Pinion eWind
Pinion Premium eWind

Installation instructions for the ventilation unit



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READ FIRST

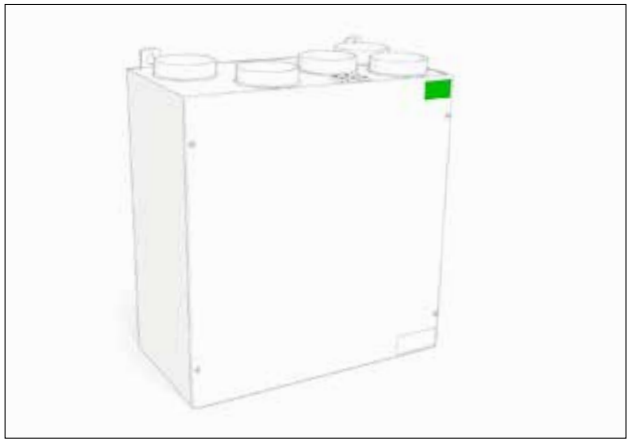
This instruction manual is intended for all people involved in the installation of the Enervent ventilation units. Only professionally skilled persons may install the equipment described in this manual, according to the instructions provided in this manual and to the local laws and regulations. Failure 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.

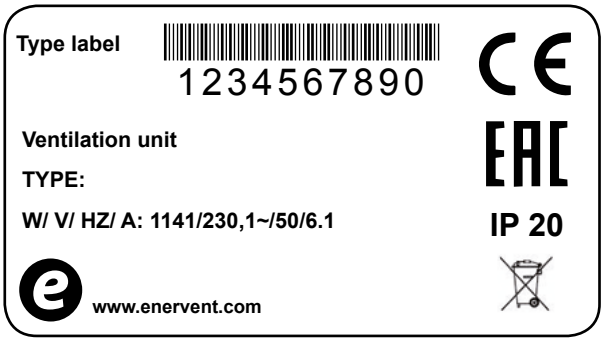
The equipment described in this manual may not be used by persons (including children) with reduced physical, sensory or mental capacity or without sufficient experience or knowledge, unless a person responsible for their safety is supervising and advising in the use of the equipment.

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





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.

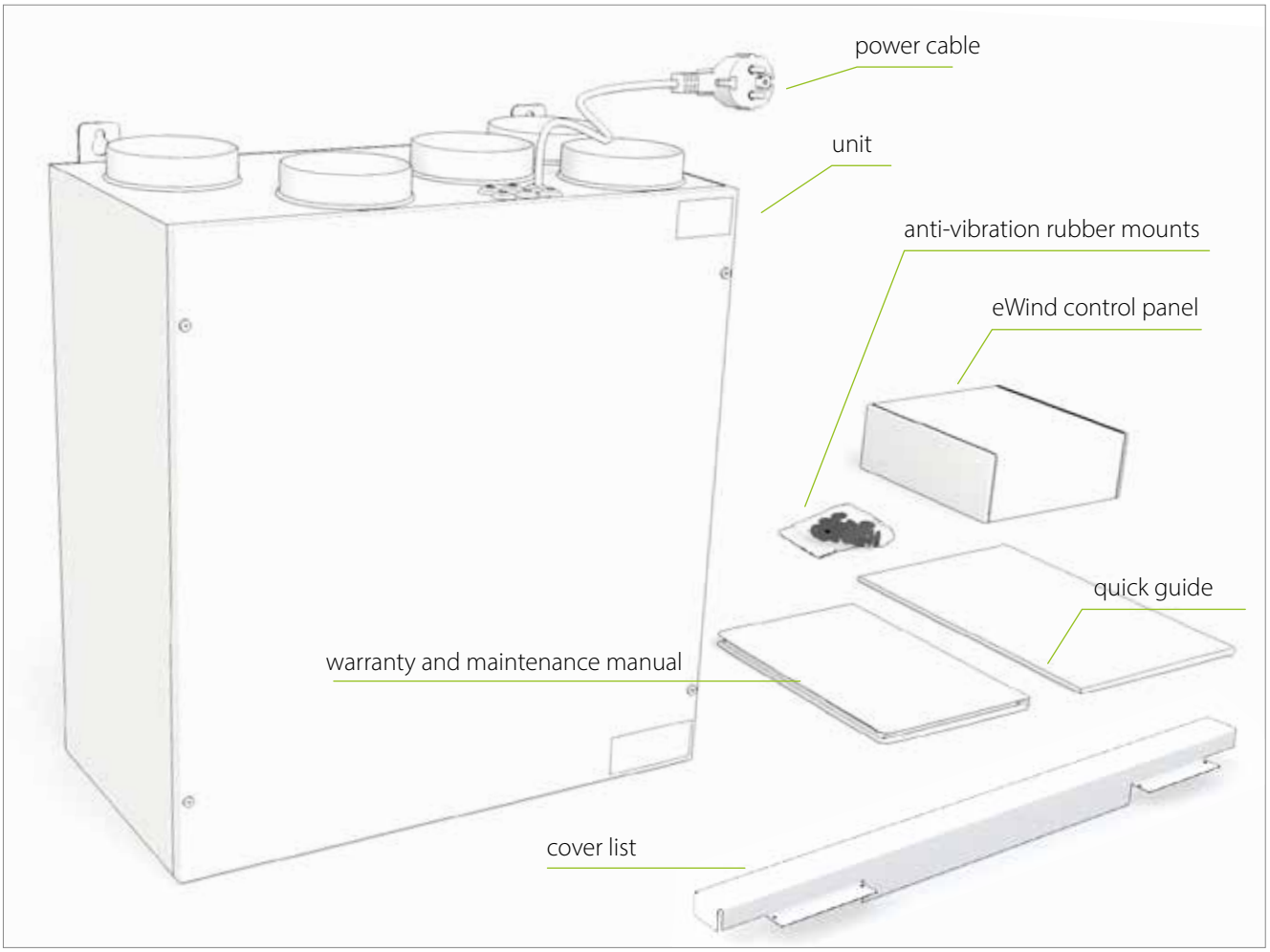
CAUTION

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.

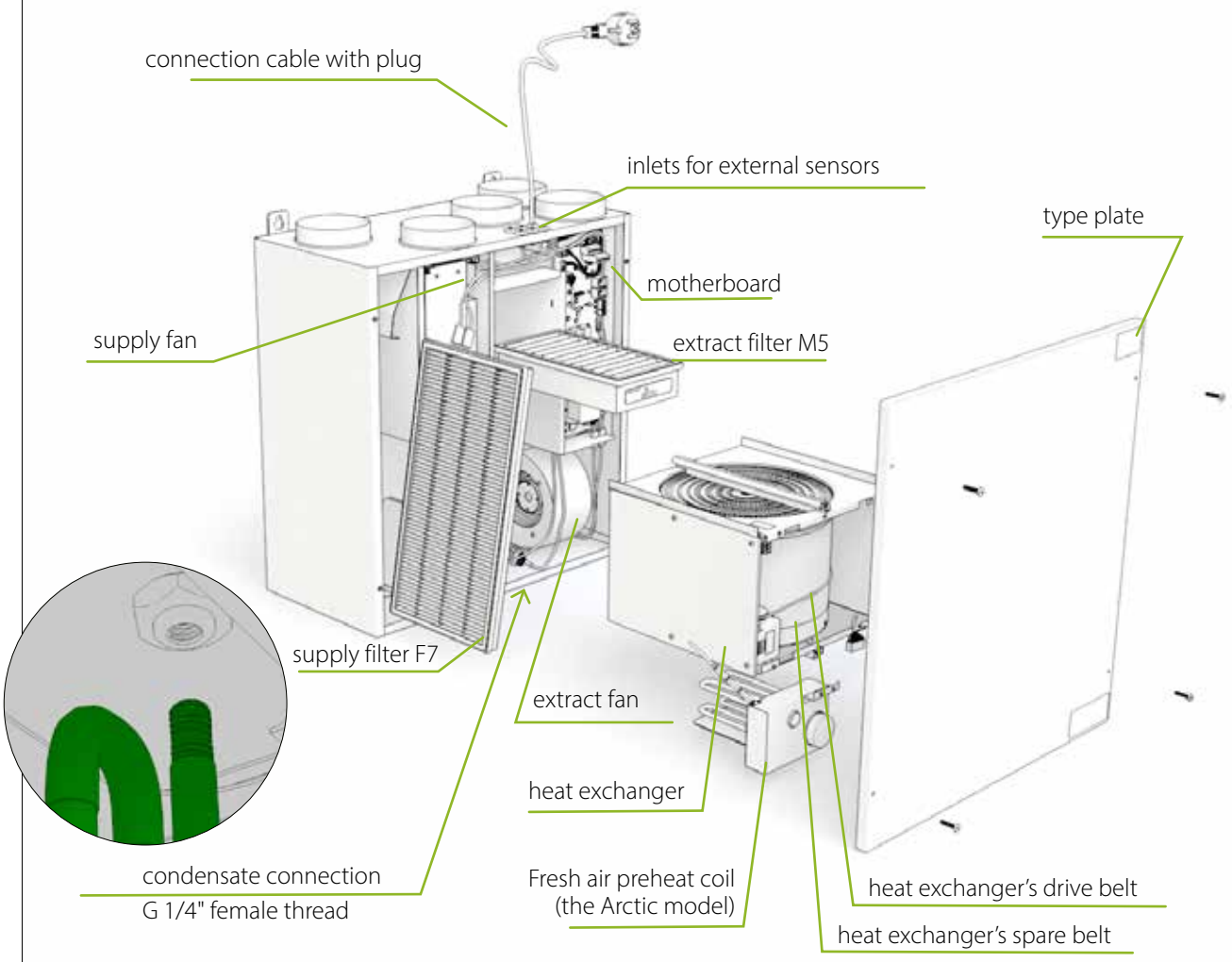
CONTENTS OF THE DELIVERY



Available accessories

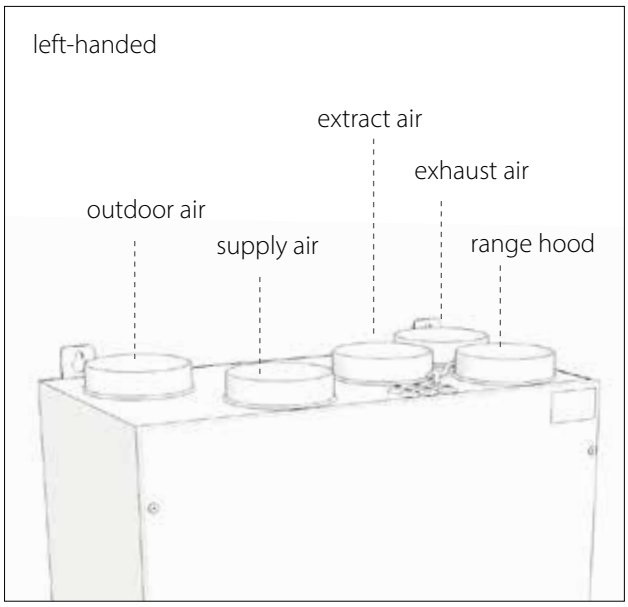
Product number	Product name
K240130301	Range hood Standard Plus white
K240130302	Range hood Standard Plus stainless steel
K240130201	Range hood Premium white
K930040090	Pinion white cover plate
M990010203	Pinion stainless steel cover plate
K240090101	Installation kit for the kitchen cupboard's integration 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

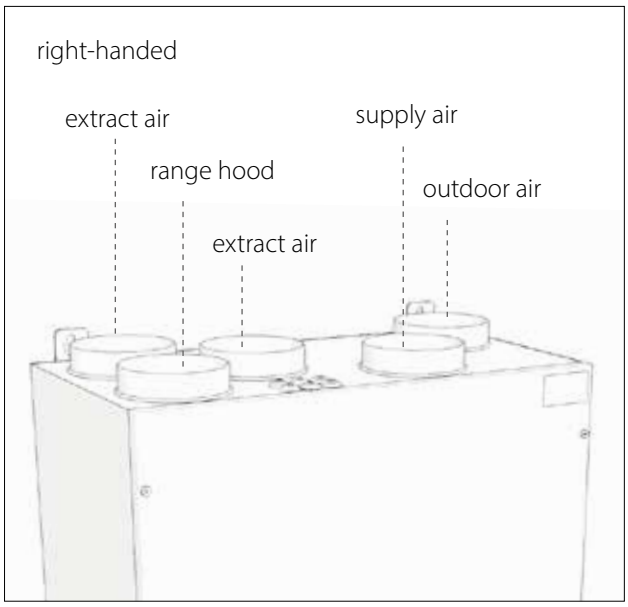
TECHNICAL SPECIFICATIONS OF THE UNIT



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

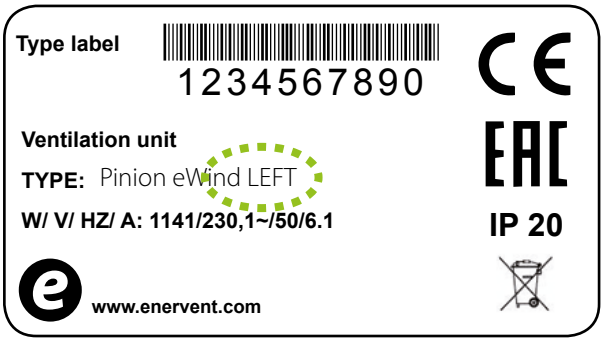
Duct connections





Checking the handedness in the type plate

Left-handed



Right-handed



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**.

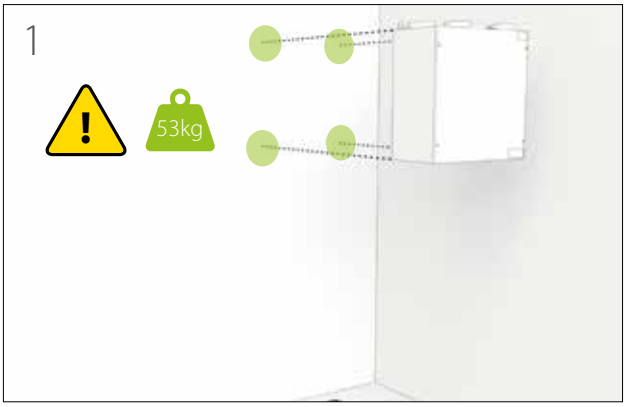
INSTALLATION

Wall installation without installation plate

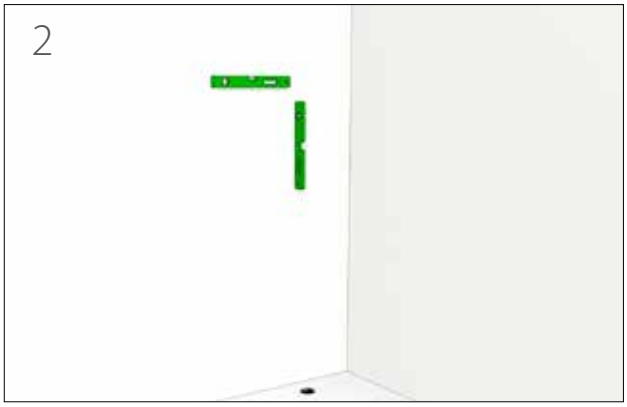
FOR YOUR INFORMATION

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

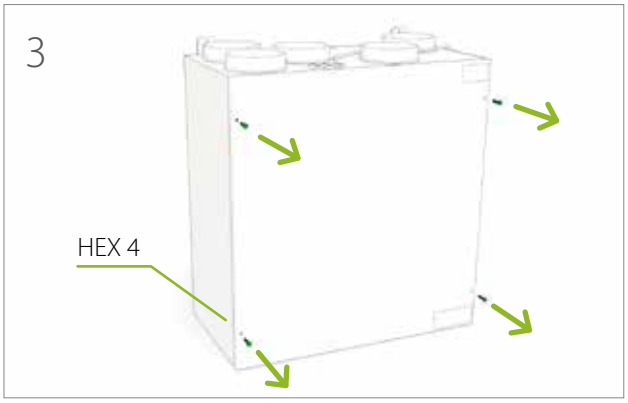
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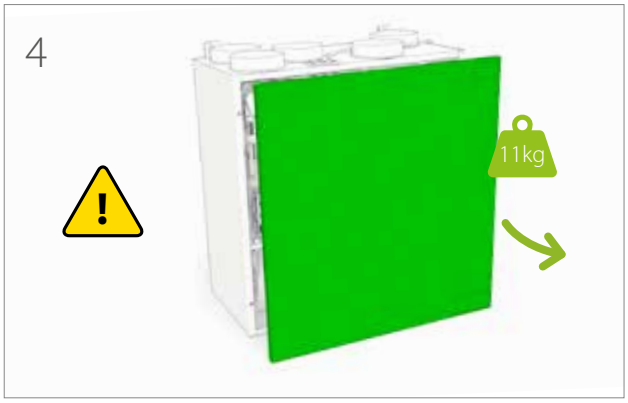
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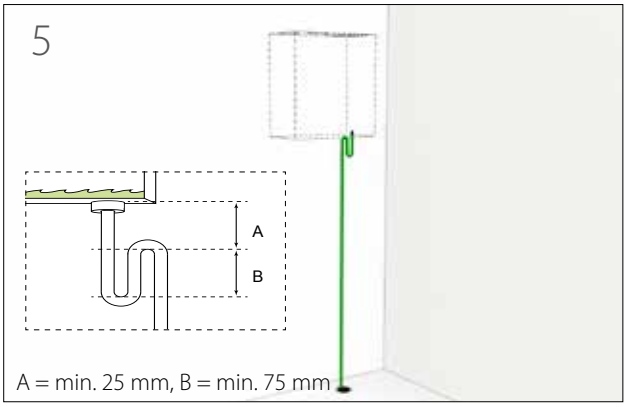
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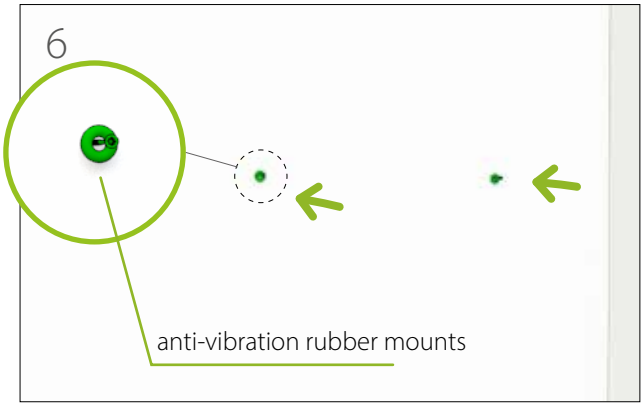
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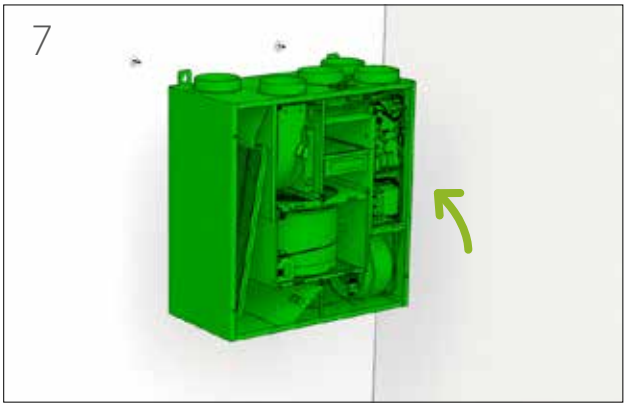
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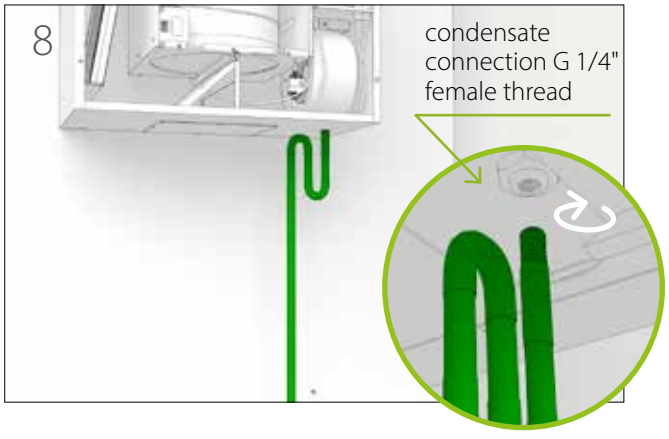
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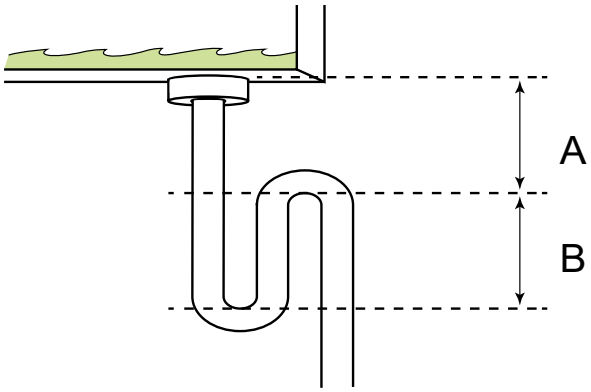
Draining condensate water

All Enervent ventilation units must be drained. When air cools down (condenses), condense water forms. For example in winter time when humid inside air meets cold heat recovery wheel, or when warm outside air meets the cooling coil in the ventilation unit (if applicable).

CAUTION

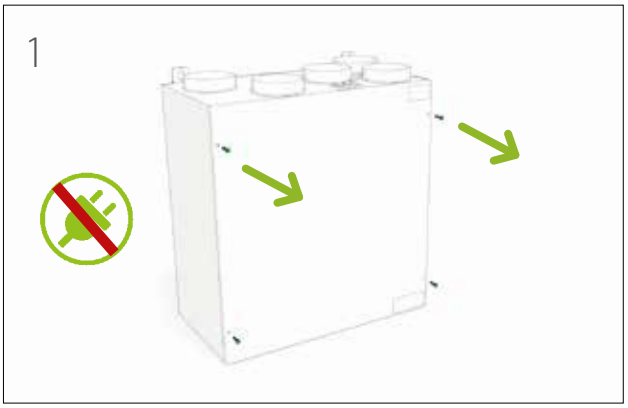
The condense water drain must not be directly connected to a sewer pipe.

- The condensate water should be led in a falling, at least Ø15 mm pipe, through a water trap to a floor drain or such.
- The pipe must at all times lie lower than the condensate water drip pan / condensate water connection of the ventilation unit.
- There must not be any longer horizontal sections on the pipe.
- The condensation drain pipe must be insulated if mounted in spaces where freezing can occur.
- Only one water lock is allowed for each condensate water drain.
- If the unit is equipped with more than one condense water drains, each one must have a water lock of its own.
- There is underpressure in the ventilation unit. We recommend a height difference of (A) 75 mm, or at least the underpressure divided with 10 in millimeters (i.e. 500 Pa under pressure -> 50 mm), between the unit drain and the water lock drain.
- We recommend that the height of backwater in the water lock (B) is 50 mm, or at least the underpressure divided with 20 in millimeters (i.e. 500 Pa under pressure -> 25 mm height of backwater). The above also applies to duct coils for cooling mounted in the outside air duct or extract air duct.
- There are over pressure inside duct coils mounted in the supply air duct. We recommend the height difference (A) between the duct coil drain and the water lock drain is 25 mm. The water lock height of backwater (B) must be 75 mm, or at least the over pressure divided with 10 in millimeters (i.e. 500 Pa under pressure -> 50 mm).
- The water lock must be filled with water before starting up the unit. The water lock might dry up if water is not accumulated in it. If this happens, air might get into the pipe and hinder water from entering the water lock, which might result in an irritating "bubbling" sound.
- The functionality of the water lock must be checked every year before the heating season and also in the spring if the ventilation unit is equipped with cooling.

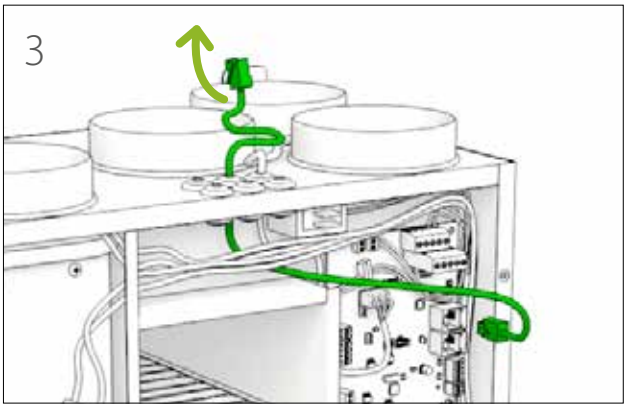


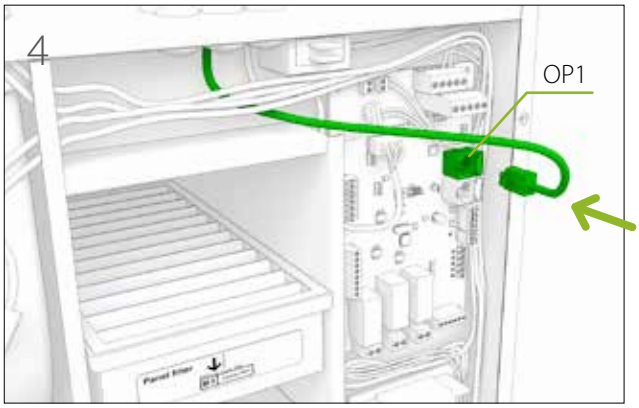
Installation of the eWind control panel

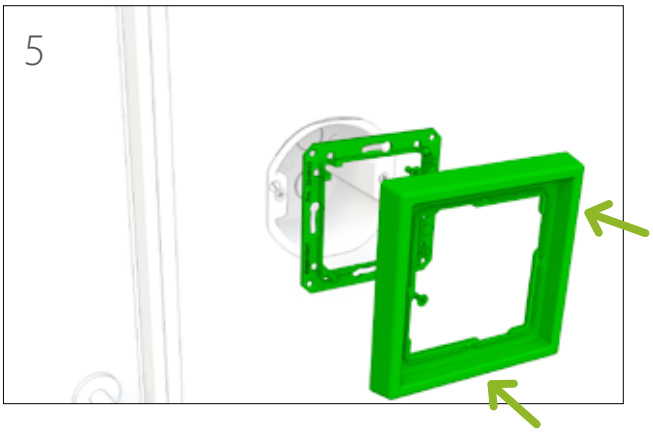
The eWind control panel (refer to the section 'Control system and the eWind operation panel' on page 15) is installed in a wall-type installation box or by using the surface mounting box supplied with the delivery. Max. two external control panels can be installed to the ventilation unit.





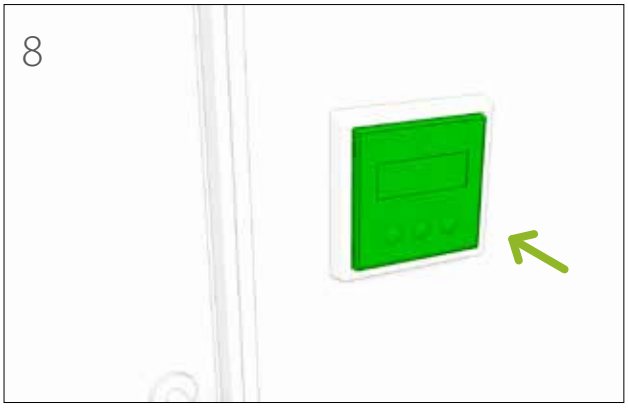




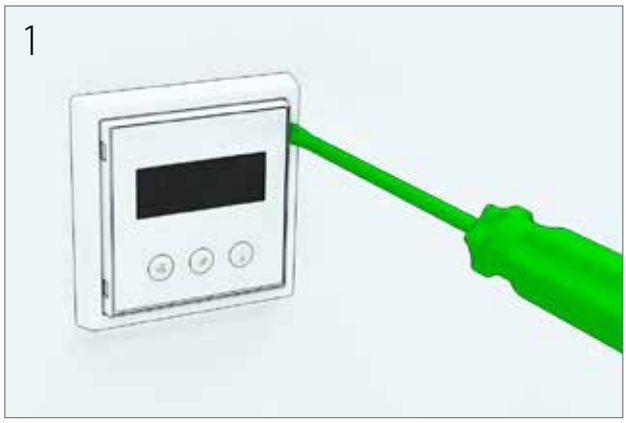


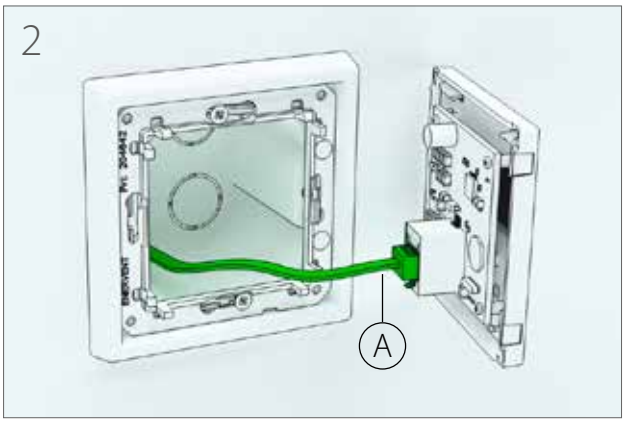


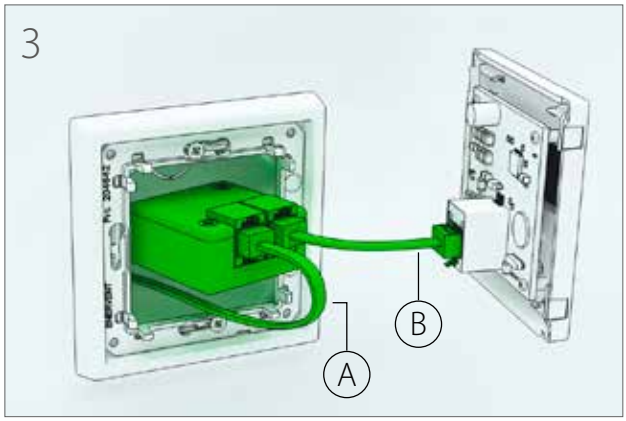


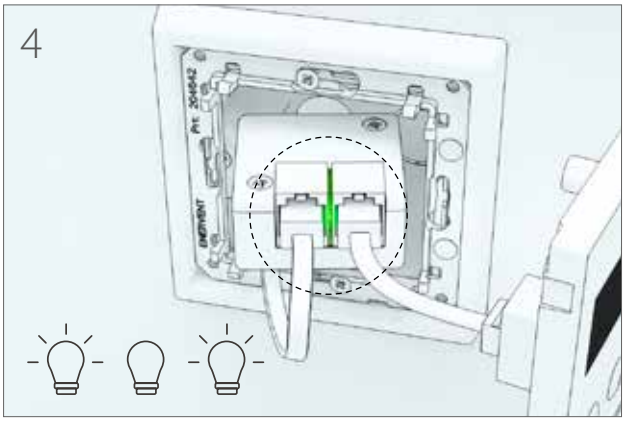


Installation of the Wifi module









Installation to the Modbus network

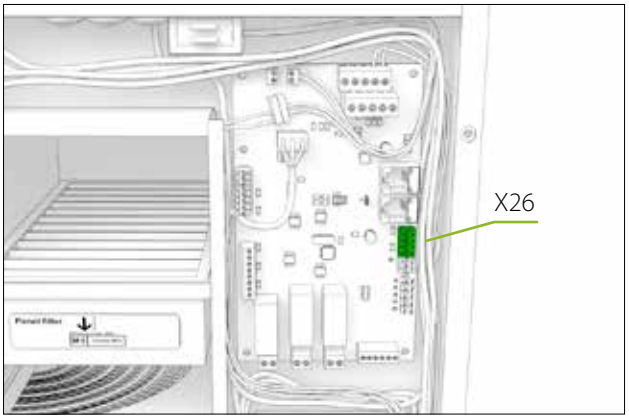
The ventilation unit can also be controlled via the Modbus connector X26.

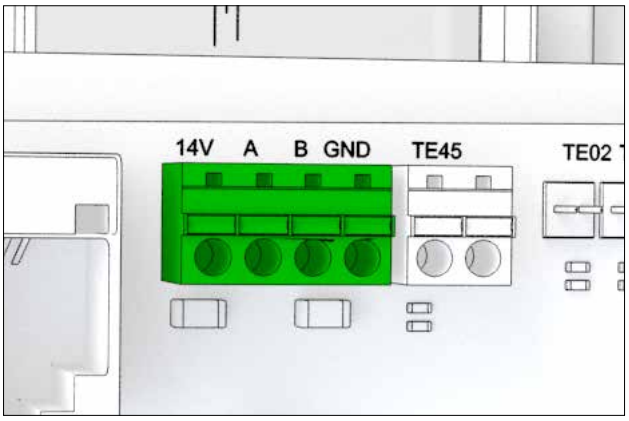
The Modbus specification:

- 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 for 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.

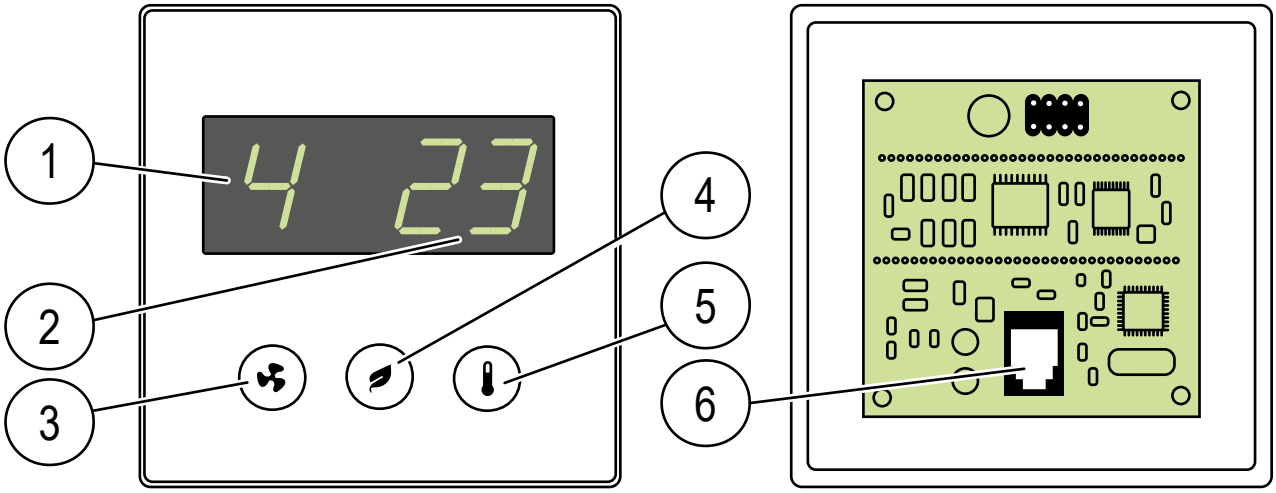
To achieve optimum adjustment values, the airflows must be measured at each duct opening. A suitable measurement device is a thermoanemometer or a differential pressure gauge. The measured values can be used to adjust the airflow to match the design values.

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	

Parameter list					
Parameter	**Description**	**Factory setting**	**Note**	**Modbus register**	**Field setting**
c23	Humidity boosting on or off	On		Coil 19	
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 dioxide 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 airflowmeasurement.

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).

If there is an alarm

Problem	Reason	Help	Solution
FILS Service reminder	Normal reminder with 4 or 6 month intervals (depending on the unit model)		Change the filters and clean the unit from the inside and check if the unit is working.
Err Temperature sensor malfunction	The temperature sensor is short-circuited or there is a break in the connection.		Turn off the ventilation unit from the main switch, open the electrical box, and check that the quick couplings of the temperature sensors are connected. It is possible that the quick connectors have come loose during the installation of the unit. Contact a service representive.
oFFE Stop mode	The internal alarm of the heat pump unit is active.		Find out the status of the external control system. Contact a service representive.
AL1 The water heating coil is starting to freeze. NOTE! The ventilation unit does not start until the alarm state has been removed and the alarm has been reset by pressing any button on the control panel..	The heat exchanger belt has broken.	The heat exchanger has a green belt. Check the heat exchanger rotor from the belt's control hole. If the belt is not visible, it is broken.	Change the belt.
	The heat exchanger belt-wheel is oily and the belt is slipping	The heat exchanger has a green belt. Check the heat exchangers rotor from the belt's control hole if the belt wheel is rotating even if the heat exchanger rotor is not rotating.	Change the belt.
	The extract fan has stopped.	Open the service hatch when the unit is running. The extract fan needs to be on. With the LTR unit you must push down the door coupling with a screwdriver and check if the unit starts.	Change the fans. Contact a service representive.
	The extract filter is clogged.	Open the service hatch when the unit is not on. Remove the filters and check if they are dirty.	Change the supply air filter.
	The water heater's valve actuator is broken.		Contact a service representive.
	The circulating water pump has stopped.	Check if the heating/cooling circulation pump is on.	Start the pump, contact a service representive if the problem persists.
	Error in the heat exchanger motor/ gearbox	Open the service hatch while the unit is on and listen if the noise is coming from the heat exchanger.	Contact a service representive.
	The heat exchanger belt wheel has come loose from the axel.	Check the heat exchanger rotor from the belt control hole if the axel is rotating freely and the belt wheel is stationary.	Tighten the belt wheel screw. Contact a service representive.

Problem	Reason	Help	Solution
AL2 Supply air is cold after the rotary heat exchanger.	The heat exchanger belt has broken.	The heat exchanger has a green belt. Check the heat exchanger rotor from the belt's control hole. If the belt is not visible, it is broken.	Change the belt.
	The heat exchanger belt-wheel is oily and the belt is slipping	The heat exchanger has a green belt. Check the heat exchangers rotor from the belt's control hole if the belt wheel is rotating even if the heat exchanger rotor is not rotating.	Change the belt.
	Error in the heat exchanger motor/ gearbox	Open the service hatch while the unit is on and listen if the noise is coming from the heat exchanger.	Contact a service representive.
AL3 Supply air is cold	The extract fan has stopped.	Open the service hatch when the unit is running. The extract fan needs to be on. With the LTR unit you must push down the door coupling with a screwdriver and check if the unit starts.	Change the fans.
	The filter is clogged.	Open the service hatch when the unit is not on. Remove the filters and check if they are dirty.	Change the supply air filter.
	The ventilation unit runs with a too low fan speed.	The correct fan speed was chosen when the ventilation was balanced in your house. Check your ventilation installation sheet for the correct fan speeds.	Adjust the fan speed from the control panel. Contact a service representive.
	The ventilation is adjusted incorrectly.		Contact the company that has installed your ventilation unit and check if the houses airflow/valves has been adjusted correctly. Contact a service representive.
AL4 Supply fan malfunction	The supply air fan has stopped	Open the service hatch when the unit is running. The fan needs to be on. With the LTR unit you must push down the door coupling with a screwdriver and check if the unit starts.	Contact a service representive.
AL5 Extract fan malfunction	The fan has stopped.	Open the service hatch when the unit is running. The fan needs to be on. With the LTR unit you must push down the door coupling with a screwdriver and check if the unit starts.	Change the fans. Contact a service representive.

Problem	Reason	Help	Solution
AL6 The water heating coil is starting to freeze. NOTE! The ventilation unit does not start until the alarm state has been removed and the alarm has been reset by pressing any button on the control panel.	Insufficient isolation in the ducts.		Check the thickness of the insulation in the supply air and the air ducts and improve the insulation when required. Contact a service representive.
	The overheating protection of the afterheater has been activated		Find out what has caused the error and reset the over-heating protection (® button on the coil) Contact a service representive.
	The ventilation unit's door is open		Close the door. Contact a service representive.
	Low room temperature		Nosta huonelämpötilaa. Contact a service representive.
	TE-30 error int the temperature sensor		Contact a service representive.
AL7 Supply air hot. Risk of fire.	Error in the electrical after heater		Contact a service representive.
	The water heater's valve actuator is broken		Contact a service representive.
	TE-10 error in the temperature sensor		Contact a service representive.
	Fire risk		Contact a service representive.
AL8 Electrical re-heater or pre-heater overheating	Error in the electrical after heater		Contact a service representive.
	The supply air fan has stopped	Open the service hatch when the unit is running. The fan needs to be on. With the LTR unit you must push down the door coupling with a screwdriver and check if the unit starts.	Contact a service representive.
	The supply air filter is clogged	Open the service hatch when the unit is not on. Remove the filters and check if they are dirty.	Change the filter.
	The outside air grille is clogged	Check if there is something blocking the outside air grille.	Clean the outdoor air grille Contact a service representive.
	The heater controller card is broken		Replace the heater controller card Contact a service representive.

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 Zehnder 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 eWind E

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 2019.

Porvoo 30th of April 2019

Enervent Zehnder Oy

Tom Palmgren
Technology manager

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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: Manufacturer´s contact:	Enervent Zehnder Oy 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 Premium eWind E ON**

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 2019.

Porvoo 30th of April 2019

Enervent Zehnder Oy

Tom Palmgren
Technology manager

Enervent Pinion

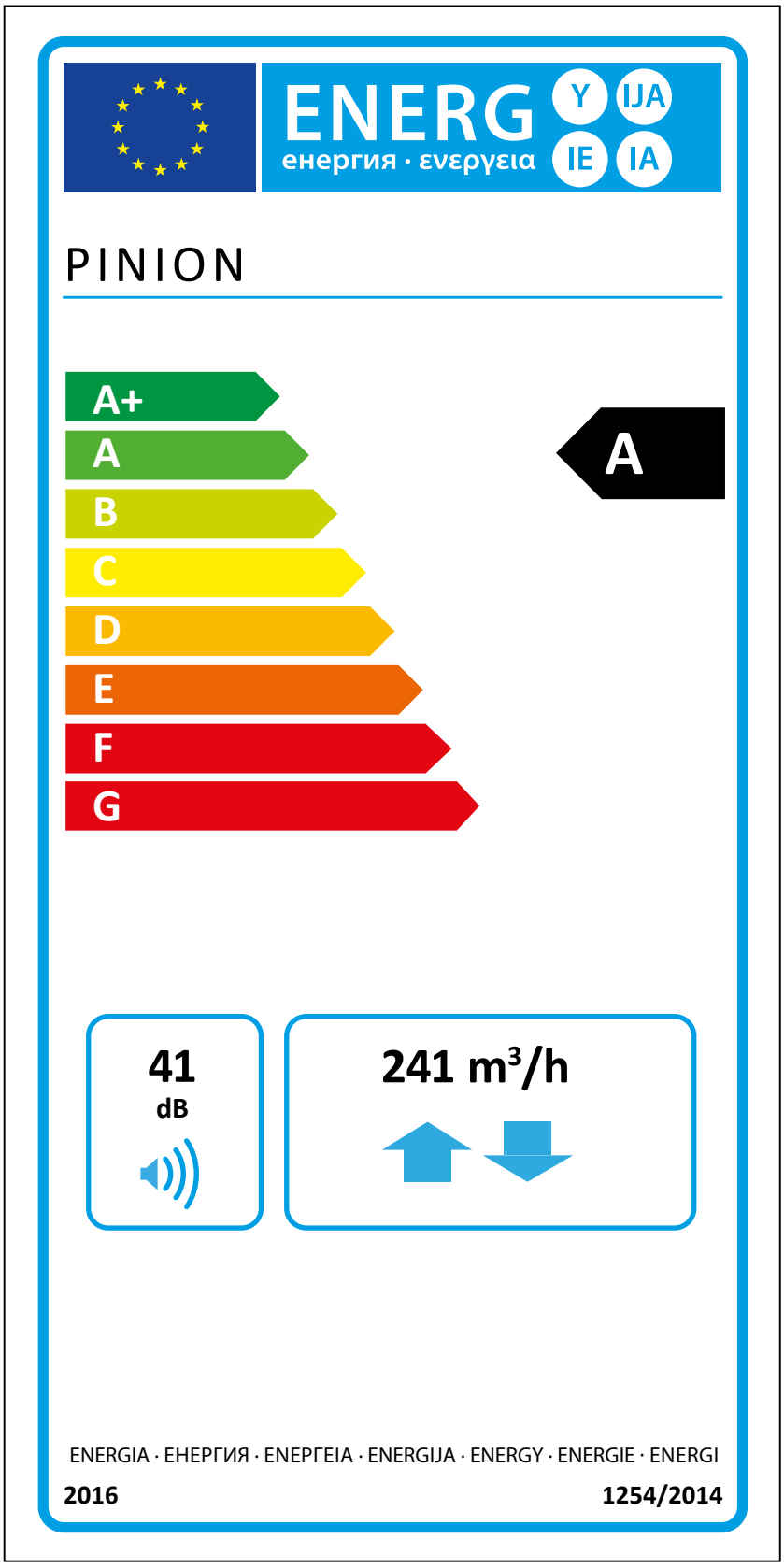
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PRODUCT INFORMATION ACCORDING TO EU COMMISSION REGULATION NO 1253/2014 AND 1254/2014

Supplier's name or trade mark	Enervent
Supplier's model identifier	Pinion
Specific energy consumption (sec) in kWh/(m^2.A)	
• Cold climate	-79,23
• Average climate	-37,32
• Warm climate	-13,31
Declared typology in accordance with article 2 of this regulation	RVU / BVU
Type of drive installed or intended to be installed	Multi-speed drive
Type of heat recovery system	Regenerative
Thermal efficiency of heat recovery	75,0
Maximum flow rate in m^3/h	241
Electric power input of the fan drive, including any motor control equipment, at maximum flow rate (W)	166
Sound power level (L_{WA}), rounded to the nearest integer	40
Reference flow rate in m^3/s	0,047
Reference pressure difference in Pa	50
SPI in W/(m^3/h)	0,49
Control factor and control typology in accordance with the relevant definitions and classification in annex VIII, table 1	0,65
Declared maximum internal and external leakage rates (%) for bidirectional ventilation units	<4% / <2%
Position and description of visual filter warning for rvus intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	Filter warning on control panel. Instructions in user manual.
Internet address for disassembly instructions as referred to in point 3	www.enervent.com/company/mediacenter
The annual electricity consumption (AEC) (in kWh electricity/a)	260
The annual heating saved (AHS) (in kWh primary energy/a) for each type of climate	
• Cold climate	8574
• Average climate	4383
• Warm climate	1982

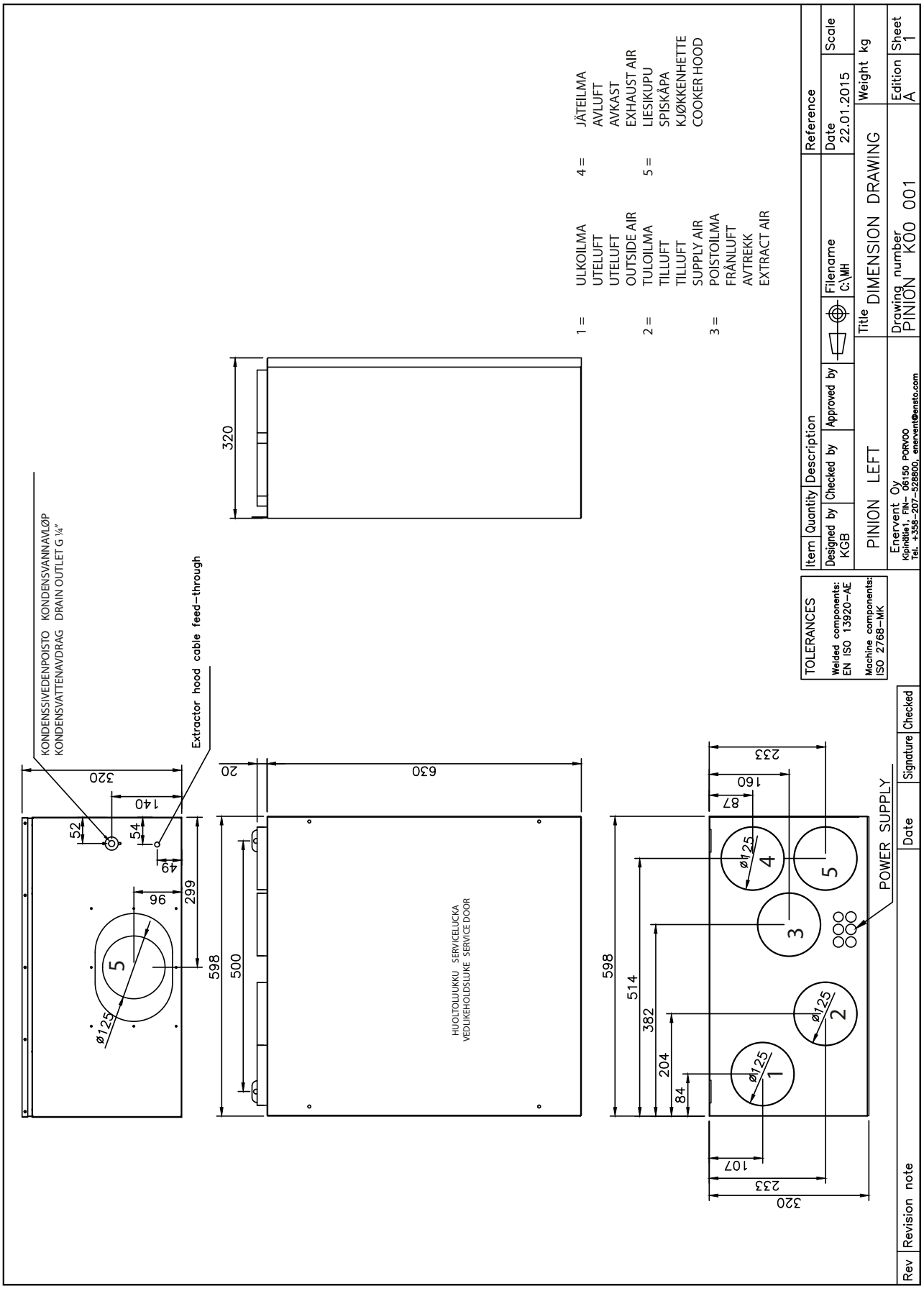
The information on the energy label for this product has been defined with local demand control. Local demand control means that the ventilation unit continuously regulates the fan speed(s) and flow rates based on more than one sensor. Please remember to connect all local sensors (some sold as extra equipment) in order to achieve the declared energy class.

enervent


ENERG
енергия · ενεργεια
Y
IJA
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IA
PINION
A+
A
B
C
D
E
F
G
A
41
dB
241 m³/h
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
2016
1254/2014

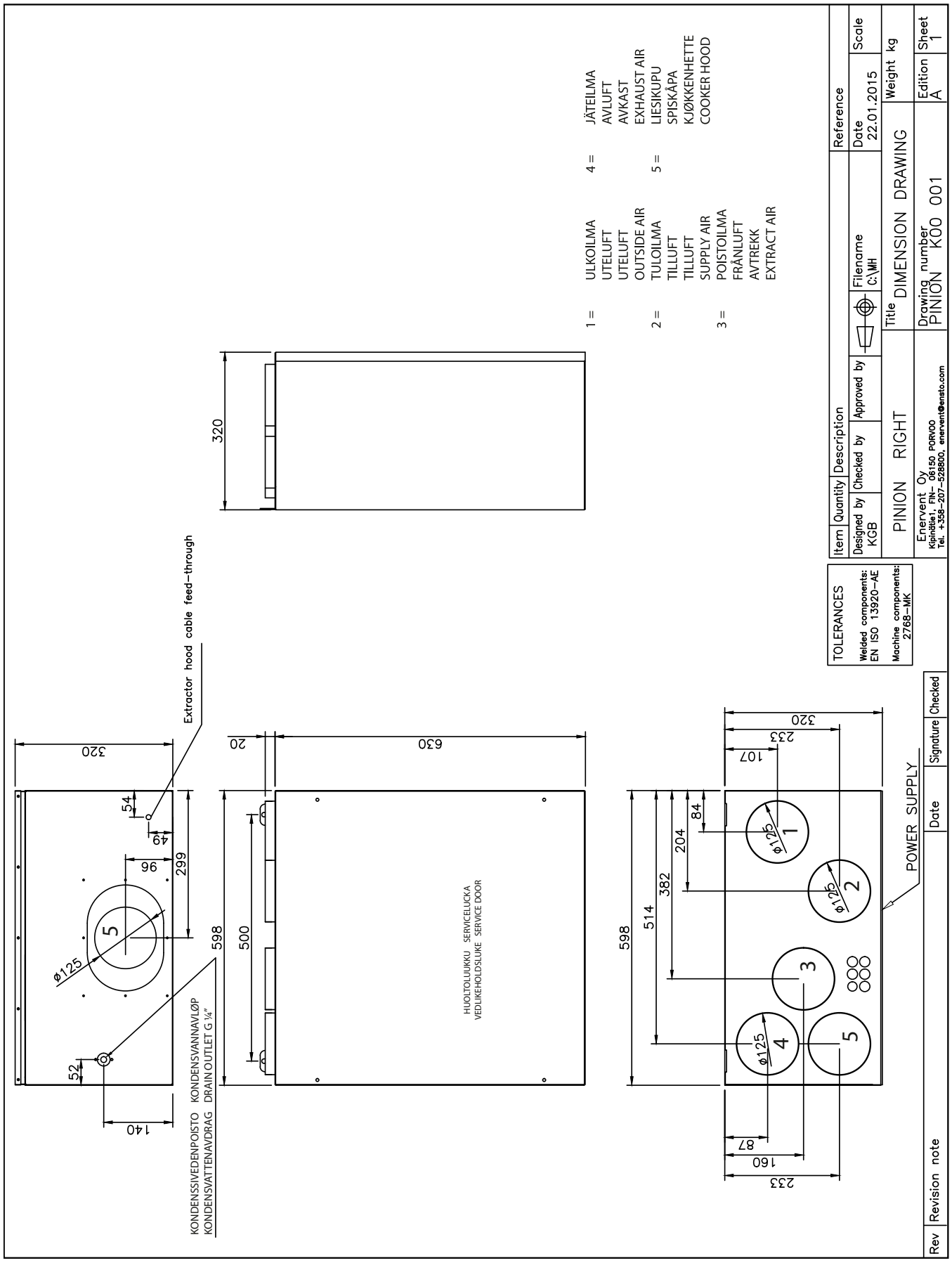
Dimensional drawings

Pinion eWind technical dimensional drawing, left-handed

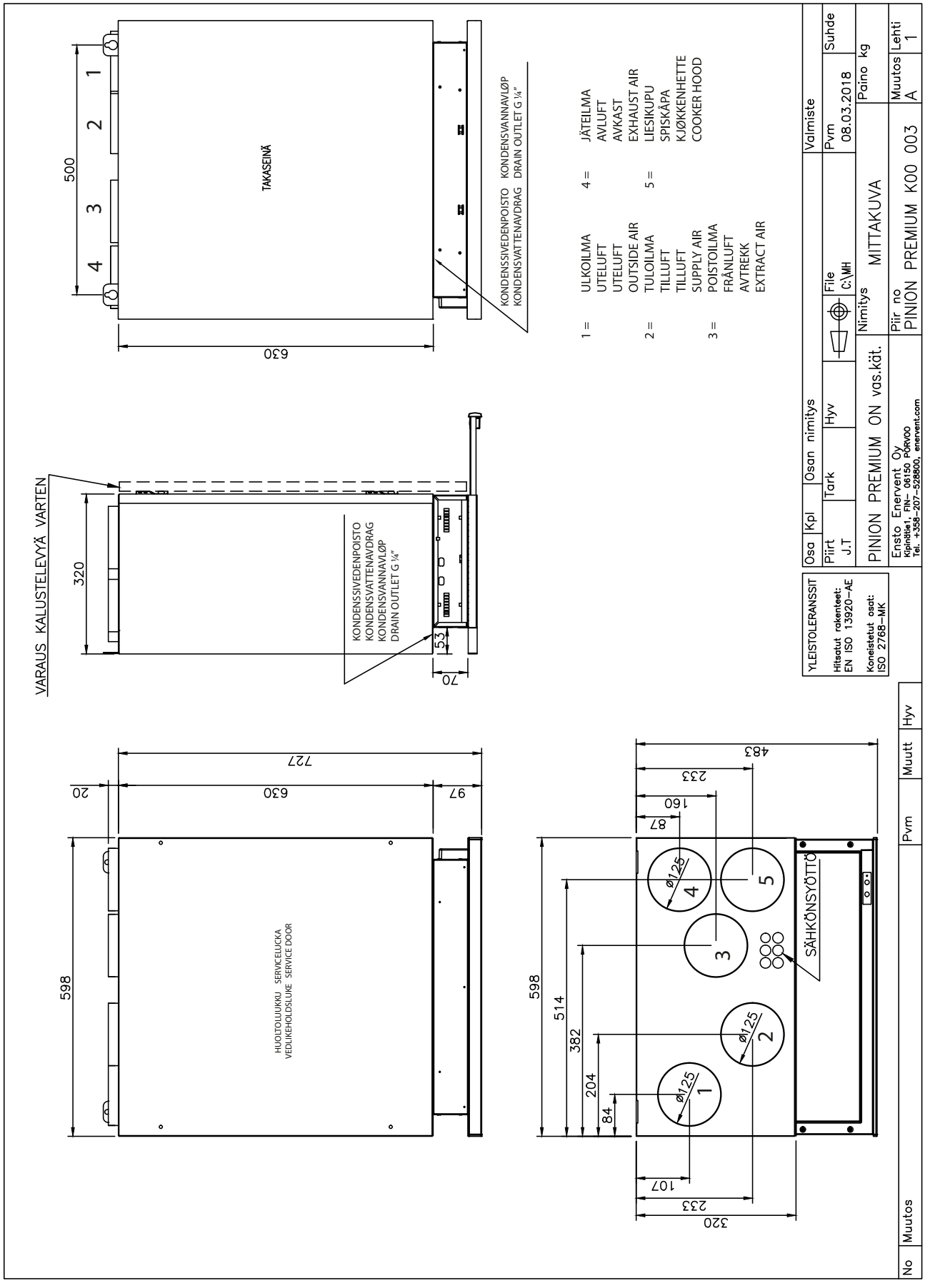


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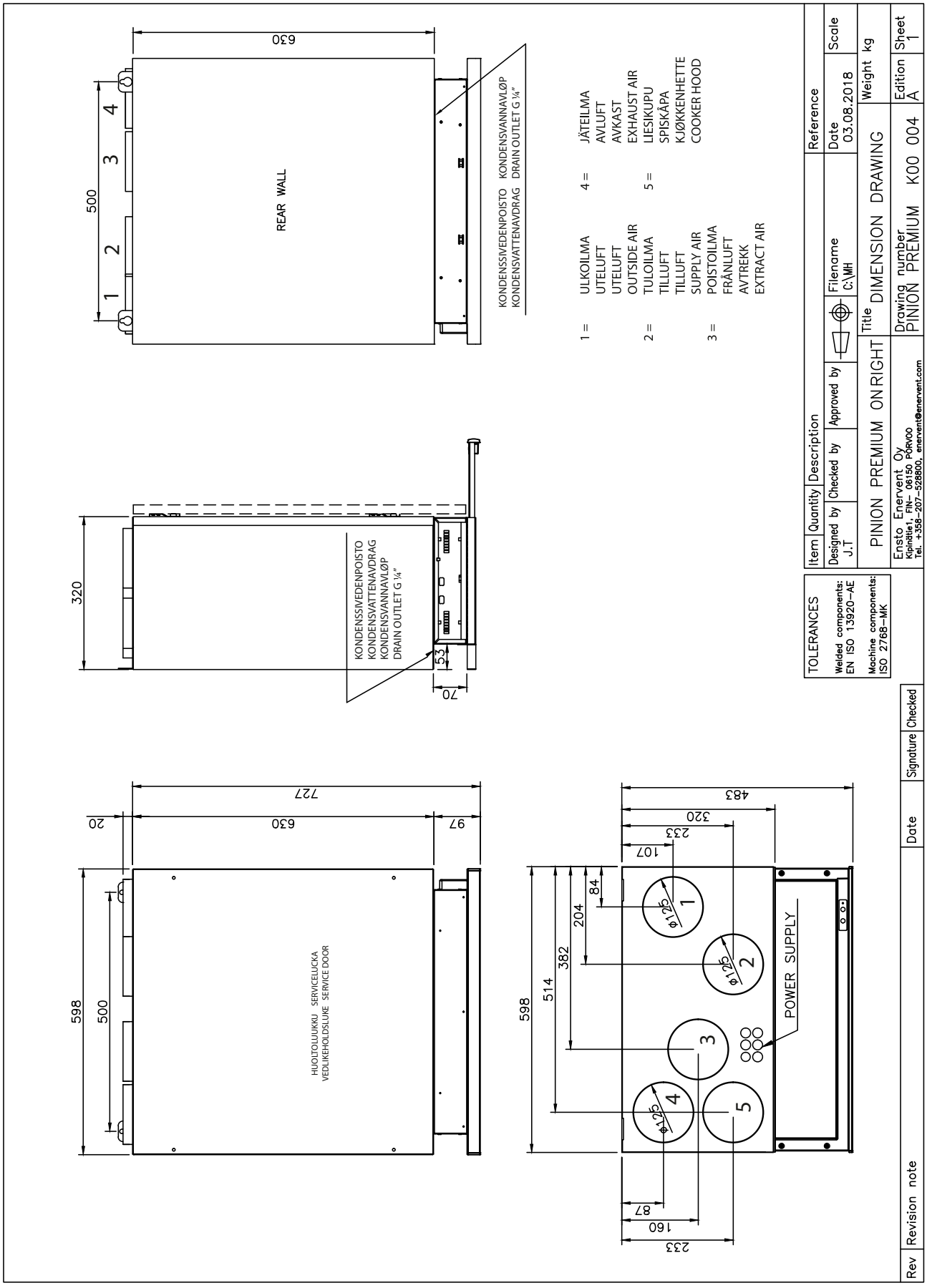
Pinion eWind technical dimensional drawing, right-handed



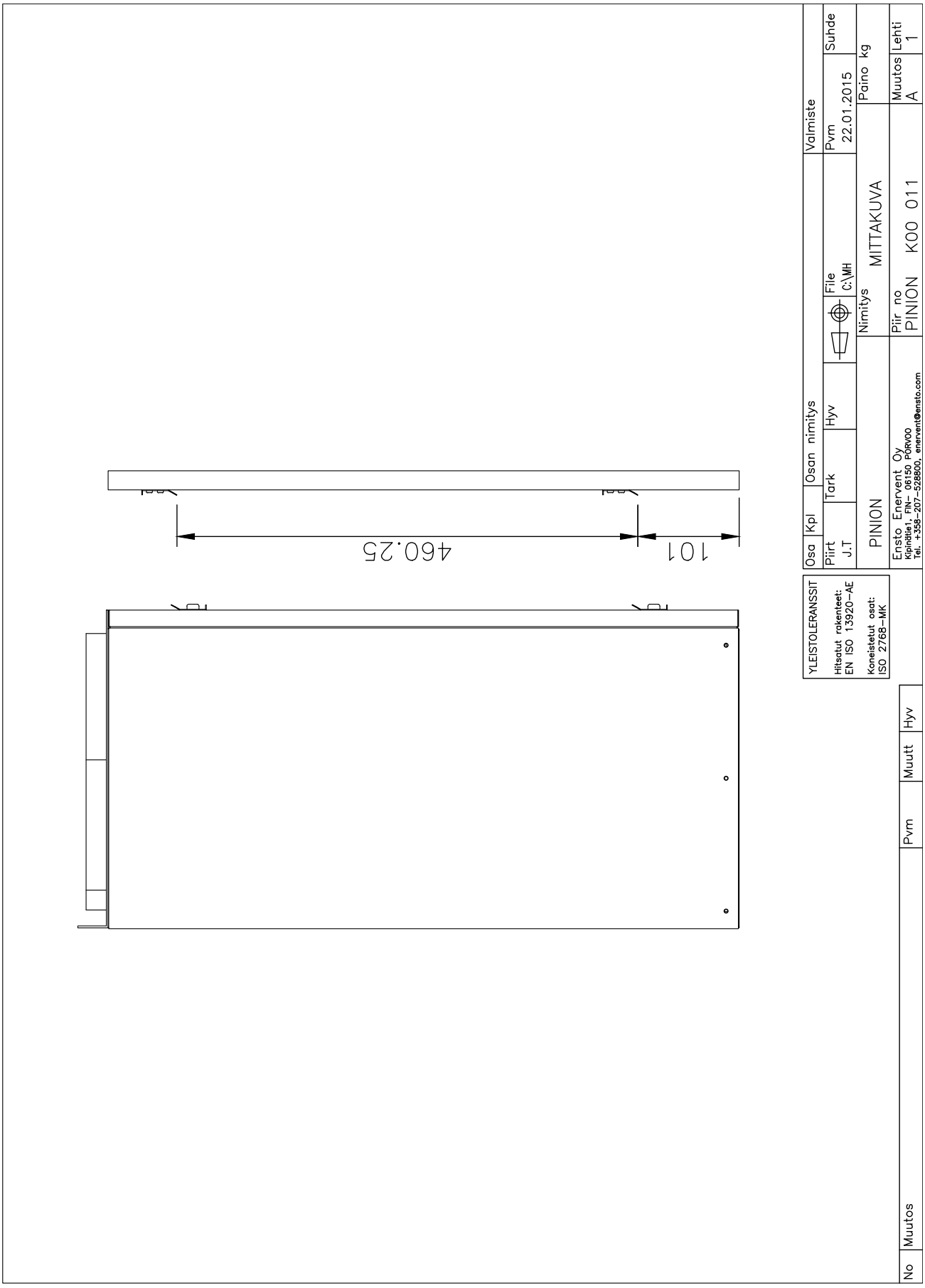
Pinion Premium eWind technical dimensional drawing, left-handed



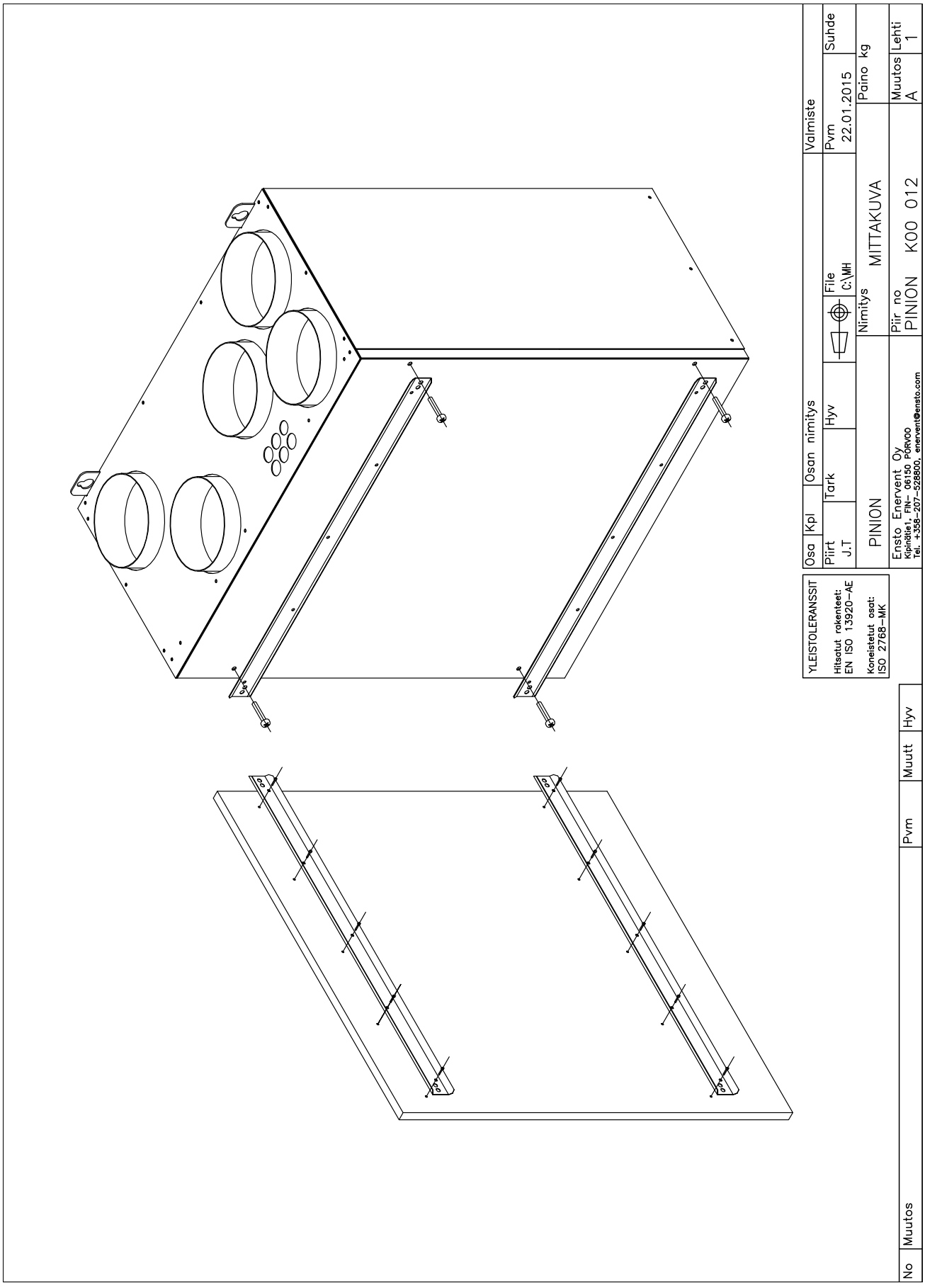
Pinion Premium eWind technical dimensional drawing, right-handed



Pinion (Premium) eWind installation of integration rails

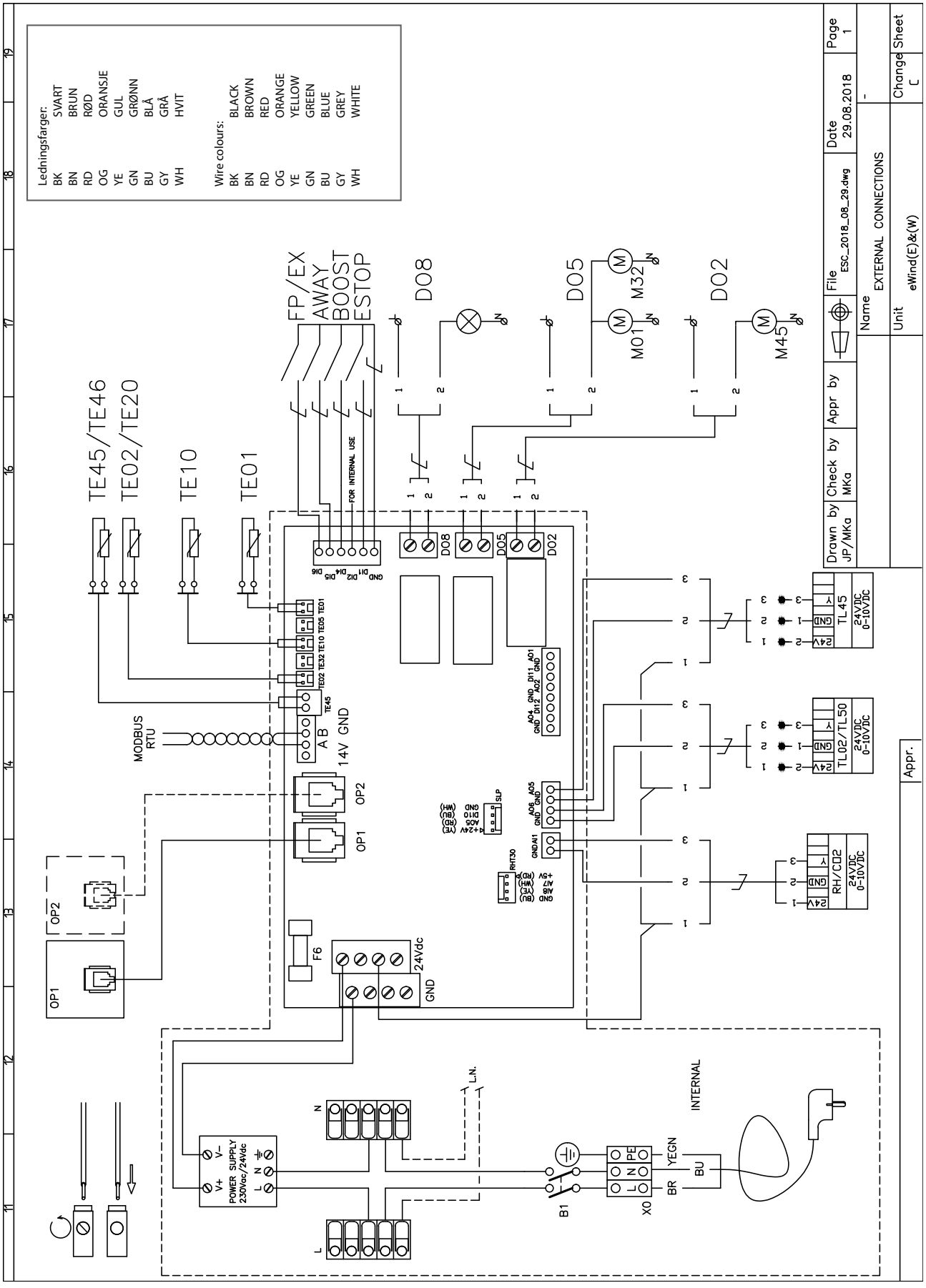


Pinion (Premium) eWind installation of integration rails

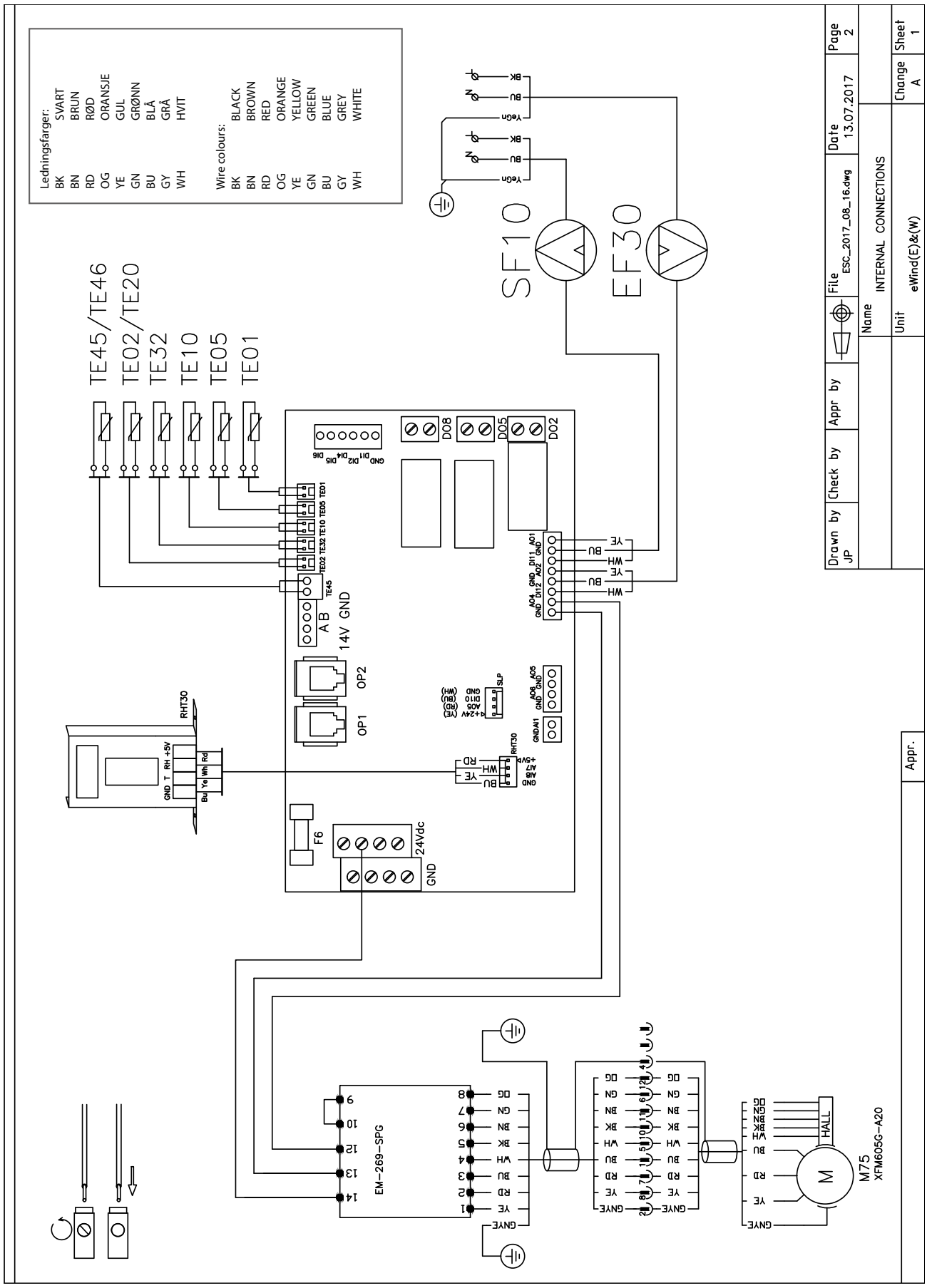


Electrical diagrams

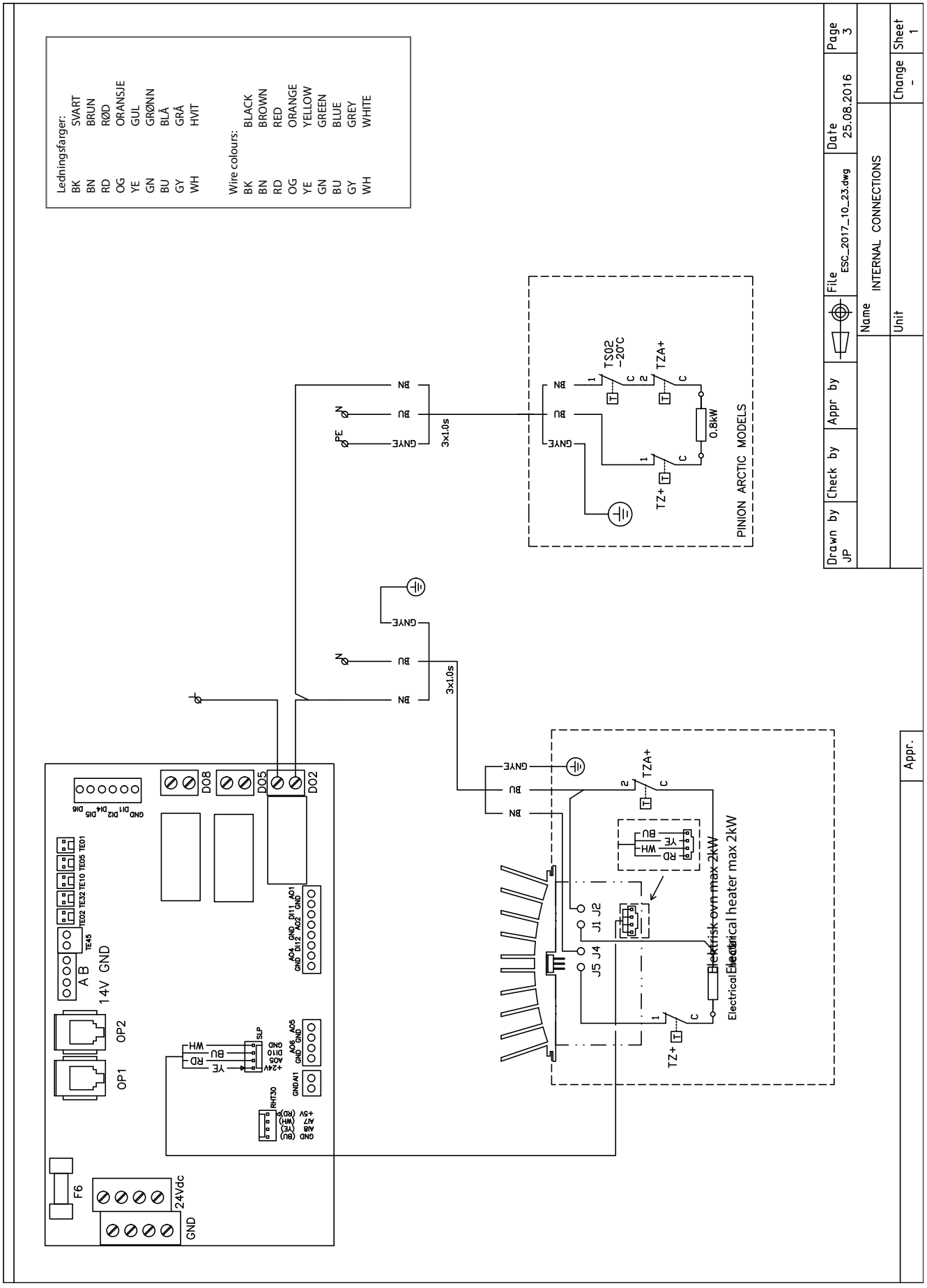
External connections



Internal connections



Internal connections, electrical heaters



Name	Definition	Marking on the circuit board
FP/EX	FIREPLACE/RANGE HOOD MODE	DI6
AWAY	AWAY MODE	DI5
BOOST	MANUAL BOOSTING	DI4
ESTOP	EMERGENCY STOP	DI1
TE01	OUTDOOR AIR TEMPERATURE	TE01
TE02	PRE-HEATED OUTDOOR AIR TEMPERATURE, EXTERNAL PRE-HEATER	TE02
TE05	AIR TEMPERATURE AFTER THE HEAT RECOVERY HEAT EXCHANGER	TE05
TE10	SUPPLY AIR TEMPERATURE	TE10
TE32	AIR TEMPERATURE SENSOR	TE32
TE45	RETURN WATER TEMPERATURE SENSOR eWind W MODELS	TE45
TE46	RETURN WATER TEMPERATURE SENSOR eWind CG MODELS	TE45
RH CO_2	EXTERNAL HUMIDITY SENSOR AS DEFAULT (RH 0–100%). IF PARAMETER c27 IS ACTIVE, CO_2 SENSOR (200–2,000 ppm) (ACCESSORY)	AI1
TL01 TL50	PRE-HEATING ACTUATOR, CHG MODELS. COOLING ACTUATOR, CG MODELS	AO6
TL45	HEATING ACTUATOR, W MODELS	AO5
DO8	ALARM OUTPUT A AS DEFAULT PRE-HEATING ON/OFF CONTROL, CHG –AGH, ELECTRIC PRE-HEATER MODELS COOLING ON/OFF CONTROL, CG MODELS, CONDENSATE TRAY HEATER	DO8
DO5	OUTDOOR AIR AND EXTRACT AIR DAMPER CONTROL (ACCESSORY)	DO5
DO2	HEATING ON/OFF CONTROL eWind MODELS MAX 500-W PUMP	DO2
OP1	CONTROL PANEL (1) INCLUDED IN THE DELIVERY, 10-M CABLE ALSO INCLUDED IF THE CONTROL PANEL HAS NOT BEEN INSTALLED IN THE VENTILATION UNIT	OP1
OP2	CONTROL PANEL (ACCESSORY), 10-M CABLE INCLUDED IN THE DELIVERY	OP2
RHT30	EXTRACT AIR TEMPERATURE AND HUMIDITY SENSOR(RH 0-100%)	RHT30
SF10	SUPPLY AIR FAN	AO1,DI11
EF30	EXTRACT AIR FAN	AO2,DI12
M75	HEAT RECOVERY HEAT EXCHANGER MOTOR	AO4
TZ+	OVERHEAT PROTECTION AUTOMATIC RESET	
TZA	OVERHEAT PROTECTION MANUAL RESET	
TS02	CAPILLARY THERMOSTAT	

RECORD OF MEASURING AIR AMOUNTS AND SOUND LEVELS
FORTEGNELSE OVER MÅLING AV LUFTMENGDE OG LYDNIVÅ

Date / Dato:
Building / Objekt:
Ventilation unit / Ventilasjonsaggregat:
Serial number / Serienummer:
Filter: M5/M5 F7/M5 F7/F7 l/s m^3/h

Room /measuring point / floor Rom / målepunkt / etasje	Supply air / Tilluft					Extract air / Avtrekk						
	Terminal device Terminal enhet	Planned air amount Planert luft-mengde	Measured air amount Målt luft-mengde	p Pa	Setting Innstilling	Terminal device Terminal enhet	Planned air amount Planert luft-mengde	Measured air amount Målt luft-mengde	p Pa	Setting Innstilling	Lpa dB(A)	Note! Merk!

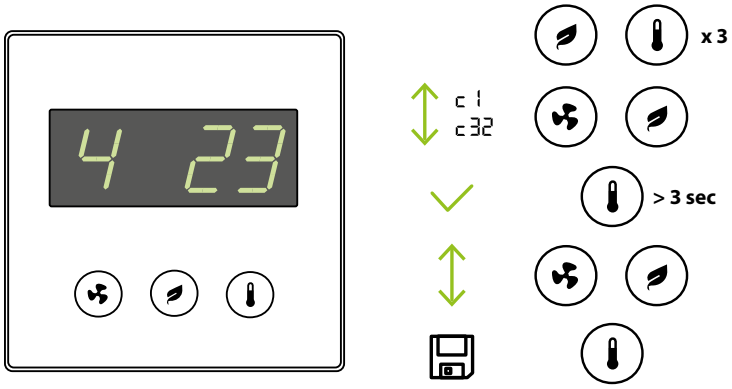
Total planned air amounts / Totalt planlagte luftmengde	supply air / tilluft:		extract air / avtrekk:		
Total realized air amounts / Totalt realisert luftmengde	supply air / tilluft:		extract air / avtrekk:		
Air amount / Luftmengde Fanspeed+difference/ Viftehastighet+forskjell	Home / Hjemme	Away / Borte	Forsterkning		
Measuring instrument / Måleinstrument:					
Weather conditions / Værforhold:					
Underpressure in the building / Undertrykk i bygningen:	Pa				

Asentajan pikaohje

Snabbguide för installatör

Hurtigveiledning for montøren

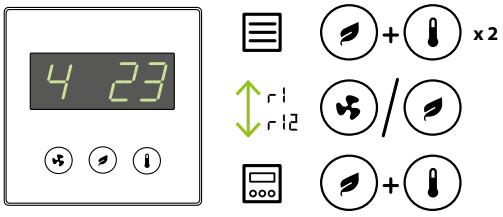
Quick reference guide for the installer

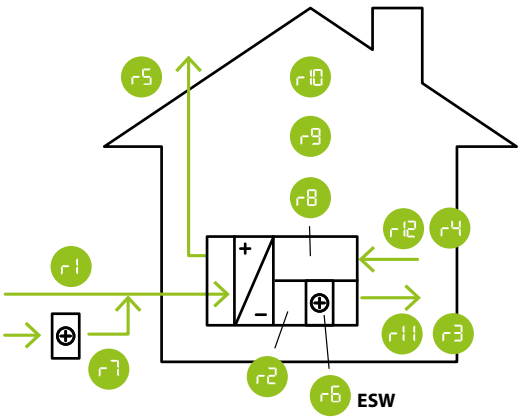


c1		36% (20-100%)
c2		35% (20-100%)
c3		56% (20-100%)
c4		55% (20-100%)
c5		83% (20-100%)
c6		80% (20-100%)
c7		100% (20-100%) (120 min)
c8		100% (20-100%) (120 min)
c9		2 h (1...4 h)
c10		30% (20-100%)
c11		50% (20-100%)
c12		10 min (5...15 min)

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

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





r1	°C	TE01
r2	°C	TE05
r3	°C	TE10
r4	°C	TE30
r5	°C	TE32
r6	°C	TE45
r7	°C	TE02
r8	%RH	RH30
r9	$%CO_2$	
r10	°C	
r11	°C	
r12	η%	

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