7 November 2017

Enervent Pinion

Ventilation unit installation instructions

enervent

CONTENTS

READ FIRST

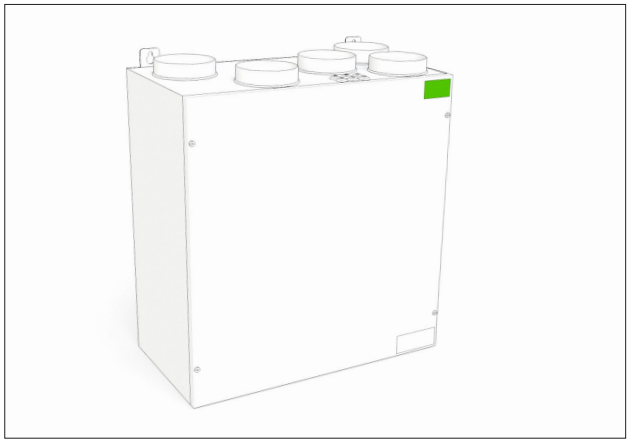
This instruction manual is intended for all people involved in the installation of the Enervent ventilation units. Only professionally skilled persons may install the equipment described in this manual, according to the instructions provided in this manual and to the local laws and regulations. Failure to comply with the instructions provided in this manual will result in cancellation of the warranty for the equipment and may cause harm to people or property.

The equipment described in this manual may not be used by persons (including children) with reduced physical, sensory or mental capacity or without sufficient experience or knowledge, unless a person responsible for their safety is supervising and advising in the use of the equipment.

FOR YOUR INFORMATION

Should the delivery not contain all of the components listed in the section 'Contents of the delivery', please check the order and contact your distributor or Enervent before commencing installation.

TYPE PLATE



enervent	*ilmanvaihtolaite* *ventilation unit*
TYYPPI/TYPE:	
W/ V/ HZ / A:	
SRJ. NRO/SERIAL NO:	
www.enervent.com **IP 20**	

Should you need any technical support, check the equipment type and serial number from the type plate before contacting support.

SAFETY

General

DANGER

Always check that the equipment supply voltage is switched off before opening the service hatch.

WARNING

In case of malfunction, always find out the reason for the malfunction before starting the unit again.

WARNING

Wait for two (2) minutes after switching off the power of the unit before commencing the maintenance. Although the power is switched off, the fans continue running and the heating element stays hot for a while.

Electrical safety

DANGER

Only an authorised electrician may perform any actions in the electrical box.

DANGER

Follow the local regulations on electrical installations.

CAUTION

Check that the unit is entirely isolated from the mains before conducting any voltage tests, insulation resistance measurements or other electrical work or measurements. Such work may damage the sensitive electrical devices.

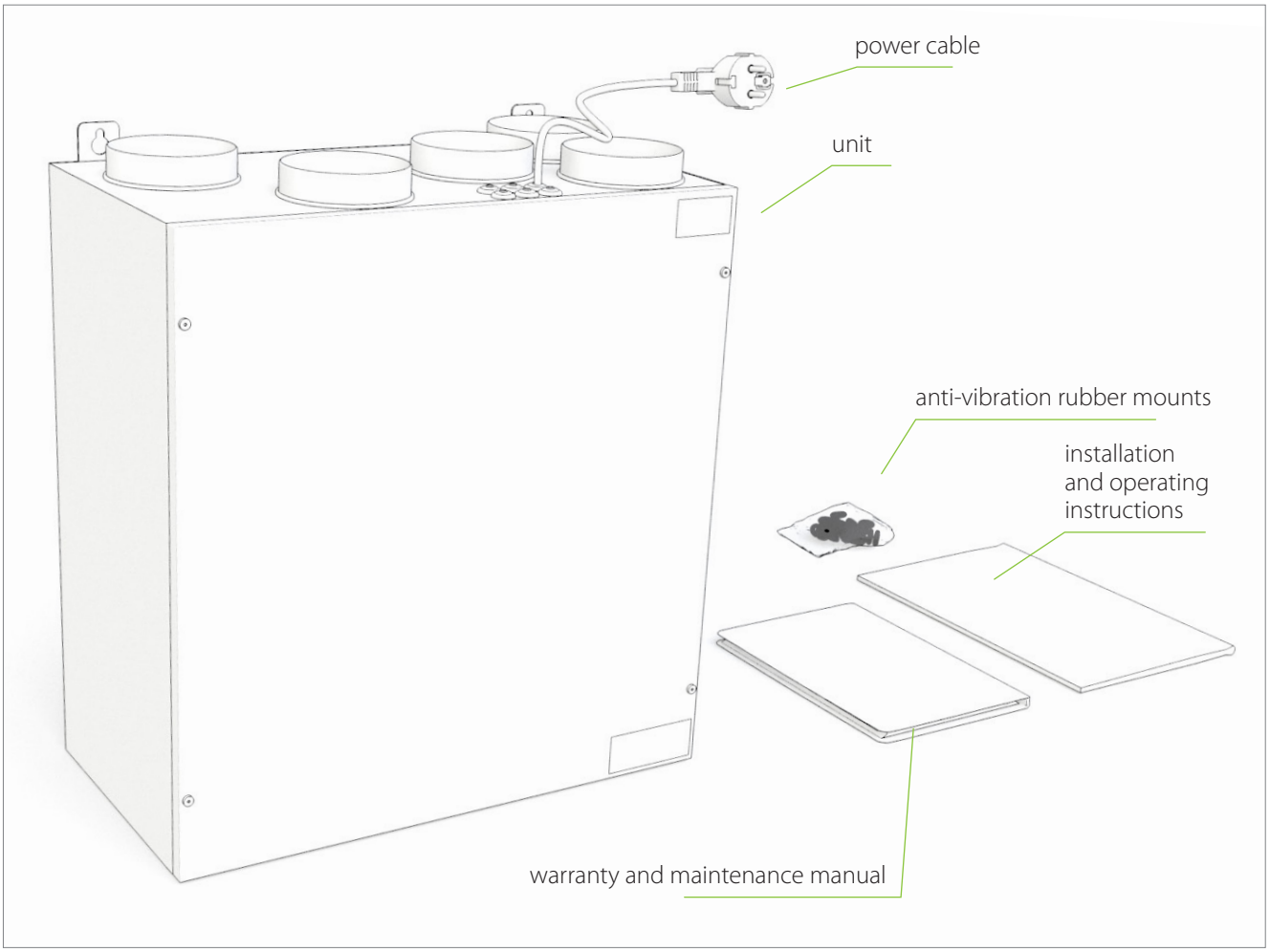
CAUTION

Control devices used in the ventilation units may cause leakage current. It may affect the operation of the residual current devices.

CAUTION

All ventilation units with a control system must be equipped with an over-voltage arrester.

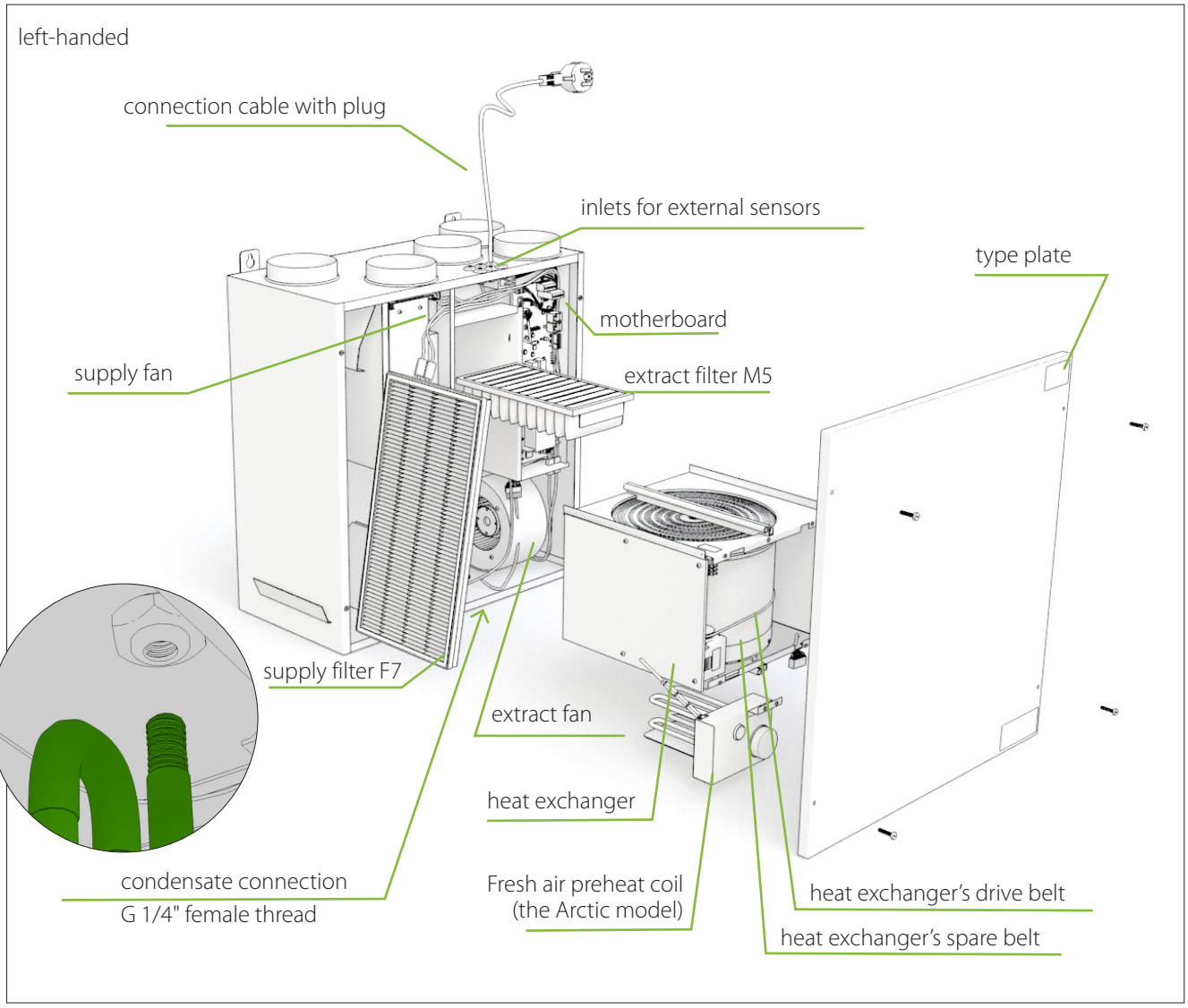
CONTENTS OF THE DELIVERY



Available accessories

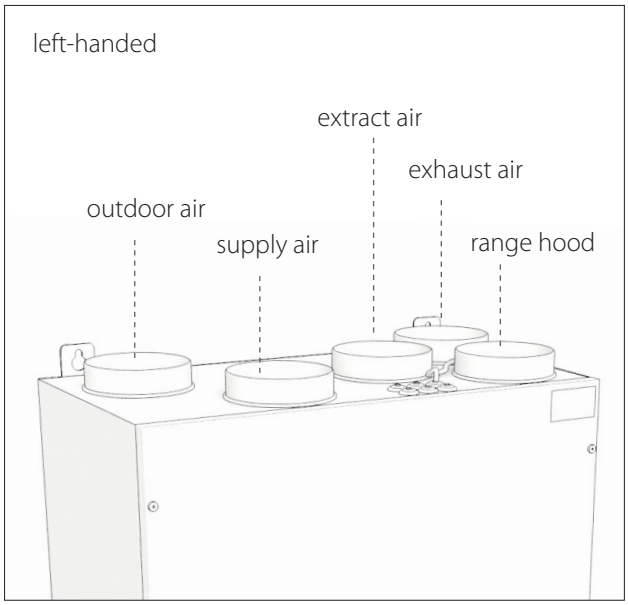
Product number	Product name
K240130301	Range hood Standard Plus white
K240130302	Range hood Standard Plus stainless steel
K240130201	Range hood Premium white
K930040090	Pinion white cover plate
M990010203	Pinion stainless steel cover plate
K240090101	Installation kit for the kitchen cupboard's integration plate
K930040205	Pinion wall/ceiling installation plate, white, right
K930040205V	Pinion wall/ceiling installation plate, white, left
K160130011	Electric heater 0.8 kW preheat coil Pinion Right (standard in the Arctic model)
K160130011V	Electric heater 0.8 kW preheat coil Pinion Left (standard in the Arctic model)
K580040001	eWind controller. The package contains a controller, surface mounting box and a 10-metre cable
K930030004	CO_2 carbon dioxide transmitter to room 0-10 V / 24 V
K930030006	%RH humidity transmitter 0-10 V / 24 V
M230110002	Humidity transmitter duct mounted KLK100
K930030008	Push-button over-pressure 'fireplace switch'/boost
K930030029	KNX bus adapter

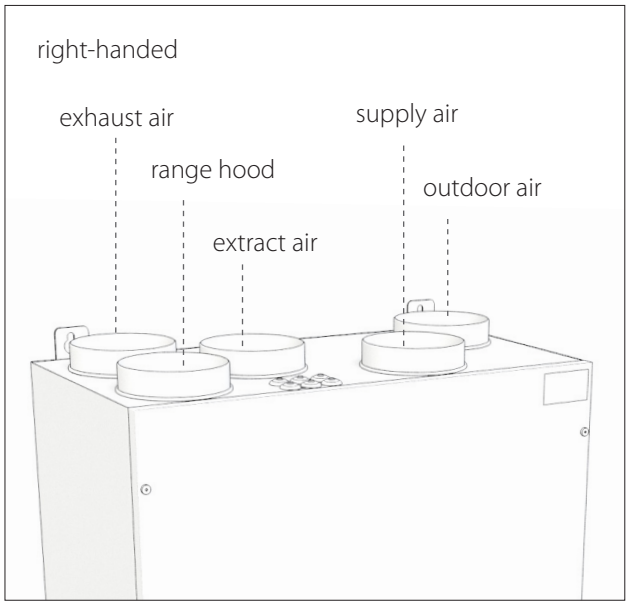
TECHNICAL SPECIFICATIONS OF THE UNIT



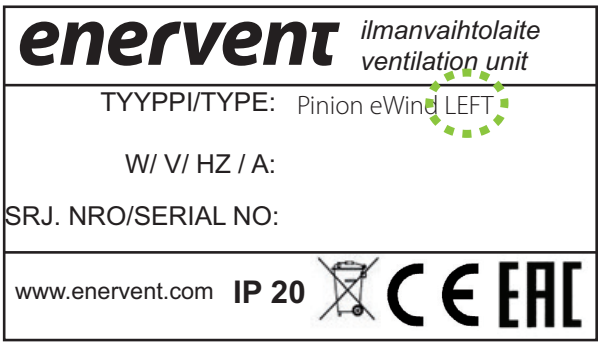
Width	598 mm
Depth	320 mm
Height	630 mm
Weight	53 kg
Duct connection (duct size)	Ø125 mm
Range hood connection (duct size)	Ø 125 mm
Fans	supply 118 W, 1.0 A; extract 118 W, 1.0 A
Heat exchanger motor with thermal protection	5 W, 0.04 A
Power of electric after-heating coil in E-models	800 W / 230 V, 1~/50 Hz/ 3.5 A
Power of electric preheat coil in Arctic models	800 W / 230 V, 1~/50 Hz/ 3.5 A
Input power, E-model (after-heating coil)	1063 W / 230 V, 1~/50 Hz/5,36 A
Input power E Arctic model (after heating and preheat coil)	1863 W / 230 V, 1~/50 Hz/8,1 A
Circuit breaker	B10 A
Mains supply	230 V 50~, 10 Hz

Duct connections

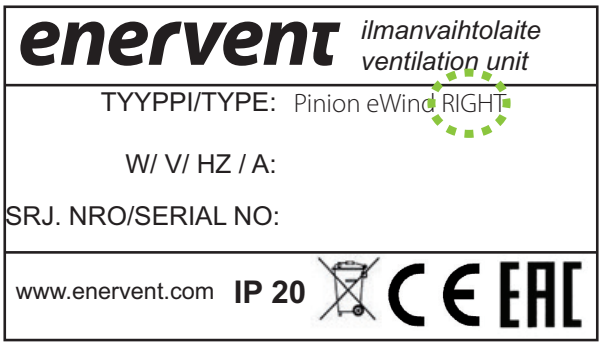




Checking the handedness in the type plate



Left-handed



Right-handed

BEFORE INSTALLATION

Choosing the installation location

- Ensure that the ventilation system is planned and implemented as per the building regulations.
- We recommend installing the unit in the engineering or utility services room
- Do not install the unit in a room with high temperature and humidity. Certain conditions may cause condensation on the outer surface of the unit.
- Consider the noise level of the unit when choosing the installation location.
- Install the unit on a soundproof wall if possible.
- Do not install the ventilation unit directly outside the bedroom as the unit is never completely silent, although it is quiet.
- Install an insulating sheet behind the ventilation unit or try to prevent the sound from being conducted to the structure by other means. Soft foam plastic sheets are recommended (not included in the delivery).
- The ventilation planner determines the need for a condensation water drain for a particular installation.
- Ensure that connecting of the condensation water drain pipe and water trap is possible. Take into account the space required by the condensation water drain.
- Install the unit in a warm room (over +5°C).
- Ensure that there is min. 500 mm space in front of the unit and min. 80 mm space under the unit for maintenance.

DO YOU WANT MORE INFORMATION?

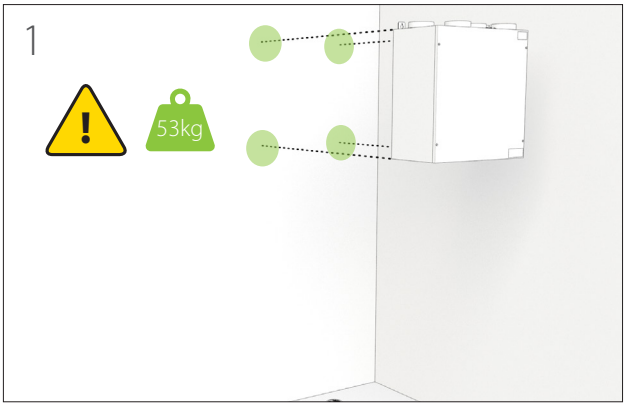
If you want more information on the construction of ventilation systems and insulation of ventilation ducts, read more on our website at **www.enervent.com**.

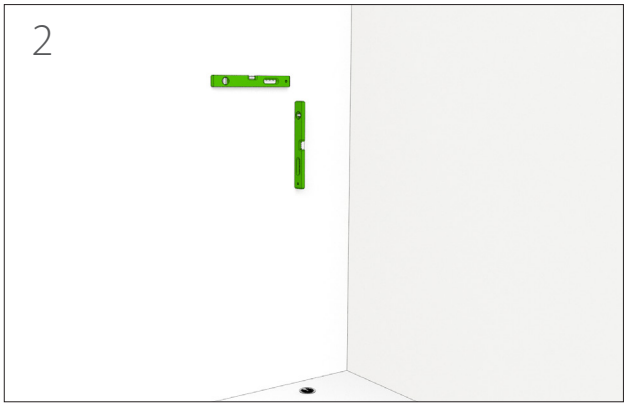
INSTALLATION

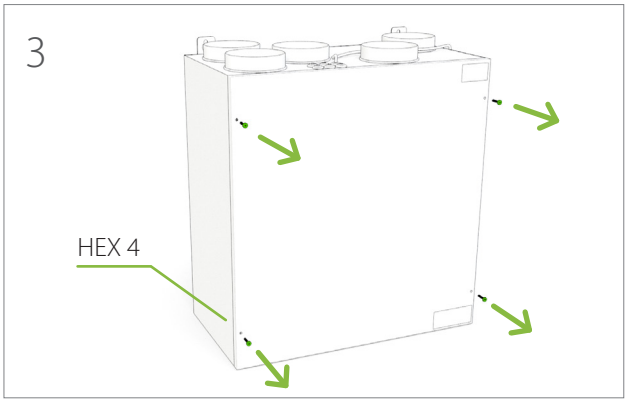
FOR YOUR INFORMATION

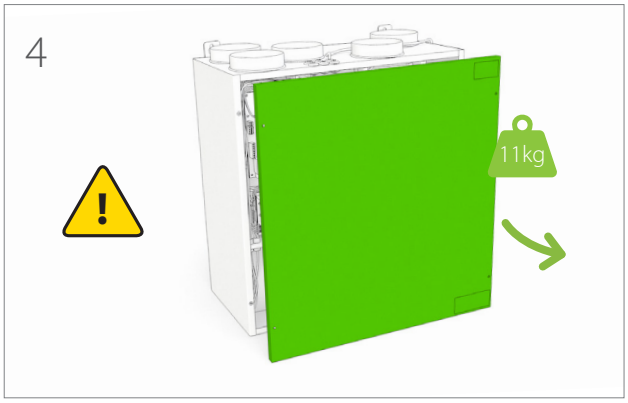
Check before installation of the ventilation unit that there are no foreign objects in the ventilation unit or in the duct system.

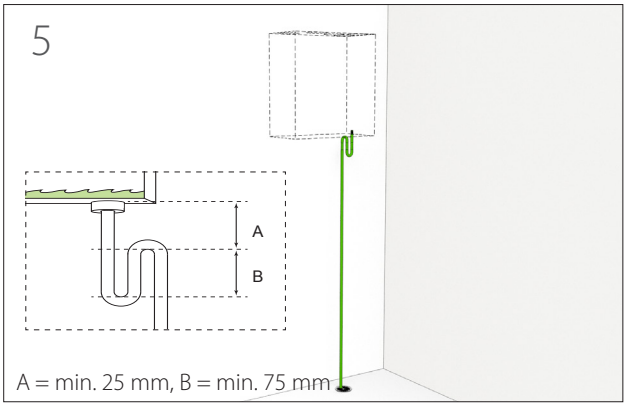
Wall installation without installation plate

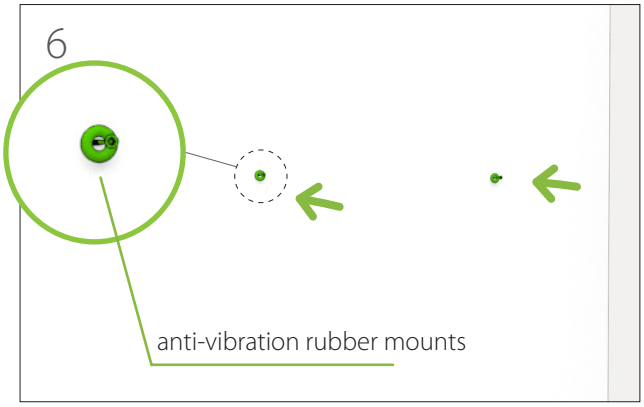


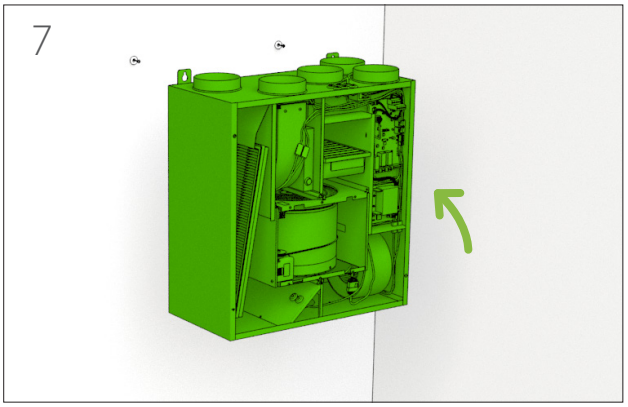


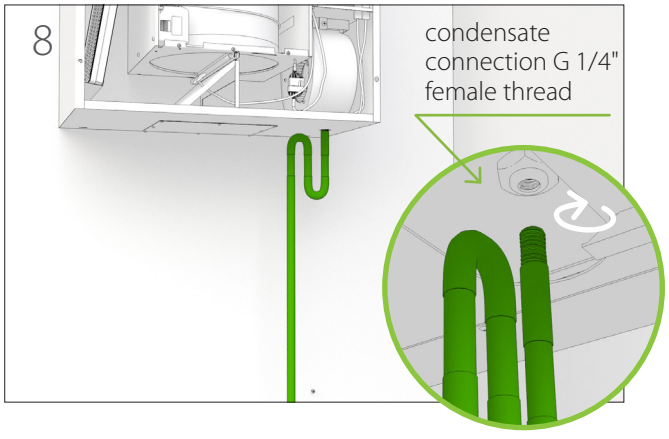






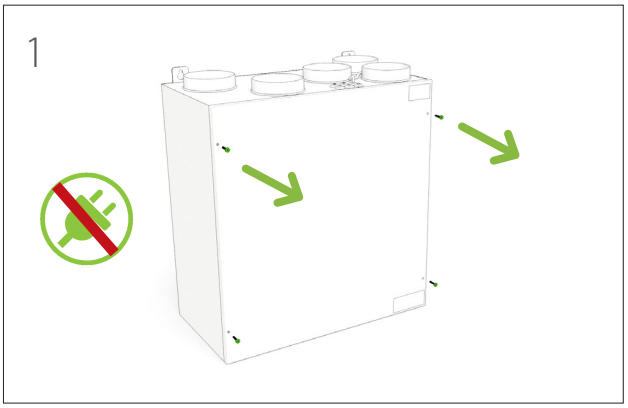


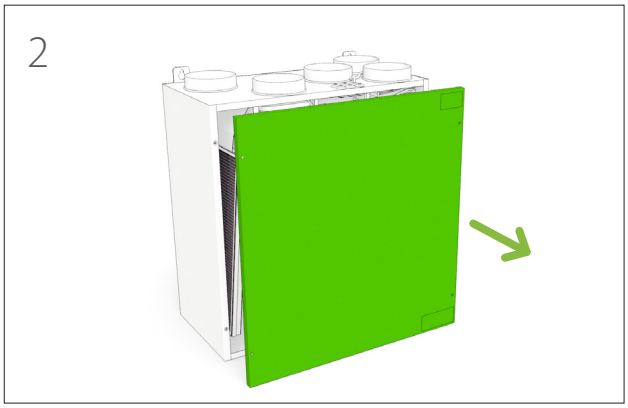


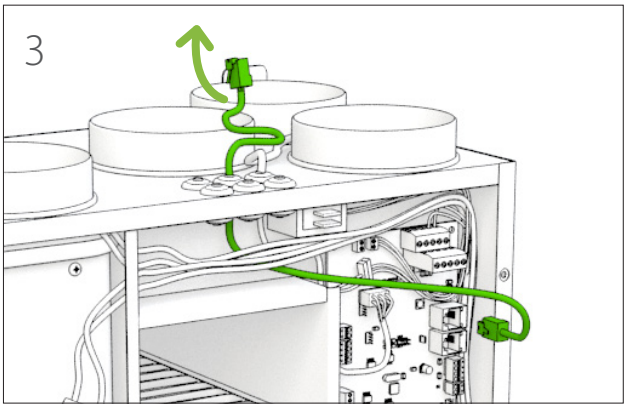


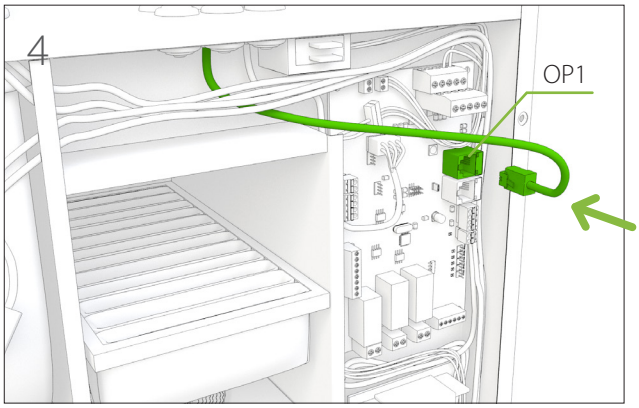
Installation of the eWind control panel

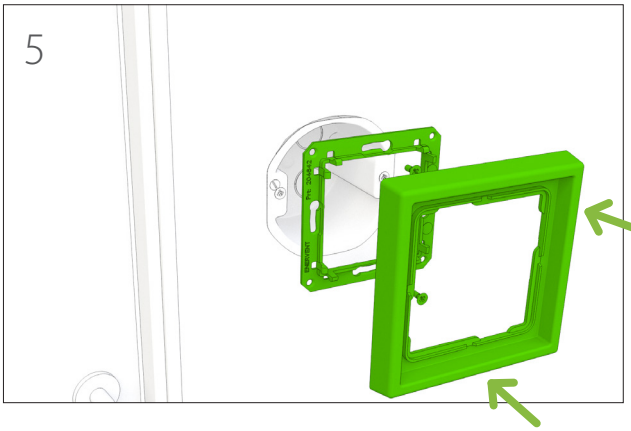
The eWind control panel (refer to the section 'Control system and the eWind operation panel' on page 15) is installed in a wall-type installation box or by using the surface mounting box supplied with the delivery. Max. two external control panels can be installed to the ventilation unit.

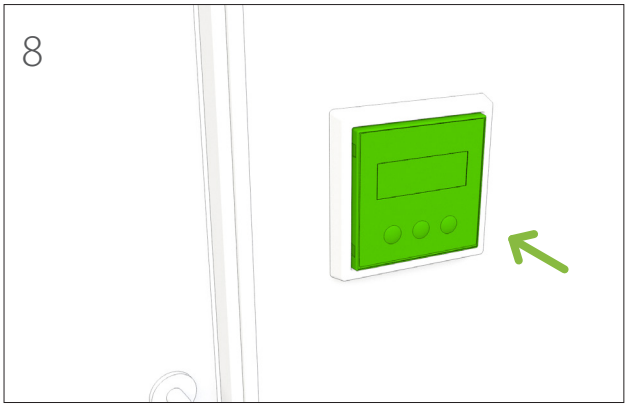












Installation to the Modbus network

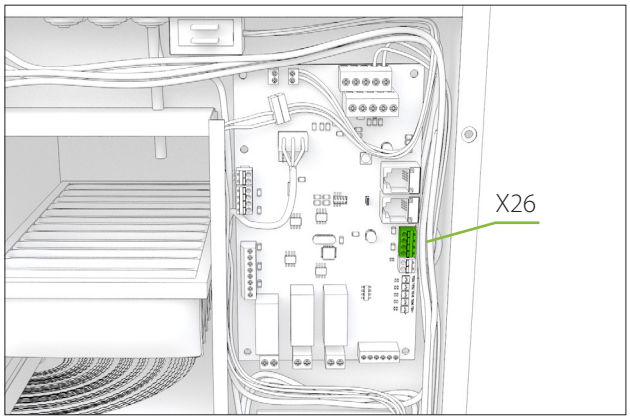
The ventilation unit can also be controlled via the Modbus connector X26.

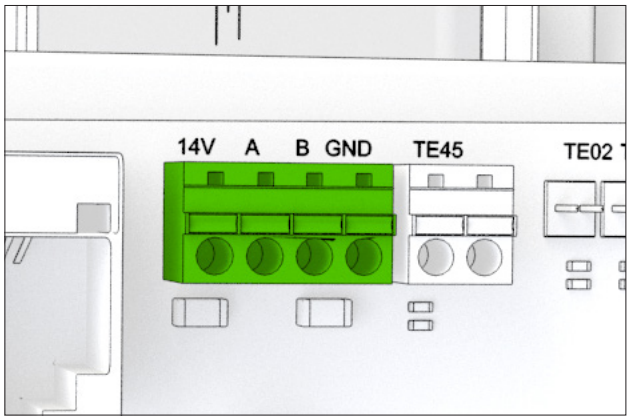
The Modbus specification:

- Modbus address 1 (default)
- Data transmission protocol RS485
- The Modbus traffic via the motherboard's Modbus connector X26
- Speed 9,600, 19,200 or 115,200 bps
- 8-bit
- No parity or parity.

The order of the poles in the Modbus connector is printed on the controller board.

The Modbus register list is available on the Enervent website www.enervent.com.





CAUTION

Do not connect any external network to the motherboard before programming the network so that it is compatible with the device control.

Setting of Modbus parameters in the control system

1	Simultaneously press buttons and three times in the control panel.
2	Using buttons and , choose parameters c31-c32. • Refer to the meaning of each parameter in 'Parameter list' on page 16.
3	Choose the parameter for adjustment by pressing button for 3 seconds.
4	Change the parameter value using buttons and .
5	Confirm the value by pressing button .
6	Exit the settings by simultaneously pressing buttons and .

Requirements

Operational requirements for the ventilation unit:

- Supply and extract air temperature below +55 °C.
- Extract air temperature at least +10 °C
- Supply air temperature after heat recovery over +5 °C
- Supply air temperature over +10 °C
- All foreign items have been removed from the ventilation system.
- Both fans are running.

Adjustment of airflow

After starting the unit, the airflows must be adjusted to the designed values.

- The airflows are adjusted during commissioning of the unit.
- The adjustment is made individually for both fans in each operation mode (= fan speed).

Check the following during adjustment:

- All filters are clean.
- All supply and extract air vents, roof inlet and outside air grilles are in their positions.

FOR YOUR INFORMATION

Do not cover the outside air grille with a mosquito net.

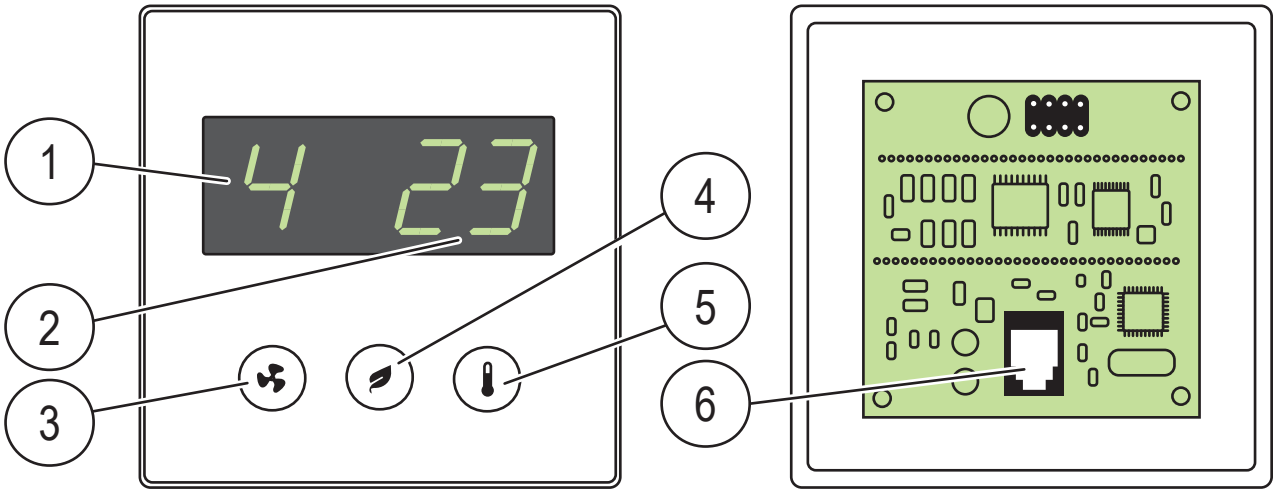
To achieve optimum adjustment values, the airflows must be measured at each duct opening. A suitable measurement device is a thermoanemometer or a differential pressure gauge. The measured values can be used to adjust the airflow to match the design values.

A correctly adjusted ventilation unit is quiet and provides a good thermal economy. It also maintains a moderate underpressure in the house. The negative pressure prevents humidity from entering into the building construction.

Commissioning checklist

Measure	Inspected	Notes
The device has been installed according to the installation instructions provided by the manufacturer.		
The condensation water discharge pipe has been connected to the water trap and the operation has been tested.		
Silencers have been installed in the supply and extract ducts.		
The terminal devices have been connected to the duct system.		
The outside air grille has been installed for a supply of fresh air. **NOTE**: Do not cover the grille with a mosquito net. It makes cleaning difficult.		
The device is connected to an appropriate electricity supply.		
The ventilation ducts are insulated as per the ventilation plan.		
The airflows are adjusted according to the ventilation plan.		

The control system and the eWind operation panel



1.	*Mode (in standard display)*	*2.*	*Temperature (in standard display)*	*3.*	*Mode button*
4.	*Eco button*	*5.*	*Temperature button*	*6.*	*Cable connection*

Important information on the control system

The factory settings are suitable for most installations.

The fan speed settings for various operating modes are installation specific and must be specified and set individually in each installation. For the rest of the settings, the factory setting must not be changed unless otherwise instructed in the ventilation system plan.

Make sure that all necessary information is available before starting to adjust the settings.

Setting the operational parameters

The fan speed settings for various operation modes must be specified and set individually in each installation. Refer to the settings in the parameter list.

1	Simultaneously press buttons and three times.
2	Using buttons and , choose parameters c31-c32. • Refer to the meaning of each parameter in 'Parameter list' on page 16.
3	Choose the parameter for adjustment by pressing button for 3 seconds.
4	Change the parameter value using buttons and .
5	Confirm the value and return to the selection of parameters c1–c32 by pressing button .
6	Exit the settings by simultaneously pressing buttons and .

Parameter list					
Parameter	**Description**	**Factory setting**	**Note**	**Modbus register**	**Field setting**
c1	Extract fan speed, mode 1, control range: 20–100 %, step: 1 %	36 %	Away mode	102	
c2	Supply fan speed, mode 1, control range: 20–100 %, step: 1 %	35 %	Away mode	100	
c3	Extract fan speed, mode 2, control range: 20–100 %, step: 1 %	56 %	Home mode	52	
c4	Supply fan speed, mode 2, control range: 20–100 %, step: 1 %	55 %	Home mode	51	
c5	Extract fan speed, mode 3, control range: 20–100 %, step: 1 %	83 %	Max. power also during humidity- and carbon dioxide boosting	74	
c6	Supply fan speed, mode 3, control range: 20–100 %, step: 1 %	80 %	Max. power also during humidity- and carbon dioxide boosting	72	
c7	Extract fan speed, mode 4, control range: 20–100 %, step: 1 %	100 %	Manual boosting	68	
c8	Supply fan speed, mode 4, control range: 20–100 %, step: 1 %	100 %	Manual boosting	67	
c9	Time limit for manual boosting (mode 4) control range: 0...4 h, step: 1 h	2 h	Setting time limit of 0 h disables mode 4 and activates 3 speed external control	66	
c10	Extract fan speed, fireplace/range hood mode control range: 20–100 %, step: 1 %	40 %		55	
c11	Supply fan speed, fireplace/range hood mode control range: 20–100 %, step: 1 %	50 %		54	
c12	Time limit for fireplace mode/selection of range hood mode control range: 0...15 min step: 1 min	10 min	Setting time limit of 0 min replaces the fireplace mode with the range hood mode.	56	
c13	Heat recovery defrosting on or off	Off		Coil 55	
c14	Service reminder interval 4 or 6 months	4	Register value in days	538	
c15	CHG/AGH preheating and AGH precooling, on or off	On		Coil 58	
c16	CHG/AGH external temperature TE01, below which the preheating is used control range: 0…10 °C, step 1 °C (for preheating)	5 °C		592	
c17	CHG/AGH preheating is not in use when the outdoor air temperature (TE01) rises above value (c16) + (c17) control range: 1…5 °C, step 1 °C	1 °C		593	
c18	CG cooling or CHG precooling on/off	On	Applies to CG and CHG heat exchangers	Coil 52	
c19	Outdoor temperature TE01, above which precooling/cooling is allowed	17 °C		164	
c20	AGH outdoor temperature, above which the earth duct is used control range: 15…25 °C, step 1 °C, (for precooling)	20 °C		629	
c21	AGH precooling is not in use when the outdoor air temperature (TE01) drops below value (c20-c21) control range: 1…5 °C, step 1 °C	2 °C		630	
c22	Temperature setting for air temperature after the electric preheating control range: –10…–20 °C, step: 1 °C	–15 °C		591	
c23	Humidity boosting on or off	On		Coil 19	

Parameter list					
Parameter	**Description**	**Factory setting**	**Note**	**Modbus register**	**Field setting**
c24	Threshold value of summer/winter temperature, for humidity boosting control range –10…+10 °C, step 1 °C	4 °C	The 24-hour average temperature of the outdoor air. Above the threshold value the humidity boosting is in summer mode, and below the threshold value it is in winter mode.	137	
c25	Threshold value for humidity boosting, control range 10…100 %RH, step 5 %	45 %	In winter mode, the himidity boosting is started when the humidity value exceeds the threshold value.	69	
c26	Threshold value for humidity boosting, control range: 5…30 %, humidity exceeds the 48-hour average value, step 5 %	15 %	In summer mode, the humidity boosting is started when the relative humidity exceeds the 48-hour average value of humidity by the amount of the threshold value.	70	
c27	Carbon dioxide boosting on or off	Off		Coil 21	
c28	Threshold value for carbon dioxide boosting, control range: 600...1,200 ppm, step: 100 ppm	1,000 ppm		76	
c29	Mode for increased humidity removal using the rotating heat exchanger on or off	Off		Coil 24	
c30	Display dimmed in standby mode on or off	Off	Panel-specific setting off: display is dark in standby mode, on: dimmed display in standby mode.	Internal	
c31	Modbus address of the automation motherboard control range: 1...99, step: 1	1		640	
c32	Modbus network speed 1 = 9,600, 2 = 19,200, 3 = 115,200	2	19 200 bps	733	

Data screen

You can view the active functions in the eWind info list displayed on the operating panel.

eWind info list

Opening:

1 Simultaneously press buttons and once.
• Parameter (n1..nn) is displayed.

2 Browse the Info list, using buttons and .

Return to the standard view:

3 Simultaneously press buttons and once.

FOR YOUR INFORMATION

If you do not press any button, the menu will close after 5 minutes and the panel will return to the standard display.

eWind info list	
Marking	**Definition**
n0	Normal mode is active
n1	Humidity boosting active
n2	Carbon dioxide boosting active
n3	Heat recovery is active
n4	After-heating with water or electric heater is active.
n5	Outdoor air preheating with CHG/AGH or with electric preheater is active.
n6	CG, CHG or AGH cooling of the supply air is active.
n7	Cold recovery with the rotating heat exchanger is active.
n8	Manual boosting active.
n9	Away mode is active
n10	Humidity removal with rotor is active
n11	Defrosting is active
n12	Eco mode is active
n13	Service reminder; the time remaining for the next filter replacement in days
n14	Device is starting

Measurement display

You can monitor temperature, humidity, heat recovery efficiency and other measurement values from the eWind measurement list, displayed on the operating panel.

eWind measurement list

Opening:

1. Simultaneously press buttons and two times.
   • Parameter (r1..rn) and the parameter values are displayed.
2. Browse the parameter list up or down, by pressing button or .

Return to the standard view:

1. Simultaneously press buttons and once.

eWind measurement list				
Marking	**Definition**	**Marking in the diagram and connection on the automation motherboard**	**Note**	**Modbus register**
r1	Outdoor air temperature, °C	TE01	All models	6
r2	Supply air temperature after heat recovery, °C	TE05	All models	7
r3	Supply air temperature, °C	TE10	All models	8
r4	Extract air temperature, °C	TE30	All models	10
r5	Exhaust air temperature, °C	TE32	All models	9
r6	Return water temperature of water-based heating coil, °C	TE45	eWind W only. Other models display '0'.	12
r7	Temperature of pre-heated outside air (CHG/AGH/electric preheat coil), °C	TE02	Only if equipped with CHG/ AGH or electric preheat coil.	32
r8	Relative humidity (RH) of extract air	RH30	All models	13
r9	Carbon monoxide level, ppm		Without an external carbon dioxide sensor (accessory), '- -' is displayed	23
r10	Measurement of external relative humidity, %RH		Without an external humidity sensor (accessory), '- -' is displayed	23
r11	Temperature efficiency of the supply air heat recovery, %		All models Calculated value	29
r12	Temperature efficiency of the extract air heat recovery, %		All models Calculated value	30

Commissioning documentation

- Fill in the warranty information.
- Mark the changes you have made to the factory settings in the column ***Field setting*** in the table 'Parameter list' on page 16.
- Fill in the airflow measurement document.

FOR YOUR INFORMATION

The warranty is not valid for units with no documented airflow measurement.

It is extremely important to note all changes made to the parameters. This ensures that there are backup copies of the information in case the automation is damaged (for example, by a lightning strike).

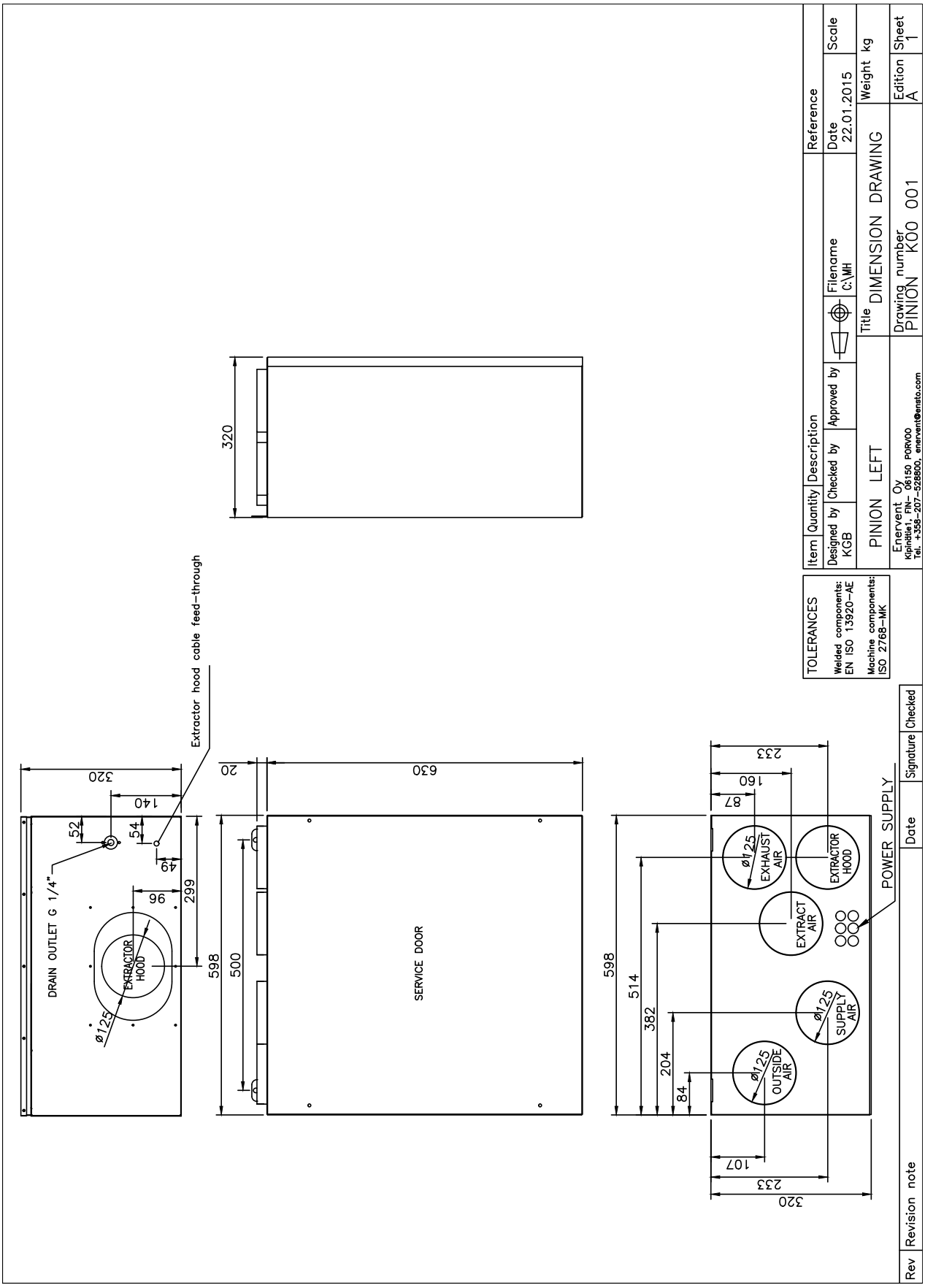
Troubleshooting

Alarm	Description	Alarm limit	Symptoms	Possible cause	Action	Notes
FILS	Service reminder.	4 or 6 months		It is time for regular maintenance.	Replace the filters. Inspect the ventilation unit. Clean as necessary. See if there are any damages visible.	Acknowledge by pressing any button for 5 seconds.
Err	Sensor malfunction.			The sensor is in short circuit or there is an interruption in the circuit.	Check the connections and cables of the sensors.	
- - - -	Downloading.			The eWind panel downloads data from the motherboard.	Normal during start-up. In other situations, check the eWind connection cable.	
oFFE	Stop mode.		Ventilation off.	External control system has switched the ventilation unit to stop mode.		
AL1	Water heating coil is in danger of freezing.	+8 °C	Cold supply air.	The water coil is frozen/about to freeze: • The circulation pump has stopped. • The heat exchanger does not rotate. • The control valve actuator of the water coil is faulty. • The extract fan has stopped.	Restart the pump. Replace the motor or the belt. Replace the actuator. Find out the reason/replace the fan.	The unit will not start until the alarm mode is cleared and the alarm reset by pressing a button in the operation panel.
AL2	The supply air is cold after the rotating heat exchanger.	+5 °C	Cold supply air.	The heat exchanger does not rotate: • The drive belt is damaged. • The drive belt skids. • The heat exchanger motor is damaged.	Replace the drive belt. Clean or replace the belt or the heat exchanger. Replace the heat exchanger motor.	The ventilation unit switches to malfunction mode, in which the fans operate with minimum power. The alarm is automatically reset when the fault is cleared.
AL3	Cold supply air.	+10 °C	Cold supply air.	The extract fan has stopped. The extract filter is clogged. The ventilation is adjusted incorrectly/not adjusted at all. The heat insulation of the ducts is insufficient. The fan speed of the ventilation unit is incorrect.	Replace the fan. Replace the filter. Adjust the ventilation as per the ventilation system plan with appropriate measurement tools. Check the insulation thickness of the supply and extract air ducts and add insulation as necessary. Always use a fan speed specified by the ventilation unit designer (also in winter).	
AL4	Supply fan malfunction.		No ventilation.	The supply fan has stopped.	Repair or replace the supply fan.	The unit will not start until the alarm mode is cleared and the alarm is reset by pressing a button in the operation panel.
AL5	Extract fan malfunction.		No ventilation	The extract fan has stopped.	Repair or replace the extract fan.	

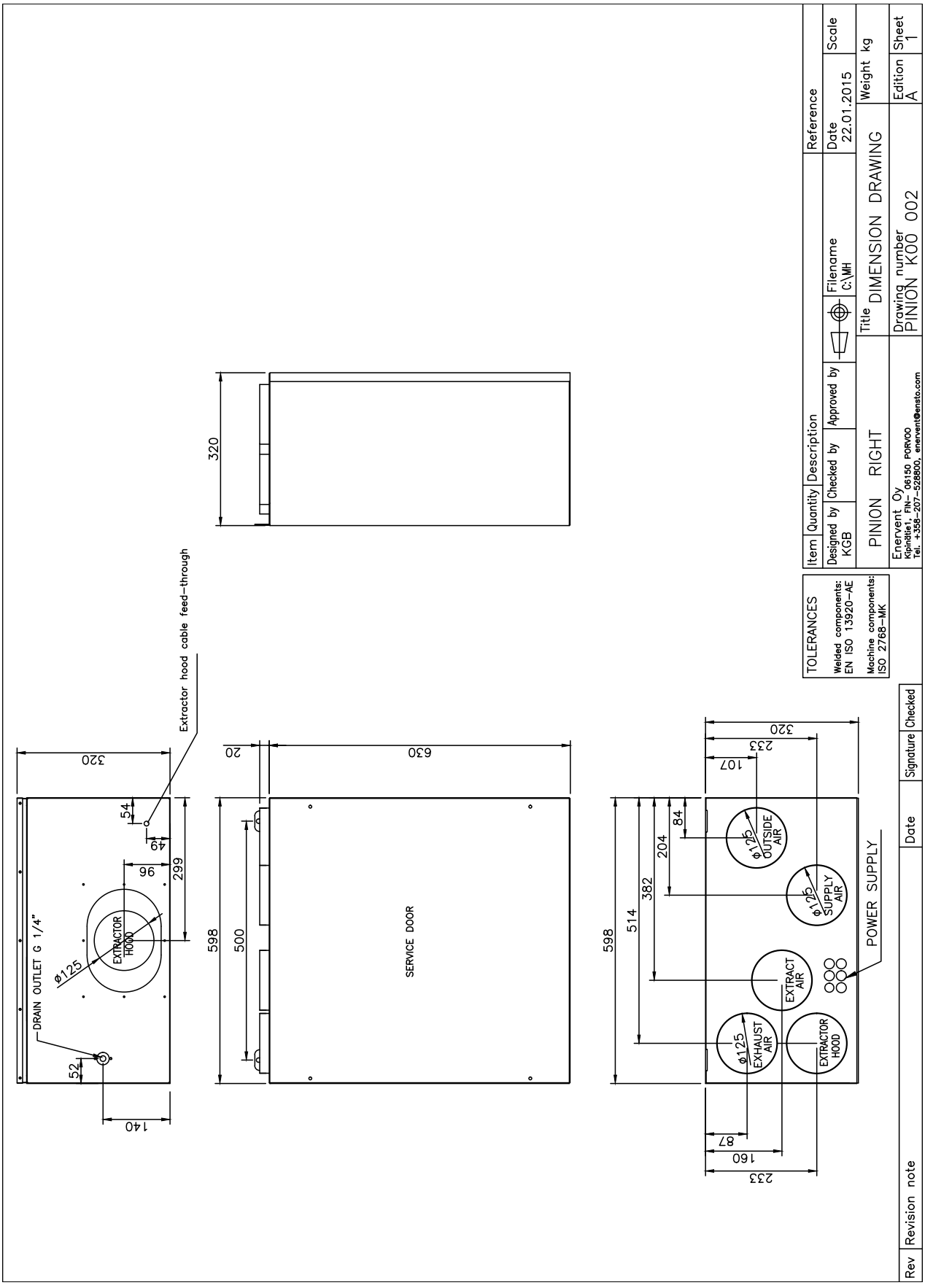
Alarm	Description	Alarm limit	Symptoms	Possible cause	Action	Notes
AL6	Cold extract air.	+10 °C	Cold supply air.	Low indoor temperature. Insufficient heat insulation of the extract air duct. The ventilation unit's service hatch is open. Temperature sensor TE30 is faulty.	Raise the indoor temperature. Check the insulation of the ducts and add insulation as necessary. Close the service hatch Repair or replace the sensor.	Acknowledge by pressing any button for 5 seconds.
AL7	Hot supply air. Fire hazard.	+55 °C	Hot supply air.	Fire hazard. There is a malfunction in the electric after-heating coil. There is a malfunction in the actuator of the water-based after-heating coil's valve. Temperature sensor TE10 is faulty.	Check if there are any heat sources. Repair or replace the electric after-heating coil. Repair or replace the valve's actuator. Repair or replace the temperature sensor.	The device will not start until the alarm mode is cleared and the ventilation unit started again.
AL8	Overheating of the electric after-heating or preheat coil.		Hot supply air.	Electric preheat or after-heating coil does not work: • Overheating protector has tripped. • The supply fan has stopped. • The supply air filter is clogged. • The outside air grille is clogged. • The heater controller board is damaged. • The heater is damaged.	Find out the reason for overheating and reset the error message. Find out the reason/replace the fan. Replace the filter. Clean the grille. Remove any mosquito net. Replace the controller board. Replace the heater.	
AL9	Hot supply air. Fire hazard.	+55 °C	Hot extract air.	Fire hazard. Temperature sensor TE30 is faulty.	Check if there are any heat sources. Repair or replace the temperature sensor.	

Dimensional drawings

Technical dimensional drawing, left-handed

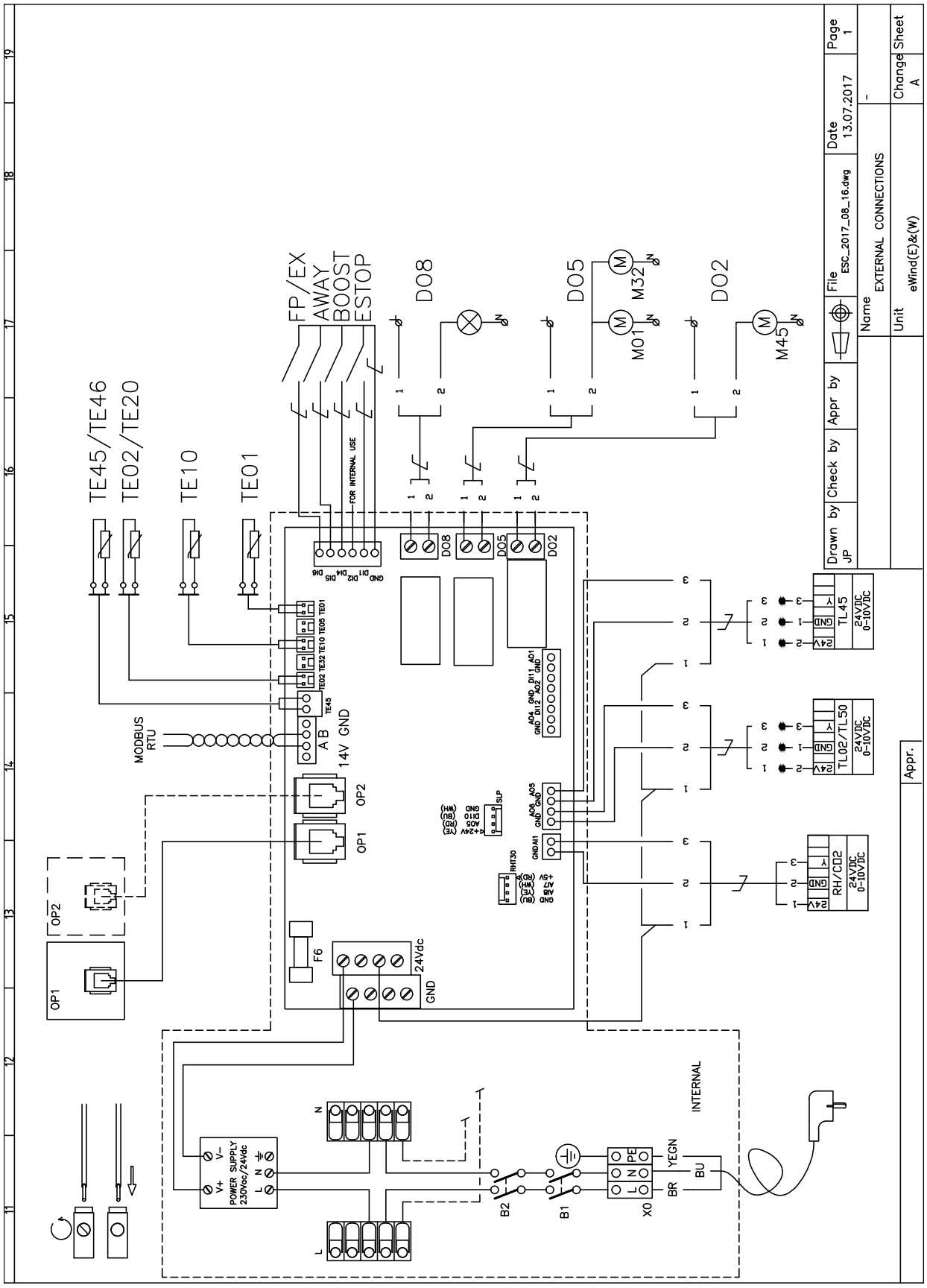


Technical dimensional drawing, right-handed



Electrical diagram

External connections



Name	Explanation	Marking on circuit board
FP/EX	FIREPLACE/EXTRACTOR HOOD MODE	DI6
AWAY	AWAY MODE	DI5
BOOST	MANUAL BOOST	DI4
ESTOP	EXTERNAL STOP	DI1
TE45	RETURNWATER TEMPERATURE SENSOR eWind W UNITS	TE45
TE46	RETURNWATER TEMPERATURE SENSOR eWind CG UNITS	TE45
TE02	PREHEATED OUTSIDE AIR TEMPERATURE, EXTERNAL PREHEATER	TE02
TE20	RECIRCULATION AIR TEMPERATURE (KOTILÄMPÖ eWind)	TE02
TE10	SUPPLY AIR TEMPERATURE	TE10
TE01	OUTSIDE AIR TEMPERATURE	TE01
RH CO^2	EXTERNAL HUMIDITY SENSOR (RH 0-100%) BY DEFAULT IF PARAMETER c27 IS ACTIVE, CO^2 SENSOR (200-2000ppm) (ACCESSORY)	AI1
TL01 TL50	PREHEATER VALVE ACTUATOR -CHG MODELS COOLING VALVE ACTUATOR -CG MODELS	AO6
TL45	HEATING VALVE ACTUATOR -W MODELS	AO5
DO8	ALARM A OUTPUT BY DEFAULT PREHEATER ON/OFF CONTROL IN -CHG -AGH -ELECTRICAL PREHEATER MODELS COOLING ON/OFF CONTROL IN -CG MODELS	DO8
DO5	OUTSIDE AIR AND EXHAUST AIR DAMPER CONTROL (ACCESSORY)	DO5
DO2	HEATING ON/OFF CONTROL eWind W MODELS MAX 500W PUMP	DO2
OP1	USERPANEL 1pcs. INCLUDED IN DELIVERY, 10m CABLE INCLUDED IF NOT MOUNTED ON UNIT	OP1
OP2	USERPANEL (ACCESSORY) 10m CABLE INCLUDED IN DELIVERY	OP2

WIRE COLOURS

BK	BLACK
BN	BROWN
RD	RED
OG	ORANGE
YE	YELLOW
GN	GREEN
BU	BLUE
GY	GREY
WH	WHITE

enervent

EU DECLARATION OF CONFORMITY

We declare that our products follows the provisions of low voltage directive LVD 2014/35/EU, electromagnetic compatibility directive EMC 2014/30/EU, machine directive MD 2006/42/EC, radio equipment directive RED 2014/53/EU, ROHS II directive 2011/65/EU, battery directive 2013/56/EU and waste electrical and electronic equipment directive WEEE 2012/19/EU.

Manufacturer:	Enervent Oy
Manufacturer´s contact:	Kipinätie 1, 06150 Porvoo, FINLAND, tel. +358 207 528 800, fax +358 207 528 844 enervent@enervent.com, www.enervent.com
Description of the product:	Ventilation unit with heat recovery
Trade name of the product:	**Pinion** -series

The products are in conformity with the following standards:

LVD EN 60335-1:2012/A11:2014
EN 62233:2008/AC:2008

EMC EN 61000-3-2:2014 and EN 61000-3-3:2013
EN 61000-6-1:2007 and EN 61000-6-3:2007/A1:2011/AC:2012
EN 55014-1:2006/A2:2011 and EN 55014-2:1997/A2:2008

RED EN 300328 v2.1.1

MD EN ISO 12100:2010

ROHS EN 50581:2012

The conformity of each manufactured product is taken care according our quality descriptions.

Product is CE-marked year 2017.

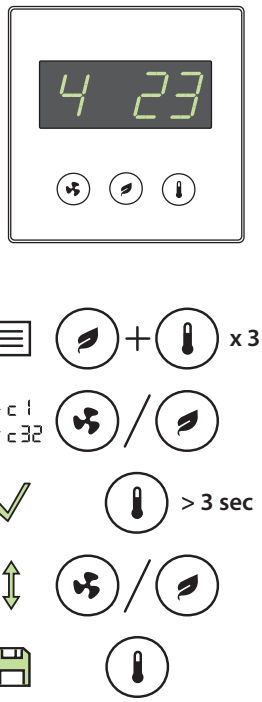
Porvoo 6th of September 2017

Enervent Oy

Tom Palmgren
Technology manager

versio 07.11.17

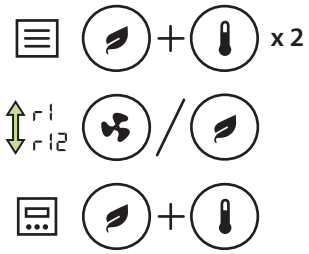
Installer´s quick guide

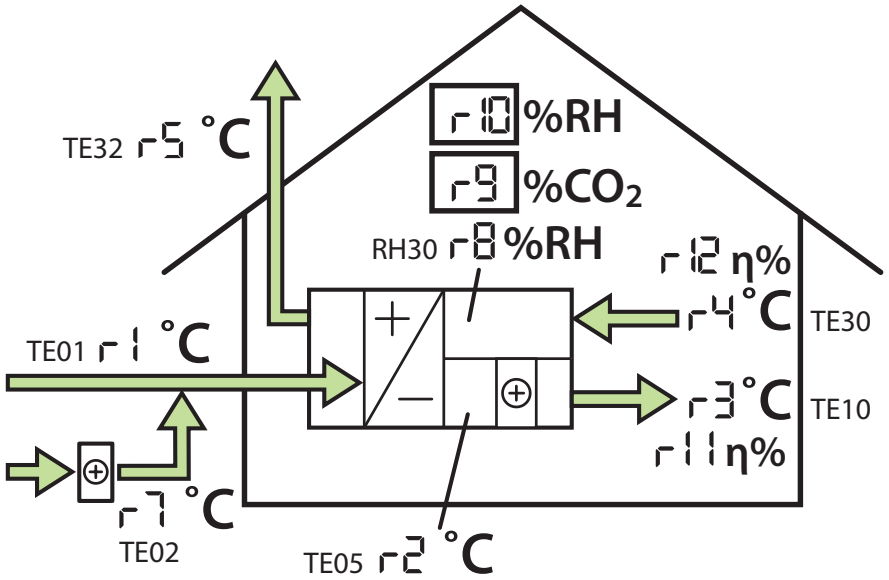


Parameters (c)		
c1		36% (20-100%)
c2		35% (20-100%)
c3		56% (20-100%)
c4		55% (20-100%)
c5		83% (20-100%)
c6		80% (20-100%)
c7		100% (20-100%) (120 min)
c8		100% (20-100%) (120 min)
c9		2 h (0...4 h)
c10		40% (20-100%)
c11		50% (20-100%)
c12		10 min (0...15 min)

Parameters (c)		
c13		oFF (on / oFF)
c14		4 (4 / 6)
c15		oFF (on / oFF)
c16		=> on, TE01 < °C, 5°C (0…10°C)
c17		=> off, TE01 > (c16 + c17), 1°C (1…5°C)
c18		on on / oFF
c19		=> on, TE01 > °C, 17°C
c20		=> on, TE01 > °C, 20°C (15…25°C)
c21		=> off, TE01 < (c20 - c21), 2°C (1…5°C)
c22		-15°C (-10…-20°C)

Parameters (c)		
c23		on (on / oFF)
c24		4°C (-10…+10°C)
c25		45% (10...100%RH)
c26		=>on, 48 h %RH + c26, 15% (5…30%)
c27		oFF (on / oFF)
c28		CO_2=> on, 1000 ppm (600...1200)
c29		oFF (on / oFF)
c30		oFF (on / oFF)
c31	eWind Modbus	1 (1...99)
c32	Modbus	2 (1=9600, 2=19200, 3=115200)





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