PAW-A2W-VENTA

Installation and Service

GB

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Contents

1 Overview

Read the instructions carefully and in its entirety.

1.1 Warranty

For the assertion of warranty claims, the products must be correctly connected and operated, and used in accordance with the data sheets. Further prerequisites are a completed maintenance plan with no gaps and a commissioning report. Panasonic will require these in the case of a warranty claim.

1.2 Type label

Before calling your service representative, make a note of the specification and production number from the type label, which can be found on the side of the units, next to the external connections.

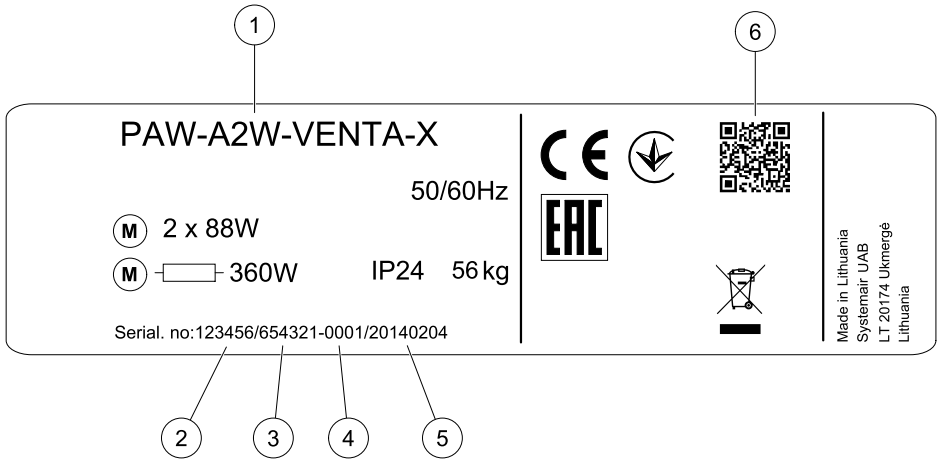
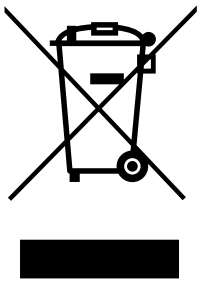


Fig. 1 Type label

Position	Description
1	Product code (product specification)
2	Product item number
3	Production order number
4	Serial number
5	Production date (YY.MM.DD)
6	QR code for manufacturing order (MO) number and software version

1.3 Disposal and recycling



This product is compliant to the WEEE directive. When disposing the unit, follow your local rules and regulations.
This product packing materials are recyclable and can be reused. Do not dispose in household waste.

2 Important Safety Information

- Observe and respect local conditions, regulations and laws.
- Safety elements may not be dismantled, circumvented or deactivated.
- Wear protective equipment during all work in the vicinity of the unit.
- Do not allow children to play with the device.

2.1 Intended Use

- Abide by the system-related conditions and requirements of the system manufacturer or plant constructor.
- Keep all the warning signs on the device and in a legible condition.
- The device is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- The system should operate continuously, and only be stopped for maintenance/service.
- Do not connect tumble dryers to the ventilation system.
- Make sure that filters are mounted before starting the unit.

2.2 Admonitions

Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections and maintenance work must be carried out by an authorized installer and in accordance with local rules and regulations.

Warning

- This product must only be operated by a person who has suitable knowledge or training within this field or carried out with the supervision of a suitably qualified person.
- Beware of sharp edges during mounting and maintenance. Use protective gloves.

Warning

- Risk of injury due to rotating parts that have not come to a complete standstill after mains supply to the unit have been disconnected.

2.3 Declaration of Conformity

Manufacturer

Systemair UAB
Linų st. 101
LT–20174 Ukmergė, LITHUANIA
Office: +370 340 60165 Fax: +370 340 60166
www.systemair.com

hereby confirms that the following product:

PAW-A2W-VENTA–R , PAW-A2W-VENTA–L

(The declaration applies only to product in the condition it was delivered in and installed in the facility in accordance with the included installation instructions. The insurance does not cover components that are added or actions carried out subsequently on the product).

Comply with all applicable requirements in the following directives:

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- Ecodesign Directive 2009/125/EC
- RoHS Directive 2011/65/EU

The following regulations are applied in applicable parts:

1253/2014	Requirements for ventilation units
1254/2014	Energy labelling of residential ventilation units
327/2011	Requirements for fans above 125 W

The following harmonized standards are applied in applicable parts:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 13857	Safety of machinery – Safety distances to prevent hazard zones being reached by upper or lower limbs
EN 60 335-1	Household and similar electrical appliances – Safety Part 1: General requirements
EN 60 335-2-40	Safety of household and similar electrical appliances – Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers
EN 62233	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
EN 50 106:2007	Safety of household and similar appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1 and EN 60967
EN 61000-6-2	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standards for residential, commercial and light-industrial environments

Skinnskatteberg, 06-01-2020

Mats Sándor

Technical Director

3 Delivery, Transport, Storage

3.1 Transport and storage

The PAW-A2W-VENTA should be stored and transported in such a way that it is protected against physical damage. It should be covered so dust, rain and snow cannot enter and damage the unit and its components.

Important

- Use the packaging exclusively as transport protection and not as a lifting aid.
- Load and unload the air handling unit carefully.

3.2 Delivery/Unloading

The appliance is delivered in one piece containing all necessary components, wrapped in plastic on a pallet for easy transportation.

Checking delivery

- Check the packaging and the air handling unit for transport damage. Any findings should be noted on the cargo manifest.
- Check completeness of the delivery.

  Verify that all ordered equipment is delivered before starting the installation. Any discrepancies from the ordered equipment must be reported to the supplier.

Warning

When opening the transport packaging, there is a risk of damage from sharp edges, nails, staples, splinters etc.

Unpacking

- Check the air handling unit for visible transport damage.
- Only remove the packaging shortly before assembly.
- Beware of sharp edges during mounting and maintenance. Use protective gloves.

4 Technical data

Voltage (nominal)	230 V
Frequency	50 Hz
Phase(s)	1~
Maximum airflow rate (at 100 Pa)	292 m^3/h
Reference airflow rate (at 50 Pa)	204 m^3/h
Sound power level	40 dB
Operating temperature (outdoor air)	-20°C – +40°C
Fans (W)	166 W
Total power consumption (W)	176 W
Enclosure class	IP22
Heat Exchanger	
Heat recovery efficiency	83%
Heat exchanger rotor drive type	Variable speed
Exchanger type	Rotating
Supply air	
Input power, supply fan	83 W
Extract air	
Input power, extract fan	83 W
Filter	
Filter class, supply air	F7/ePM1 60%
Filter class, extract air	M5/ePM10 50%
Color casing	
RAL	RAL 9010

Dimensions and weights	
Weight	46 kg
Mounting position	Vertical
Energy-related products data (ErP)	
Energy class, Basic unit	A
Energy class, Unit with local control on demand	A
ErP compliance	ErP 2018

4.1 Dimensions and Weight

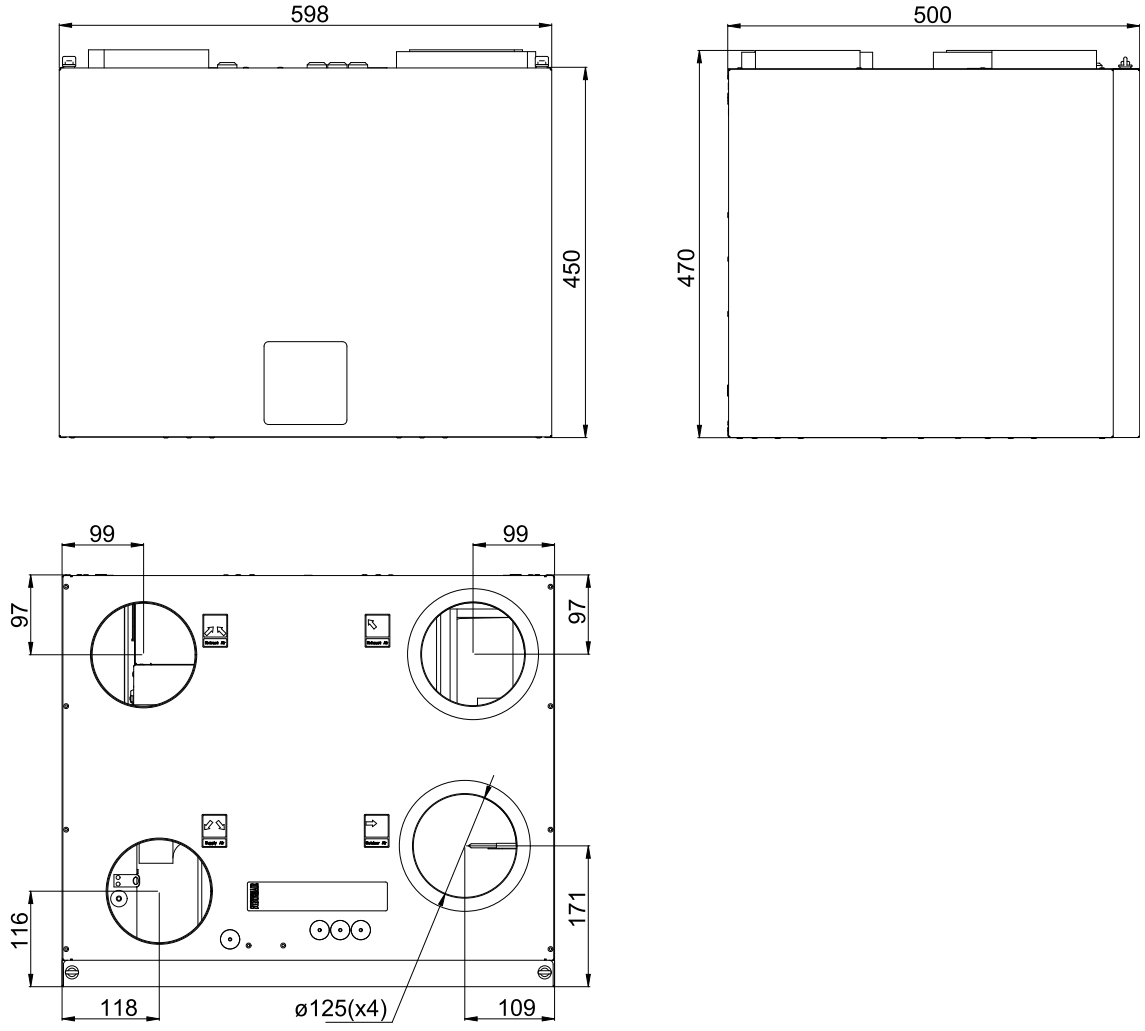


Fig. 2 Dimensions of left hand unit

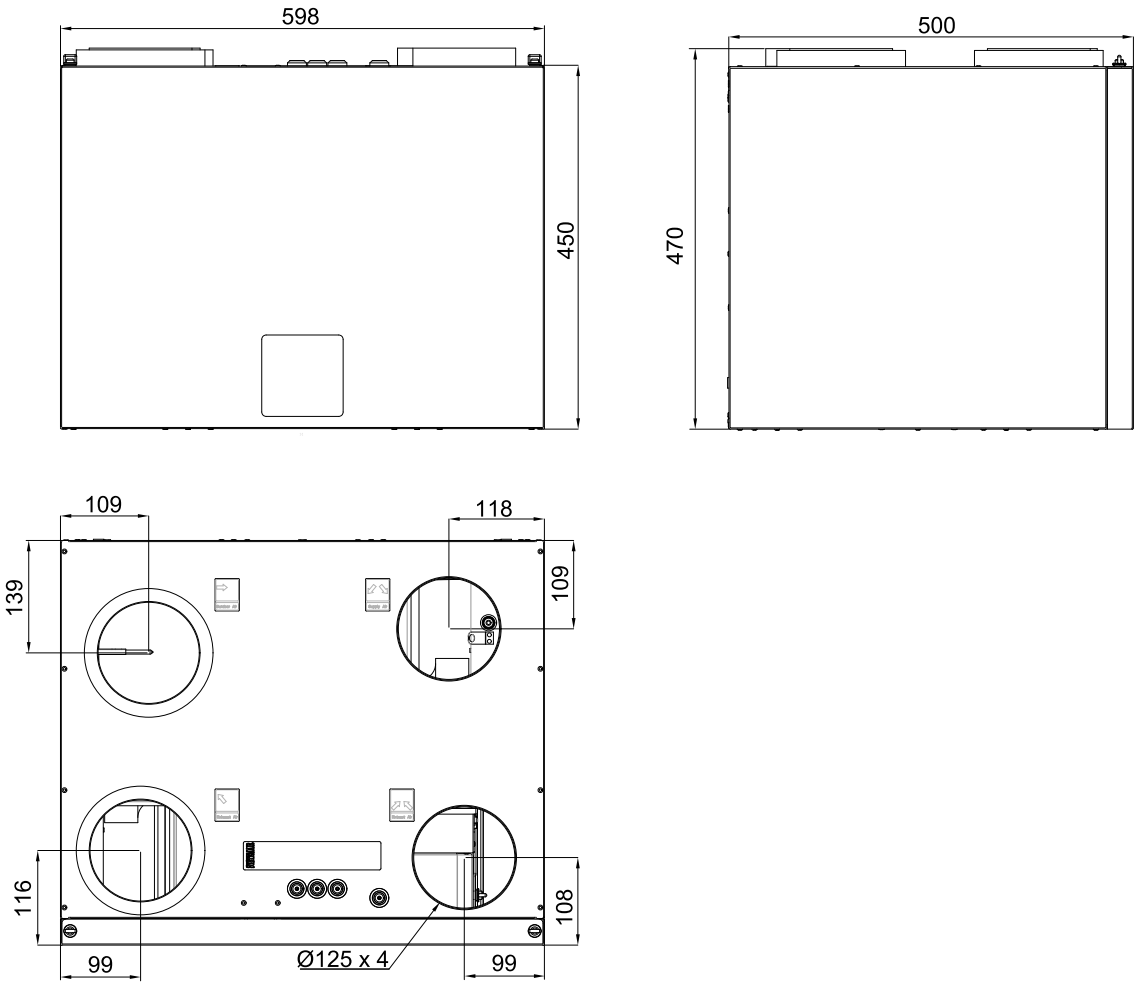


Fig. 3 Dimensions of right hand unit

The unit weight is 46 kg.

4.2 Duct connections

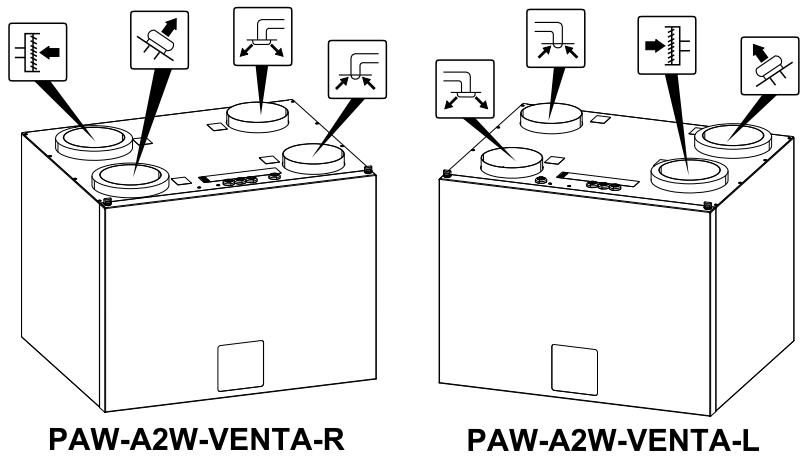
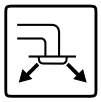
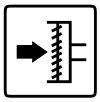


Fig. 4 Duct connections

Symbol	Description	Symbol	Description
	Supply air		Outdoor air

Exhaust air

Extract air

4.3 System curves

Every change in the pressure of the ventilation system, will result in a different airflow.

Each curve shows a different airflow level setting:

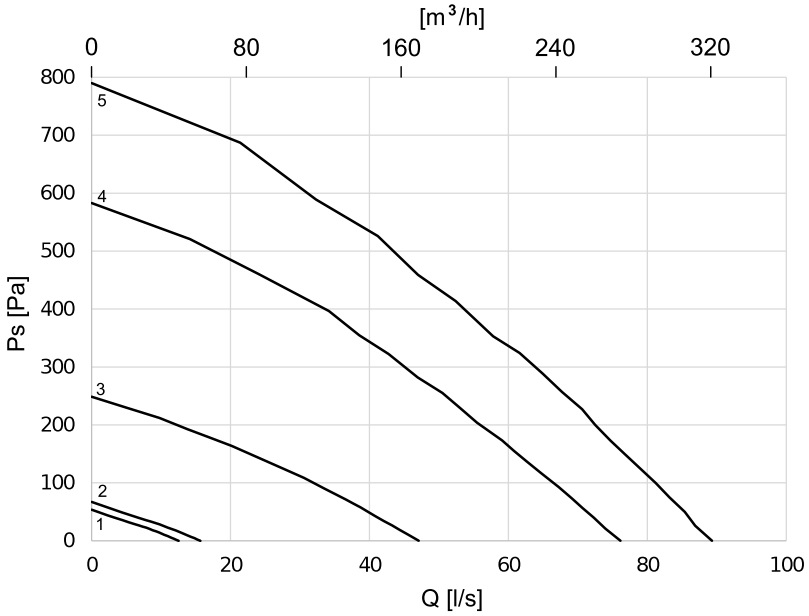
1. 16% (`MINIMUM LEVEL`)
2. 20% (`LOW LEVEL`)
3. 50% (`NORMAL LEVEL`)
4. 80% (`HIGH LEVEL`)
5. 100% (`MAXIMUM LEVEL`)

Airflow level settings can be changed in `Service` menu.

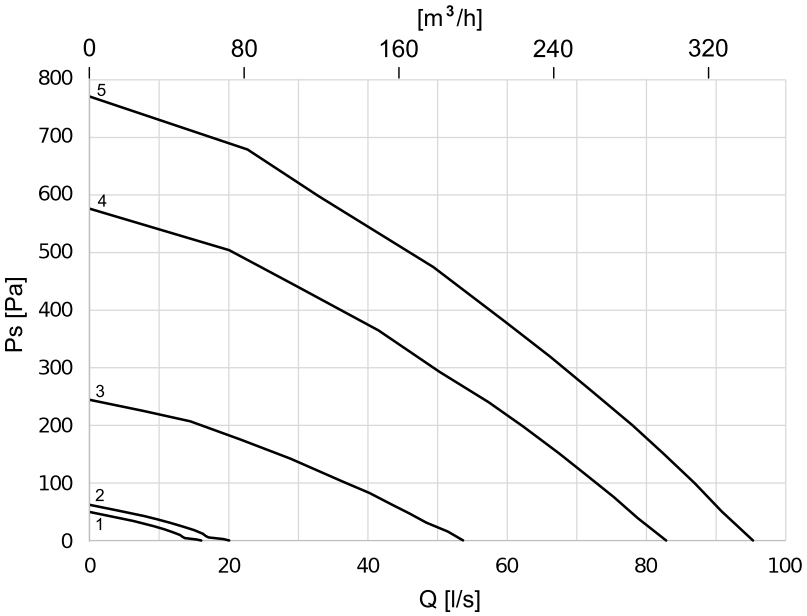
The pressure is affected by the filter type and differ with each filter combination.

System curves for each airflow level with standard filters shown bellow.

4.3.1 Supply air, F7/ePM1 60% type filter



4.3.2 Extract air, M5/ePM10 50% type filter



5 Prerequisites for Installation

To ensure a proper and fail-free operation, it is important that the unit is installed according to these instructions.

5.1 Location and Space Requirements

PAW-A2W-VENTA unit can be installed stand-alone (hanged to the wall), on top of a squared domestic hot water storage tank 60x60 (PAW-TA20C1E5C) or on top of All-in-One Compact (WH-ADC0309J3E5C).

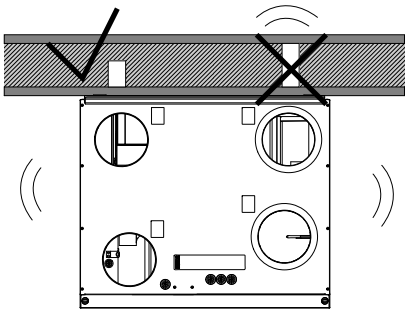
Installation on the wall requires a wall bracket kit (Item no.: PAW-VEN-WBRK), which is not included with the unit and has to be ordered separately.

When choosing the location it should be kept in mind that the unit requires maintenance regularly and that the inspection door should be easily accessible. Leave free space for opening the door and for taking out the main components (figure 4.1).

5.1.1 Wall preparation for mounting bracket

Note:
Installation on a wall is optional.

The unit should be installed in such a way that there is no vibration noise coming from the wall on which the unit is installed.



5.2 Outdoor Air Intake Location Recommendation

Recommended installation location for the outdoor air intake is the northern or eastern side of the building and with a distance to openings for discharge of stale ventilation air, kitchen ventilator, central vacuum system, waste water drainage and other pollution sources like exhaust from traffic, etc. Exhaust air should ideally be led via a roof cowl to the outside and with a good distance from the outdoor air intake, windows, etc.

5.3 Access to Power supply

The PAW-A2W-VENTA is supplied with approximately 1,5 m cable and plug for 230V, single phase earthed connection.

Make sure a power outlet is reachable by the plug.

6 Installation

6.1 Required components for Modbus communication between the Ventilation Unit and the Heat Pump

- PCB kit PAW-A2W-VENTA (Item no.: PAW-VEN-ACCPCB)
- PAW-AW-MBS-H Modbus interface
- Two core cable (cores have to be at least 0.5 mm^2) for connection to Modbus interface

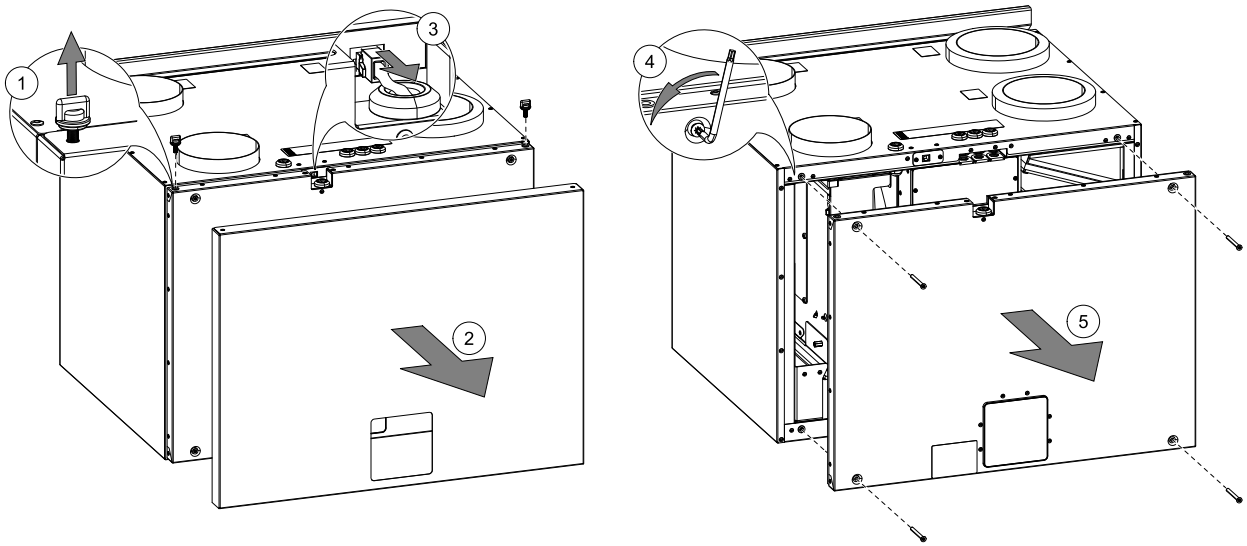
Note:

Compatible only with Panasonic Aquarea H and J series.

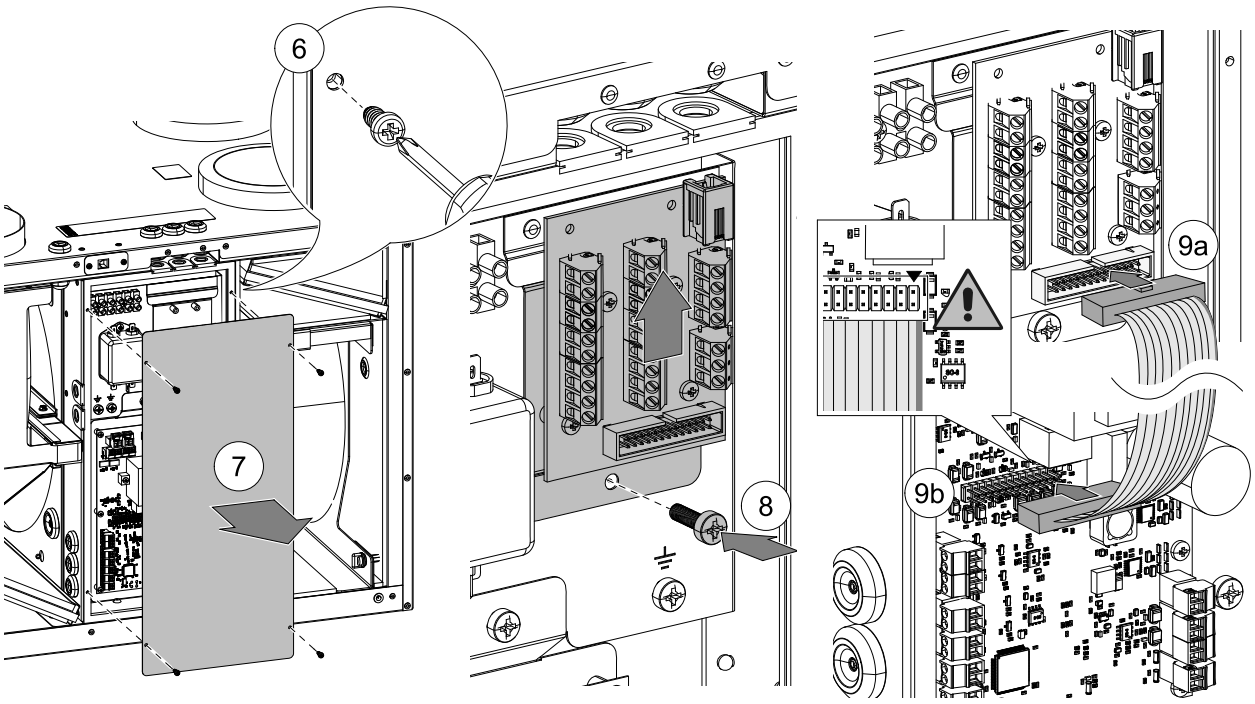
6.2 Installation procedure

Important

The device may only be installed by qualified, instructed and trained personnel. The persons must know the relevant safety directives in order to recognise and to avoid risks.

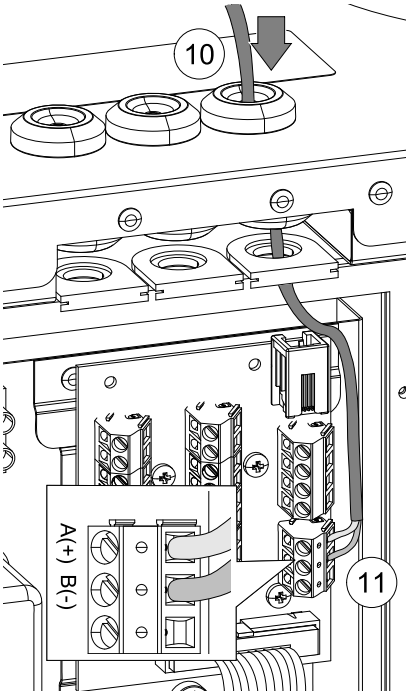


- Remove two knobs at the top and take off the outer cover.
- Unplug control panel cable, remove four screws in the corners using included torx key and then remove the inner cover.



Note:

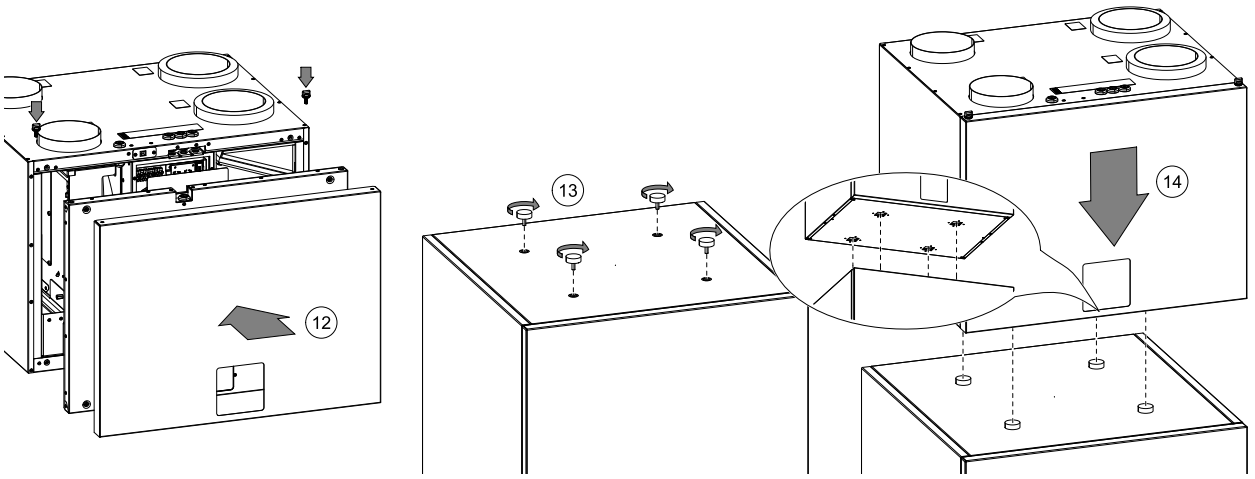
In order to connect PAW-A2W-VENTA to external devices, a connection board (PCB kit) is needed. It has to be ordered separately.

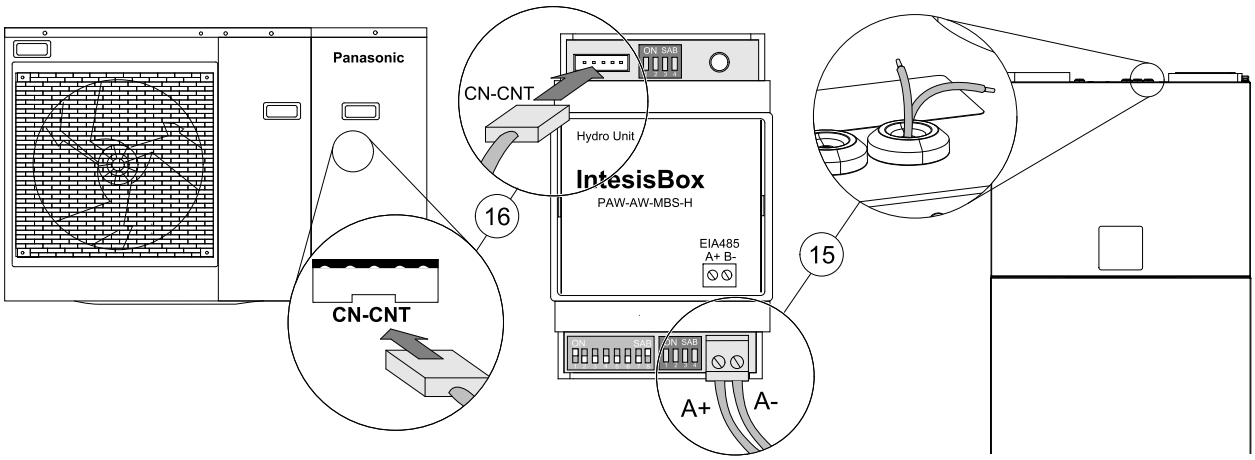


- Place the connection board on a dedicated mount inside of ventilation unit, secure the connection board with included screw (pos. 8).
- Take a flat cable that comes with the PCB kit, connect one of its ends to 26–pin connector on the connection board (pos. 9a) and the other end to 26–pin connector on the main circuit board (pos. 9b).

  One edge of the cable is marked with red stripe. The edge with the stripe must be connected to pin 1 which is marked with an indicator on the main circuit board.
- Attach two core cable to terminal block marked with A+ and B- (pos. 11). Make sure a cable is long enough to reach the PAW-AW-MBS-H Modbus Interface which has to be installed next to or inside of a heat pump.

  Cores have to be at least 0.5 mm^2.





Note:

PAW-AW-MBS-H Modbus Interface is needed to connect PAW-A2W-VENTA with a heat pump from Panasonic Aquarea H and J Series.

- Open the front cover of the heat pump to have access to the electronic circuit. Once the electronic circuit is reached, locate the socket connector marked as **CN-CNT.** See Panasonic Aquarea manual for more information.
- Take the cable that comes with the PAW-AW-MBS-H Modbus Interface, insert one of its connectors into the socket of the Modbus Interface, and the other connector to the **CN-CNT** socket on the heat pump's electronic circuit. See PAW-AW-MBS-H manual for more information.
- Connect cable from the PAW-A2W-VENTA ventilation unit to the PAW-AW-MBS-H Modbus Interface. Make sure to keep the polarity on this connection (A+ and B-).

6.2.1 Modbus Interface

Check the DIP-Switch configuration of the PAW-AW-MBS-H Modbus Interface and make sure it matches the current installation's parameters (See PAW-AW-MBS-H manual for more information).

By default, the interface is set to:

- Modbus Slave Address ->1
- Modbus baud rate –> 9600 bps

These settings are also configured in PAW-A2W-VENTA unit by default and thus no additional DIP switch settings are needed on Modbus interface. Default settings are recommended.

If settings are changed on one device – settings on the other device have to be adapted. The communication settings of the PAW-A2W-VENTA unit can be changed in **`Service —> Communication —> Modbus`** menu.

6.3 Ventilation Duct Connection and Insulation

Important

- Always cover the ventilation ducts during construction period.
- Make sure there are no loose objects or impurities inside the ducts.

Install the ducts, supply air diffusers and air intake grilles as shown in the ventilation drawing.

- Supply air and extract air ducts must be insulated if located in cold places.
- Outdoor air and exhaust air ducts with cold air must be insulated if located in warm places (inside building's vapour barrier).

It is very important to insulate cold ducts and joints tightly without any gaps, otherwise there is a risk of condensation which may result in moisture damage.

Do not install the ducts directly against structural building elements to avoid sound propagation. Use acoustic insulation and sound attenuators.

Note:

The type of ventilation ducts and insulation differ for each building and climate zone. If the ventilation drawing is not provided, please contact your installer or place of purchase for recommendations.

6.4 Before Starting the System

When the installation is completed, check that:

- The unit is installed in accordance with the instructions
- Outdoor and exhaust air dampers and silencers are installed and that the duct system is correctly connected to the unit
- All ducts are sufficiently insulated and installed according to local rules and regulations
- Outdoor air intake is positioned with sufficient distance to pollution sources (kitchen ventilator exhaust, central vacuum system exhaust or similar)
- All external equipment is connected
- The unit is correctly wired

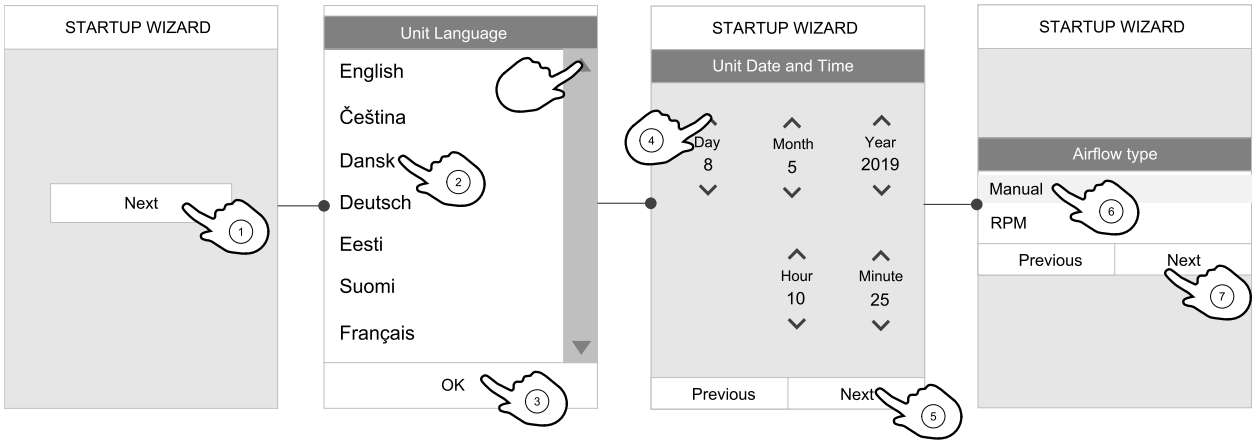
6.5 Commissioning

Note:

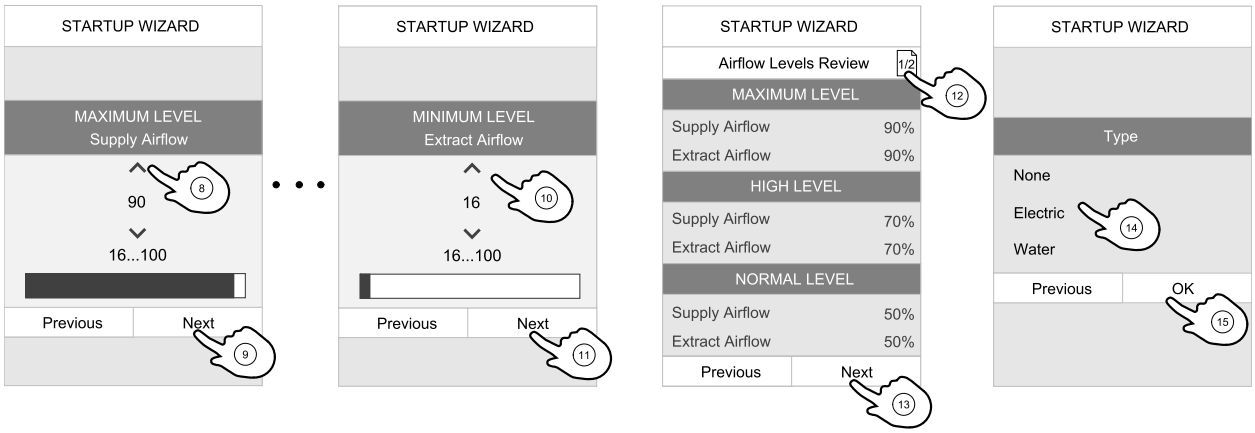
Panasonic Aquarea unit has to be powered first or at the same time as PAW-A2W-VENTA unit to establish communication.
If detection of Panasonic Aquarea unit has failed – restart the system.

Follow the first startup instructions and fill in the ***Commissioning record*** as you go through the settings.

The Startup Wizard cannot be skipped.



Select language, set the time and choose airflow control type. Select revolutions per minute as the type of airflow control only if these values are included with the device.



Set speed of supply and extract air fans for each level. When finished, review your settings. It is possible to go back to previous menus and make modifications. Finally choose heating type or none. Finish startup wizard with OK button.

All additional changes post-startup wizard must be recorded in the ***Commissioning record***.

6.6 Concluding Routines

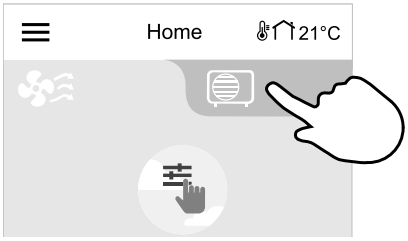
Perform the following procedures before leaving the site:

1. Ensure that the product is operational and that no alarms are active.
2. If applicable, save the configuration backup.
3. Make sure that the ***Commissioning record*** is complete.
4. Collect all tools.
5. Inform the appropriate person that work is finished.
6. Follow the procedures for the return and disposal of replacement parts and the disposal of packing.

7 Operation

PAW-A2W-VENTA has a modern touchscreen LCD control panel, simply known as HMI – Human Machine Interface. The touchscreen display provides information about current state of the unit and allows you to control all system functions.

The unit is controlled by touching icons or options on the control panel screen. The touch screen is sensitive and it is not necessary to press too hard.



Note:

If PAW-A2W-VENTA is connected with a Panasonic Aquarea unit, the heat pump settings appear in a separate tab on the PAW-A2W-VENTA control panel, this allows to control both units with a single control panel.
Switching between ventilation and heat pump screens is done by touching tabs at the top.

7.1 Quick Info screen

Quick info screen displays basic information about ventilation unit and heat pump (if connected).

Screen automatically switches to Quick Information after 10 minutes of inactivity.

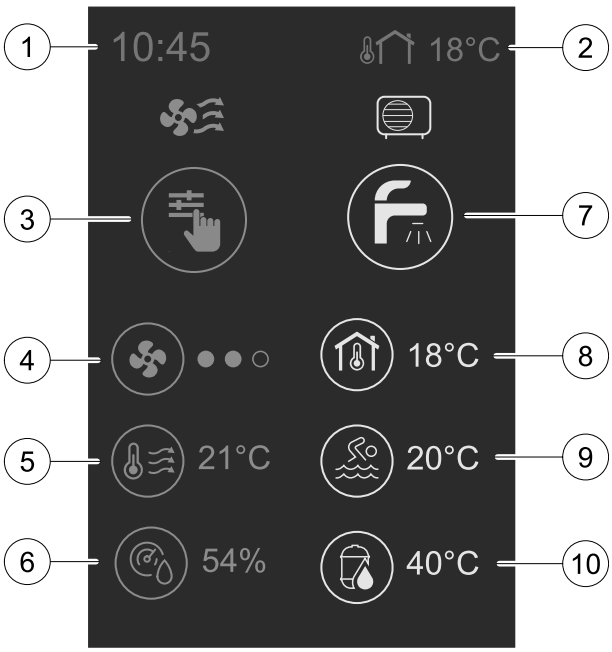
1. Time
2. Outdoor temperature

Ventilation

3. Current User mode / Alarm
4. Fan speed
5. Supply air temperature
6. Relative humidity

Heat pump (if configured)

7. Current Operation mode / Alarm
8. Zone 1 temperature
9. Zone 2 temperature (if configured)
10. Domestic hot water tank temperature (if configured)



Quick Info can be enabled or disabled in menu `System Preferences –> Display Settings – > Quick Info screen`. Control panel switches straight to sleep mode when not in use if Quick Info screen is disabled.

Screen timeout, sleep schedule, back light intensity and sleep mode activation can be adjusted in the same menu.

7.2 Startup wizard

During the first power up of the unit, you will be asked to set:

- menu language
- time and date
- import configuration file (if the Internet Access Module (IAM) with configuration file is available)

- airflow control type (`Manual`/`RPM`) and airflow level values
- heater type (`None`/`Electrical`/`Water`/`Change-over`)

The Startup Wizard cannot be skipped.

7.3 Common symbols

The following selection symbols are common and are present in most menu pages:

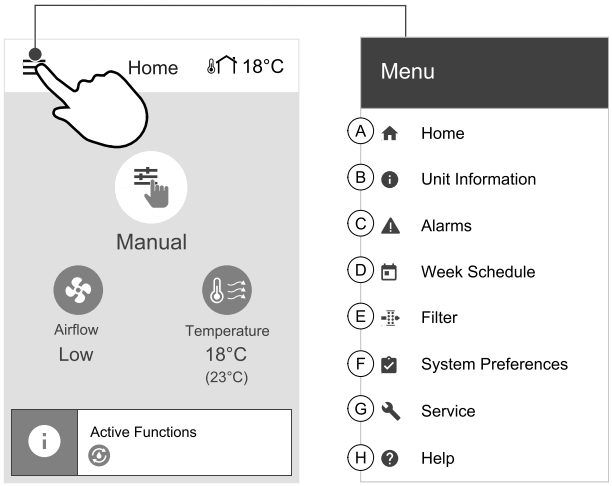
Back button to return to a previous menu, located at the upper left corner	On and Off slider to activate or deactivate a function. White bubble — function is inactive, green bubble — function is active.
Up arrow to increase a value	**CANCEL** Button to cancel changes
Down arrow to decrease a value	**SET/OK** Buttons to confirm changes

Some menus have more than one page. Touch page indicator in the top right corner to go to the next page. The first number indicates current page number and the second number indicates a total number of pages available.

Many options show up in a form of the pop-up window. Select the option from the displayed list in the pop-up window and press `OK` to confirm selection.

7.4 Menu overview

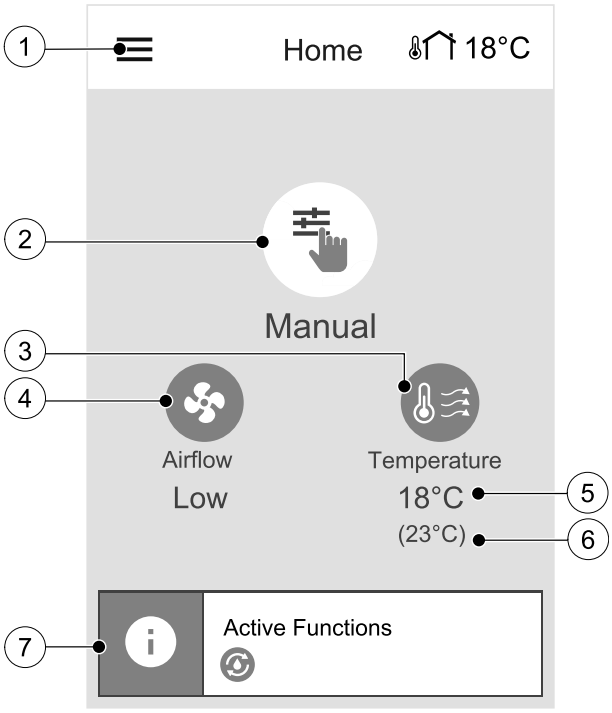
A. Return to home screen
B. Basic read-only information about the unit
C. Currently active alarms and alarm history
D. Configure and check week schedule
E. Check and change remaining time till filter change
F. General system preferences
G. Configuration of all system parameters
H. Help and troubleshooting menu



7.5 Ventilation control

7.5.1 Home screen

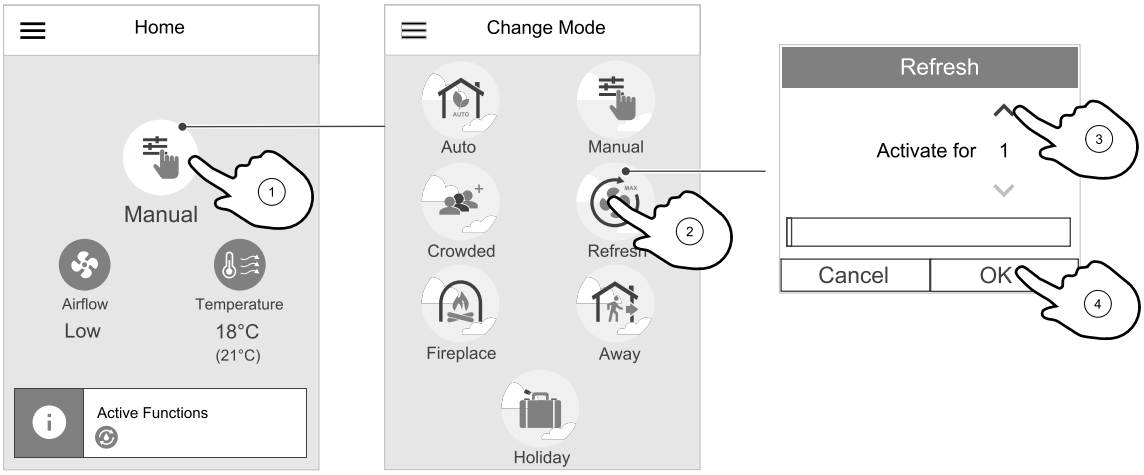
1. Drop-down menu list
2. Active user mode
3. Airflow settings
4. Temperature settings
5. Target temperature
6. Current measured temperature
7. Status bar



7.5.2 How to Select User Mode

For more information about user modes and functions, please check `Help` menu.

The top circle on the home screen indicates a currently active user mode. Touch the symbol to change the mode.



Duration have to be set for temporary user modes. PAW-A2W-VENTA will return to its previous working mode after the set time expires.

Note:

`AUTO` mode is available for selection only if the optional `Demand Control`, `Week Schedule` and/or external fan control functions are activated.

7.5.2.1 User modes

Settings of all modes can be modified in `Service` menu.

7.5.2.1.1 Permanent modes

Permanent modes are always active unless interrupted by temporary modes, activated user functions or alarms:

Icon	Text	Description
	AUTO	Automatic airflow control. AUTO mode is available for selection when Demand Control, Week Schedule and/or external fan control functions are configured, otherwise AUTO mode icon won't be visible in active user modes menu. AUTO mode activates Demand Control, Week Schedule and/or external fan control functions. Demand is available to choose as airflow setting in Week Schedule.
	MANUAL	Manual selection of airflow levels. The unit can be set run at one out of four available airflow speeds: Off/Low/Normal/High. **Note:** The fan can be set to OFF by activating Manual Fan Stop function in Service menu.

7.5.2.1.2 Temporary modes

Temporary modes are active only for a set period of time unless interrupted by active user modes, activated user functions or alarms:

Icon	Text	Description
	HOLIDAY	Sets speed of both supply and extract air fans to Low levels when user is away from home for a long period of time. ECO mode is active. Set duration in days.
	CROWDED	Sets speed of both supply and extract air fans to maximum High levels and temperature setpoint offset to –3 K when apartment is more crowded than usual. Default temperature setpoint offset is –3 K. Set duration in hours.
	AWAY	Sets speed of both supply and extract air fans to Low levels when user is away from home for a short period of time. ECO mode is active. Set duration in hours.
	REFRESH	Sets speed of both supply and extract air fans to maximum High levels to replace indoor air with a fresh air in a short period of time. Set duration in minutes.
	FIREPLACE	Sets speed of supply air fan to High level and extract air fan to Low level to increase air pressure within the apartment for better smoke extraction through the chimney. Set duration in minutes.

Temporary modes and user functions are active only for a set period of time after which they are terminated and the unit changes back to a former AUTO or MANUAL mode, depending on which one was active before temporary mode or user function was activated.

Temporary modes can also be activated via digital input signal triggered by push button, presence detector, etc.

7.5.2.1.1 Digital input functions

Digital input functions always active while digital input is activated.

Icon	Text	Description
	Central Vacuum Cleaner	Function sets speed of supply air fan to High level and extract air fan to Low level to increase air pressure within the apartment for better dust collection through central vacuum cleaner. Function can be activated via digital input — Central Vacuum Cleaner Function.
	Cooker Hood	Sets speed of both supply and extract air fans to Maximum level to increase airflow in the cooker hood. Function can be activated via digital input — Cooker Hood Function.
	Configurable Digital Input 1	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. High–priority function.
	Configurable Digital Input 2	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. Mid–priority function.
	Configurable Digital Input 3	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. Low–priority function.
	Pressure Guard	Configurable digital input for pressure switch connection. Airflow levels for both fans are freely configurable.

7.5.2.1.1.2 Configurable digital inputs

A custom airflow settings for supply and extract fans can be set and assigned to a digital input. Each fan can have a different airflow setting.

Configurable digital input can be activated via signal triggered by push button, presence detector or any other external device with digital output, such as Building Management Systems (BMS)

Configurable digital inputs are grouped in levels of priority, Configurable Digital Input 1 being the highest, meaning it can't be overwritten by other user functions.

7.5.2.1.1.3 Digital input and Mode hierarchy

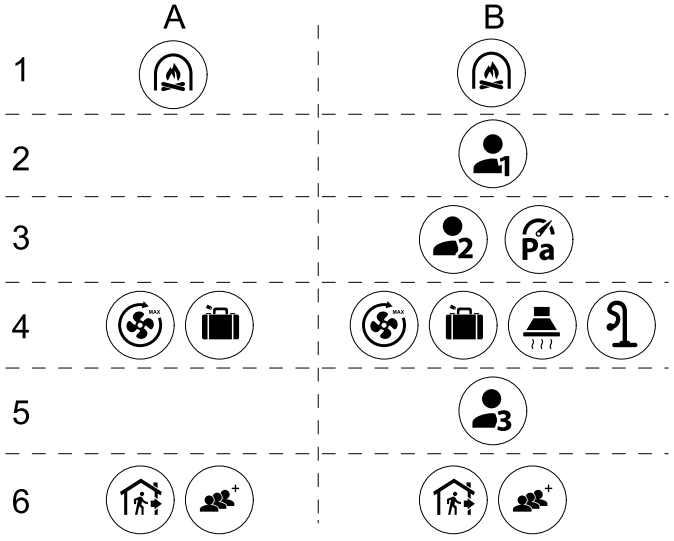
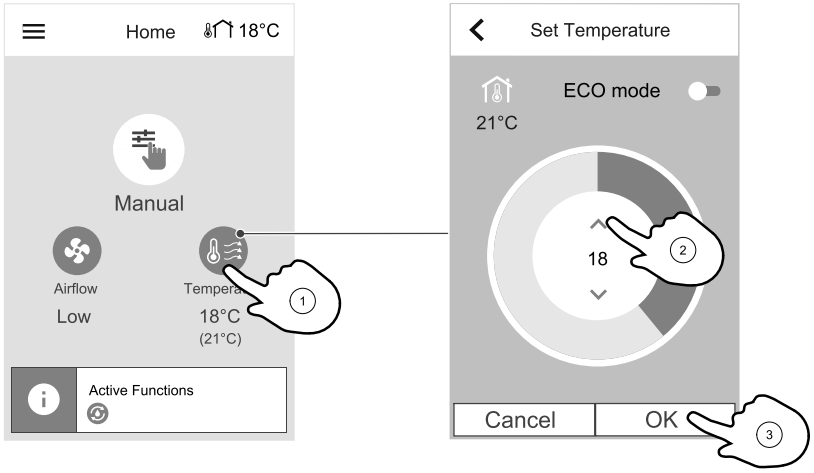


Fig. 5 Hierarchy of user modes and digital inputs

Modes are listed from the highest to lowest priority; A — user modes that can be activated from the control panel; B — user modes and functions activated via digital input

7.5.3 How to Change Temperature

Touch the thermometer symbol on the home screen to open the temperature settings window.

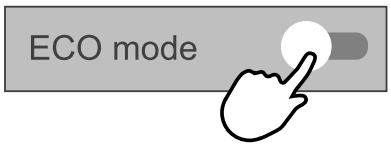


Use up and down arrows to increase or decrease a value. The default setting is 18 °C.

Temperature set point is for room air temperature, supply air temperature or for extract air temperature depending on which control mode is active. Default setting is `Supply air temperature control`.

Control mode of the temperature can be changed in `Service` menu.

7.5.3.1 ECO mode



`ECO mode` is a power saving function which partially limits heater operation and can only be activated if a heater is installed.

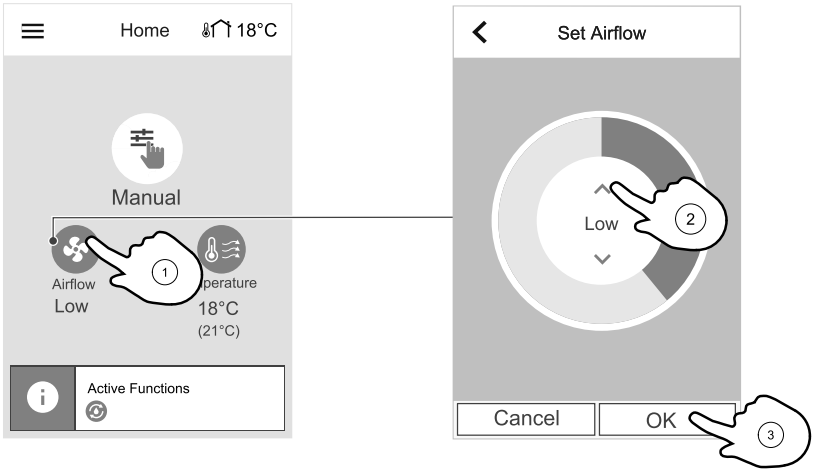
While `ECO mode` is active, a temperature setpoint at which heater is activated is lowered to avoid activation of the heater during cold nighttime.

If the temperature is very low and the heater is activated during the nighttime (even with lowered temperature setpoint), then during the upcoming daytime indoor temperature will be increased using the heat exchanger so that accumulated heat could be used during the next cold nighttime, the lowered setpoint for the heater remains.

ECO mode will have impact for the following user functions/modes if selected:	**ECO mode is always activated by the following modes:**
• `AUTO` mode • `MANUAL` mode • `AWAY` mode • `HOLIDAY` mode • `CENTRAL VACUUM CLEANER` function • `COOKER HOOD` function • `FIREPLACE` mode	• `AWAY` mode • `HOLIDAY` mode **`ECO mode` is always deactivated by the following user functions/modes:** • `CROWDED` mode • `REFRESH` mode • `FREE COOLING` function

7.5.4 How to Change Airflow

Touch the fan symbol on the home screen. In the open window use up or down arrows to increase or decrease the speed of fans.



Note:
Airflow regulation is available only in `Manual` mode.

The airflow may be adjusted in these steps: `Off`/`Low`/`Normal`/`High`. These settings control output signals to the supply and extract fans.

Important

It is **not** recommended to set fan to `Off` in standard households. If manual fan stop is activated, the unit should be provided with dampers in exhaust and fresh air ducts to avoid cold draught and risk of condensation when the unit has been stopped.
The fan can be set to `Off` by activating `Manual Fan Stop` function in `Service` menu.

7.5.5 Indoor Air Quality

The unit automatically controls indoor humidity and/or CO_2 levels by adjusting airflow setting. Airflow is increased if air quality is decreasing.

`Demand Control` function is responsible for IAQ (Indoor Air Quality) regulation. Relative humidity (RH) and/or CO_2 sensors are responsible for IAQ monitoring.

Indoor air quality (IAQ) indicator is available if `AUTO` mode and `Demand Control` function is activated.

IAQ levels:

- `ECONOMIC`: Actual IAQ value is below low IAQ set point.
- `GOOD`: Actual IAQ value is between low and high IAQ limits.
- `IMPROVING`: Actual IAQ value is above high IAQ set point.

Different airflow settings can be set for `IMPROVING` and `GOOD` IAQ levels in `Service` menu.

Setpoint for relative humidity and CO_2 level can be set in `Service` menu.

7.5.6 Description of User functions

Icon	Text	Description
	`Heating`	Connected heater or pre-heater is active and air heating is in process.
	`Heat recovery`	Heat recovery from apartment is active.
	`Cooling`	Connected cooler is active and air cooling is in process.

Icon	Text	Description
	Cooling recovery	Automatic cooling recovery is active when extract air temperature from apartment is lower than outdoor air temperature and there is a cooling demand (temperature setpoint is lower than outdoor air temperature). No cooling recovery with heating demand. If the outdoor air temperature is higher than then thee indoor air temperature and there is a heating demand, function Free heating is activated instead.
	Free cooling	Function decreases indoor air temperature by using only cool outdoor air during nighttime to save energy consumption.
	Moisture transfer	Function controls the rotation speed of the heat exchanger to prevent moisture transfer to supply air due to high relative humidity in the extract air. Function is only available for units with Rotating type heat exchanger.
	Defrosting	Function prevents formation of the ice on the heat exchanger during cold outdoor temperatures.
	Secondary air	Warm air from the living space is used to defrost the heat exchanger using a damper inside the outdoor air duct. The unit switches from outdoor air to secondary air while the extract air fan stops and warm secondary air increases the temperature inside the heat exchanger.
	Vacuum cleaner	Function sets speed of supply air fan to High level and extract air fan to Low level to increase air pressure within the apartment for better dust collection through central vacuum cleaner. Function can be activated via digital input – Central Vacuum Cleaner Function. Always active while digital input is activated.
	Cooker Hood	Sets speed of both supply and extract air fans to Maximum level to increase airflow in the cooker hood. Function can be activated via digital input – Cooker Hood Function.
	User lock	Function indicates that the system is locked with a password and cannot be edited or settings changed in any way. System must be unlocked first to make changes.
	Configurable Digital Input 1	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. High–priority function.
	Configurable Digital Input 2	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. Mid–priority function.
	Configurable Digital Input 3	Configurable digital input for custom user function. Airflow levels for both fans are freely configurable. Low–priority function.
	Pressure Guard	Configurable digital input for pressure guard connection. Airflow levels for both fans are freely configurable.

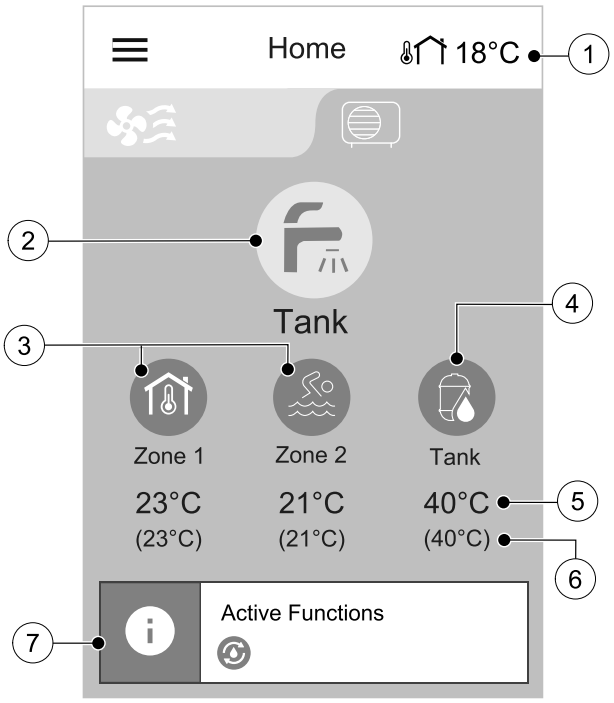
7.6 Heat pump control

Note:

The system, function and operation setup is done on the heat pump remote controller.
Heat pump control from the control panel of ventilation unit is only possible when Modbus communication has been set up between the heat pump and the ventilation unit.

7.6.1 Home Screen

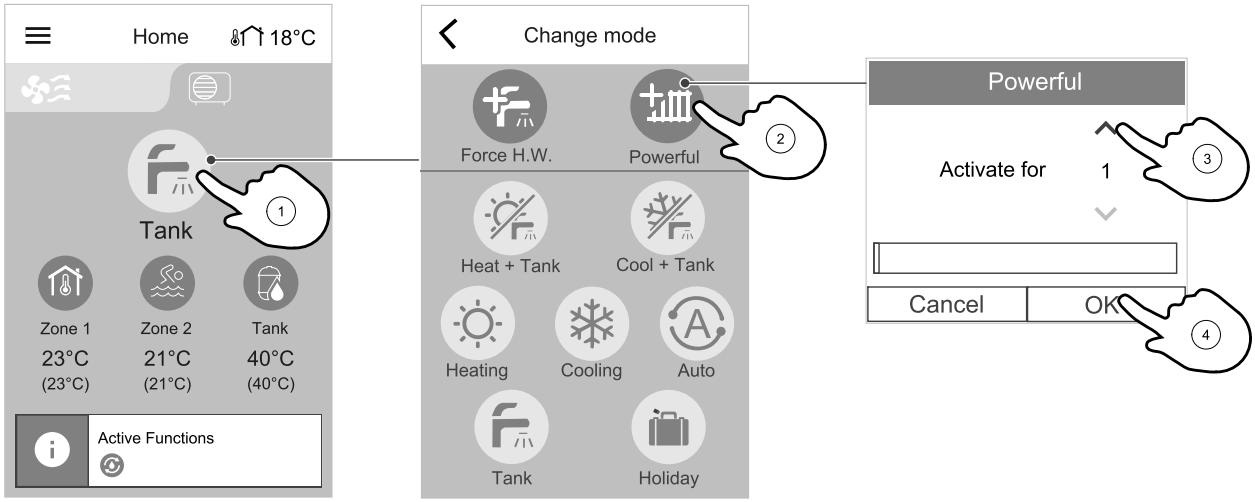
1. Outdoor air temperature
2. Heat Pump Operation mode
3. Temperature settings for Zone 1 and Zone 2 (if configured)
4. Temperature settings for a domestic hot water tank (if configured)
5. Target temperature
6. Current measured temperature
7. Active functions or alarms



7.6.2 How to change Operation mode

The top circle on the home screen indicates a currently active operation mode. Touch the symbol to change the mode.

Depending on heat pump configuration, up to 5 operation modes and 2 to 3 special user modes can available for selection.



7.6.2.1 Description of Operation modes

Icon	Text	Description
	`Heating`	Heat pump runs in heating mode.
	`Cooling`	Available if `Cooling` is configured. Heat pump runs in cooling mode.
	`DHW Tank`	Available if `DHW Tank` is configured. Heat pump prepares domestic hot water.

Icon	Text	Description
	Heat + Tank	Available if DHW Tank is configured. Heat pump both heats and prepares hot domestic water, depending on the demand.
	Cool + Tank	Available if DHW Tank and Cooling are configured. Heat pump both cools and prepares hot domestic water, depending on the demand.
	Auto	Available if Cooling is configured. Heat pump automatically heats, cools or prepares domestic hot water (if selected), depending on the demand.

For configuration of operation modes see Panasonic Aquarea heat pump manual.

7.6.2.2 Description of Special Modes

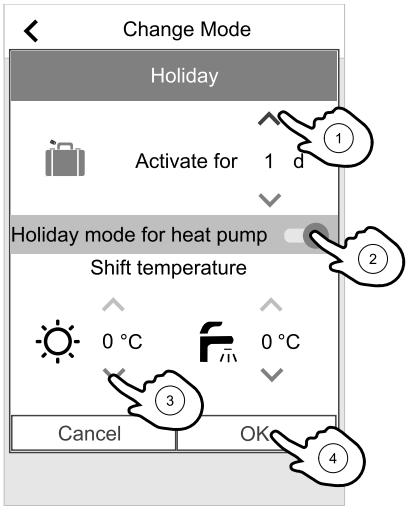
Icon	Text	Description
	Force H.W.	Available if DHW Tank is configured. Mode forces urgent hot water preparation by quickly heating up water tank.
	Power Mode	Available if Compensation curve is configured. Temporary increases capacity of heat pump to achieve higher target temperature. Can be used when heating is available. Set duration in minutes.
	Holiday	Stops or limits the heat pump operation to save energy. Heat pump resumes to normal operation 24 hours prior to the end of mode timer. Set duration in days.

7.6.2.3 Holiday mode

Holiday mode can be activated for ventilation unit and also for the heat pump.

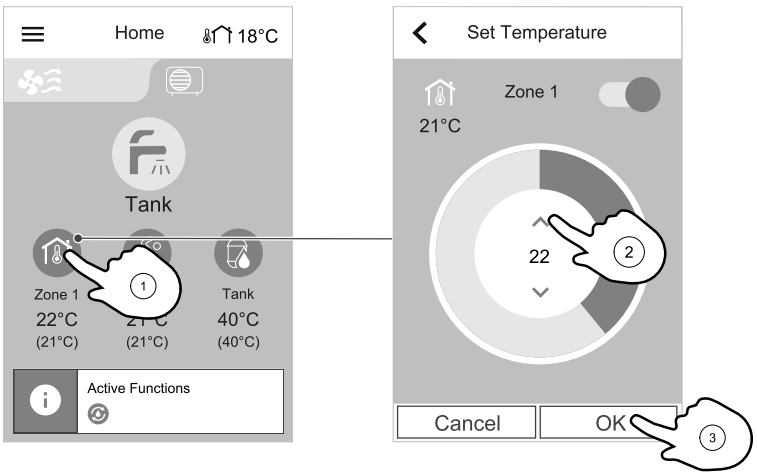
Holiday mode lowers heating temperature for enabled heated zones and domestic hot water tank (if configured) based on set value (0–15 °C). The heat pump returns to normal operation 24 hours prior to the end of Holiday mode, while ventilation unit stays on holiday mode for the whole duration.

- Set holiday duration.
- Touch the slide to active holiday mode for the heat pump.
- Use up and down arrows to increase or decrease maintained temperature for heated zones and domestic hot water tank.



7.6.3 How to change Zone Temperature

Touch the zone symbol on the home screen to open the temperature settings menu for that zone.



Use up and down arrows to increase or decrease a temperature value.

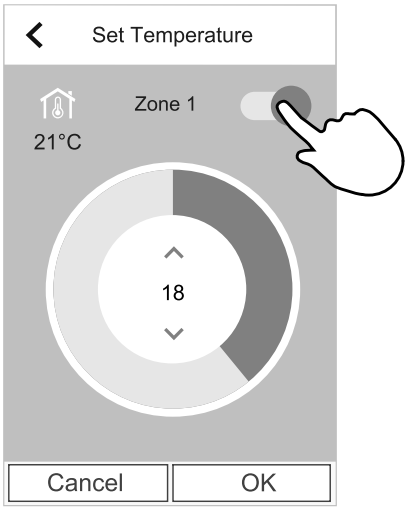
Current measured zone temperature is displayed on the same screen in the top left corner.

7.6.3.1 Enable/Disable Zone

It is possible to disable a zone if two zones are configured. At least one zone has to be enabled at all times. Disabling a zone shuts down its temperature regulation. Zone can be enabled or disabled in the temperature settings window for that zone.

Touch the slider in the top right corner to disable or enable a zone.

Disabled zone appears greyed out on the home screen.



7.7 Status bar and Alarms

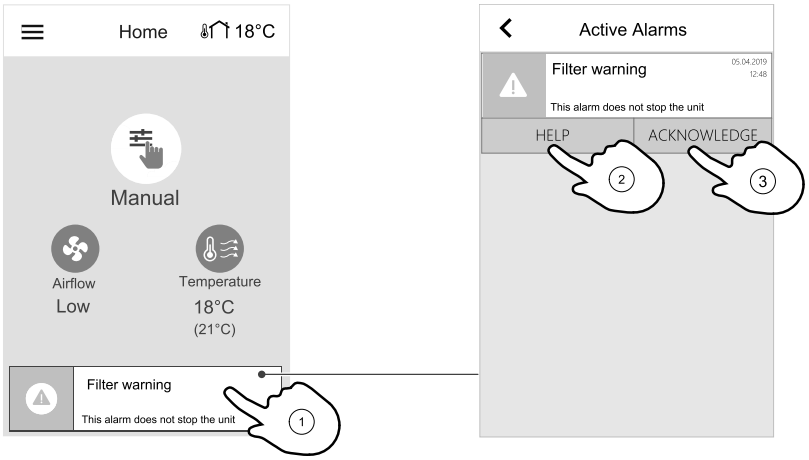
Status bar indicates all currently active functions. Touch the status bar to see descriptions of active functions in more detail.

For more information about user modes and functions, please check `Help` menu.

Alarms
Alarm bar is shared between ventilation unit and the heat pump. Alarm appears in a place of status bar when at least one alarm is active.

Note:
If alarm comes from the heat pump, check the remote controller of the heat pump to acknowledge the alarm or see further details.
Descriptions of the heat pump alarms can be found in Panasonic Aquarea series manual.

Touch the alarm bar on the home screen to see all active alarms.



Touch HELP button to know more about the alarm. To clear the alarm, touch ACKNOWLEDGE button.

Note:
The underlying cause of the alarm must be resolved first otherwise the alarm will appear again.
If the problem continues contact your installation company or place of purchase.

7.8 Main menu

7.8.1 Unit Information

A basic read-only information about status of the unit, configured components and inputs/outputs.

Components

- Type and settings of the heat exchanger, heater, cooler, extra controller and a heat pump.

Sensors

- Values from sensors and load of fans (rpm).

Input Status

- Status of configured analog, digital and universal inputs. Connected component type and raw value (volts) is displayed.

Output Status

- Status of configured analog, digital and universal outputs. Connected component type and value (volts) is displayed.

Unit Version

- Unit model name, manufacturer number, serial number and unit software versions for Mainboard, HMI and IAM.

7.8.2 Alarms

A detailed information about active system alarms and alarm log of last 20 events.

7.8.2.1 Active Alarms

Alarm screen is empty if there are no active or logged alarms.

Press HELP button on the active alarm to access FAQ and troubleshooting (if available). Press ACKNOWLEDGE on the individual alarm to clear it. Depending on alarm type and the cause, it might be necessary to do a troubleshooting first to acknowledge active alarm.

It may be not possible to clear the status of alarm if the cause of alarm is still present, as that would immediately trigger alarm to return.

Note:
Descriptions of the heat pump alarms can be found in Panasonic Aquarea manual.

7.8.2.2 Alarms log

Alarm log allows to view last 20 alarms.

Each alarm contains information:

- Alarm name
- Date/time stamp
- Information if the alarm stops the unit or other note

7.8.2.3 Alarm list

Alarm name	Explanation	Do the following
A class alarms:		
Frost protection	Frost protection of return water in heating coil. • Alarm stops the unit and opens the water valve completely.	The alarm will reset once the water temperature reaches 13°C. Check the water fluid temperature in heating coil. Check the circulation pump of water heater. Contact your installation company or place of purchase.
Frost protection temperature sensor	Indicates malfunction of water heater temperature sensor. • Alarm stops the unit.	Check that frost protection temperature sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Defrosting error	Indicates failure of pre-heater to preheat the incoming outdoor air (in case Extra controller is configured as Preheater). • Alarm stops the unit.	Check the pre-heater reset button. Check the pre-heater cabling. Contact your installation company or place of purchase. Defrosting error may be caused by extremely low outdoor air temperatures or pre-heater failure.
Supply air fan rpm	Rotation speed of the supply air fan is lower than minimum required. Fan malfunction. • Alarm stops the unit.	Check quick connectors of the fan. Contact your installation company or place of purchase.
Extract air fan rpm	Rotation speed of the extract air fan is lower than minimum required. Fan malfunction. • Alarm stops the unit.	Check quick connectors of the fan. Contact your installation company or place of purchase.
Supply air fan control error	Flow or pressure alarm for supply air. The pressure is bellow pressure limit. • Alarm stops the unit.	Check that air tube for pressure sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Extract air fan control error	Flow or pressure alarm for extract air. The pressure is bellow pressure limit. • Alarm stops the unit.	Check that air tube for pressure sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Fire alarm	Fire alarm is active. • Alarm stops the unit.	Once the external Fire alarm is disabled – alarm has to be acknowledged and unit restarted.

Alarm name	Explanation	Do the following
A class alarms:		
Low supply air temperature	Supply air temperature is too low. Active: (Outdoor air temperature sensor measures < 0°C) **AND** (Supply air temperature sensor measures < 5°C) Returned: (Supply air temperature sensor measures > 10°C)	Check the heat exchanger and re-heater.
B class alarms:		
Emergency thermostat	Indicates triggered overheat protection (in case of installed electric re-heater battery).	A triggered manual or automatic overheat protection (EMT) gives an alarm in the control panel. In case a manual overheat protection is triggered, reset it by pushing the reset button. If the automatic overheat protection is triggered, it will reset automatically once the temperature has dropped. If the problem continues contact your installation company or place of purchase.
Bypass damper	Indicates malfunction in bypass damper.	Disconnect the main power supply for 10 seconds to reset control function. Power up the unit, an automatic bypass damper test will be performed. If the alarm occurs again after approximately 2 minutes – contact your installation company or place of purchase.
Rotor guard	Indicates a rotor malfunction. No rotation guard signal for 180 seconds.	If the rotating heat exchanger has stopped. Check the rotor belt. If the heat exchanger is still rotating, check that the quick connector for the sensor is connected and that there is an air gap of 5-10 mm between the sensor and the magnet. Adjust the gap if necessary. If the alarm persists, the rotor sensor may be faulty. Contact your installation company or place of purchase.
Secondary air damper	Secondary air defrosting failed. Outdoor air temperature sensor measures < 10°C in 2 sec after defrosting OR Outdoor air temperature sensor measures < 5°C in 5 min after defrosting	Check if secondary air damper is in correct position. Check that damper is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Outdoor air temperature sensor	Indicates outdoor air temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Overheat temperature sensor	Indicates overheat temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.

Alarm name	Explanation	Do the following
A class alarms:		
Supply air temperature sensor	Indicates supply air temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Room air temperature sensor	Indicates room air temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Extract air temperature sensor	Indicates extract air temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Extra controller temperature sensor	Indicates extra controller temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Efficiency temperature sensor	Indicates efficiency temperature sensor malfunction.	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
PDM RH	Indicates internal relative humidity sensor malfunction. Active: measured humidity = 0% Returned: measured humidity > 5%	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
PDM Extract air temperature sensor	Indicates internal extract air temperature sensor malfunction. Active: measured temperature = 0°C Returned: measured temperature > 5°C	Check that sensor is connected properly and cable is not damaged. Contact your installation company or place of purchase.
Extra controller alarm	Error from external device.	Check if external device is connected properly and cable is not damaged. Reset overheat protection on electrical pre-heater. Contact your installation company or place of purchase.
C class alarms:		
Filter warning	Notification about filter change.	Filter have to be replaced in one month time. Please acquire new filters.
Filter	Time for filter change.	Change the filter. Change filter according to the instructions in the User Manual. Details about filter retailers can be found in Help menu.
External stop	Unit is stopped by external signal.	Operation is stopped by digital signal from external remote device or signal from building management system.
Manual fan stop active	Operation stopped, fans are in manual mode and selected as OFF.	Select another speed of fans (LOW / NORMAL / HIGH) or AUTO mode in HMI home screen.

Alarm name	Explanation	Do the following
A class alarms:		
Heater Overheat	Temperature after reheater is too high. Active: (Overheat temperature sensor measures > 55°C) Returned: (Overheat temperature sensor measures < 50°C)	Alarm is possible if supply airflow is too low when the reheater is switched on. Check the supply airflow. Check that intake grille is not blocked. Check that shut off damper for outdoor air is open in operation. Contact your installation company or place of purchase.
CO2	External CO_2 sensor malfunction.	Check that sensor is connected properly and cable is not damaged. In case sensor wireless – check RS485 gateway status and sensor status in HMI. Contact your installation company or place of purchase.
RH	External relative humidity sensor malfunction.	Check that sensor is connected properly and cable is not damaged. In case sensor wireless – check RS485 gateway status and sensor status in HMI. Contact your installation company or place of purchase.
Output in manual mode	One or more of analogue outputs are in manual mode.	Check Service menu for Output settings, and check all configured outputs to be in Auto mode. If any outputs in Manual - change back to Auto mode.
Communication fault	Communication between units PAW-A2W-VENTA and Panasonic Aquarea is no longer active.	Restart PAW-A2W-VENTA unit. If the alarm persists, contact your installation company or place of purchase.
Fault code []	Panasonic Aquarea alarm	Refer to Panasonic Aquarea manuals for alarm codes.

Alarm Fire Alarm can be only activated with a digital signal from a smoke/fire detection system or similar. Digital input has to be configured as Fire Alarm for this alarm to work.

Digital output configured as Sum Alarm sends a generic signal every time the alarm is triggered, except for alarms External stop, Output in manual mode and Manual Fan Stop. This signal does not specify the alarm type.

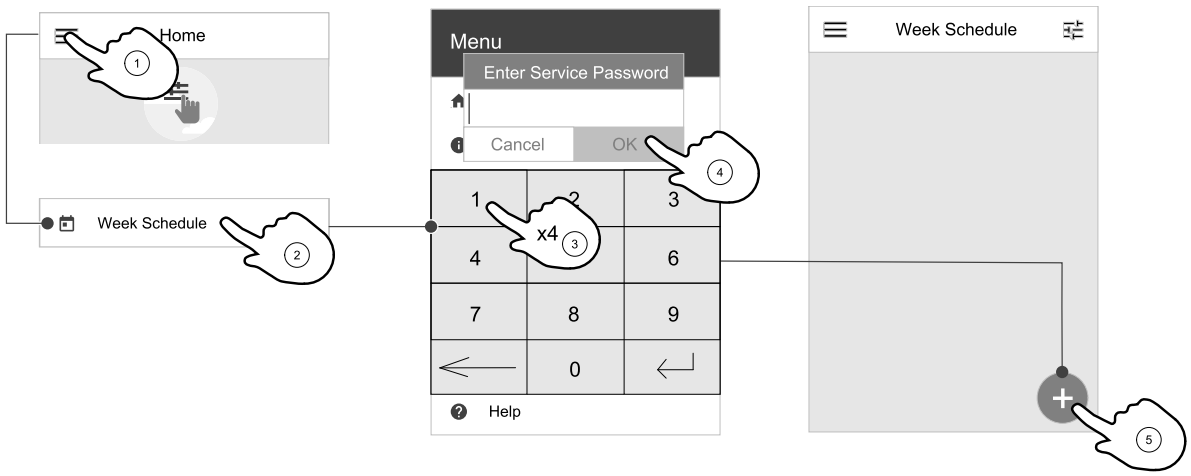
7.8.3 Week Schedule

The unit can be configured to operate at set airflow levels up to two time periods (00:00–23:59) on user selected days.
Week Schedule is active only during AUTO mode.

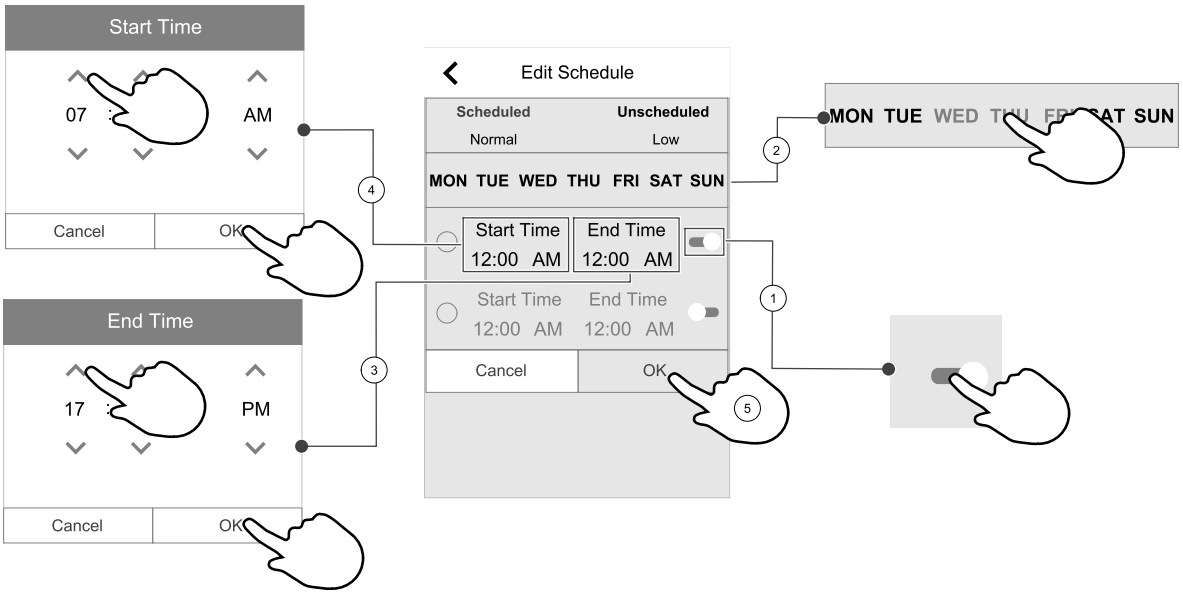
7.8.3.1 How to Set Week Schedule

While in home screen, touch menu icon and select Week Schedule.

The menu is locked by default. Enter a password (default password is 1111).



Touch icon at the bottom left corner of the screen to add a new schedule or press EDIT button to modify already added schedule.



Week Schedule is active only during AUTO mode.

Touch the slider to the right to activate scheduled period.

Set the time. Touch the START TIME or END TIME values to change time. Use arrow buttons ^ and v to increase or decrease value. Confirm with OK button.

Note:

Scheduled time can start but never end at midnight (00:00). The latest END TIME period is 23:59. Scheduled time cannot go to the next day.
12 or 24 hour time format can be changed in System Preferences menu.

If necessary, activate second scheduled period and set up time.

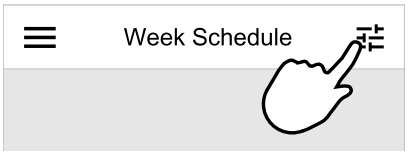
Once time is set, click on the day(s) when schedule should be active. It is possible to set a separate schedule for each day. Already scheduled days are not available for selection for new schedules.

Confirm schedule with OK button.

7.8.3.2 Schedule airflow settings

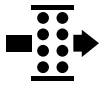
Touch settings icon to go to SCHEDULE AIRFLOW SETTINGS menu. In this menu set airflow level for scheduled and unscheduled periods. Available levels: Off, Low, Normal, High or Demand.

Set temperature setpoint offset for both periods (-10°C – 0°C).



Demand level is available only if Demand Control or External fan function is active.

7.8.4 Filter



In this menu the remaining time until filter change is displayed. Editing is locked with a password, use administrator password. See Password Settings in Service menu for more information.

Set duration of the filter until next change for period of 3–15 months in steps of 1 month. Default setting is 12 months.

A filter change notification is shown one month prior to filter change.

If a new filter period is selected and confirmed or filter alarm is acknowledged, the timer resets and starts counting from the beginning.

Information what filter type is needed for change or where to order a new filter can be found in Help menu.

7.8.5 System Preferences

Configuration of unit location, language and time.

Change the following information:

- Language (default language is English)
- Country (default country is UK)
- Unit address (address, post code)
- Unit date and time, activate or deactivate summer/winter time switch.

  Time will automatically change between summertime and wintertime according to European standard, based on Greenwich time zone and set unit location.

  Switch between 12 and 24 hours time format.
- Contact information: contractor, installer, service, phone, website, e-mail, etc.
- Display settings:
  - Screen timeout (1-60 minutes) after which the active screen is replaced by sleep screen or Quick Info screen (if enabled).
  - Screen brightness (Active mode backlight intensity). Selection 1-10.
  - Quick Info screen timer (00:00 – 00:00).

    The timer is used to automatically force the screen to go to sleep mode if Quick Info screen is currently active (to avoid light pollution during the night).

    The sleep and wake up time is freely adjustable. Setting 00:00 – 00:00 means the sleep mode is disabled. If the Quick Info screen is disabled, sleep time and wake up time settings are hidden.

7.8.6 Service

All unit parameters and settings can be changed in the Service menu.
The Service menu is locked by default and it is necessary to enter a password (default password is 1111).

7.8.6.1 Input

Configuration of inputs

Settings for analog, digital and universal input terminals on the main board and connection board, configuration of functionality.

Table 1 Digital universal inputs available for selection

User modes	Activation of specific user modes.
Central Vacuum Cleaner	Activation of Central vacuum cleaner function.

Digital universal inputs available for selection cont'd

Cooker hood function	Activation of Cooker Hood function.
External Stop	Air handling unit is stopped by an external command.
Extra controller Alarm	Indication about an alarm in external controller. Used for Extra Heater/Cooler/ Preheater.
Change-over feedback	Used with Change-over systems. Indicate if the temperature of heating/cooling fluid in the system is right.
Fire Alarm	Air handling unit is stopped due to fire. Can be used with smoke alarms or similar.
Configurable Digital Input 1	Activation of custom airflows set by user.
Configurable Digital Input 2	Activation of custom airflows set by user.
Configurable Digital Input 3	Activation of custom airflows set by user.
Pressure Guard	Digital input from a pressure guard component

Relative humidity and rotation speed signals from fans are already pre-addressed to specific terminals and cannot be changed, all other inputs are free for configuration by commissioning. Inputs are free to be used for any purpose.

Universal input (UI) configured as universal analog input (UAI) can be configured for several inputs because multiple sensors of the same type can be used. Universal analog inputs (UAI) have only selections for RH Sensor (RH), CO_2 Sensor (CO_2), Supply Air Fan Control (SAFC) and Extract Air Fan Control (EAFC) wired configurations.

Analog input (AI) temperature sensors are not allowed to be configured more than once.

Same user modes can be configured on multiple digital inputs (for example multiple bathrooms can be connected to different digital inputs with Refresh mode configured for each.

Digital inputs can be configured to be normally open (Normally Open (NO)) or normally closed (Normally Closed (NC)). Default setting is Normally Open (NO). Not available for wireless inputs.

A time delay for user modes activated via digital input can be switched off or enabled. Time delay indicates how long the user mode remains active after its duration of operation has expired.

PDM (pulse density modulation) input for relative humidity (RH) sensor on the main board is pre-adressed and cannot be changed.

Table 2 Overview of input configuration

Analog inputs	Digital inputs	Universal analog inputs	Universal digital inputs
Input type Value Compensation	Input type Polarity Value	Input type Analog type Value	Input type Digital type Polarity Value

7.8.6.2 Output

Configuration of outputs.

Settings for analog, digital and universal output terminals on the main board and connection board, configuration of functionality.

Table 3 Digital outputs available for selection

Step controllers for Heating/Cooling/Extra controller	Heater/Cooler/Extra controller control signals.
Sum Alarm	Fault indicating output.
Outdoor-/Exhaust Air Damper	Outdoor-/Exhaust air damper control signal.
Secondary Air	Secondary air damper control.

Digital outputs available for selection cont'd

Activate Cooling	Cooling mode activation signal to an external system.
Interlock External fan Control	Automatic indication about prohibited external fan control (i.e. if defrosting is activated).
Circulation pump Heating/Cooling/Extra controller	Start/Stop signal to the circulation pump of the Heating/Cooling/Extra controller.

Fan output PWM (Pulse-width modulation) signal and triac output are already pre-addressed to specific terminals and cannot be changed, all other outputs are free for configuration by commissioning. Outputs are free to be used for any purpose.

Digital outputs are restricted by signal type and physical number of connections.

An output function is only allowed to be used once. Already used and configured terminal is greyed-out in the menu for output type selection.

Analog and digital outputs have a selection for Auto/Manual modes and an adjustable value for Manual mode.

Manual mode selection overwrites all system related automatic functions. Analog output adjustable manual value range is 0–10V and digital output values On/Off.

Table 4 Overview of output configuration

Analog outputs	Digital outputs
Output type Auto/Manual Value	Output type Auto/Manual Value

7.8.6.3 Components

Configuration of connected components.

Heat Exchanger

- Choose heat exchanger type.
  Available types: Rotating / Plate
- Activate or deactivate passive house function if heat exchanger type Rotating is selected.
  Options: Yes / No.
- Choose bypass damper location if heat exchanger type Plate is selected. Default setting is based on unit type.
  Supply / Extract
- Set actuator type. Default setting is based on unit type.
  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.

Heater

- Choose heater type. Each selection unlocks additional configuration options. Default setting is based on unit type.
  Available types: None / Electrical / Water / Change-over.
- Set actuator type. Default value is 0–10 V.
  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set circulation pump temperature. Default setting is 10°C. This option is available if Water / Change-over heater type is selected.
  Range: 0–20°C.
- Set circulation pump stop delay. Default setting is 5 minutes. This option is available if Water / Change-over heater type is selected.
  Range: Off / 1–60 min.

Cooler

- Choose cooler type. Each selection unlocks additional configuration options. Default setting is None.

Available types: None / Water / Change-over.

- Set outdoor air temperature interlock. Default setting is 10°C.

  Range: 0–20°C.
- Set actuator type. Default value is 0–10 V

  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set circulation pump stop delay. Default setting is 5 minutes. This option is available if Water / Change-over heater type is selected.

  Range: Off / 1–60 min.

Extra controller

- Choose extra controller type. Each selection unlocks additional configuration options. Default setting is None.

  Available types: None / Preheater / Heating / Cooling.
- Set temperature set point of the extra controller. Default value is 0°C.

  Range: –30°C — 40°C.
- Set P-band. Default setting is 4°C.

  Range: 1-60°C.
- Set I-time. Default setting is Off.

  Range: Off / 1–240 sec.
- Set actuator type. Default value is 0–10 V.

  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set circulation pump temperature. Default setting is 0°C. This option is available if Preheater controller type is selected.

  Range: 0–20°C.
- Set circulation pump stop delay. Default setting is 5 minutes.

  Range: Off / 1–60 min.

Heat pump

- Review compensation curve set points for heating, cooling and Holiday mode.

Note:
This menu is read-only. Configuration must be carried out on the control panel of a heat pump.

7.8.6.4 Control Regulation

Configure how the system is controlled.

Temperature Control

- Configure temperature controller. Choose control mode:

  Available modes: Supply air temperature control / Room temperature control / Extract air temperature control

Note:

Room temperature control mode requires an accessory to measure room temperature.

- Choose temperature unit. Default setting is Celsius.

  Available units: Celsius / Fahrenheit
- Set P-band. Default setting is 20°C. Set I-time. Default setting is 100 sec.
- Configure SATC Split for cooler (0–20%), heat exchanger (25–60%) and heater (65–100%) output settings. Range: 0–100%.
- Configure cascade control setpoint for min/max supply air temperature, P-band, I-time.

Only available for Room temperature control / Extract air temperature control modes.

ECO mode

- Configure ECO mode settings. Set heater offset. Default setting is 5°C.
  Range: 0–10°C.

Fan Control

- Configure airflow and fan settings. Select fan control (airflow) type. Default setting is Manual (%).
  Available types: Manual (%) / Manual rpm / Flow (CAV) / Pressure (VAV) / External

Setting	Manual	RPM	Flow (CAV)	Pressure (VAV)	External
Airflow measurement unit.	%	rpm	l/s, m³/h, cfm	Pa	%
P-Band	–	0–3000 rpm	0–500 Pa Default setting: 150 Pa		–
I-time	-	Off / 1–240 sec. Default setting: 5 sec.	Off / 1–240 sec. Default setting: 5 sec.		–
Airflow level settings for each level: MAXIMUM LEVEL, HIGH LEVEL, NORMAL LEVEL, LOW LEVEL, MINIMUM LEVEL	16-100%	500–5000 rpm	Sensor range (airflow unit)		0–100%
Manual Fan Stop — turn on or off manual fan stop, this function enables manual fan stop from HMI. Default setting is OFF.					
Pressure Sensors — configure sensor voltage relation to pressure. Set value at which fan alarm occurs. Default setting is None	-	-	Supply air fan control sensor: Pressure at 0V: 0-500 Pa, default setting 0 Pa Pressure at 10V: 0-2500 Pa, default setting 500 Pa. Extract air fan control sensor: Pressure at 0V: 0-500 Pa, default setting 0 Pa. Pressure at 10V: 0-2500 Pa, default setting 500 Pa		-
Set K factor for supply air fan and extract air fan. Default settings are based on unit type.	-	-	SAF K-Factor range: 0–1000 EAF K-Factor range: 0–1000	-	-
Outdoor Compensation	A purpose of this function is to protect the unit from freezing by creating an unbalanced airflow at extreme winter temperatures or to limit supply of cold/hot outdoor air at extreme winter/ summer conditions with balanced ventilation. Function operates by lowering the speed of supply air fan (SAF) or both supply and extract air fans (SAF/EAFC) by value set in Stop Compensation Value setting (adjustable from 0% to 50%) if the outdoor air temperature (OAT) drops below adjustable value set in Start Compensation Temperature setting (during winter from 0 °C to -30 °C / during summer from 15 °C to 30 °C). This compensation reaches the maximum as soon as the outdoor air temperature reaches the adjustable value set in Stop Compensation Temperature setting (during winter from 0 °C to -30 °C / during summer from 15 °C to 30 °C)				

Important

Changing the airflow type does not change P-band value automatically. P-band value have to be changed manually after changing the airflow type.

Demand Control

Configure indoor air quality sensors. Once sensor(s) are configured, Demand Control function is activated by choosing AUTO mode in home screen.

- Activate or deactivate CO_2 sensor. Default setting is Off.

  Set CO_2 sensor setpoint. Default setting is 800 ppm (parts per million in atmosphere). Normal atmospheric CO_2 concentration is 400 ppm. Range: 100–2000 ppm.

  Set P-band, default setting is 200 ppm. Range: 50–2000 ppm.

  Set I-Time, default setting is Off. Range: Off/1–120 sec.
- Activate or deactivate RH sensor. Default setting is Off.

  Set humidity setpoint in summer, default setting is 60%. Range: 1–100%.

  Set humidity setpoint in winter, default settting is 50%. Range: 1–100%.

  Set P-band, default setting is 10%. Range: 1–100%.

  Set I-time, default setting is Off, Range: Off/1–120 sec.
- Select airflow level for Improving Air Quality. Range: Normal / High / Maximum.
- Select airflow level for Good Air Quality. Range: Low / Normal.

Moisture Transfer Control

Note:

Setting is available if heat exchanger type is set as Rotating. It is highly recommended to leave default values for P-band and I-time. They should be changed only by installer and trained staff.

- Activate or deactivate relative humidity transfer functionality. Default setting is On.
- If Moisture Transfer Control is activated, configure:

  Setpoint, default setting is 45% humidity. Range: 1–100% RH.

  Set P-band, default setting is 4g/kg. Range: 1–100g/kg.

  Set I-time, default setting is Off. Range: Off/1–120 sec.

Defrosting Control

Note:

Setting is available if heat exchanger type is set as Plate.

The unit is equipped with an automatic defrost function that is activated when there is risk of icing in the area around the heat exchanger.

- Select defrosting mode. Default setting is Normal.

Soft	Dry areas, such as warehouse buildings with few people or industrial buildings that don't use water in their production process.
Normal	Apartments or houses with normal humidity [1]
Hard	Buildings with very high humidity level.

1 *In newly constructed houses it might be necessary with a higher defrost level during the first winter period.*

- Set by-pass location. Default setting is based on unit configuration.

  Supply / Extract.
- Set if secondary air is allowed. Default setting is Off.

Off / On.

Cooling Control

- If the outdoor air is warmer than the extract air and the supply air is above the setpoint, cooling recovery occurs. This condition blocks the heat regulation process. Activate or deactivate cooling recovery. Default setting is On.

  Set cooling limit. Cooling recovery is allowed if extract air temperature is lower than outdoor air temperature by a set limit (default setting is 2K) and cooling demand is present.
- Configure status, temperature and duration of free cooling. Activate or deactivate free cooling . Default setting is Off.

  Set supply and extract air fan levels during free cooling. Default setting is Normal. Range: Normal / High / Maximum.

  Set start condition. Outdoor daytime temperature for activation, default setting is 22°C. Range: 12–30°C.

  Stat stop conditions. Extract/Room temperature, default setting is 18°C. Outdoor high temperature limit, default setting is 23°C. Outdoor low temperature limit is 12°C. Start and stop time.

7.8.6.5 User Modes

Set airflow level, duration and offset for each user mode.

Set supply and extract air fan levels, default duration and temperature offset where available for user modes:

- Away
- Central Vacuum Cleaner
- Cooker Hood
- Crowded
- Fireplace
- Holiday
- Refresh
- Configurable Digital Input 1
- Configurable Digital Input 2
- Configurable Digital Input 3
- Pressure Guard

7.8.6.6 Communication

Configure Modbus and wireless settings

Modbus

- Set Modbus address. Default setting is 1.
- Set baud rate. Default setting is 9600.
- Set parity. Default setting is None. Range: None / Even / Odd.
- Set stop bits. Fixed value: 1.
- Shows Smartly-Gateway state.

HMI Address

- When more than one control panel is connected to the unit, it is important that each control panel would have a different address number. This menu displays current HMI address.

  For more information see 9.3 *Multiple control panels*, page 52.

7.8.6.7 Logs

Information about alarms, fans and parameters are stored in Logs menu.

Fans Levels

- Time counter for each supply air fan level duration is displayed. Counted and total time. Reset counted time.

  Level 1: 0%

  Level 2: 1–29%

  Level 3: 30–44%

  Level 4: 45–59%

  Level 5: 60–100%

Parameters

- Select parameter type, position in y-axis, period from 60 minutes to 2 weeks and then create a graph based on stored data by touching icon in the top right corner . Export parameters data by touching arrow button . (only available in mobile application)

7.8.6.8 Unit backups

Menu for restoring factory settings or importing/exporting configuration file from/to the Internet Access module (IAM).

- Touch Factory settings menu to restore factory configuration and parameters. This will also overwrite changed password. You will be asked to confirm the task before proceeding.

Note:
This selection will automatically restart the unit. The Startup Wizard have to be re-done after restart.

- Touch Save current configuration to IAM option to save your current system configuration file to the connected Internet Access Module.
- Touch Download current configuration from IAM to download configuration file from the connected Internet Access Module.
- Touch Set User Safe Configuration option to store current settings in the unit memory as a backup. It can later be used as a fail-safe configuration copy in addition to factory settings.
- Touch Activate User Safe Configuration option to restore the backup copy of system settings from the unit memory.

7.8.6.9 Password Settings

Service level is always locked with a password. Other menu levels have a separate option for locking. If password requirement is activated for different menu levels, these are unlocked with the administrator password.

Choose what menus should be locked or not.

7.8.7 Help

FAQ, troubleshooting of alarms, contact information for support is provided in this menu.

- Service partner — information about service partner.
  - Company
  - Telephone
  - Homepage
  - Email
- User modes— detailed description of all user modes.
- Functions— detailed description of different user functions.
- Alarms— detailed description of all alarms.
- Troubleshooting— information about all different possible malfunctions.

8 Service

Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!

Warning

- This product must only be operated by a person who has suitable knowledge or training within this field or carried out with the supervision of a suitably qualified person.

Warning

- All though the mains supply to the unit has been disconnected there is still risk for injury due to rotating parts that have not come to a complete standstill.

8.1 Internal components

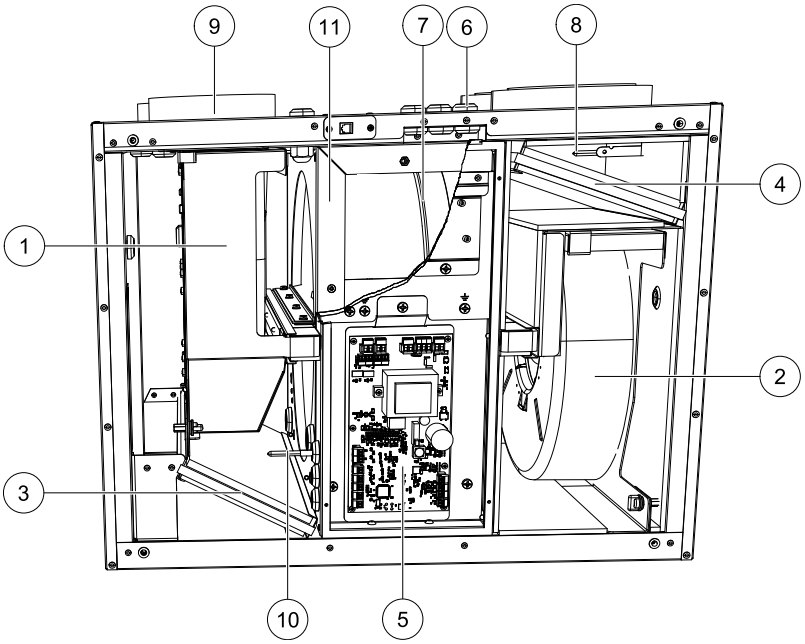


Fig. 6 Internal components

Position	Description
1.	Supply air fan
2.	Extract air fan
3.	Extract air filter
4.	Supply air filter
5.	Main print card
6.	External connections
7.	Drive belt for rotating heat exchanger
8.	Outdoor air sensor
9.	Supply air sensor
10.	Relative humidity/Extract air temperature sensor
11.	Rotating heat exchanger

8.1.1 Component descriptions

8.1.1.1 Fans

Fans have an external EC type rotor which can be steplessly controlled individually 16–100%. The motor bearings are life time lubricated and maintenance free. It is possible to remove the fans for cleaning, see “User Manual” for more information.

8.1.1.2 Filters

The factory installed filters are of filter quality F7/ePM1 60% for the supply air and M5/ePM10 50% for the extract air filter. The filters need to be replaced when polluted. New sets of filters can be acquired from your installer or wholesaler.

8.1.1.3 Heat exchanger

PAW-A2W-VENTA is equipped with a highly efficient, rotating heat exchanger. Required supply air temperature is therefore normally maintained without adding additional heat.

The heat exchanger is removable for cleaning and maintenance, see “User Manual” for more information.

8.1.1.4 Main circuit board

The main circuit board controls all functions and the unit.

It is possible to connect external accessories to a free terminals on the main circuit board.

8.1.1.5 Temperature sensors

Four temperature sensors (NTC, 10 kΩ at 25°C) are included in the unit from factory and positioned in the corresponding air chambers.

The sensors are connected to the main print card. See wiring diagram for more information.

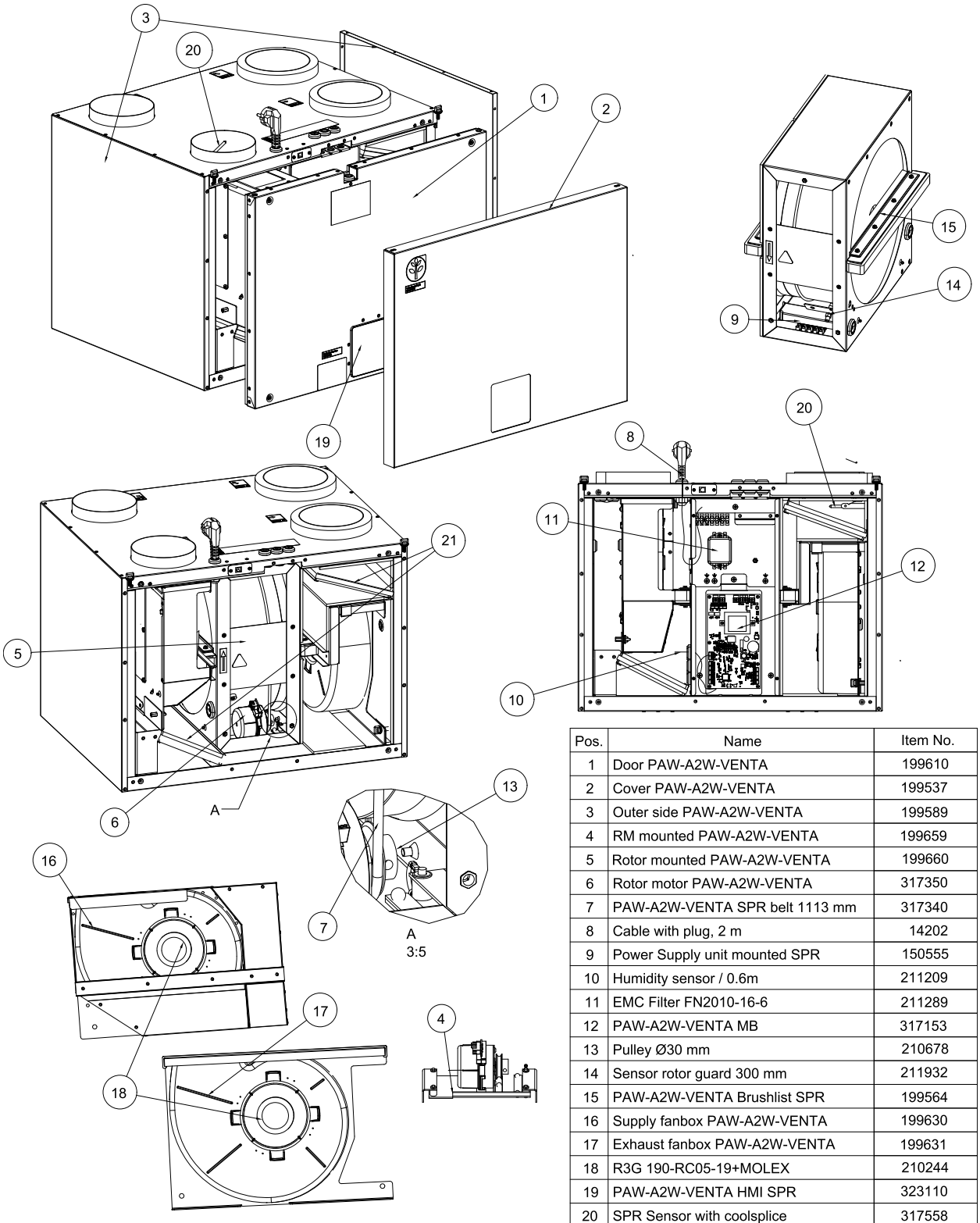
8.1.1.6 Humidity sensor

Relative humidity sensor (RHS/EAT) is included in the unit at factory and positioned in the extract air chamber.

The sensor also measures the temperature of extracted air.

The sensor is connected to the main circuit board. See wiring diagram for more information.

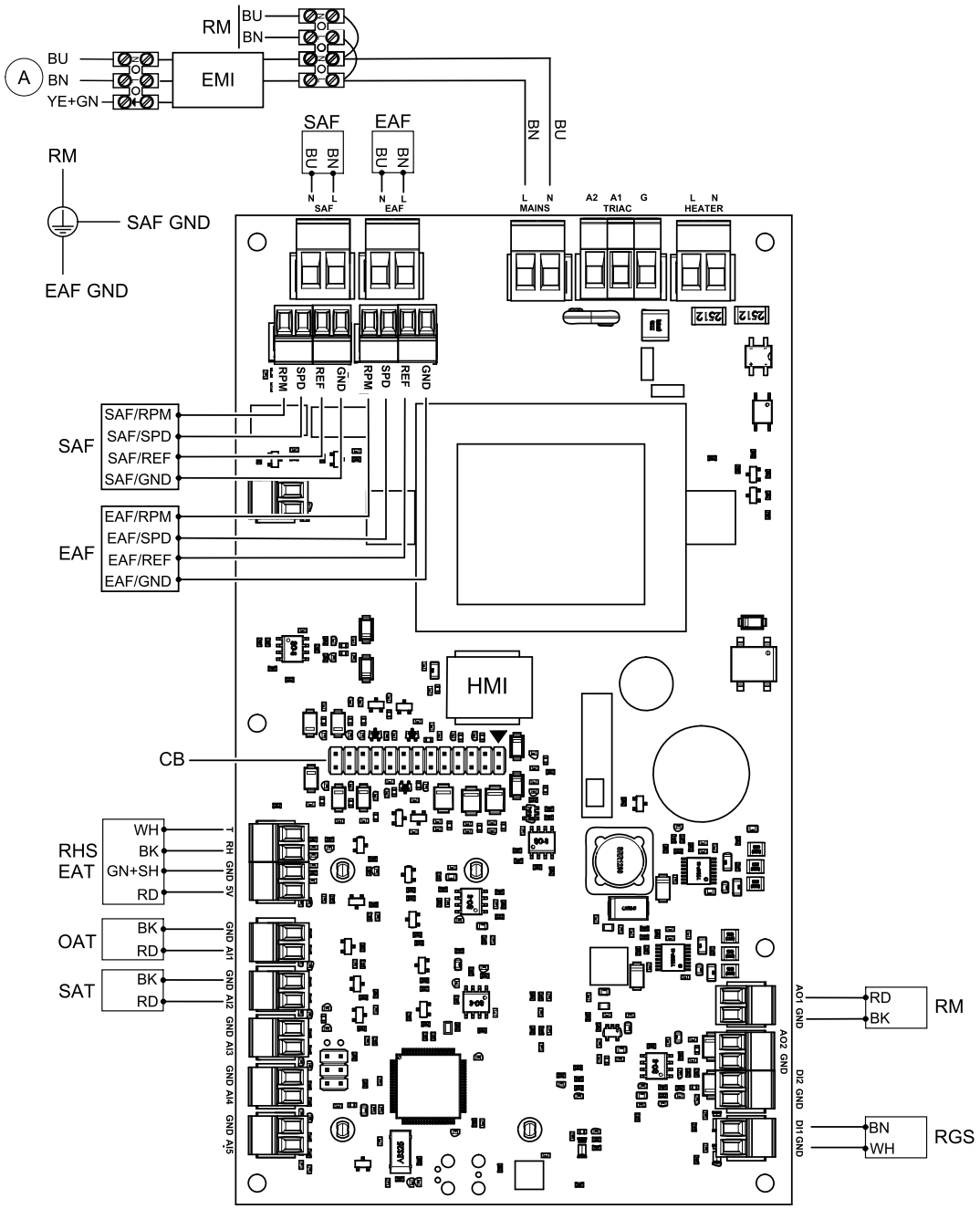
8.1.2 Spare Parts List



Pos.	Name	Item No.
1	Door PAW-A2W-VENTA	199610
2	Cover PAW-A2W-VENTA	199537
3	Outer side PAW-A2W-VENTA	199589
4	RM mounted PAW-A2W-VENTA	199659
5	Rotor mounted PAW-A2W-VENTA	199660
6	Rotor motor PAW-A2W-VENTA	317350
7	PAW-A2W-VENTA SPR belt 1113 mm	317340
8	Cable with plug, 2 m	14202
9	Power Supply unit mounted SPR	150555
10	Humidity sensor / 0.6m	211209
11	EMC Filter FN2010-16-6	211289
12	PAW-A2W-VENTA MB	317153
13	Pulley Ø30 mm	210678
14	Sensor rotor guard 300 mm	211932
15	PAW-A2W-VENTA Brushlist SPR	199564
16	Supply fanbox PAW-A2W-VENTA	199630
17	Exhaust fanbox PAW-A2W-VENTA	199631
18	R3G 190-RC05-19+MOLEX	210244
19	PAW-A2W-VENTA HMI SPR	323110
20	SPR Sensor with coolsplice	317558
21	PF PAW-A2W-VENTA kit	317210

8.2 Electrical connections

8.2.1 Wiring diagram



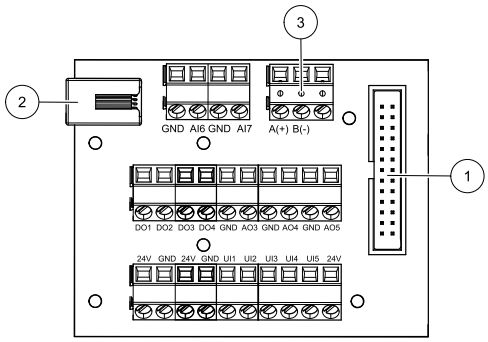
Symbol	Description
SAF	Supply air fan.
EAF	Extract air fan.
SAT	Supply air temperature sensor.
EMI	Electromagnetic interference filter for 230 V AC.
HMI	Integrated control panel
CB	Connection to external connection board.
OAT	Outdoor air sensor.
RM	Rotor motor.
RGS	Rotor guard sensor.
RHS/EAT	Internal relative humidity/Extract air temperature sensor.

A	Mains supply 230 V~.
BU	Blue.
BN	Brown.
BK	Black.
RD	Red.
YE	Yellow.
GY	Gray.
WH	White.
GN	Green.

8.2.2 External connections (Connection board)

Note:

This component is an accessory (PCB for additional functions, code: PAW-VEN-ACCPCB).



Position	Description
1	Connection to the main circuit board
2	Connection for external control panel (HMI) or Internet access module (IAM)
3	Modbus RS485 connection
AI6–7	Freely configurable Analog input. None/Input type selection in HMI.
DO1–4	Freely configurable Digital output. None/Output type selection in HMI.
AO3–5	Freely configurable Analog output. None/Output type selection in HMI. Actuator type 0–10V, 10–0V, 2–10V, 10–2V.
UI1	Digital input configured for pressure guard.
UI2	Digital input configured for cooker hood.
UI3–5	Freely configurable Universal input. Can be configured to act as Analogue input (0–10V) or as Digital input (24V). None/Input type selection in HMI (NC or NO polarity).
24V	Combined maximum current 200mA at 24VDC +-10%.

8.3 Maintenance

Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!

Warranty claims can only be made if maintenance work is carried out correctly and written evidence thereof is provided.

8.3.1 Maintenance Schedule

Task	6 months	1 year	3 years	When necessary
General inspection	X			
Filter change	X			X
Fan cleaning		X		
Heat exchanger cleaning			X	X
Belt replacement				X
Checking and cleaning louvres/ diffusers				X
Checking and cleaning outdoor air intake	X			
Checking and cleaning roof cowl (if fitted)	X			
Cleaning of duct system				X [1]

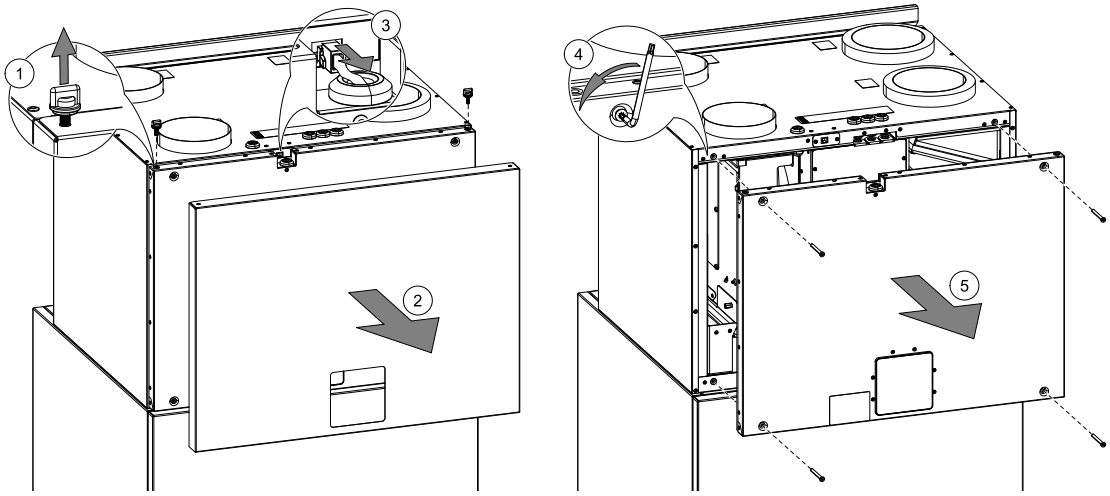
1. It is recommended to do this every 5 years and is normally carried out by authorized companies specialized in this area.

- Use original spare parts from Panasonic only.

8.3.2 Remove/mount the front cover

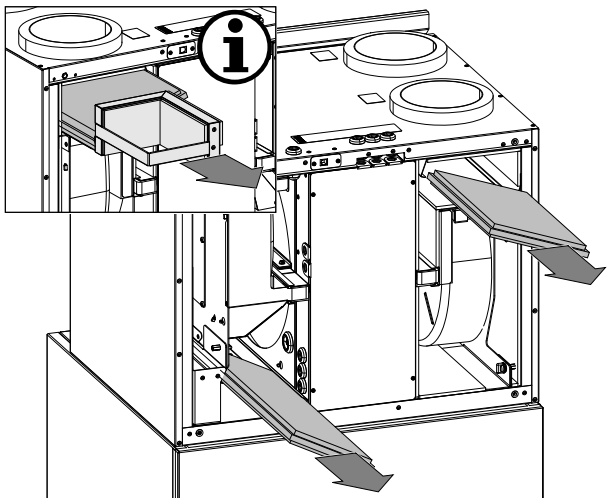
Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!



1. Remove two knobs at the top.
2. Take off the outer cover.
3. Unplug control panel cable.
4. Remove four screws from the inner cover using included torx key.
5. Remove the inner cover.

8.3.3 Changing filters



The filters cannot be cleaned and must be changed as necessary. This is normally done 1–2 times per year depending on the air pollution at the installation site.

It is very important to change filters regularly for performance and energy efficiency of the unit.

When it's time to change the filters an alarm is shown on the control panel display. When this occurs do the following:

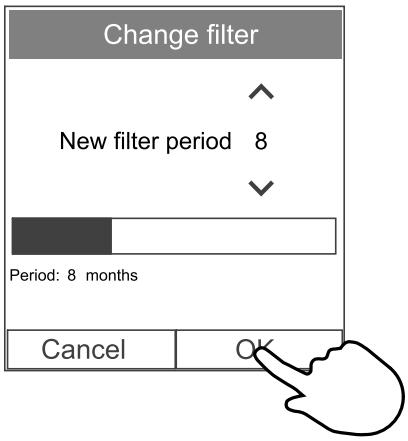
1. Stop the unit by disconnecting the mains.
2. Pull out the filters towards you. Some force may be needed.
3. Insert the new filters. Make sure that the correct filter types are inserted.
4. Reset the filter time. See chapter 8.3.3.1

Note:

In the right version unit filter is removed by pulling out a metal partition.

8.3.3.1 Resetting the Filter Change Time

Once filter is changed, it is necessary to reset filter time. Go to `Filter` menu (see 7.5.1 *Home screen*, page 15, pos. E) or if filter alarm is present, click on alarm status line (see 7.5.1 *Home screen*, page 15, pos. 5) and select filter alarm. Select `CHANGE FILTER`, in the pop up menu define a new filter period and press `OK` to confirm selection.



Note:

The menu is locked by default. Enter a password (default password is 1111).

8.3.4 Accessing the heat exchanger

Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!

Warning

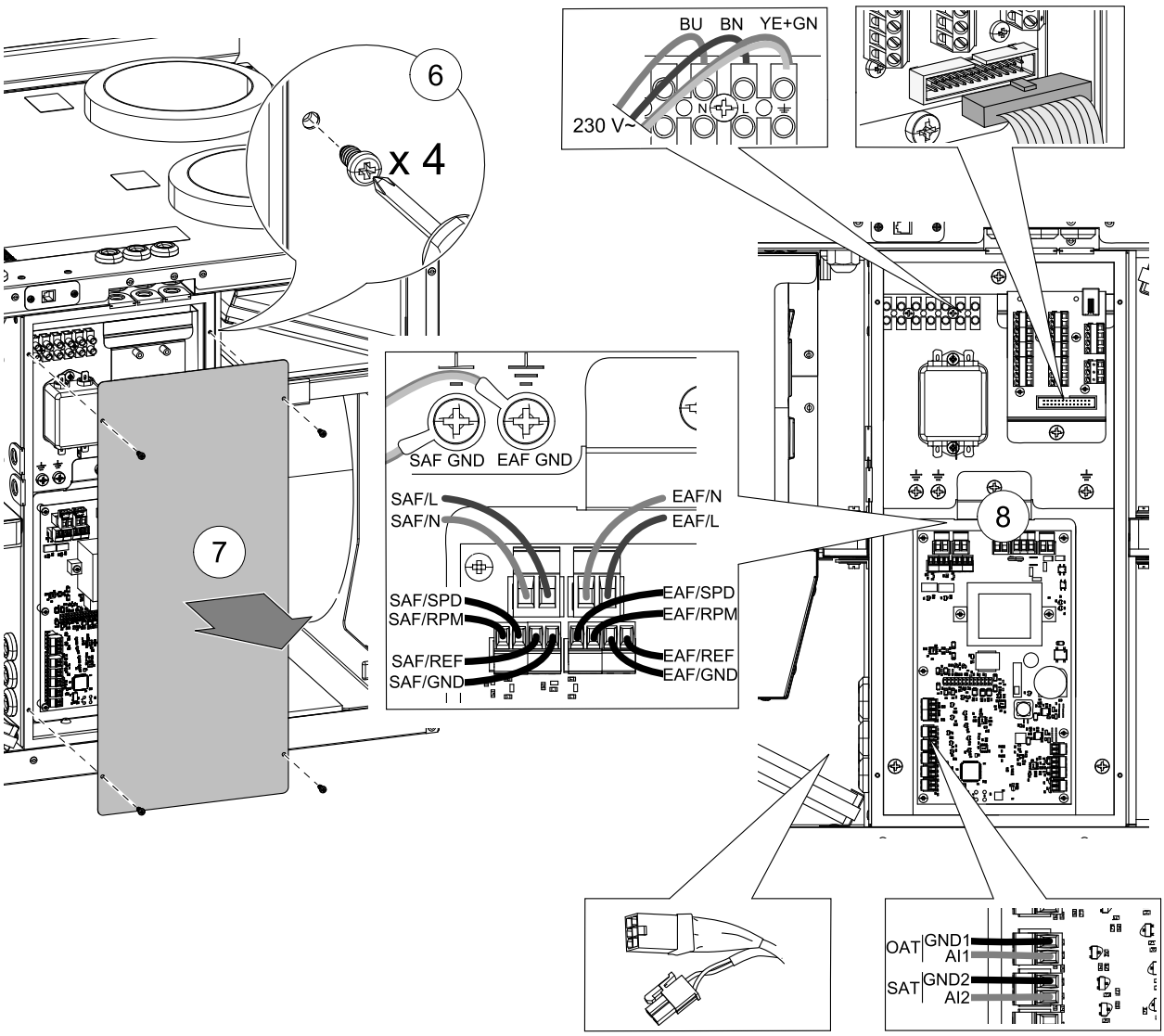
- All though the mains supply to the unit has been disconnected there is still risk for injury due to rotating parts that have not come to a complete standstill.

Warning

- Risk of personal injury! The heat exchanger weighs about 14 kg. There is a risk that the heat exchanger falls out of the unit.
- Make sure that small children are not beneath the unit when the heat exchanger is removed!
- Beware of sharp edges during mounting and maintenance. Use protective gloves.

The heat exchanger has to be removed for scheduled maintenance or in a case of broken drive belt.

Remove the cover. See chapter 8.3.2.

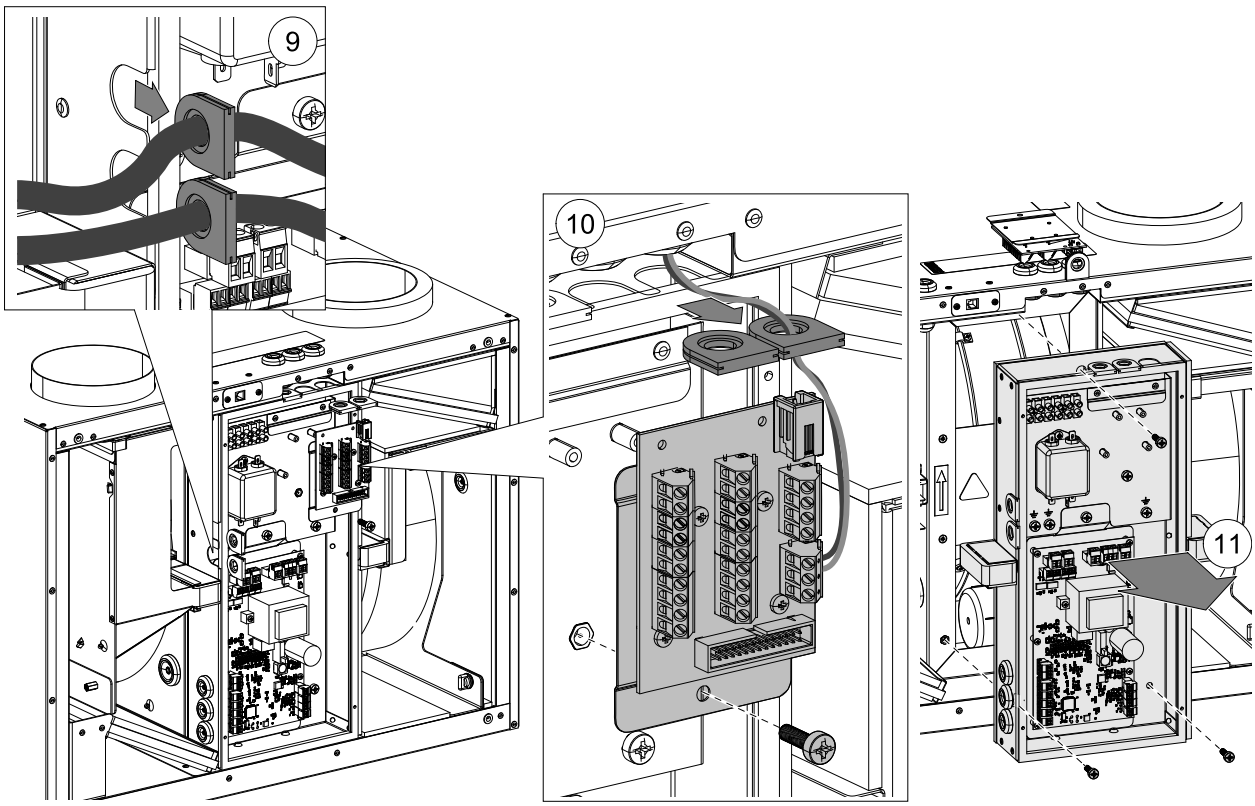


Electrical connections box must be removed to access the heat exchanger. Wires that come out from the electrical connections box must to be disconnected first before the connections box can be removed.

Disconnect power supply wires, supply air fan (SAF) and extract air fan (EAF) control and power wires, the heat exchanger control and power cables (Molex connector), temperature sensors (SAT, OAT), control panel cable and connection board for accessories (if installed).

All wires and connectors are marked.

See wiring diagram for more information 8.2.1 *Wiring diagram*, page 41.



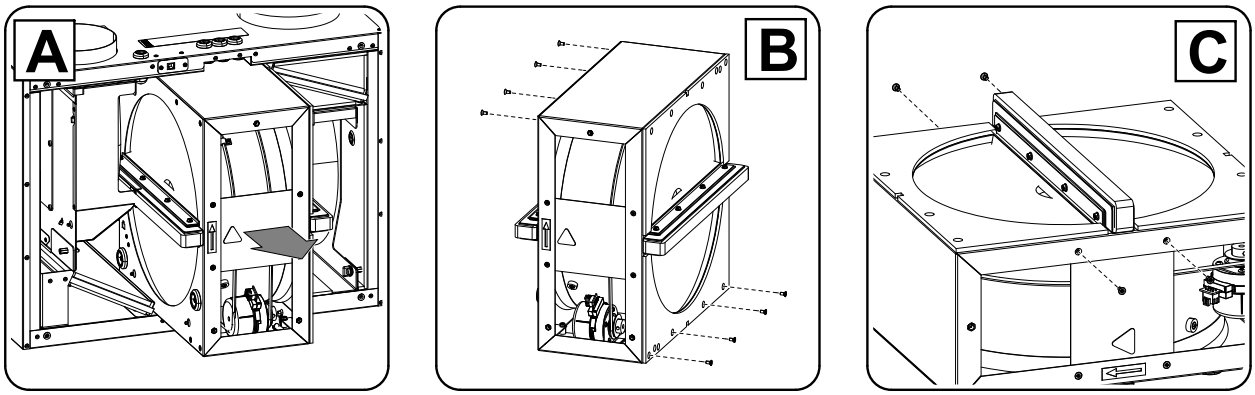
After disconnecting wires, pull out the rubber grommets with cables and set them aside (including connection board if installed), so it would not get in a while when removing the heat exchanger.

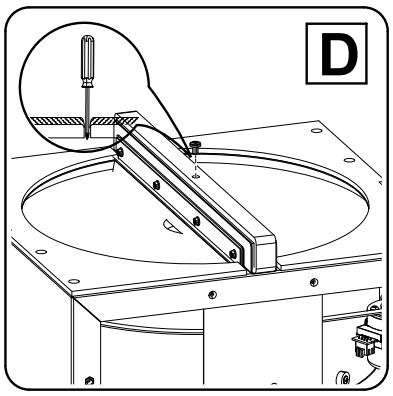
Note:

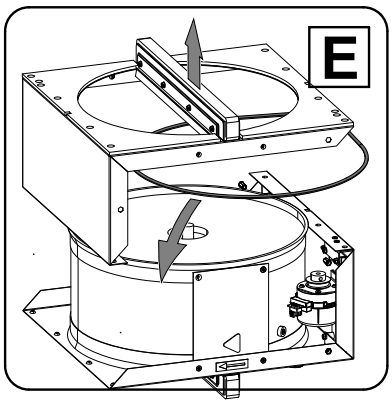
8.3.4.1 Replacing rotor drive belt

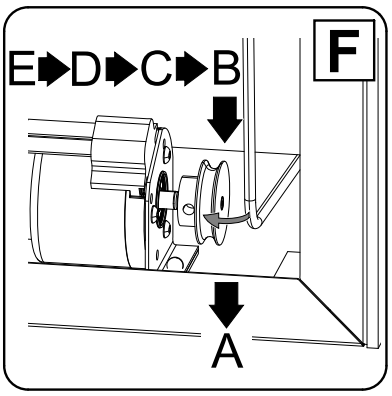
If the alarm `Rotor guard` is raised the rotor drive belt may be damaged or broken, see chapter 7.8.2.3.

Electrical connection box have to be removed first, before the heat exchanger can be accessed. See chapter 8.3.4.









8.3.4.2 Checking and cleaning the heat exchanger

Even if the required maintenance is carried out, dust will build up in the exchanger block. It is therefore of vital importance for the upkeep of a high efficiency that the exchanger block is removed from the unit and cleaned periodically as described below. Clean the heat exchanger at least every 3 years or when required.

1. Stop the unit by disconnecting the mains.
2. Remove the cover. See chapter 8.3.2.
3. Remove the electrical connection box. See chapter 8.3.4.
4. Pull out the rotor towards you. Some force may be needed.
5. Gently vacuum the heat exchanger.

Warning

Ensure the rotor motor is not exposed to moisture

6. Remount the rotor. Don't forget to reconnect the rotor power and sensor cables.
7. Close and lock the front hatch and connect the unit to mains.

8.3.5 Check and Clean Fans

Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!

Warning

- Risk of injury due to rotating parts that have not come to a complete standstill after mains supply to the unit have been disconnected.

Warning

- Beware of sharp edges during mounting and maintenance. Use protective gloves.

The motor bearings are life time lubricated and maintenance free.

Even if the required maintenance, such as changing of filters is carried out, dust and grease may slowly build up inside the fans. This will reduce the efficiency.

The fans may be cleaned as illustrated in below procedure.

1. Disconnect the fan power cables. The cables are found beside the fans.
2. Remove knobs that hold fans in place.
3. Pull out the fans towards you. Some force may be needed.
4. Clean the fans with a cloth or a soft brush. Do not use water. White spirit can be used to remove obstinate deposits.

   Allow the fans to dry properly before remounting.
5. Remount the fans. Don't forget to reconnect the fan power cables.

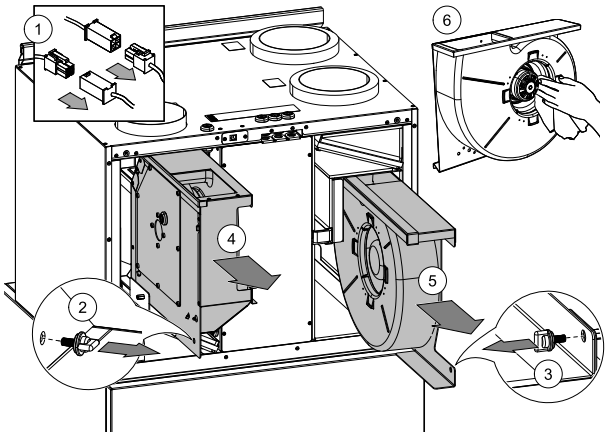


Fig. 7 Extract and supply air fans

8.3.6 Duct System Maintenance

8.3.6.1 Cleaning extract louvres and supply air diffusers

The system supplies fresh air to your home and extracts the used indoor air via the duct system and diffusers/louvres. Diffusers and louvres are mounted in ceilings/walls in bedrooms, living room, wet rooms, WC etc. Remove diffusers and louvres and wash in hot soapy water as required (diffusers/louvres must not be exchanged). Cleaning of diffusers/louvres can be done as necessary.

8.3.6.2 Checking the outdoor air intake

Leaves and pollution could plug up the air intake grille and reduce the capacity. Check the air intake grille, and clean as necessary. It is recommended to do this at least twice a year.

8.3.6.3 Checking the roof cowl (if fitted)

The roof cowl (if fitted) connected to the exhaust air duct needs to be checked at least twice a year and cleaned if necessary.

8.3.6.4 Checking and cleaning the duct system

Dust and grease deposits may build up in the duct system, even if required maintenance such as changing of filters is being carried out. This will reduce the efficiency of the installation.

The duct runs should therefore be cleaned/changed when necessary. Steel ducts can be cleaned by pulling a brush soaked in hot soapy water through the duct via diffuser/louvre openings or special inspection hatches in the duct system (if fitted).

It is recommended to do this every 5 years and is normally carried out by authorized companies specialized in this area.

8.4 Troubleshooting

If problems should occur, please check the items below before calling your service representative.

Fans do not start

1. Check the control panel for alarms.
2. Check that all fuses and fast couplings are connected (main power supply and fast couplings for supply and extract air fans).
3. Check the week schedule. Fans may be set to `OFF` in the Schedule airflow settings menu.

Reduced airflow

1. Check the control panel for alarms. Some alarms can reduce the airflow to `LOW` if active.

2. The unit could be in defrost mode. This reduces the fan speed and in some cases shuts down the supply air fan completely during the defrosting cycle. The fans go back to normal after defrosting. There should be a defrosting function icon visible on the home screen if defrosting is active.
3. Speed of fans is linearly reduced when the outdoor air temperature is below 0°C and an outdoor airflow compensation function is enabled.
4. Check if temporary user mode that reduces airflow is not activated, for example `Away`, `Holiday`, etc. Also check digital inputs `Central Vacuum Cleaner` and `Cooker Hood`.
5. Check the airflow settings in the control panel.
6. Check week schedule settings (chapter 7.8.3).
7. Check filters. Is change of filters required?
8. Check diffusers/louvres. Is cleaning of diffusers/louvres required?
9. Check fans and heat exchange block. Is cleaning required?
10. Check if the buildings air intake and roof unit (exhaust) have been clogged.
11. Check visible duct runs for damage and/or build up of dust/pollution.
12. Check diffuser/louvre openings.

The unit cannot be controlled (control functions are stuck

1. Reset control functions by disconnecting mains power for at least 10 seconds.
2. Check the modular contact connection between the control panel and the main printed circuit board.

Low supply air temperature

1. Check the control panel for alarms.
2. Check the active user functions on the control panel if defrosting function is running.
3. Check set supply air temperature on the control panel.
4. Check if `ECO` mode is activated on the control panel (it is a power saving function and prevents the heater from activating).
5. Check if user modes `Holiday`, `Away` or `Crowded` are activated on the control panel or via a hardwired switch.
6. Check the analogue inputs in the service menu to verify that the temperature sensors are functioning correctly.
7. Check if the extract filter must be changed.
8. Check if the unit has a re-heater battery connected. At very cold outdoor conditions an electrical or water heating battery might be necessary. A re-heater battery can be acquired as an accessory.

Noise/vibrations

1. Clean fan impellers.
2. Check that the screws holding the fans are tightened.
3. Check that the anti vibration lists are fitted to the mounting bracket and to the back of the unit.
4. Check that the rotor belt is not slipping if the unit has rotating heat exchanger.

9 Accessories

PAW-A2W-VENTA have many available accessories that can be used to expand functionality of the unit and increase comfort level.

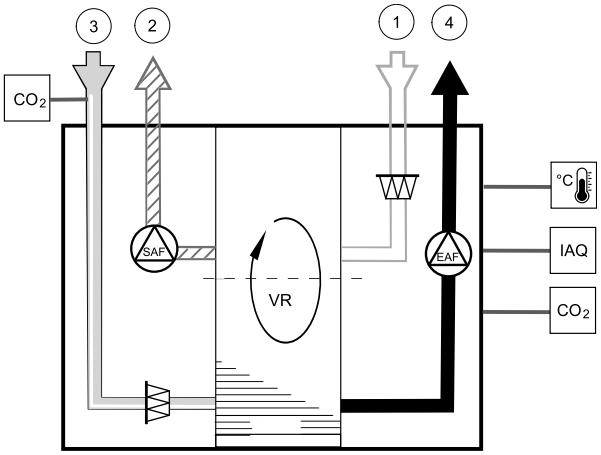
9.1 Indoor air quality sensors

Indoor air quality sensors (IAQ) are CO_2, relative humidity and temperature transmitters that must be installed either in extract air duct or the room depending on the type of transmitter.

- IAQ — indoor air quality sensor (CO_2, RH and temperature)
- CO2 — CO_2 duct sensor
- 1 — Outdoor air
- 2 — Supply air
- 3 — Extract air
- 4 — Exhaust air

Component/product — Article number:

- CO2 Duct sensor — PAW-VEN-S-CO2-D
- CO2 Wall mounted sensor — PAW-VEN-S-CO2-W
- CO2 RH Wall mounted sensor — PAW-VEN-S-CO2RH-W



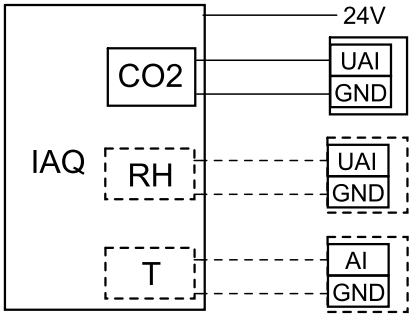


Fig. 8 IAQ connections

Installation and connection

1. Install IAQ sensor in the duct or the room depending on the transmitter type.
2. Connect CO_2 sensor to any free universal analog input (UI) on the connection board.
3. If IAQ sensor contains relative humidity transmitter:

   Connect it to any free universal analog input (UI) on the connection board.
4. If IAQ sensor contains room temperature transmitter:

   Connect it to any free analog input (AI) on the connection board (only AI6 and AI7 are available on the connection board).

Configuration

1. Go to `Service` menu.
2. Enter password (default 1111).
3. Configure of CO_2 and/or relative humidity sensor: Go to `Input` menu. Select `UNIVERSAL` tab. Select the universal input to which the sensor is connected. Example if it is connected to UI4 on the connection board, then select `UNIVERSAL INPUT 4`. Select signal type as `Analog input` and select sensor type from the input type list: `RH sensor (RH)` and/or `CO2 Sensor (CO2)`.
4. Configure room temperature sensor: Go to `Input` menu. Select `ANALOG` tab. Select the analog input to which the sensor is connected. Example if it is connected to AI6 on the connection board, then select `ANALOG INPUT 6`. Select input type as `Room Air Temperature Sensor (RAT)`.

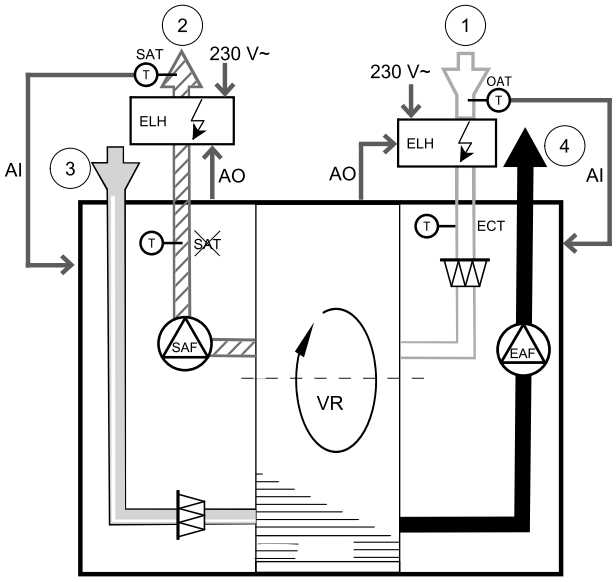
9.2 Electric duct heater

The electric heater can be installed in outdoor or supply air ducts.

- ELH — electric heater
- ECT — extra controller temperature sensor
- OAT — outdoor air duct temperature sensor
- SAT — supply air temperature sensor
- 1 — Outdoor air
- 2 — Supply air
- 3 — Extract air
- 4 — Exhaust air

Component/product — Article number:

- PTC - DN125 – 0.8 kW — PAW-VEN-PTC08
- PTC - DN125 – 1.2 kW — PAW-VEN-PTC12



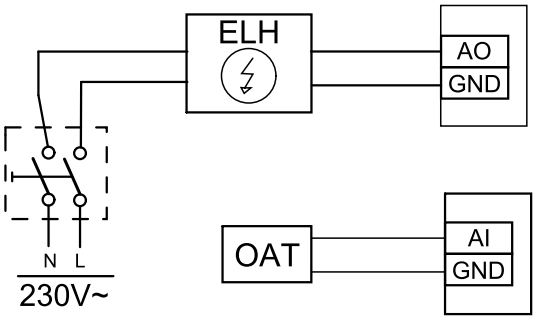
Note:

For installation, refer to instructions supplied with an electric heater.

9.2.1 Heater installed in the outdoor air duct

Connections

1. Install an outdoor air temperature sensor (OAT) before the electric heater in the outdoor air duct.
2. Connect the sensor to any free analog input (AI) on a printed circuit board inside of the unit.
3. Connect heater control wires to any free analog output (AO) on a printed circuit board inside of the unit.



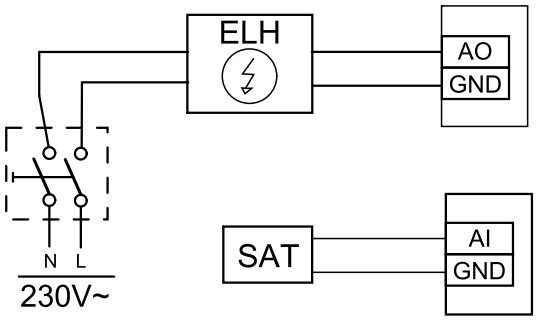
Configuration

1. Go to `Service` menu
2. Enter password (default 1111)
3. Set the heater type: `Components` —> `Extra Controller` —>`Extra Controller Mode` —> `Preheater`.
4. Configure control signal: `Service` —>`Output` —> `ANALOG`. Select the analog output to which the heater is connected. Example if it is connected to AO2 on the connection board, then select `ANALOG OUTPUT 2` and select `Y4 Extra Controller` from the output list.
5. Re-configure an internal outdoor air temperature sensor as the extra controller temperature sensor: `Service` —> `Input` —> `ANALOG` tab. Select the `ANALOG INPUT 1` and change its configuration from `Outdoor Air Temp. Sensor (OAT)` to `Extra Controller Temp. Sensor (ECT)`.
6. After sensor configuration is changed, select the analog input to which the installed outdoor air temperature sensor (OAT) is connected (for example AI5) and configure it as `Outdoor Air Temp. Sensor (OAT)`.

9.2.2 Heater installed in the supply air duct

Connections

1. Install a supply air temperature sensor (SAT) after the electric heater in the supply air duct.
2. Connect the sensor to any free analog input (AI) on a printed circuit board inside of the unit.
3. Connect heater control wires to any free analog output (AO) on a printed circuit board inside of the unit.



Supply air heater configuration

1. Go to `Service` menu
2. Enter password (default 1111)
3. Set the heater type: `Components` –> `Heater` –> `Electrical`.
4. Configure control signal: `Service` –>`Output` –> `ANALOG` tab. Select the analog output to which the heater is connected. Example if it is connected to AO2 on the connection board, then select `ANALOG OUTPUT 2` and select `Y1 Heating` from the output list.
5. Deactivate the internal supply air sensor: `Service` –> `Input` –> `ANALOG` –> `ANALOG INPUT 1` –> `Supply Air Temp. Sensor (SAT)` –> `Inactive Input`.
6. After sensor configuration is changed, select the analog input to which the installed supply air temperature sensor (SAT) is connected (for example AI5) and configure it as `Supply Air Temp. Sensor (SAT)`.

9.3 Multiple control panels

Multiple control panels (up to 10) can be connected to one unit with the help of diverting plugs. A single diverting plug allows to connect two control panels. A diverting plug can be connected to another diverting plug to further increase the number of control panels that can be connected simultaneously.

Note:

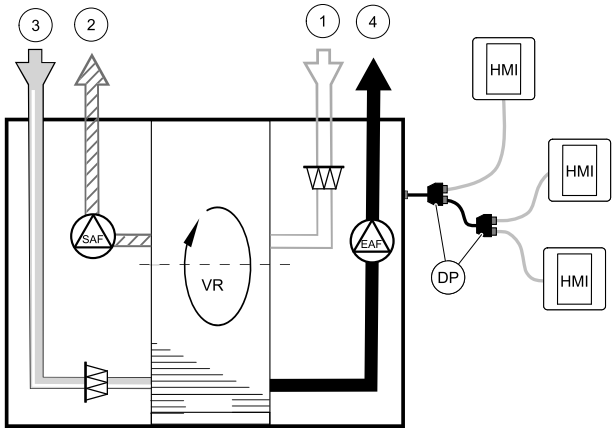
- If the 24 V power supply on the connection board (CB) is used for other equipment, the number of control panels that can be powered from the unit will decrease.
- A single active control panel draws 50 mA. The connection board supplies up to 250 mA. If no other accessories use 24 V power supply from the unit, up to 5 control panels can be connected without a need of external power supply. In order to connect more than 5 control panels, an external power supply is required.

Control panel is available in black or white colour.

- DP – diverting plug
- HMI – control panel

Component/product – Article number:

- CE/CD-diverting plug 4pin – PAW-VEN-DIVPLG
- CEC Cable w/plug 12m – PAW-VEN-CBLEXT12
- EDV display – PAW-VEN-DPL
- ERV Display wall mount kit – PAW-VEN-DPLBOX



Installation and connection

1. Connect diverting plug to the connection box socket dedicated for external control panel (HMI) or Internet access module (IAM).
2. Plug in control panels to diverting plug(s) using recommended cables or any cable with RJ22 type plugs.

Note:
The maximum supported cable length is 50 meters.

Configuration

1. Go to `Service` menu
2. Enter password (default 1111)
3. Go to `Communication` ⇒ `HMI Address` and change the address number. Repeat these steps for each connected control panel.

   Each control panel must have it's own unique address number. No control panel should have the same address value to function properly.