FRÄNKISCHE

profi-air® 250 / 400 touch

Installation and operating instructions

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1 General information

Ventilation units from the FRÄNKISCHE profi-air range constitute an important part of a controlled home ventilation system. They bring the required volume of supply and extract air to and from rooms. With the help of an integrated plastic cross-flow heat exchanger, these ventilation units provide high heat recovery efficiency. Even if the outside air temperature is around the freezing point, the supply air is heated virtually to the room temperature. All profi-air ventilation units are fitted with fully automatic summer bypass valves in order to prevent undesired heating of the outside air during transitional seasons.

1.1 Introduction

These installation and operating instructions are intended to help you to install fully functional profi-air 250 / 400 touch ventilation units and to properly operate them. We therefore recommend that you read these instructions carefully before you start to operate and set the unit. These installation and operating instructions can also be used as a reference book and assist you during service and maintenance activities in order to ensure flawless and efficient work.

1.2 Safety

When used as intended, the device is safe and reliable to operate. Its construction and design are state of the art and comply with all the relevant DIN / VDE regulations and safety provisions.

All safety regulations, warnings and notes of these installation and operating instructions have to be observed; non-observance might result in personal injury or damage to the profi-air 250 / 400 touch.

1.2.1 Safety regulations

■ Installation, connection, commissioning as well as maintenance of profi-air 250 / 400 touch may be performed by authorised and qualified personnel only (with the exception of filter replacement).
■ Installation of profi-air 250 / 400 touch is to be carried out according to the applicable local construction, safety and installation regulations.

■ Non-authorised changes or modifications of profi-air 250 / 400 touch are not allowed.
■ Instructions regarding regular filter replacement are to be strictly adhered to.
■ Please keep these installation and operating instructions near the ventilation unit during the entire service life of profi-air 250 / 400 touch.

1.2.2 Safety equipment and measures

■ The profi-air 250 / 400 touch unit cannot be opened without tools.

■ Make sure that the ventilation units cannot be touched with hands as long as they are connected to the power grid. During maintenance, the device may therefore be opened in the "dead" state only, and profi-air 250 / 400 touch may only be operated with the installed duct network.

1 General information

1.2.3 Symbols used

⚠ Risk of personal injury

! Risk of:
- damage to equipment
- errors while operating the device if the instructions are not followed correctly
- other material damage

☞ Additional notes

📖 Reference to other sections and/or guidelines of the manufacturer

🗑 Disposal instructions

1.3 Intended use

The profi-air 250 touch and profi-air 400 touch ventilation units have been designed and constructed for the use in controlled home ventilation and are solely intended for this field of applications.

When using controlled home ventilation, stale, moist and malodorous air is removed from the bathroom, toilet, kitchen and utility rooms to be replaced with the same amount of fresh air in the living room, bedroom and children's room. Overflow outlets provide sound and well-balanced air circulation in the housing unit.

! **Please ensure that the overflow outlets are not closed or covered in order not to impede proper functioning of the system.**

! **Operation of profi-air 250 / 400 touch during the building drying stage is inappropriate in terms of its intended use.**

1.4 EC conformity

The profi-air 250 / 400 touch ventilation unit bears the CE mark.

📖 **EC Declaration of Conformity**

2 Technical design

2.1 profi-air 250 / 400 touch ventilation unit

1	Housing:	core: EPP foam (expanded polypropylene) jacket: varnished metal
2	Fresh air connection:	250 touch / 400 touch: Ø 160 mm / Ø 180 mm
3	Supply air connection:	250 touch / 400 touch: Ø 160 mm / Ø 180 mm
4	Extract air connection:	250 touch / 400 touch: Ø 160 mm / Ø 180 mm
5	Exhaust air connection:	250 touch / 400 touch: Ø 160 mm / Ø 180 mm
6	Extract air filter:	filter class G4
7	Heat exchanger:	plastic cross-flow heat exchanger - efficiency up to 91% / 90%
8	Condensation discharge:	5/4" male thread
9	Supply air filter:	filter class M5, optional filter class F7
10	Inspection side:	front, for service activities leave at least 70 cm
11	Bypass:	in the unit, damper-controlled, automatically controlled or manually adjustable
12	Network connection:	cold-device plug with an ON/OFF switch and two fuse elements (4 A time-lag) in the connection socket for the mains cable
13	Additional board:	with a connector plug
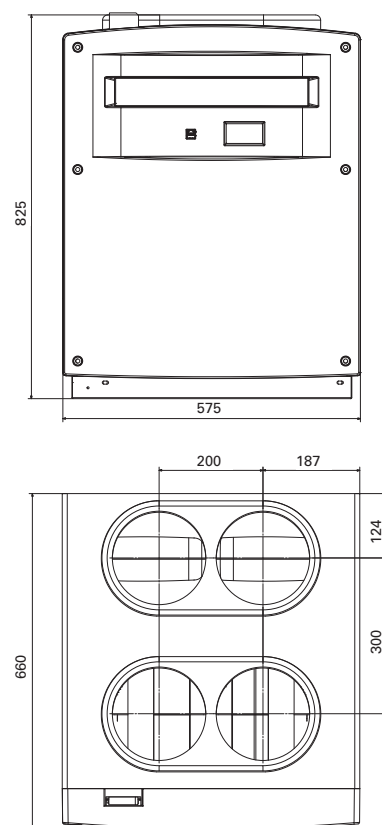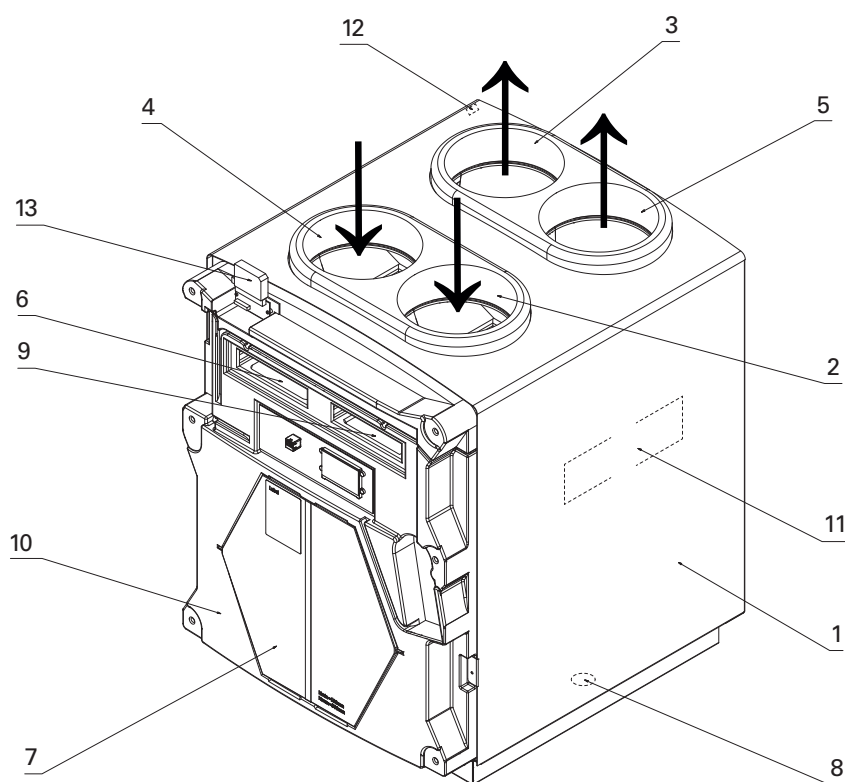
2.2 Control board
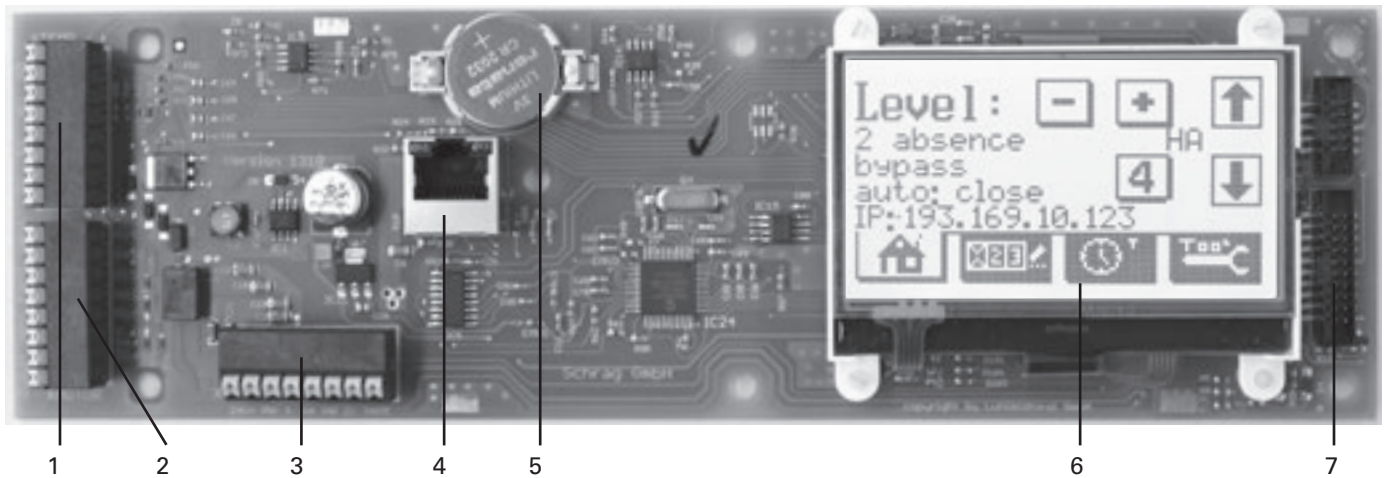
1   Connections for extract air sensor, fresh air sensor, exhaust air sensor and supply air sensor

2   Connections for control and signal wiring of exhaust air fan and supply air fan

3   Connections for power supply (24 V) of the control board and the bypass damper actuator

4   Connection socket (RJ45) to connect the router or the PC

5   Button cell for securing control settings in case of
    a power blackout (3 V lithium battery of CR 2032 type)

6   Touch screen display for operation

7   Ribbon cable connection for the additional board

2.3 Additional board

The additional board as a supplement to the control board with a touch display provides direct connection of various options of operation, control and monitoring of the ventilation unit.

■ 2 sensors (moisture or CO2)
■ operator button
■ pre-heating
■ service off
■ CAN interface
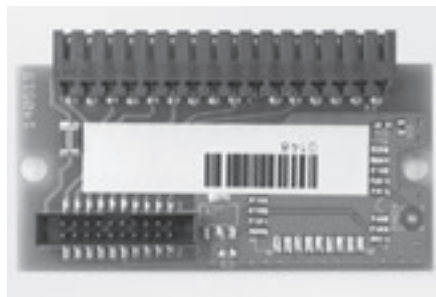
ℹ️ **Please refer to Section 3.5 on electric connection options.**

3 Installation of profi-air 250 / 400 touch

3.1 Transport and unpacking

Please handle profi-air 250 / 400 touch with utmost care during transport and unpacking.

3.2 Checking the scope of delivery

If the delivered profi-air 250 / 400 touch unit has any damage or incompleteness, please get in touch with the supplier immediately.

The scope of delivery includes:
- profi-air 250 / 400 touch
- 230 V connection cable
- connector plug for additional board
- installation and operating instructions

☞ **Check the device type by means of the type plate.**

3.3 Requirements for the installation room

3.3.1 General information

- Frost-free throughout the year
- Frost-free connection to the waste-water system for units with heat recovery
- Sufficient space - e.g. sound dampers, manifolds, preheaters or post-heaters may be installed in addition to the ventilation unit which usually require more space than the unit itself

- The access to the unit must be ensured for maintenance/cleaning
- Connections, e.g. for power and water supply, must exist
- Wall outlets are required for fresh and exhaust air which should neither be below ground level nor directly next to rooms where a quiet environment is essential (living room, bedroom)

- Centralised location of the room reduces routing
- Statically resilient installation surface
- If the air induction is effected via an earth-air heat exchanger, the unit should be installed in the basement or on the ground floor

3.3.2 Minimum clearances for maintenance purposes
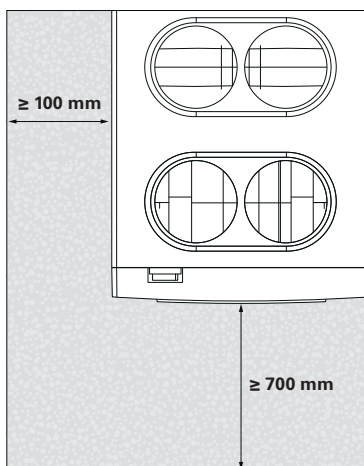
3.4 Possible and/or optional accessories / replacement filters

Accessories		suitable for the unit type	
Cat. no.	Description	profi-air 250 touch (Cat. no. 78302725)	profi-air 400 touch (Cat. no. 78302740)
78300810	Wall mounting set	x	x
78300811	Floor mounting set	x	x
78300801	Condensate siphon 5/4"	x	x
78316820	Connection set iso pipe or spiral duct DN 160	x	
78318820	Connection set spiral duct DN 180		x
78318821	Connection set iso pipe DN 180		x
78316850	Silencer DN 160	x	
78318850	Silencer DN 180		x
78316830	Pre-heating element DN 160	x	x
78300802	Enthalpy heat exchanger	x	x
78300831	CO_2 sensor	x	x
78300832	Humidity sensor	x	x
78300833	Operator button	x	x
78300890	Replacement filter supply air F5	x	x
78300891	Replacement filter extract air G4	x	x
78300892	Filter supply air F7	x	x

3.5 Electric connection options
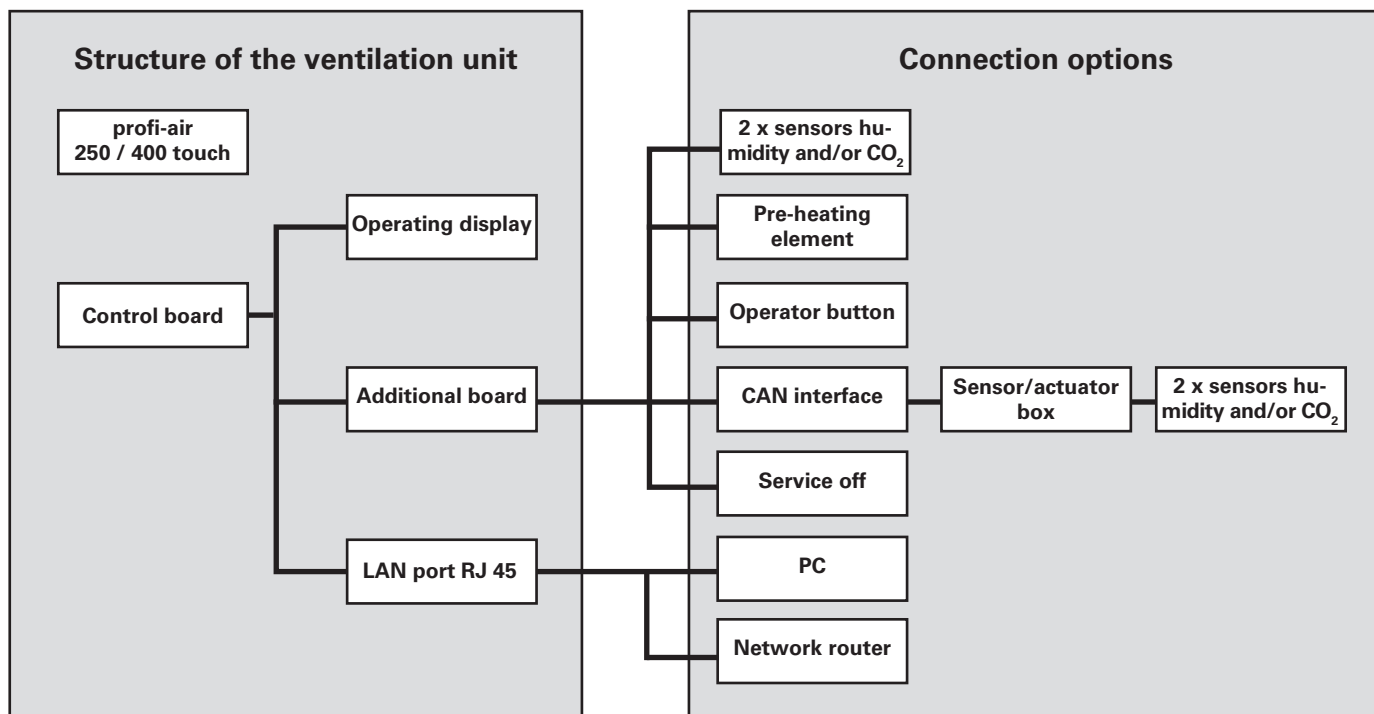
For further information on electric connections please refer to Section 8.4 on circuit diagrams.

3.6 Attachment of units

profi-air wall mounting set for profi-air 250 / 400 touch

The "wall mounting set" provides sound-decoupled installation of profi-air 250 touch and profi-air 400 touch ventilation units on a load-bearing wall. One fastening rail is attached to the device and one to the wall. Two rubber buffers, which are part of the scope of delivery, as well as the edge protection mounted on the fastening rail ensure noise separation to the building. The rubber buffers are to be screwed on the back of the base tray of the ventilation unit.

Due to long holes in the wall fastening rail and adjustable rubber buffers, the unit can be aligned.
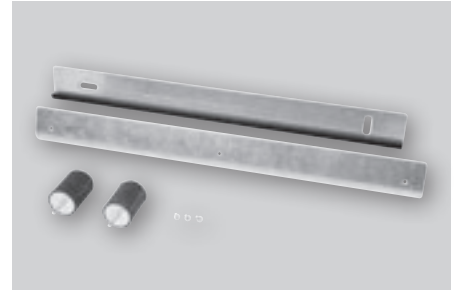
Installation and connection of profi-air wall mounting set
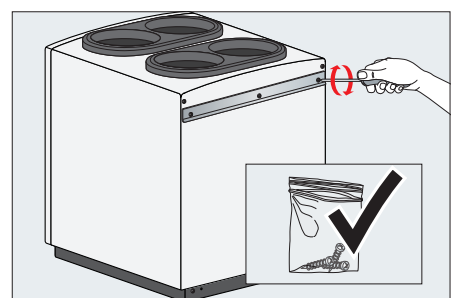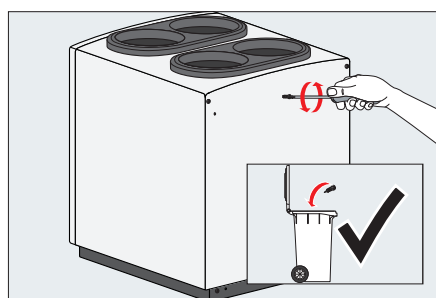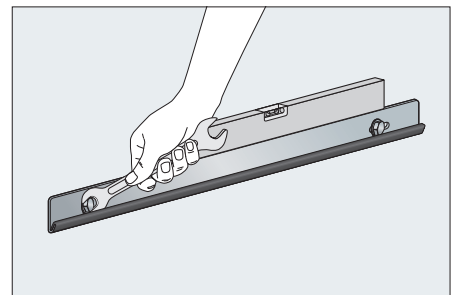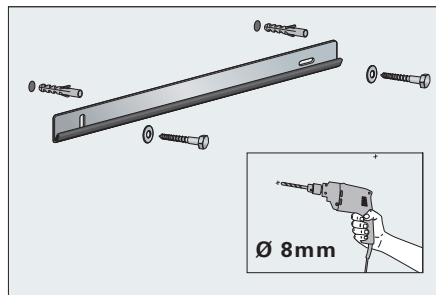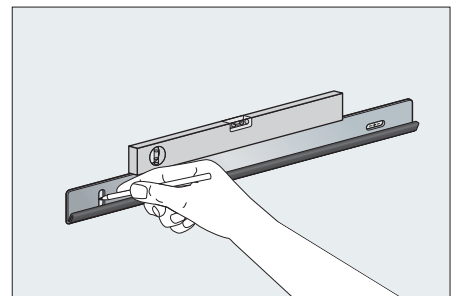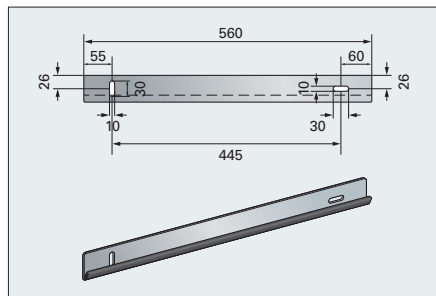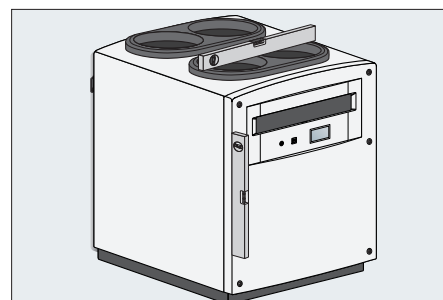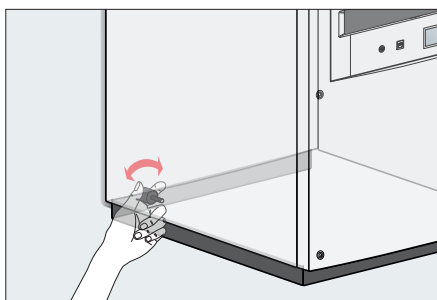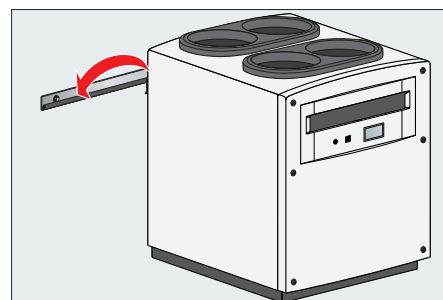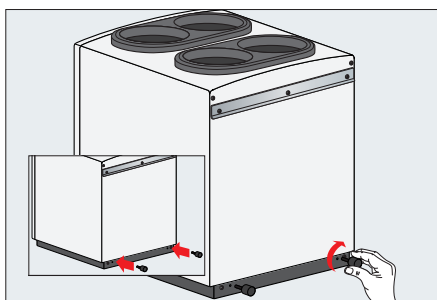
! **Condensate siphone to be connected only after wall installation of profi-air 250 / 400 touch has been completed.**

! **Please ensure a clearance of at least 170 mm between the finished floor and the bottom of the unit to have enough space to connect the condensation line.**

profi-air floor mounting set for profi-air 250 / 400 touch

The "floor mounting set" provides sound-decoupled installation of profi-air 250 touch and profi-air 400 touch ventilation units. Both floor stands are screwed to the base tray of the ventilation unit. Four included rubber buffers have to be screwed into the floor fixture to provide sound-decoupled construction.

Installation of profi-air floor mounting set
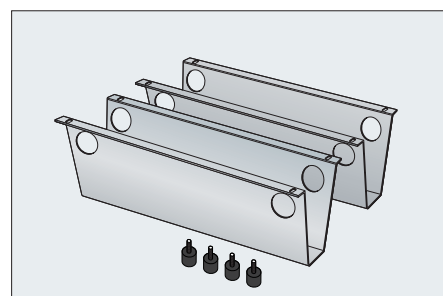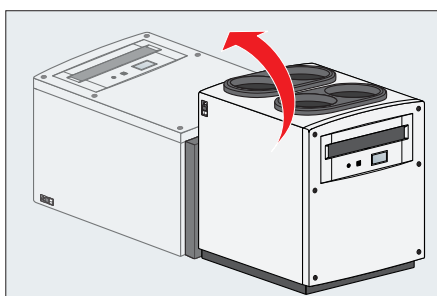
Installation and connection of profi-air floor mounting set
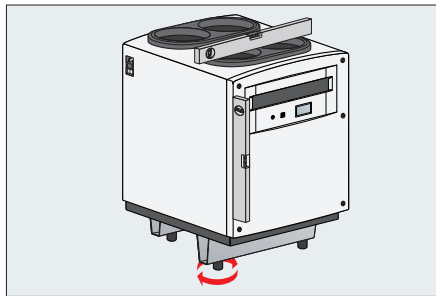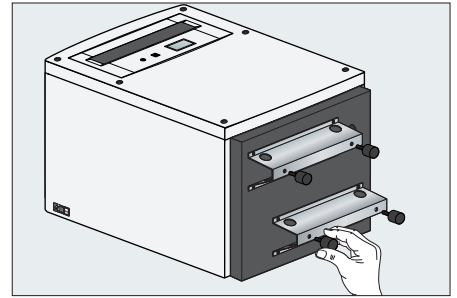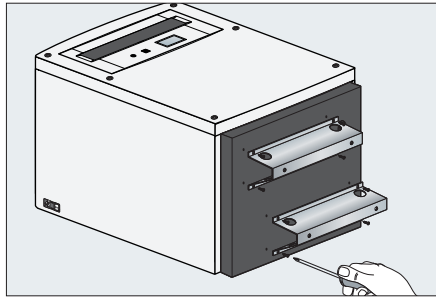
! **Condensate siphon to be connected only after floor installation of profi-air 250 / 400 touch has been completed.**

3.7 Air connections

profi-air 250 touch connection set (iso pipe or spiral duct)

The profi-air 250 touch connection set consists of four double nipples DN 160 incl. a lip seal. These double nipples provide the connection between the ventilation unit connecting piece (fresh, exhaust, extract and supply air connection) and the pipe system selected (profi-air iso pipe or spiral duct). Due to the lip seal, airtight connection to the pipe system is guaranteed.

profi-air 400 touch connection set (spiral duct)

The profi-air 400 touch connection set for a spiral duct consists of four double nipples DN 180 incl. a lip seal. These double nipples provide the connection between the ventilation unit connecting pieces (fresh, exhaust, extract and supply air connection) and the selected further pipe network made of the spiral duct. Due to the lip seal, airtight connection to the pipe system is guaranteed.

Installation and connection
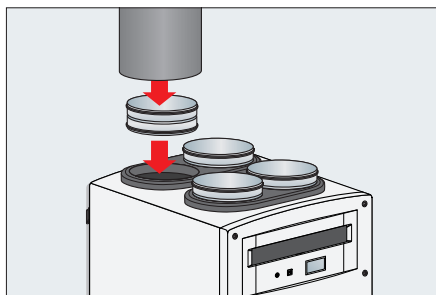
Connection of profi-air touch 250 iso pipe
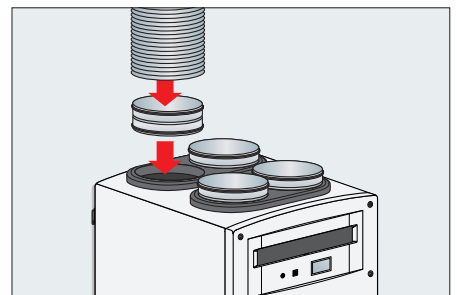
Connection of profi-air touch 250 / 400 touch spiral duct

3 Installation of profi-air 250 / 400 touch

profi-air 400 touch connection set (iso pipe)

The profi-air 400 touch connection set consists of two EPP adapter attachments which are to be placed onto the ventilation unit. Due to the broadened cuff distance, the profi-air iso pipe DN 180 can be connected. The adapter attachment and the profi-air iso pipe are connected by means of couplings, delivered together with the profi-air iso pipe.

Installation and connection
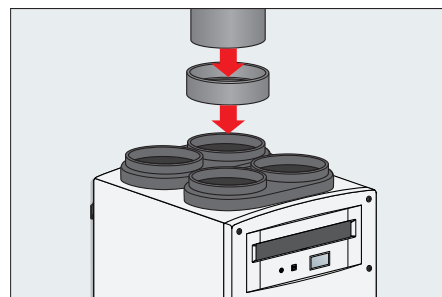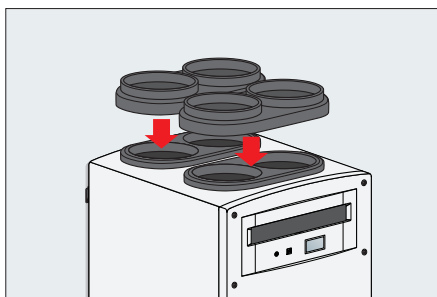
3.8 Condensation discharge

Due to heat recovery, condensate emerges into the profi-air heat exchanger. The water accumulated is discharged from the unit in a controlled manner via a condensation discharge. The condensation discharge is at the bottom of the unit. The 5/4SDSq cuff with a male thread situated there is intended for on-site connection of the siphon. The siphon reduces odour transfer from the sewer to a minimum and prevents the unit from drawing external air. The discharge of the condensate into the sewer is to be carried out by means of free drainage via an additional siphon installed on-site. Since the water seal of a conventional siphon may dry out, we recommend using a dry/ball siphon. The ball siphon is available as an accessory.
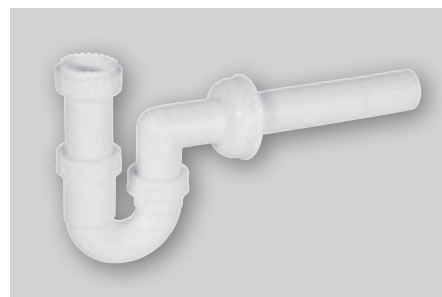
Installation and connection of the profi-air condensate siphon
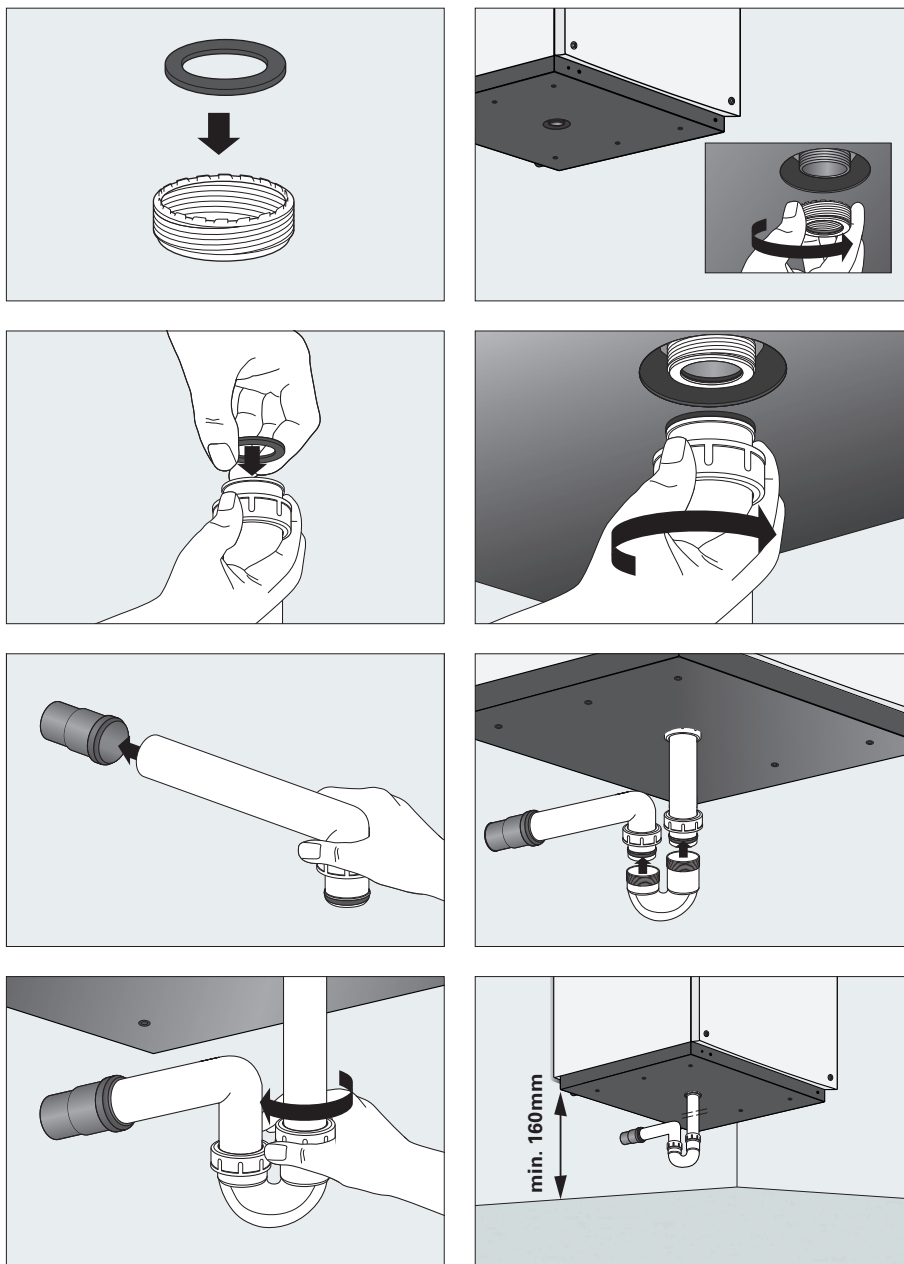
! **Condensate siphon to be connected only after wall and/or floor installation of profi-air 250 / 400 touch has been completed.**

! **Further condensation lines have to be installed with a gradient of at least 2 %.**

! **Keep the condensation line frost-free.**

3 Installation of profi-air 250 / 400 touch

3.9 Electric connection

Network connection is implemented with a mains cable included, and it is to be secured according to local electric codes. At the unit connection, there are two fuse elements (4 A time-lag).

⚠️ **Electric connection activities are to be carried out by authorised and qualified personnel and in the "dead" state of the device only. Additionally, the applicable local regulations and safety provisions must be observed.**

3.10 Additional board

The additional board as a supplement to the control board with a touch display provides direct connection of various options of operation, control and monitoring of the ventilation unit.

After all options on the socket board of the connector plug have been installed and electrically connected, the plug is inserted into the terminal block of the additional board.
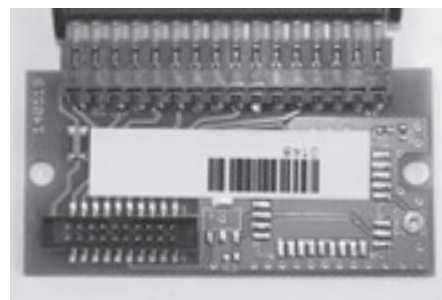
3.10.1 Connection options

Sensor 1:   humidity / CO_2 sensor
Sensor 2:   humidity / CO_2 sensor
Button: external operator button to control ventilation modes
Preheater: electric pre-heating for frost protection and/or increase in ventilation comfort during winter operation
Service off: connection of a switch contact to switch off the ventilation unit
CAN bus: possibility to connect a sensor/actuator box

3.10.2 Installation of the connector plug

After all options at the connector plug have been installed and electrically connected, it is placed onto the profi-air 250 / 400 touch unit as follows.
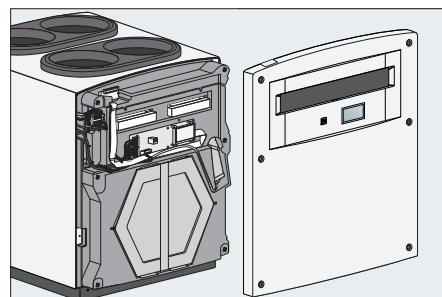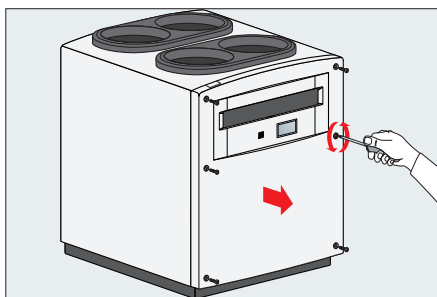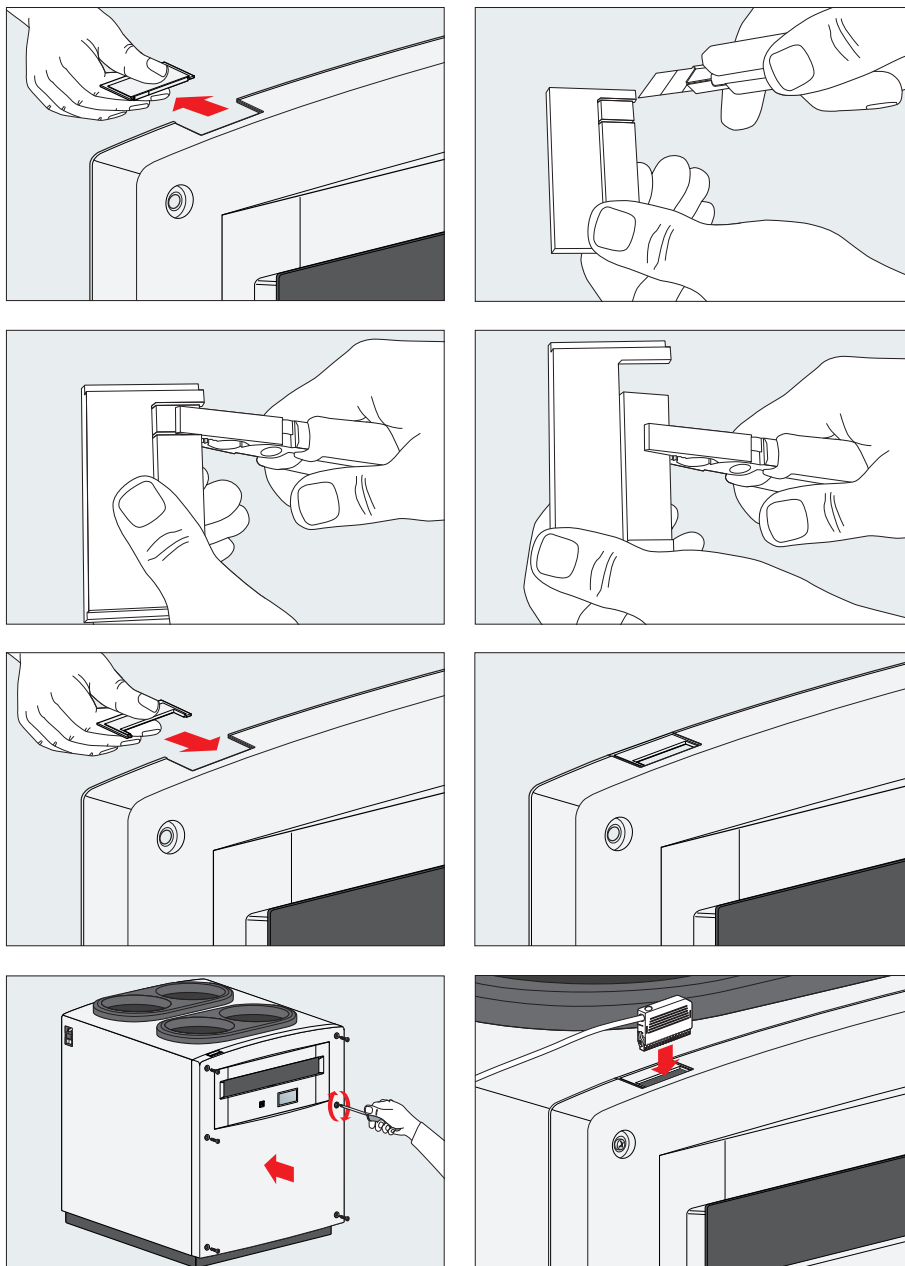
⚠ **Electric connection activities are to be carried out by authorised and qualified personnel and in the "dead" state of the device only. Additionally, the applicable local regulations and safety provisions must be observed.**

3.10.3 CO₂ sensor

Fully automatic control for comfort ventilation:

- CO_2 concentration as an indicator of ambient air pollution
- saving of energy due to needs-based ventilation
- alternating display of CO_2 content / temperature display

Ventilation modes for the CO₂ sensor [ppm] are switched as follows:

-      < 1,000 ppm = mode 2
- 1,000 - 1,500 ppm = mode 3
-      > 1,500 ppm = mode 4

☞ **If the sensors are activated, selections can be made between ventilation modes 2/3/4 only.**

Technical data for the control panel with CO₂ sensors:

Principle of measurement:	non-dispersive infrared technology
Measuring range:	0 to 5,000 ppm CO_2
Activation:	10 V correspond to 5,000 ppm CO_2
Output:	analogue output 0 to 10 V
Voltage supply:	24 V AC ±20 % or 15 to 35 V DC
Display:	CO_2(ppm) /T (°C or °F)
Connection:	screw terminals max. 1.5 mm²
Operating conditions:	0 to 90% rH (non-condensing) / -20 to 60°C
Storage conditions:	0 to 90% rH (non-condensing) / -20 to 60°C
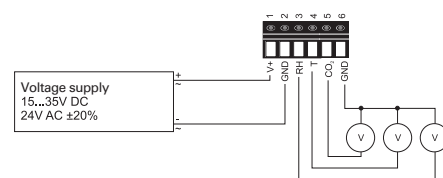
Connection diagram of analogue outputs

3.10.4 Humidity sensor sensor

Fully automatic control for comfort ventilation:

- humidity content as an indicator of ambient air pollution
- saving of energy due to needs-based ventilation
- alternating display of moisture content / temperature display

Ventilation modes for the moisture sensor [%H] are switched as follows:

-      < 60% rH = mode 2
- 60 - 85% rH = mode 3
-      > 85% rH = mode 4

☞ **If the sensors are activated, selections can be made between ventilation modes 2/3/4 only.**

Technical data for the control panel with humidity sensors:

Measuring range:	0 to 95% rH
Activation:	10 V correspond to 100% rH
Output:	analogue output 0 to 10 V
Voltage supply:	5 to 40 V DC or 24 V AC ± 20%
Power consumption:	typically 4 mA
Display:	humidity (rH) / T (°C or °F)
Connection:	screw terminals max. 1.5 mm²
Operating temperature:	-5 to +55°C
Storage conditions:	-25 to 60°C
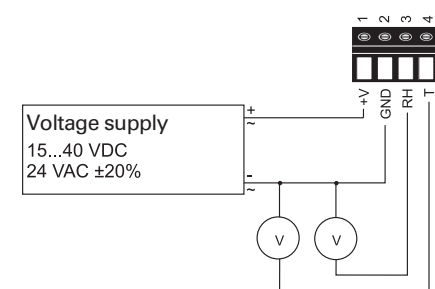
Connection diagram of analogue outputs

3.10.5 Operator button

As an additional control panel, a four-mode push-button with an LED display can be connected to the profi-air 250 / 400 touch unit. With the help of the operator button, the profi-air 250 / 400 touch modes can be selected. In addition to the push-button available in the profi-air range, further commercially available devices can be used as an alternative. Therefore, you have the possibility to choose a push-button matching the switch range of your home.

Various alternative manufacturers of switches							
	Jung	**B&J**	**Berker**	**Gira**	**Merten**	**Hager**	**Siemens**
Push-button	531U	2020U	5031	15100	MEG 3150-0000	WUE31	5TD2120
Light	961248 LED GN	8337-1	LED 1687 12-48 V	1405 12-24 V	MEG 3921-0000	WUZ703 12-28 V	5TG7317 24 V
Rocket switch	AS 590 K05 WW	2520-214 + 2525N	1621 8989	29003	432819	WYA260	5TG6200
Frame	AS 581 WW	2511-214	1011 8989	21103	389119	WYR110	5TG2551-0

3.11 Silencer

The profi-air silencer helps to minimise the air noise generated by the fans installed in the ventilation unit. It consists of two flexible aluminium pipes and a sound-absorbing layer made of resin-bonded mineral wool. Owing to its design, the silencer is very flexible and can be bent by 90°. Lip sealings on sound damper connections ensure an airtight connection to profi-air iso pipes and/or spiral ducts.
It is recommended to install two silencers for profi-air touch ventilation units (1 x for supply air, 1 x for extract air).

If the fresh air and/or exhaust air grill is situated very close to a room which requires sound protection (e.g. bedroom) or directly at the neighbouring property, it would make sense to install two additional silencers (1 x fresh air, 1 x exhaust air).
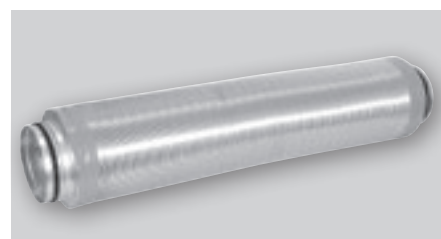
■ profi-air 250 touch   ➔   silencer DN 160
■ profi-air 400 touch   ➔   silencer DN 180

DN inside	DN outside pack of 25	Integral attenuation (dB) in octave bands (Hz) TSD 1000 mm long						
		125 Hz	**250 Hz**	**500 Hz**	**1000 Hz**	**2000 Hz**	**4000 Hz**	**8000 Hz**
160	210	2	4	10	23	43	18	14
180	230	2	3	9	22	35	15	12

3.12 Pre-heating element

The profi-air pre-heating element is an air preheating device which can be integrated in the fresh air pipe of the profi-air 250 / 400 touch ventilation unit and which is intended to protect the heat exchanger from freezing condensate. The pre-heater can be switched on and off through the frost protection strategy stored in the ventilation device. Please refer to Section 5 of these installation and operating instructions for more information. The heater coil is connected to the control via the additional board. This control ensures that the pre-heater only operates in case of freezing danger in the cross-flow heat exchanger.
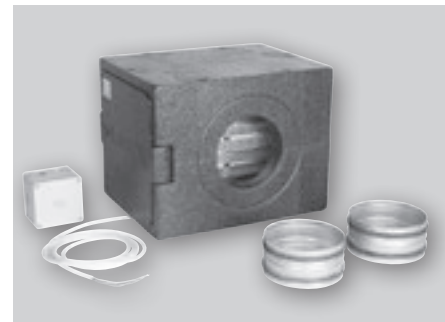
📖 **For further information regarding the installation as well as technical data, please refer to the profi-air pre-heating installation and operating instructions.**

3.13 Enthalpy heat exchanger

The profi-air enthalpy heat exchanger can be used to replace the cross-flow heat exchanger installed in the unit. This enthalpy heat exchanger increases living comfort, since humidity can be recovered along with heat. In doing so, it prevents living rooms from excessive drying-out even during winter months.

The basic physical principle of osmosis of water vapour through the pore structure of a special-purpose polymeric membrane is used for humidity transportation. This polymeric membrane is impermeable to all kinds of germs due to its special antimicrobial coating.

With the help of the profi-air enthalpy heat exchanger, maximum enthalpic heat recovery efficiency of 127 % (for profi-air 250 touch) and 110 % (for profi-air 400 touch) is achieved.
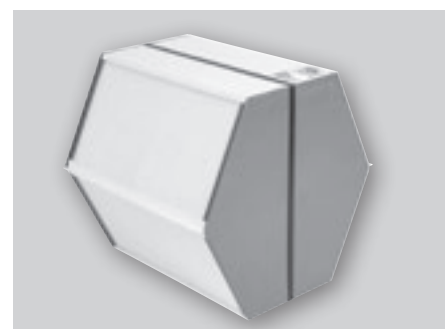
☞ **Since new buildings initially have very high humidity values, we recommend using a conventional cross-flow heat exchanger during the first heating period. This ensures faster humidity extraction from the building.**

☞ **Since pressure losses of both heat exchangers are virtually identical, no changes in fan settings are required in case of replacement.**

Installation of profi-air enthalpy heat exchanger
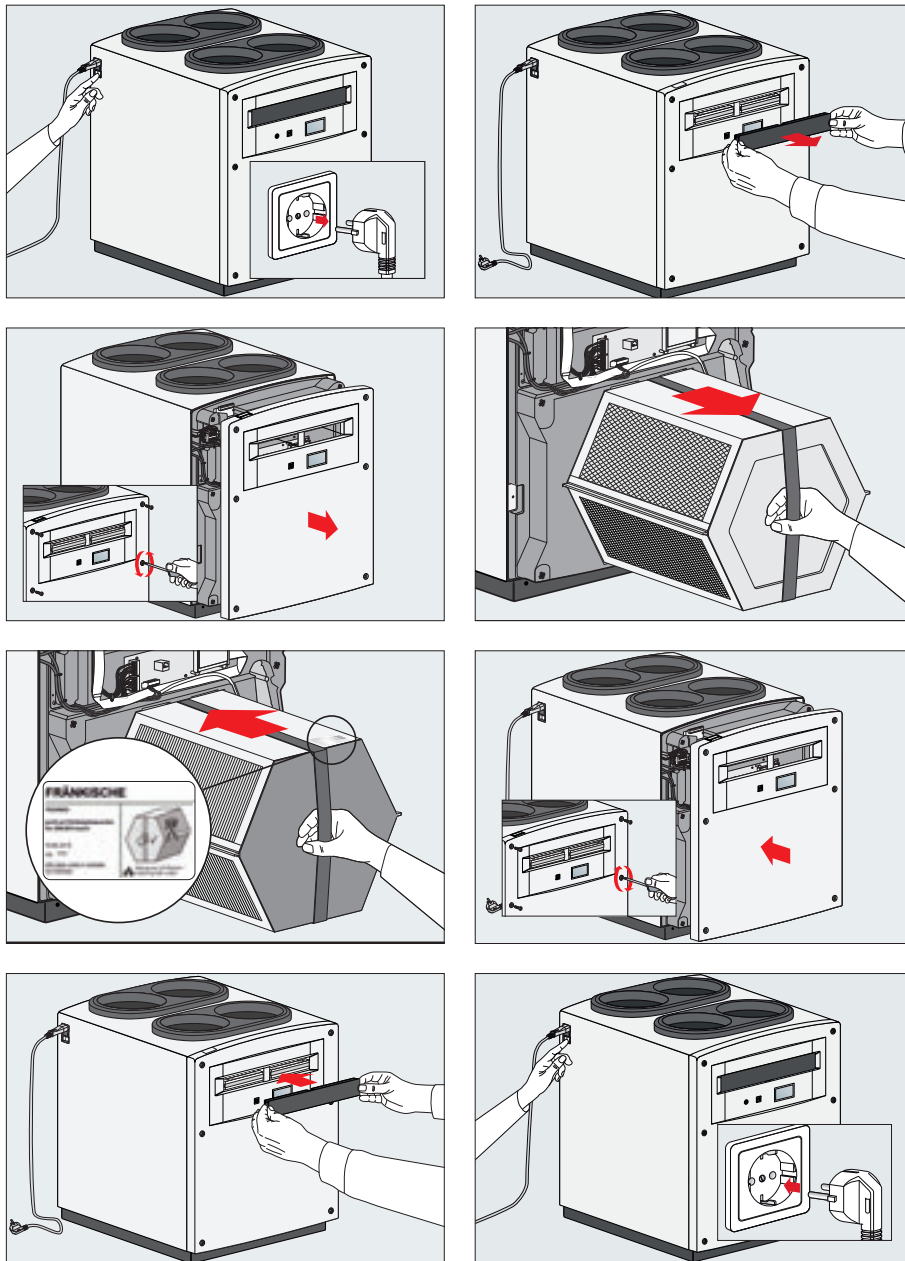
See Section 6.2.1 for further information on inspection and/or cleaning of the heat exchanger.

3.13 Optional fresh air filter F7

By default, profi-air 250 / 400 touch ventilation units are delivered with F5 supply air filters and G4 extract air filters. Supply air filters can optionally be equipped with an F7 filter, which is best suited for people suffering from allergies.

! **If retrofit replacement of the F5 filter with the F7 filter takes place, control of supply air fans has to be adjusted due to massive pressure loss. Please refer to Section 8.2.**

3.14 Connection to a laptop or a router

The profi-air 250 / 400 touch ventilation units can be connected to a laptop or a WLAN router via a LAN port. You can thus operate your ventilation unit within your home network via the IP address from any smartphone, tablet, laptop or desktop computer using an internet browser. After establishing a connection with the WLAN router, you can control the unit at any time from anywhere in the house, set and adjust it to current conditions or, for instance, create and save special weekly programs.

A mains cable (RJ 45) is enough for connection. Once the connection has been established, simply enter the IP address in your browser which will then be displayed on the touch display of the ventilation unit.

Connection options
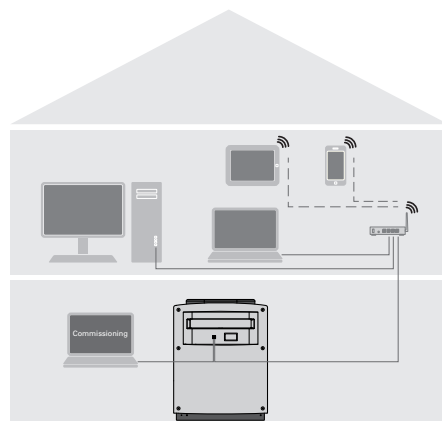
☞ **To connect the WLAN router and the terminal device, please refer to the operating manual of your router.**
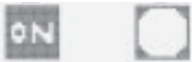
4 Operation of profi-air 250 / 400 touch

The following section deals with operating profi-air 250 / 400 touch by means of the operating display. Here, you will find all possible setting parameters for control as well as notes on individual functions.

4.1 General information

The menu on the touch display is easy to understand thanks to various symbols. Following symbols are used:

⬆️ ⬇️	Arrow keys for menu navigation
➕ ➖	Push-buttons to adjust input values
ON ◯	Function selection active / inactive
↵	Input confirmation
🏠	Direct selection of the "Home" menu ➔ For further information please refer to Section 4.2.
📅	Direct selection of the "Weekly programme" menu ➔ For further information please refer to Section 4.3.
🕐	Direct selection of the "Time setting" menu ➔ For further information please refer to Section 4.4.
🔧	Direct selection of the "Setup" menu ➔ For further information please refer to Section 4.4.

4 Operation of profi-air 250 / 400 touch

4.2 "Home" menu
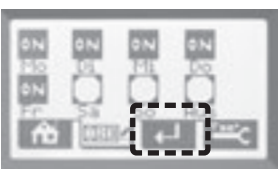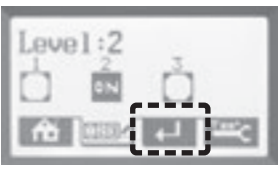
This menu provides an insight into the current operating conditions and general data on profi-air 250 / 400 touch.

	Selection and display of the current ventilation mode. Press the - / + buttons to choose between modes 1 to 3. → *This selection is only active if the control is in manual mode.*
	Switch to the "Party" ventilation mode 4 → *Ventilation mode 4 has a time-dependent control.* *Setting options in the "Setup" menu*
	Display of the current operation mode ■ HA – manual mode ■ WO – weekly programme ■ S1 to S4 – sensor-controlled ■ K1 – frost protection mode Without preheating element: 10-minute waiting period With preheating element: preheater on ■ K2 – frost protection mode Without preheating element: supply air fan off for 60 min. With preheating element: reduction in both fans' air volume ■ K3 – frost protection mode Without preheating element: safety shutdown – both fans off for 60 min. With preheating element: safety shutdown – both fans off for 60 min.
	Display of the current bypass position ■ Auto: Closed ■ Auto: Open ■ Manual: Closed ■ Manual: Open
	Status line to display the IP address for network connection. In case of a fault, it will be displayed alternating with the IP address. → *For possible fault reports please refer to Section 7.1.*
	Display of air temperature for fresh air, supply and exhaust air
	Display of values measured by connected sensors (humidity or CO_2) Passive – no sensor connected or activated 030%H – measured value of humidity sensor 0500ppm – measured value of CO_2 sensor → *Activation / programming of sensors, see "Setup" menu*
	Operating hours counter / the following operating times are recorded – mode 1 / mode 2 / mode 3 / mode 4
	Display of software version

4.3 "Weekly programme" menu

In this menu, you can save a weekly programme for automatic control of ventilation modes.

	Option to select between "Programme" control and manual operation ➔ *If the sensors are activated in the control feature of the "Setup" menu, the unit is always sensor-controlled!*
	Basic mode selection - the basic mode is always activated if there is no time specified in the weekly programme. ➔ *e.g. if mode 3 is selected as the basic mode, it is only necessary to specify the time periods of reduced operation in the weekly programme.*
	Display of weekly plans from 1 to 10 Up to 10 weekly plans can be specified in the control. A weekly plan consists of a selected mode, selected days of the week, start and stop time. To set or adjust the selected weekly plan please select "edit".
	Setting the days of the week for which the weekly plan is intended. If the "off" option is selected, the weekly plan is deactivated. Press the "enter" button for the next step.
	Setting the ventilation mode intended for the weekly plan. Press the "enter" button for the next step.
	Input of the start time. Press the - / + buttons to set the required time. Press the "enter" button for the next step.
	Input of the stop time. Press the - / + buttons to set the required time. Press the "enter" button for the next step. ➔ *Please note: the stop time of a weekly programme may not be later than 11:59 p.m. If the programme has to continue to run after 0:00 a.m., it has to be split into two weekly programmes.* *e.g. the control has to switch to mode 2 from 10:30 p.m. to 07:00 a.m.* *weekly plan 1 from 10:30 p.m. to 11:59 p.m.* *weekly plan 2 from 00:00 a.m. to 07:00 a.m.*
	Display of the completely programmed weekly plan 1 ➔ *e.g. from Monday to Friday between 07:00 a.m. and 05:00 p.m., the control switches to mode 2.* Selection of the next weekly plan by means of the arrow keys. To set please repeat the steps described previously.
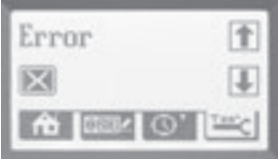
4.4 "Time setting" menu

	Switch between summer and winter time
	Setting the time "large display" currently set time "hour..." / "minute ..." desired time Press the + / - buttons to set the desired time. Confirm the setting by pressing the "return" button.
	Setting the weekday "large display" currently set weekday "... day" desired weekday (01-Mo / 02-Tu / 03-We ...) Press the + / - buttons to set the desired weekday. Confirm the setting by pressing the "return" button.
	Setting the date "large display" currently set date "day ..." / "month ..." desired date Press the + / - buttons to set the desired date. Confirm the setting by pressing the "return" button.
	Setting the date "large display" currently set date "... year" desired date Press the + / - buttons to set the desired date. Confirm the setting by pressing the "return" button.

4.5 "Setup" menu

In this menu, all the important operating parameters regarding bypass, preheating, filter timer, fan control, etc. can be entered.

Level-Party passed time 090 min.	Setting the after-run time for mode 4 possible setting range 0 – 120 min. **Factory setting 90 min.**
bypass open close autom. ON	Setting summer bypass operation mode "Open" – the fresh air always bypasses the heat exchanger. Thus, no heat transfer takes place. The bypass can, however, be opened only if the set fresh air temperature has been exceeded. "Closed" – the fresh air always passes through the heat exchanger. Thus, heat transfer takes place. "Auto" – the bypass opens and closes automatically based on the temperature margin entered.
bypass 15.0 22.0	Setting summer bypass control temperature The fresh air temperature "AuL" is the release temperature – only after the set temperature has been exceeded, the control releases the "bypass open" function. possible setting range 13 – 18 °C **Factory setting 15°C** The extract air temperature "AbL" is the control temperature – only after the set temperature has been exceeded and the fresh air temperature is under 2°C, the bypass opens. possible setting range 18 – 25°C **Factory setting 22°C**
Error	Error reset After clearing an error, it has to be acknowledged. ➔ *For information on filter replacement, please refer to Section 6.1.* ➔ *For information on fault clearance, please refer to Section 7.*
Display-backlight 200 usual 100 idle	Adjustment of the display light There are two different illumination levels. possible setting range 001 to 200 **Factory setting "Norm." 200** **Factory setting "Comf." 100**
contraste correction 110	Adjustment of the display contrast possible setting range 90 – 130 **Factory setting 110**

English	Language selection ■ German "deutsch" ■ English "english" ■ French "francais" ■ Italian "italiano" ■ Dutch "Nederlands" **Factory setting German**
calibrate Touch	Calibration of the touch display After selecting the option, first the upper left corner and then the lower right corner of the display has to be selected. The corners are marked by a small crosshair.
Sensors	Activation of sensors If the function is set to "On", the ventilation unit is controlled via the sensors connected. The sensors, however, overlay the manual or weekly operation only if the higher ventilation mode is required due to the measured value. The sensor responsible for switching to a higher ventilation mode is indicated in the "Home" menu "S1 – S4". If the function is set to "Off", all the connected sensors are removed from the control chain. However, this is possible in the "Private home" mode only. ➔ *If the sensors are activated, selections can be made between ventilation modes 2/3/4 only.*

Protected setting range

Password protection has been provided for the following settings to prevent unintentional adjustment of the parameters. These protected areas can be selected by using the following passwords:

■ using the touch display

 password: i17

■ using the browser-based interface via smartphone / PC, etc.

 user name: install
 password: konfig12
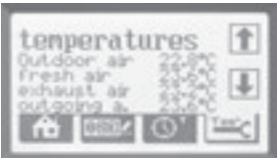
! **The following parameters may be altered by qualified personnel only. Changing these settings may lead to device and/or building damage.**

	Press the key symbol on the display in the "Setup – sensors" menu to activate password entry. Here, a group of symbols is to be selected first, followed by the desired symbol. This process has to be repeated until the entire password has been entered. After the password has been entered, the access to the protected area is granted for 60 min. After the work in these operating menus is completed, protection has to be restored. To do so, use the "Logout" function on the last page of the menu.
	Setting the type of building With "Private home" selected, all four ventilation modes can be switched. With "Rented flat" selected, ventilation mode 1 moisture protection cannot be selected. ➔ *Protection against too low air volumes* **Factory setting Private home**
	Frost protection settings Preheater "On" - in case of freezing danger, the preheater is switched on via a contact on the additional board. Preheater "Off" – in case of freezing danger, the supply air fan is switched off. **Factory setting Off** ➔ *For further information on frost protection, please refer to Section 5.*
	Activation service off contact If the additional board is furnished with a service off switch, it has to be activated. If the switch is closed, the ventilation unit is in operation. If the switch is opened, the ventilation unit switches off and the F2 fault report appears in the "Home" menu. **Factory setting Off** ➔ *If no switch is connected when the contact is activated, the control acts as with an open switch.*

Filter-time 180 Time 178 Rest	Setting the filter operating times display The first line indicates the desired filter operating time for the next interval. In the second line, the remaining time of the current interval is shown. Both intervals can be adjusted as required. possible setting range 30 – 240 days **Factory setting 180 days**

Airvolume Level 1 04.2 ErA Volt 03.9 ExA Volt	Adjustment of the air volume supply air / exhaust air mode 1
	
	possible setting range 1.8 – 10 volts
	
	Factory setting supply air 4.2 volts / exhaust air 3.9 volts
	
	→ *After calibrating and adjusting the air volume in mode 3, mode 1 can be determined with the help of factor 0.3.*
	
	   ... volts mode 3 x 0.3 = ... volts mode 1
	
	   If the value of supply or exhaust air is below 1.8 volts, the factor has to be increased in order to prevent falling below the 1.8 volts level again (e.g. factor 0.4).
	
	   Both air directions are to be determined with the same factor.

Airvolume Level 2 05.0 ErA Volt 04.7 ExA Volt	Adjustment of the air volume supply air / exhaust air mode 2
	
	possible setting range 1.8 – 10 volts
	
	Factory setting supply air 5.0 volts / exhaust air 4.7 volts
	
	→ *After calibrating and adjusting the air volume in mode 3, mode 2 can be determined with the help of factor 0.7.*
	
	   ... volts mode 3 x 0.7 = ... volts mode 2
	
	   Both air directions are to be determined with the same factor.

Airvolume Level 3 06.2 ErA Volt 05.8 ExA Volt	Adjustment of the air volume supply air / exhaust air mode 3 possible setting range 1.8 – 10 volts **Factory setting supply air 6.2 volts / exhaust air 5.8 volts** → *The setting is to be determined for each air direction by means of corresponding measuring equipment (e.g. vane anemometer).* *Balanced adjustment should be provided for both air directions (air volume supply air = air volume extract air)* → *For a pressure / volume flow diagram, please refer to Section 8.2.*

Airvolume Level 4 07.6 ErA Volt 06.9 ExA Volt	Adjustment of the air volume supply air / exhaust air mode 4
	
	possible setting range 1.8 – 10 volts
	
	Factory setting supply air 7.6 volts / exhaust air 6.9 volts
	
	→ *After calibrating and adjusting the air volume in mode 3, mode 4 can be determined with the help of factor 1.3.*
	
	   ... volts mode 3 x 1.3 = ... volts mode 4
	
	   If the value of supply or exhaust air is above 10 volts, the factor has to be reduced in order to prevent falling below the 10 volts level again (e.g. factor 1.2).
	
	   Both air directions are to be determined with the same factor.

int.sensor 1 off %H ppm ON	Programming moisture / CO2 sensors possible settings ■ Off ■ %H – humidity sensor ■ ppm – CO_2 sensor **Factory setting Off** Two sensors can be connected directly to the ventilation unit (int. sensor 1 / int. sensor 2). They are connected via the additional board. There is also an option to furnish the unit with two additional sensors (ext. sensor 3 / ext. sensor 4) via the sensor / actuator box.

ext.sensor 4
off %H ppm
ON
	→ *Control behaviour of humidity sensors* → *Control behaviour of CO_2 sensors*
	  ■ *< 60 % r.H. = mode 2* ■ *< 1000 ppm = mode 2*
	  ■ *60-85 % r.H. = mode 3* ■ *1000 -1500 ppm = mode 3*
	  ■ *> 85 % r.H. = mode 4* ■ *> 1500 ppm = mode 4*

motorstatus fresh air 2050 min-1 85.0 Volt exhaust a1940 min-1 84.7 Volt	Display motor status The current fan speed [min^{-1}] as well as the activation [volts] is indicated for each fan.
digital DI1 on	Display switch contact service off → *DI1 "On" and service off contact "On" – ventilation unit is switched off.* → *DI1 "Off" and service off contact "On" – ventilation unit is switched on.*
temperatures Outdoor air 22.8°C fresh air exhaust air outgoing a.	Display of air temperature for fresh air, supply air, extract air and exhaust air
correction – 0.0 DhA temp + – 0.0 FrA temp + **correction** – 0.0 ExA temp + – 0.0 OuA temp +	Correction values temperature sensor If necessary, temperature sensors for each type of air can be corrected and adjusted to a reference display.
Level 1 000001h Level 2 000017h Level 3 000000h Level 4 000000h Frost 000000h PreHeat P. 000000h	Operating hours counter / the following operating times are recorded: ■ mode 1 / mode 2 / mode 3 / mode 4 ■ unit in frost protection operation ■ preheater contact active
Logoff	Logout from the password-protected area

5 Frost protection strategies

There are two strategies for frost protection of the profi-air 250 / 400 touch ventilation unit. The frost protection function, both with and without preheater, is released when the outside temperature is ≤ 0°C. The result of continuous measurement and monitoring of air temperatures provides the basis of the calculation algorithms for the profi-air touch control.

5.1 Frost protection without preheater

If the calculated proportionality is fallen below, the supply air fan switches off. At the end of the predefined blocking time, the supply air fan is automatically reactivated, and the process of measurement and monitoring starts anew.

⚠️ **If the profi-air 250 / 400 touch ventilation unit and a fireplace are operated at the same time, this function cannot be selected, since negative pressure may occur in the installation room in the event of frost protection.**

⚠️ **If the profi-air 250 / 400 touch ventilation unit and a room air-dependent fireplace are operated at the same time, it is recommended to use defroster heating.**

⚠️ **If the profi-air 250 / 400 touch ventilation unit and a fireplace are operated at the same time, the district master chimney sweep should always be contacted in advance, in order to decide if safety pressure monitoring must be installed. This system is then connected to the network supply line of the ventilation unit.**

5.2 Frost protection with preheater

If the calculated proportionality is fallen below, the heater coil is released; a factory-installed heater coil (e.g. electric heater coil, brine heater coil) is switched by an enabling contact. The switch-on/switch-off time is controlled by the supply air temperature. If the preheater performance is not sufficient, the ventilation unit switches off completely. At the end of the pre-defined blocking time, the unit is automatically reactivated, and the process of measurement and monitoring starts anew.

⚠️ **If the profi-air 250 / 400 touch ventilation unit and a room air-dependent fireplace are operated at the same time, it is recommended to use defroster heating.**

⚠️ **If the profi-air 250 / 400 touch ventilation unit and a fireplace are operated at the same time, the district master chimney sweep should always be contacted in advance, in order to decide if safety pressure monitoring must be installed. This system is then connected to the network supply line of the ventilation unit.**

6 Care and maintenance

To permanently ensure a hygienic home ventilation system, it is particularly important to maintain and service the system at regular intervals. For this reason, we recommend signing a maintenance contract with a fitter for maintaining and cleaning the system. According to DIN 1946-6, the parts listed below should be inspected regularly and replaced or cleaned, if necessary.

Parts	Maintenance/inspection intervals
Air filter Inspection of all air filters (also in the ventilation unit, in extract air valves, prefilters, such as earth-air heat exchangers or preheaters, if any) for contamination and replacement, if necessary.	every six months
Ventilation unit Inspection and, if necessary, cleaning of the heat exchanger and/or fans Inspection of condensation discharge and siphon	every 2 years
Air distribution Inspection and, if necessary, cleaning of the ventilation ducts, manifolds and ventilation valves	every 2 years

! **If the profi-air touch unit is not subjected to any maintenance, the functionality of the entire ventilation system can be affected.**

6.1 Filter replacement

We recommend inspecting the air filters after three months of operation and replacing them according to the degree of contamination. By means of the error message indication "F1: filter replacement" on the touch display or browser control, you receive a reminder regarding the filter replacement after the pre-set interval has been expired.
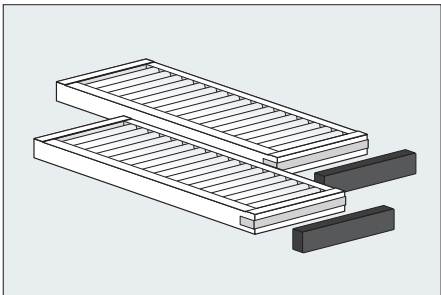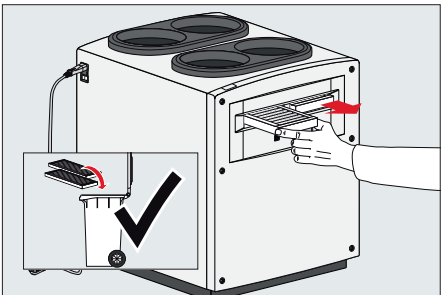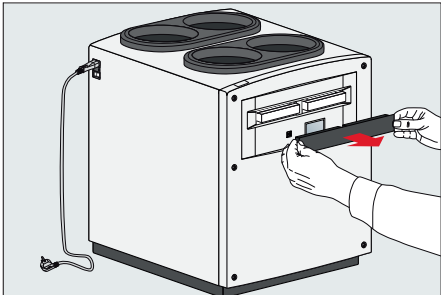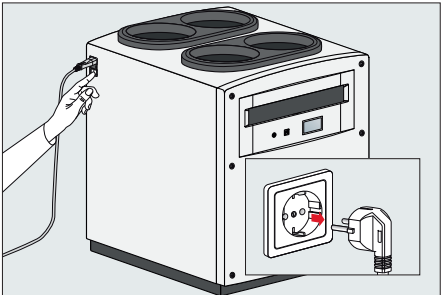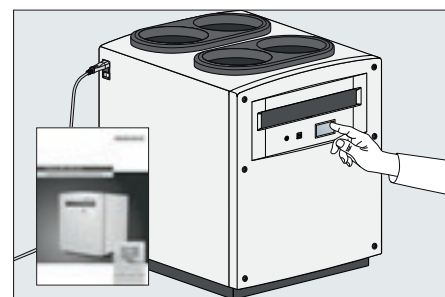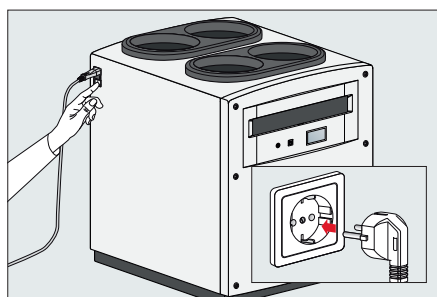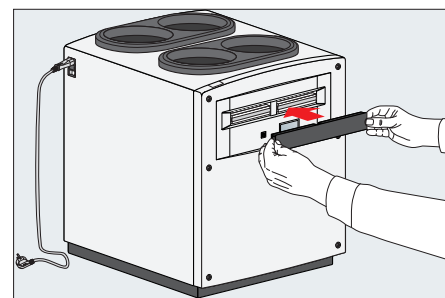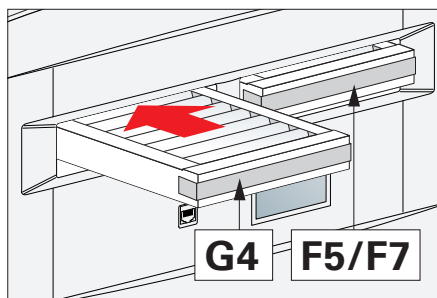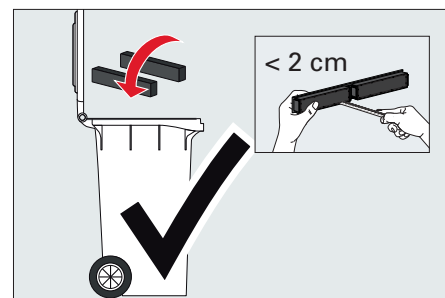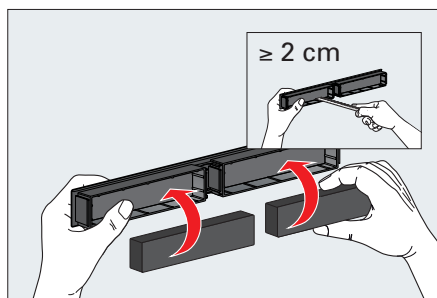
! Please use only undamaged original filters in the profi-air 250 / 400 touch ventilation unit.

! When installing the filter in the filter cover, please make sure that the seals on the filter cover remain intact.

! Do not clean filters with liquids (e.g. water).

☞ To ensure best possible operation, replace all filters after six months at the latest.

🗑 Dispose of contaminated filters according to the locally applicable disposal regulations.

📖ℹ For information on error resetting or filter interval setting, please refer to Section 4 on operation.

6 Care and maintenance

6.2 Maintenance information for specialists

Ventilation units should be maintained by a specialist every 24 months. The following work steps are to be performed:

- ■ visual inspection of the unit for damage and corrosion
- ■ inspection and, if necessary, replacement of unit filters
- ■ inspection and, if necessary, replacement of filter outlets
- ■ cleaning of outlets
- ■ inspection of external wall grills for contamination and, if necessary, cleaning
- ■ removal and, if necessary, cleaning of the heat exchanger
- ■ inspection and, if necessary, cleaning of fans
- ■ inspection of condensate siphon for functionality and tightness
- ■ inspection and, if necessary, adjustment of the air flow rates
- ■ inspection of the electric system

⚠ **When executing any types of maintenance activities, please disconnect the ventilation unit from the power grid to make sure that the fans are out of operation. Additionally, the applicable local regulations and safety provisions must be observed.**

❗ **If the profi-air touch unit is not subjected to any maintenance, the functionality of the entire ventilation system can be affected.**

6.2.1 Inspection and cleaning of the heat exchanger
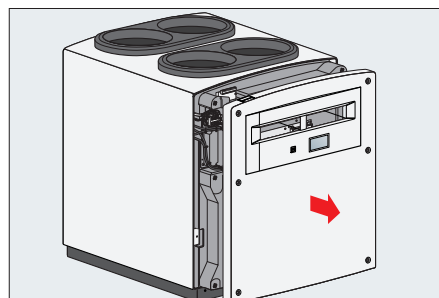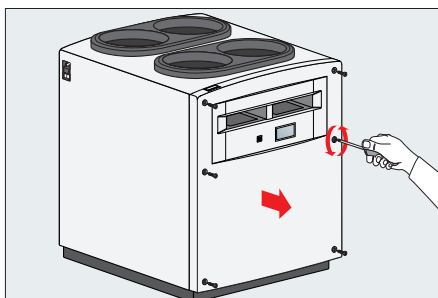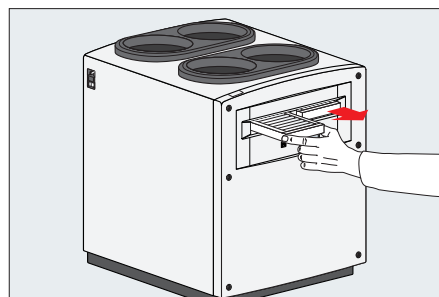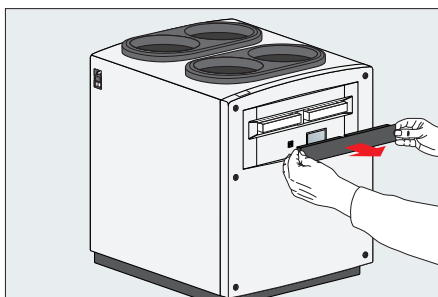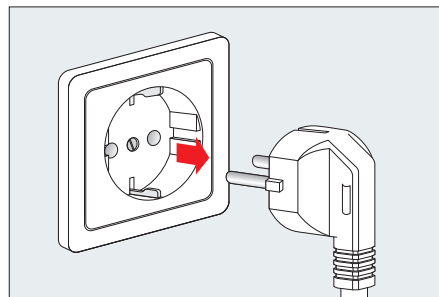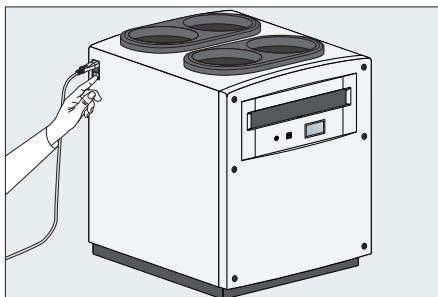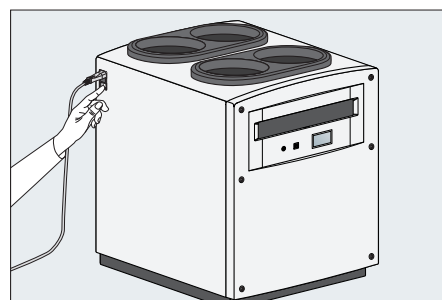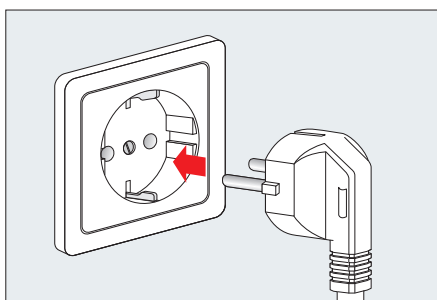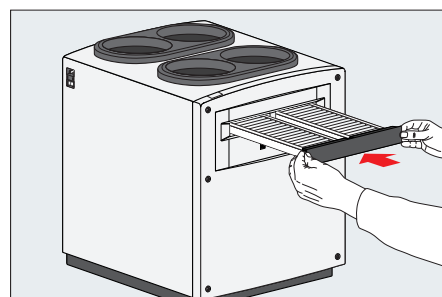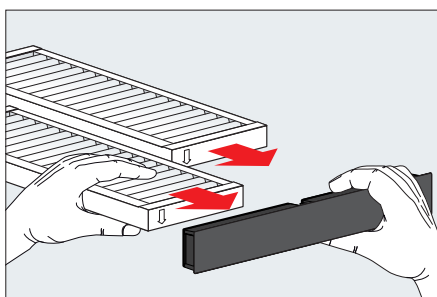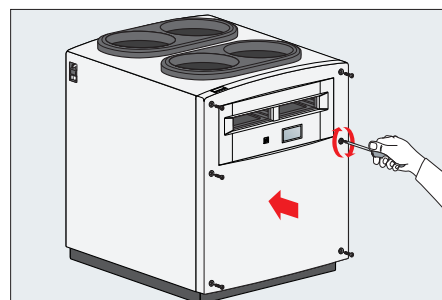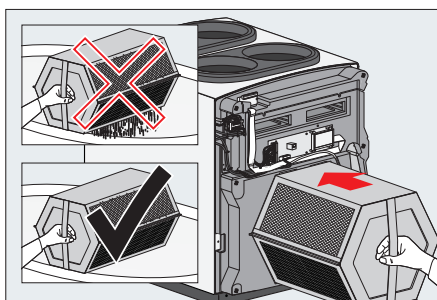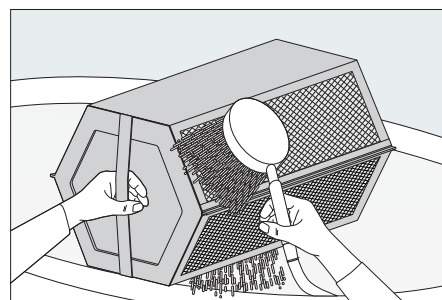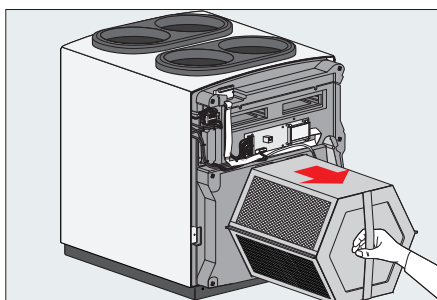
Exercise caution when dismantling the heat exchanger as it may contain condensate water.

Dry the rinsed heat exchanger prior to installation.

Do not re-install the heat exchanger at once if other components, such as fans, still have to undergo inspection.

Do not clean the heat exchanger with aggressive substances or cleaning agents containing solvents.

6.2.2 Maintenance information for specialists

Remove the heat exchanger as described in Section 5.2.1.
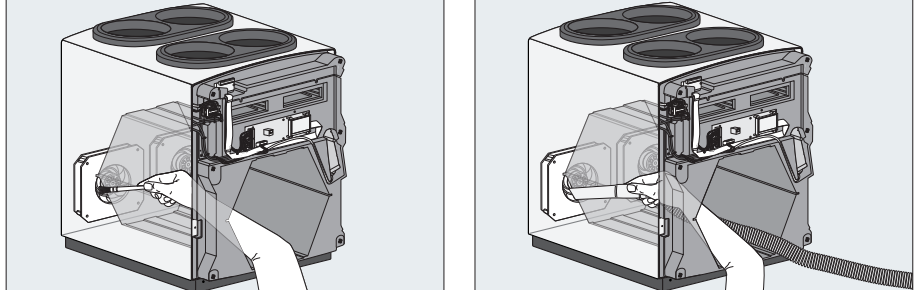
Install the components as described in Section 5.2.1.

! **Do not clean the fan with liquids, aggressive substances or cleaning agents containing solvents.**

! **Do not damage fan blades.**

7 Faults

Should a fault occur, please write down the error code and contact your specialist technician.

⚠️ **In case a fault is displayed on the profi-air touch unit or the voltage supply has been interrupted, no sufficient air exchange is provided. This can cause moisture- and mould-related problems. Please contact your specialist technician in this case.**

A fault in the profi-air touch ventilation unit is displayed as follows:

- A fault report appears on the touch display alternating with the IP address.
- The LED light of the operator button flashes at short intervals.
- The fault report is shown on the overview page of the PC, tablet or smartphone.

In the following sections, the different error codes as well as faults (or problems) without a message are described in more detail.

7.1 Fault reports

In this section, you will find the individual error codes shown on the display.

Error code	Designation	Possible causes
F1	Filter replacement	unit filter contaminated
F2	Service off	connected contact open
		service contact of the control set to "On"
F3	Extract air sensor	extract air temperature sensor connected incorrectly
		extract air temperature sensor out of order
		control board out of order
F4	Fresh air sensor	fresh air temperature sensor connected incorrectly
		fresh air temperature sensor out of order
		control board out of order
F5	Exhaust air sensor	exhaust air temperature sensor connected incorrectly
		exhaust air temperature sensor out of order
		control board out of order
F6	Supply air sensor	supply air temperature sensor connected incorrectly
		supply air temperature sensor out of order
		control board out of order
F7	Motor supply air	supply air fan connected incorrectly
		supply air fan out of order
		control board out of order
F8	Motor exhaust air	exhaust air fan connected incorrectly
		exhaust air fan out of order
		control board out of order

7 Faults

7.2 Fault clearance

In this section, you will find support for cause determination and clearance of individual fault reports

Generally, if error messages F3 – F8 occur, the error shall be acknowledged first, since it can also occur due to temporary voltage loss. If the error is displayed again after a short period of time, please follow the instructions on fault clearance given below.

i   **For error reset, please refer to Section 4.5 Operation „Setup" menu**

7.2.1 Fault clearance F1 filter replacement

i   **Please refer to Section 6.1 on filter replacement.**

7.2.2 Fault clearance F2 service off

```
                   ┌─────────────────┐
                   │  Error message  │
                   │  F2 Service off │
                   └─────────────────┘
                            │
                           ╱ ╲
                         ╱     ╲
                       ╱   Is a   ╲
          ┌──────┐   ╱ component    ╲   ┌──────┐
          │ Yes  │──┤ connected to   ├──│  No  │
          └──────┘   ╲ "Service Off" ╱   └──────┘
              │        ╲  contact?  ╱         │
              │          ╲       ╱            │
  ┌──────────────────┐     ╲   ╱    ┌──────────────────────┐
  │ Close the contact.│            │ Set the "Service Off" │
  └──────────────────┘            │ function in the con-  │
                                  │ trol to "OFF".        │
                                  │ ───────────────────── │
                                  │     Setup menu        │
                                  │ Password-protected    │
                                  │       area            │
                                  └──────────────────────┘
```

7 Faults
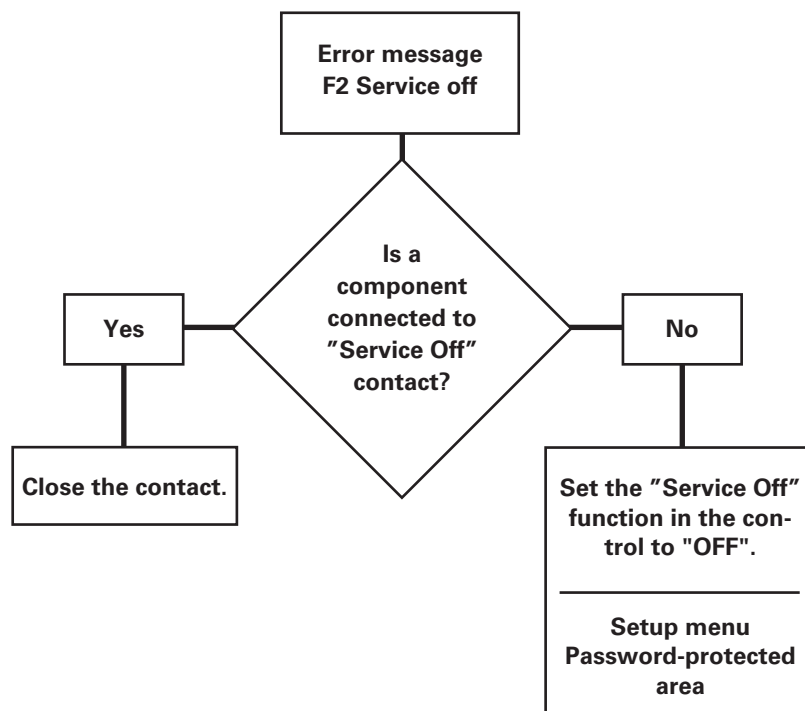
7.2.3 Fault clearance F3 to F6 temperature sensor

```
                    ┌─────────────────────┐
                    │   Error message     │
                    │  F3 / F4 / F5 / F6  │
                    │     NTC sensor      │
                    │  B1 / B2 / B3 / B4  │
                    └─────────────────────┘
                              │
                    ┌─────────────────────┐
                    │ Cut voltage supply  │
                    │    of the           │
                    │ profi-air touch unit│
                    └─────────────────────┘
                              │
                    ┌─────────────────────┐
                    │ Remove the 6 screws │
                    │ to dismantle the    │
                    │   front cover       │
                    └─────────────────────┘
```

Is the sensor connected correctly to the xtemp clamp? Check the clamp connection, cable break and corrosion.

Yes → Disconnecting the temperature sensor → Checking the temperature sensor resistance; see table

No → Connect the NTC sensor correctly

Is the resistance of the NTC sensor correct?

Yes → Replace control board

No → Replace NTC sensor

Resistance table for temperature sensors

Temperature	Resistance value [kΩ]		
°C	Min.	Medium	Max.
10	17,67	17,96	18,24
15	14,48	14,68	14,89
16	13,93	14,12	14,31
17	13,40	13,57	13,75
18	12,89	13,06	13,22
19	12,41	12,56	12,72
20	11,95	12,09	12,23
21	11,57	11,63	11,77
22	11,07	11,20	11,32
23	10,60	10,78	10,90
24	10,27	10,38	10,49
25	9,90	10,00	10,10
30	8,21	8,31	8,41

⚠ **Fault correction activities are to be carried out by authorised and qualified personnel and in the "dead" state of the device only. Additionally, the applicable local regulations and safety provisions must be observed.**

7.2.4 Fault clearance F7 to F8 fans

```
                    ┌─────────────────────────┐
                    │  Error message F7 / F8  │
                    │  Supply / exhaust air fan│
                    │      does not run        │
                    └─────────────────────────┘
                                 │
                    ┌─────────────────────────┐
                    │ Remove the 6 screws to dis-│
                    │  mantle the front cover   │
                    └─────────────────────────┘
                                 │
                              ◇ Is the
                         fan connected
                           correctly?
          ┌─────┐    Check clamp connections,   ┌─────┐
          │ Yes │    cable break and corrosion  │ No  │
          └─────┘      at the clamps of xmotor  └─────┘
             │         control board and X2        │
             │          above the mains            │
             │            adapter ◇        ┌─────────────────┐
             │                             │ Connect the fan cor-│
             │                             │      rectly      │
             │                             └─────────────────┘
           ◇ Are
      1.8 to 10 V DC
  ┌─────┐ applied to the fan?   ┌─────┐
  │ Yes │ Check the clamp of    │ No  │
  └─────┘    xmotor on the      └─────┘
     │          control            │
     │          board. ◇           │
┌──────────────┐          ┌──────────────┐
│Cut voltage supply│      │Cut voltage supply│
│of the profi-air touch│  │of the profi-air touch│
│      unit     │         │      unit     │
└──────────────┘          └──────────────┘
     │                           │
┌──────────────┐          ┌──────────────┐
│  Replace     │          │  Replace     │
│    fan       │          │control board │
└──────────────┘          └──────────────┘
```

⚠ To correct the fault, profi-air touch has to be opened in "live" state. Thus, this may only be done by author-ised and qualified personnel. Additionally, the applicable local regulations and safety provisions must be observed.

⚠ Replacement of the control board and/or fans is to be carried out by authorised and qualified personnel and in the "dead" state of the device only. Additionally, the applicable local regulations and safety provisions must be observed.

7 Faults

7.3 Faults (or problems) without reports

In this section, you will find support for cause determination and clearance of individual faults (or problems) without reports.

| Fault / problem	Cause	Checkup / measure
Fans and control not in operation	Power supply voltage applied	1. Mains plug connected
		2. Mains switch set to "I"
		3. Check the negative-pressure monitoring if installed (keyword: chimney)
		4. Check the fuses under the mains plug – replace defective fuses
		5. Check the mains adapter – replace defective mains adapter
High supply air temperature in summer	Bypass remains closed	1. Check bypass settings in the control ("Open/Closed/Auto")
		2. Reducing bypass control temperature in the control
Low supply air temperature in winter	Bypass is open	1. Check bypass settings in the control ("Open/Closed/Auto")
		2. Increasing bypass release temperature in the control
	External pre-heater does not work	1. Check preheater settings in the control ("On/Off")
		2. Check preheater "VHR" contact in the additional 24 V board
		3. Check pre-heater (incl. wiring and switching relay in the connection socket)
No or low air volume	No or false adjustment	1. Has the unit been adjusted?
		2. Check the log for air volume calculation
	Filter contaminated	Replace the filter (unit, heater coil, valves)
	Valves clogged	Clean the valves
	Heat exchanger clogged	Clean the heat exchanger as described in Section 5.2.1
	Heat exchanger frozen-up	Defrost the heat exchanger
	profi-air touch is in "K3" frost mode	Outside temperature is too cold - freezing danger in the exchanger
		1. Wait for warmer outside temperature
		2. Check the existing pre-heater
		3. No defroster heating available - install if necessary
Noise level too high	Absence of sound damper	Install silencer
	No or false adjustment	1. Has the unit been adjusted?
		2. Check the log for air volume calculation
	Whistling noise from an air gap	Seal the air gap
	Flow noise – valves are not properly connected with the pipe system	Properly insert the valve into the connection piece
	– valves not sufficiently opened	Re-adjust the valve (ensure the air gap is as large as possible)
Condensate leakage	Condensation discharge is clogged	Clean condensate siphon
	Condensation discharge untight	Check the connection (sealing)

8 Technical data

8.1 Data sheet

Unit type	profi-air 250 touch		profi-air 400 touch	
Weight	about 35 kg		about 35 kg	
Dimensions (WxDxH)	575 x 660 x 825 mm		575 x 660 x 825 mm	
Heat exchanger				
Type	Cross-flow plate heat exchanger, water-resistant, frost-proof		Cross-flow plate heat exchanger, water-resistant, frost-proof	
Material	Plastic		Plastic	
Max. heat recovery efficiency	91%		90%	
Fans				
Fan operation	2 EC RadiCal fans with 7 backwards curving blades		2 EC RadiCal fans with 7 backwards curving blades	
Network connection	230V / ~50 Hz		230V / ~50 Hz	
Performance				
Application	70 to 250 m³/h		100 to 400 m³/h	
Electric power consumption, including control	60 m³/h / 30 Pa – 16 W		100 m³/h / 60 Pa – 30 W	
	170 m³/h / 100 Pa – 57 W		200 m³/h / 100 Pa – 70 W	
	250 m³/h / 100 Pa – 94 W		400 m³/h / 100 Pa – 211 W	
Current	1.2 A		1.2 A	
Fuse protection (on site)	16.0 A delay fuse (cable 3 x 1.5 mm²)		16.0 A delay fuse (cable 3 x 1.5 mm²)	
Filter				
	Supply air	Extract air	Supply air	Extract air
Filter class	F5, F7 optionally	G4	F5, F7 optionally	G4
Connection				
Air connection size	Ø 160 mm		Ø 180 mm	
Tests and approvals				
	– DIBt® (general building authority approval) – EN 13141-7 – SAP App. Q – Klima Haus Partner		– DIBt® (general building authority approval) – EN 13141-7 – EN 308 – SAP App. Q – Klima Haus Partner	

8 Technical data

8.2 Setting parameters flow rate

8.2.1 Setting parameters profi-air 250 touch

application area according to EU regulations 1253/2014 and 1254/2014
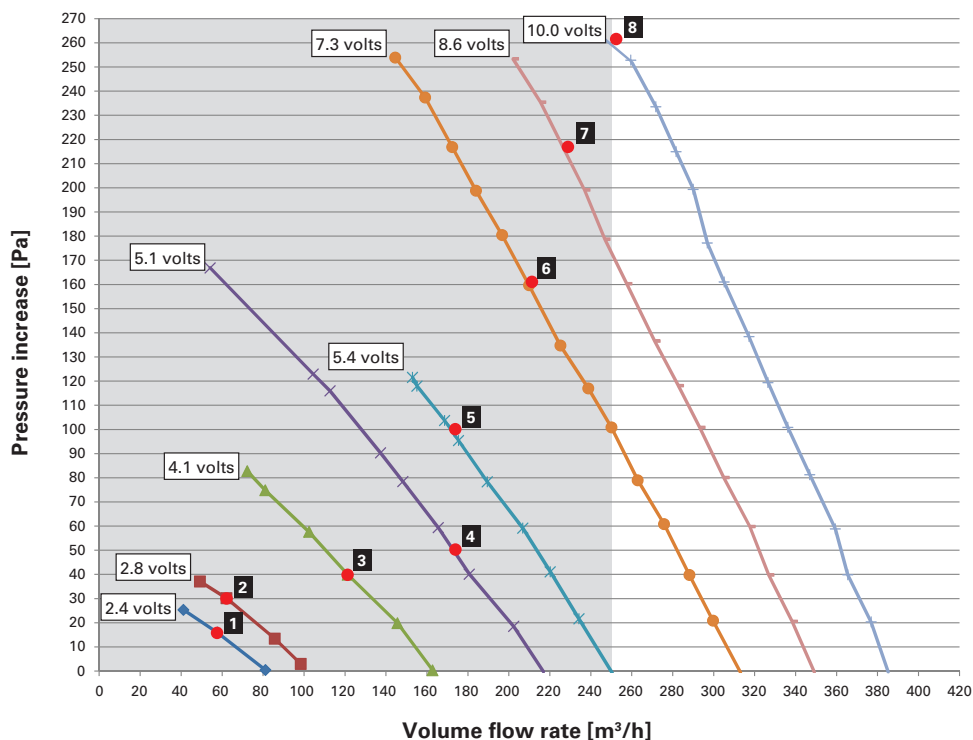
8.2.2 Setting parameters profi-air 400 touch

application area according to EU regulations 1253/2014 and 1254/2014
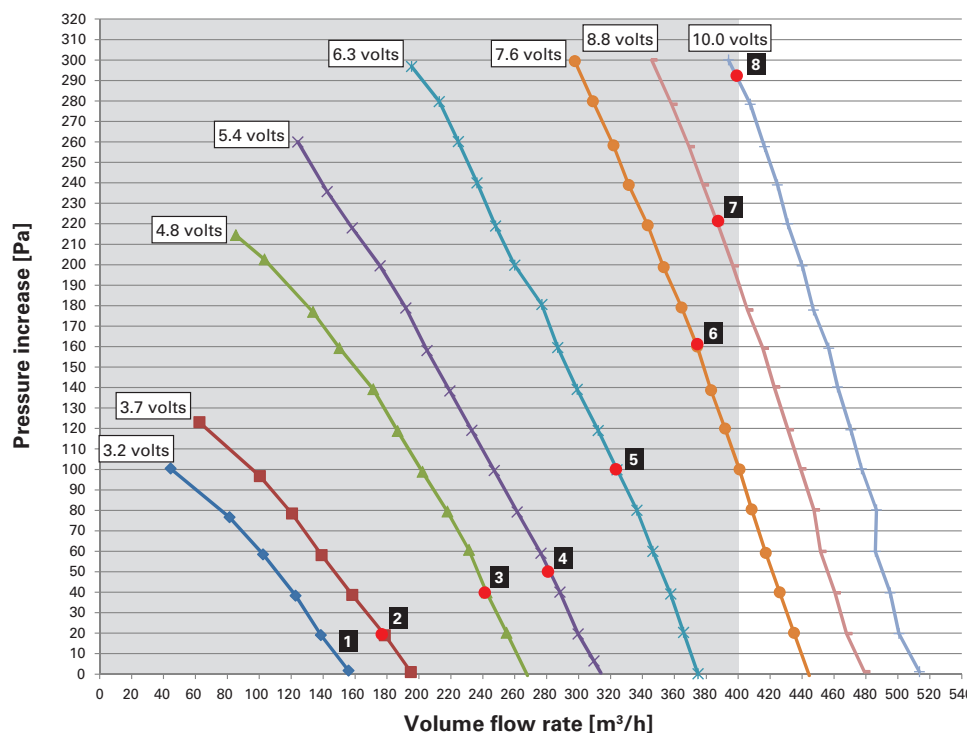
8.2.3 Increase in pressure loss due to F7 filter

If the profi-air touch ventilation unit is furnished with an F7 filter (pollen filter), the pressure loss of the entire unit increases. This increase in pressure loss can be determined with the help of the following diagram.

Pressure loss difference F5 - F7 filter

8.3 Dimensional drawing

5/4" MT
Condensate Connection

303

287

575

660

825

Network
connection

Power connection

575

200   187

124

300

660

Supply air

Extract air

Exhaust air

Fresh air

Connector plug of
additional board
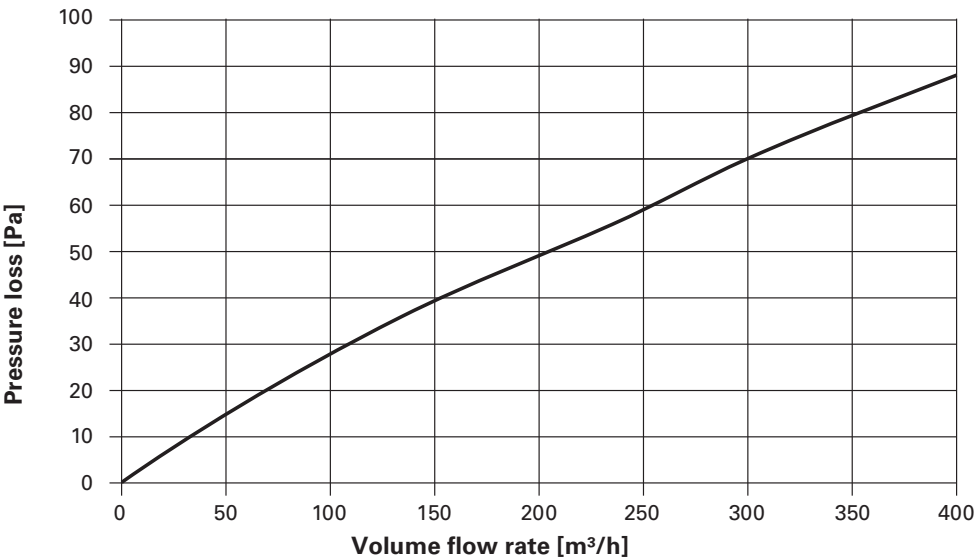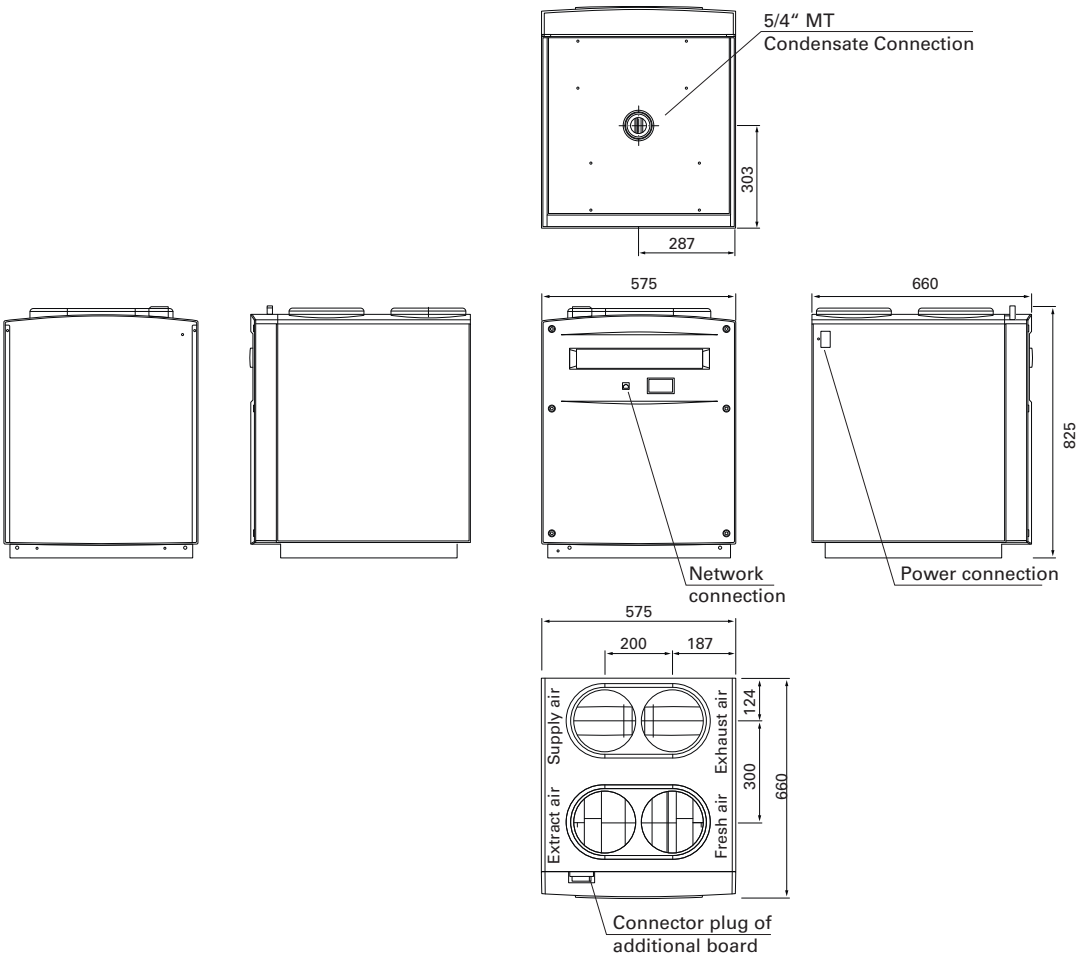
8 Technical data

8.4 Soud data for profi-air 250 touch

8.4.1 Sound, equipment emission

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)	Sound pressure level at the distance of 1m dB(A)	Sound pressure level at the distance of 3m dB(A)
1	2.4	60	15	31.2	26.2	16.7
2	2.8	60	30	34.2	29.2	19.7
3	4.1	120	40	41.7	36.7	27.2
4	5.1	175	50	45.1	40.1	30.6
5	5.4	175	100	47.7	42.7	33.2
6	7.3	210	160	53.8	48.8	39.3
7	8.6	225	215	57.0	52.0	42.5
8	10.0	250	260	58.5	53.5	44.0

8.4.2 Sound, supply air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	2.4	60	15	32.4	42.8	38.8	39.1	39.3	29.7	17.1	11.8	46.6
2	2.8	60	30	35.1	48.1	41.7	42.2	40.6	34.7	22.2	12.9	50.5
3	4.1	120	40	40.3	47.3	53.2	51.2	48.7	46.1	36.2	25.5	57.2
4	5.1	175	50	43.3	49.9	57.7	56.9	53.9	52.5	44.8	38.4	62.2
5	5.4	175	100	44.9	51.9	58.1	57.7	55.3	53.8	46.4	39.0	63.1
6	7.3	210	160	49.2	55.7	65.3	63.6	61.4	60.8	54.5	49.9	69.6
7	8.6	225	215	50.9	57.8	63.2	67.6	65.8	63.9	58.3	53.4	72.0
8	10.0	250	260	52.6	58.9	63.6	69.0	67.4	65.4	60.4	55.7	73.4

8.4.3 Sound, extract air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	2.4	60	15	27.7	34.8	31.3	29.0	20.8	14.6	9.9	10.9	37.7
2	2.8	60	30	30.2	37.4	34.1	31.9	25.5	21.4	11.5	11.3	40.5
3	4.1	120	40	35.2	40.0	45.1	40.8	32.2	28.8	15.5	11.3	47.8
4	5.1	175	50	36.2	42.8	46.2	45.2	35.8	35.2	20.3	11.2	50.2
5	5.4	175	100	40.1	44.3	48.8	45.9	37.9	35.3	22.9	13.5	52.1
6	7.3	210	160	46.9	49.5	56.6	51.8	43.9	44.5	30.8	21.7	59.0
7	8.6	225	215	49.2	51.5	55.2	57.4	46.8	44.9	34.5	24.6	60.7
8	10.0	250	260	50.4	52.1	55.1	56.8	47.6	48.0	35.4	26.5	60.8

8 Technical data

8.4.4 Sound exhaust air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	2.4	60	15	34.2	40.3	38.2	39.5	38.4	32.3	18.5	12.8	45.7
2	2.8	60	30	36.0	45.0	41.8	43.4	42.7	36.7	24.1	14.6	49.8
3	4.1	120	40	41.2	46.6	50.4	51.2	50.5	47.3	38.0	29.3	56.7
4	5.1	175	50	43.8	49.2	55.4	55.0	54.5	51.9	43.6	38.4	60.9
5	5.4	175	100	45.0	51.1	56.9	56.5	56.5	54.5	46.5	41.1	62.8
6	7.3	210	160	52.6	56.8	65.2	63.5	63.1	61.8	55.3	51.9	70.1
7	8.6	225	215	52.6	58.9	64.8	68.2	66.1	64.5	58.5	55.2	72.7
8	10.0	250	260	53.2	59.6	63.1	69.9	67.3	65.3	59.8	56.8	73.7

8.4.5 Sound outside air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	2.4	60	15	27.4	34.6	32.7	28.2	19.0	15.2	10.0	10.9	37.8
2	2.8	60	30	29.9	37.6	35.8	31.6	23.7	20.5	10.5	11.0	40.9
3	4.1	120	40	35.6	40.4	45.5	40.0	30.0	28.9	16.5	11.5	47.9
4	5.1	175	50	36.6	43.6	52.5	43.7	34.7	34.4	20.7	11.0	53.7
5	5.4	175	100	39.9	45.3	49.1	45.2	36.4	35.7	24.5	14.8	52.2
6	7.3	210	160	45.4	49.7	58.8	51.0	42.3	43.4	31.5	21.8	60.3
7	8.6	225	215	48.2	51.5	58.4	60.1	44.8	44.9	35.3	25.1	63.0
8	10.0	250	260	48.0	52.8	56.0	61.6	46.2	45.4	36.0	26.5	63.4

8 Technical data

8.5 Soud data for profi-air 400 touch

8.5.1 Sound, equipment emission

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)	Sound pressure level at the distance of 1m dB(A)	Sound pressure level at the distance of 3m dB(A)
1	3.2	150	10	39.1	34.1	24.6
2	3.7	180	20	45.6	40.6	31.1
3	4.8	240	40	51.7	46.7	37.2
4	5.4	280	50	53.9	48.9	39.4
5	6.3	325	100	59.7	54.7	45.2
6	7.6	370	160	63.2	58.2	48.7
7	8.8	390	220	66.7	61.7	52.2
8	10.0	400	290	67.1	62.1	52.6

8.5.2 Sound, supply air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	3.2	150	10	38.6	48.4	52.2	50.7	47.9	46.2	35.9	26.7	56.7
2	3.7	180	20	41.2	47.2	55.6	54.4	51.6	50.6	41.6	34.1	59.9
3	4.8	240	40	45.6	52.0	64.5	60.8	58.5	57.6	51.2	47.2	67.6
4	5.4	280	50	46.6	53.4	67.7	63.6	60.2	59.3	54.0	51.4	70.3
5	6.3	325	100	50.0	57.1	67.8	68.4	65.2	64.3	59.2	56.0	73.2
6	7.6	370	160	53.1	60.2	64.8	74.2	69.2	68.8	64.3	60.6	77.0
7	8.8	390	220	55.1	62.3	66.9	79.7	72.9	72.1	68.0	63.8	81.6
8	10.0	400	290	55.5	62.6	67.4	78.6	73.4	72.9	68.7	64.5	81.2

8.5.3 Sound, extract air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	3.2	150	10	33.7	39.5	43.3	40.9	31.7	31.1	14.4	11.3	46.8
2	3.7	180	20	36.5	40.1	44.0	43.8	34.5	31.8	18.9	12.1	48.3
3	4.8	240	40	40.5	45.1	55.3	49.3	41.5	40.8	26.5	18.6	57.0
4	5.4	280	50	41.1	45.6	54.1	51.7	43.4	42.3	30.0	23.5	56.9
5	6.3	325	100	45.4	49.4	57.8	55.3	47.3	47.2	34.3	26.6	60.7
6	7.6	370	160	48.6	52.7	57.1	63.4	51.7	49.5	40.6	32.3	65.1
7	8.8	390	220	50.3	54.5	59.5	68.9	55.1	55.0	43.4	35.2	69.8
8	10.0	400	290	50.8	55.0	59.5	67.9	54.8	53.2	44.5	36.0	69.1

8 Technical data

8.5.4 Sound exhaust air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	3.2	150	10	39.8	46.1	49.7	51.4	50.3	47.3	36.2	27.2	56.5
2	3.7	180	20	42.1	47.6	54.4	54.8	53.7	51.3	41.6	34.2	60.1
3	4.8	240	40	46.2	52.8	64.8	61.3	60.3	58.2	50.9	46.5	68.1
4	5.4	280	50	47.3	53.9	66.8	62.7	61.7	59.3	53.2	50.6	69.8
5	6.3	325	100	51.0	59.2	70.6	69.9	67.1	65.1	59.2	55.7	74.9
6	7.6	370	160	54.2	61.5	65.4	76.4	71.1	69.1	64.0	60.4	78.7
7	8.8	390	220	56.4	63.6	67.8	82.0	75.5	72.7	67.7	63.6	83.6
8	10.0	400	290	56.8	63.5	67.7	81.9	75.3	72.5	67.7	63.8	83.5

8.5.5 Sound outside air connector

Operating point	Control V	Air volume m³/h	Pressure Pa	Sound power level dB(A)								
				63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
1	3.2	150	10	33.9	39.4	43.6	40.6	30.9	30.7	15.4	11.4	46.8
2	3.7	180	20	36.0	41.1	48.7	43.5	33.1	32.4	20.1	12.2	50.7
3	4.8	240	40	40.2	46.2	53.2	49.6	41.0	40.9	28.3	19.7	55.8
4	5.4	280	50	42.5	46.4	60.7	51.3	42.0	41.9	30.3	22.5	61.5
5	6.3	325	100	45.9	50.2	61.0	57.7	47.2	47.3	35.8	27.8	63.2
6	7.6	370	160	48.6	53.2	57.2	64.8	50.2	49.9	40.9	31.0	66.0
7	8.8	390	220	51.2	55.3	59.5	66.4	54.8	54.9	44.3	35.5	68.1
8	10.0	400	290	51.5	55.6	59.6	66.3	53.4	53.3	44.6	34.7	67.9

8 Technical data

8.4 Circuit diagrams

8.4.1 profi-air touch circuit diagram
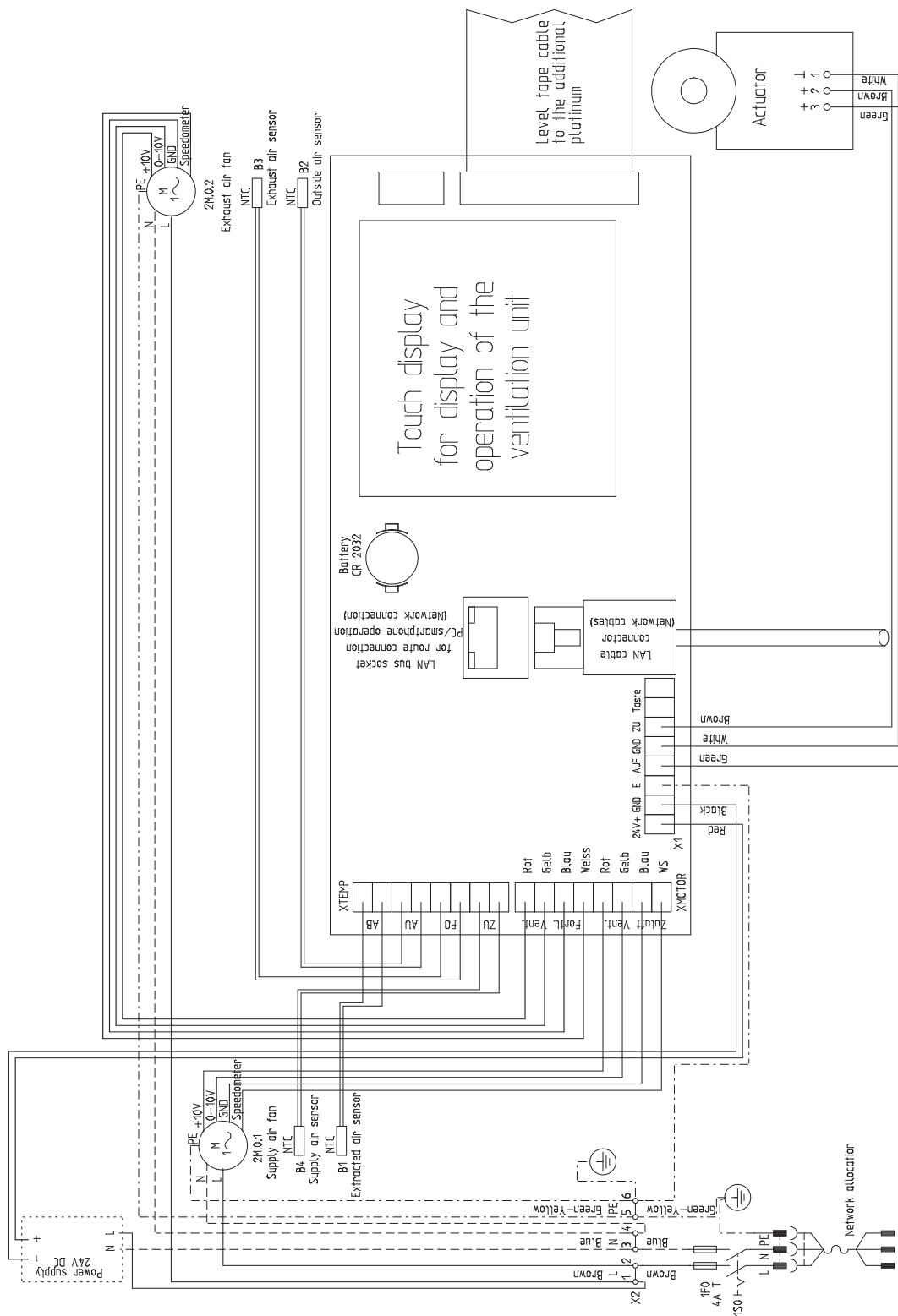
8.4.2 Connection diagram for additional board

Mains supply, installation site 230V/50Hz
Provide for power cutting component at installation site

JY(ST)Y 4x0,6² (telephone cable) installation site

JY(ST)Y 4x0,6² (telephone cable) installation site

JY(ST)Y 4x0,6² (telephone cable) installation site

Electric heating
Frost protection

Install in outside air duct (installation site)
profi-air 250/400

Optional preheating register
Item no. 78316830

Service-off connection

Optional Service-off

Optional Control element buttons with LED lights 24V=
Item no. 78300833

JY(ST)Y 4x0,6² (telephone cable) installation site

JY(ST)Y 4x0,6² (telephone cable) installation site

Figure: humidity sensor
Item no. 78300832

Optional control element, humidity or CO2 sensor

Figure: CO2 sensor
Item no. 78300831

Optional control element, humidity or CO2 sensor

With humidity sensor, connect
Sen an 3 RH   +24V an 1 +V
-0V an 2 GND

With CO2 sensor, connect
Sen an 5 CO2   +24V an 1 +V
-0V an 2 GND

120 Ohm

additional platinum

Level tape cable of main platinum

9 Product fiche according to EU regulations

9.1 Product fiche profi-air 250 touch

manufacturer		**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97481 Königsberg	
model identifier		**profi-air 250 touch**	
article number		**78302725**	
additional equipment		none	
specific energy consumption	SEC	cold	-75,59	kWh/(m² a)
		average	-37,58	
		warm	-13,17	
energy effiency class		A	
Typology		RVU / BVU	
type of installed drive		VSD	
type of heat recovery		recuperative	
thermal effiency	η_t	88	%
maximum flow rate		250	m³/h
electric power input		95	W
sound power level	L_{WA}	45	dB[A]
reference flow rate		0,0486 175	m³/s m³/h
reference pressure difference		50	Pa
specific power input	SPI	0,26	W/(m³/h)
control typology		clock control (no DVC)	
control factor		0,95	
maximum internal leakage rate		1,5	%
maximum external leakage rate		3,9	%
position and description filter warning		error code "F1" on touch Display	
internet site		www.fraenkische.com	
anual elecricity consumtion	AEC	cold	8,76	kWh/(m² a)
		average	3,39	
		warm	2,94	
anual heating saved	AHS	cold	88,76	kWh/(m² a)
		average	45,37	
		warm	20,52	

9 Product fiche to EU regulations

9.2 Product fiche profi-air 250 touch with external sensors

manufacturer		**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97481 Königsberg	
model identifier		**profi-air 250 touch**	
article number		**78302725**	
additional equipment		min 2 sensors - 78300831 and / or 78300832	
specific energy consumption	SEC	cold	-81,75	kWh/(m² a)
		average	-42,63	
		warm	-17,60	
energy effiency class		A+	
Typology		RVU / BVU	
type of installed drive		VSD	
type of heat recovery		recuperative	
thermal effiency	η_t	88	%
maximum flow rate		250	m³/h
electric power input		95	W
sound power level	L_{WA}	45	dB[A]
reference flow rate		0,0486 175	m³/s m³/h
reference pressure difference		50	Pa
specific power input	SPI	0,26	W/(m³/h)
control typology		local demand conrol	
control factor		0,65	
maximum internal leakage rate		1,5	%
maximum external leakage rate		3,9	%
position and description filter warning		error code "F1" on touch Display	
internet site		www.fraenkische.com	
anual elecricity consumtion	AEC	cold	7,20	kWh/(m² a)
		average	1,83	
		warm	1,38	
anual heating saved	AHS	cold	91,00	kWh/(m² a)
		average	46,52	
		warm	21,04	

9 Product fiche according to EU regulations

9.3 Product fiche profi-air 400 touch

manufacturer		**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97481 Königsberg	
model identifier		**profi-air 400 touch**	
article number		**78302740**	
additional equipment		none	
specific energy consumption	SEC	cold	-72,74	kWh/(m² a)
		average	-35,01	
		warm	-10,77	
energy effiency class		A	
Typology		RVU / BVU	
type of installed drive		VSD	
type of heat recovery		recuperative	
thermal effiency	η_t	87	%
maximum flow rate		400	m³/h
electric power input		215	W
sound power level	L_{WA}	54	dB[A]
reference flow rate		0,0778 280	m³/s m³/h
reference pressure difference		50	Pa
specific power input	SPI	0,34	W/(m³/h)
control typology		clock control (no DVC)	
control factor		0,95	
maximum internal leakage rate		1,0	%
maximum external leakage rate		2,3	%
position and description filter warning		error code "F1" on touch Display	
internet site		www.fraenkische.com	
anual elecricity consumtion	AEC	cold	9,66	kWh/(m² a)
		average	4,29	
		warm	3,84	
anual heating saved	AHS	cold	88,17	kWh/(m² a)
		average	45,07	
		warm	20,38	

9.4 Product fiche profi-air 400 touch with extenal sensors

manufacturer	**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97481 Königsberg		
model identifier	**profi-air 400 touch**		
article number	**78302740**		
additional equipment	min 2 sensors - 78300831 and / or 78300832		
specific energy consumption	SEC	cold	-80,28	kWh/(m² a)
		average	-41,36	
		warm	-16,44	
energy effiency class	A+		
Typology	RVU / BVU		
type of installed drive	VSD		
type of heat recovery	recuperative		
thermal effiency	η_t	87	%
maximum flow rate	400	m³/h
electric power input	215	W
sound power level	L_{WA}	54	dB[A]
reference flow rate	0,0778	m³/s
	280	m³/h
reference pressure difference	50	Pa
specific power input	SPI	0,34	W/(m³/h)
control typology	local demand conrol		
control factor	0,65		
maximum internal leakage rate	1,0	%
maximum external leakage rate	2,3	%
position and description filter warning	error code "F1" on touch Display		
internet site	www.fraenkische.com		
anual elecricity consumtion	AEC	cold	7,62	kWh/(m² a)
		average	2,25	
		warm	1,80	
anual heating saved	AHS	cold	90,60	kWh/(m² a)
		average	46,31	
		warm	20,94	

10 EC - Declaration of Conformity

10.1 profi-air 250 touch

FRÄNKISCHE

EC - Declaration of Conformity

Producer: **FRÄNKISCHE ROHRWERKE**
Gebr. Kirchner GmbH & Co. KG
Hellinger Str. 1
97486 Königsberg/Germany
Phone: +49 9525 88-0
Fax: +49 9525 88-411
E- Mail: info.kbg@fraenkische.de
Web: www.fraenkische.com

Product Designation: **Ventilation unit for controlled home ventilation with heat recovery and summer bypass**

Type: **profi-air 250 touch**

Scope of application: **Ventilation of apartments and residential buildings**

The product meets the requirements, particulary the safety requirements, of the following EC Directives:

LVC - directive (low volt)	**2014/35/EC**
EMC - directive	**2014/30/EC**
machine safety - directive	**2009/125/EC**
ErP - directive	**2014/53/EC**

The compliance with the above directiives is demonstrated at the product.

In the case of independent changes on the product, this declaration looses its validity.

Königsberg, 30th January 2018   **ppa. Gerald Schmitt**
Division Director, Building Technology

10.2 profi-air 400 touch

FRÄNKISCHE

EC - Declaration of Conformity

Producer:
FRÄNKISCHE ROHRWERKE
Gebr. Kirchner GmbH & Co. KG
Hellinger Str. 1
97486 Königsberg/Germany
Phone: +49 9525 88-0
Fax: +49 9525 88-411
E- Mail: info.kbg@fraenkische.de
Web: www.fraenkische.com

Product Designation: **Ventilation unit for controlled home ventilation with heat recovery and summer bypass**

Type: **profi-air 400 touch**

Scope of application: **Ventilation of apartments and residential buildings**

The product meets the requirements, particulary the safety requirements, of the following EC Directives:

LVC - directive (low volt)	**2014/35/EC**
EMC - directive	**2014/30/EC**
machine safety - directive	**2009/125/EC**
ErP - directive	**2014/53/EC**

The compliance with the above directiives is demonstrated at the product.

In the case of independent changes on the product, this declaration looses its validity.

Königsberg, 30th January 2018   **ppa. Gerald Schmitt**
Division Director, Building Technology

11 Warranty and liability

11.1 Warranty

Deviating from the applicable GTCs, the manufacturer grants a warranty of 24 months from the time of completion of the installation for the profi-air touch ventilation unit, but not more than 30 months from the date of

manufacture of the installed profi-air 250 / 400 touch ventilation unit. Warranty claims can only be asserted for material and/or construction defects occurring in the warranty period. In case of a warranty claim, the

profi-air touch ventilation unit may not be removed without prior written consent of the manufacturer.

Warranty expires if

- the warranty period ends;
- the unit is operated without filter;
- parts not provided by the manufacturer are installed;
- non-authorised changes or modifications of the unit are made.

11.2 Liability

The profi-air touch ventilation unit has been developed and manufactured for applications in what is

called comfort ventilation systems. Any other application is considered "improper" and can lead to damage

to the profi-air touch ventilation unit or personal injury which the manufacturer cannot be held liable for.

The manufacturer is not liable for damages attributed to the following causes:

- failure to comply with the safety, operation and maintenance instructions stated herein;
- installation of spare parts not provided or stipulated by the manufacturer;
  the responsibility for the utilisation of such spare parts rests solely with the fitter;
- normal wear.

Our "General Terms and Conditions" apply additionally in their currently valid form, please see www.fraenkische-haustechnik.com.

12 Disposal

- Please do not dispose of the profi-air 250 / 400 touch unit with the normal household waste; please ask your municipal waste consulting authority about collection points and recycling possibilities.

- Please do not dispose of the control board batteries with the normal household waste; please take them to the collection points intended for this purpose.

- Unit filters can be disposed of with the household waste.

Notice

Notice

FRÄNKISCHE

Rooted in Königsberg –

globally successful!
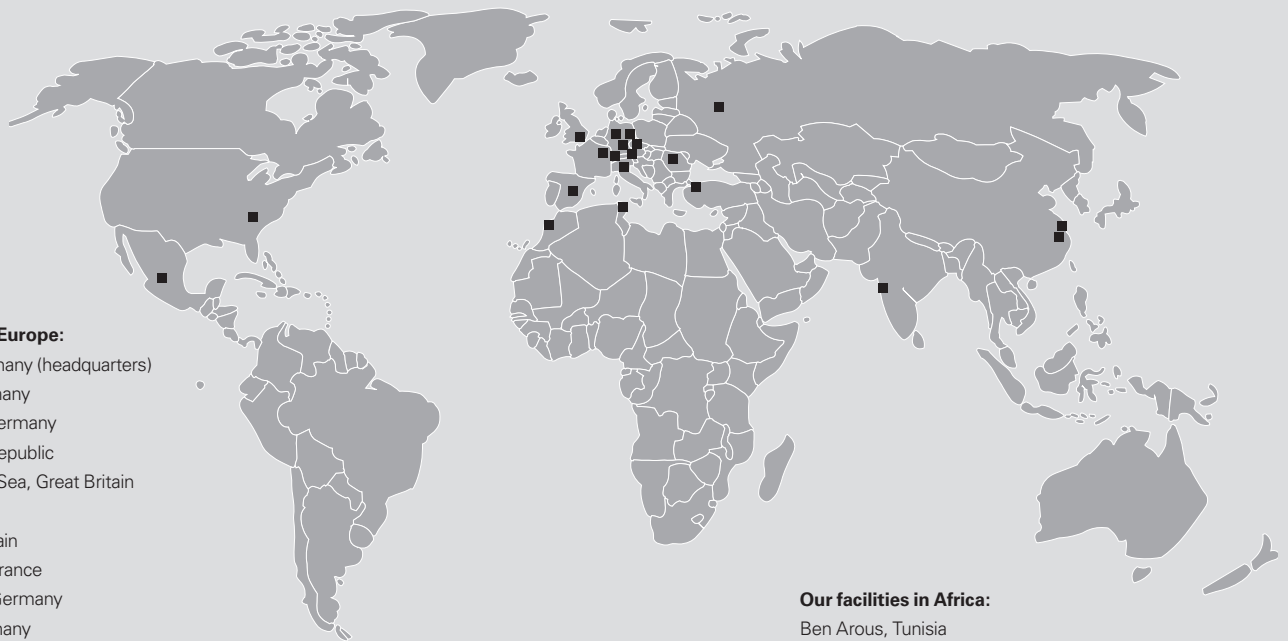
Our facilities in Europe:

Königsberg, Germany (headquarters)
Bückeburg, Germany
Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
Torcy-le-Grand, France
Ebersbach/Fils, Germany
Hermsdorf, Germany
Mönchaltorf, Switzerland
Milan, Italy
Istanbul, Turkey
Cluj, Romania
Wels, Austria

Our facilities in Asia:

Anting/Shanghai, China
Hangzhou, China
Pune, India

Our facilities in Africa:

Ben Arous, Tunisia
Casablanca, Morocco

Our facilities in North America and Mexico:

Anderson, USA
Guanajuato, Mexico

FRÄNKISCHE is an innovative, growth-oriented, medium-sized family-owned enterprise and industry leader in the design, manufacturing and marketing of technically superior corrugated pipe systems for drainage, electrical, building technology and industrial applications.

We currently employ about 4,200 people worldwide. Both our many years of experience and expertise in plastics pro-cessing, our consulting services and the large array of products are highly valued by our customers.

FRÄNKISCHE is a third generation family owned business that was established in 1906 and is now run by Otto Kirchner. Today, we are globally represented with production facilities and sales offices. The proximity to our customers enables us to develop products and solutions that are perfectly tailored to our custo-mers' needs. Our action and business philosophy focus on our customers and their needs and requirements for our products.

FRÄNKISCHE – Your partner for sophis-ticated and technologically advanced solutions.