FRÄNKISCHE

profi-air® 180/300 sensor

Installation and operating instructions

DRAINAGE SYSTEMS
ELECTRICAL SYSTEMS
BUILDING TECHNOLOGY
INDUSTRIAL PRODUCTS

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1 General information

Ventilation units from the FRÄNKISCHE profi-air range constitute an important part of a heat recovery ventilation system. They bring the required volume of supply and extract air to and from rooms. With the help of an integrated heat exchanger, these ventilation units provide high heat recovery efficiency. Even if the fresh air temperature is around the freezing point, the supply air is heated virtually to room temperature. All profi-air ventilation units are fitted with fully automatic summer bypass flaps (with the exception of profi-air 180 sensor / manual bypass), 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 180/300 sensor 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 serve as a reference for service and maintenance work and thus guarantee smooth and efficient operation.

Considerable care was taken when preparing these instructions. However, no legal claim whatsoever can be derived therefrom. We also reserve the right to make alterations to these instructions at any time and without notice.

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 and/or damage to the profi-air 180/300 sensor.

1.2.1 Safety regulations

- Installation, connection, putting into operation as well as maintenance of profi-air 180/300 sensor may be performed by authorised and qualified personnel only (with the exception of filter replacement).
- Installation of profi-air 180/300 sensor must be carried out according to the applicable local construction, safety and installation regulations.
- Non-authorised changes or modifications of profi-air 180/300 sensor are forbidden.
- Instructions regarding regular filter replacement are to be strictly adhered to.
- Keep these installation and operating instructions near the ventilation unit during the entire life of profi-air 180/300 sensor.

1.2.2 Safety equipment and measures

- The profi-air 180/300 sensor unit cannot be opened without tools.
- Make sure that the fans cannot be touched with hands as long as the system is connected to the power grid.
- During maintenance, the device may therefore be opened in the “dead” state only, and profi-air 180/300 sensor 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 180 sensor and profi-air 300 sensor ventilation units have been designed and constructed for the use in heat recovery ventilation and are solely intended for this field of applications.

When using heat recovery 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 180/300 sensor during the building drying stage is inappropriate in terms of its intended use.

1.4 EC conformity

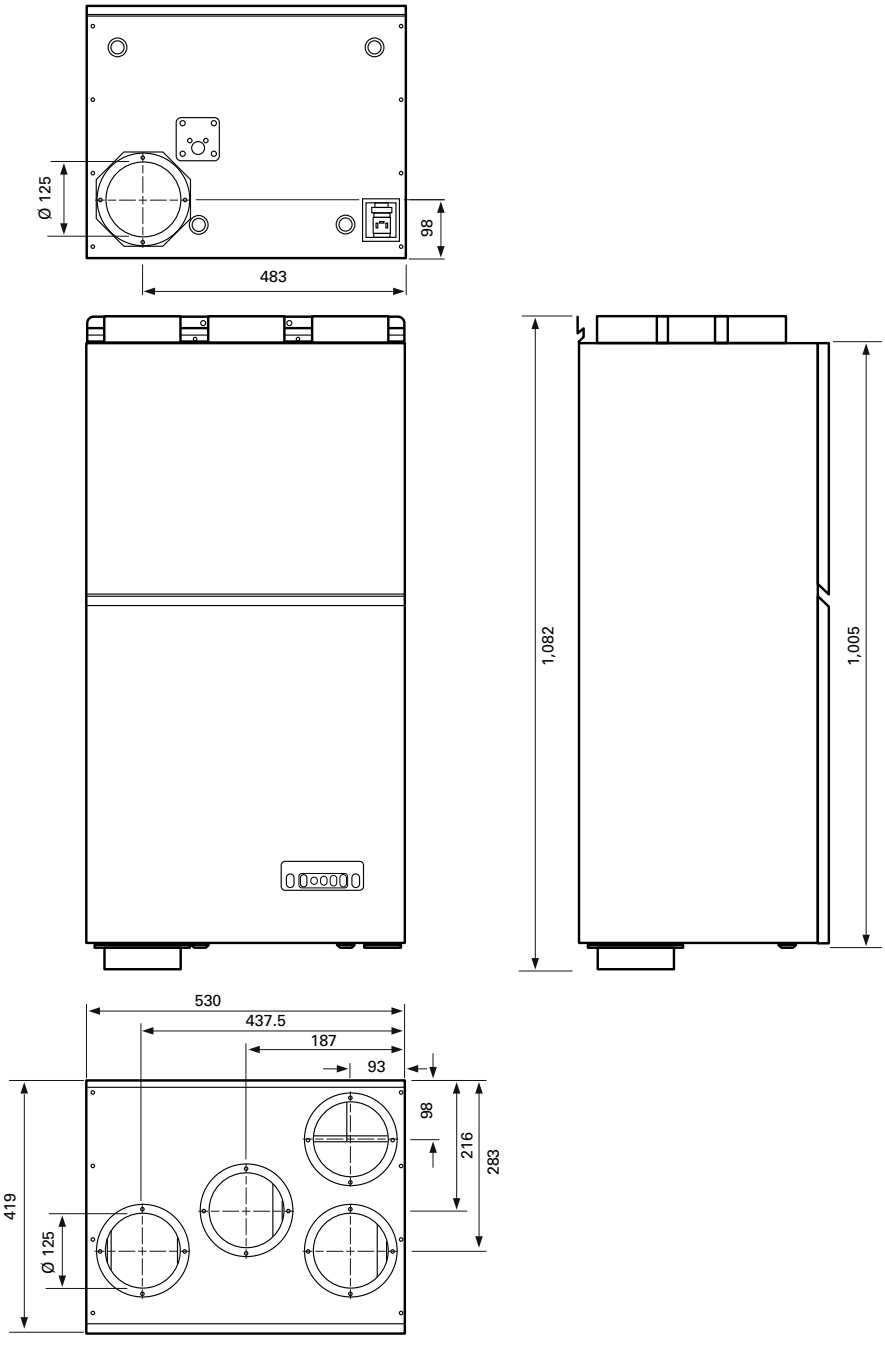
The profi-air 180/300 sensor ventilation unit bears the CE mark.

EC Declaration of Conformity
see Section 11

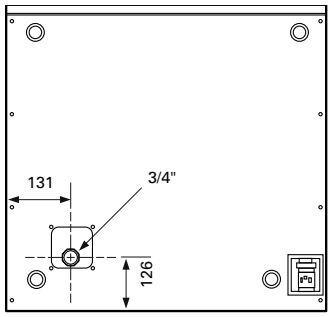
2 Technical design

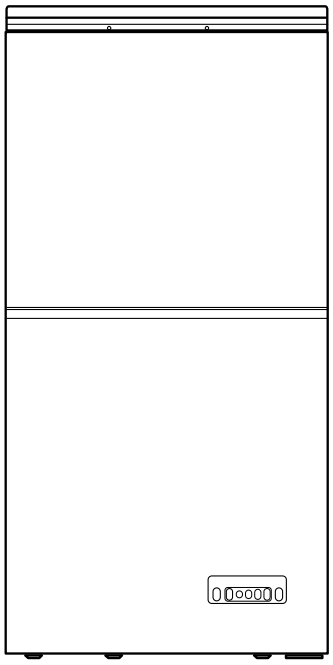
2.1 Dimensions and air connections

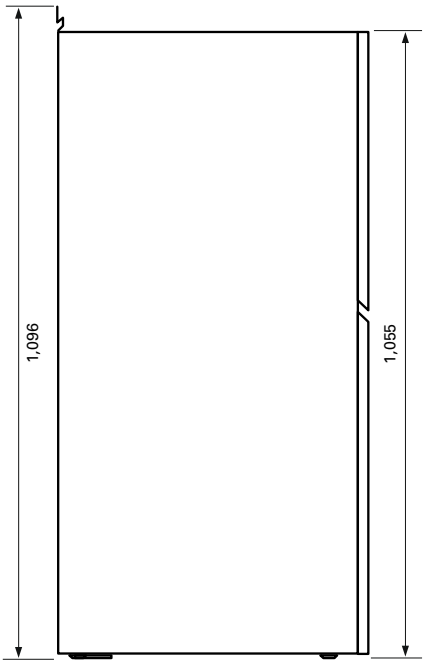
2.1.1 profi-air 180 sensor ventilation unit

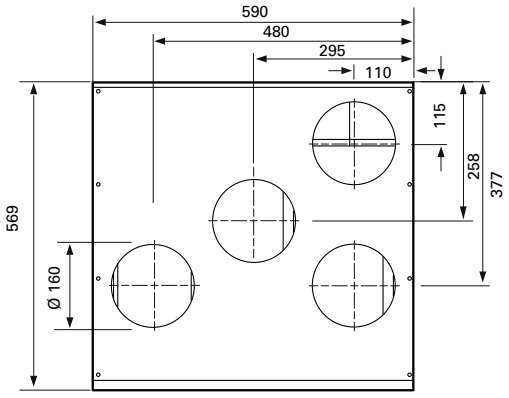


2.1.2 profi-air 300 sensor ventilation unit







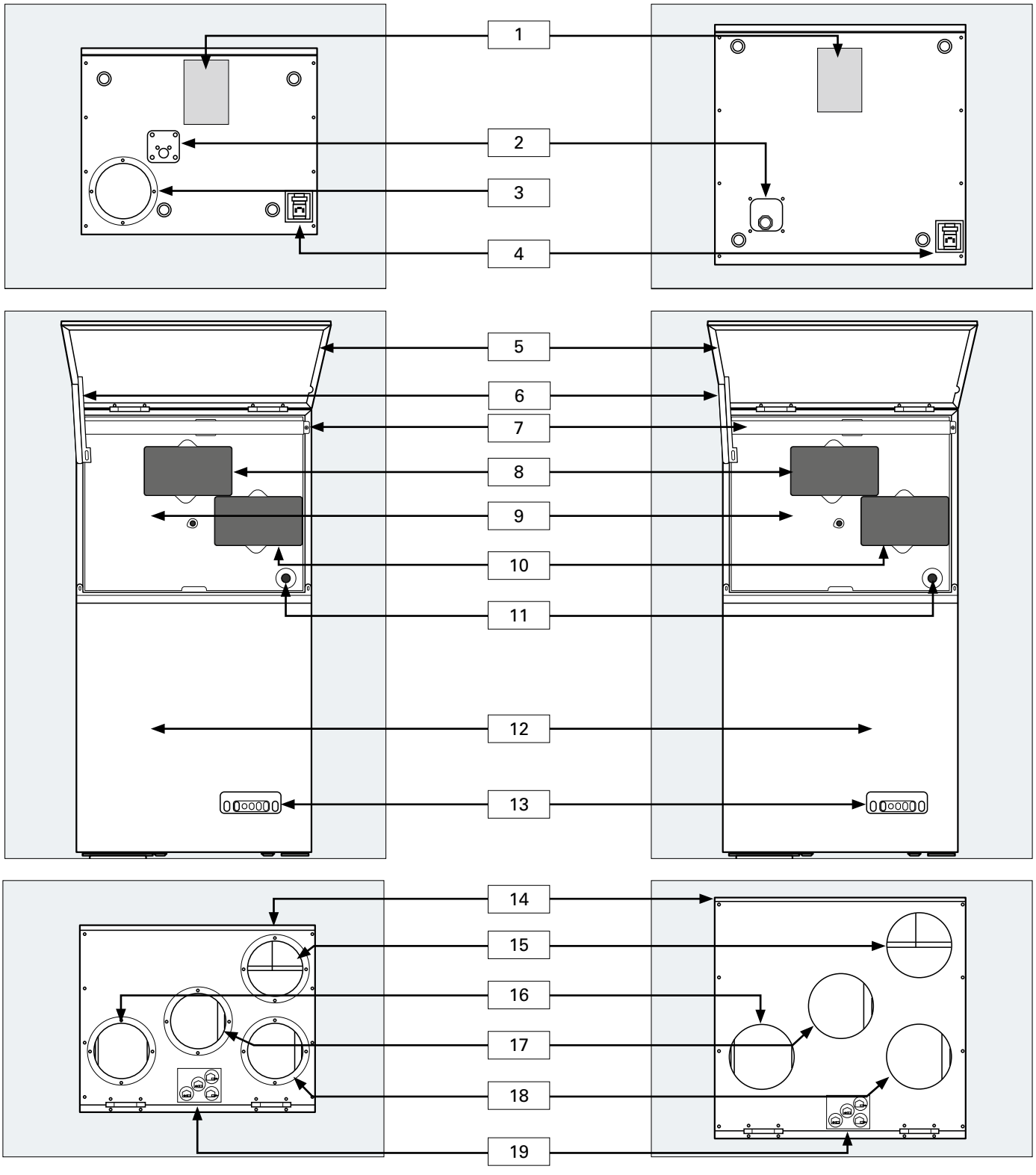


2 Technical design

2.2. Structure and components of profi-air 180/300 sensor ventilation units

2.2.1 Structure and components, outside

profi-air 180 sensor | **profi-air 300 sensor**

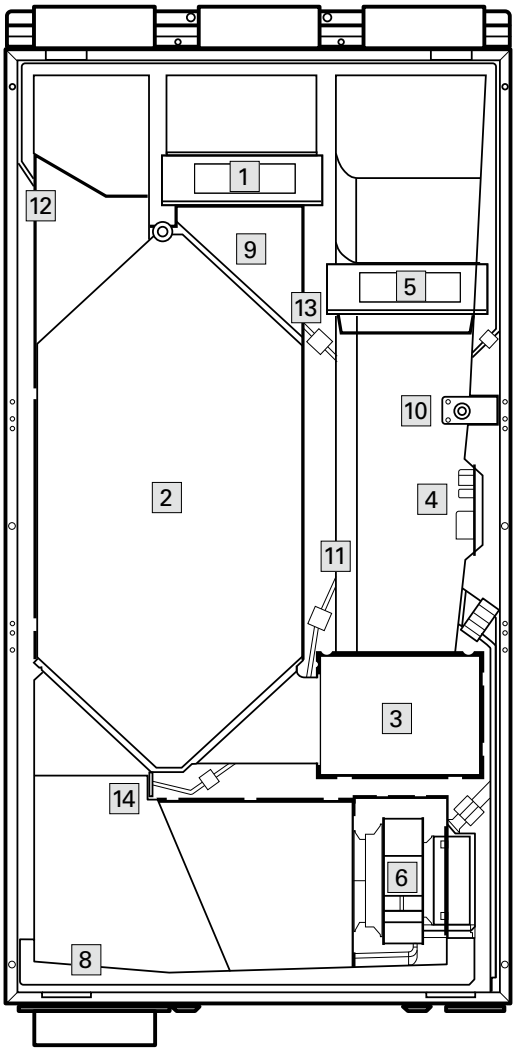


2 Technical design

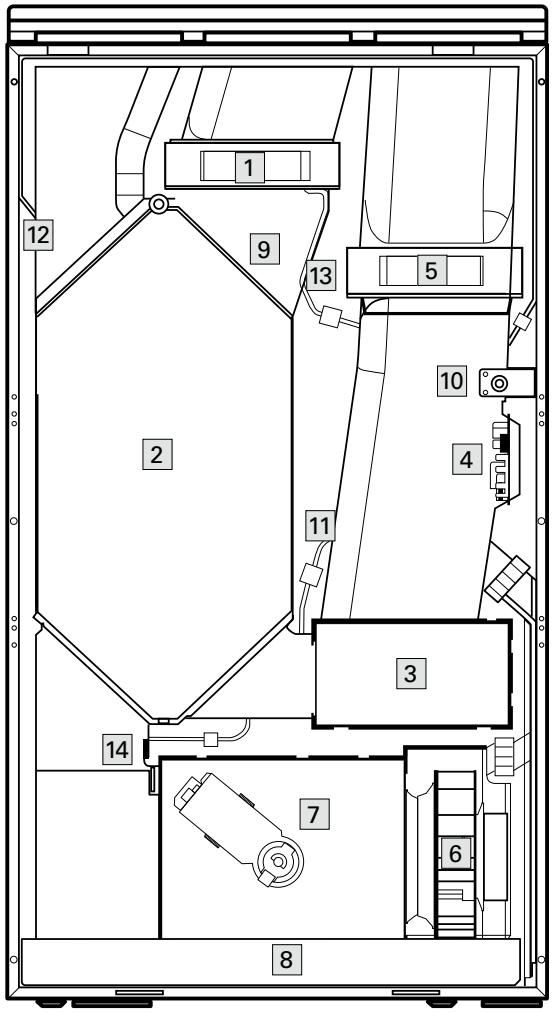
No.	Component	No.	Component
Bottom side			
1	Type plate	3	Alternative supply air routing (only with profi-air 180 sensor)
2	Condensate drain	4	Power connection
Front			
5	Service flap	10	Insulated filter cover of G4 fresh air filter (optionally F7)
6	Service flap interlocking	11	Reset button for filter timer
7	Fastening rail of EPS front cover	12	Lower device cover
8	Insulated filter cover of G4 extract air filter	13	Integrated control unit
9	EPS front cover		
Top side			
14	Holders to mount onto fastening rail	17	Extract air
15	Exhaust air	18	Fresh air
16	Supply air	19	Note on air directions

2.2.2 Structure and components, inside

profi-air 180 sensor

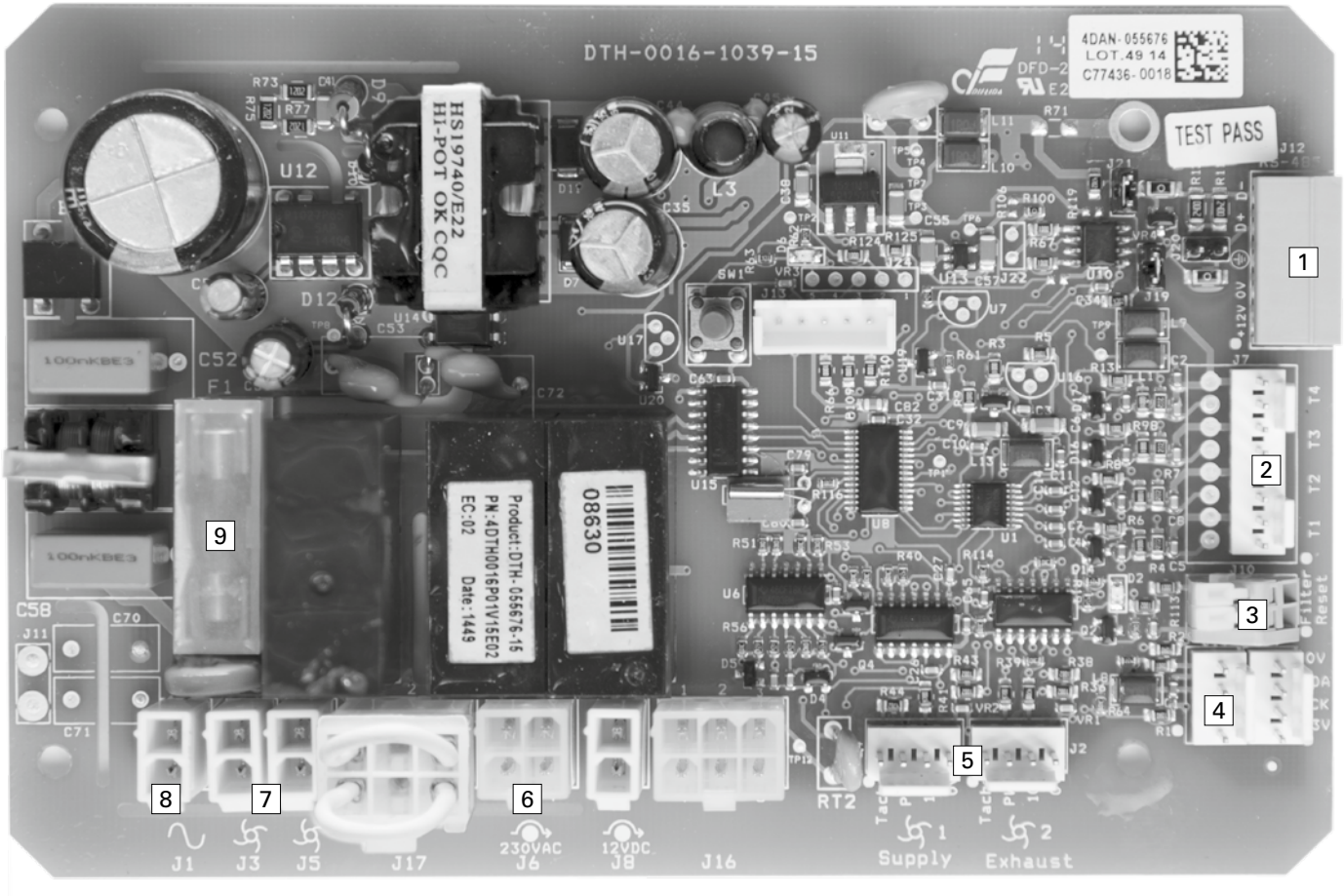


profi-air 300 sensor



No.	Component	No.	Component
1	G4 extract air filter	8	Condensate drip tray with cuffs drain hose
2	Heat exchanger	9	Humidity sensor
3	Fresh air fan	10	Reset button for filter timer
4	Control board	11	Temperature sensor, T1 (fresh air)
5	G4 supply air filter, optionally F7	12	Temperature sensor, T2 (supply air)
6	Exhaust air fan	13	Temperature sensor, T3 (extract air)
7	Bypass module (only with profi-air 300 sensor)	14	Temperature sensor, T4 (exhaust air)

2.3 profi-air 180/300 sensor control board



1 Connection for control panel
2 Connections for temperature sensors
3 Connection for filter reset
4 Connection for internal humidity sensor
5 Connection for control and signal wiring of fans
6 Connection for summer bypass
7 Connection for power lines of fans
8 Mains inlet
9 Mainboard fuse

3 Installation of profi-air 180/300 sensor

3.1 Transport and unpacking

Please handle profi-air 180/300 sensor with utmost care during transport and unpacking.

3.2 Checking the scope of delivery

If the delivered profi-air 180/300 sensor unit has any damage or incompleteness, please get in touch with the supplier immediately.

The scope of delivery includes:

- profi-air 180/300 sensor
- control system incorporated into the front of the housing
- fastening rail for wall installation incl. noise separation and spacer
- condensate drain hose incl. 1 clamp connector
- 230 V connection cable with type E+F plug
- 230 V connection cable with type K plug
- summer bypass plate (only with profi-air 180 sensor)
- installation and operating instructions
- information sheet on condensate drain
- quick guide for control system
- energy label according to the ErP directive

Check the device type by means of the type plate.

3.3 Requirements for the installation room

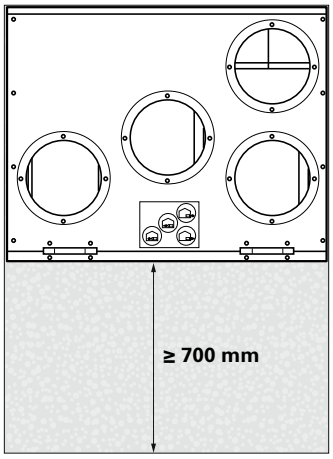
3.3.1 General information

- Frost-free throughout the year.
- Frost-free connection to the waste-water system for units with heat recovery.
- Sufficient space - e.g. silencers, 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.

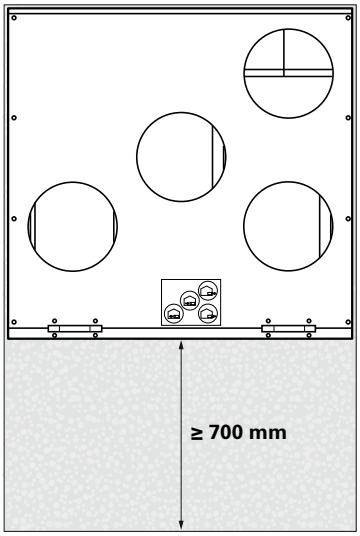
3 Installation of profi-air 180/300 sensor

3.3.2 Minimum clearances for maintenance purposes

profi-air 180 sensor



profi-air 300 sensor

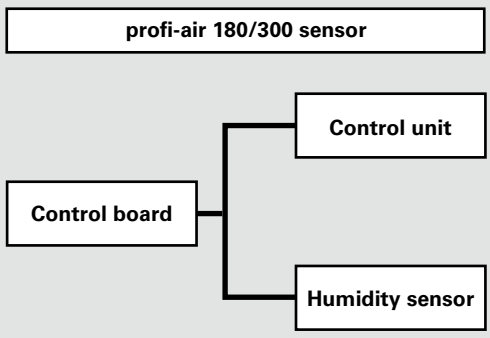


3.4 Available and/or optional accessories / replacement filters

Accessories		suitable for the unit type	
Cat. no.	**Description**	profi-air 180 sensor (Cat. no. 78300718)	profi-air 300 sensor (Cat. no. 78300730)
78316820	**Connection set iso pipe or spiral duct DN 160**		x
78300836	**Wireless remote control**	x	x
78300880	**Replacement filter set G4 / G4**	x	
78300881	**Replacement filter set G4 / F7**	x	
78300882	**Replacement filter set G4 / G4**		x
78300883	**Replacement filter set G4 / F7**		x

3.5 Electric connection options

Structure of the ventilation unit



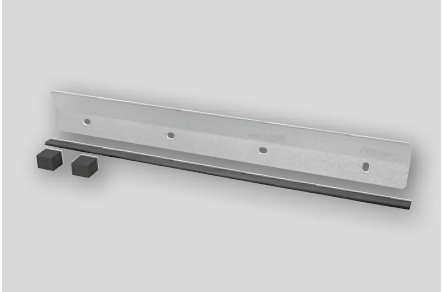
Connection options

3 Installation of profi-air 180/300 sensor

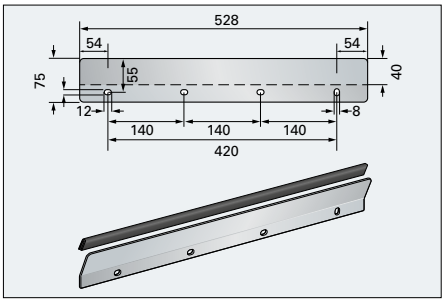
3.6 Attachment of units

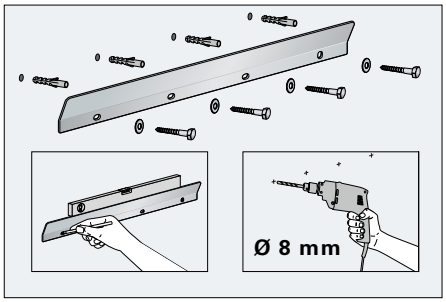
Wall mounting set for profi-air 180/300 sensor

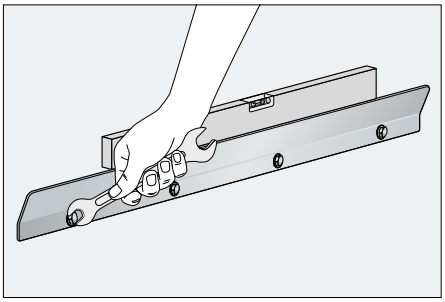
The mounting set included with the delivery provides sound-decoupled installation of profi-air 180 sensor / profi-air 300 sensor ventilation units on a load-bearing wall. The fastening rail is attached to the wall and the ventilation unit is mounted onto it. Two rubber buffers, which are part of the scope of delivery, as well as the edge protection mounted on the fastening rail ensure noise separation to the building. Self-adhesive rubber buffers must be attached to the rear surface of the housing. Eventually, the ventilation unit must be mounted from above onto the rail installed in the wall.

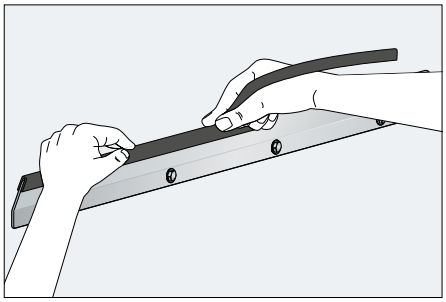


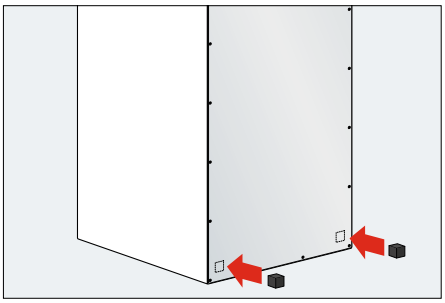
Installation and connection of profi-air - wall mounting set

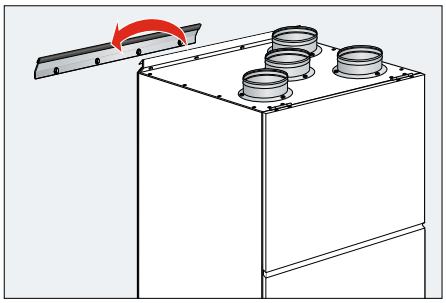












Connect the condensate line only after wall installation of profi-air 180/300 sensor has been completed.

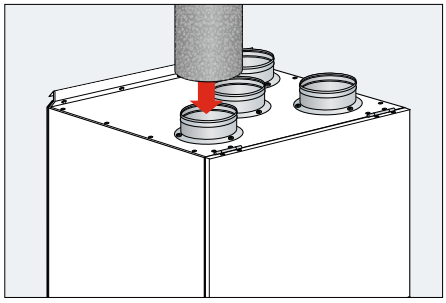
Please ensure a clearance of at least 170 mm between the finished floor and the bottom side of the unit to have enough space to connect the condensate line.

3.7 Air connections

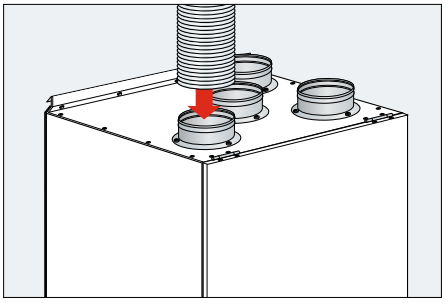
profi-air 180 sensor connection set (iso pipe or spiral duct)

The profi-air 180 sensor connection set consists of four connecting nipples DN 125 incl. lip seal. These connecting nipples provide the connection between the ventilation unit (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.
With profi-air 180 sensor, it is possible to change the location of the supply air connector from the top side of the unit to its bottom side. To do so, just remove the top-side cuff and the bottom-side cover sheet, interchange and re-install them.

Installation and connection



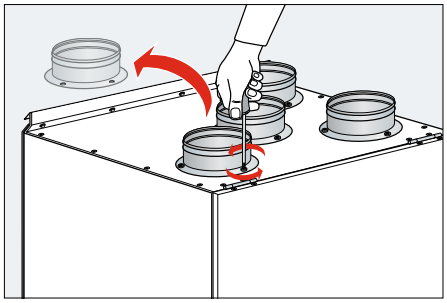
Connection of profi-air 180 sensor iso pipe

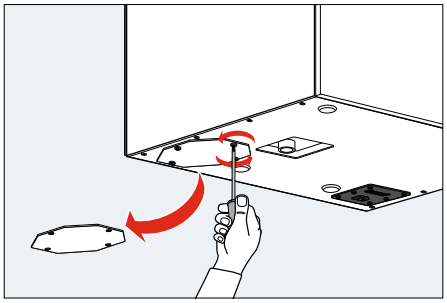


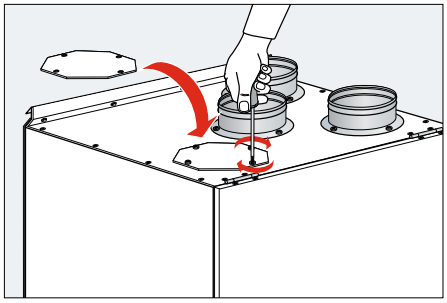
Connection of profi-air 180 sensor spiral duct

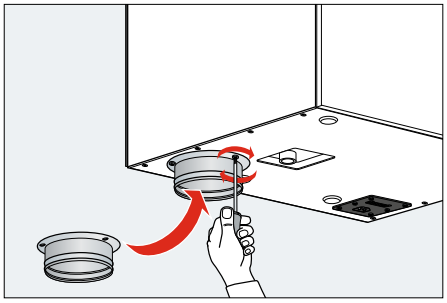
When using spiral ducts, condensation inside as well as outside the pipe must be ruled out by means of appropriate insulation.

Exchange of supply air connection (only with profi-air 180 sensor)







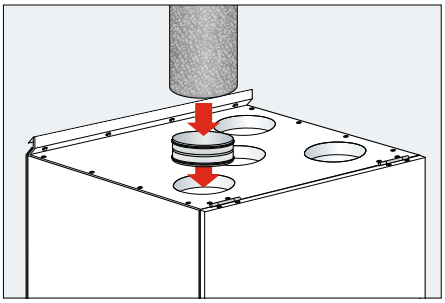


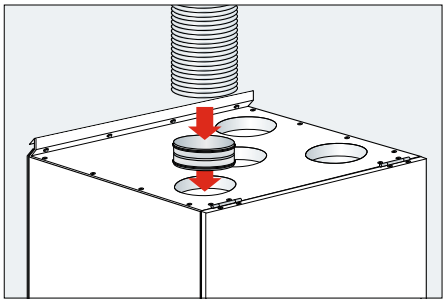
3 Installation of profi-air 180/300 sensor

profi-air 300 sensor connection set (iso pipe or spiral duct)

The profi-air 300 sensor connection set consists of four double nipples DN 160 incl. 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, air-tight connection to the pipe system is guaranteed.

Installation and connection





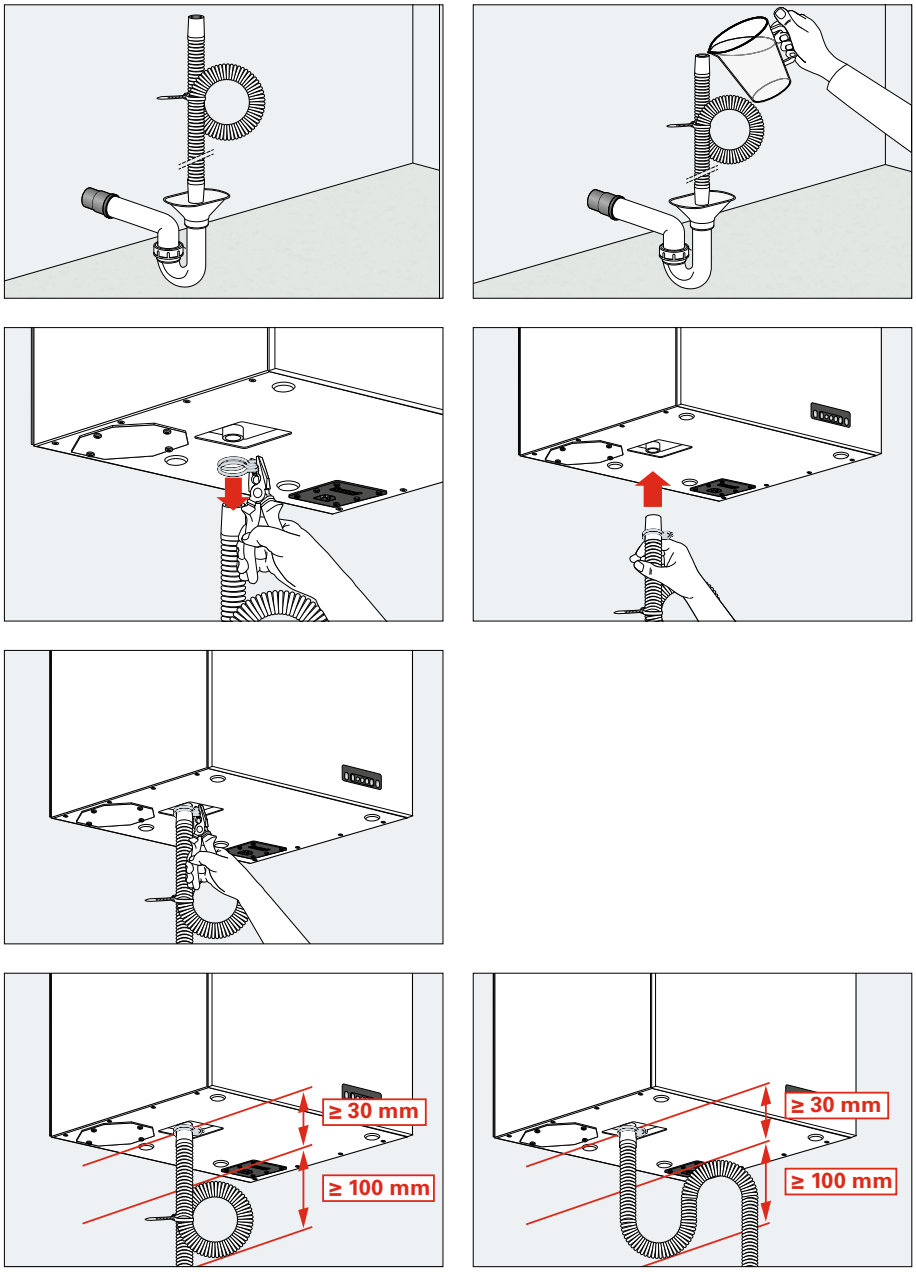
When using spiral ducts, condensation inside as well as outside the pipe must be ruled out by means of appropriate insulation.

3.8 Condensate drain

Due to heat recovery, condensate emerges in the profi-air 180/300 sensor heat exchanger. The water accumulated is discharged from the unit in a controlled manner via a condensate drain. The condensate drain is at the bottom side of the unit. The condensate hose included with the delivery must be connected on site to the cuff situated there with the help of the clamp connector. The condensate hose shall be routed as in the installation depicted below in order to form a siphon. After the installation of the condensate hose has been accomplished, it must be filled with water. This water seal 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 must be carried out by means of free drainage via an additional siphon to be installed on site. Since this water seal may evaporate, it must be renewed every now and then. As an alternative option against siphon drying out, a sealing layer on the water surface can be formed by means of a couple of drops of cooking oil.

3 Installation of profi-air 180/300 sensor

Installation and connection of condensate hose



Connect the condensate line only after wall installation of profi-air 180/300 sensor has been completed.

Further condensate lines must be installed with a gradient of at least 2 %.

Keep the condensate line frost-free.

3 Installation of profi-air 180/300 sensor

3.9 Electric connection

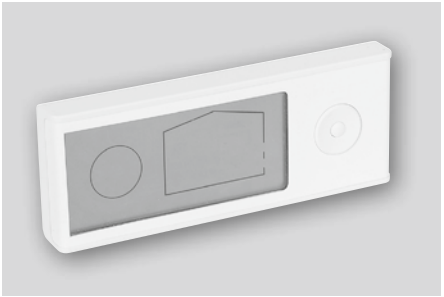
Network connection is implemented with a mains cable included, and it is to be secured according to local electric codes. A fuse element (4 A) is installed on the control board.

Electric connection activities must 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.

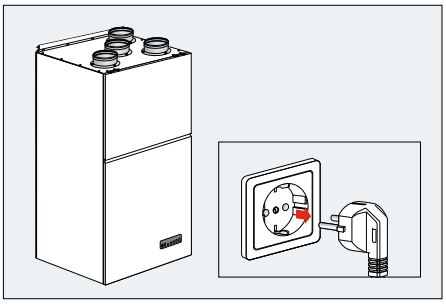
3.10 Optional wireless remote control

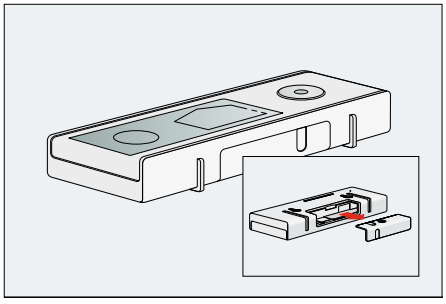
The profi-air 180/300 sensor ventilation units can be controlled by means of the control panel incorporated into the front of the housing. Optionally, the units can also be operated by using a wireless remote control with a display. In order to put the wireless remote control into operation, it must be energized (2 x 1.5 V AAA batteries or with a USB cable). Subsequently, the ventilation unit must be energized. The connection between the ventilation unit and the wireless remote control is then established automatically.

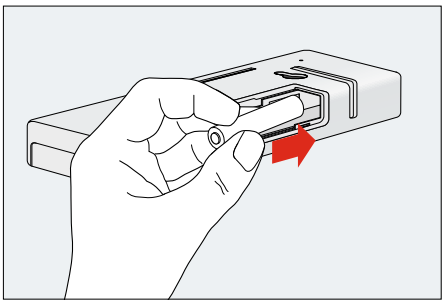
The wireless remote control offers additional display and setting options.

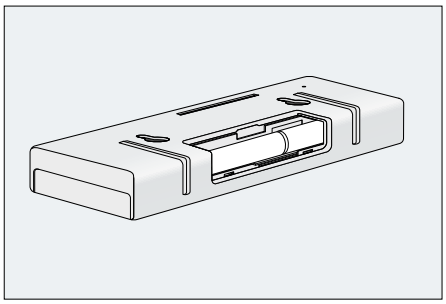


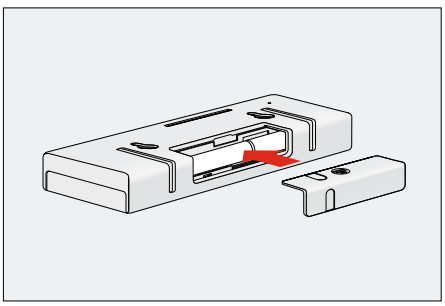
Putting the optional wireless remote control into operation

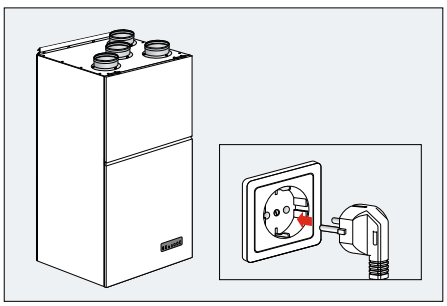












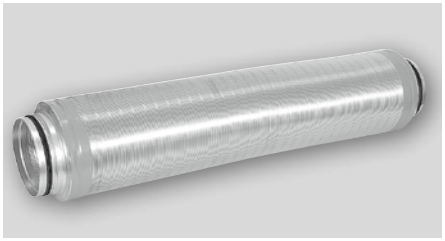
For more information, see profi-air 180/300 wireless remote control operating instructions.

3 Installation of profi-air 180/300 sensor

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 silencer connections ensure an airtight connection to profi-air iso pipes and/or spiral ducts.It is recommended to install two silencers for profi-air sensor 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).

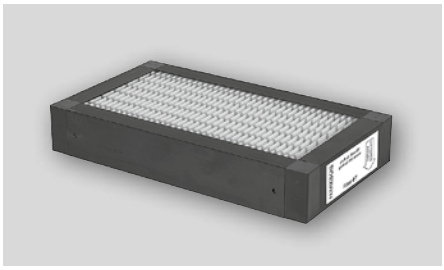


- profi-air 180 sensor ➔ silencer DN 125
- profi-air 300 sensor ➔ silencer DN 160

DN inside	DN outside pack of 25	Integral attenuation (dB) in octave bands (Hz) TSD 1,000 mm long						
		125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	8,000 Hz
125	180	5	8	18	35	58	33	27
160	210	2	4	10	23	43	18	14

3.12 Optional F7 supply air filter

The profi-air 180/300 sensor ventilation units are delivered with G4 supply air filters and G4 extract air filters as a standard feature. Optionally, a filter set F7 supply air filter and G4 extract air filter can be installed. The F7 filter is best suited for people suffering from allergies.

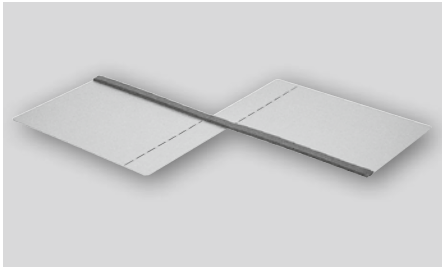


If retrofit replacement of the G4 filter with the F7 filter takes place, control of supply air fans has to be adjusted due to higher pressure loss.

3.13 Summer bypass plate (only for profi-air 180 sensor)

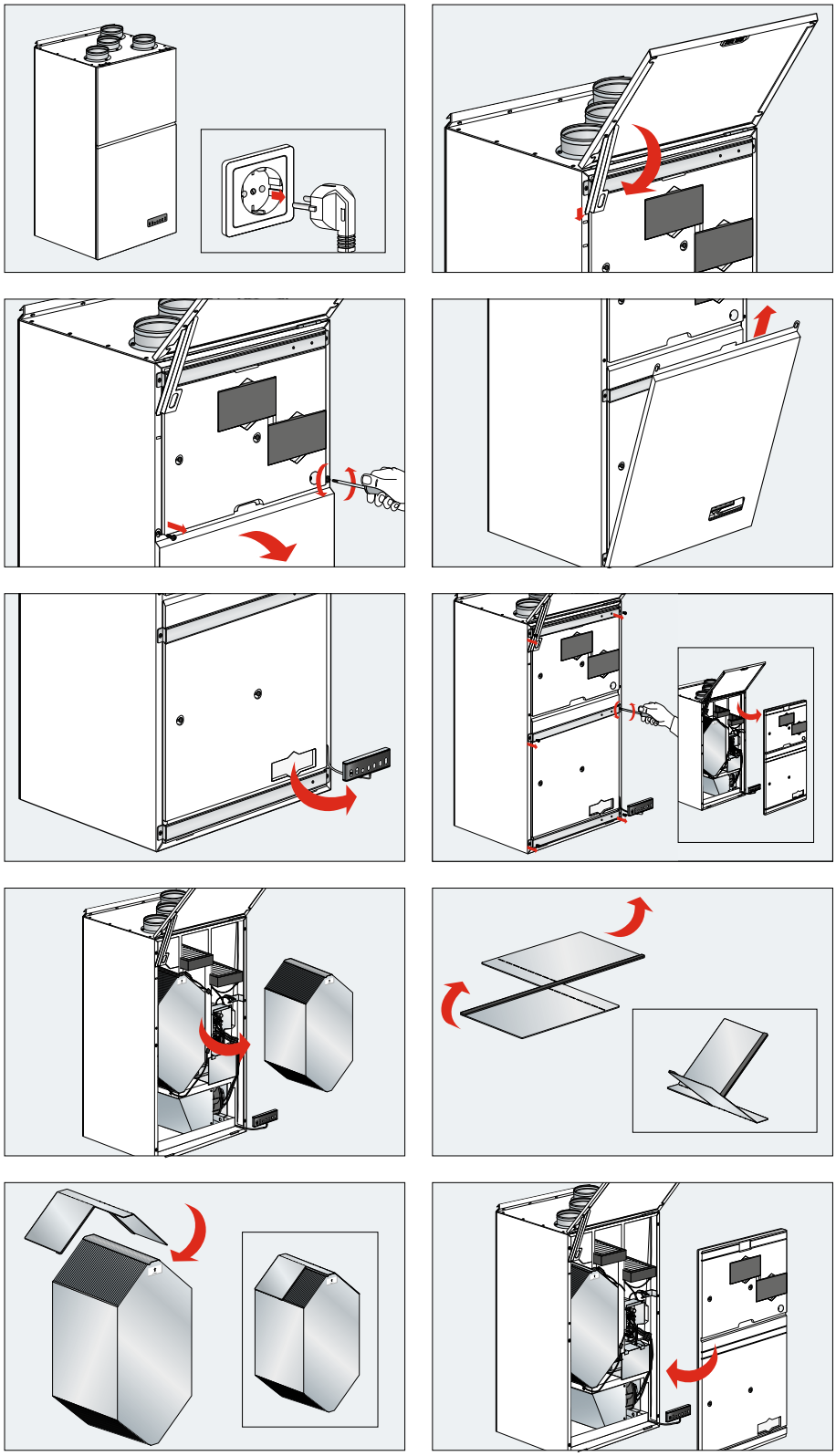
The scope of the profi-air 180 sensor delivery includes a summer bypass plate. With the help of this component, a manual summer bypass can be established as stipulated in the ErP directive.

It serves the purpose of interrupting heat recovery in the ventilation unit, and, depending on the demand in summer, can be used in the ventilation unit above the heat exchanger.

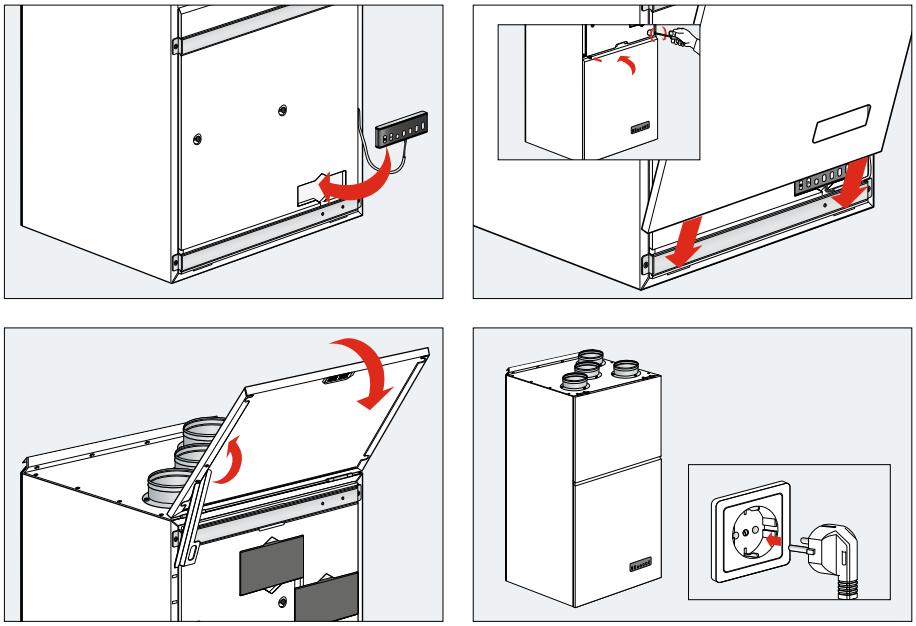


3 Installation of profi-air 180/300 sensor

Installation of summer bypass plate



3 Installation of profi-air 180/300 sensor



The summer bypass plate shall be used, if required, only in summer at all-day outside temperatures of at least 10 °C, since no heat transfer takes place and otherwise too cold supply air enters the living quarters.

The summer bypass plate must be installed and removed with utmost care in order to avoid damage to the seals between the heat exchanger and the EPS core of the ventilation unit.

4 Commissioning and operation of profi-air 180/300 sensor

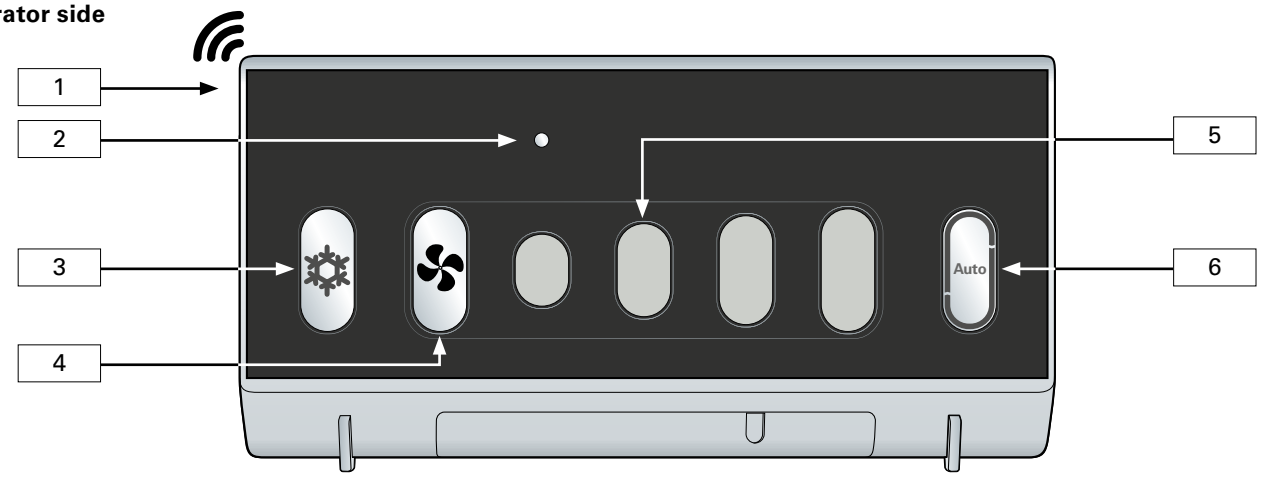
The following sections deal with commissioning and operation of profi-air 180/300 sensor by means of an integrated control unit. Here, you will find all possible setting parameters for the control unit as well as notes on individual functions and factory settings.

With the help of the wireless remote control (accessories) that can be supplied optionally, further ventilation unit settings can be carried out, e.g. setting and enabling weekly programs, etc..

For more information on the wireless remote control, see Section 3.10 and the profi-air 180/300 wireless remote control operating instructions.

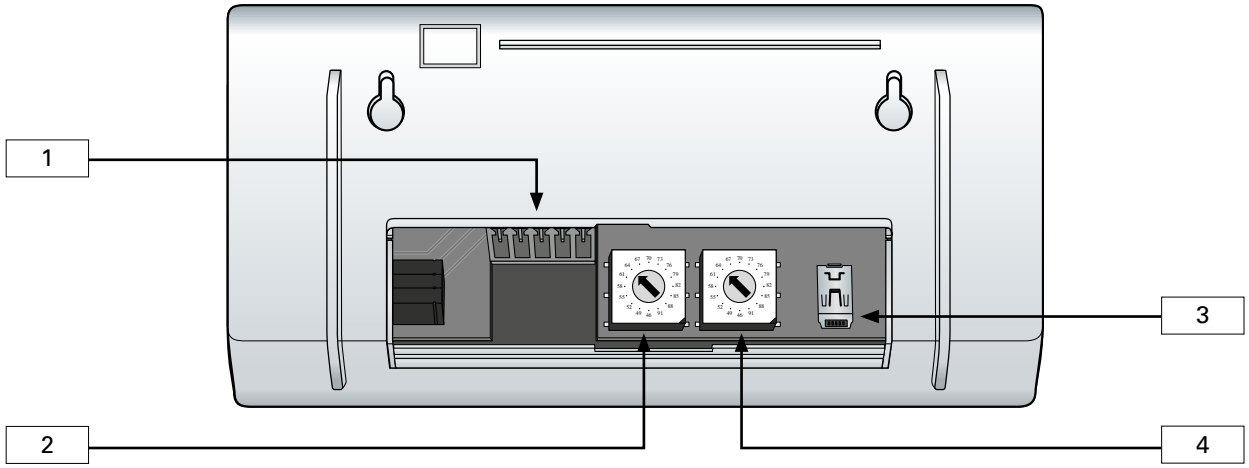
4.1 Structure of control unit

Operator side



No.	Function
1	Acoustic alarm in case of fault reports
2	Operating and fault report indication
3	Indication and control - summer bypass (only with profi-air 300 sensor)
4	Control – manual ventilation mode
5	Indication of ventilation mode 0 to 4
6	Indication and control – automatic mode

Back



No.	Function
1	Connection socket to connect the ventilation unit
2	Adjustment potentiometer for extract air
3	USB connection for optional external power supply
4	Adjustment potentiometer for supply air

4 Commissioning and operation of profi-air 180/300 sensor

4.2 Putting into operation / adjustment of profi-air 180/300 sensor

4.2.1 Basics of putting into operation / adjustment

Criteria requiring putting into operation / adjustment of the ventilation unit:

- Prior to the initial putting the unit into operation.
- If the total room area subject to ventilation needs to be adjusted.
- If the air distribution system needs to be adjusted (e.g. retrofit installation of extract air filters).
- If the filter class in the ventilation unit needs to be subsequently adjusted (change from G4 to F7 supply air filter).

The following issues must be verified prior to putting into operation / adjustment:

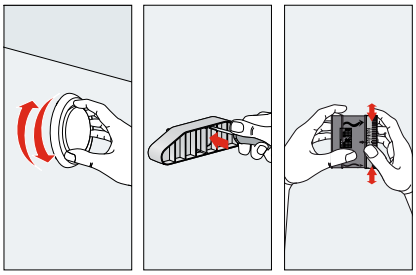
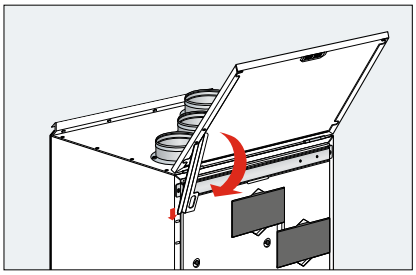
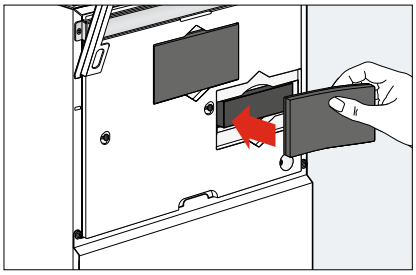
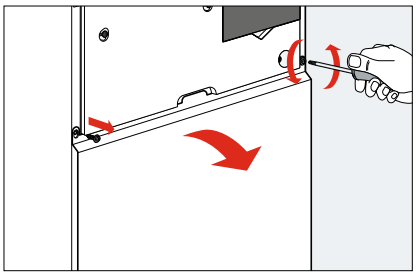
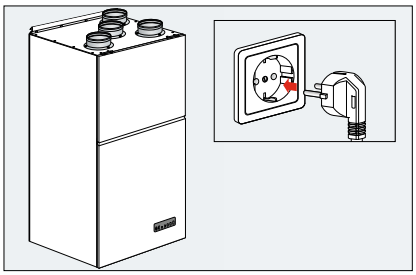
- Air flow rates for the utilisation unit have been calculated in accordance with the national regulation and are available for adjustment.
- The ventilation unit has been installed and connected according to the installation and operating instructions (e.g. power, condensate, air pipes, silencer, etc.).
- The entire air distribution system has been installed.
- Fresh air and exhaust air pipes have been insulated.
- All supply air and extract air outlets can be accessed.
- Unit, filter and pipe system are not contaminated.
- Internal finishing works (e.g. drywall installation, paint work) have been completed.
- The intended use as per installation and operating instructions is ensured.

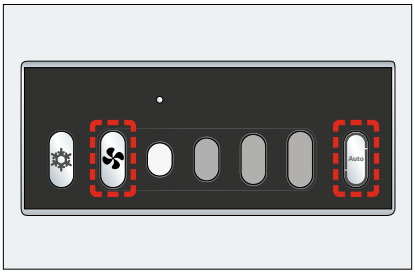
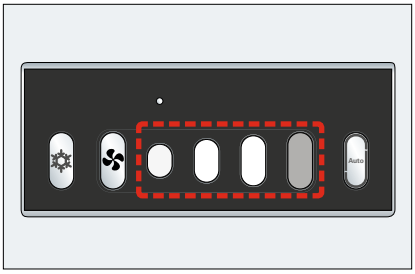
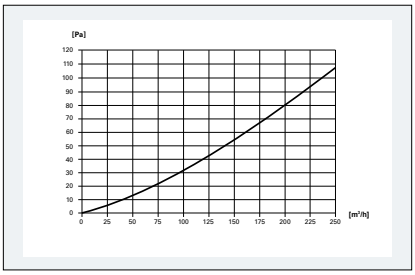
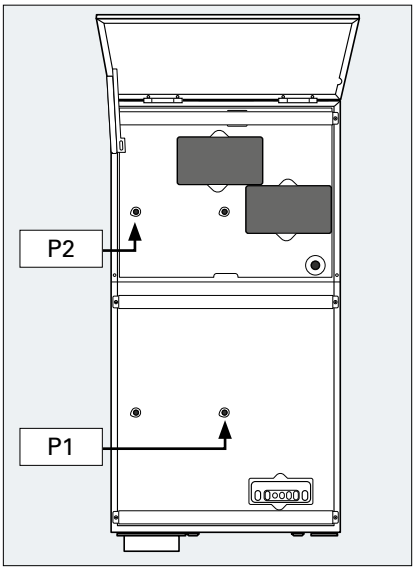
Further materials / tools are required for putting into operation / adjustment:

- Differential pressure gauge with two Ø 5 mm measuring hoses to measure the total volume flow rate at the ventilation unit
- Impeller anemometer to measure the air flow rates at the valve outlets
- Torx 10 screwdriver to remove the bottom-side housing cover

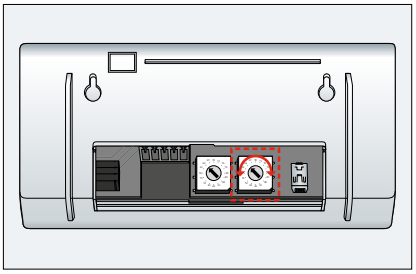
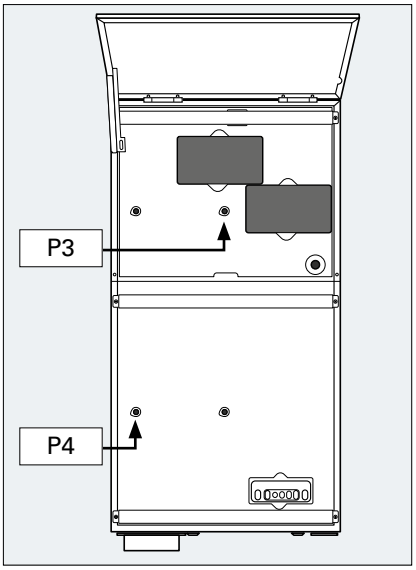
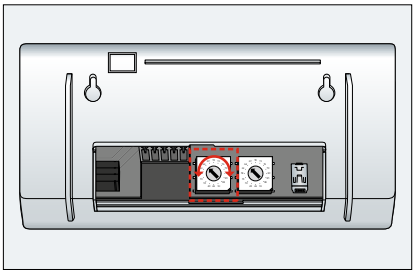
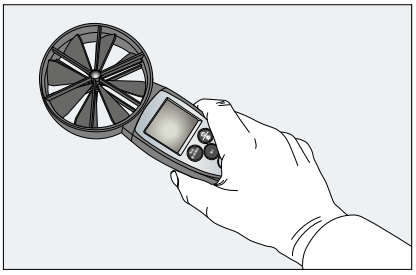
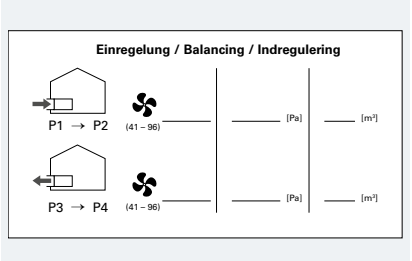
! Putting into operation / adjustment must be carried out by authorised and qualified personnel only.

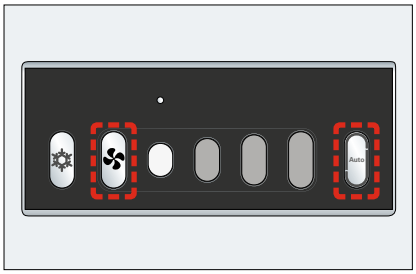
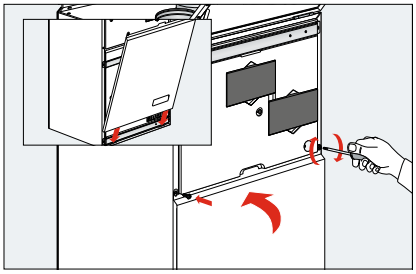
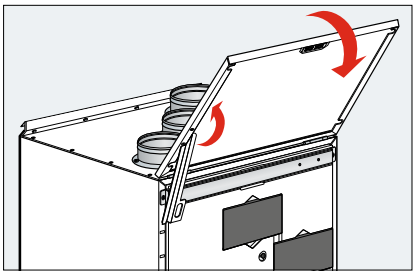
4.2.2 Procedure of putting into operation / adjustment

1	Set the defaults for the air outlets by: ■ setting the poppet valves ■ installing and setting the regulating elements ■ installing and setting the constant volume flow regulator Defaults are set on the basis of the distance between the manifold and the outlet, as well as the air volume.	
2	Opening and securing the top-side device cover.	
3	Check for the correct installation of insulation panels before the filters (soft side in the direction of the filter). To ensure that no false air is taken in.	
4	Disassembly of the bottom-side device cover.	
5	Establishing power supply.	

6	Activation of the putting into operation mode by pushing the “Manual ventilation mode” and the “Automatic mode” buttons at the same time for 6 seconds. If the putting into operation mode has been activated, the ventilation mode 3 will be constantly lit. The putting into operation mode remains active for one hour and deactivates functions (e.g. bypass, frost protection) in order to prevent change in air ducting and/or air volume, and to ensure correct setting of the ventilation mode 3.	 
7	Determination of pressure loss at the heat exchanger on the basis of the air volume in the ventilation mode 3 to be set. The required pressure loss can be determined with the help of the diagram on the ventilation unit. Note: *P1 ➔ P2 supply air* *P3 ➔ P4 extract air* **For diagrams, see Section 4.2.3**	
8	Install differential pressure gauge with measuring hoses at the pressure ports P1 and P2 and measure the pressure loss of supply air over the heat exchanger.	

4 Commissioning and operation of profi-air 180/300 sensor

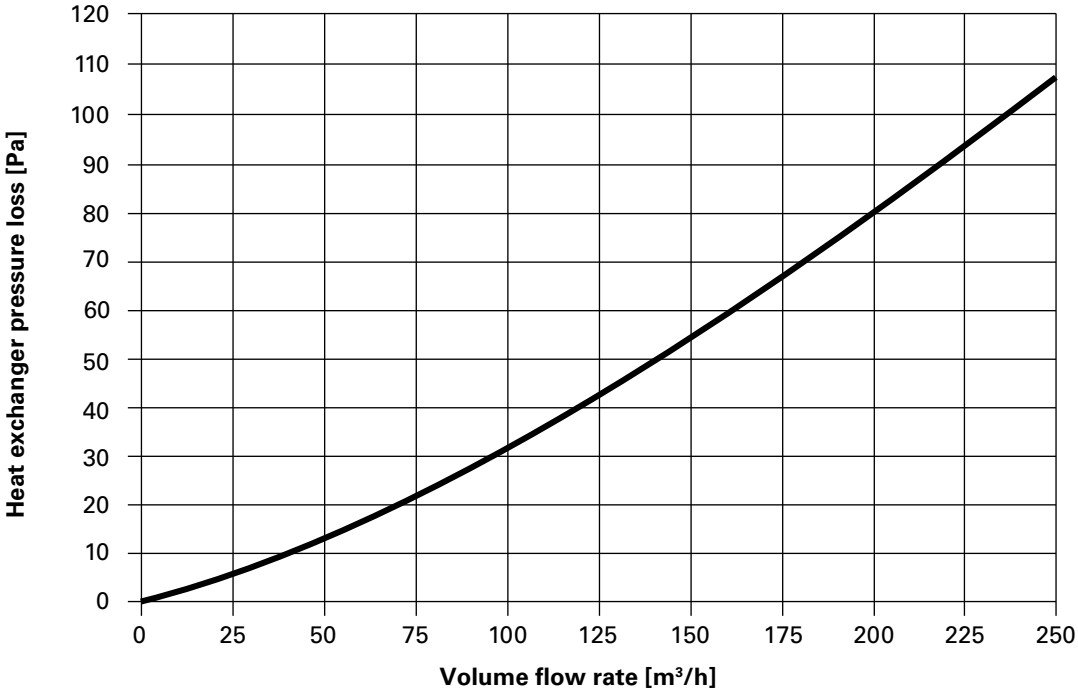
9	Adjustment of the required supply air volume. To do so, adjust the performance of the supply air fan on the back of the control unit with the help of the corresponding potentiometer until the measured pressure loss corresponds to the determined one. Note: *After the potentiometer adjustment, wait for approx. two minutes until the fan operation becomes stable again.*	
10	Install differential pressure gauge with measuring hoses at the pressure ports P3 and P4 and measure the pressure loss of extract air over the heat exchanger.	
11	Adjustment of the required extract air volume. To do so, adjust the performance of the extract air fan on the back of the control unit with the help of the corresponding potentiometer until the measured pressure loss corresponds to the determined one. Note: *After the potentiometer adjustment, wait for approx. two minutes until the fan operation becomes stable again.*	
12	Carry out fine adjustment of air outlets by: ■ setting the poppet valves ■ setting the regulating elements ■ when using constant volume flow regulators, no additional settings are required Measuring / checking the air volumes per room by means of the impeller anemometer and creating an air volume measurement protocol.	
13	Entering the final settings (fan speed / pressure loss over the heat exchanger / air performance) for supply and extract air under the diagram on the ventilation unit.	

14	Deactivating the putting into operation mode by pushing the “Manual ventilation mode” and the “Automatic mode” buttons at the same time for 6 seconds.	
15	Installation of the bottom-side device cover.	
16	Closing the top-side device cover.	

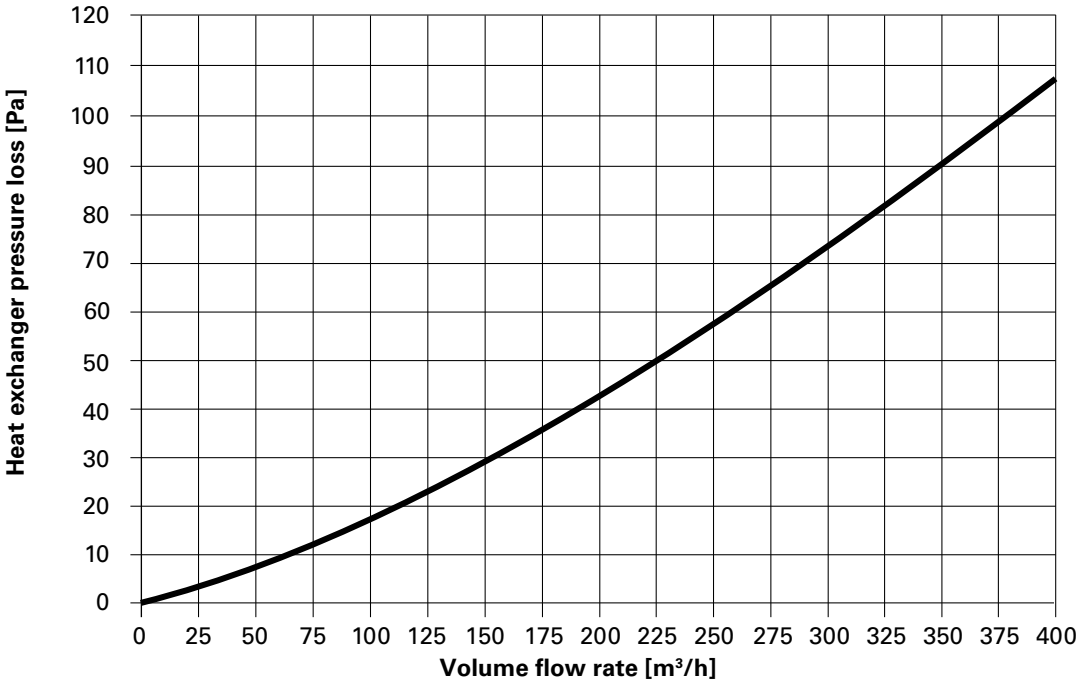
4.2.3 Pressure loss diagrams of heat exchangers

Pressure loss diagrams of heat exchangers simplify the setting of the total volume flow rate. Please refer to the description in the last Section 4.2.2.

4.2.3.1 profi-air 180 sensor



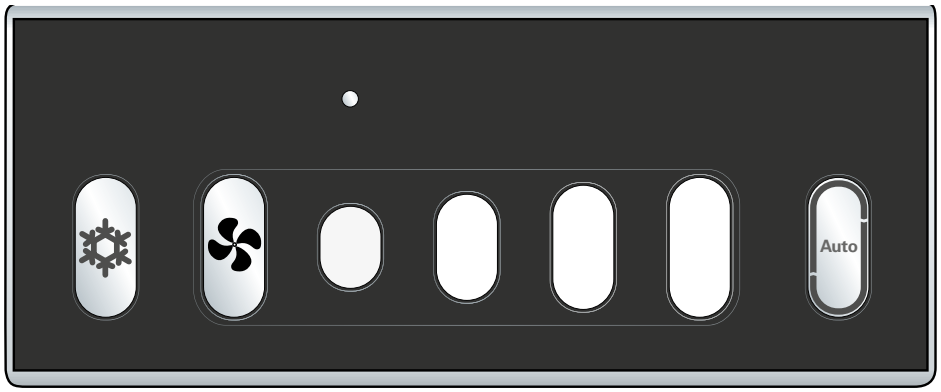
4.2.3.2 profi-air 300 sensor

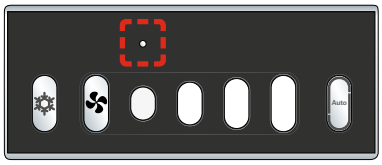


4.3 Operation of profi-air 180/300 sensor with integrated control panel

The following section deals with operating profi-air 180/300 sensor by means of the integrated control panel. Here, you will find all possible setting parameters for control as well as notes on individual functions.

In order to keep energy consumption of the operating panel as low as possible, it goes into sleep mode after two minutes. Just push any button to activate it again.



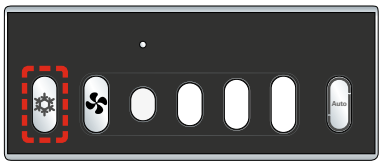


Operating and fault report indication

The operating indication can display three different states:

- Green – ventilation unit is on, operation OK
- Yellow flashing and a beep – filter must be replaced
- Red and a beep – device malfunction

For more information on fault reports, please see Section 8.



Manual summer bypass (only with profi-air 300 sensor)

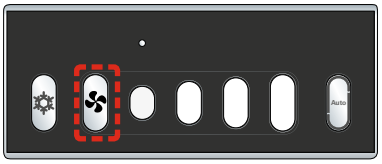
The purpose of the summer bypass is, under particular conditions, to avoid heating the cooler fresh air through the heat exchanger, but to filter it and bring it into the living quarters.

During normal operation (if the manual bypass is not enabled) the device controls the bypass on the basis of pre-defined temperature values. It is thus in most cases not necessary to manually activate the bypass.

Yet in buildings with large, south-facing glass façades, it can make sense to manually activate the bypass before the room air becomes
too hot.

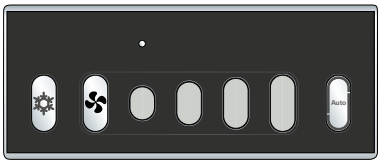
After activating the manual summer bypass, it will be active for 6 hours and switched back to automatic mode afterwards. The symbol is also lit during this time.

4 Commissioning and operation of profi-air 180/300 sensor



Manual operation

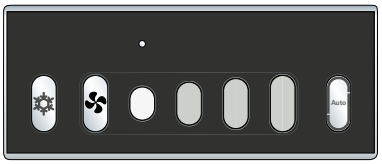
By pushing the button, the manual mode selection is activated. Ventilation modes 0 – 1 – 2 – 3 – 4 can be activated and the active ventilation mode is then displayed via the 4 indicator lights.



Mode 0 (no indicator light)

The device is switched off. This function may be used in exceptional cases only, e.g unpleasant odour from the outside. After activating mode 0, it will be active for 4 hours and switched to mode 3 afterwards.

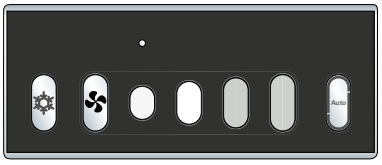
If the system has been switched off over a longer period of time, this causes an increased risk of condensation in the pipes, and/or might lead to moisture damage in the building.



Mode 1 (protection against moisture)

The lowest fan speed protects the building from moisture during times of longer absence of the inhabitants (e.g. holidays).

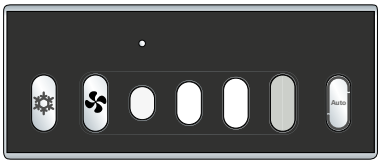
50 % below the set fan speed in mode 3



Mode 2 (reduced ventilation)

The low fan speed is used for reduced ventilation during times of absence of the inhabitants.

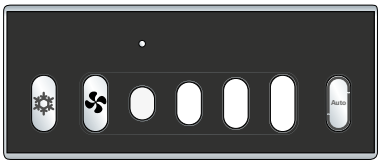
25 % below the set fan speed in mode 3



Mode 3 (rated ventilation)

The normal fan speed is used for rated operation of the ventilation unit when the inhabitants are present.

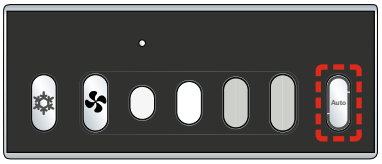
Can be set between 46 % and 91 % of fan speed



Mode 4 (intensive ventilation)

The maximum fan speed is used for intensive ventilation (party mode).
After activating mode 4, this will be enabled for 4 hours and switched to mode 3 afterwards.

100 % of fan speed



Automatic mode

The automatic mode regulates the air volume flow rate of the ventilation unit depending on the humidity level in the building. A sensor in the extract air channel of the ventilation unit measures the humidity.

If the automatic mode is activated, the button will be lit and the activated air mode will be displayed over the control panel.

We generally recommend operating the ventilation unit in automatic mode since this ensures constant air exchange as required. The automatic mode additionally prevents the house from drying out during the winter.

For factory settings and setting options, see Section 5.

For the summer bypass, automatic mode and frost protection control strategies, see Section 6.

5 Factory settings and setting ranges of control units

The following section describes different factory settings of the profi-air 180/300 sensor ventilation units and the setting options on the integrated control panel and/or the optional wireless remote control.

Setpoint	Factory setting	Setting range	
		Integrated control panel	Optional wireless remote control
Ventilation mode 0	OFF	—	—
Ventilation mode 1	Gear 14	Corresponding to ventilation mode 2 minus "OFFSET" Gear 1 – 41	Corresponding to ventilation mode 2 minus "OFFSET" Gear 1 – 71
Ventilation mode 2	Gear 39	Corresponding to ventilation mode 3 minus "OFFSET" Gear 21 – 66	Corresponding to ventilation mode 3 minus "OFFSET" Gear 36 – 81
Ventilation mode 3	Gear 64	Adjustment potentiometer, back of the control unit Gear 46 – 91	—
Ventilation mode 4 (max. speed)	Gear 100	—	From ventilation mode 3 to max. gear 100
"OFFSET" (Gears between ventilation modes 1 – 2 – 3)	25 gears	—	10 – 30 gears
Automatic bypass (only with profi-air 300 sensor) Extract air temperature Fresh air temperature	 T3 ≥ 24 °C T1 ≥ 15 °C	 — —	 OFF 22 – 30 °C 8 – 15 °C
Automatic mode Extract air humidity sensor	45 %	—	35 – 65 %
Time interval for filter replacement	180 days	—	90 – 360 days
Frost protection of heat exchanger	T4 ≤ 2 °C	—	—

The fan performance must be set by authorised and qualified personnel only in order to ensure sufficient ventilation of the rooms as well as balanced ventilation operation.

6 Control strategies

6.1 Automatic mode

The automatic mode regulates the air performance for the supply air and extract air by means of the humidity sensor pre-installed in the extract air connector of the ventilation unit. The humidity is factory-set to a value of 45 % r.H., which, however, can be adjusted by means of the optional wireless remote control.

- If the humidity is above the set target value, the ventilation unit continuously operates in ventilation mode 3.
- If the humidity drops below the set target value, the ventilation unit adjusts the air flow rates by gradual reduction.
- If the humidity remains below the set target value over a longer time period, the ventilation unit switches to ventilation mode 1.

6.2 Automatic summer bypass (only with profi-air 300 sensor)

With the automatic summer bypass, heat recovery is avoided in order not to additionally heat the cooler fresh air with the extract air. This function is mainly used in transition periods as well as during cool summer nights. The bypass works fully automatically according to the set control temperature.

Control temperature

- The fresh air temperature (T1) is the release temperature – Only after the set temperature has been exceeded, releases the control the summer bypass function.
- The extract air temperature (T3) is the control temperature – Only after the set temperature has been exceeded and the fresh air temperature is lower than the extract air temperature, opens the bypass.

6.3 Frost protection of heat exchanger

A frost protection strategy is integrated into the control in order to prevent ice formation in the heat exchanger.

- If the exhaust air temperature (T4) remains below 2 °C for at least 90 minutes, the ventilation unit reduces the supply air flow rate until the exhaust temperature achieves the level of 2 °C. This normally occurs at fresh air temperatures (T1) of approx. -6 °C.
- If the fresh air temperature (T1) remains below -13 °C for more than 5 minutes, the ventilation unit interrupts its operation for 30 minutes in order to prevent ice formation. If the outside temperature does not rise to a level above -13 °C, the unit switches off for another 30 minutes and so on.

It is not suited for simultaneous operation of the profi-air 180/300 sensor ventilation unit and a fireplace. In such cases, we recommend using one of our other ventilation units, e.g. profi-air 250/400 touch or profi-air 180 flat. Alternatively, simultaneous operation can also be provided by fresh air preheating (earth-air heat exchanger, brine heater coil or preheater) to be provided on site if the fresh air preheating ensures that the exhaust air temperature does not fall below 3 °C.

If the profi-air 180/300 sensor ventilation unit and a fireplace are operated at the same time, the district master chimney sweep should always be contacted in advance to seek advice regarding all the necessary safety equipment.

7 Care and maintenance

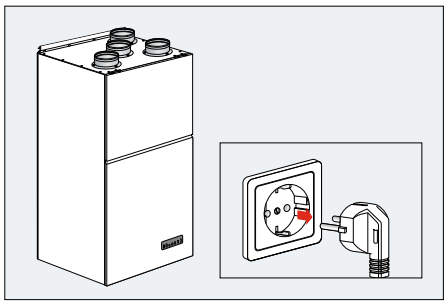
To permanently ensure a hygienic heat recovery ventilation system, it is particularly important to maintain and service the system at regular intervals. For this reason, we recommend signing a maintenance contract with an installer for maintaining and cleaning the system. According to DIN 1946-6, the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

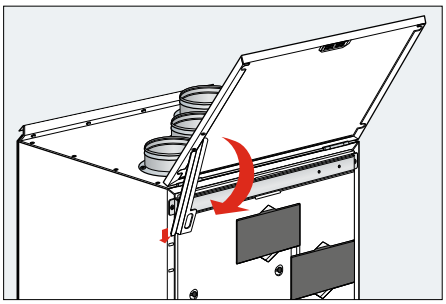
Components	Maintenance / inspection intervals
Air filter Inspection of all air filters (also in the ventilation unit, in extract air valves, prefilters, such as earth-air heat exchangers or preheaters, if any) for contamination and replacement, if necessary.	every six months
Ventilation unit Inspection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

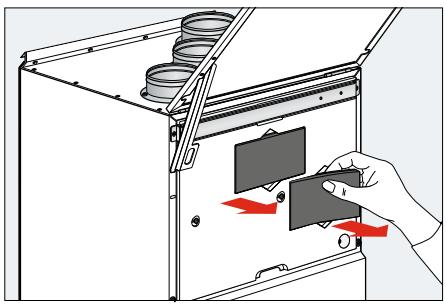
If the profi-air sensor unit is not subjected to any maintenance, the functionality of the entire ventilation system can be affected.

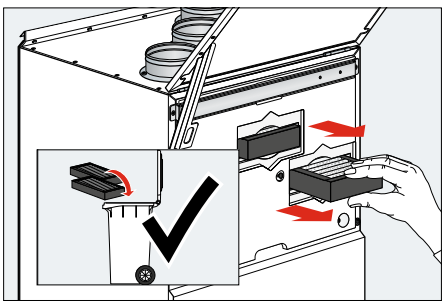
7.1 Filter replacement

We recommend inspecting the air filters after three months of operation and replacing them according to the degree of contamination. Yellow flashing incl. an acoustic signal of the operating and fault report indicator on the integrated control panel and/or flashing of the filter replacement indicator on the optional remote control will remind you of filter replacement after the set interval has expired.

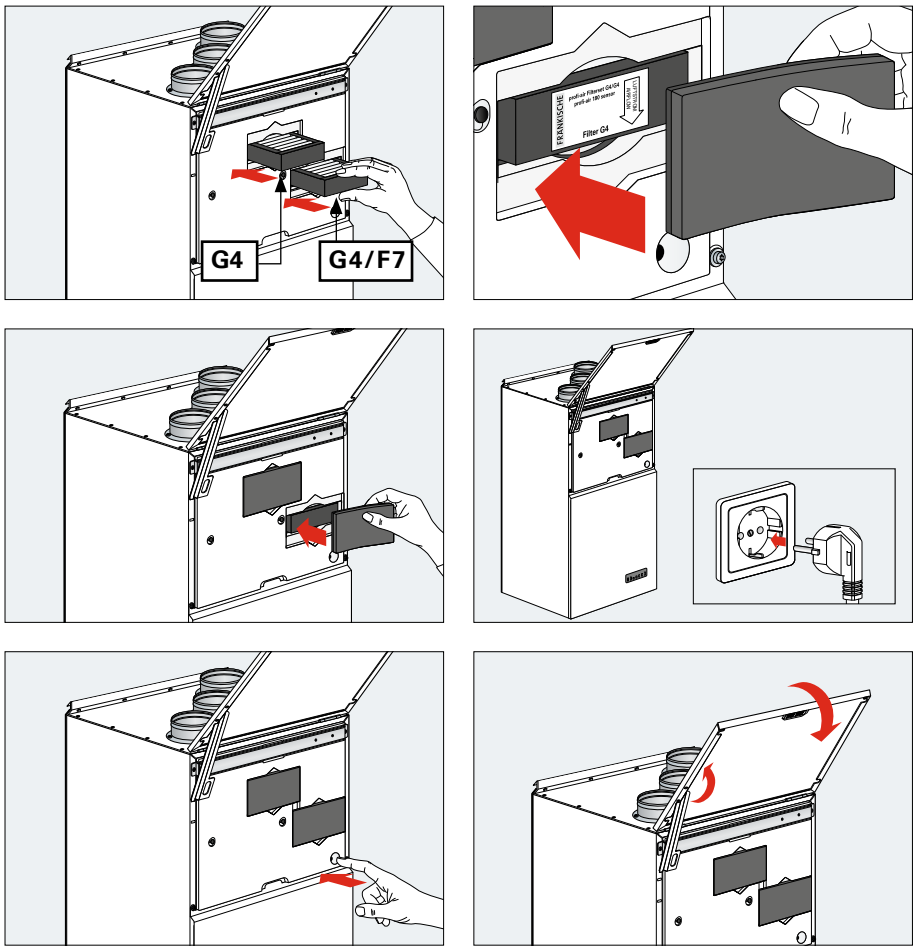








7 Care and maintenance



Please use only undamaged original filters in the profi-air 180/300 sensor ventilation unit.

When installing the insulated filter covers, make sure that the soft side faces the filter, and the hard side faces outwards.

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

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

Reset the filter timer after each filter replacement as shown in the illustration sequence.

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

7 Care and maintenance

7.2 Maintenance information for specialists

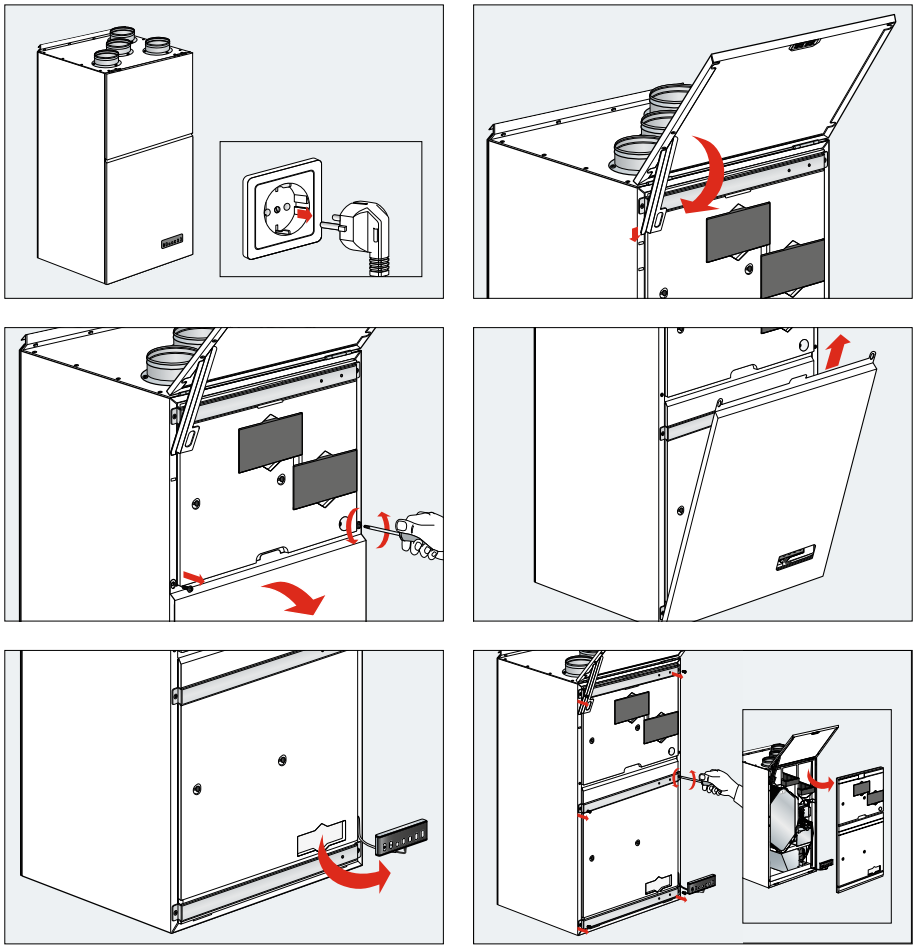
Ventilation units should be maintained by a specialist every 24 months. The following work steps must be performed:

- Visual inspection of the unit for damage and corrosion
- Inspection and, if necessary, replacement of unit filters
- Inspection and, if necessary, replacement of filters in 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
- Verification and, if necessary, adjustment of the air flow rates
- Inspection of the electric system

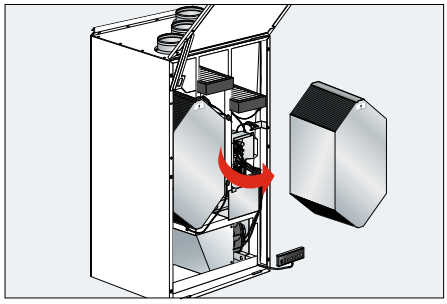
When executing any types of maintenance activities, please disconnect the ventilation unit from the power grid to make sure that the fans are out of operation. Additionally, the applicable local regulations and safety provisions must be observed.

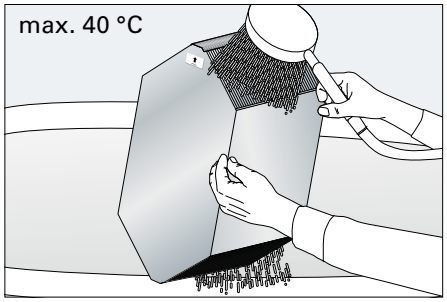
If the profi-air sensor unit is not subjected to any maintenance, the functionality of the entire ventilation system can be affected.

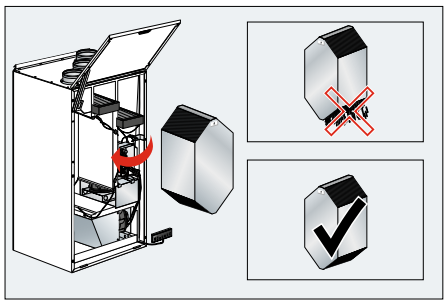
7.2.1 Inspection and cleaning of the heat exchanger

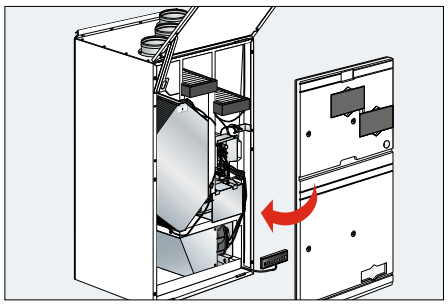


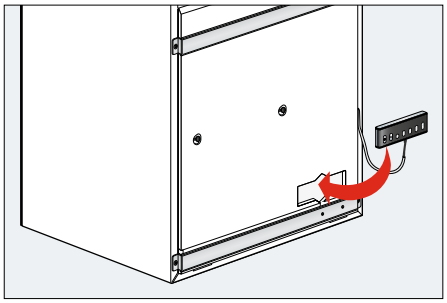
7 Care and maintenance

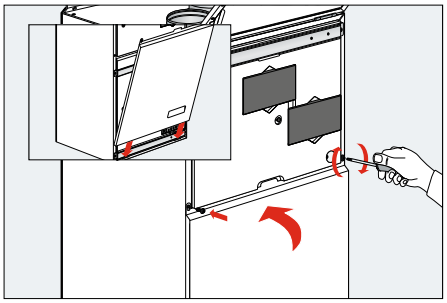


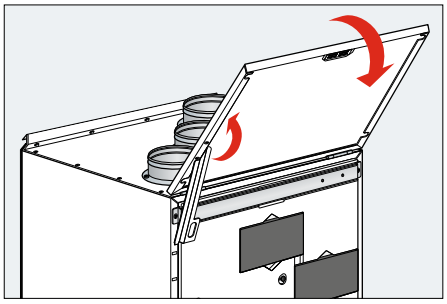


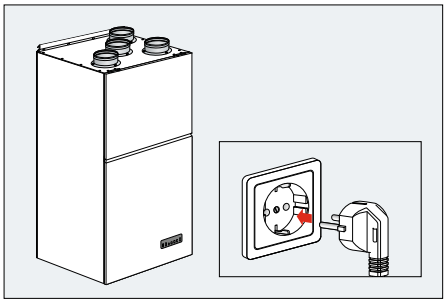












Exercise caution when dismantling the heat exchanger as it may contain condensate water.

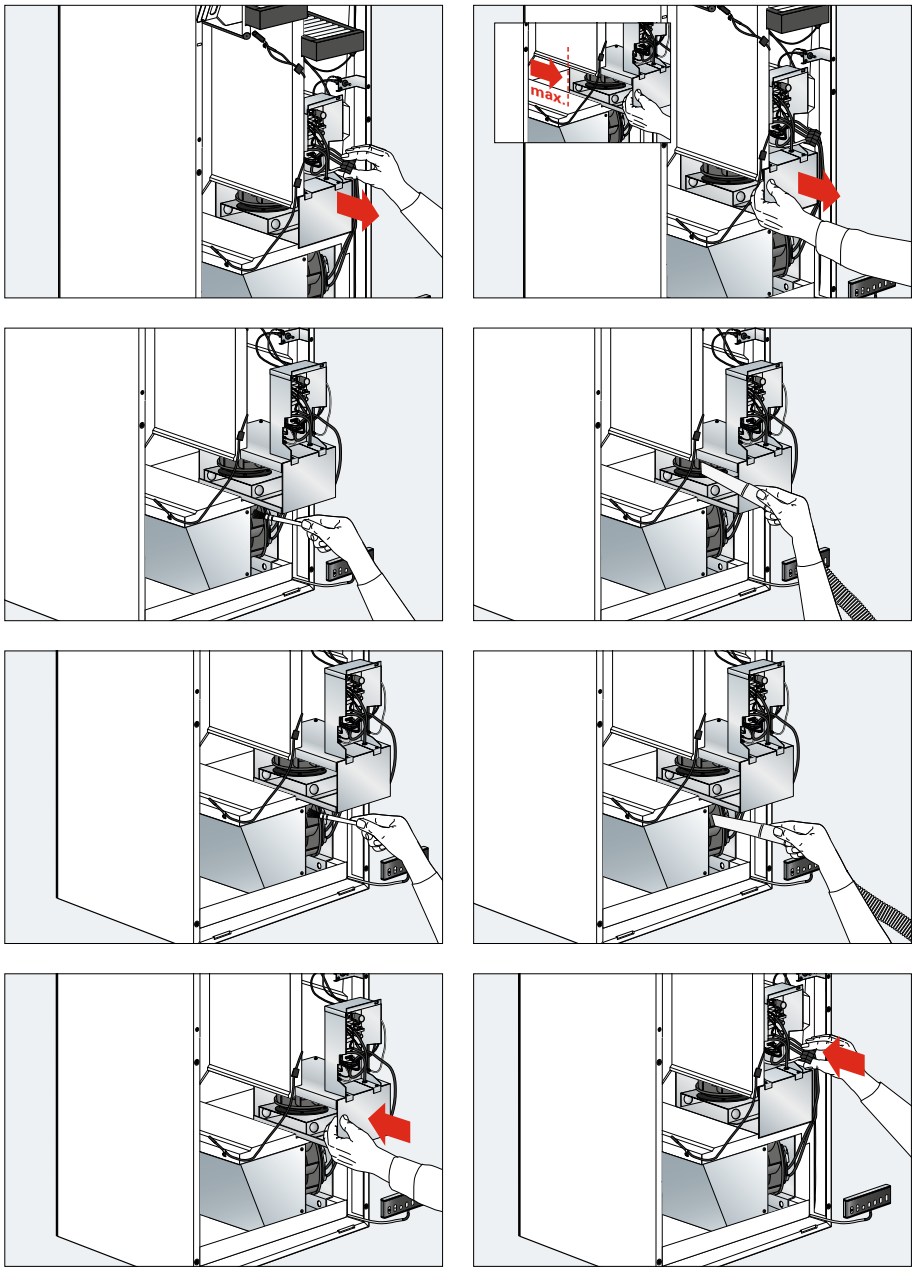
Dry the rinsed heat exchanger prior to installation.

After inspection and cleaning of the heat exchanger, do not re-install the EPS front cover at once if further components, such as fans still have to undergo inspection.

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

7.2.2 Inspection and cleaning of the fans

Open the device as described in Section 7.2.1.



Install the front cover as described in Section 7.2.1.

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

Do not damage fan blades, and do not shift or remove balance weights.

8 Faults

If a fault occurs, please write down the light and signal code displayed on the integrated control panel and contact your specialist technician.

In case there is an error on the profi-air sensor ventilation unit or the voltage supply has been interrupted, no sufficient air exchange is provided. This can cause humidity- and mould-related problems. Please contact your specialist technician in this case.

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

- Via the operating and fault report indicator on the integrated control panel
- As an error code on the optional wireless remote control

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

Troubleshooting activities must be carried out by authorised and qualified personnel and in the "dead" state of the device only, unless otherwise expressly described. Additionally, the applicable local regulations and safety provisions must be observed. Exceptions are filter replacement and installation / removal of the summer bypass plate of profi-air 180 sensor.

The applicable local regulations and safety provisions must be observed.

8.1 Fault reports

In this section, you will find individual fault reports displayed with the help of the operating and fault report indication on the integrated control panel and on the optional wireless remote control.

Fault report integrated control panel	Fault report optional wireless remote control	Possible cause	Control response
LED flashing yellow (30/min) and acoustic signal	Flashing filter replacement indication	Filter replacement interval has expired.	The unit keeps on working as usual, however, the power consumption is higher and noise pollution may occur.
LED continuously lit red and acoustic signal	E4 / fresh air sensor (T1) E5 / supply air sensor (T2)	Temperature sensor (T1 and/or T2) improperly connected or defective.	The unit keeps on working, yet in a fail-safe state (fail safe mode 1), corresponding to the normal operation but without bypass function.
LED flashing red (30/min) and acoustic signal	E6 / extract air sensor (T3) E7 / exhaust air sensor (T4)	Temperature sensor (T3 and/or T4) improperly connected or defective.	The unit keeps on working, yet in a fail-safe state (fail safe mode 2) - very low fan speed.
	E1 / extract air fan E2 / supply air fan	Fans are improperly connected or defective.	

8 Faults

Fault report integrated control panel	Fault report optional wireless remote control	Possible cause	Control response
LED flashing red (120/min) and acoustic signal	E11 / supply air temperature < 5 °C	Supply air sensor has measured a temperature under 5 °C – freezing danger. The summer bypass plate of profi-air 180 sensor remains installed despite cold outside temperatures. The outside temperature is too low. The building is not heated. The unit has not been set properly (supply air / extract air flow correlation).	The unit operation will be shut down completely, since this error type constitutes a safety hazard.
	E12 / fire protection Temperature at one sensor > 70 °C	A temperature sensor has measured a critical temperature of over 70 °C. Fire hazard!	
No error indication "Automatic mode" can no longer be set	E 9 / humidity sensor	Humidity sensor is improperly connected or defective.	The unit keeps on working, yet in a fail-safe state (fail safe mode 2), very low fan speed.
No error indication	E3 / summer bypass	Summer bypass flap has got stuck.	The unit keeps on working as usual, however, the summer bypass remains in the last position. As a result, the supply air temperatures in winter can be too low and in summer too high.
		Motor of the summer bypass flap is defective.	
No error indication	E 8 / room air sensor	Room air sensor in the optional wireless remote control is defective.	The unit keeps on working as usual, however, the room temperature can no longer be displayed on the wireless remote control.
No error indication	E 10 / fresh air temperature < -13 °C	Very cold outside temperature.	The unit operates in frost protection mode. See Section 6.3
No error indication	E 13 / communication fault	The remote control has already been connected with another ventilation unit.	The unit keeps on working as usual, however, control commands can no longer be issued via the wireless remote control.
		Ventilation unit is disabled.	Unit is disabled.

8 Faults

8.2 Fault clearance

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

In the event of fault reports, you should generally reset the error first, since some errors may occur due to temporary voltage loss. If the fault report is displayed again after a short period of time (approx. 5 minutes), please follow the instructions on fault clearance given below.

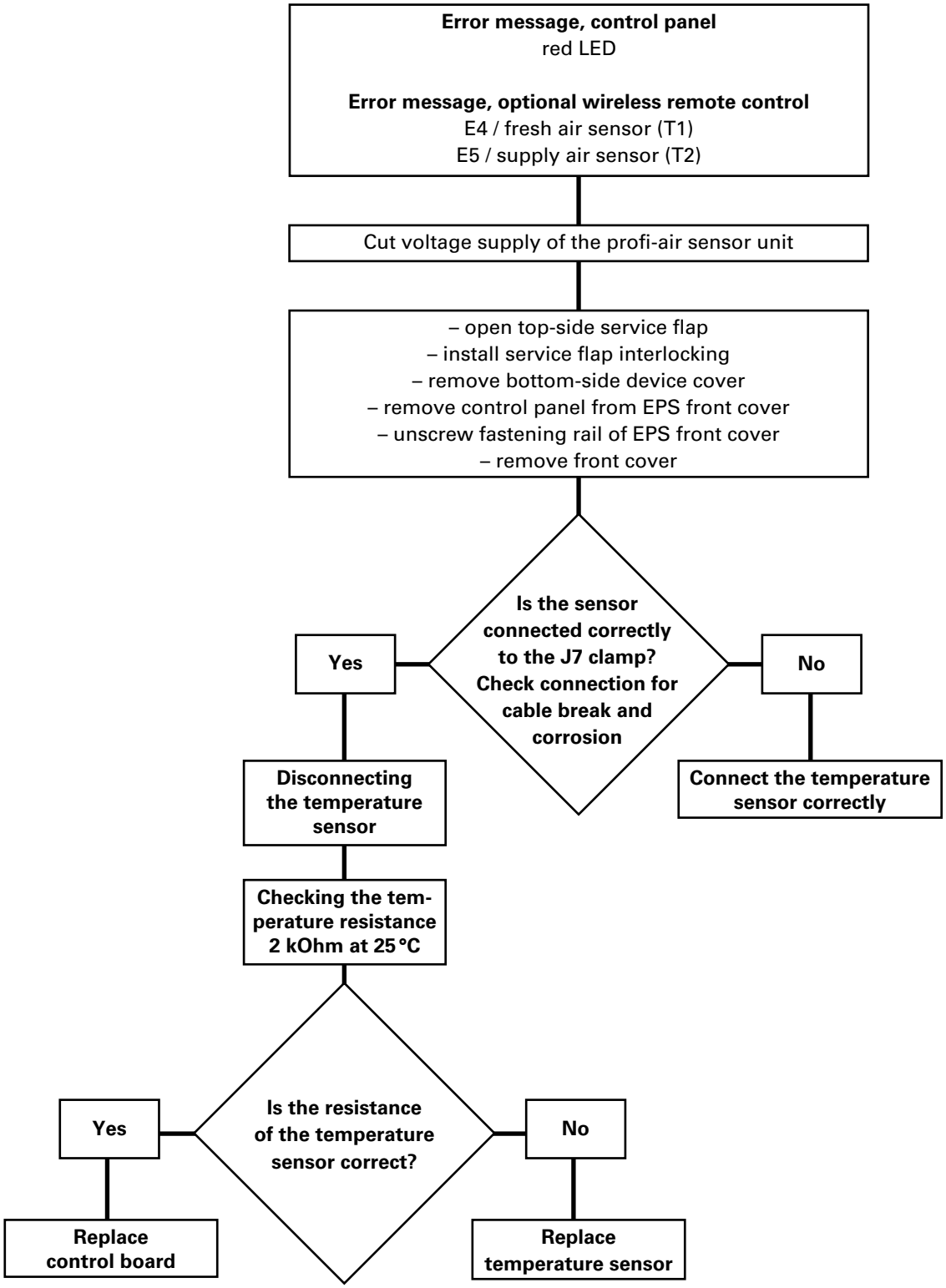
In order to reset an error, de-energize the ventilation unit for approx. 30 seconds.

Only original spare parts matching the type of unit must be generally installed.

8.2.1 Fault clearance filter replacement / LED flashing yellow (30/min)

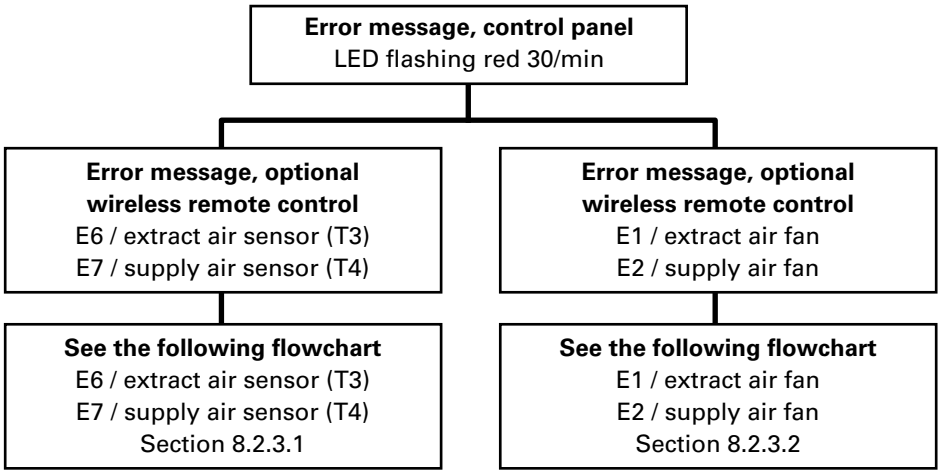
Please refer to Section 7.1 on filter replacement

8.2.2 Fault clearance / LED flashing red



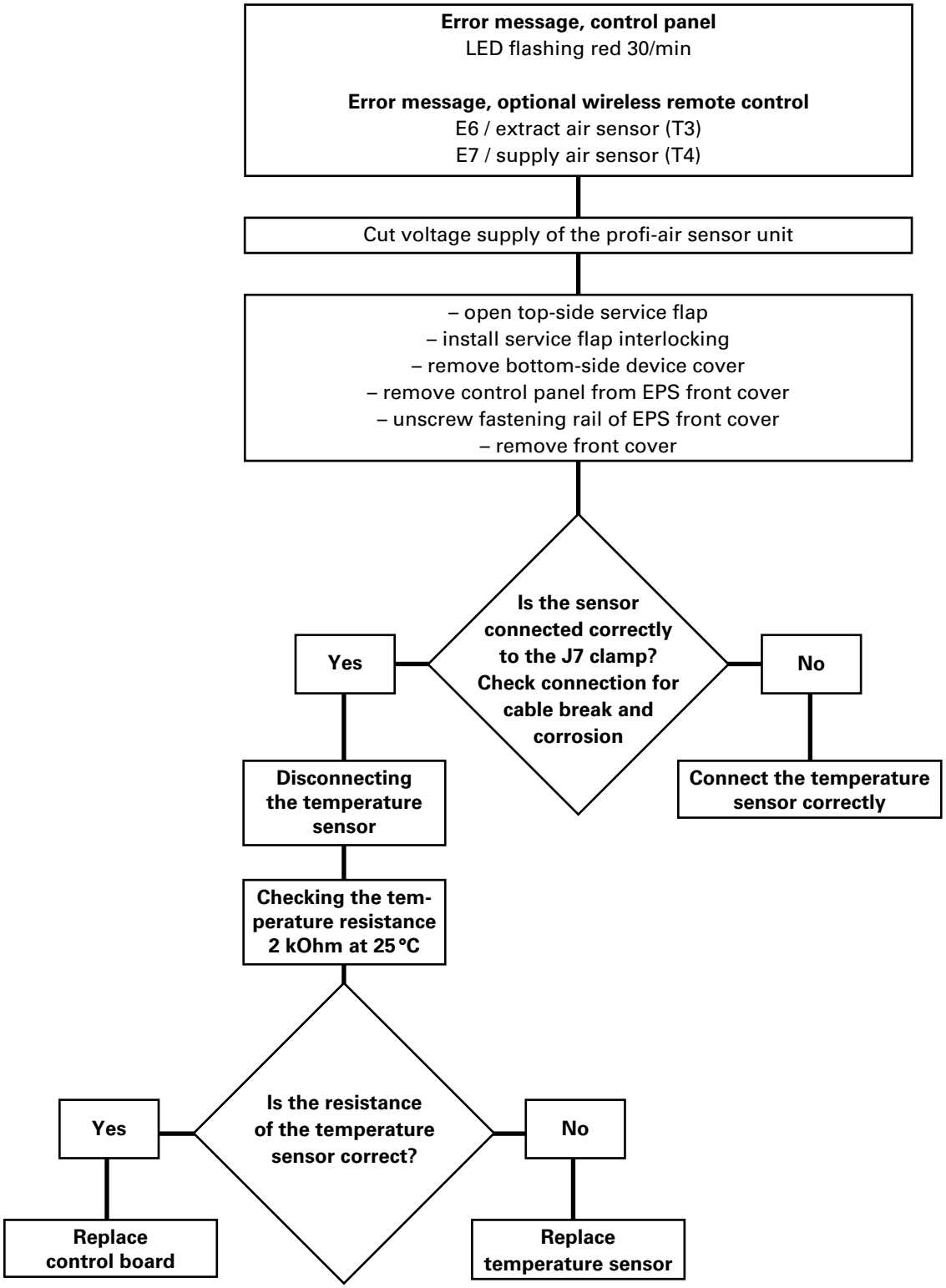
Troubleshooting activities must be carried out by authorised and qualified personnel and in the "dead" state of the device only. Additionally, the applicable local regulations and safety provisions must be observed.

8.2.3 Fault clearance / LED flashing red 30/min



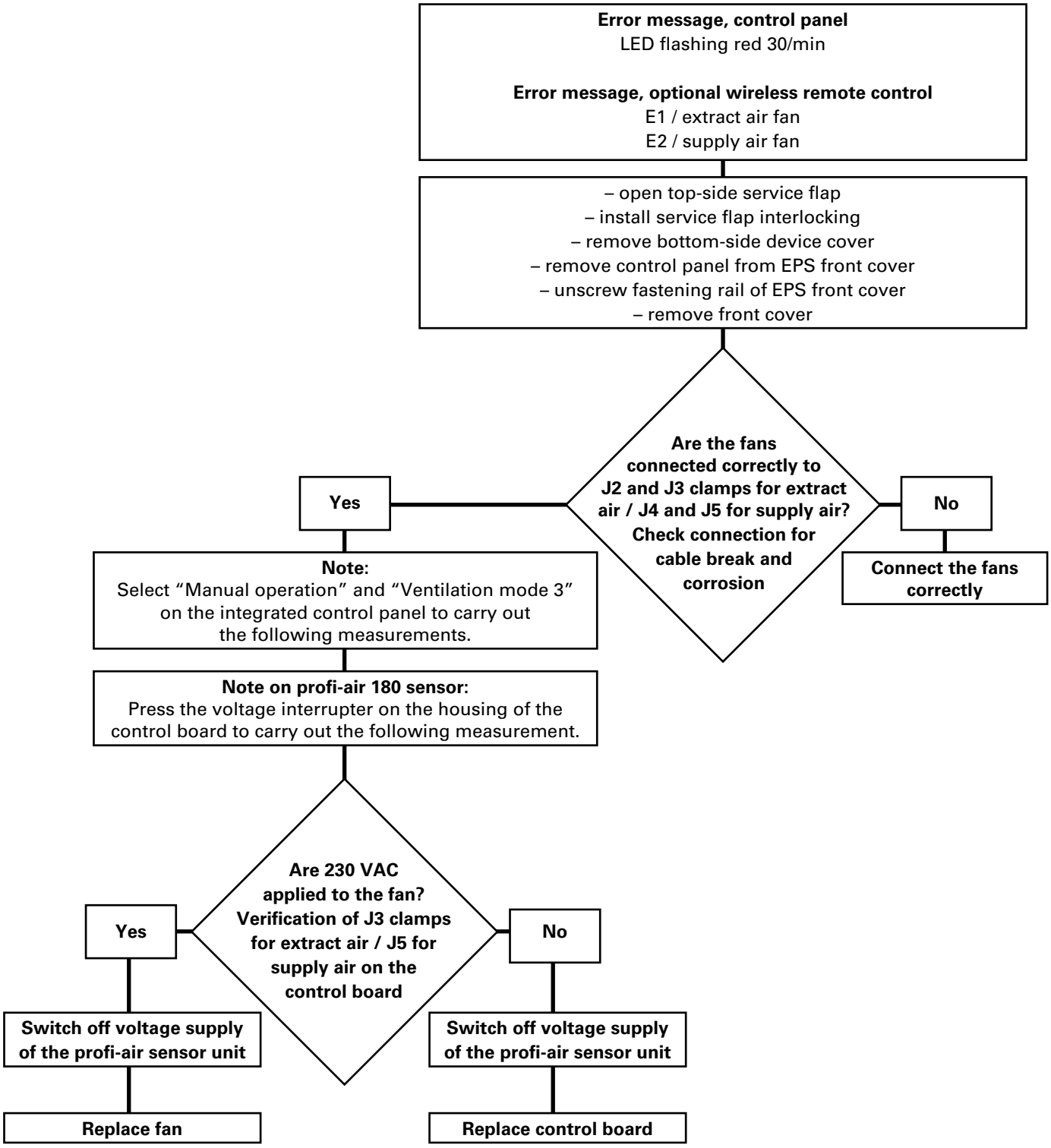
If no optional wireless remote control is available for precise localisation of the error, all error sources must be checked. Reset the error message by cutting the power supply for approx. 30 seconds after each verification of possible error sources.

8.2.3.1 Fault clearance / extract air and supply air sensor



Troubleshooting activities must 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.

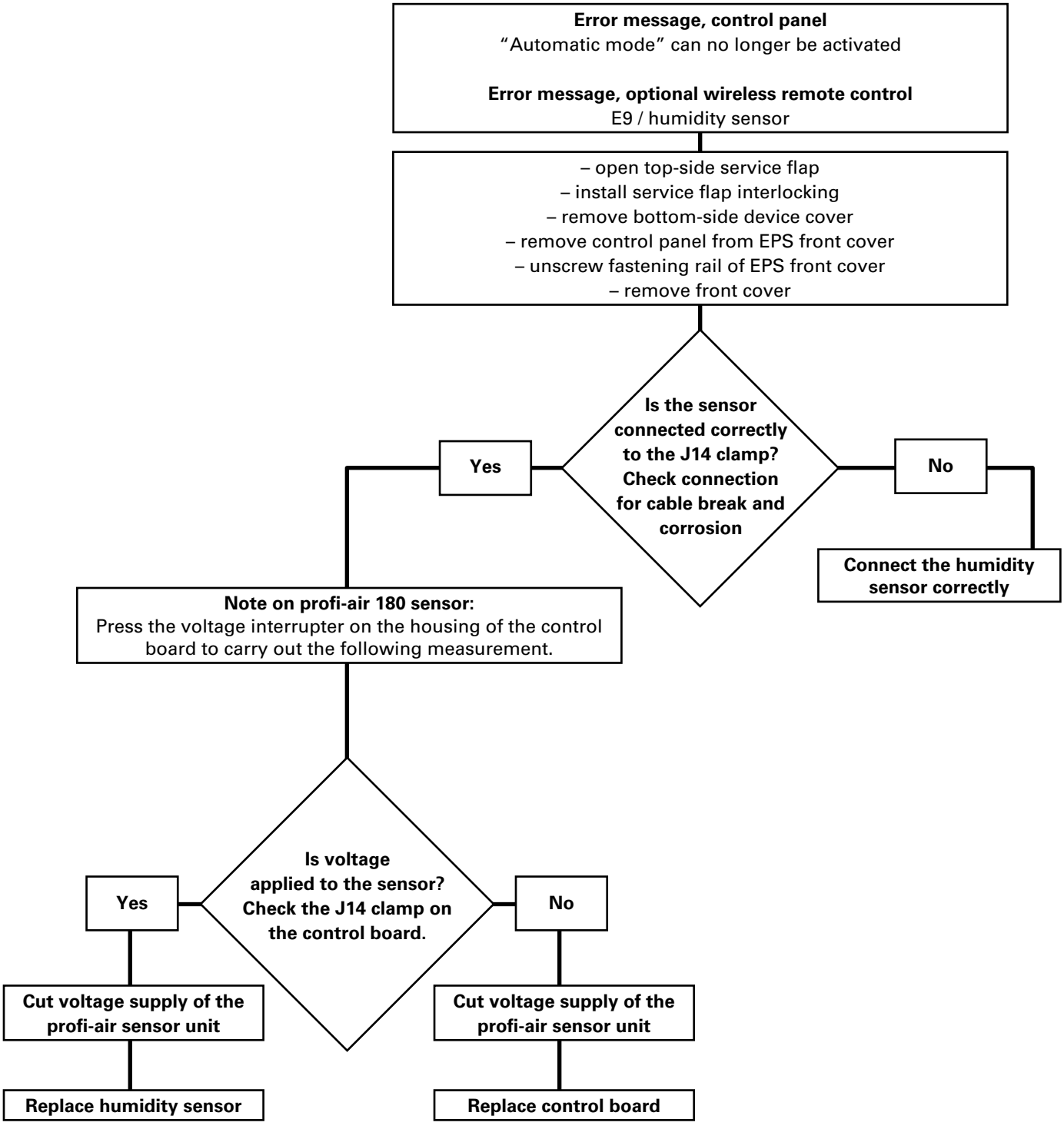
8.2.3.2 Fault clearance / fan



To correct the fault, profi-air sensor has to be opened in a "live" state which may be done by authorised and qualified personnel only. 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.

8.2.4 Fault clearance / humidity sensor



To correct the fault, profi-air sensor has to be opened in a "live" state which may be done by authorised and qualified personnel only. 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.

8.2.5 Fault clearance / LED flashing red 120/min

Fault report optional wireless remote control	Possible causes	Checkup / measure
E11 / supply air temperature < 5 °C	The summer bypass plate of profi-air 180 sensor remains installed despite cold outside temperatures.	Remove the summer bypass plate to activate heat recovery anew. See Section 3.13
	Outside temperature is too low.	Wait for warmer outside temperature.
		Check the defroster heating installed on site.
		No defroster heating available - install on site if necessary.
	The building is not heated.	Increase the room temperature in the building.
	No or false adjustment of the unit.	Has the unit been adjusted?
		Check the log for air volume calculation.
E12 / fire protection Temperature at one sensor > 70 °C	On-site heat sources heating the air temperature to over 70 °C.	Check on-site heat sources and ensure lower air temperatures in the system.

8.2.6 Fault clearance / additional error codes of the optional wireless remote control

Fault report optional wireless remote control	Possible causes	Checkup / measure
E3 / summer bypass	Summer bypass flap has got stuck.	Examine the summer bypass module and make the flap movable again.
	Motor of the summer bypass flap is defective.	Replace summer bypass motor.
E8 / room air sensor	Room air sensor in the optional wireless remote control is defective.	Replace wireless remote control.
E10 / fresh air temperature < -13 °C	Very cold outside temperature.	No defect – the unit operates in frost protection mode. See Section 6.3
		Wait for warmer outside temperature.
		Check the defroster heating installed on site.
		No defroster heating available - install on site if necessary.
E13 / communication fault	The remote control has already been connected with another ventilation unit.	Reset the wireless remote control and connect it with the ventilation unit anew. See wireless remote control operating instructions.
	Ventilation unit is disabled.	Put the ventilation unit back into operation.

8.3 Faults (or problems) without reports

Fault / problem	Possible causes	Checkup / measure
The ventilation unit keeps on working, however, there is no indication on the integrated control panel or the optional wireless remote control / with the exception of the operating and fault report indication.	The integrated control panel / the optional wireless remote control is in power saving mode.	Push any button on the integrated control panel / the optional wireless remote control to leave the power saving mode.
	Integrated control panel is improperly connected.	Check cables and cable connections of the control panel.
	Integrated control panel is defective.	Exchange the defective integrated control panel.
	No voltage supply of the optional wireless remote control.	Voltage supply with batteries: – Exchange batteries
		Voltage supply with USB cable: – Check cables and cable connection
	Optional wireless remote control is defective.	Exchange the defective optional wireless remote control.
The ventilation unit is out of operation and there is no indication on the integrated control panel.	No power supply applied.	Mains plug connected
		Verification of output voltages on the control board: – Exchange defective control board
High supply air temperature in summer / with profi-air 180 sensor	Summer bypass plate is not installed	This unit has no automatic summer bypass: – Install the summer bypass plate as described in Section 3.13
High supply air temperature in summer / with profi-air 300 sensor	Automatic summer bypass remains closed	Temperatures are beyond the set limits: – For the adjustment of the summer bypass (possible with the help of the optional wireless remote control only), see Sections 5 and 6.2 as well as the operating instructions of the optional wireless remote control. – Enable the manual summer bypass which then remains active for 6 hours.
	Summer bypass flap has got stuck.	Examine the summer bypass module and make the flap movable again.
	Motor of the summer by-pass flap is not working.	Check cables and cable connections.
		Replace summer bypass motor.

8 Faults

Fault / problem	Possible causes	Checkup / measure
Low supply air temperature in winter / with profi-air 180 sensor	Summer bypass plate remains installed.	This unit has no automatic summer bypass – Remove the summer bypass plate again.
Low supply air temperature in winter / with profi-air 300 sensor	Automatic summer bypass remains open.	Temperatures are beyond the set limits: – For the adjustment of the summer bypass (possible with the help of the optional wireless remote control only), see Sections 5 and 6.2 as well as the operating instructions of the optional wireless remote control.
	Summer bypass flap has got stuck.	Examine the summer bypass module and make the flap movable again.
	Motor of the summer bypass flap is not working.	Check cables and cable connections.
		Replace summer bypass motor.
No or low air volume	No or false adjustment	Adjust the system. See Section 4.2
	Filter contaminated	Filter replacement (unit, valves, etc.)
	Valves / grills clogged	Valves / grills cleaning.
	Heat exchanger clogged	Heat exchanger cleaning. See Section 7.2.1
	Heat exchanger frozen-up	Defrost the heat exchanger
	The unit operates in frost protection mode.	No unit error. The unit operates in frost protection mode. See Section 6.3
		Wait for warmer outside temperature.
		Check the defroster heating installed on site.
		No defroster heating available: – retrofit on site if required.

8 Faults

Fault / problem	Possible causes	Checkup / measure
Noise level too high	Absence of silencer	Install silencer.
	No or false adjustment	No or false adjustment
	Whistling noise from an air gap	Seal the air gap.
	Flow noise – Valves are not flush with the pipe system – Valves not sufficiently opened	Properly insert the valve into the connection piece.
		Re-adjust the valve (ensure the air gap is as large as possible).
Condensate leakage	Condensate drain is clogged	Clean condensate drain.
	Condensate drain leaking	Connection and condensate flow verification.
Room air too dry	Too high air volume flow rate is provided in relation to the size and usage of the rooms. Due to missing or false adjustment or too high ventilation mode.	Adjust the system. See Section 4.2
		Switch the unit from manual operation to automatic mode.
Switching to automatic mode on the integrated control panel is not possible.	Humidity sensor connected incorrectly.	Check cables and cable connections of the humidity sensor.
	Humidity sensor is defective.	Replace the defective humidity sensor.

9 Technical data

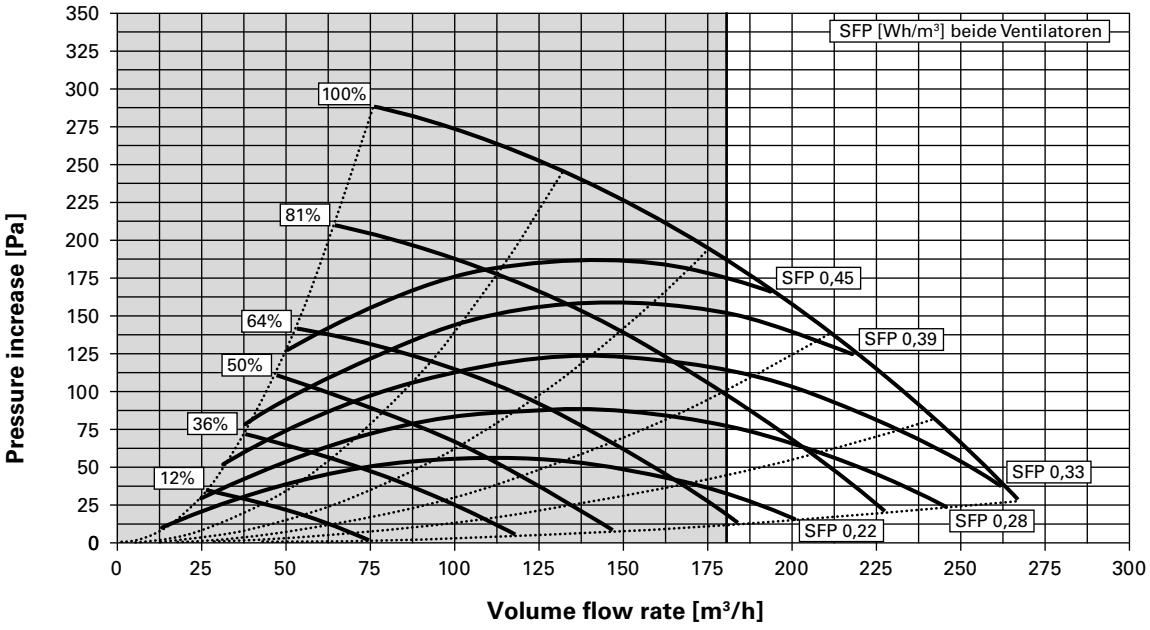
9.1 Data sheet

Unit type	**profi-air 180 sensor**		**profi-air 300 sensor**	
Weight	about 33 kg		about 45 kg	
Dimensions (WxDxH)	1,005 x 530 x 419 mm		1,055 x 590 x 569 mm	
Depth incl. mounting rail	434 mm		584 mm	
Heat exchanger				
Type	Cross-flow plate heat exchanger, water-resistant, frost-proof		Cross-flow plate heat exchanger, water-resistant, frost-proof	
Material	aluminium		aluminium	
Max. heat recovery efficiency	85 %		90 %	
Fans				
Type	2 x EC fans		2 x EC fans	
Network connection	230 V / ~50 Hz		230 V / ~50 Hz	
Performance				
Recommended application	70 to 180 m^3/h		90 to 300 m^3/h	
max. power input	88 W		154 W	
max. power consumption	0.4 A		0.7 A	
Fuse protection (on site)	16.0 A delay fuse (cable 3 x 1.5 mm^2)		16.0 A delay fuse (cable 3 x 1.5 mm^2)	
Filter				
	Supply air	Extract air	Supply air	Extract air
Filter class	G4, F7 optionally	G4	G4, F7 optionally	G4
Connection				
Air connection	Ø 125 mm		Ø 160 mm	
Tests and approvals				
	- DIBt® (General building authority approval)		- DIBt® (General building authority approval)	

9.2 Performance diagram of volume flow rate

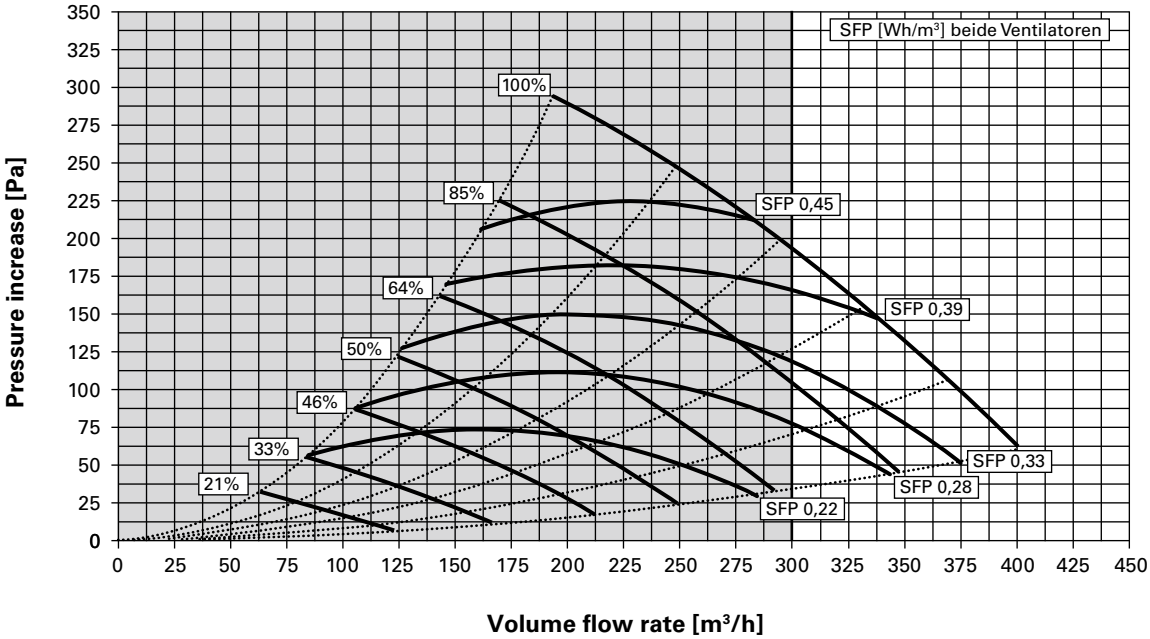
9.2.1 profi-air 180 sensor

Application according to EU regulations 1253/2014 and 1254/2014



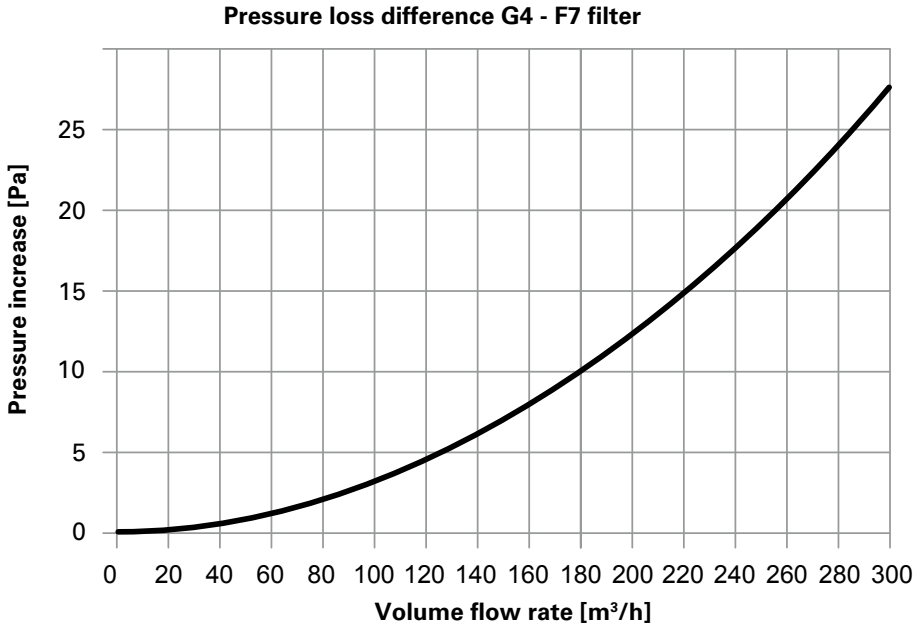
9.2.2 profi-air 300 sensor

Application according to EU regulations 1253/2014 and 1254/2014



9.2.3 Increase in pressure loss due to F7 filter

If the profi-air sensor 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.

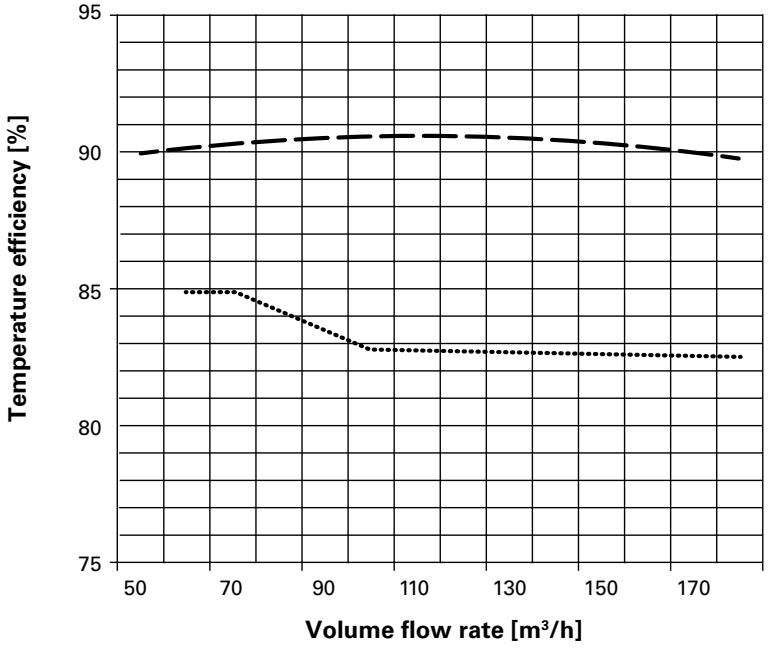


9.3 Performance diagram of temperature efficiency

9.3.1 profi-air 180 sensor

– – Temperature efficiency in condensing operation
Extract air = 25 °C / 55 % RH
Fresh air = –10 °C / 50 % RH
Balanced mass flow

····· Temperature efficiency (DiBt).
Extract air = 25 °C / 37 % RH
Fresh air = –3 °C / 85 % RH
Balanced mass flow

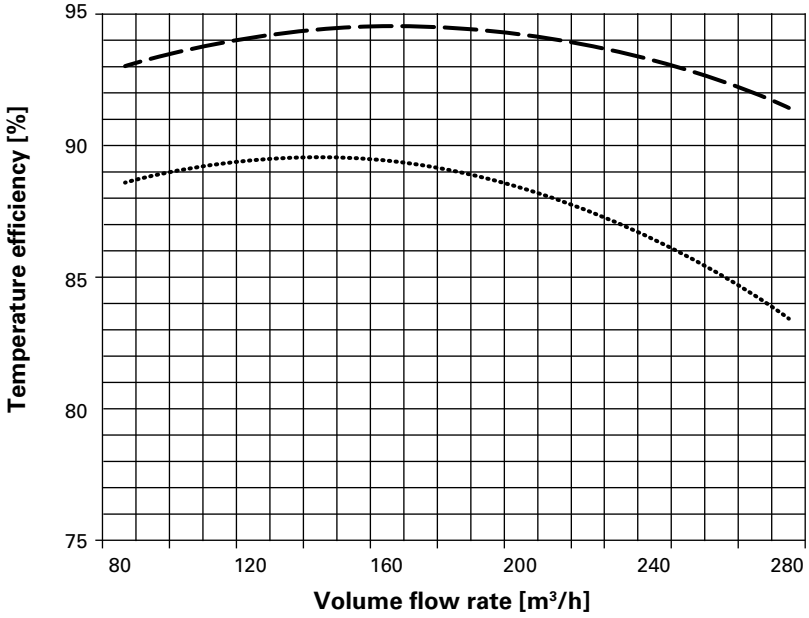


9 Technical data

9.3.1 profi-air 300 sensor

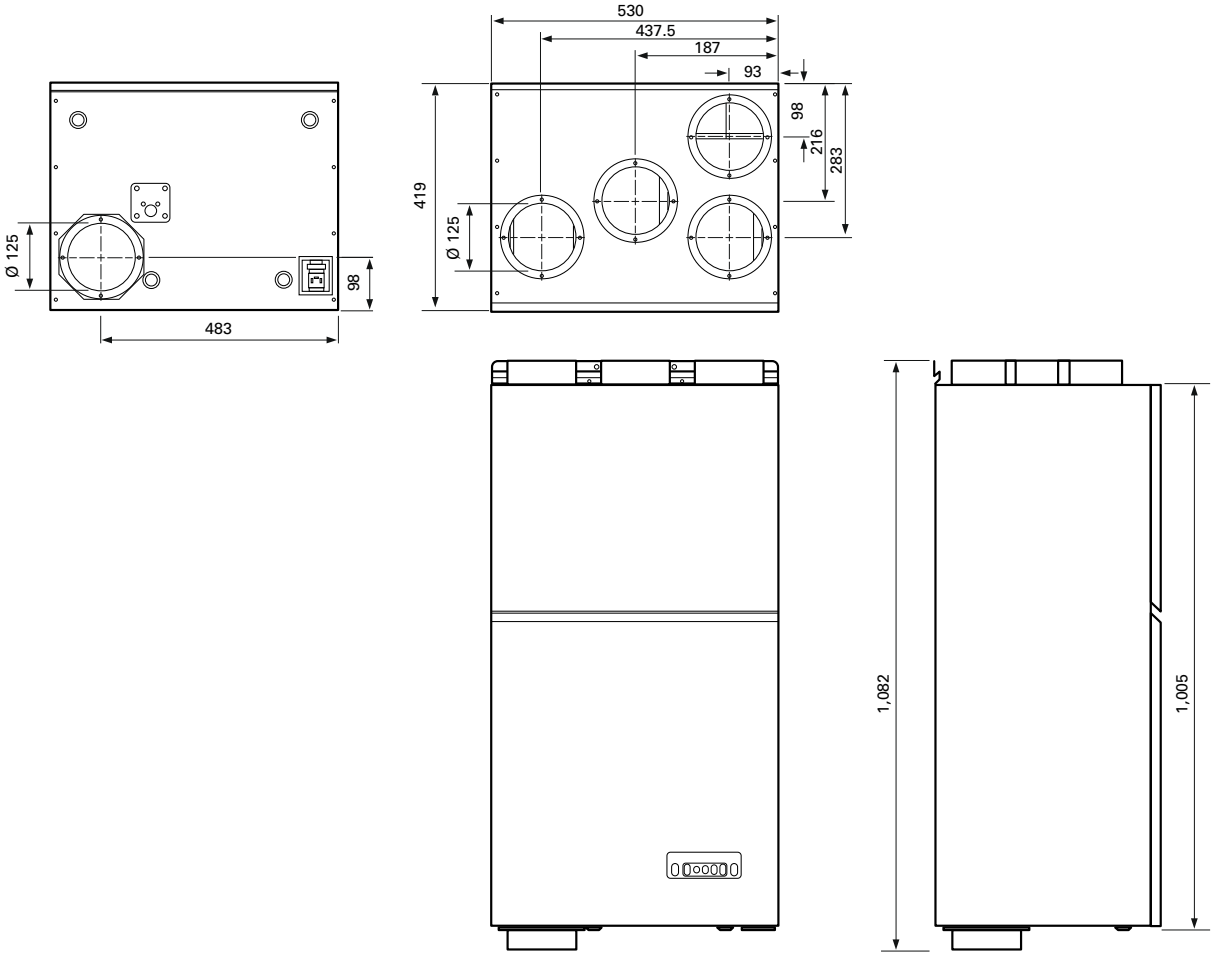
– – Temperature efficiency in condensing operation
Extract air = 25 °C / 55 % RH
Fresh air = –10 °C / 50 % RH
Balanced mass flow

····· Temperature efficiency (DiBt).
Extract air = 25 °C / 37 % RH
Fresh air = –3 °C / 85 % RH
Balanced mass flow

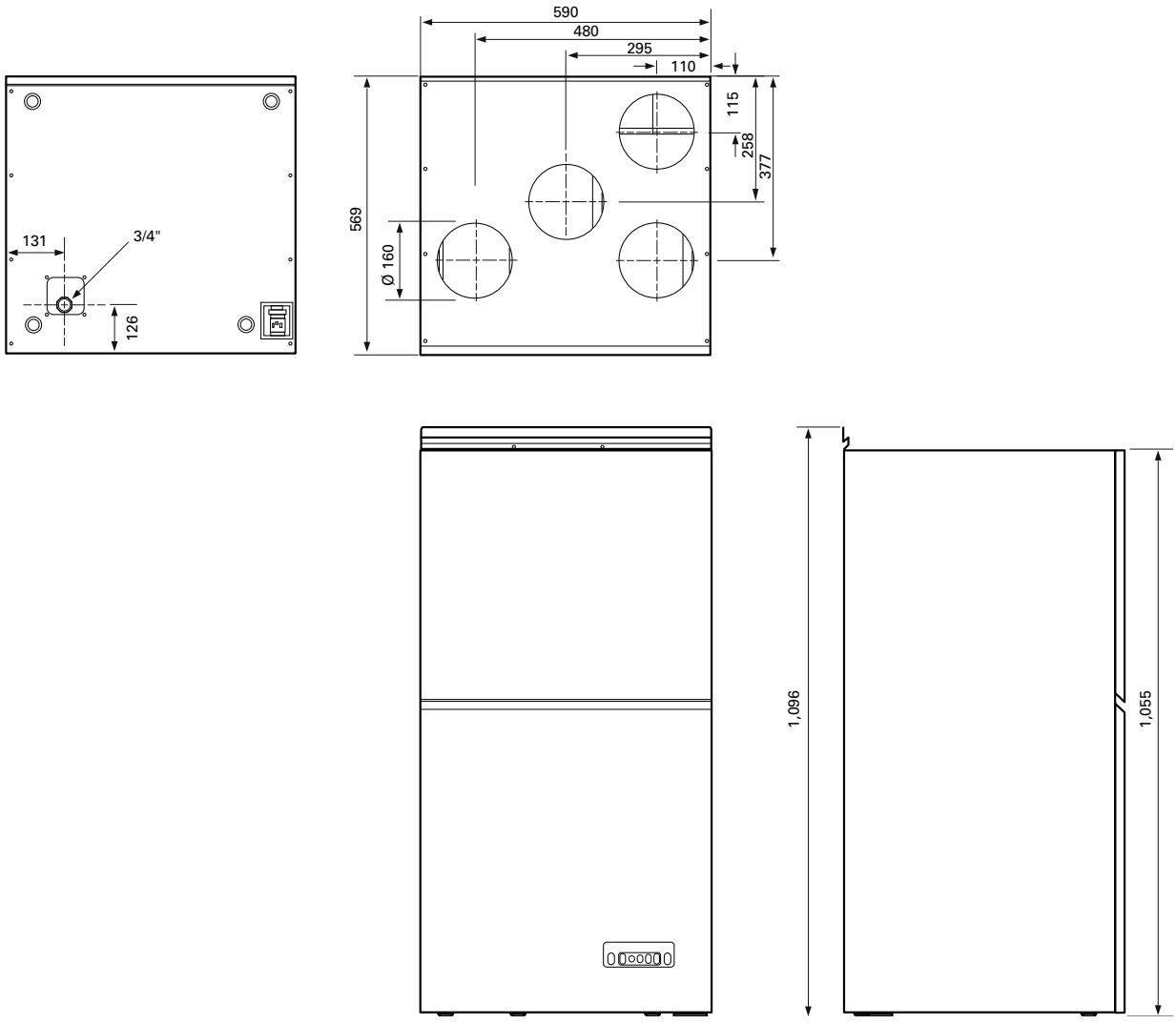


9.4 Dimensional drawing

9.4.1 profi-air 180 sensor



9.4.2 profi-air 300 sensor



9 Technical data

9.5 Sound data of profi-air 180 sensor

9.5.1 Sound, equipment emission

Air volume m³/h	Pressure Pa	Sound pressure level at a distance of 1 m in a standard room * Lp dB(A)
140	70	47
	100	49
180	100	55

*Standard room = a room of approx. 10 m², 2.4 m room height and mean absorption of 0.2

9.5.2 Sound, supply air cuff

Air volume m³/h	Pressure Pa	Sound power level Lw dB(A)							
		63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	Sum
140	70	34	40	43	44	36	27	19	57
	100	36	42	45	47	38	29	21	59
180	100	38	42	47	50	48	42	31	61

9.5.3 Sound, extract air cuff

Air volume m³/h	Pressure Pa	Sound power level Lw dB(A)							
		63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	Sum
140	70	35	38	40	44	41	33	24	56
	100	37	40	43	47	43	33	26	58
180	100	38	43	50	51	48	42	31	61

9.6 Sound data of profi-air 300 sensor

9.6.1 Sound, equipment emission

Air volume m³/h	Pressure Pa	Sound pressure level at a distance of 1 m in a standard room * Lp dB(A)
126	50	39
162	70	44
	100	46
216	70	47
	100	49
250	100	53

*Standard room = a room of approx. 10 m², 2.4 m room height and mean absorption of 0.2

9.6.2 Sound, supply air cuff

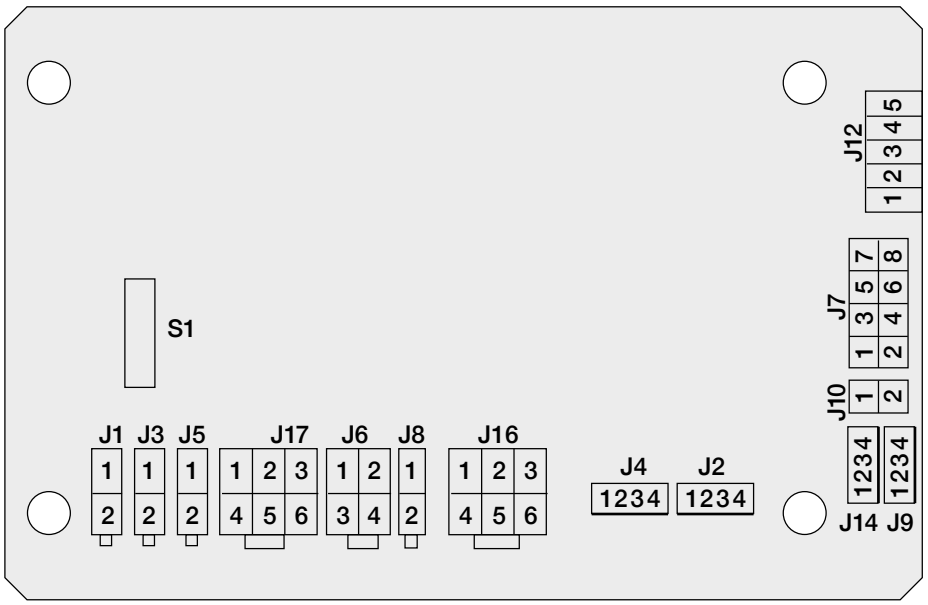
Air volume m³/h	Pressure Pa	Sound power level Lw dB(A)								
		63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz		Sum
126	50	20	30	34	36	23	19	17	18	40
162	70	23	33	35	40	32	24	18	18	43
	100	25	36	42	42	34	28	18	18	46
216	70	25	34	42	42	35	28	19	18	46
	100	26	36	43	44	36	30	20	18	47
250	100	27	36	45	45	38	31	21	18	49

9.6.3 Sound, extract air cuff

Air volume m³/h	Pressure Pa	Sound power level Lw dB(A)								
		63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz		Sum
126	50	16	31	37	36	29	21	17	18	40
162	70	20	33	44	39	34	26	18	18	46
	100	21	33	43	41	35	28	18	18	46
216	70	22	34	44	43	37	31	20	18	47
	100	23	34	45	44	33	32	20	18	48
250	100	24	37	47	45	40	34	22	18	50

9 Technical data

9.7 Terminal diagram of profi-air 180/300 sensor



No.	Connection description	No.	Value
J1	AC mains inlet	1 2	L – 230 VAC +/-15 %, 50/60 Hz N – 230 VAC +/-15 %, 50/60 Hz
J2	Exhaust air fan control	1 2 3 4	Tachometer PWM 10 VDC 0 V
J4	Supply air fan control		
J3	Exhaust air fan current	1 2	L – 230 VAC +/-15 %, 50/60 Hz N – 230 VAC +/-15 %, 50/60 Hz
J5	Supply air fan current		
J6	Bypass current AC	1 2 3 4	L – forward L – backward N – jumper NC
J7	Temperature sensors	1/2 3/4 5/6 7/8	T1 – NTC – 2 kΩ at 25 °C T2 – NTC – 2 kΩ at 25 °C T3 – NTC – 2 kΩ at 25 °C T4 – NTC – 2 kΩ at 25 °C
J10	Filter reset	1 2	+12 V ext reset
J12	Control panel	1 2 3 4 5	+12 V ext 0 V ext earth RS-485 data + RS-485 data –
J14	Humidity sensor extract air	1 2 3 4	+3.3 V SCK (serial clock) SDA (serial data) 0 V
S1	Mainboard fuse		250 V / 4A time-lag / 5 x 20 mm

10 Product data sheets according to the ErP directive

10.1 profi-air 180 sensor

Manufacturer		**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97486 Königsberg		
Type of product		**profi-air 180 sensor**		
Catalogue number		**78300718**		
Additional equipment		None		
Specific energy consumption	SEC	cold	-75.9	kWh/(m² a)
		average	-38.9	
		warm	-15.1	
Energy efficiency grade		A		
Type		RVU / BVU		
Type of drive		VSD		
Type of heat recovery		Recuperation		
Thermal efficiency	η_t	83		%
Highest air volume flow rate		180		m³/h
Electric power input		88		W
Sound power level	L_{WA}	50		dB[A]
Reference air volume flow rate		0.035 126		m³/s m³/h
Reference pressure difference		50		Pa
Specific power input	SPI	0.22		W/(m³/h)
Control typology		Central demand control		
Control factor		0.85		
Highest internal air leakage rate		0.7		%
Highest external air leakage rate		2.0		%
Location and description of filter warning indicator		Fault report indicator on the integrated control panel (visual)		
Website		www.fraenkische.com		
Annual energy consumption	AEC	cold	7.81	kWh/(m² a)
		average	2.44	
		warm	1.99	
Annual heating energy savings	AHS	cold	86.6	kWh/(m² a)
		average	44.3	
		warm	20.0	

10 Product data sheets according to the ErP directive

10.2 profi-air 300 sensor

Manufacturer		**FRÄNKISCHE ROHRWERKE** Gebr. Kirchner GmbH & Co. KG Hellingerstraße 1, 97486 Königsberg		
Type of product		**profi-air 300 sensor**		
Catalogue number		**78300730**		
Additional equipment		None		
Specific energy consumption	SEC	cold	-79.2	kWh/(m² a)
		average	-40.8	
		warm	-16.2	
Energy efficiency grade		A		
Type		RVU / BVU		
Type of drive		VSD		
Type of heat recovery		Recuperation		
Thermal efficiency	η_t	88		%
Highest air volume flow rate		300		m³/h
Electric power input		154		W
Sound power level	L_{WA}	49		dB[A]
Reference air volume flow rate		0.058 210		m³/s m³/h
Reference pressure difference		50		Pa
Specific power input	SPI	0.20		W/(m³/h)
Control typology		Central demand control		
Control factor		0.85		
Highest internal air leakage rate		0.4		%
Highest external air leakage rate		2.5		%
Location and description of filter warning indicator		Fault report indicator on the integrated control panel (visual)		
Website		www.fraenkische.com		
Annual energy consumption	AEC	cold	7.63	kWh/(m² a)
		average	2.26	
		warm	1.81	
Annual heating energy savings	AHS	cold	89.5	kWh/(m² a)
		average	45.8	
		warm	20.7	

11 EC Declaration of Conformity

11.1 profi-air 180 sensor

FRÄNKISCHE

EC - Declaration of Conformity

Manufacturer:

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

Product name: **Ventilation unit with heat recovery and summer bypass**

Type: **profi-air 180 sensor**

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

The product complies with the regulations, particularly the protection requirements of the following EC directives:

Low Voltage Directive	**2006/95/EC**
EMC Directive	**2004/108/EC**
Machinery Directive	**2006/42/EC**
ErP Directive	**2009/125/EC**

The conformity of the specified product in terms of compliance with these directives has been proven.

If unauthorised modifications are made to the product, this declaration will loose its validity.

ppa. Gerald Schmitt

Königsberg, 11 April 2016

per pro. Gerald Schmitt
Division Head, Building Technology division

11 EC Declaration of Conformity

11.2 profi-air 300 sensor

FRÄNKISCHE

EC - Declaration of Conformity

Manufacturer:

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

Product name: **Ventilation unit with heat recovery and summer bypass**

Type: **profi-air 300 sensor**

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

The product complies with the regulations, particularly the protection requirements of the following EC directives:

Low Voltage Directive	**2006/95/EC**
EMC Directive	**2004/108/EC**
Machinery Directive	**2006/42/EC**
ErP Directive	**2009/125/EC**

The conformity of the specified product in terms of compliance with these directives has been proven.

If unauthorised modifications are made to the product, this declaration will loose its validity.

ppa. Gerald Schmitt

Königsberg, 11 April 2016

per pro. Gerald Schmitt
Division Head, Building Technology division

12 Warranty and liability

12.1 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 sensor ventilation unit, but not more than 30 months from the date of manufacture of the installed profi-air 180/300 sensor 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 sensor 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.

12.2 Liability

The profi-air sensor ventilation unit has been developed and produced for applications in so-called comfort ventilation systems. Any other application is considered “improper” and can lead to damage to the profi-air sensor ventilation unit or personal injury which the manufacturer cannot be held liable for.

The manufacturer is not liable for damage 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.com.

13 Disposal

Please do not dispose of the profi-air 180/300 sensor unit with the normal household waste; ask your municipal waste consulting authority about collection points and recycling possibilities.

Unit filters can be disposed of with the household waste.

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
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 3,500 people worldwide. Both our many years of experience and expertise in plastics processing, 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 customers' needs. Our action and business philosophy focus on our customers and their needs and requirements for our products.

FRÄNKISCHE – Your partner for sophisticated and technologically advanced solutions.

FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG | Hellinger Str. 1 | 97486 Königsberg/Germany
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