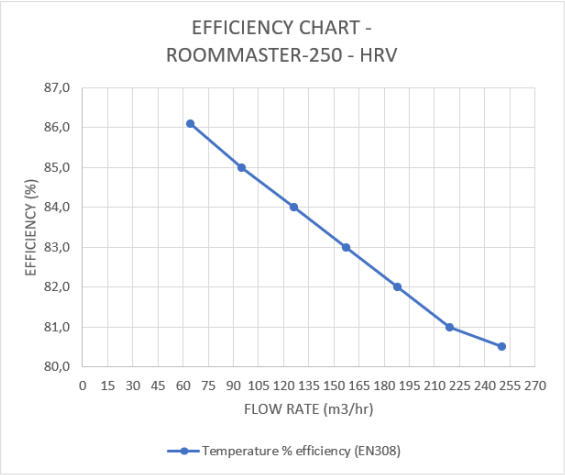
- connection dimension male thread 3/4"

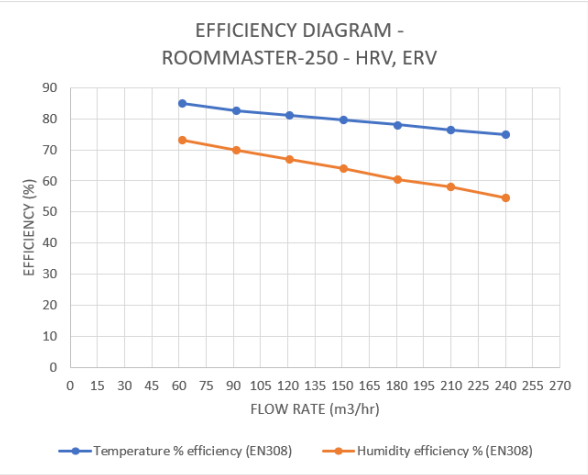
2.3.4. Efficiency of heat and moisture recovery

Tab. 14

Line		Roommaster-100-efficiency of heat and humidity recovery								
Unit type		heat recovery				heat and moisture recovery				
Recovery exchanger type		HRV				ERV				
		AIRFLOW (m^3/h)	Temperature % efficiency (EN308)	Current (A)	Power supply (W)	AIRFLOW (m^3/h)	Temperature % efficiency (EN308)	Humidity efficiency % (EN308)	Current (A)	Power supply (W)
Degree of air output	1.	28	87	0,13	10	25	90	85	0,13	10
	2.	41	85,1	0,14	11	35	87	81	0,14	11
	3.	53	83,5	0,15	14	47	84	75	0,15	14
	4.	66	81,7	0,18	17	58	81	69	0,18	17
	5.	78	80	0,21	21	69	78	63	0,21	21
	6.	90	78,3	0,26	26	80	76	58	0,26	26
	7. - nominal	100	77	0,3	30	90	74	55	0,3	30
	8. BOOST*	215	N/A	1,32	167	205	N/A	N/A	1,32	167

* BOOST mode - intensive ventilation for 10 minutes

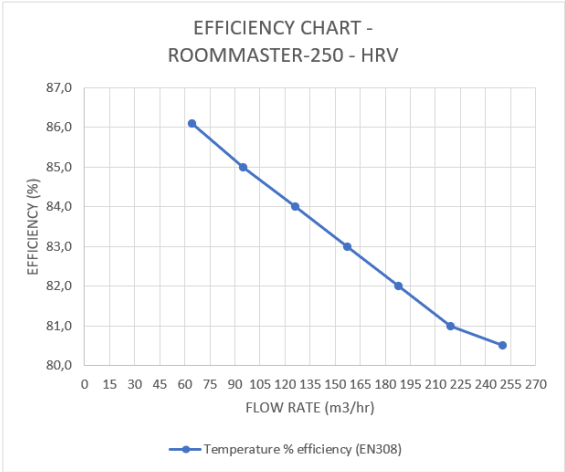


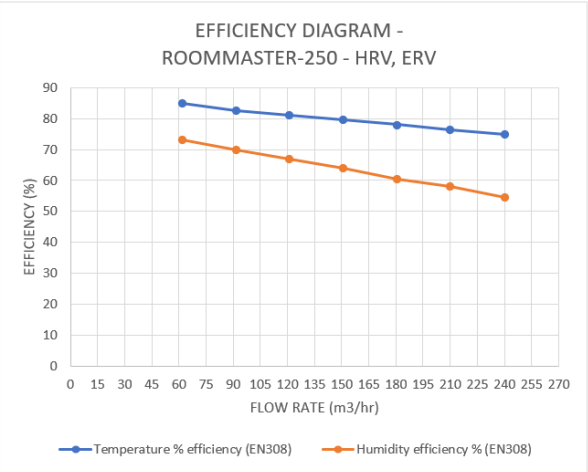


Tab. 15

Line		Roommaster-250-efficiency of heat and humidity recovery								
Unit type		heat recovery				heat and moisture recovery				
Recovery exchanger type		HRV				ERV				
		AIRFLOW (m^3/h)	Temperature % efficiency (EN308)	Current (A)	Power supply (W)	AIRFLOW (m^3/h)	Temperature % efficiency (EN308)	Humidity efficiency % (EN308)	Current (A)	Power supply (W)
Degree of air output	1.	64	86,1	0,17	13,5	62	85	73	0,17	13,5
	2.	95	85,0	0,20	17	92	82,5	70	0,20	17
	3.	126	84	0,25	23	121	81	67	0,25	23
	4.	157	83	0,32	30	151	79,5	64	0,32	30
	5.	188	82	0,45	40	180	78	60,5	0,45	40
	6.	219	81	0,52	51	210	76,5	58	0,52	51
	7. - nominal	250	80,5	0,61	61	240	75	54,5	0,61	61
	8. BOOST*	350	N/A	1,42	169	335	N/A	N/A	1,42	169

* BOOST mode - intensive ventilation for 10 minutes





3. Installation of the unit

3.1. General information, recommendations and safety when installing the Roommaster device

3.1.1. Electrical safety before installing the unit

- **Before starting installation work, make sure that the electrical installation box or socket to which you want to connect the unit is equipped with a protective earth conductor (green/yellow) or a contact (pin).**
- **If you use an electrical installation box for the electrical connection of the unit, you must switch off the power supply and secure the power supply against unintentional switching on.**

- Ensure that the electrical connection point (electrical installation box, socket outlet) corresponds to the power requirements (voltage, current, etc.) specified on the rating plate of the device. The electrical parameters required to operate the unit are specified in chapter 3.3.3 Display of electrical parameters

3.1.2. Unpacking

3.1.2.1. Unpacking the Roommaster unit - box 1

- Always unpack the device in a place that is large enough to remove it from the packaging.
- The entire unit is never unpacked from the packaging; the unit is unpacked step by step as described in these instructions in accordance with the ongoing installation work (protecting the unit from damage and dust generated during installation)
- Proceed as follows:

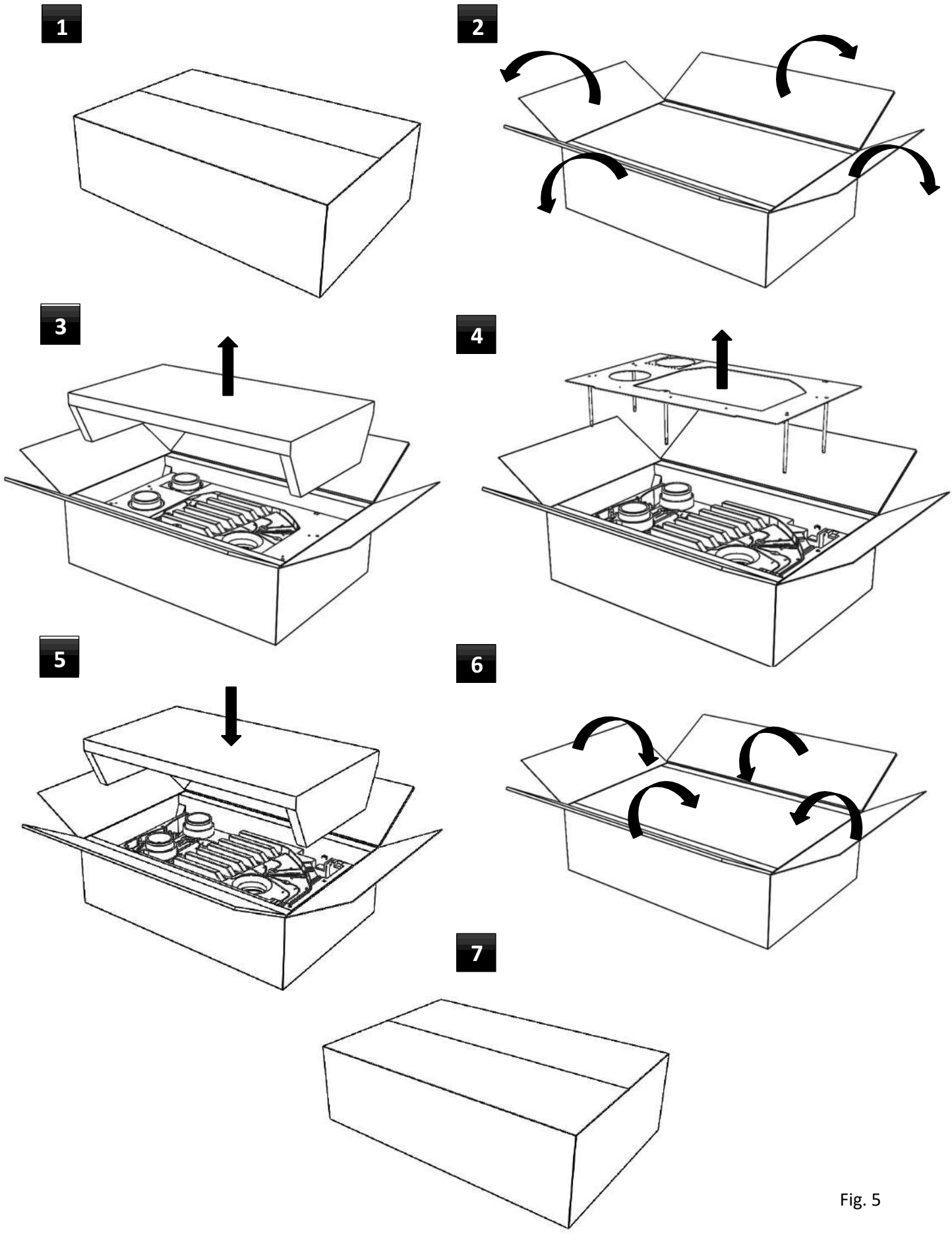


Fig. 5

3.1.2.2. Unpacking the mounting accessories - box 2

- The installation accessories are unpacked in sequence according to the installation procedure described in these instructions:

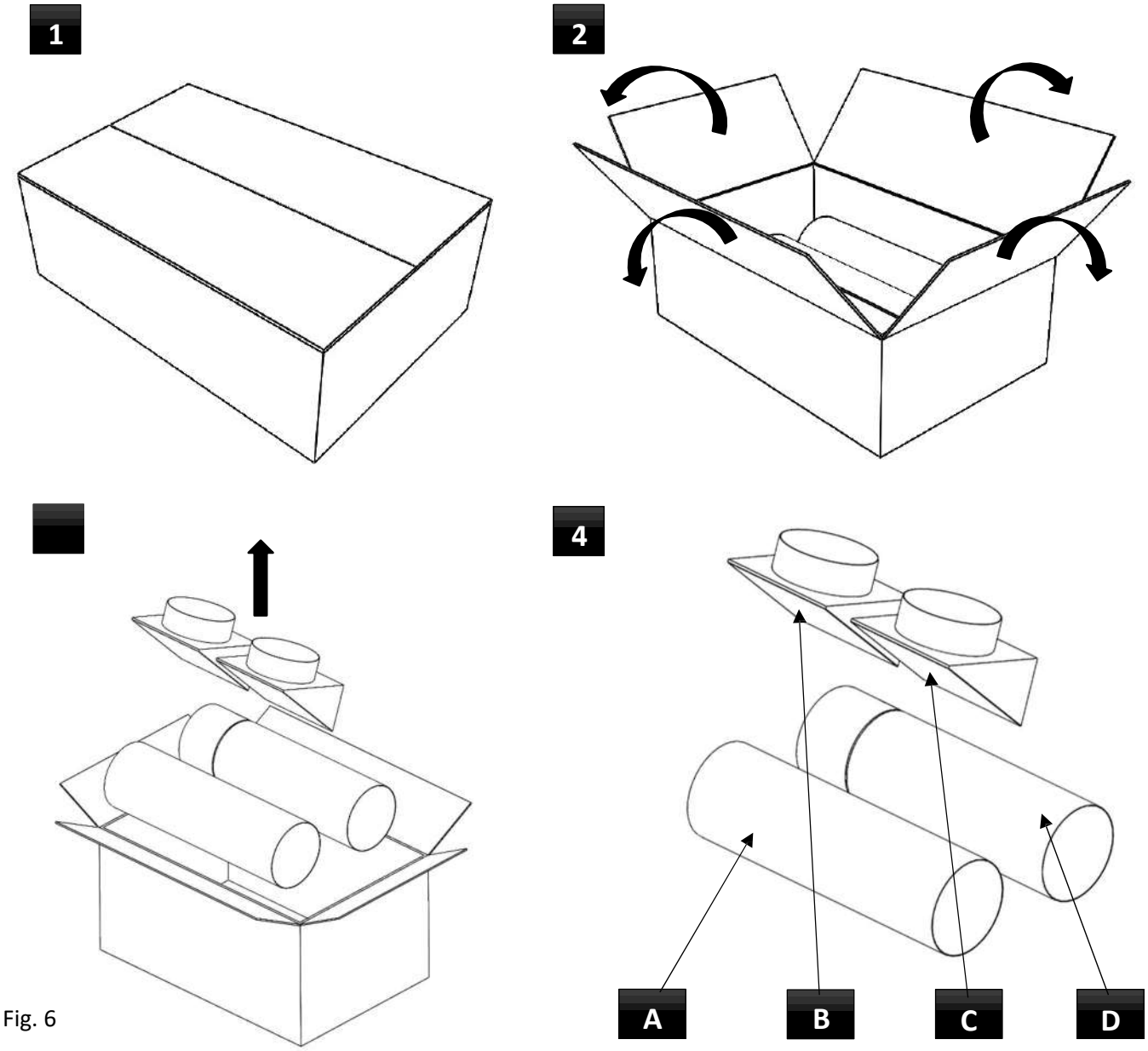


Fig. 6

- **Description of the package contents - Carton 2**
  - A) white plastic tube Ø125mm or ø150mm, length 500 mm
  - B) Plastic square diffuser with flap
  - C) Plastic square diffuser without flap
  - D) Supply line assembly with flap ø125mm or ø150mm, length 500 mm

Please return all packaging that is no longer required to the appropriate recycling centers for proper disposal. Only packaging that has been recycled in this way can be properly reused and put back into service.

3.1.3. Installation of the unit

- The unit is installed on the inside of the outer wall of the ventilated room. The usual location of the unit is under a window.
- Consider the location of the unit indoors in relation to the recommended distances to the unit (e.g.: filter change, maintenance), which are listed in chapter 3.1.4.
- Consider the location of the appliance - position the outlets outdoors so that they cannot be damaged or obstructed (e.g. by surrounding vegetation or landscaping) to ensure air intake, air outlet and condensate drainage.

3.1.3.1. Installation during the renovation of the building

- When renovating a building with water heating (radiators), it is possible to replace the existing water heating (radiators) with a unit with a water heater.
- The replacement must always be consulted with a specialist planner in the heating sector.

3.1.3.2. Position and operation of the unit in a room with a fireplace (chimney)

- The unit is designed for a balanced flow between supply and extracted air (i.e. the same amount of air is supplied and extracted) and can in no way replace a separate air supply to the furnace.
- For proper operation of the firebox and the unit, you should consult the position with a chimney sweep. Otherwise, the unit may function incorrectly.

3.1.3.3. Position and operation of the unit in a room with air conditioning

- If the unit is operated in a ventilated room during the summer months, condensation may form inside the appliance in a different place than intended
- To ensure trouble-free operation, we recommend installing a unit equipped with an enthalpy exchanger.

3.1.4. Minimum installation distances

- The minimum wall thickness is 180 mm (pipe, flap).
- The maximum wall thickness is 1000 mm, whereby the alignment of the pipes and the device inlet must be observed (only straight pipes without elbows) to ensure the correct functionality of the unit.
- If installation in a wall wider than 1000 mm is required (only straight ducts without elbows), contact your ventilation supplier.
- Safety distances to fixed objects:

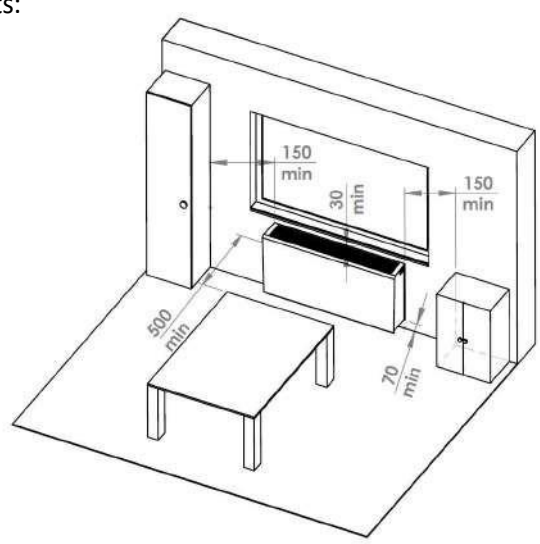


Fig. 7

- Failure to observe the prescribed clearances may result in the unit not working properly, damage to the fan, increased noise levels or inability to access the unit for maintenance.

3.1.5. Installation positions of the Roommaster unit

- All types of Roommaster units can be installed in the following installation positions:

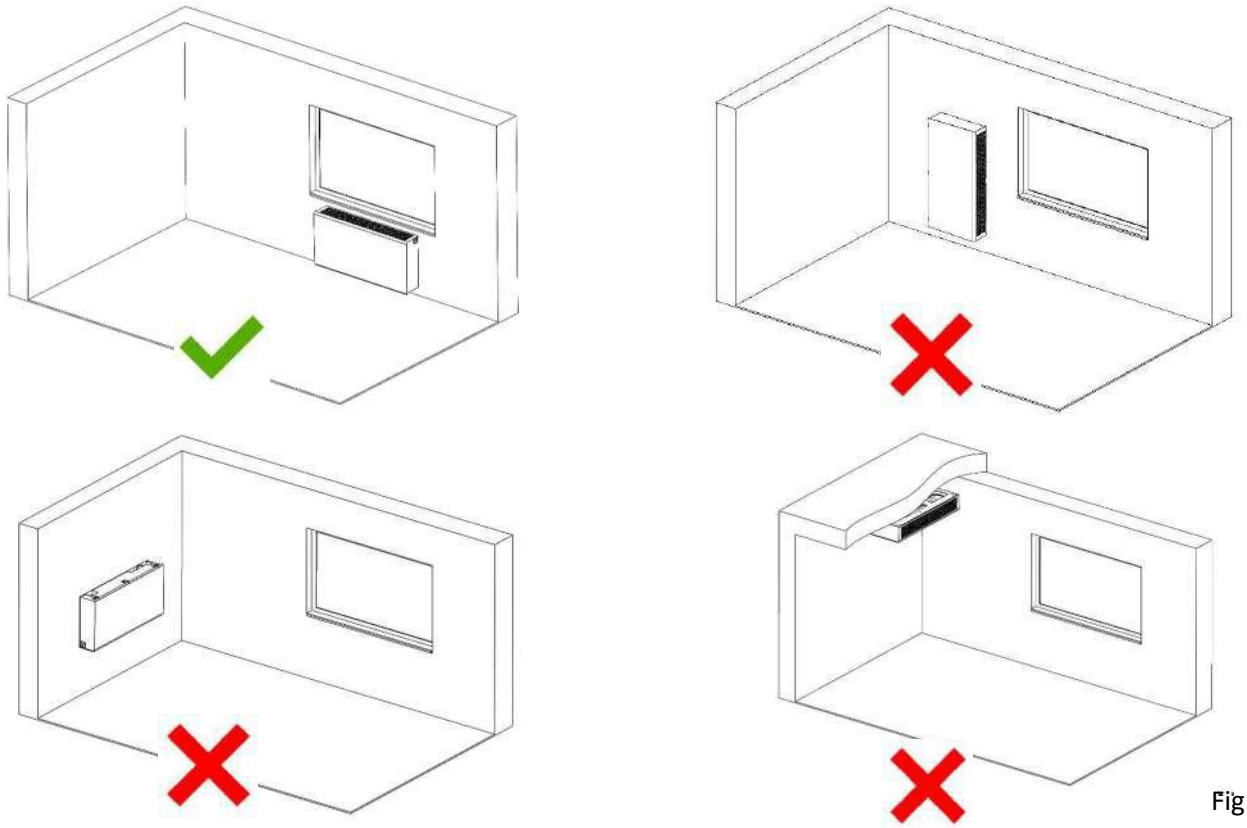


Fig. 8

- **Installation in any other position is prohibited.**

3.2. Installation of the Roommaster unit

- The unit must be operated in a closed and dry place with a room temperature between +5°C and +30°C.
- The heat recovery system must be installed in compliance with the general and locally applicable safety regulations.
- The heat recovery system must be installed, wired, commissioned and repaired by a person with appropriate training, experience and knowledge of the relevant regulations, standards and potential risks and hazards or by an appropriately trained service technician.
- **Failure to observe the installation instructions may result in damage to the unit, incorrect operation and damage to the user's health and property.**
- **Take particular care when draining the condensate into the sewage system via the condensate tray (not included in the scope of delivery). The manufacturer of the appliance accepts no responsibility for damage caused by improper installation of the condensate drip tray, the drain pipe and other peripheral devices required for operation.**

3.2.1. Mounting material required for installing the Roommaster unit

- The mounting aids for installing the unit
  - Anchoring elements (e.g. dowels, dowel bolts). The diameter of the holes in the installation template is 7 mm.
    - Roommaster 7x
    - Roommaster 8x
  - MS polymer-based sealant 1x
  - Low-expansion assembly foam with expansion depending on wall thickness (e.g.: hose) 1x
- The mounting accessories supplied with the unit are designed for wall mounting with a maximum wall thickness of 500 mm.

- If you want to install in a wall with a thickness of more than 500 mm, you must provide additional material:
  - Plastic pipes with length greater than the wall thickness:
    - Roommaster 100 pipe diameter 125 mm 2x
    - Roommaster 250 Pipe diameter 125 mm 2x
  - Straight coupling - nipple
    - Roommaster 100 pipe diameter 125 mm 2x
    - Roommaster 250 Pipe diameter 125 mm 2x
  - Aluminum adhesive tape or another with the same purpose 1x

3.2.2. Installation, mounting the installation template with mounting mandrels

- **Make sure that you follow all the guidelines described in this manual for proper installation:**
- Pull the installation template out of the box with the spikes facing upwards 1,
- Re-seal the box with the rest of the unit and it at a safe distance from the installation site so that it cannot be damaged by construction dust during installation,
- Remove the mounting pins. If the mounting pins cannot removed by hand, use an SW 8 wrench,
- Keep the mounting mandrels for later use.

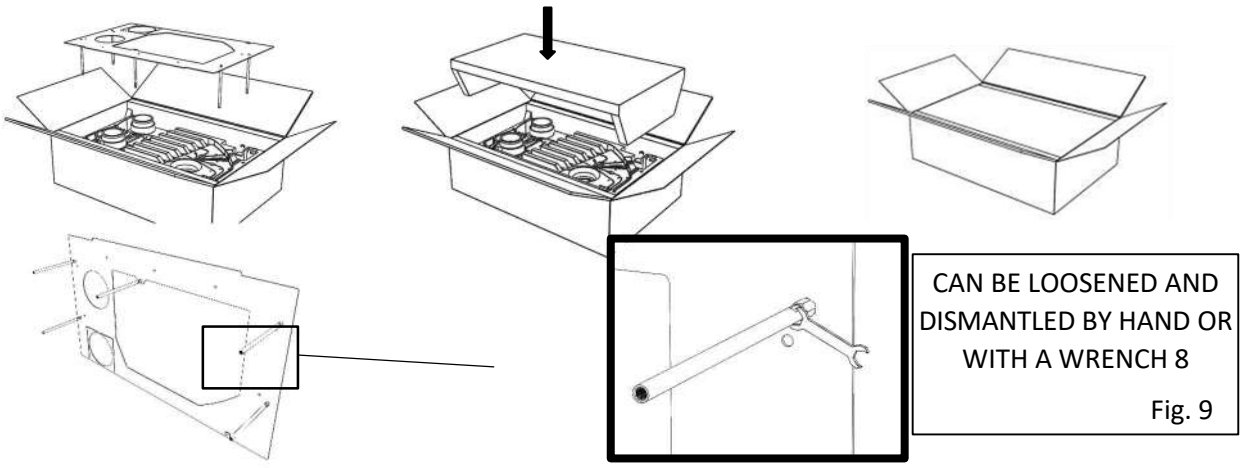


Fig. 9

3.2.2.1. Installing the installation template on the wall using the construction module

- If you have the wall on which the unit is to be installed using the construction module, proceed as follows:
  - Push the blind flanges of the construction module (cylinder) approx. 20 mm into the room
  - the installation template on the extended blind flanges through the circular openings in the template
  - Continue the installation according to point 3.2.2.3

3.2.2.2. Installation of the installation template on the existing wall

- Place the installation template in the desired position.
- Measure the required distances between the unit and solid surfaces and observe the minimum installation distances specified in chapter 3.1.4.
- Continue the installation according to point 3.2.2.3

3.2.2.3. Mounting the installation template

- Align the template horizontally using a spirit level,
  - If necessary, you can use the upper nuts for the mounting mandrels to adjust the spirit level. Make sure that the spirit level is correctly attached to the nuts.
- Mark all mounting holes to attach the template to the wall,

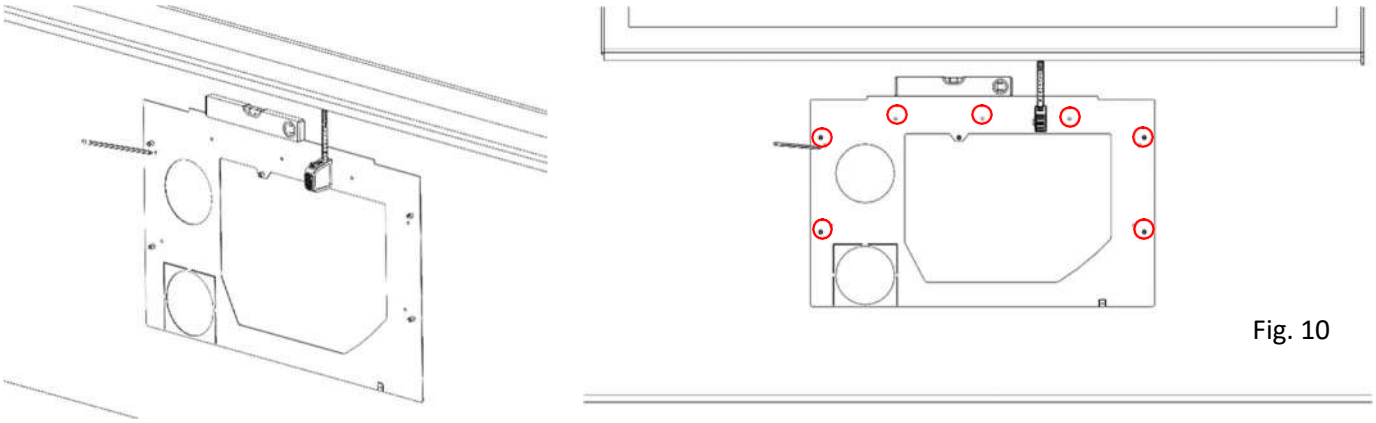


Fig. 10

- Select the appropriate anchoring material (not included in the scope of delivery) for the condition of the wall. The diameter of the holes in the template for anchoring the installation template is 7 mm,
- Drill the marked holes according to the selected anchoring material,
- Screw the installation board to the wall,
- Check the alignment of the installation board and level it if necessary.

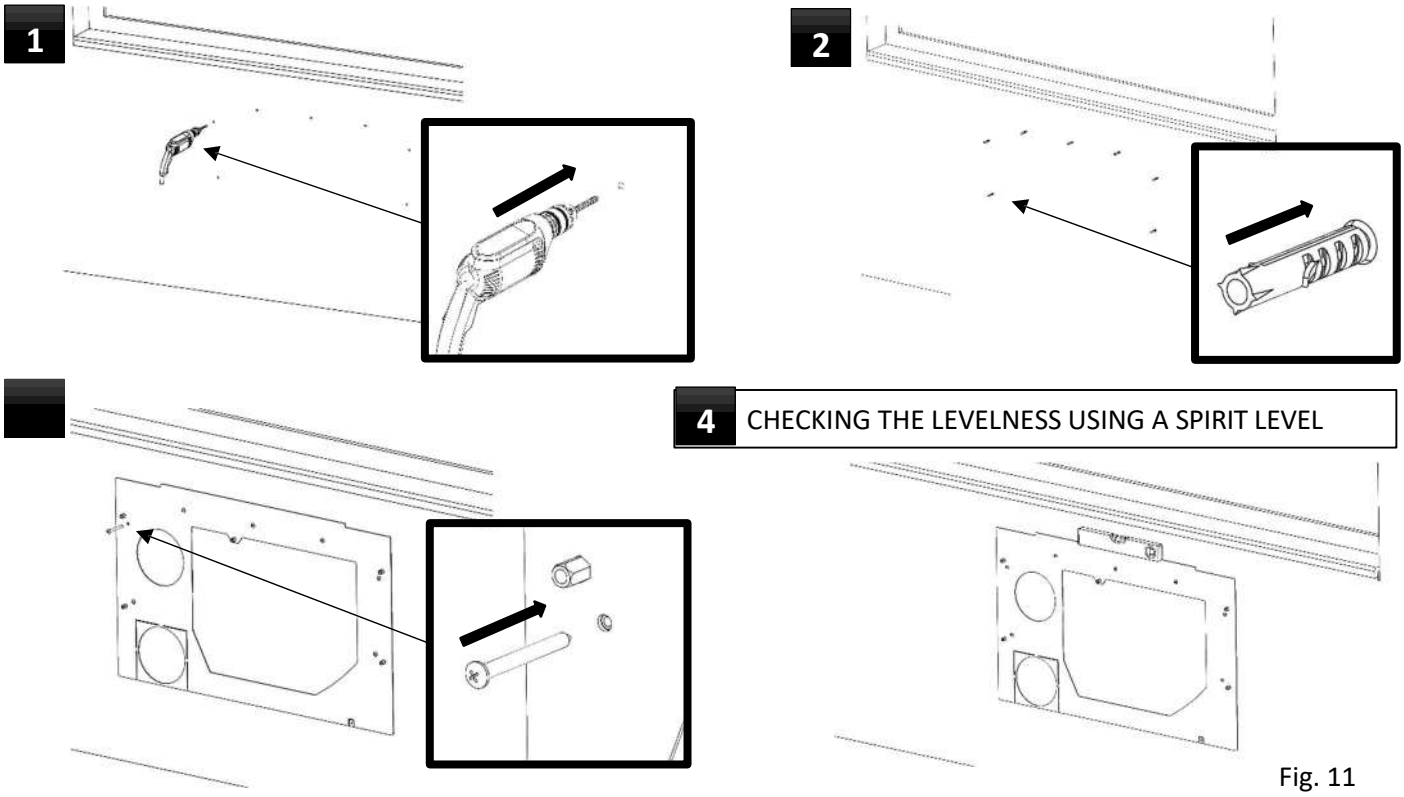


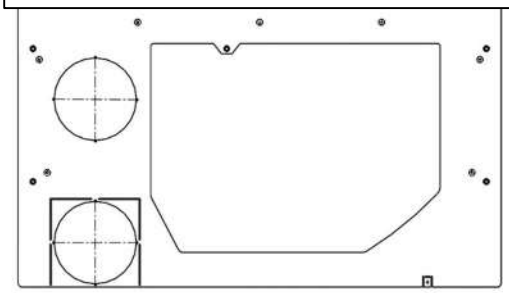
Fig. 11

3.2.3. Preparation of the holes for the pipe in the existing wall

- Use the prepared holes in the installation template to position the pipe holes correctly. The installation template also serves as a drilling template.
- Do not remove the installation template while drilling the pipe holes.
- For drilling holes in the wall, use a suitable technique (core drilling) or contact a specialist company that deals with this activity professionally.
- Diameter of the core drill (drill hole):
  - Roommaster unit 100 Ø152 mm (hole in the installation template Ø155 mm)
  - Roommaster unit 250 Ø182 mm (hole in the installation template Ø185 mm)

- If you need to determine the center of the holes, use the markings on the installation template

NOTE THE CENTER OF THE HOLE



CORE DRILLING - DRILL AXIS 90° TO THE WALL

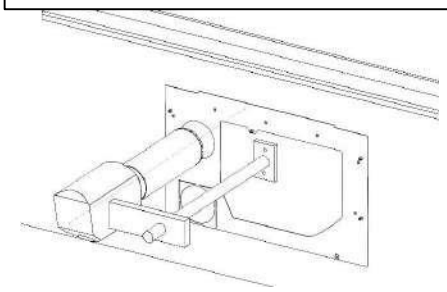


Fig. 12

- **It is necessary that the axis of the drill hole is horizontal and at an angle of 90° to the inner surface of the outer wall.**
- **Ensure that the diameter of the holes drilled in the wall is observed. Otherwise, there is a risk of incorrect installation and poor functioning of the unit as a result.**

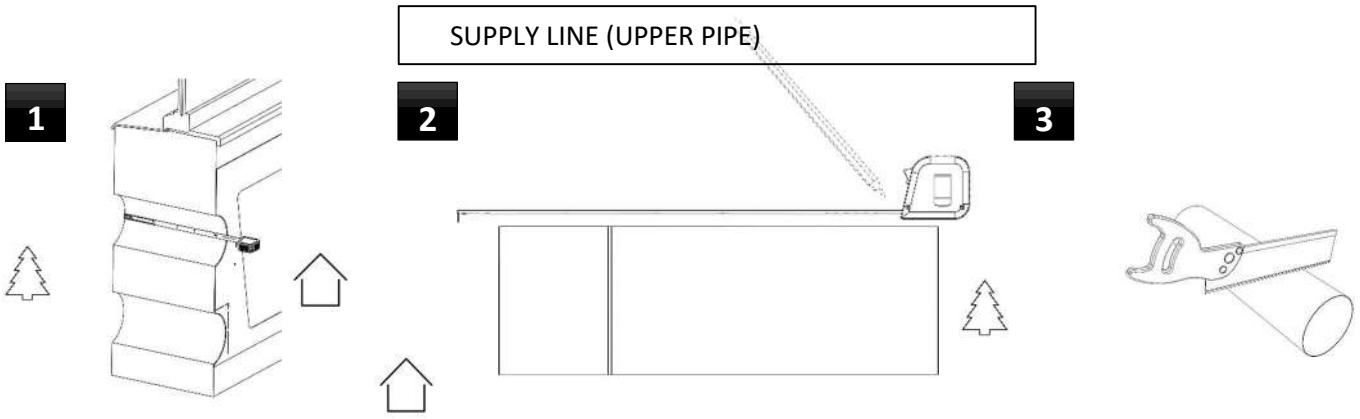
3.2.4. Preparation of the inlet and outlet pipes

- The mounting accessories supplied as standard are designed for walls with a maximum thickness of 0.5 m.

-The pipe extension for walls with a thickness of more than 0.5 m is dealt with in chapter 3.2.4.1.

- Measure the entire wall thickness through the drilled hole, including the thickness of the installation template (the thickness of the installation template itself is 2 mm).
- Remove from box 2 - Mounting accessories, 1 piece "Supply line assembly with flap Ø125mm, (Roommaster250 Ø150mm), length 500mm" - position D.
- Transfer the measured length to the assembly of the supply line with flap, starting at the side where the flap and the blue reference point are located.
- Remove from box 2 - Mounting accessories " white plastic tube Ø125mm (Roommaster250 Ø150mm), length 500 mm" - position A.
- Transfer the measured length (wall thickness) to the other piece of plastic pipe.
- Cut off the supply line with the flap and the second pipe.

SUPPLY LINE (UPPER PIPE)



DRAINAGE LINE (LOWER PIPE)

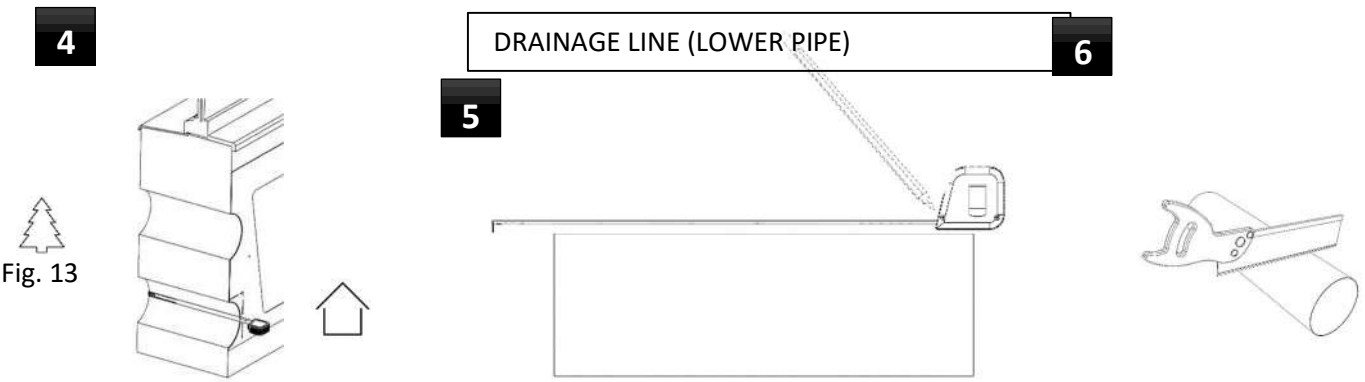


Fig. 13

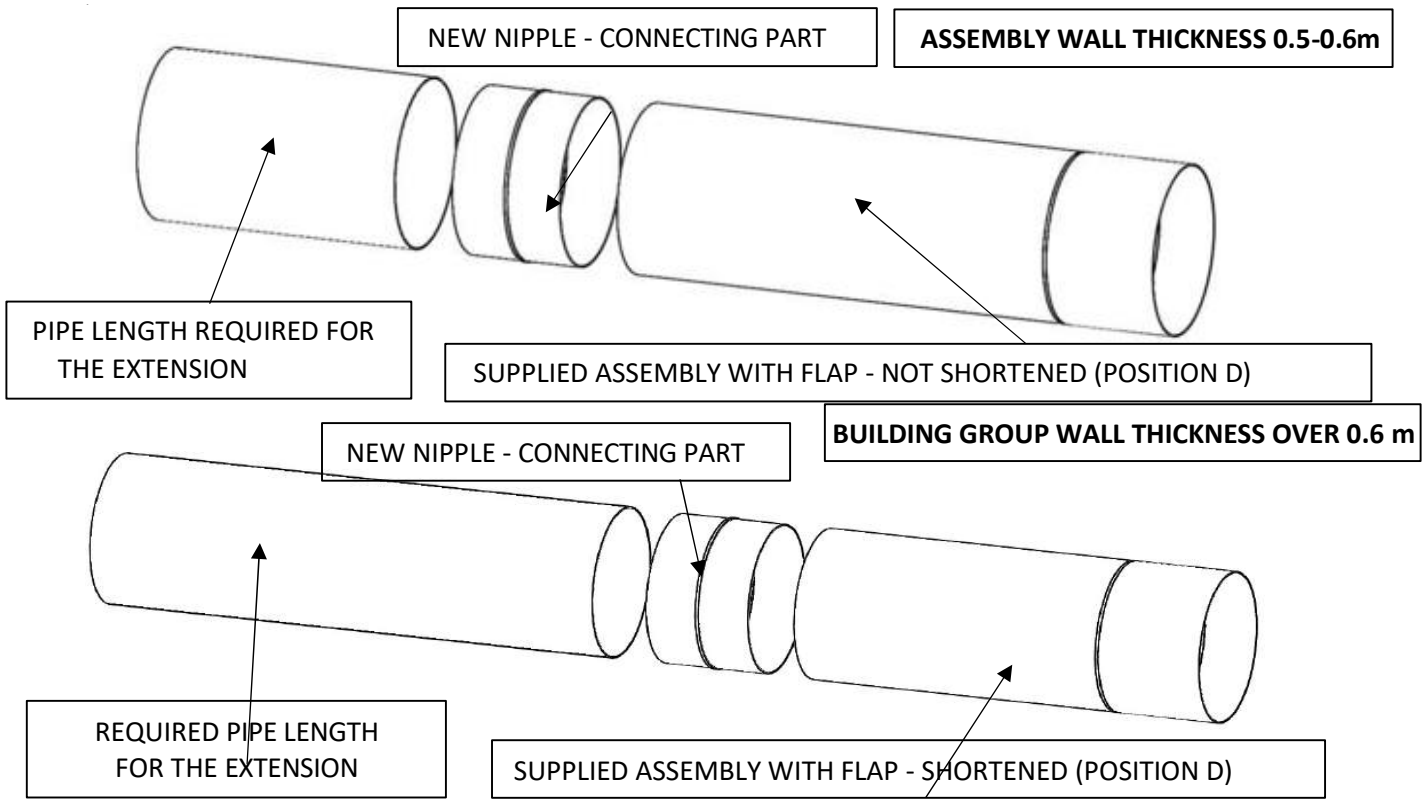
- When cutting the plastic pipe, the cut must be smooth, clean and perpendicular to the pipe axis, as possible.

3.2.4.1. Pipe extensions for walls with a thickness of more than 500 mm

- If longer piping (plastic piping) is required, please contact your nearest HVAC dealer. You will need
  - Plastic air ducts (2 pieces) with a length greater than the thickness of the wall on which the unit is installed and with a diameter of:
    - Roommaster unit 100 Ø125mm
    - Roommaster unit 250 Ø150mm
  - Straight pipe coupling (1 piece) - a nipple with a diameter of the connecting pipe and corresponding to the size of the unit

3.2.4.1.1. Extension of the supply line assembly with flap

- Fit the straight coupling - nipple - to the supply line assembly with flap on the side facing away from the flap.
- Attach the extension pipe to the other end of the straight coupling.
- Secure the established connection by wrapping it with aluminum tape or a suitable substitute.
- **The minimum length of the extension pipe that must be retrofitted to the spigot of the unit is 100 mm (i.e.: wall thickness over 600 mm). If the total wall thickness does not allow the minimum length of the extension pipe of 100 mm (i.e.: the wall thickness is between 500 and 600 mm), a pipe section from the supplied assembly must be shortened so that the minimum length of the extension pipe of 100 mm can be guaranteed. Otherwise, correct installation of the pipe on the appliance cannot be guaranteed.**



3.2.4.1.2. Extension of the drainpipe - the white plastic pipe Fig. 14

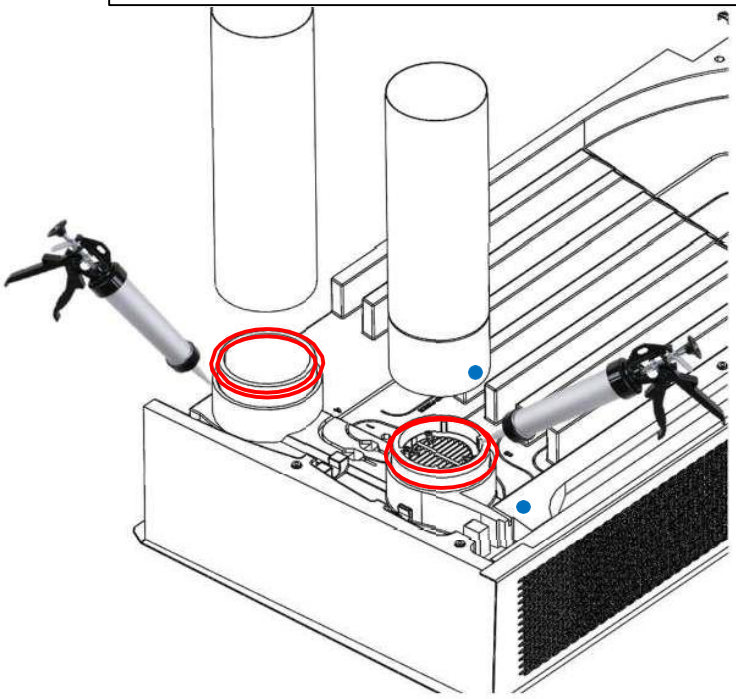
- Replace the plastic pipe you purchased for the pipe extension with the 0.5 m pipe supplied.
- **The pipe intended for the drainpipe must not be adapted but must always be replaced by the pipe in one piece. There is a risk that the condensate cannot drain away and may penetrate the wall.**
- The further procedure for shortening the pipe exactly is the same as described in chapter 3.2.4.

3.2.5. Installation of the inlet and outlet pipe to the appliance

- Return box 1 - "Roommaster unit" to the installation location and open it. Do not unpack the unit from the box.
- Take the plastic bag with the fastening material (M6x30 screws, M6x20 screw with plastic head) out of the box and keep it for later use.
- Apply the MS polymer-based sealant to the grooves around the circumference of the nozzle so that it flushes with the edge of the groove.
- Apply the MS polymer-based sealant to the outside of the socket around the circumference.
- *Place the length-adjusted pipe (without flap)* on the lower connection piece of the unit by turning it back and forth and pressing it down into the groove.
- As soon as the pipe is attached to the lower connection piece, check that it is perpendicular to the Back of the unit and the correct fit

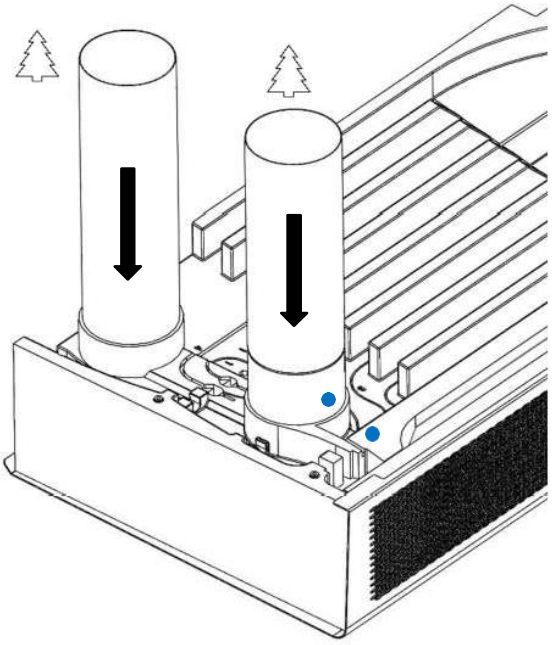
1

APPLY SEALING COMPOUND TO THE GROOVE AND TO THE OUTER EDGE OF THE SPIGOT ON THE HOUSING OF THE UNIT.



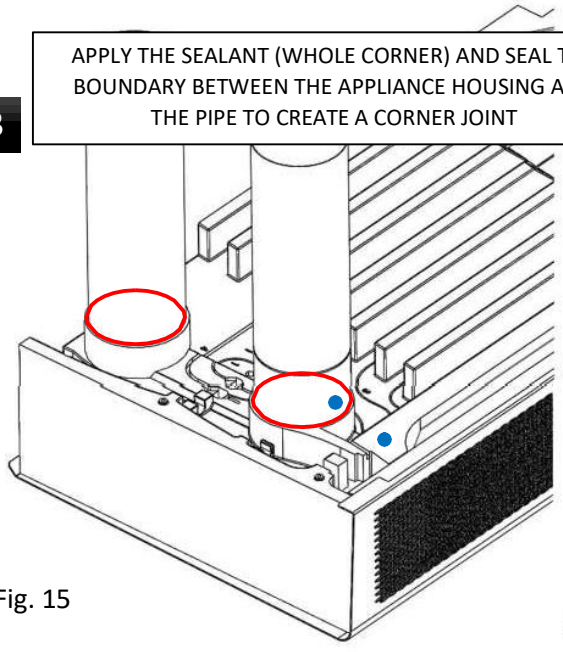
2

SLIDE THE PREPARED PIPE INTO THE GROOVES, THE BLUE DOTS MUST BE ALIGNED - THE PIPES MUST BE PERPENDICULAR TO THE UNIT,



3

APPLY THE SEALANT (WHOLE CORNER) AND SEAL THE BOUNDARY BETWEEN THE APPLIANCE HOUSING AND THE PIPE TO CREATE A CORNER JOINT



4

SECURE THE PIPE WITH SELF-TAPPING SCREWS FOR THE FIRST HANDLING - 2 PIECES PER SPIGOT OPPOSITE EACH OTHER (POSITION IS 20 MM FROM THE EDGE OF THE SPIGOT). CUT OPEN THE CARDBOARD BOX IN WHICH THE UNIT IS PACKED AND REMOVE THE UNIT.

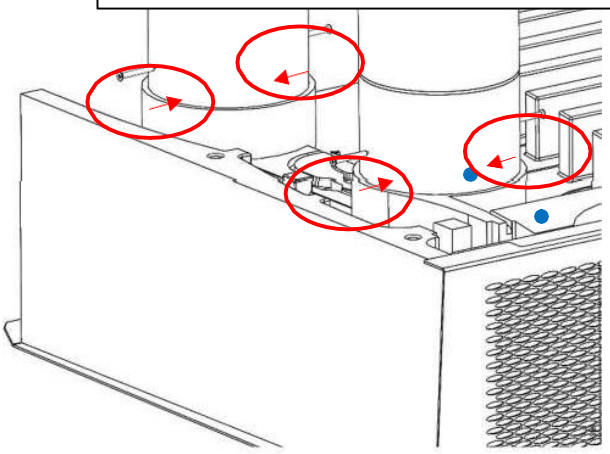


Fig. 15

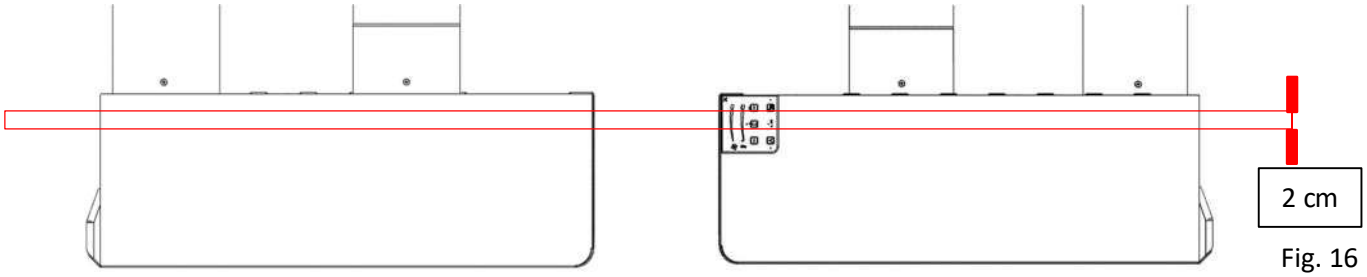


Fig. 16

- Cut the box on the shorter side of the installed piping for better access to the self-tapping locking bolts.
- Fasten the installed pipes against each other using the Ø4x22mm self-tapping screws (supplied as mandatory accessories - box 2), as shown in Figure 15 - 4, at 20mm from the edge of the unit, see Figure 16.
- Tighten the self-tapping screws with appropriate force to prevent damage to the plastic pipe and the appliance socket.
- Align *the length-adjusted pipe assembly with flap* before placing it on the appliance connection piece:
  - The blue dot on the pipe body must face the blue dot on unit housing (the flap must face the unit),
  - The blue dots (on the pipe and on the unit) must be on the same axis at the same time to ensure that the pipe with flap and the unit are in the same axial position.
- Place this aligned assembly on the upper connection piece of the unit by turning it back and forth and pressing it down into the groove.
- Once the pipe is attached to the top spigot, check that it is perpendicular to the back of the unit and that the blue dots are oriented correctly.
- the circumference of the installed pipe with an MS polymer-based sealant to create a corner connection over the entire thickness of the socket.
- Fasten the installed pipework with self-tapping screws Ø4x22mm against each other, as shown in Figure 15 - 4, at 20mm from the edge of the appliance, see Figure 16.

3.2.6. Gluing on the insulating underlays

- To seal the pipe and the unit properly against the wall opening (in the construction module), stick the polyethylene insulation pad supplied onto the installation template.
- Remove the protective adhesive film from the back of the insulating carpet pad.
- Attach the carpet pad to the installation template at the same time as the marked fixing points.

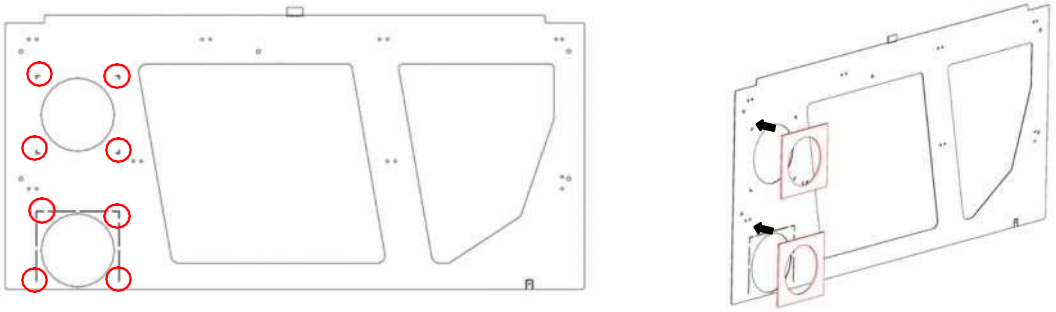


Fig. 17

- **Before work, check that the pipe is correctly seated:**
  - **The pipe without flap (pipe only) is installed on the lower connection piece,**
  - **The pipe with flap is installed on the upper connection piece:**
    - **The flap is positioned towards the unit,**
    - **The blue dots (on the pipe and on the unit) are opposite each other and on the same axis,**
  - **the two pipes run perpendicular to the rear of the appliance in all directions,**
  - **The two pipes are sealed with MS polymer-based sealing compound in the socket grooves,**
  - **The sealing compound is applied between the outer wall of the column and the inner wall of the pipe,**
  - **The two pipes are sealed with sealing compound at the connection pieces with a fillet joint over the entire thickness of the connection piece,**
  - **The supply line (with flap) and drain line are fastened with self-tapping screws.**
  - **Insulating underlays are glued to the installation template**
- **IF A CHECKPOINT IS NOT FULFILLED, CORRECT IT.**

3.2.7. Wall mounting of the Roommaster- unit

- Screw the removed mounting mandrels back into the nuts on the installation template and tighten them using an 8 mm wrench.

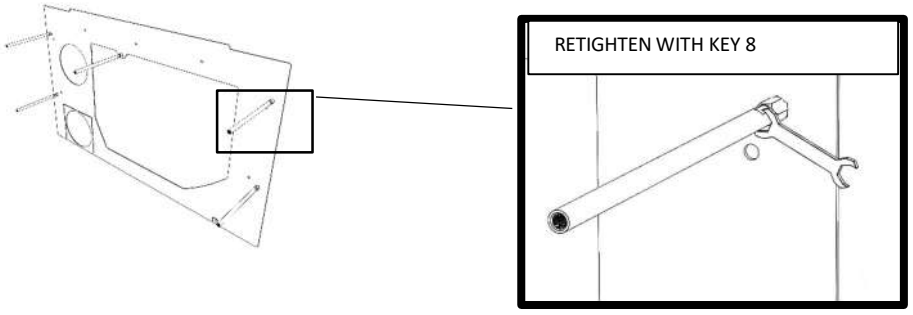


Fig. 18

- **Be careful throughout the handling of the unit from the box to the installation template to avoid damage to the sealed joints of the pipework to the unit.**
- Remove the unit (black molded part) with the assembled piping from box 1 - "Roommaster unit" and make sure that the front metal cover, which is located on the underside of the package, always remains in the box, or use the cut-open box and slide the unit out to the side, leaving the front metal cover in the box.
- Close the box 1 - " Roommaster unit " with the front metal cover and place it in a safe place outside the installation area so that the front cover cannot be damaged or become dusty.

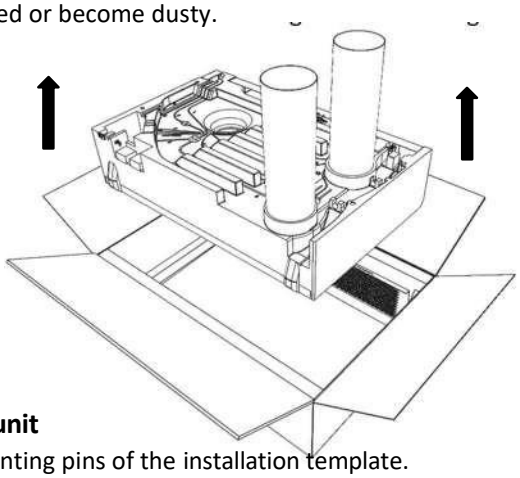


Fig. 19

3.2.8. Final installation of the Roommaster unit

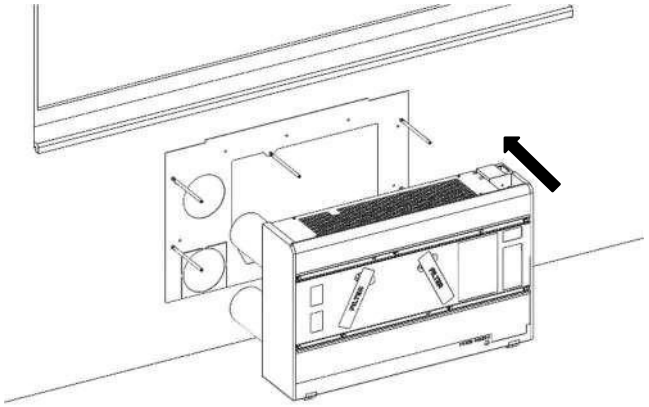
- Slide the removed unit partially onto the mounting pins of the installation template.
- **Insert the plug of the earthing conductor into the earthing point of the installation template. This establishes the earthing of the unit and the installation template and ensures the electrical safety of the device.**

3.2.8.1. Variant with electric heating without heating -

- Press the rear panel of the unit into contact with the installation template and secure the unit in the mounting mandrels using the M6x25 screws provided (included in the bag).

1 PLACE THE UNIT ON THE DOWELS + PUSH THE GLUED-ON PIPE THROUGH THE DRILL HOLES IN THE WALL.

2 PLACE THE UNIT PARTIALLY ON THE PINS AND CONNECT THE EARTHING CABLE TO THE EARTHING PLUG ON THE WALL PLATE.



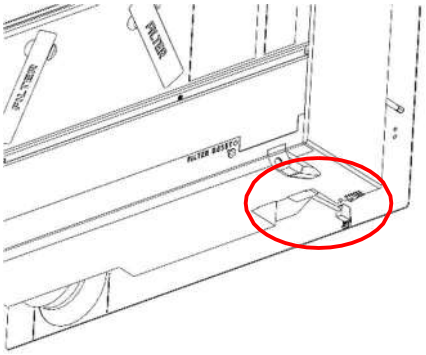


Fig. 20

3	FASTEN THE UNIT TO THE MOUNTING MANDRELS USING M6X25 SCREWS **TIGHTEN WITH APPROPRIATE FORCE - MAX 5Nm**

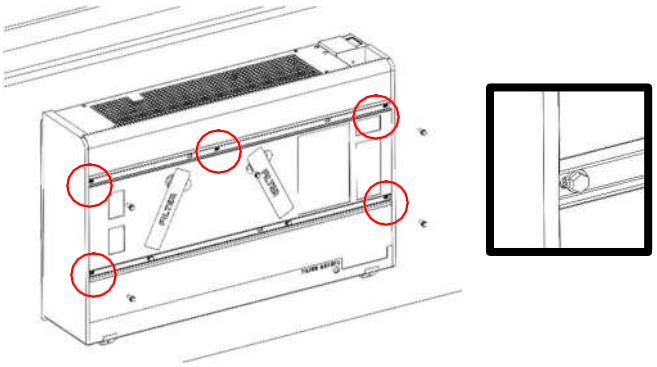


Fig. 21

- **Pay particular attention to the correct installation of the pipe in the prepared holes in the wall to avoid damage.**
- **Ensure that the locking screws (M6x25) are properly tightened with an appropriate force of MAXIMUM 5Nm so that the entire back of the molded part is in contact with the installation template. Otherwise, there is a risk of increased noise and incorrect functioning of the unit.**

3.2.8.2. Variant with heating

- Leave the unit mounted on the mounting mandrels at approx. 100 mm from the wall.
- Connect the flexible hoses, which end with a G ¾" external thread, to the mixer tap (not included in the scope of delivery). The ends of the flexible are marked with a red dot (hot water inlet) and a blue dot (return) to distinguish between the inlet and outlet of the heating water.
- To secure the flexible hose against twisting when tightening, use a wrench SW 27. This prevents the flexible hoses and the outlets of the heat exchanger from being kinked, which can lead to irreversible damage to the hoses, the fitting and the water exchanger.

SCREW THE HOSES ONTO THE VALVE AND TIGHTEN THEM PROPERLY USING A SUITABLE TOOL

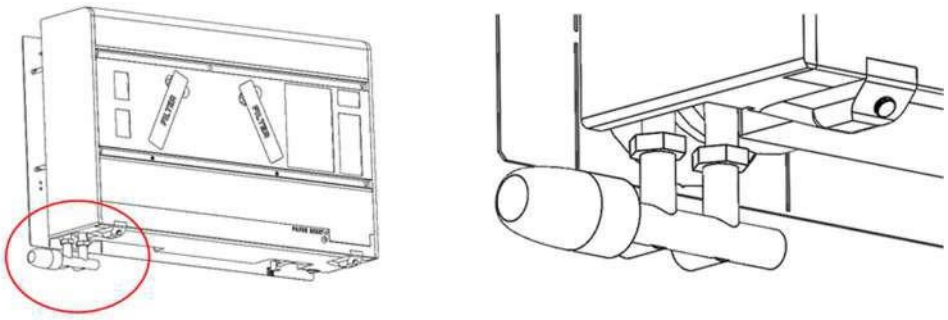


Fig. 22

- After connecting the water heat exchanger to the heating system, a pressure test of the appliance connection is recommended.
- **The tests must be carried out by a person qualified in this field who is familiar with the applicable regulations and standards of the country concerned.**

- After connecting the water heat exchanger to the heating system, press the rear panel of the unit into contact with the installation template and secure the unit in the mounting mandrels using the 5 M6x25 screws supplied (included in the bag).

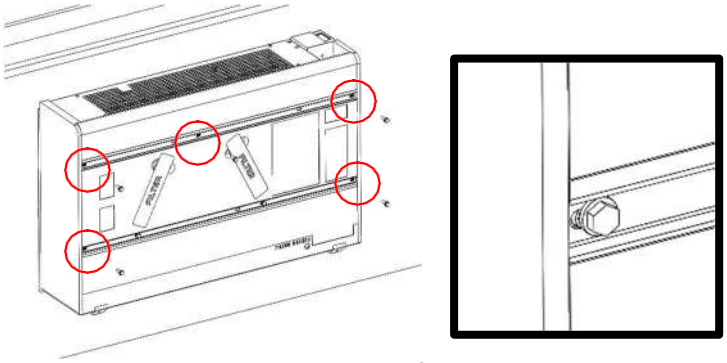
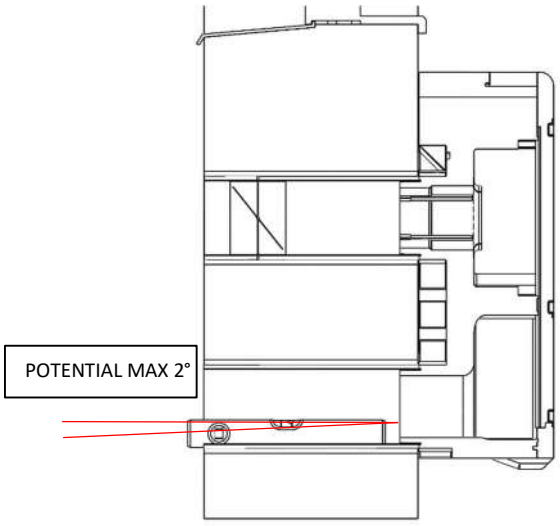


Fig. 23

- **Pay particular attention to the correct installation of the pipe in the prepared holes in the wall to avoid damage.**
- **Ensure that the locking screws (M6x25) are properly tightened with an appropriate force of MAXIMUM 5Nm so that the entire back of the molded part is in contact with the installation template. Otherwise, there is a risk of increased noise and incorrect functioning of the unit.**

3.2.9. Securing and insulating the pipe in the wall

- Securing - Foam the supply line (assembly with flap) and the drain line with low expansion installation foam on the outside of the wall.
- Foam the entire circumference and the entire length of the pipe in the space between the pipe and the inside of the wall. If you cannot foam the entire wall thickness with the standard installation foam nozzle, use a suitable extension that makes this possible (e.g. a hose).
- Immediately after foaming, the inlet and outlet pipes must be set to a slight gradient so that the condensate can drain off to the outside.
- **particular attention to the drainpipe (lower pipe without flap), where the gradient to the outside must be at least 2° (¼ bubble). If the gradient is not maintained, there is a risk of condensation entering the interior.**
- As soon as the pipe has the slope, fix it against arbitrary movements before the foam hardens.



THE FOAM MUST BE APPLIED OVER THE ENTIRE LENGTH AND CIRCUMFERENCE OF THE PIPE - FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN CONDENSATION ON THE PIPE SURFACE AND CONDENSATE DRIPPING INTO THE WALL AND INTERNAL SPACES

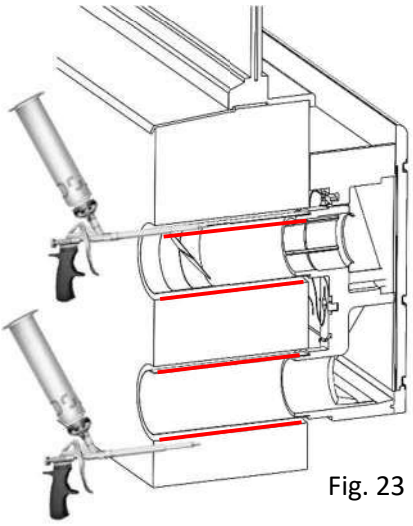


Fig. 23

- After the installation foam has hardened, the foam is cut off in accordance with the outer façade.
- Clean the cut of the installation foam so that no moisture or water from the façade can penetrate between the drill hole and the pipe (e.g. liquid membrane).

3.2.10. Installation of the pipe on the outside of the wall outlet

- Take the square plastic diffuser with flap and the square plastic diffuser without flap from box 2 - Installation accessories.
- Apply an MS polymer-based sealant around the entire circumference of the beveled edge of the outlet spigot to seal the gap between the outlet spigot and the pipe.
- Mount the outlet with flap on the lower pipe.
- Install the drain without flap on the upper pipe.
- Align the flaps according to the evenness of the fade and fix them if necessary (e.g. gluing them to the fade)

1 APPLY THE SEALING COMPOUND AROUND THE ENTIRE CIRCUMFERENCE OF THE OUTLET NOZZLE - 2X

2 INSERT THE OUTLETS INTO THE PIPES

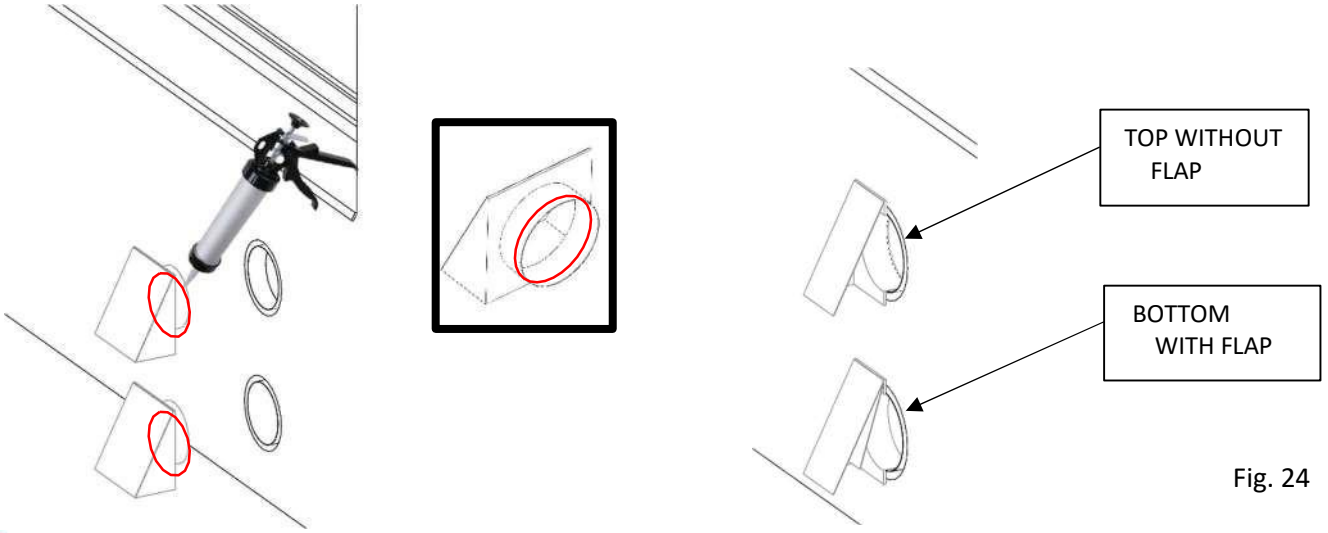


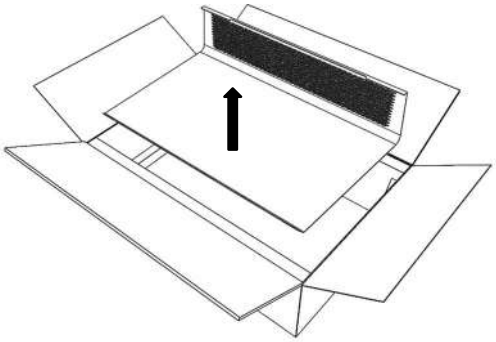
Fig. 24

- **Correct sealing between the damper spigot and the pipe ensures proper condensate drainage through the outlet.**

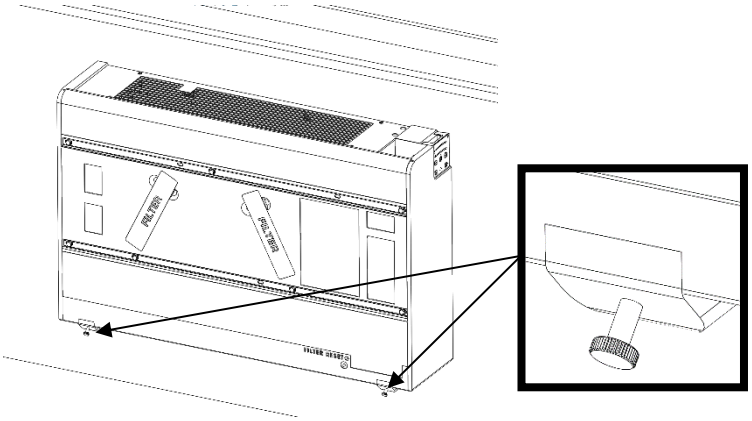
3.2.11. Attaching the front metal cover

- Screw the M6x20 screws with plastic head (supplied in the bag) approx. 10 mm into the underside of the unit.
  - Size Roommaster 100 - 2 pieces
  - Size Roommaster 250 - 3 pieces
- From box 1 - "Roommaster unit", remove the front cover of the unit.
- Hang the cover of the unit on the housing and fasten it at the same time to the partially screwed-in M6x20 screws with plastic head. The side edge of the unit cover must be positioned at the same time as the side edge of the installation template to create a "single edge".
- Tighten the partially screwed-in M6x20 screw with plastic head by hand.

1 REMOVE THE FRONT COVER FROM THE PACKAGING



2 PARTIALLY TIGHTEN THE SCREWS



3 ATTACH THE FRONT COVER, TIGHTEN THE SCREWS HAND-TIGHT - FIT THE COVER TO THE TEMPLATE

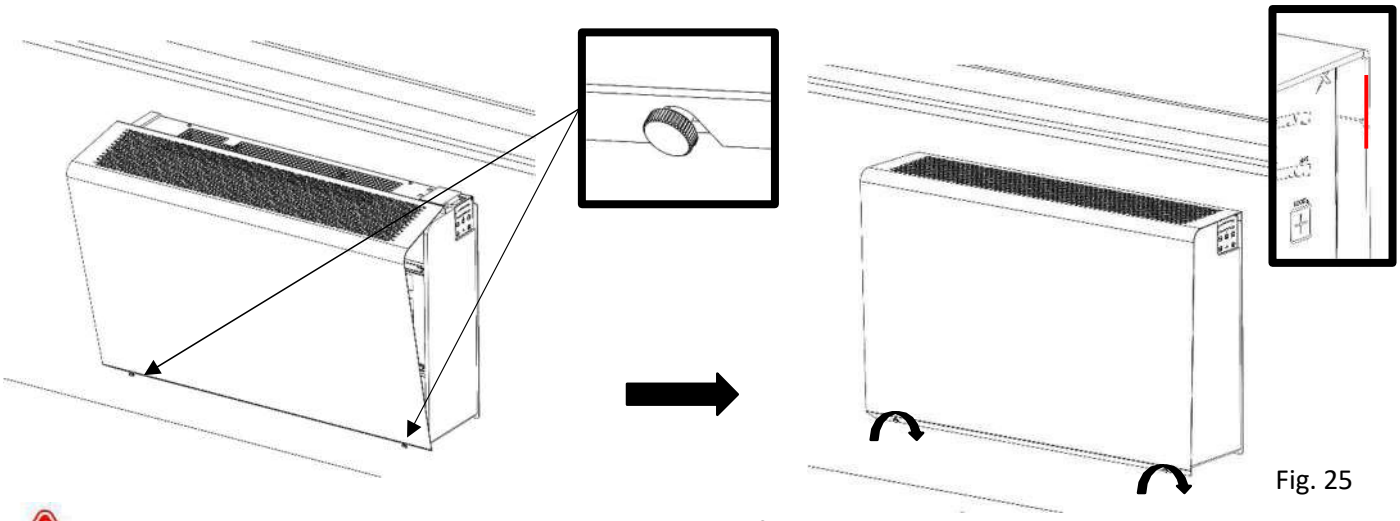


Fig. 25

- **Tighten the plastic head screws with appropriate force so as not to damage them or the nuts in the appliance housing.**

3.3. Electrical installation - connection to the power grid

3.3.1. General information - Security

- **Before starting installation work, make sure that the electrical installation box or socket to which you want to connect the unit is equipped with a protective earth conductor (green/yellow) or a contact (pin).**
- **If you connect the unit via mains plug, this must be accessible at all times so that the appliance can be safely disconnected from the mains in the event of danger.**
- **Ensure that the power supply meets the power requirements of the device (voltage, current, frequency, etc.) as specified on the nameplate of the device. Chapter 3.3.3 Display of the electrical parameters.**
- **The corresponding circuit must be fused with a maximum of 16 A in the power supply.**
- **The power cable for connection to the mains supply must not be interrupted.**
- **The local electrical regulations must always be observed.**
- **The electrical connection of the unit to the power grid may only be carried out by persons who are qualified for this activity, have valid authorization and are familiar with the relevant standards and directives of the country concerned.**
- **The power supply must be switched off before starting installation work. The switch must be secured against being switched on again by unauthorized persons during installation. The switch must have a minimum contact gap of 3 mm.**
- **It is forbidden to interfere with the internal wiring of the device in any way, except as described in this manual.**
- **This unit belongs to the product group with the Y connection. If the power supply cable is damaged, it must be replaced by the manufacturer, its service center or a similarly qualified person to avoid a dangerous situation.**
- **The unit is classified as a class 1 device with regard to protection against electric shock.**
- **The unit's supply voltage of 1~230V/50-60Hz must not change in any way, otherwise there is a risk of damage to the unit's electrical components.**

3.3.2. Connection to the power grid

- The unit is equipped with a separate supply cable of stranded wire type (rope). The insulation of the cables on the individual conductors is 50 mm. The individual conductors are fitted with crimp terminals.
- The 1.5 m long supply cable can be shortened by a qualified person if necessary.

- The individual conductors are color-coded
  - brown/black - phase conductor - L
  - blue - neutral conductor - N
  - green-yellow - protective conductor - PE

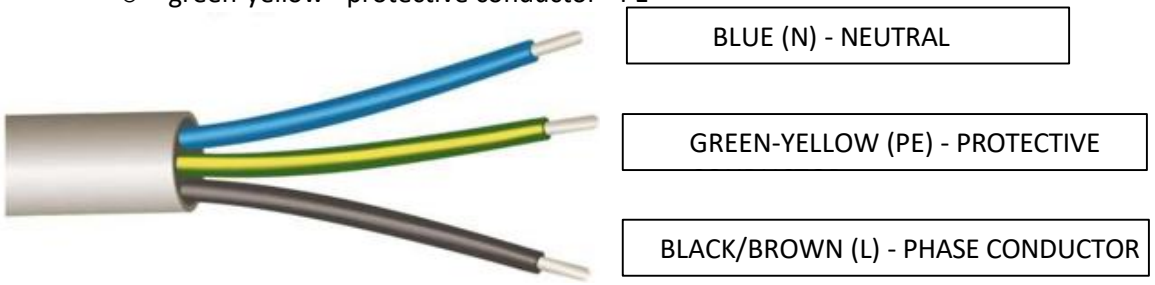


Fig. 26

3.3.2.1. Connecting the unit to the electrical installation box

- The supply cable is prepared by the manufacturer for connection to the electrical installation box.
- Suitable connection elements must be used to connect the supply cable to the mains (e.g. terminal strip, spring terminals etc...).
- **The installation of the supply cable in the electrical installation box and the connection to the mains supply must be carried out by a qualified person who has a valid license for this activity and knowledge of the relevant standards and directives of the country concerned.**

3.3.2.2. Connecting the unit to a socket

- The supply cable can be fitted with a fork with a protective conductor (pin) - not included in the scope of delivery.
- **Installation of the plug on the supply cable must be carried out by a person qualified for this task, who has a valid license for this activity and knowledge of the relevant standards and directives of the country.**

3.3.2.3. Recommended fuse for the Roommaster unit

Tab. 16

Unit type		Circuit breaker capacity	Number of phases x voltage
Roommaster 100	without heater	10 A	1x230V
	with water heater		
	with electric heater		
Roommaster 250	without heater	10 A	
	with water heater		
	with electric heater	16 A	

3.3.3. Display of the electrical parameters

-All eclectic parameters of the device are displayed on the type plate

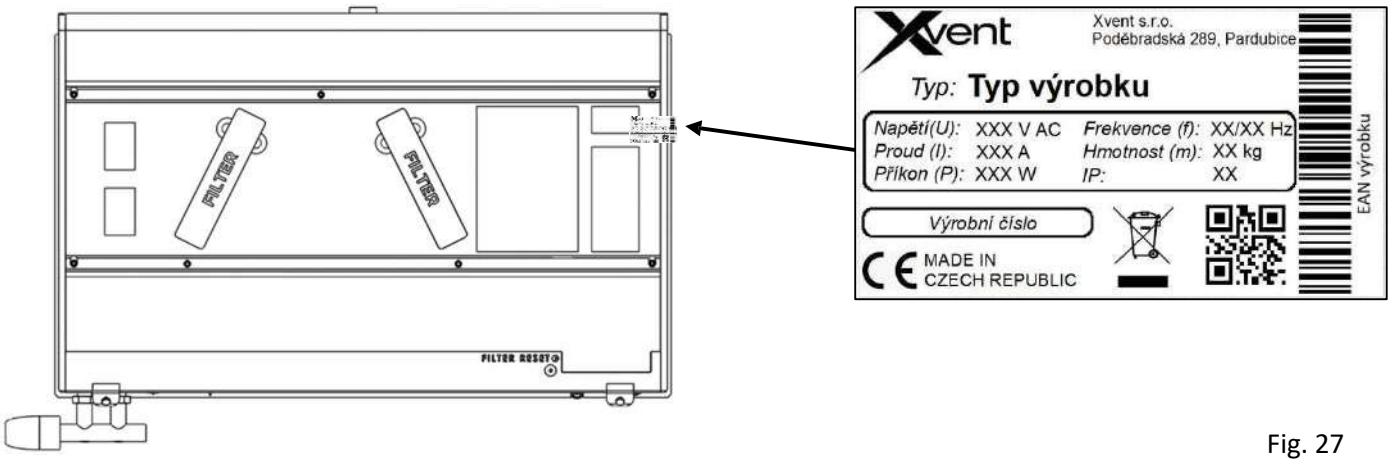


Fig. 27

4. Regulation

4.1. General information - Security

-Nothing else needs to be connected for the unit to operate properly. The unit is supplied as standard with a complete integrated control system and a CO_2 air quality sensor. It is therefore immediately ready for use after installation on the wall.

4.2. Electrical accessories for the Roommaster- unit

- **Always switch off the unit at the control unit and the main switch (position 18) before connecting electrical accessories.**

4.2.1. Connection of electrical accessories

- Connect the electrical accessories in the control box. If necessary, the box can be pulled out approx. 80 mm above the fitting level.
- Spring terminals with manual wire locking are used to connect the individual components. The terminals can both stranded conductors (rope) and solid conductors (wire) with a cross-sectional area of 0.5 to 1.5 mm². Before inserting the cable into the terminals, first press the orange locking button. Then insert the cable, release the lock and check that the cable is properly secured by pulling it slightly away from the terminal. If the conductor needs to be removed from the terminal, the procedure is the same.
- Feed the supply cables to connect the accessories to the unit through the unit housing into the area of the AQA sensors.

Pull out the control box.

Pull through the cables for connecting the electrical accessories.

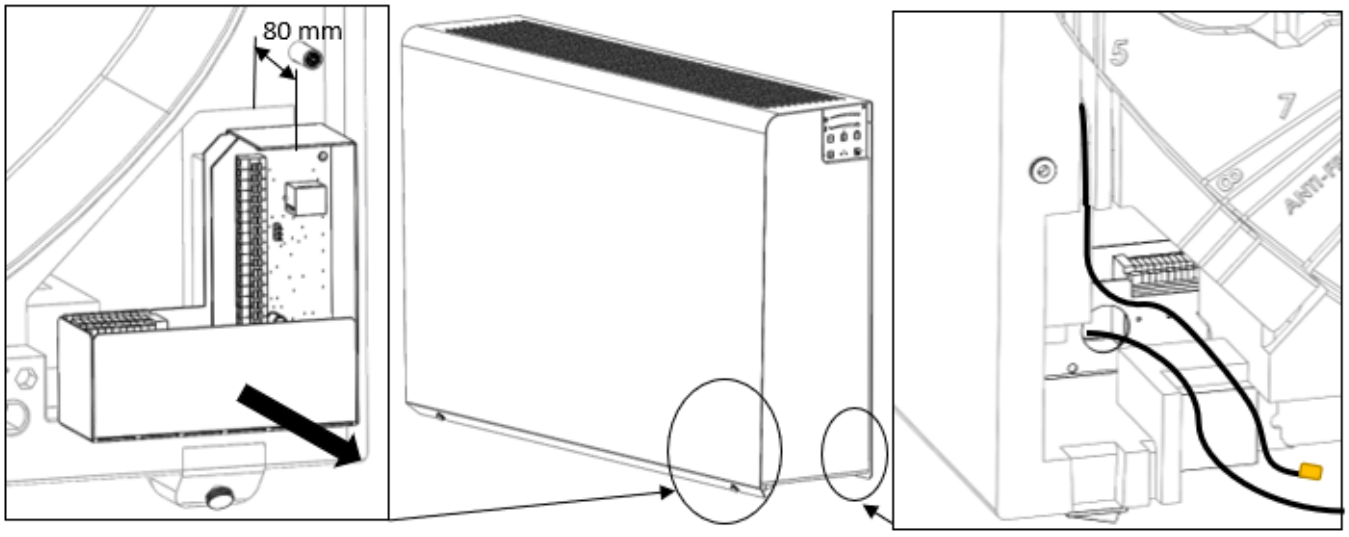


Fig. 28

- **The optimum conductor cross-section must be selected according to the actual length of the cable section, but the maximum conductor cross-section can be 1.5 mm(2).**
- **All conductors must be connected to the terminals with sufficient force to damage to the conductors or the switch cabinet. The stripping of the individual conductors must be 10 mm. For stranded conductors, the crimp terminal (crimp sleeve) must be pressed on.**
- The control is integrated into the housing of the appliance as standard and must not be handled in any other way than described in these instructions.
- Position of the terminals in the appliance controller for connecting electrical accessories

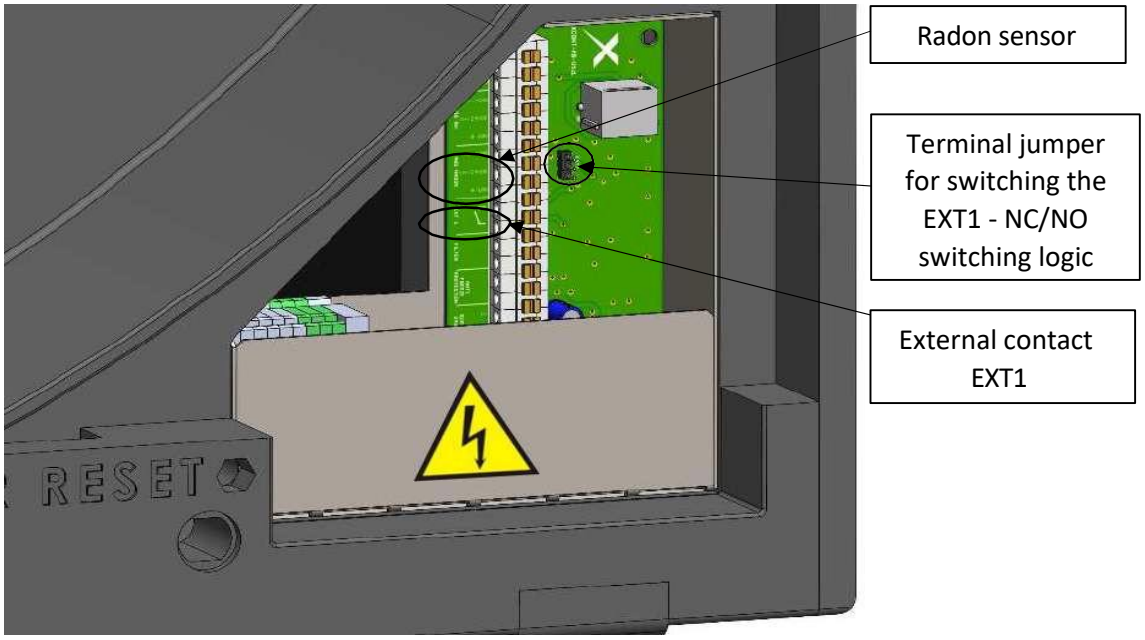


Fig. 29

4.2.2. Connection of the radon sensor - AQS RADON

A radon sensor can be connected to the unit to measure the radon concentration in the air where the device is installed. Thanks to the sensor, the radon is ventilated and the radon concentration in the room is reduced. Ventilation is the only way to effectively eliminate the radon contamination contained in the room air

4.2.2.1. Technical sensor parameters for connection to the unit

- 24VDC sensor power supply
- Analog output 0- 10VDC
- Max. Power consumption of the sensor 5W
- Analog sensor input resistance 100kΩ

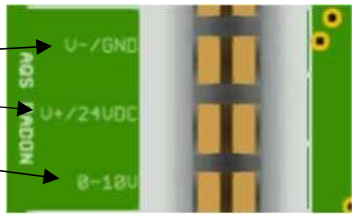


Fig. 30

- **The GND supply terminal is common with the GND of the analog input. If the wiring is not followed, there is a risk that the control board will be destroyed**

4.2.2.2. Functionality of the unit for radon sensor- Connection

- The unit reacts with continuous control to the ventilation demand triggered by the sensor in real time:
  - If the radon concentration in the ventilated room reaches 350 Bq/m^3, the ventilation is switched on at the minimum flow rate,
  - If the radon concentration in the room is not reduced, the device control increases the flow rate up to the maximum flow rate set by the user,
  - the device control starts to continuously reduce the flow rate again as the concentration decreases,
  - The aim of the control - ventilation - is to find the ideal ventilation level (flow rate) depending on the radon concentration in the ventilated room. For this reason, the device can ventilate until a safe radon concentration limit value or complete ventilation is reached,
  - When the radon concentration in the ventilated room is reduced to a value of 350 Bq/m^3, the ventilation is switched off and goes into standby mode.

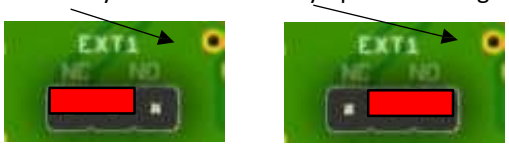
4.2.3. Connection of the external contact - EXT 1

- The device control enables the connection of an external contact for remotely switching the unit on and off (remote ON/OFF control).
- External contact is potential-free and can be switched, e.g:
  - via a magnetic door contact (contact for security systems). The contact can mount on a window, for example. When the window is opened, the unit stops, and when the window is closed, the unit starts again.

- via a remote switch, switch. In the building, the electrical devices are switched off with a button (total stop system). The unit that uses this contact can be included in this system.
- by a time relay. The unit can be switched on and off via a time relay in the control cabinet.

4.2.3.1. Technical parameters of external contact

- Switching voltage 24 VDC / 5mA.
- The contact can change the switching logic by changing the jumper to normally closed or normally open switching logic (factory setting).



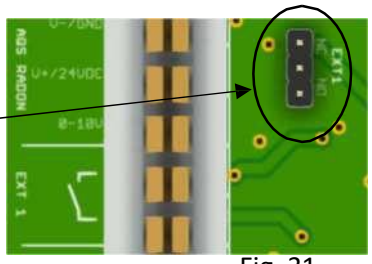


Fig. 31

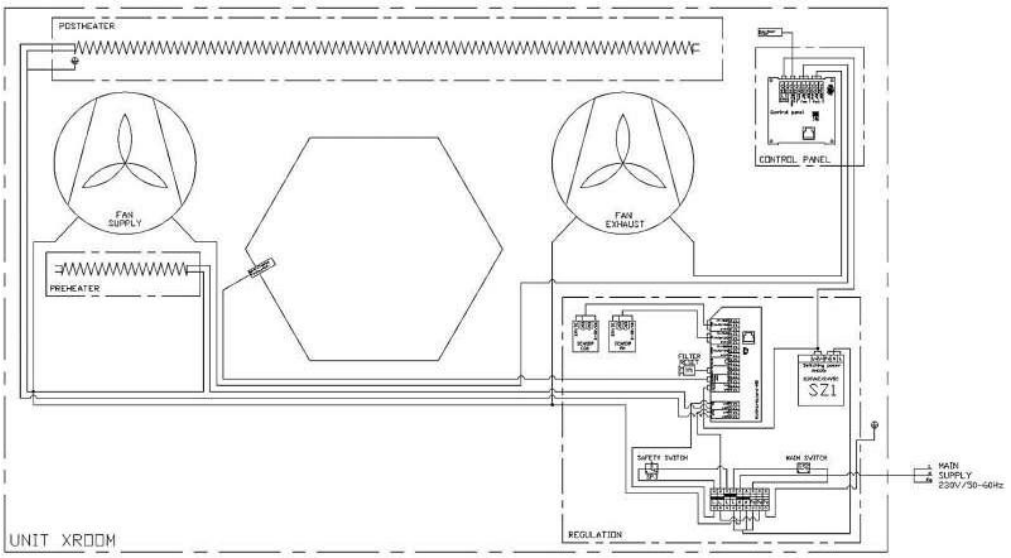
4.2.3.2. Functionality of the unit when controlled by an external contact EXT1

- The external contact switches the unit on and off (same functionality as the ON/OFF button on the control unit) with logical termination or activation of all running processes at the time of switching off, switching on.
- If the unit switched on and off via external contact, it can be switched off and on using the control unit on the unit.
- Example of operation of an external contact - a timer is used as an external contact:
  - EXT1 switches the unit on at a specific time (in the morning) - the unit operates according to the user settings,
  - During operation, the unit is switched off with the control unit on the unit - the unit switches off,
  - EXT1 switches the unit off at a specific time (in the evening) - the unit remains switched off the whole time,
  - EXT1 switches the unit on at a specific time (the next morning) - the unit operates according to the user settings.
- **If you want to prevent the unit from being operated by unauthorized persons and want to control the unit via external contact, we recommend activating the child lock after setting the device parameters to prevent unauthorized access (the unit cannot be switched off at the unit's control unit).**

4.2.3.3. Connection of the unit to the higher-level BMS system via the Modbus RTU protocol

- The unit must be connected to the higher-level BMS system by a competent person with specialist knowledge in this field.
- The cable for connection to the BMS is in the compartment behind the control unit - the connector plug is marked with a yellow cap - see point 4.2.1. Connection of electrical accessories.
- The unit must always be connected to the BMS using the "XCONT-HUB" accessory. This is described in a separate manual for the "XCONT-HUB" accessory.
- The unit communicates with the higher-level BMS system via the Modbus RTU communication protocol. A description of the protocol can be found in the separate user manual "D-502-xxx-Vxxx-xxx-MN-ROOMMASTER-MODBUS".

4.3. Block diagram



5. Commissioning

5.1. Check before initial commissioning

- All installation work has been carried out correctly as described in chapter 3,
- the unit's power supply cable is correctly connected to the mains,
- The front metal cover of the unit (position 1) is properly tightened with M6x20 screws with plastic head.
- in the version of the unit with water heating, all heating connections are correctly tightened.

5.2. Switching on - basic commissioning of the unit

-The basic commissioning of the unit is used to check the functionality of the unit after installation has been completed. Further options and details on setting up the unit can be found in the following chapters.

1. Switch the main switch from position 0 (OFF) to position 1 (ON).

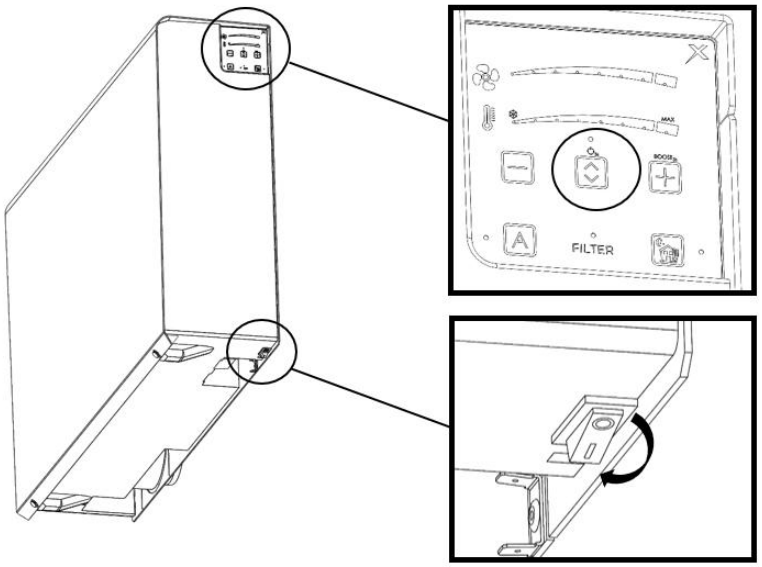


Fig. 33

2. Press and hold the ON/OFF button (up and down arrows) for approx. 3 seconds until the blue status LED above it lights up (left button for the version with electric heating; right button for the version with water heating and without heating-cold). The unit is switched on.
3. The unit is factory-set to ventilation level 4, which is used to check the basic functionality of the unit.
4. Check the operation of the unit by placing your hand on the exhaust air grille to the left of the front of the appliance.
5. The unit is ready for operation.
6. You can now make further settings on the unit to suit it to your needs.

After initial commissioning of the unit, the LED diode for automatic flashes - sensor calibration is running (approx. 5 sec.)

5.3. Operating modes of the controller

- The controller operates in 3 display modes.

5.3.1. Sleep mode - normal operating mode

- Only the operating status is displayed - the appliance is switched on and the "Appliance on/off" LED lights up (button 2). The appliance is fully functional and runs according to the user settings.

5.3.2. Control mode - 1x click

- If any button is clicked, the controller displays the active functions and settings of the unit (ventilation output, temperature). The display lasts approx. 4 seconds, then the controller returns to sleep mode.
- The functions that can be triggered in this mode are listed in Table 17 Description of the control functions of the Roommaster units.

5.3.3. Setting mode - 2x clicks

- Some functions can only be set or activated in this mode.
- The setting mode is activated by clicking on the corresponding button for which the function is to be changed. The plus and minus buttons are used to activate - power, ventilation and temperature settings (flashing LED in the fan pictogram, thermometer)
- The functions that can be triggered in this mode are listed in Table 17 Description of the control functions of the Roommaster units.

Sleep mode

Control mode

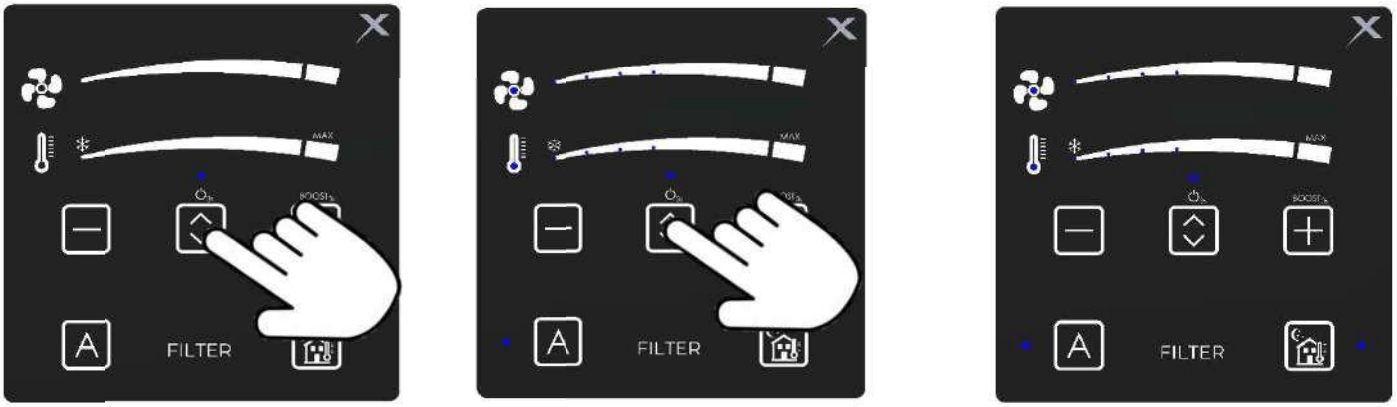


Fig. 34

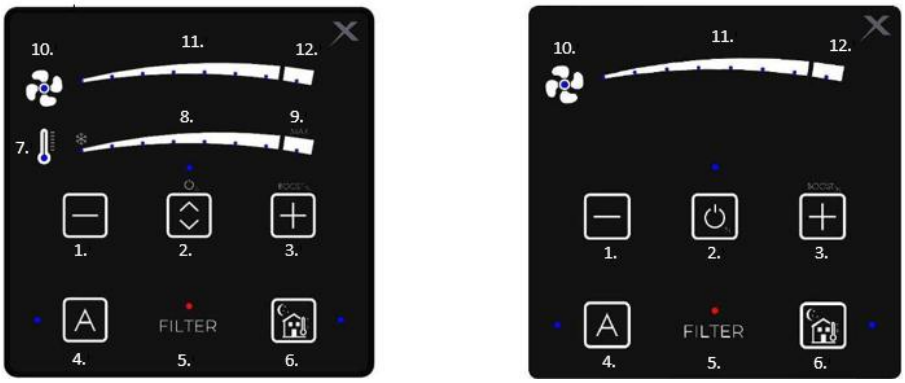
5.4. Operating the unit

5.4.1. Control panel - Controller

- Electric

Water, cold version

Fig. 35



5.4.2. Description of the button functions and control

Tab. 19

Controll nr.	Symbol	Button/ Indication	Beschreibung der Taste	Active in mode / number of clicks			Function	Note
				Dormant 0x	Control 1x	Settings 2x		
1.		Symbol	Reduction of ventilation and temperature performance	✗	✗	✓	- Switches from the control mode to ventilation and temperature setting mode - Press the button to reduce the required level by one degree on the range of ventilation power or temperature setting	- Switching between setting the range of the ventilation power or required temperature is done using button 2.
2.		Toggle and status indication button	Unit switching on (signalling)/switching off	✓	✓	✗	- By holding the button for 3 seconds, switch the unit on (LED lights up) or off - if the LED flashes after the unit is switched off, the heating is cooled down. Once finished, it will turn off	- in the cold and water versions, the display button has only the on/off function
			Switching between ventilation power and temperature setting	✗	✗	✓	- In setting mode, you switch between the fan setting and temperature ranges. Indication of the selected range is displayed by flashing of symbols 7 and 10.	- Switching is only for the electric version
3.		Toggle function button	Start of intensive ventilation - BOOST	✗	✓	✗	- Pressing the button for 3 seconds starts the intensive 10-minute ventilation. To switch it off before 10 minutes pass, press the button again for 3 seconds and the ventilation returns to the pre-start mode.	- The function start indication is a flashing diode 12.
			Increase ventilation and temperature power levels	✗	✗	✓	- Switches from the control mode to ventilation and temperature setting mode - Press the button to increase the requirement on the range of the ventilation or temperature performance setting	- switch between the ranges using button 2.
4.		Status indication button	Switching between automatic mode (signalling) and manual mode	✗	✓	✓	- By pressing the button, switch to the manual mode, the requirement for permanent ventilation - ventilation is operated upon request of the user, requirements of the AQS sensors are ignored - Press again to activate automatic mode, ventilation as needed - ventilation is operated according to the AQS sensor requirements	- Factory setting is operation in the automatic mode. Diode is lit - When the unit is switched on, the LED diode next to the button is temporarily flashing - sensor calibration
5.		Status indication	Filter clogged indication	✗	✗	✗	- The clogged filter indication is triggered after approx. 6 months of unit operation (only if the unit is ventilating). - The indication is expressed by a flashing red LED.	- Replace and reset the filter according to Section 6.
6.		Double-function and status indication button	Night cooling - on (signalling)/off	✗	✓	✓	- Press the button to start the night cooling function. Night cooling is used to cool the ventilated area in the summer with night cold air. The function is active for 8 hours from pressing the button. - The intensity of the supplied air can be changed even when the function is activated. When the function is completed, the values return to the settings before the function started.	- It is recommended to activate the function after 10 p.m. During the summer months, the air is coldest around 5 a.m.
			Child lock	✓	✓	✓	- protection against manipulation by unauthorised persons. It is activated/deactivated by pressing the button for more than 6 sec. Activation/deactivation is indicated by 3 flashes of all the status LEDs	- When attempting to change the parameters during the activated function, all the status LEDs flash once
7.		Status indication	Electric heating operation status diode	✗	✓	✓	- in the control mode, the diode is lit - the heating is on - in the setting mode, the diode flashes - you are in the desired temperature setting mode - heating can be switched off independently of the ventilation. In the setting mode, lower the temperature (button 1) until the last diode on the range turns off	– When heating is switched off (all the range diodes are off), all the ventilation functions remain operational.
10.		Status indication	Ventilation operation status diode	✗	✓	✓	- in the control mode, the diode is lit - the unit is ventilating - in the setting mode, the diode flashes - you are in the required ventilation power setting mode - ventilation can be switched off independently of the heating requirement. In the setting mode, reduce the output (button 1) until the last diode on the range turns off.	- When ventilation is switched off (all the range diodes are off), all the heating requirements remain operational and satisfied.

5.4.3. Description of the ventilation output setting range

Control description number	Symbol	Display description	Note
11.		Indication of 7 ventilation levels. The LEDs are switched on and off gradually, as required by the user	The setting values are provided in Tab.19.
12.		Indication by flashing LED diode for 10 minutes - intensive ventilation function activated	If the intensive ventilation function is activated, the entire range for setting the ventilation level is also lit.

- Setting the correct power of the unit

Displayed LED on the controller range	Roommaster-100 with heat recovery	Roommaster-100 with heat and moisture recovery	Usage examples	Roommaster-250 with heat recovery	Roommaster-250 with heat and moisture recovery	Usage examples
	m^3/h	m^3/h		m^3/h	m^3/h	
1.	28	25	1 person - rest mode, sleeping	64	62	2 - 3 persons - office activities, sleeping
2.	41	35	2 persons - rest mode, sleeping	95	92	3 - 4 persons - office activities, sleeping
3.	53	47	2 persons - rest mode, sleeping	126	121	4 - 5 persons – office activities, sleeping; 2 - 3 persons active
4.	66	58	3 persons - rest mode, office	157	151	6 - 7 persons – office activities, 3 - 4 persons active
5.	78	69	3 - 4 persons - rest mode, office	188	180	7 - 8 persons – office activities, 4 - 5 persons active
6.	90	80	4 persons – office activities	219	210	8 - 9 persons – office activities, 5 - 6 persons active
7.	101	90	4 - 5 persons - office activities	250	240	10 persons - office activities, 6 - 7 persons active
8. - BOOST*	215	204	Intensive ventilation	350	335	Intensive ventilation

* BOOST mode - intensive ventilation for 10 minutes

5.4.4. Setting the ventilation capacity

1. In normal operation, press button 1 or 2 or 3 twice to enter the setting mode - LED 10 (fan pictogram) flashes.
2. While LED 10 is flashing (approx. 4 seconds), use buttons 1 or 3 to set the desired ventilation level according to Table 19 or your requirements:
   - If you were unable to make the setting (LED 10 has stopped flashing), repeat the process.
3. After setting the request, the newly set value is saved automatically (within approx. 4 seconds) and the controller switches to normal operation.

5.4.5. Range of temperature settings - electric only

Tab. 20

Control description number	Symbol	Display description			Note
8.		Indication of temperature setting in the selected range. 1st LED			
		1st LED	Flake - anti-freeze temperature	5 - 7 °C	
		2nd to 7th LED	Regular temperature setting	19 - 24 °C	setting in approx. 0.5 °C increments - LED flashes
9.		LED in the separate MAX field - signals the maximum possible temperature requirement (approx. 28 °C)			

Note:
The assignment of LEDs to the individual temperatures is only indicative. They cannot under any circumstances be regarded as binding.

The assignment of the LEDs to the individual temperatures is for guidance only. Under no circumstances can they be regarded as binding.

5.4.6. Setting the desired temperature

1. In normal operation, press button 1 or 2 or 3 twice to enter the setting mode - LED 10 (fan pictogram) flashes.
2. While LED 10 is flashing (approx. 4 seconds), press button 2 once - LED 7 (thermometer pictogram) starts to flash.
3. While LED 7 is flashing (approx. 4 seconds), use buttons 1 or 3 to set the desired room temperature according to Table 20 or your requirements:
   - If you were unable to make the setting (LED 10 has stopped flashing), repeat the process.
4. After setting the request, the newly set value is saved automatically (within approx. 4 seconds) and the controller switches to normal operation.

5.4.7. Display of the indicated statuses on the controller via LEDs

- The LED display on the controller is the same for all appliance types, with the exception that the temperature setting range (positions 8; 9) is not available for the water exchanger and cooling types.

Status LED - fan - 10.
Blue
- lit - fan operation
- flashing - in the fan power setting mode

Status LED - heating - 7.
Blue
- lit - heater in operation
- flashing - heating power setting mode

Blue LED status diode - automatic (AQS) / manual (depending on the user) - 4.
- lit - automatic mode ON (AQS)
- flashing - failure of any AQS

Blue LED range diode - ventilation level - 11; 12
- Lit - shows the selected ventilation level
- LED 1; 2; 3; 4 flashing - supply fan failure
- LED 5; 6; 7; 8 flashing - exhaust fan failure
- LED 1; 2; 7; 8 flashing - “room temp sensor” failure
- LED 3; 4; 5; 6 flashing - “anti-freeze” sensor failure

LED blue range diode - temperature levels - 8; 9
- lit - displays the selected temperature

Blue LED status diode - ON/OFF
- lit - the unit controller - ON
- flashes – cooling mode after switching off the control

Blue LED status diode - summer mode - 6.
- lit - function activated
- 3 flashes - the function cannot be activated - poor ambient conditions

Red LED status diode - filter clogging - 5.
- flashing - indicates filter clogging

Common functions for all the blue status diodes
- 3 flashes for activation and deactivation of the "child lock" function
- 1 flash for indicating that the "child lock” function is active
- 3 flashes when starting the BOOST function - cannot be activated - low outdoor temperature

5.4.8. Hidden control functions

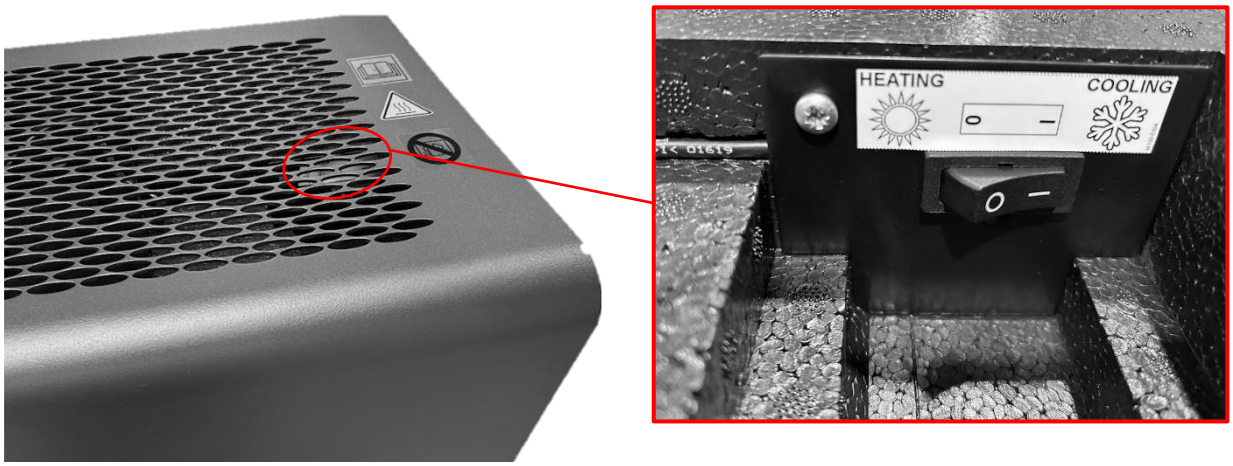
- The control behavior includes automatic processes that ensure optimum operation of the unit, with a focus on maximum service life and cost-effective operation. These processes are part of the factory settings and the manufacturer's know-how. They cannot be changed by the user. These automatic processes may cause the appliance to behave differently than the user expects.
- In particular, these are automatic processes:
    - Unit preheating control - only switches on when required,
    - Triggering the frost protection logic - measures to prevent the recuperator from freezing,
    - Minimum operating time for preheating, post-heating - protective function,
    - Post-cooling after preheating is switched off, post-heating - protective function against overheating of the heat exchanger,
    - Device control via AQA sensors - automatic functionality depending on ventilation requirements, chapter 4.5.6.

5.4.9. Automatic control of the unit by AQA sensors

- The unit is equipped as standard with an AQA sensor to detect the CO_2 concentration in the room, possibly also with an RH humidity sensor or, with the help of an electrical accessory, with a radon sensor.
- If you want to control the appliance using AQA sensors, activate the automatic mode function - button 4.
- The unit responds to the ventilation demand triggered by the sensors in real time with continuous control:
    - When the concentration of the monitored substances is reached, the ventilation is switched on with the minimum volume flow:
        - CO_2 - 800ppm,
        - RH - 50%.
    - If a reduction in the concentration of the monitored substances in the room is not achieved, the device control increases the flow rate up to the maximum flow rate set by the user.
    - The device control starts to continuously reduce the flow rate again when the concentration decreases.
    - The aim of the control - ventilation - is to find the ideal ventilation level (flow rate) depending on the concentration of the monitored substance in the ventilated room. Therefore, the unit can ventilate for a long time until a safe concentration limit or complete ventilation of the monitored substance is achieved.
    - When the concentration reaches the setpoint value, the ventilation is switched off and goes into standby mode:
        - CO_2- 700ppm,
        - RH - 45%.
    - If there is a ventilation request from several sensors, the controller gives preference to the sensor with the higher ventilation request.

5.4.10. Manual switchover of heating/cooling mode - only for corresponding appliance variant

- The heating/cooling mode can be switched manually on the appliance body with the corresponding appliance variants.
- Mode switching must always depend on the hot or cold water source. The temperature control for this type of appliance must be carried out via an external temperature control (not included in the scope of delivery).
- Always change the switch position when the appliance is switched off.
- Switching the heating/cooling mode is mainly used to support the selected mode with ventilation in order to achieve faster heating or cooling of the room (if there is no ventilation requirement from AQS). The temperature conditions for starting ventilation support are:
- Heating mode (position 0) - if the sensor detects a water temperature higher than 35°C (switch-off below 30°C)
- Cooling mode (position 1) - if the sensor detects a water temperature below 15°C (switch-off above 20°C)
- Position of the switch in the device



6. Filter change

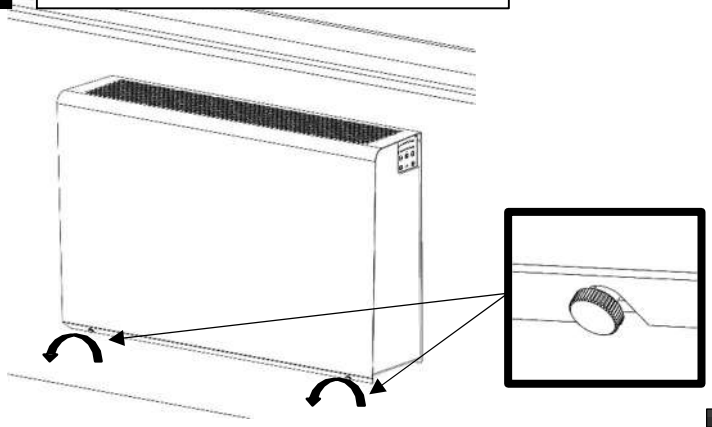
- The unit is equipped with a time counter that indicates the clogging of the filter in about 6 months (about 4400 hours). The time counter records the actual operation of the unit.
- Filter clogging depends on the environment in which the unit is operated. In particular, it depends on the dust formation in the ambient air - the more dust particles there are in the air, the more likely it is that the filter box will become clogged. The filters should therefore always be replaced when clogging is indicated.
- The filter change check is indicated on the control panel by a red flashing LED labeled "Filter" (position 5 on the control unit).
- sure, you have new filters before changing the filter.

- **Do not switch off the unit to change the filter. Safe disconnection from electrical parts is ensured by the integrated limit switch (position 18).**
- **When the front metal cover is loosened - i.e. removed (position 17) - the limit switch safely switches off the electrical components that you may come into contact with when changing the filter.**
- **Removing the front metal cover is not considered as entering the unit. The unit offers full electrical safety even after removing the front metal cover.**

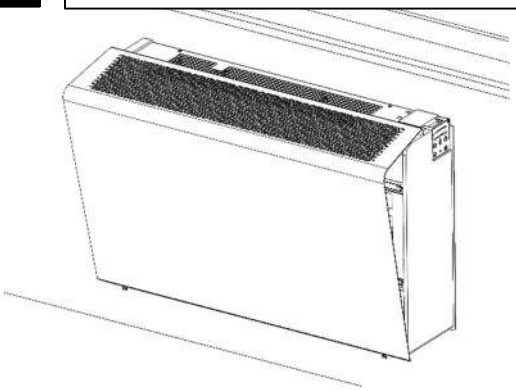
6.1. Removing the filter

- Loose the M6x20 plastic screws on the front metal cover, slide it out of the unit and store it safely.
- Remove the plastic caps marked FILTER from the appliance cover.
- Use the filter handles to pull out the filter, check it or replace it with a new filter

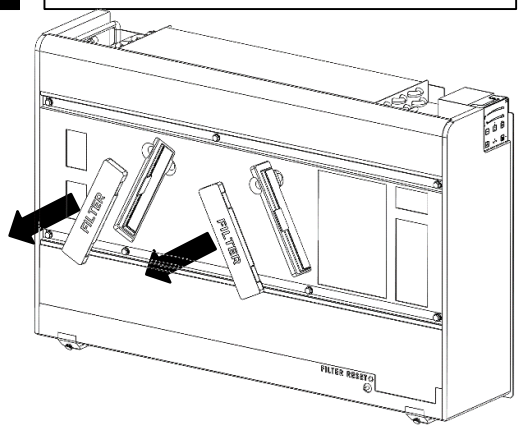
1 LOOSEN THE SCREWS BY HAND



2 REMOVE THE FRONT COVER



3 REMOVE THE FILTER CAPS



4 PULL OUT THE FILTERS BY THE HANDLES

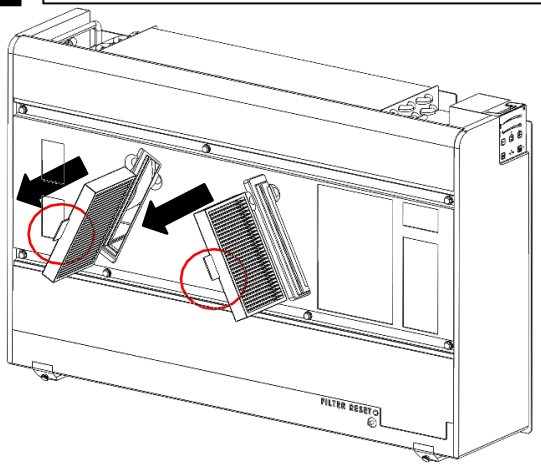


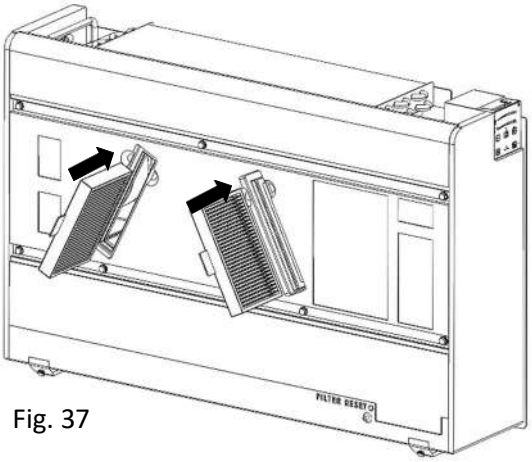
Fig. 37

6.2. Inserting the filter

Ensure that the filter is correctly aligned with the air flow before inserting it into the unit

- Insert the new filters into the unit.
- Align the filter handles so that they do not obstruct the fitting of the plastic filter caps.
- Insert the filter caps into the appliance cover.

1 INSERT NEW FILTER



2 ATTACH THE FILTER CAPS

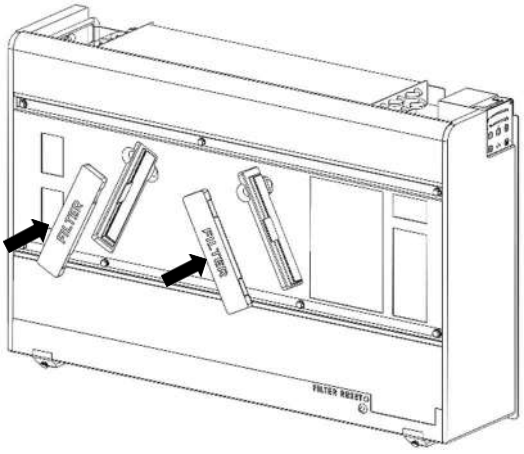


Fig. 37

- **Ensure that the caps are correctly aligned; they can only be fitted in one position. The FILTER label must be aligned from bottom to top.**

6.3. Resetting the filter time counter

- Press and hold the red (white) FILTER RESET button until the red LED on the controller goes out (approx. 2 seconds).
    - If the error message - Fan error (11 or 12 - see chapter 8.1.) flashes on the controller, ignore it.

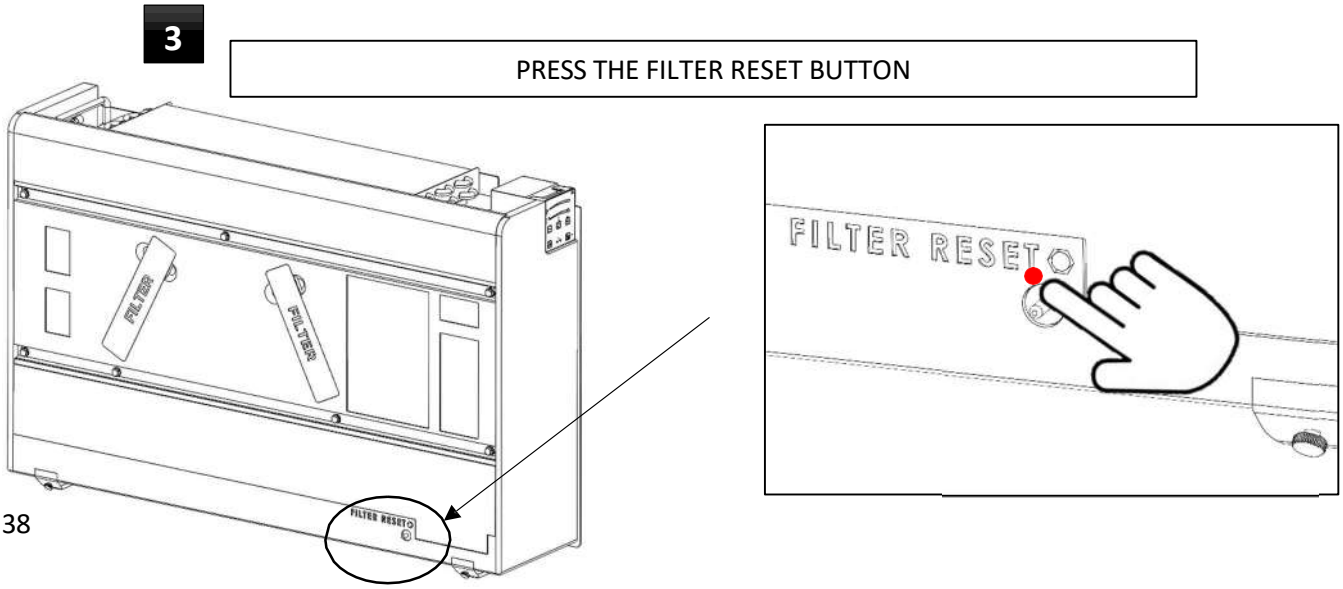


Fig. 38

- Switch off the device on the controller by pressing button 2 for approx. 3 seconds.
- Attach the front metal cover to the unit as described in chapter 3.2.10.
- Switch on the unit on the controller by pressing button 2 as described in chapter 5.2, point 2. All error messages and filter blockage signals are extinguished.
- The device is fully operational.
- **If the filters are not properly replaced (cleaned), the function of the appliance may be restricted.**
- **Never operate the unit without an air filter, as this can damage the recuperator.**

7. Regular maintenance and cleaning of the Roommaster units

- **Before accessing the unit for maintenance and cleaning work, the unit must be disconnected from the power supply**
- **Maintenance and cleaning must carried out at regular intervals, otherwise the appliance may be impaired.**
- **Compressed air, steam, solvents, aggressive chemicals, harsh cleaning agents or sharp objects must not be used to clean the unit.**
- maintenance and cleaning of the unit at regular intervals to ensure hygienic operation. If the filter is changed regularly (use the manufacturer's original filter), as specified, a maintenance interval of no more than 2 years must be observed or at the intervals prescribed by the relevant national regulations or practices.
- Irrespective of the maintenance of the unit, the soiling of the outer housing of the unit must be checked regularly, in particular the exhaust air grille, which is located on top of the metal housing. Any contamination must be removed immediately. The removal of the cover is described in chapter 6.1, points 1 and 2.
- If the unit is not operated for a longer period of time, the supply voltage to the unit must be switched off.
- Service work that goes beyond normal maintenance may only be carried out by an authorized service centre or by the manufacturer.
- Regular maintenance must include the following:
    - Visual inspection of the device housing - Chapter 7.1,
    - Visual inspection of the supply cable - chapter 7.1.2,
    - Visual inspection and cleaning of the heat exchanger - 7.1.1,
    - Cleaning the fan chamber and fans - Chapter 7.2.1,
    - Visual inspection - Cleaning the preheater - chapter 7.1.3.2,
    - Visual inspection - Cleaning the inlet and outlet pipes - Chapter 7.1.3.3,
    - Visual inspection and cleaning of the heat exchanger - chapter 7.1.3.4,
    - Visual inspection of the external sockets - Chapter 7.1.4.
- To clean the unit of coarse dirt and dust, use a vacuum cleaner or a damp cloth with a commercially available cleaning agent (e.g. soapy water).
-

7.1. Visual inspection of the device housing

- The entire surface of the unit can be cleaned.
- Carry out a visual inspection of the outer casing of the unit for excessive soiling and damage:
    - If the smooth surfaces of the housing (with the exception of the exhaust grille) are dirty, wipe them with a damp cloth and a commercially available cleaning agent (e.g. soapy water),
    - If the exhaust air grille on the front metal cover (position 1) is dirty, loosen the plastic screws, remove the cover and clean it. Dismantle the cover as described in chapter 6.1, points 1 and 2.

7.1.1. Visual inspection and cleaning of the heat exchanger

- The heat exchanger is checked and cleaned after removing the front metal cover (position 1), as described in chapter 7.1.
- - Vacuum the heat exchanger with a vacuum cleaner if necessary.

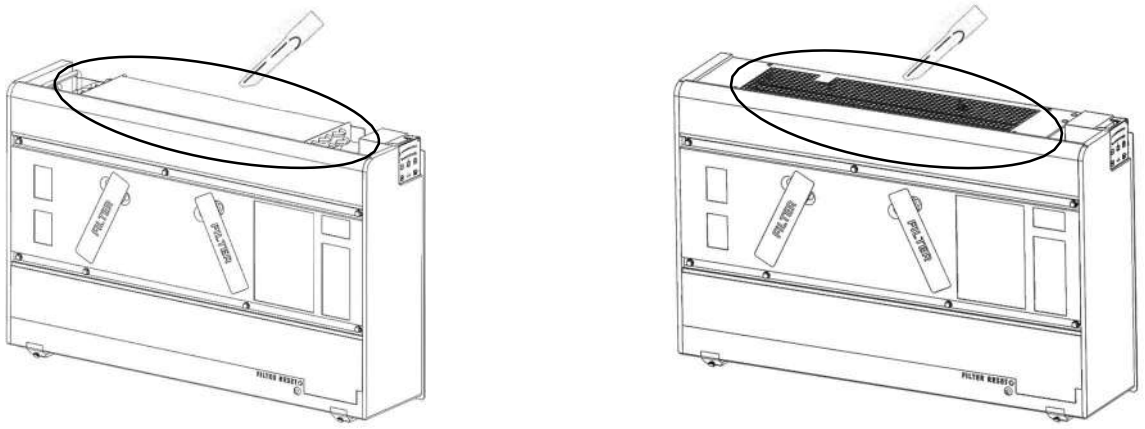


Fig. 39

Never clean the heat exchanger with a damp cloth, as there is a risk of destroying the unit or of an electric shock after recommissioning (only with the corresponding versions).

7.1.2. Visual inspection of the supply cable

- Visually check whether the supply cable is damaged in any way, loose or torn from the connected peripheral devices.
- **In the event of damage, contact a person qualified for this activity with valid authorization and knowledge of the relevant standards and directives.**

7.2. Inspection - cleaning the inside of the unit - disassembly

- **particular attention to the disassembly of the unit's internal components. Improper disassembly can lead to malfunctions or functional limitations of the unit.**
- Remove the front metal cover (position 1) - see chapter 6.1. points 1 and 2.
- Unscrew the M6x25 screws that secure the unit cover (position 5)
- Pull out the cover of the unit (position 5)

1 UNSCREW THE SCREWS

2 OPEN THE COVER OF THE UNIT TO GAIN ACCESS TO THE INTERNAL COMPONENTS

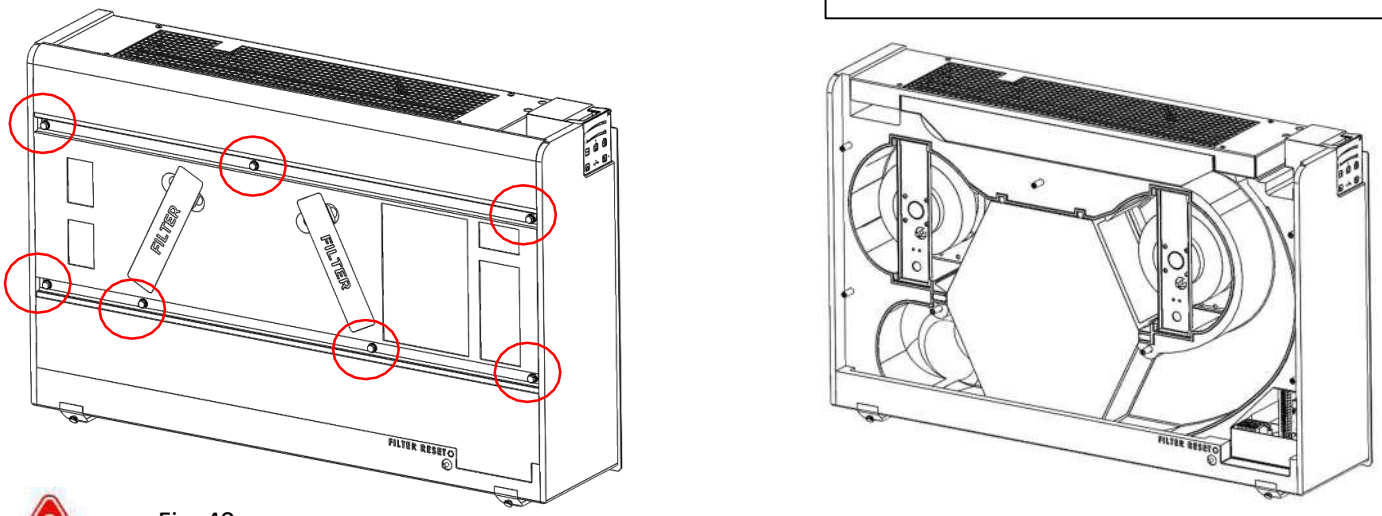


Fig. 40

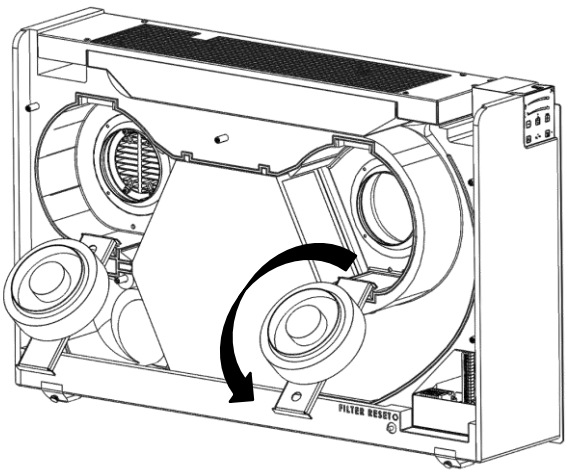
The following subcategories of the manual are consecutive activities that must be carried out in the specified order.

After removing the appliance cover, the unit can be pulled off the mounting template (all mounting screws are unscrewed). After reassembly, the unit is pulled back onto the mounting template.

7.2.1. Cleaning the fan chamber and the fans

- Remove the filters (position 8).
- Carefully pull the fan support assembly with the fan (position 11) out of the groove in the appliance housing.
- With increased caution, turn the assembly downwards along the axis of the cable and through the carrier to the housing of the

Fig. 41



- Vacuum dirt from the fan chamber, if necessary, wipe with damp cloth and a standard cleaning agent (e.g. soapy water).
- Vacuum dust on the fan assembly with particular care; if necessary, wipe the assembly with a damp cloth and a standard cleaning agent (e.g. soapy water).

7.2.2. Visual inspection - cleaning the preheater, if present

- Cleaning the fan assembly, check the condition of the preheating (position 10) in the drainpipe.
- If the preheater is clogged with dust, clean it with a vacuum cleaner.
- **Never remove the preheater and do not clean it with damp cloth.**

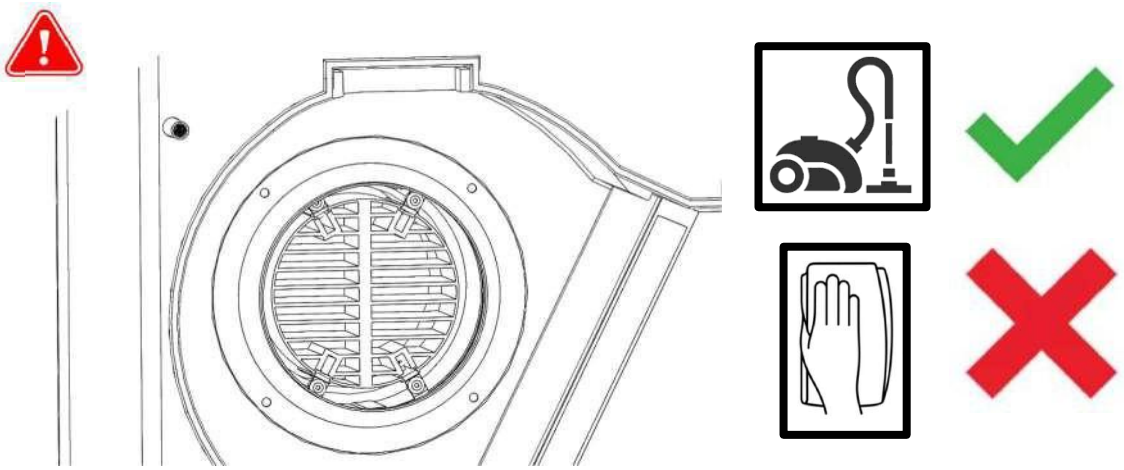


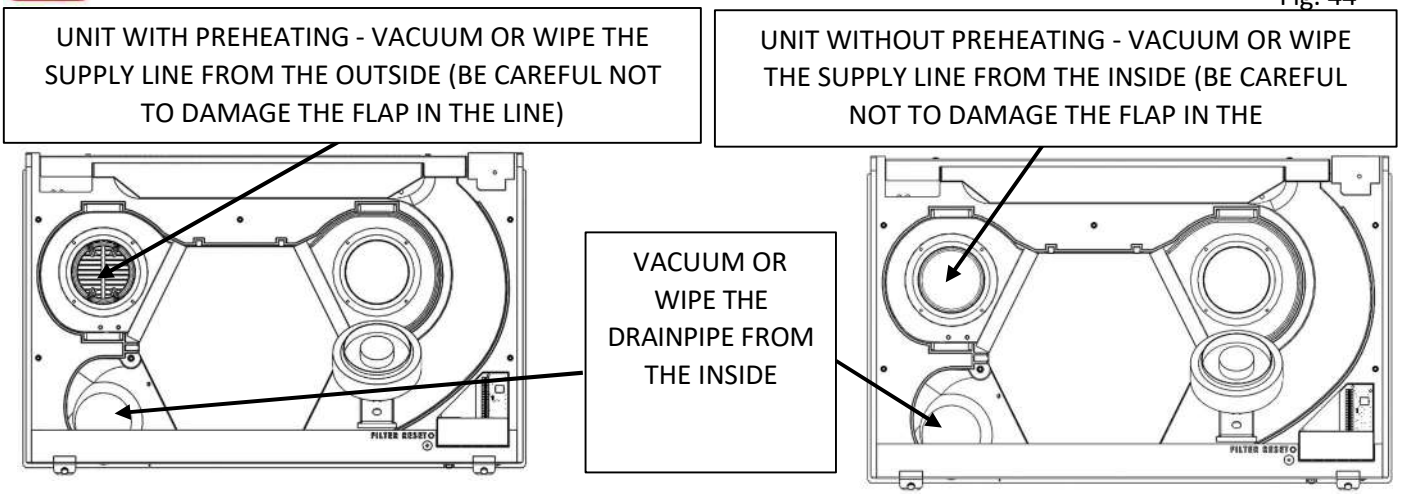
Fig. 43

7.2.3. Visual inspection - cleaning the supply and drainpipe

- A follow-up measure is to check the supply line (only if the unit is not equipped with a preheating position 10), the drain line.
- Carry out a visual inspection of the pipes for blockages and, in the event of a blockage, remove all impurities (e.g. bird's nests).

- **Be particularly careful when cleaning the supply line (if the unit is not equipped with a preheating) so as not to damage the non-return valve in the pipe.**

Fig. 44



7.2.4. Visual inspection and cleaning of the recuperative heat exchanger

- Then out a visual inspection and clean the recuperative heat exchanger (position 12).
- Vacuum the heat exchanger with a vacuum cleaner.
- **that the part of the recuperative heat exchanger in the area of the exhaust air outlet where the frost protection temperature sensor is in the heat exchanger is not extracted.**

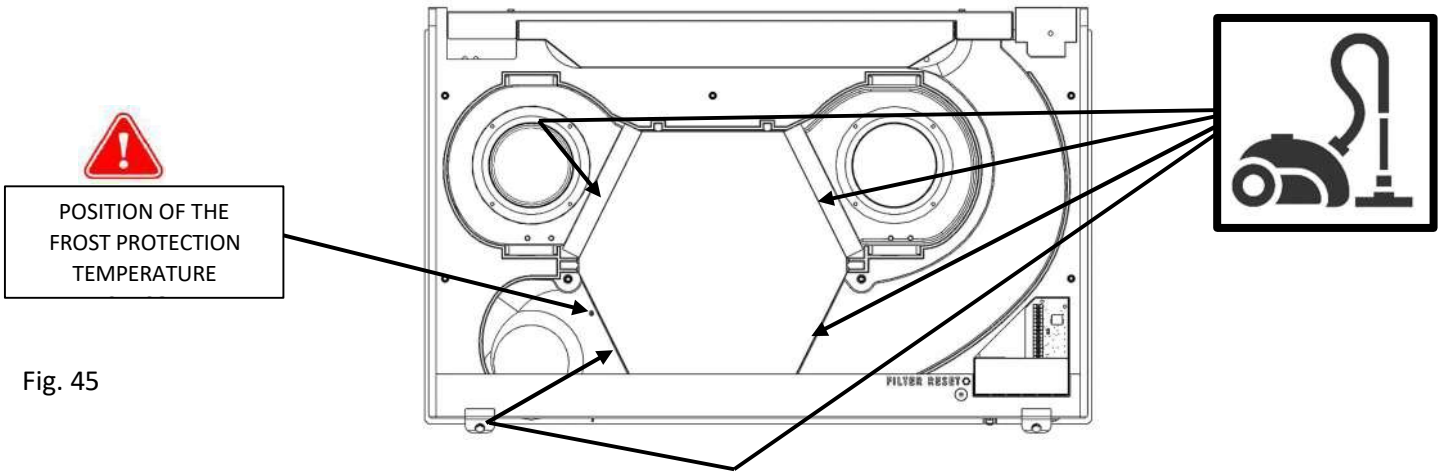


Fig. 45

7.2.5. Reinstallation of the internal components in the unit

- After checking and cleaning, reinstall the internal components in the unit.
- Turn the removed fan assembly (position 11) back into the working position.
- Slide the fan assembly into the grooves of the molded part and check that the cables of the fan assembly are routed correctly.
- the cables so that they cannot be damaged during fan operation.

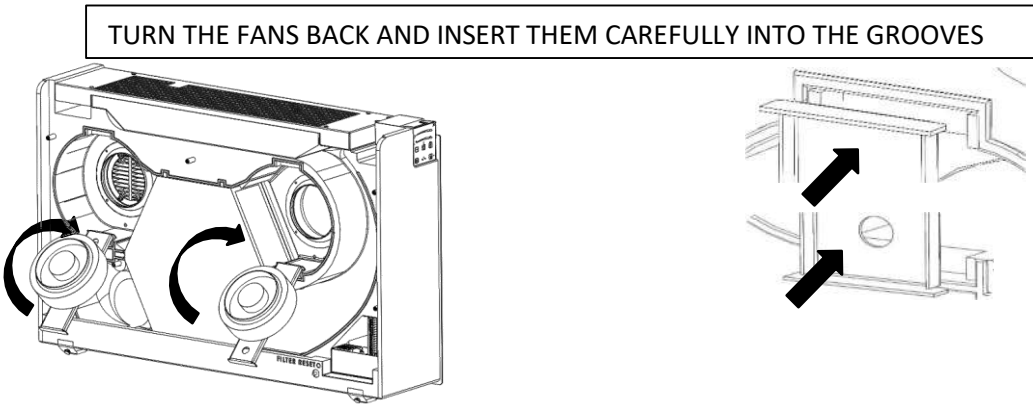


Fig. 46

- Place the appliance cover (position 5) onto the bottom rail of the unit so that the bottom edge of the cover and the top edge of the appliance rail are pressed together.
- Screw back the M6x25 screws to secure the cover. TIGHTEN WITH MEASURED FORCE - MAX 5Nm
- Tighten the screws with sufficient force (by hand) to avoid damaging the appliance and make sure that the cover is sufficiently tightened to the appliance and the appliance to the mounting template.
- Tighten the plastic head screws by hand.

Fig. 47

- Insert the filters as described in chapter 6.2.
- the front metal cover as described in chapter 3.2.11, points 2 and 3.
- To revive the unit, follow the steps in chapter 5.

8. Service

- **Warranty and post-warranty services may only be carried out by qualified, professionally trained personnel and only with original spare parts.**
- **The manufacturer has the right to make changes to the device which, however, do not affect the essential characteristics of the unit.**

8.1. Error messages - Troubleshooting procedure

Tab. 21

Error No.	Error, fault message		Possible cause of failure	Troubleshooting
1.	The unit does not start		The power cable is not connected	- check the mains connection - check the activation of the safety element
			The main switch is in position 0	- set the switch to position I
			Hold down button 2 (ON/OFF) for a short time, approx. 3 sec	- hold down button 2 (ON/OFF) until the LED above button 2 lights up
	The unit does not start when first commissioned - LED above button 2 is lit		The demand for ventilation and heating is switched off	- enter the unit setting mode and check the setting of the ventilation performance requirement and the required temperature (only in the version with electric heating) - make the adjustment according to Section 5.4.2. Tab. 17.
			Loosened M6x20 bolts with plastic head position 23 of the front metal cover	- securely tighten the bolts on the front metal cover with your hand, Section 3.2.11.
3.	Red indicator light above the FILTER sign is flashing		Filter clogging indication	- replace the filter according to Section 6.
4.	No or low ventilation output even when the unit is set to the maximum power		Clogged filter	- replace the filter according to Section 6.
			Contaminated - blocked piping, unit outlets	- Check and clean the unit according to Section 7.
5.	Unit started to be too noisy		Clogged filter	- replace the filter according to Section 6.
			Defective motor bearing	- contact the unit supplier
6.	Electrical heating of the unit does not heat		Clogged filter - no flow	- replace the filter according to Section 6.
			Contaminated - blocked piping, unit outlets	- Check and clean the unit according to Section 7.
			activated heat exchanger protection against overheating	- switch off the unit with the main switch. Turn the unit on again after 5 minutes (reset of protection). If the problem persists, contact the unit supplier
7.	The night cooling function cannot be switched on (button 6.) - the button signalling flashes 3 times and the function does not switch on		Function start conditions are not met - outdoor temperature is too low, heating requirement is too high	- wait for the outside temperature to rise. The function is active only at summer temperatures.
				- for units with heat recovery reduce the temperature requirement according to Section 5.4.2. Tab.17 - for units with heat and moisture recovery and the room air temperature exceeded 35 ° C - the function cannot be used
8.	The night cooling function cannot be switched on (button 6.) - all the status diodes flash once (at buttons 6, 4, 7, 10), the function does not switch on		BOOST function active	- switch off the BOOST functions according to Section 5.4.2. Tab.17
			Active child lock function	- switch off the child lock function according to Section 5.4.2. Tab.17
9.	The BOOST mode cannot be switched on - status diodes flash once or 3 times (at buttons 6, 4, 7, 10), the function does not switch on		3 flashes - very low outdoor temperature	- wait for the outdoor temperature to rise
			1 flash - child lock function is active	- switch off the child lock function according to Section 5.4.2. Tab.17
10.	The automatic mode cannot be started - when the button 4 is pressed, the indicator flashes 3 times or lights		3 flashes - unit is not fitted with any AQS sensor	- You probably bought the unit without the AQS sensors or the external sensor is not connected
			It is still flashing - the sensor connected to the unit is faulty	- if you do not have an external Radon sensor connected to the unit, contact the unit supplier - switch to manual mode according to Section 5.4.2. Tab.17
				- if you have an external radon sensor connected to the unit - contact the external sensor supplier - switch to manual mode according to Section 5.4.2. Tab.17
11.	When any button is pressed, the status diodes flash once (at buttons 6, 4, 7, 10)		Active child lock function	- switch off the child lock function according to Section 5.4.2. Tab.17
12.	The unit is inoperable and the 4 LEDs on the range for adjusting the ventilation power on the control panel are continuously flashing	- diodes 1; 2; 3; 4 are flashing	Supply fan failure	- turn off the unit on the controller, then by the unit's main switch to position 18, leave the unit off for approx. 10 sec - restart of the unit - if the error persists even after restarting the unit, contact the unit supplier, contact the unit supplier after restarting the unit
13.		- diodes 5; 6; 7; 8 are flashing	Exhaust fan failure	
14.		- diodes 1; 2; 7; 8 are flashing	Faulty "room temperature sensor"	
15.		- diodes 3; 4; 5; 6 are flashing	Faulty anti-freeze sensor	

8.2. Ongoing disruption

- Restarting the unit - switch off the unit on the control unit (button 2), switch off the unit using the main switch (position 18). Wait approx. 30 seconds and restart the unit.
- If a fault persists, do not attempt to repair the unit yourself.
- Switch off the unit using the main switch and disconnect it from the power supply.
- Secure the unit against being switched back on or tampered with by unauthorized persons.
- Please contact your dealer.

9. Decommissioning, dismantling and recycling

- At the end of the machine's service life or if a repair is uneconomical, the machine must be completely dismantled.
- When dismantling the machine, the generally applicable safety regulations must be observed that all work can be carried out safely.
- Once the machine has been completely dismantled, the individual parts are disposed of in accordance with the requirements of the Waste Act No. 541/2020, as amended.
- Sort the metal parts according to the type of metal and hand them over to the appropriate organizations that collect secondary raw materials.
- Plastic parts do not degrade naturally are sorted and offered for sale to an organization that collects these secondary raw materials.
- Parts of electrical appliances must be handed over to an organization responsible for the collection of electrical waste.

Please take all unusable or discarded products and packaging to the appropriate recycling centers for proper disposal. Dispose of unusable product parts in a controlled landfill. Only a product that has been recycled in this way can be properly reused and put back into service.

10. Guarantee

The warranty for the unit applies within the framework of the legal regulations. The warranty is only valid if all installation and maintenance instructions have been followed. The warranty covers production defects, material defects or malfunctions of the appliance. We do not guarantee the suitability of the unit for special purposes, the determination of suitability is at the sole discretion of the customer.

The warranty does not cover defects that are attributable to the following causes:

- improper handling,
- during transportation (transport damage - financial compensation by the transport company),
- Non-compliance with the installation conditions,
- Faulty power connection or fuse protection,
- improper operation,
- Interventions in the product,
- normal wear and tear,
- Natural disaster.

When making a warranty claim, a report (in the product documentation) must be submitted containing the following information:

- Details of the person authorized to make the complaint/company data,
- Date and number of the sales document,
- Detailed description of the error,
- Data of the socket outlet protector,
- Photo of the type plate, serial number if applicable,
- Photo of the installation location of the product,
- Measured values of the product: air temperature, voltage, current.

For warranty and post-warranty service, please contact your supplier or the installation company that carried out the installation Warranty repairs are carried out at the installation site of the unit or by agreement. The manner in which warranty repairs are handled is at the sole discretion of the service company. The party making the complaint will receive written notification of the outcome of the complaint - warranty repair. In the event of an unjustified complaint, the complaining party shall bear all associated costs.

11. Conclusion

If you have any questions about this product, please do not hesitate to contact us.

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