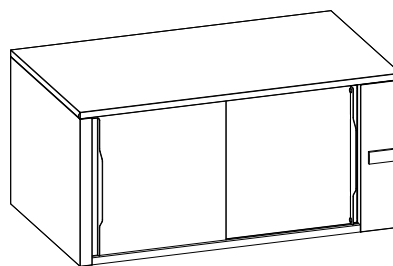


Safe box



EN Service Manual *



*Original instructions

595405800- 2022.03

Foreword

Visit our website www.electroluxprofessional.com and open the Support section to:



Register the customer's product



Get hints & tips of your product, service and repair information



The service manual (hereinafter Manual) provides the engineer with information necessary for correct and safe care of the appliance (hereinafter "machine", "appliance" or "unit").

The following instructions are intended to maintain the appliance performance and to preventing injury to persons and animals and damage to property due to improper operating procedures.

All persons involved in appliance transport, installation, commissioning and maintenance, repair and disassembly must consult and carefully read this manual before carrying out the various operations, in order to avoid wrong and improper actions that could compromise the appliance's integrity or endanger people.

If, after reading this manual, there are still doubts regarding appliance use, do not hesitate to contact the Manufacturer or Customer Care to receive prompt and precise assistance for better operation and maximum efficiency of the appliance. During all stages of appliance assessment, always respect the current regulations on safety, work hygiene and environmental protection. It is the user's responsibility to make sure the appliance is started and operated only in optimum conditions of safety for people, animals and property.



IMPORTANT

- The manufacturer declines any liability for operations carried out on the appliance without respecting the instructions given in this manual as well as for operations carried out by the user without respecting the instructions given in the user manual.
- The manufacturer reserves the right to modify the appliances presented in this publication without notice: manufacturer's relevant technical bulletins should be used as integration(s)/addendum(s).
- No part of this manual may be reproduced without the consent of the manufacturer.
- This manual is available in digital format by:
 - contacting the reference customer care;
 - downloading the latest and up to date manual/technical bulletin (s) on the web site:
<https://electroluxprofessional.com/>
<https://webgate.electroluxprofessional.com>
- **The manual must always be part of the documentation available when servicing the machine.**

Revision update

Edition	Description	Date
01	First publication of this manual	January 2022

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A MODELS COVERED BY THE SERVICE MANUAL

PNC	MODEL	FREQUENCY RANGE (Hz)	RATED VOLTAGE (V)	RATED INPUT (kW)	AMPERAGE (A)
240025	SAFEBOXEU	50	220–240V 1N	0,59	2,6
240038	SAFEBOXUK				
240040	ZSAFEBOX				

B WARNING AND SAFETY INFORMATION

B.1 General information

To ensure safe use of the appliance and a proper understanding of the manual it is necessary to be familiar with the terms and typographical conventions used in the documentation. The following symbols are used in the manual to indicate and identify the various types of hazards:



WARNING

Danger for the health and safety of operators.



WARNING

Danger of electrocution - dangerous voltage.



CAUTION

Risk of damage to the appliance or the product.



IMPORTANT

Important instructions or information on the product



Equipotentiality



Read the instructions before using the appliance



Clarifications and explanations

- Incorrect installation, servicing, maintenance, cleaning or modifications to the unit may result in damage, injury or death.
- Only specialised personnel are authorised to operate on the appliance.
- For your safety do not store or use gasoline or other flammable materials, vapours and liquids in the vicinity of this or any other appliance.
- Do not store explosive substances, such as pressurized containers with flammable propellant, in this appliance.
- Refer to the data given on the appliance's data plate for relations with the Manufacturer (e.g. when ordering spare parts, etc.).
- When scrapping the appliance, the marking must be destroyed.

B.2 Personal protection equipment

Summary table of the Personal Protection Equipment (PPE) to be used during the various stages of the appliance's service life.

Stage	Protective garments 	Safety footwear 	Gloves 	Glasses 	Safety helmet 
Transport	—	●	●	—	○
Handling	—	●	●	—	—
Unpacking	—	●	●	—	—
Installation	—	●	● ¹	●	—
Adjustments	○	●	● ¹	○	—
Routine cleaning	○	●	● ¹⁻² 3	○	—
Extraordinary cleaning	○	●	● ¹⁻²⁻³	●	—

Stage	Protective garments 	Safety footwear 	Gloves 	Glasses 	Safety helmet 
Maintenance	○	●	●	○	—
Dismantling	○	●	●	○	—
Scrapping	●	●	●	●	—
Key:					
●	PPE REQUIRED				
○	PPE AVAILABLE OR TO BE USED IF NECESSARY				
—	PPE NOT REQUIRED				

1. During these operations, gloves must be cut-resistant. Failure to use the personal protection equipment by operators, specialized personnel or users can involve exposure to damage to health (depending on the model).
2. During these operations, gloves must be heatproof to protect hands from contact with hot food or hot parts of the appliance and/or when removing hot items from it. Failure to use the personal protection equipment by operators, specialised personnel or users can involve exposure to chemical risk and cause possible damage to health (depending on the model).
3. During these operations, gloves must be suitable for contact with chemical substances used (refer to the safety data sheet of the substances used for information regarding the required PPE). Failure to use the personal protection equipment by operators, specialized personnel or users can involve exposure to chemical risk and cause possible damage to health (depending on the model).

B.3 General safety precautions



NOTE!

This information is present on a separate document, that Electrolux Professional make available to authorized technicians through a web access. In case an access is needed, please refer to the local Electrolux Professional Customer Care organization.

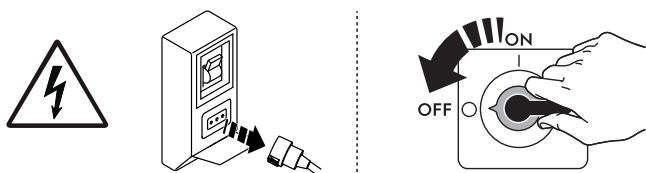
- All the content in this manual are reserved to specialised personnel, authorised by the Manufacturer who must work while respecting the rules in force in the country of use and the rules as regards facilities and safety at work.
- Carefully read all the instructions contained in this manual and in the installation and user manuals before every intervention.
- Interventions, tampering or not expressly authorized changes that do not comply with the instructions in this manual may cause damage, injury or death and will void the warranty.
- Always work in perfect physical condition and provided with personal protective tools (refer to paragraph B.2 *Personal protection equipment*).
- If parts have been replaced, do not leave unattended their packaging (e.g. plastic bags): choking hazard to children and animals. Packaging must be disposed according to local regulations.
- When working on the appliance maintain good ventilation in the room.
- After the intervention, before operating the appliance:
 - Make sure to have reassembled correctly all the pieces and any previously disassembled safety devices;
 - Make sure you have correctly connected the device to the mains;
 - Instruct the operator on any possible new device on the appliance.



IMPORTANT

This manual should be carefully preserved for future reference.

- Never operate the appliance, removing, modifying or tampering with the guards, protection or safety devices.
- Do not make any modifications to the parts supplied with the appliance.



Disconnect the appliance from the power supply before carrying out any installation, assembly, cleaning or maintenance procedure.

- Do not remove, tamper with or make illegible the marking and safety, danger and instruction signs and labels on the appliance.
- Do not use products (even if diluted) containing chlorine (sodium hypochlorite, hydrochloric or muriatic acid, etc.) to clean the appliance or the floor under it.
- Do not spray aerosols in the vicinity of this appliance while it is in operation.

B.4 Safety signs to be placed on the appliance or near its area

Prohibition	Meaning
	do not remove the safety devices
	do not use water to extinguish fires (placed on electrical parts)
Danger	Meaning
	caution hot surface
	danger of electrocution (shown on electrical parts with indication of voltage)
	exposure to UV-C rays

B.5 Residual risks

The appliance has several risks that were not completely eliminated from a design standpoint or with the installation of adequate protection devices. Nevertheless, through this manual the Manufacturer has taken steps to inform operators of such risks, carefully indicating the personal protection equipment to be used by them. In order to reduce the risks, provide for sufficient spaces while installing the unit.

To preserve these conditions, the areas around the appliance must always be:

- kept free of obstacles (e.g. ladders, tools, containers, boxes, etc.);
- clean and dry;
- well lit.

For the Customer's complete information, the residual risks remaining on the appliance are indicated below: such actions are deemed improper and therefore strictly forbidden.

Residual risk	Description of hazardous situation
Slipping or falling	The operator can slip due to water, any liquid or dirt on the floor
Burns/abrasions (e.g. heating elements, cold pan, cooling circuit plates and pipes)	The operator deliberately or unintentionally touches some components inside the appliance without using protective gloves.
Electrocution	Contact with live parts during maintenance operations carried out with the electrical panel powered
Tipping of loads	When handling the appliance or the packing containing it, using unsuitable lifting systems or accessories or with the unbalanced load
Sudden closing of the door/drawers (if present, depending on the appliance type)	The operator for normal appliance use could suddenly and deliberately close (if present, depending on the appliance type): • door/s
Harm to eyesight and skin	Exposure to UV-C rays for appliances with germicidal lamp, in case of door interlock fault.



IMPORTANT

If the appliance contains a UV-C emitter, do NOT stare at the light source.



WARNING

The UV-C LED is activated only when the door or sliding doors are closed. If the led is working and the door/s are open, turn off the appliance immediately and contact Customer Care Service.

B.6 Parts and accessories

Use only original accessories and/or spare parts. Failure to use original accessories and/or spare parts will invalidate the original manufacturer warranty and may render the appliance not compliant with the safety standard.

B.7 Precaution for maintenance

- During maintenance several risks remain, as these could not be eliminated, and must be neutralised by adopting specific measures and precautions.
- Put the appliance in safe conditions before starting any maintenance operation.
- To guarantee appliance efficiency and correct operation, periodical maintenance must be carried out according to the instructions given in the manual or contained in a document available for authorized technicians on the Electrolux Professional web channels.

In case of need contact the customer support helpdesk.

C GENERAL INFORMATION

C.1 Data Plate (Identification Sticker)

The data plate gives the product identification and technical data.

An example of the marking or data plate on the appliance is given below:

F.Mod.	Comm.Mod.	Ser.No.	
PNC		Type ref.	
EL:	~ Hz	kW	I _{max} :
			MW freq
IPX			
Electrolux Professional SpA - Viale Treviso, 15 - 33170 Pordenone (Italy)			

A B C D 90110001	A. 4th digit of current year B. week C. 3rd digit of current year D. progressive number of construction
Example: serial number 90310008 corresponds to:	Year2019 Week number03 Progressive number of construction0008

C.3 Technical data

Type reference: SBox

Ratings & description		Model: SAFEBOXEU
Max power	kW	0.59
Voltage / Phases	V / Nr	220-240 V / 1N
Frequency	Hz	50
Amperage	A	2.6
Max total power	kW	1.97
Plug ¹	Type	F (Shuko)
Power supply cable		H07RN-F

1. The max power is calculated when there are three appliances connected together in a stack configuration, refer to the stacking illustrations at Electrical connection.

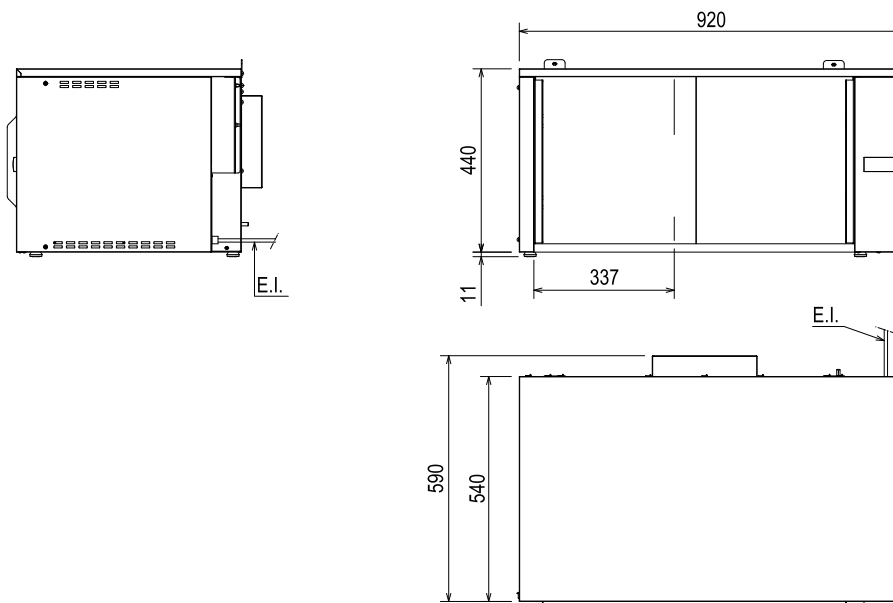
C.2 How to interpret the serial number (production date)



IMPORTANT

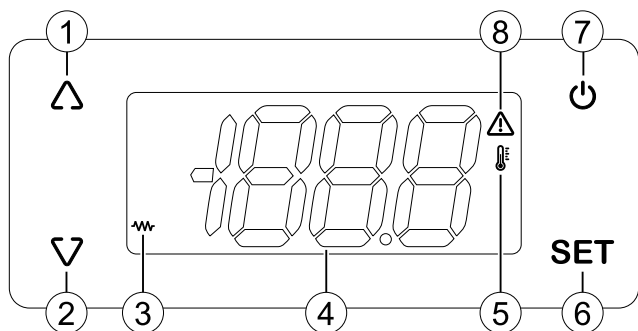
The serial number is necessary to find the correct spare part or to ask technical support.

Installation diagram



E.I. = Power cable length

C.4 Control panel description



1. “UP” button: increase value
2. “DOWN” button: decrease value
3. **Heating icon**: lights up until the setting temperature is reached
4. **Digital display**: shows the temperature or heat setting
5. **Temperature icon**: lights up when the display shows the temperature
6. **Setting button**: to change appliance settings
7. **On / Off button**
8. **Alarm icon**: lights up in the presence of an alarm

D INSTALLATION AND COMMISSIONING

D.1 Intro

The following chapters are intended only for authorized technicians and/or engineers.

D.2 General equipment specifications and scoping of works

For authorized technicians refer to the documentation available on the web sites (PRIDE-SERVICE PORTAL-AGELUX etc.). In case of any doubt, refer to your local country customer care.

D.3 General installation

All the nonstandard or out-of-standard situations should be reported on the commissioning form and duly documented for future reference.

D.4 Unpacking and positioning the equipment



WARNING

Read chapter B *Warning and safety information*, before any operation on the machine.

We recommend for any phase involving the removal of the packaging to use cut-resistant gloves. Please refer chapter B.2 *Personal protection equipment*.

D.5 Room requirements

To guarantee continuous operation, the room temperature range must be between 5°C and 40°C. Outdoor functioning is strictly allowed only if the machine can be protected against any conditions being out of the above temperature range and against any atmospheric agents. On a hot cupboard base take precaution to install a baffle for preventing hot air to reach the oven fresh air intake; this could create malfunctioning.



CAUTION

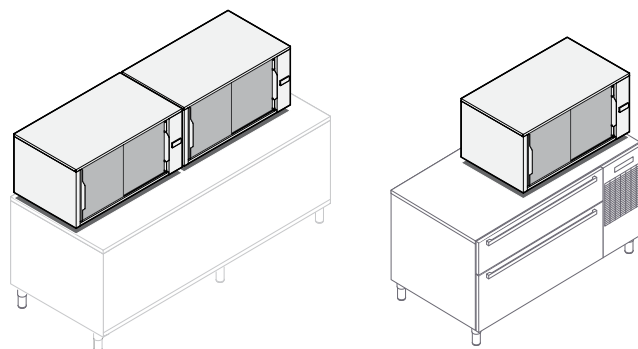
High room humidity may cause water to condensate on electric components hence causing short circuit.

D.6 Possible installation solutions

Hereinafter, the instructions for the main installation possibilities.

D.6.1 On existing top

The appliances can be installed on existing counters.



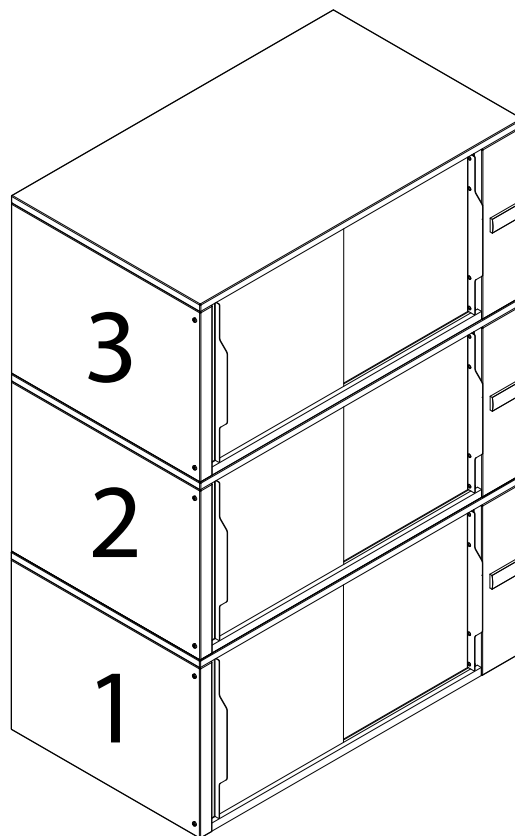
D.6.2 Stacking

The appliances can be installed in “stacking configuration”, max stackable appliances are three.



NOTE!

The appliances are equipped with a socket in the rear this will permit you to supply the above appliance. Refer to D.8 *Electrical connection*



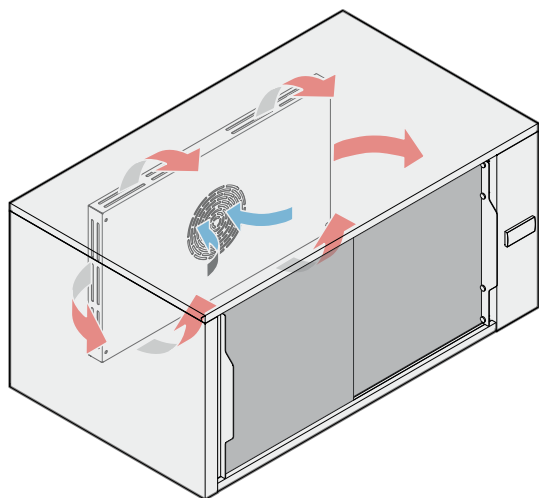
D.7 Appliance requirements

D.7.1 Power (volts)

Refer to C.3 *Technical data*

D.7.2 Air circulation

When inserting the food stuff into the cell do not obstruct the air circulation in the appliance (placing food bags/staking containers etc. in front of the ventilation slots) or the temperature could drop.



D.7.3 Appliance load

It is possible to "load" (8kg max) distributed across the cell surface uniformly

D.8 Electrical connection



WARNING

Take great care when connecting or testing anything with live current, if you are unsure what you are doing and how to use your equipment safely, then **DON'T DO IT.**



IMPORTANT

The connection to the electrical power supply must be in compliance with the current national and local regulations.

The appliance is "plug in" and equipped with a power cable and plug, ready to be inserted into mains supply. EU or UK plug/socket are provided according to the PNC code, refer to *A Models covered by the Service Manual*

Install ahead of the appliance an omnipolar switch of suitable capacity with contact opening distance of at least 3 mm. Insert the plug into the building's electrical system, in the immediate vicinity of the appliance.

Install ahead of the appliance a device (interlocked plug, lockable switch or similar devices) lockable in the open

position during maintenance. Connect the appliance to an efficient earthing system.

Include the appliance into an equipotential system. The equipotential terminal block is located under the appliance and is marked ∇ .

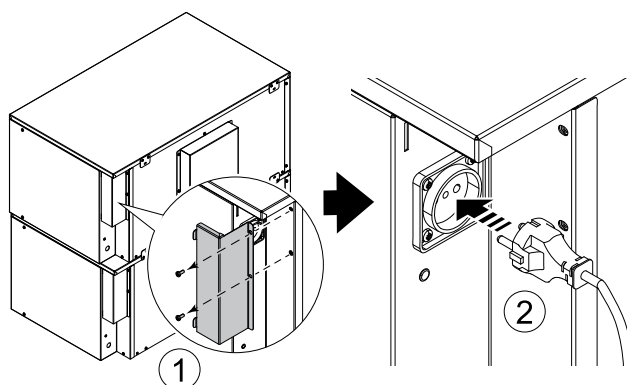


IMPORTANT

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. The manufacturer declines any liability if the current national and local regulations and possible safety regulations are not respected

In case of staking configuration, each appliance is equipped with a socket in the rear, this socket is to be used to connect the appliance place "onto".

EU or UK plug/socket are provided according to the PNC code, refer to *A Models covered by the Service Manual*



D.8.1 How to recognize phase and neutral



WARNING

Take great care when connecting or testing anything with live current, if you are unsure what you are doing and how to use your equipment safely, then **DON'T DO IT.**



NOTE!

Safe box appliance are single phase supplied (L +N).

The appliance is equipped with a power cord and socket, it's a "plug in"; however, in case of need, some basic tips on how to check the supply wires before our main terminal board.

Put your meter in AC Volts setting. Connect supply to the main terminal board **MA but do not turn on the appliance.** Connect the meter test leads to the terminal board contacts/ conductors present in the power cable:

400V - BLUE = N neutral - DARK = L1 Phase - GREY = L2 Phase - BROWN = L3 Phase - YELLOW and GREEN = Earth.		
220V - BLUE = N neutral - BROWN = L1 Phase - YELLOW and GREEN = Earth.		

The reading should be:

L1 / L2 / L3	+	N	(Phase and Neutral)	230 Volts	6% based on European standards)
L1 and/or L2		L3	(Phase and Phase)	400 Volts	
L1 / L2 / L3		⊕	(Phase and Earth)	230 Volts	
N		⊕	(Neutral and Earth)	0 Volts (or approx. zero V)	

The combination and results obtained will permit you to find all wires: PHASE, NEUTRAL and EARTH.

D.9 Installation accessories

All documentation for each PNC is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL-AGELUX etc..) and can be downloaded in file. For those that do not have access to the web sites, refer to your local country customer care.

D.10 First start up

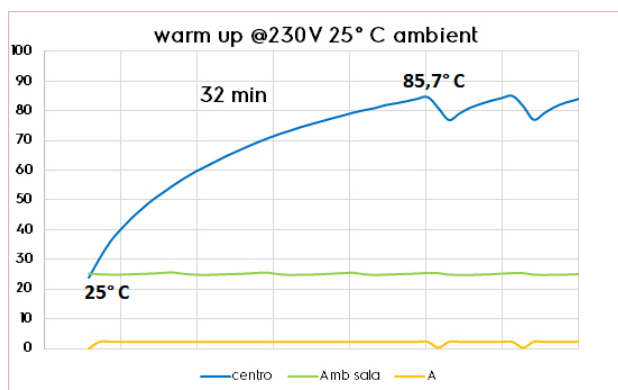
Remove the entire protective film from all the panels; the protective film can be easily removed when the appliance has

not been heated up. If the appliance is run for a long period without removing the protective film the film could melt and then be difficult to remove / damage the panels finishing.

Check that there aren't any packaging residuals in the cell, check that the doors are installed correctly (respecting the correct verse) Refer to H.3.3 *Doors*

Check that the mains voltage and frequency match those indicated on the appliance data plate at C.1 *Data Plate (Identification Sticker)* then it will be possible to connect the plug into the power supply and turn on the appliance

D.11 Temperature, average increase



- 230V / 50Hz
- 550W; 2,4A
- Duty cycle: 63 – 75 %

Energy consumption:

- 0,36 – 0,42 kW/h
- 35° C – 25° C
- Ambient Noise: 48 dB(A)

D.12 Daily startup

Before you turn on the appliance make sure that:

- Check that there aren't any packaging residuals in the cell, check that the doors are installed correctly (respecting the correct verse).
- Visual check if the supply cable is in good condition. Turn on the appliance and check if the UV Led's are turning on correctly (only if the doors are closed).

- Check that the set point is correctly regulated upon your requirements / if necessary, SET the desired temperature on the thermoregulator

D.13 Commissioning

Please refer to the Commissioning form; the document is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL- AGELUX etc..) In case of any doubt, refer to your local country customer care.

E USE OF APPLIANCE

E.1 Operating instructions

Please refer to the Installation and Operating Manual of the appliance; the document is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL- AGELUX etc..) In case of any doubt, refer to your local country customer care.

E.2 Cleaning

Turn off the appliance after service and let the appliance cool down.

Follow the instructions contained in the safety data sheet for the detergent being used;



CAUTION

All operations must be carried out following indications at B.2 *Personal protection equipment* and/or referring to the safety data sheet of products involved during this phase.

E.2.1 Appliance, doors and cell

Clean the appliance: in presence of encrusted dirt or grease use a damp cloth, do not use abrasive or corrosive detergents as they could damage the surfaces by mechanical aggression (scratches) or chemical aggression (corrosion/stains).

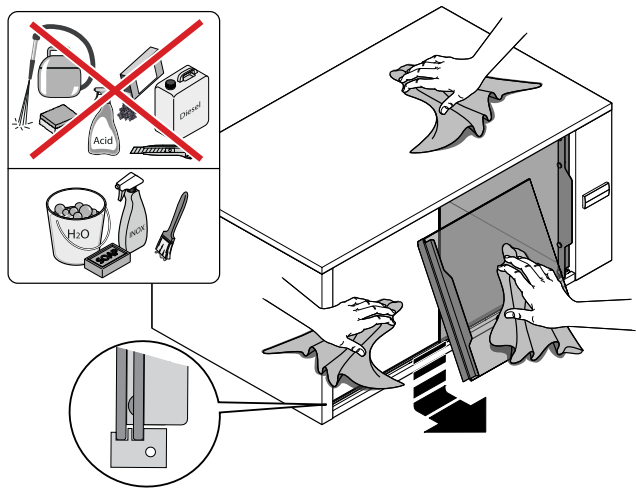
Using a dedicated specific cleaning detergent, the instructions are contained in the safety data sheet relative to that product. Rub the cloth/sponge following, if satin finish, the grain of the stainless finishing.

Rinse often; rubbing in a circular motion combined with the particles of dirt on the cloth/sponge could damage (scratching) the satin finish/painting.

Dry carefully the surfaces after cleaning.

The **doors** can also be removed from the appliance to facilitate their cleaning (refer to H.3.3 *Doors* for removal instructions)

Clean the **door guide**; in case of dirt accumulation the doors could not slide with ease.



E.3 Preventive maintenance plan (for service): operation frequency

Please refer to the PREVENTIVE MAINTENANCE PLAN document that is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL- AGELUX etc..) In case of any doubt, refer to your local country customer care.

F DETAILED APPLIANCE AND COMPONENTS DESCRIPTION/FUNCTIONING

F.1 Intro



WARNING
Take GREAT CARE when connecting / testing anything with live current, if you are unsure what you are doing and how to use your equipment safely, then **DON'T DO IT.**

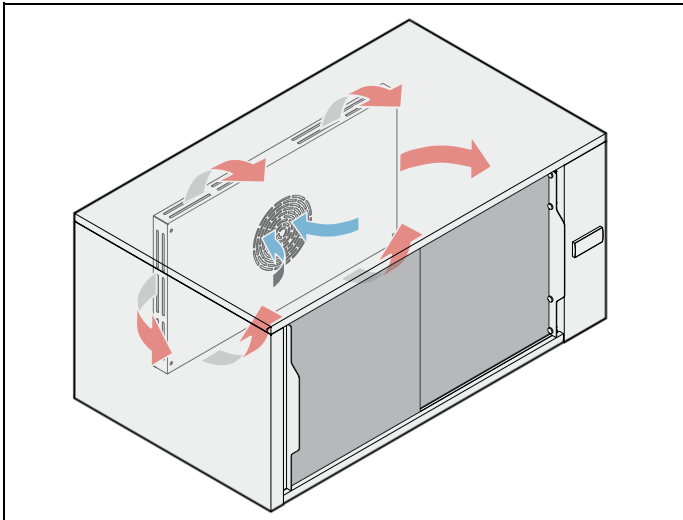
F.2 Equipment functioning

When the appliance is plugged into the power supply the thermoregulator will display “OFF”, press and keep pressed the ON/OFF button for 5”, the thermoregulator will turn ON the ventilator and heating element immediately (even if the doors are open); the heating element will heat up and remain heated until the appliance reaches the set point temperature, while the ventilator will remain on in all circumstances until the appliance is turned OFF.

The UV lamp will only turn on if the doors are closed correctly and consequently will turn off when the doors are open.

When the set point has been reached the heating element icon on the display of the thermoregulator will turn off and the appliance will cycle (ON/OFF) the set point delta temperature (parameter diF) (refer to C.4 *Control panel description*)

F.2.1 Air circulation

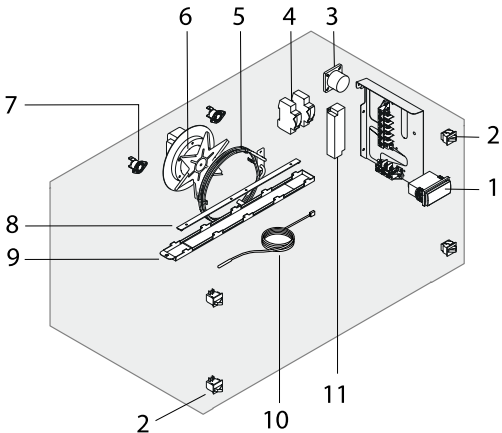


The heating element is placed behind the inner panel; the cavity air is sucked into the slotting of the inner panel, the air will then come in contact with the heating element, heat up and be blown out as indicated in the pic

Pay attention to not obstruct the air intake slotting of the panel or the hole air circulation could be compromised (temperature loss, low performance / safety temperature device tripping).

F.3 Components technical description / functioning

Once removed the appliance casing:

	Pos.	Component	Chapter
	1	Thermoregulator	F.3.1 Thermoregulator and probe
	2	Door micros	F.3.2 UVC led bar and glass — Voltage adaptor (PS) — Door micros
	3	Socket	F.3.3 Sockets and fuse holders (E1 and E2)
	4	Fuse holder	F.3.3 Sockets and fuse holders (E1 and E2)
	5	Heating element	F.3.4 Heating element and safety thermostat
	6	Motor ventilator	F.3.5 Motorventilator
	7	Safety thermostats	F.3.4 Heating element and safety thermostat
	8	UVC led bar	F.3.2 UVC led bar and glass — Voltage adaptor (PS) — Door micros
	9	Quartz glass	F.3.2 UVC led bar and glass — Voltage adaptor (PS) — Door micros
	10	Temperature probe	F.3.1 Thermoregulator and probe
	11	Voltage adaptor 24v	F.3.2 UVC led bar and glass — Voltage adaptor (PS) — Door micros

F.3.1 Thermoregulator and probe

The thermoregulator is "touch screen" so will not feel the presence of buttons when pressing the user board.

Refer to C.4 Control panel description

Buttons	Press and release	Press for at least 5 seconds
	- Scroll through the menu options. - Increase the values.	
	- Scroll through the menu options. - Decrease the values.	Unlock keypad (press and hold for at least 3 seconds)
	- Go back up one level in the menu. - Confirm the parameter value.	Default: Activate stand-by.
SET	- Access the "Status" menu. - Display alarms (if present). - When switching on, access selection mode for the application to be loaded.	Access the "Programming" menu. Confirm commands.
	Press and hold for 5 seconds when switching on to load the preset applications	

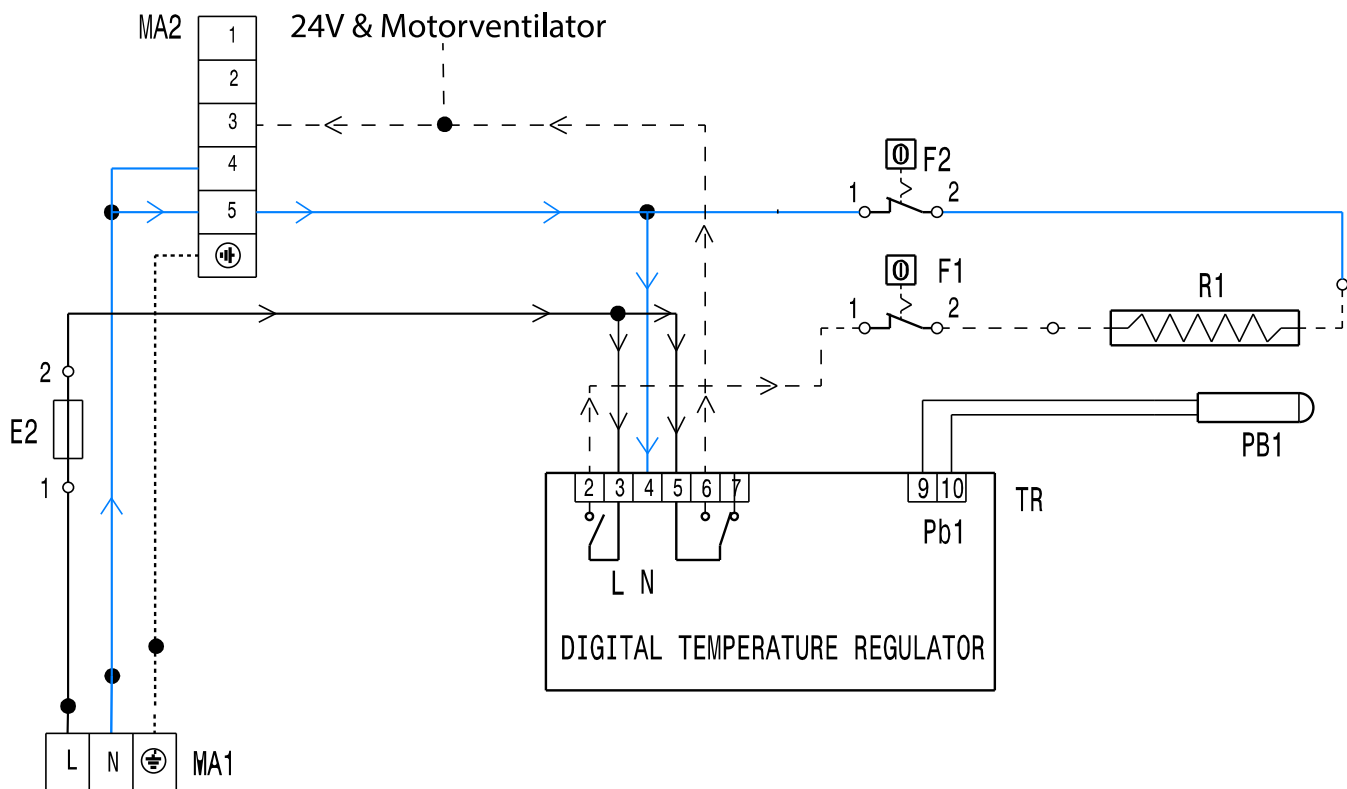
Icon	Function	Description
	Heating	On steadily: Heating regulator active Off: Heating regulator off
	Alarm	On steadily: alarm present Flashing: alarm silenced Off: No alarm active
	Temperature	On steadily: a temperature is displayed (°C or °F) Off: a value not relating to temperature or a label is displayed

Power supply will enter through the main terminal **MA1**; the thermoregulator functions as ON/OFF button for the appliance.

Once the appliance is powered supplied on the display will be showed "OFF", by pressing the ON/OFF button "6" the thermoregulator will turn on and if the conditions permit it,

supply the heating element R1 / 24v circuit (voltage adaptor for door micros) and motorventilator.

There is no buzzer onboard the instrument, so no acoustic feedback is possible when operating.



F.3.1.1 Access to user menu

Once that the thermoregulator has been powered, even in the “OFF” position it will be possible to access the “status menu”.

Press the button **SET**; press it again to enter the edit mode and set the temperature of the appliance from a minimum of 60°C to a maximum of 85°C. Set the required temperature by pressing the **▲** and **▼** buttons, then press the button **SET** to confirm. Press and hold down the button **⏻** until the message **OFF** appears on the display

F.3.1.2 Parameters of user menu

- **SET** = temperature setting (refer also to parameters, max min temperature HSE & LSE)
- **rEL** = only read parameter, release of software.
- **idF** = only read parameter, Identification of factory model of the THERMOREGULATOR.
- **Pb1** = only read parameter, value of the temperature sensed by the probe of the thermoregulator.

- **ALr** = number of alarm present. In case that an operator has pressed a button and made go away from the display an alarm notification, if this alarm is still present the icon  will still be lit red, if access is made to this parameter the alarm can be showed again on the display (only if present).

F.3.1.3 Access to parameters

To access the parameters press and keep pressed  **ff** for 5" until the first parameter **idF** will appear;

Press the buttons  &  to visualize the parameters; press  again and  &  to change the value. Press  to save the parameter and go back to the parameter list / or exit.

PA2 = Password is **15** and permit to enter into a different folder of hidden factory parameters. **Do not enter into this batch.**

F.3.1.4 Parameters

Parameter	Value	Description	Range	Group
diF	2	Heating Element relay activation differential; the H.E. stops when reaching the entered set point (upon indication of the regulation probe) and re-starts at a temperature value equal to the set point plus the value of the differential. Note: always a value other than 0.	0,1...30	CP
oFt	2 min	Regulator switch-off time for faulty probe: if OFt = 1 and Ont = 0 compressor always OFF / if OFt = 1 and Ont > 0 compressor in duty cycle.	0...250	CP
ont	3 min	Regulator switch-ON time for faulty probe: if OFt = 1 and Ont = 0 compressor always OFF / if OFt = 1 and Ont > 0 compressor in duty cycle.	0...250	CP
HSE	85	Maximum set point value.	LSE...302	CP
LSE	60	Minimum set point value.	-67...HSE	CP
UL	/	Transfer of the programming parameters from the device to the UNICARD.	/	FPr

Parameter	Value	Description	Range	Group
Fr	/	UNICARD formatting. Deletes all data on the UNICARD. Note: the use of parameter Fr results in the loss of all data entered. This operation cannot be reversed.	/	FPr
H08	2	Stand-by operating mode. 0 = display OFF; the regulators are active and the device signals any alarms by reactivating the display; 1 = display OFF; the regulators and alarms are inhibited; 2 = the display shows the label "OFF"; the regulators and alarms are inhibited.	0/1/2	CnF
CUS	0	Customer code model.	/	CnF
tAb	14	Reserved for manufacturing: read-only parameter .	/	CnF
H60	1	Display selected application. 0 = disabled; 1 = AP1; 2 = AP2; 3 = AP3.	0...3	CnF
dro	°C	Selects the unit of measure used when displaying the temperature read by the probes (0 = °C, 1 = °F). Note: changing from °C to °F or vice-versa does NOT change the SET, diF values, etc. (example: SET = 10°C be-comes 10°F).	0/1	dis
PS2	15	When enabled (PS2 ≠ 0) this is the access key for the installer parameters.	0...250	dis
PS1	0	When enabled (PS1 ≠ 0) this is the access key for the user parameters.	0...250	dis
Fit	0	Display filter mode 0 = the filter is only active when the temperature rises 1 = the filter is always active (whether the temperature increases or decreases).	0/1	dis
tAu	0	Display filter time constant.	0...250	dis
FiS	0	Display filter selection. 0 = disabled / 1 = the filter is set based on the time values tAu and 5tAu and is applied to the display according to the value of the Fit parameter / 2 = the displayed temperature value changes by 1 °C / °F every tAu minutes.	0/1/2	dis
ndt	no	Display with decimal point. n(0) = NO; y(1) = YES.	n/y	dis
LoC	no	Keypad lock. n(0) = Keypad lock disabled / y(1) = Keypad lock enabled (On startup or when 30 seconds have passed since the last action carried out on the user interface).	n/y	dis
Ca1	-3	Positive or negative temperature value to be added to the value of Pb1.	-30...30	dis
Adr	1	Mod bus protocol controller address.		Add
Pty	E	Mod bus parity bit. n(0) = none; E(1) = even; o(2) = odd.	n/E/o	Add
bAU	96	Mod bus Baud rate selection. 96 (0) = 9600 baud / 192 (1) = 19200 baud / 384 (2) = 38400 baud	96/192/384	Add
Att	0	Sets the absolute or relative value for parameters HAL and LAL. / 0 = absolute value / 1 = relative value	0/1	AL
tAo	30 min	Temperature alarm signalling delay time.	0...250	AL
Pao	1	Alarm exclusion time when switching on the controller, after a power failure.	0...10	AL
LAL	60	Minimum temperature alarm. Temperature value (in a relative value) which, when not reached, will lead to the activation of alarm signalling.	-67...HAL	AL
HAL	90	Maximum temperature alarm. Temperature value (in a relative value) which, when exceeded, will lead to the activation of alarm signalling.	LAL...302	AL
Afd	2	Alarm differential.	0,1...25	AL



NOTE!

If one or more parameters in folder **CnF** or marked with **(!)** are changed, the controller must be switched OFF and then ON again to make sure it works properly.

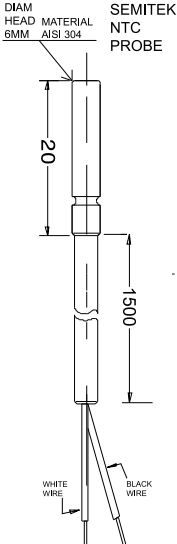
F.3.1.5 Alarm code list

refer to G TROUBLESHOOTING

F.3.1.6 Probe (NTC)

The thermoregulator probe is an NTC model 1500 mm long.

The read value can be accessed in the user menu of the thermoregulator: **Pb1** = only read parameter, value of the temperature sensed by the probe of the thermoregulator (refer to F.3.1.1 Access to user menu)

	Temperature °C	R nominal (Ohm)
	0	27278
	5	22068
	10	17958
	15	14.695
	20	12.091
	25	10000 (10K)
	30	8.313
	35	6.944
	40	5.827
	45	4.913
	50	4.160
	55	3.537
	60	3.020
	65	2.589
	70	2.228
	75	1.924
	80	1.667
	85	1.450
	90	1.265
	95	1.108
	100	972

F.3.1.7 Keypad lock

By default this parameter (LoC) is **NOT** active, but in case it has been reset and activated it will work as described:

The keypad locks automatically in the following situations:

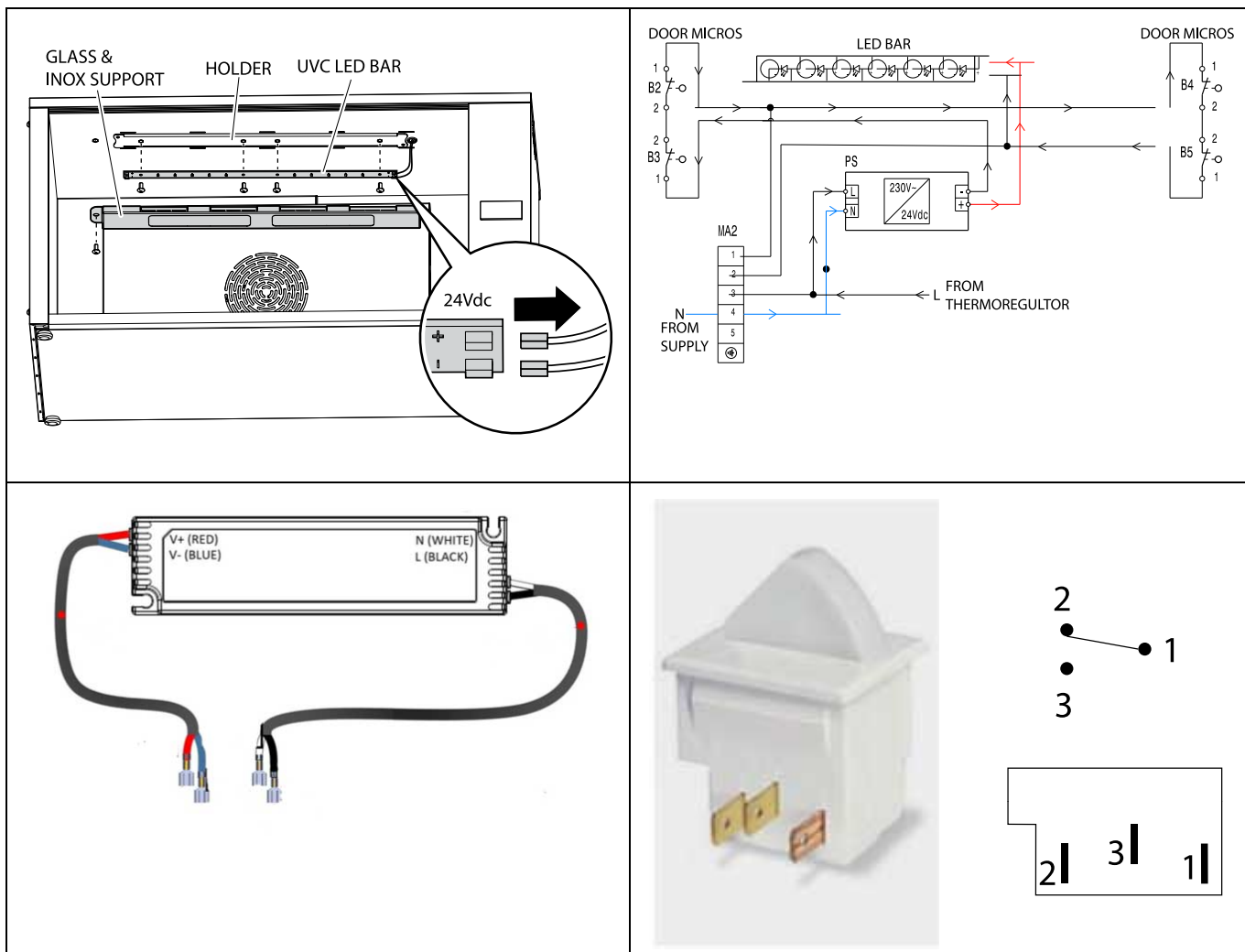
- on startup;
- after 30 seconds of inactivity.

To unlock the keypad press and hold  for at least 3 seconds, until the label “UnL” appears.

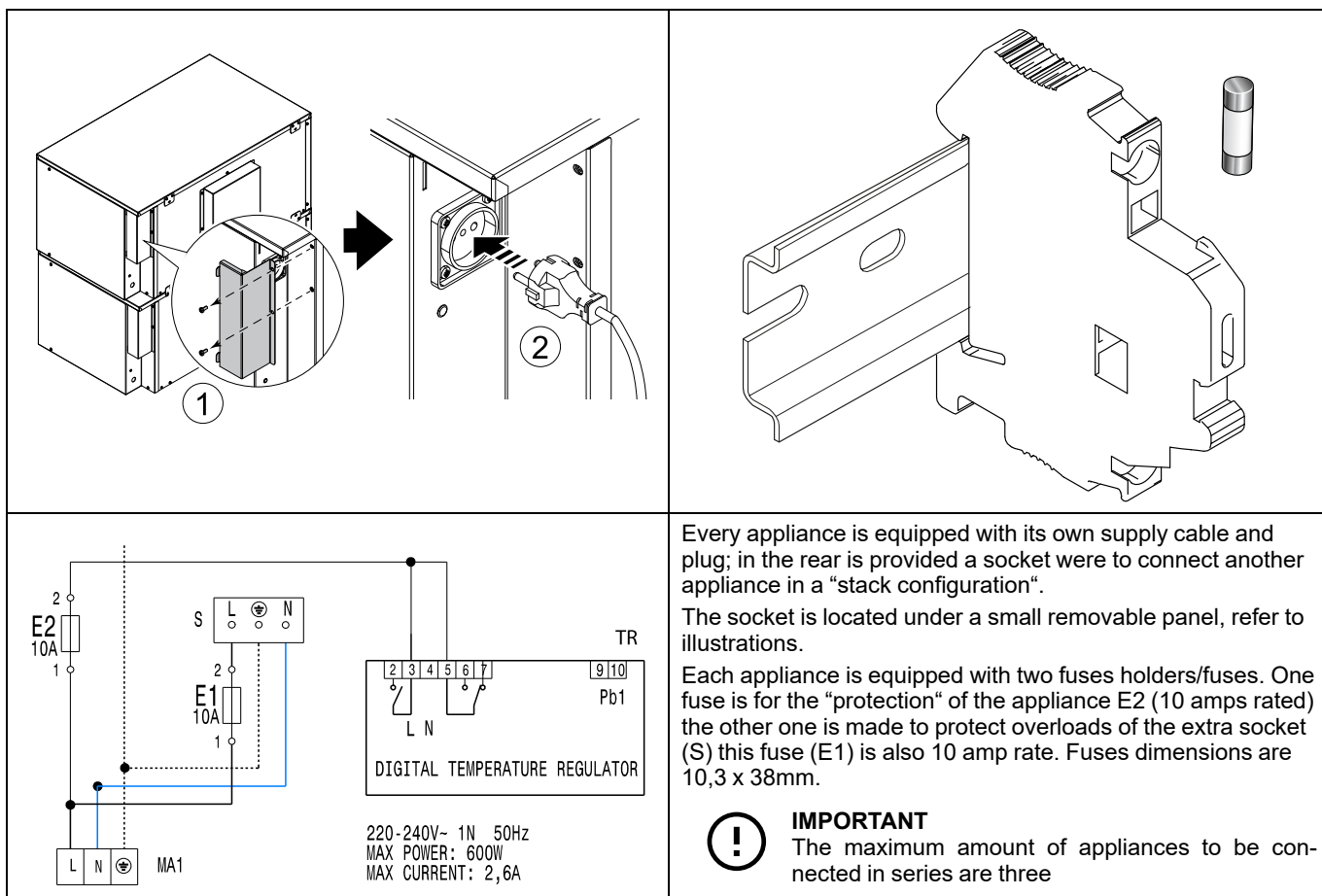
F.3.2 UVC led bar and glass — Voltage adaptor (PS) — Door micros

The components are all phase supplied (L) by the thermoregulator, N arrives from the main terminal connector and is always supplied when appliance is plugged in to the supply socket of the premises.

- The UVC Led bar is 24V supplied from the voltage adaptor (PS).
- The Glass of the UVC bar is made in quartz, other materials will not let pass the Uv ray.
- Micros will close the 24V circuit when the doors are closed correctly and then supply the UVC led bar. There are two pcs per side /door (B2 & B3 – B4 & B5).



F.3.3 Sockets and fuse holders (E1 and E2)

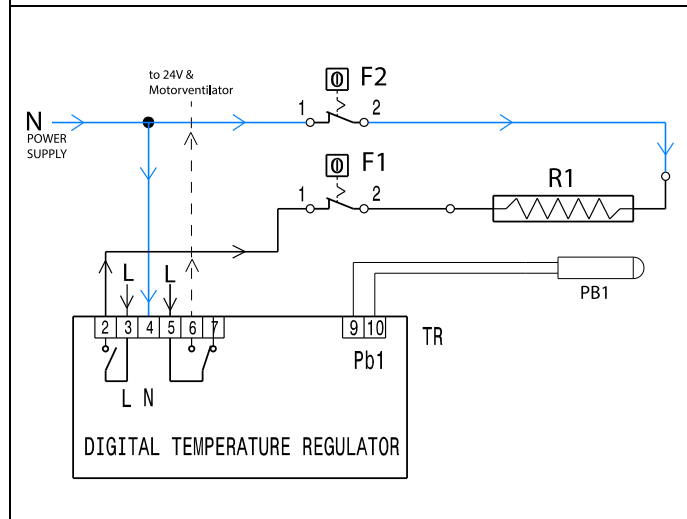
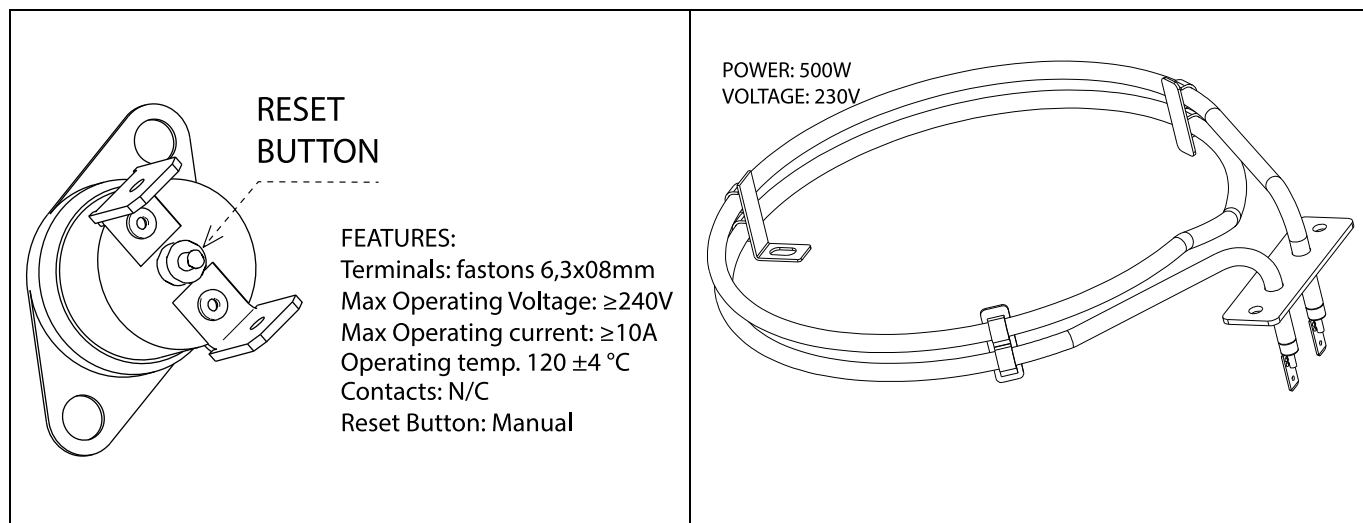


F.3.4 Heating element and safety thermostat

The heating element is supplied by the thermoregulator; it is "protected" by two safety temperature devices (one placed on the N line and one on the phase). Safety thermostats are

manual resetting by pressing the middle button (in case they trip).

Triggering temperature of the thermostats is $120 \pm 4^\circ\text{C}$. Values that can be measured on the terminals of the Heating element: 105Ω , tolerances of $+5\%$ - 10% .

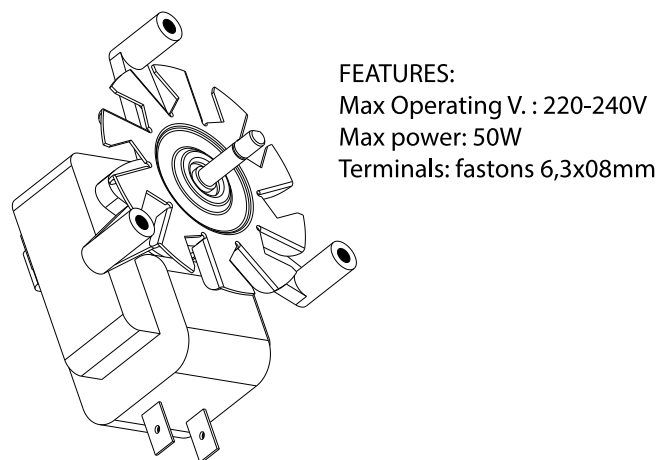


F.3.5 Motorventilator

The motorventilator is supplied with N directly from the main terminal board, the phase is provided by the thermoregulator; refer to I.2 *Electrical wiring diagram*.

F.3.6 Software update

The software update is not possible. WI-FI is not implemented at this moment.



G TROUBLESHOOTING

G.1 Introduction



IMPORTANT

The following chapters are intended only for authorized technicians/engineers.

Electric wiring diagram can be found at I.2 *Electrical wiring diagram*.

To recall the alarm list on the display, if the alarm is still present and the icon  is still lit, see **ALr** at F.3.1.4 *Parameters*.

G.2 Alarm list

ALARM CODE / ANOMALY	TYPE OF ANOMALY	DESCRIPTION	POSSIBLE CAUSES	INSTRUCTION TO USER	SERVICE ACTION
AH1 Probe Pb1 high temperature alarm.	Notification, no effect on regulation / working.	The probe detects a temperature above 90°C for more than 30 minutes.	Value read by Pb1 > HAL after time equal to tAo .	Turn off, wait for the temperature to drop, turn back on after some minutes, if problem persists call service.	Alarm AH1 added to folder ALr . Turn off, wait for the temperature read by Pb1 to drop below the alarm threshold (Hal-AFd); turn off, wait for the temperature to drop below 90°C Check thermoregulator programming refer also to F.3.1.4 <i>Parameters</i> HSE, LSE, LAL, HAL. Check F.3.1.6 <i>Probe (NTC)</i> . Check output of relay of F.3.1 <i>Thermoregulator and probe</i> .
AL1 Probe Pb1 low temperature alarm. The probe detects a temperature below 60°C for more than 30 minutes.	Notification, no effect on regulation / working.	The probe detects a temperature below 60°C for more than 30 minutes.	Value read by Pb1 < LAL after time equal to tAo (see section. Doors not properly closed Probe calibration issue. Probe, digital controller safety thermostat, heating element issue.	Wait for the temperature to rise, check temperature increase; if problem persists call service.	Alarm AL1 added to folder ALr . Wait for the temperature read by Pb1 to rise above the alarm threshold (LAL+AFd); check temperature increase D.11 <i>Temperature, average increase</i> ; Check thermoregulator programming refer also to F.3.1.4 <i>Parameters</i> , HSE, LSE, LAL, HAL. Check F.3.1.6 <i>Probe (NTC)</i> Check F.3.4 <i>Heating element and safety thermostat</i> . Check output of relay of F.3.1 <i>Thermoregulator and probe</i> .
E1 Probe Pb1 in error (out of Ohm range).	Notification icon	E1 shows permanently an alarm icon  The set temperature will be disabled. The relay of the thermoregulator will be operated based on parameters Ont and OfT .	Reading of values outside the operating interval Probe or corresponding wiring in short-circuit or open circuit	Call service	Check: the probe type (NTC-PTC); its impedance Ω , the probe wiring and replace if necessary, refer also to F.3.1.6 <i>Probe (NTC)</i> .
The appliance does not switch on.		Pressing ON/OFF button the appliance does not react	• Socket unplugged • External supply energy missing or interrupted • Fuse issue • Thermoregulator issue	Carefully check that the appliance cable is intact and that the plug is inserted correctly into the power socket, ; if problem persists call service	Carefully check that the appliance cable is intact and that the plug is inserted correctly into the power socket (the power socket has to be functioning) refer also to D.8.1 <i>How to recognize phase and neutral</i> . The appliance has two sockets / Check fuses F.3.3 <i>Sockets and fuse holders (E1 and E2)</i> ; check thermoregulator programming at F.3.1 <i>Thermoregulator and probe</i> .
Buttons not responding.		Pressing the buttons the appliance does not react but is working correctly.	LoC parameter has been activated.	Check key pad lock F.3.1.7 <i>Keypad lock</i> , and call service.	Automatic lock of buttons has been activated check F.3.1.7 <i>Keypad lock</i> , access parameter to change this setting F.3.1.3 <i>Access to parameters</i> .

ALARM CODE / ANOMALY	TYPE OF ANOMALY	DESCRIPTION	POSSIBLE CAUSES	INSTRUCTION TO USER	SERVICE ACTION
Door(s) not closing or difficult to slide.		Not smooth opening.	- Dirt clogging the runners; - wrong doors assembly.	Refer to chapter about cleaning E.2.1 <i>Appliance, doors and cell</i> ; if problem persists call service.	Refer to E.2.1 <i>Appliance, doors and cell</i> . Check that the door installation is correct, refer also to H.3.3 <i>Doors</i> ; bad door installation will also mean that the micros will not be engaged and the UVC led lamp will not turn on F.3.2 <i>UVC led bar and glass — Voltage adaptor (PS) — Door micros</i>
Door glass broken or fractured.			External causes	call service	Check presence of rubber door dampers, door stopper on the side of appliance. Refer to H.3.3 <i>Doors</i> .
Door handle detaching or broken			External causes	call service	Replace involved component on H.3.3 <i>Doors</i> .
The appliance does not heat up.		The cavity remains at room temperature or does not reach the set point temperature.	- Probe issue - Thermoregulator issue - Heating element issue - Safety thermostats issue	Close the doors correctly (check the doors are properly mounted) and wait at least 5 minutes checking the temperature increase; if problem persists call service.	Close the doors correctly (check the doors are properly mounted) and wait at least 5 minutes checking the temperature increase; refer to D.11 <i>Temperature, average increase</i> ; check the temperature setting on the controller; refer to F.3.1 <i>Thermoregulator and probe</i> Replace involved component.
The food is too hot.		The appliance heats the food at a temperature higher than the set point.	- Probe calibration issue; - probe or thermoregulator issue.	Keep the doors open for 1 min (let the appliance cool) then check the set temperature again. If the problem persists call service.	Keep the doors open for 1 min (let the appliance cool) then check the set temperature again. If the problem persists check thermoregulator / probe (parameter Pb1) refer to F.3.1.6 <i>Probe (NTC)</i> and/or replace the components; refer to F.3.1 <i>Thermoregulator and probe</i> .
Fan / Motorventilator noise is too loud.			- Foreign elements stuck in the fan casing, - motorventilator / Fan issue.	Check if there are any foreign elements stuck in the fan casing, if the problem persists call service.	Check the involved component / replace. Refer to H.3.3.2 <i>Cell components</i> for instructions to access inner cell panel.
Motorventilator not working			Motorventilator / thermoregulator issue.	call service	Check the involved component / replace; refer to F.3.5 <i>Motorventilator</i> / H.3.3.2 <i>Cell components</i> for instructions to access inner cell panel, and to F.3.1 <i>Thermoregulator and probe</i> .
UVC led lamp not functioning.			UVC led bar cable disconnected, damaged; - wrong door(s) assembly / micros; - thermoregulator issue; - voltage adaptor.	Wrong door(s) assembly F.3.2 <i>UVC led bar and glass — Voltage adaptor (PS) — Door micros</i> , check, if the problem persists call service.	Refer to F.3.2 <i>UVC led bar and glass — Voltage adaptor (PS) — Door micros</i> and the chapter about door assembly to H.3.3 <i>Doors</i> ; check the involved component / replace to F.3.1 <i>Thermoregulator and probe</i> .

ALARM CODE / ANOMALY	TYPE OF ANOMALY	DESCRIPTION	POSSIBLE CAUSES	INSTRUCTION TO USER	SERVICE ACTION
Unpleasant odours during use.			Dirt inside the appliance / behind inner cell panel.	Carry out a thorough E.2 <i>Cleaning</i> , if the problem persists call service	Carry out a thorough cleaning: refer to E.2 <i>Cleaning</i> ; for instructions to access inner cell panel refer to H.3.3.2 <i>Cell components</i>
Uneven cavity heating.			- Uneven food load into the cavity; - fan casing obstructed.	Evenly distribute the load inside the appliance, refer to D.7.2 <i>Air circulation</i> and D.11 <i>Temperature, average increase</i> . Check the max appliance load on D.7.3 <i>Appliance load</i> ; if the problem persists call service.	Evenly distribute the load inside the appliance, refer to D.7.2 <i>Air circulation</i> and to D.11 <i>Temperature, average increase</i> . Check the max appliance load on D.7.3 <i>Appliance load</i> .

H SERVICING THE APPLIANCE

H.1 Intro



IMPORTANT

The following chapters are intended only for authorized technicians/engineers.



WARNING

Take GREAT CARE when connecting/testing anything with live current, if you are not sure what you are doing and how to use your equipment safely, then DON'T DO IT.

H.2 List of needed tools



NOTE!

Please, refer to the Electrolux Professional Universal Spare Parts Catalogue [usp].

Ordinary tools

Complete Socket and Wrench set (from 6 to 24)	
Bent long nose pliers	
Screwdrivers Phillips "small/medium/large" Screwdrivers flat "small/medium/large"	
Package cutter / wrenches	
Protective gloves (heatproof / cut proof)	

Special tools

 NOTE! In addition to the normal instrumentation, to do the maintenance of this unit the following tools are recommended:	
Digital Multi-meter (voltage reader) [usp #0S1282]	
Current clamp meter [usp #0S1456]	

Also refer to B.2 *Personal protection equipment*

H.3 Access, disassembly / reassemble of components

H.3.1 Introduction

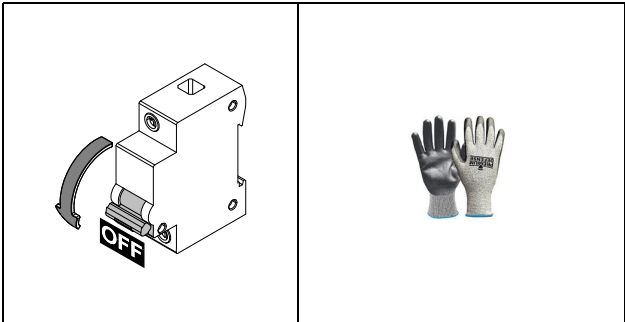
This chapter explains how to remove various parts of the equipment to access its functional components: please always refer to this guide to access various parts.

Each component is marked with a name/number and a page which explains in detail how to take it apart.
Depending on the component to reach, you may need to remove some panels: in this case, in the disassembly of the component, refer to the figures “A” below first.



WARNING

Before any operation on the machine read Chapter B *Warning and safety information*.
We recommend for any phase involving the removal of the components to use cut-resistant gloves.



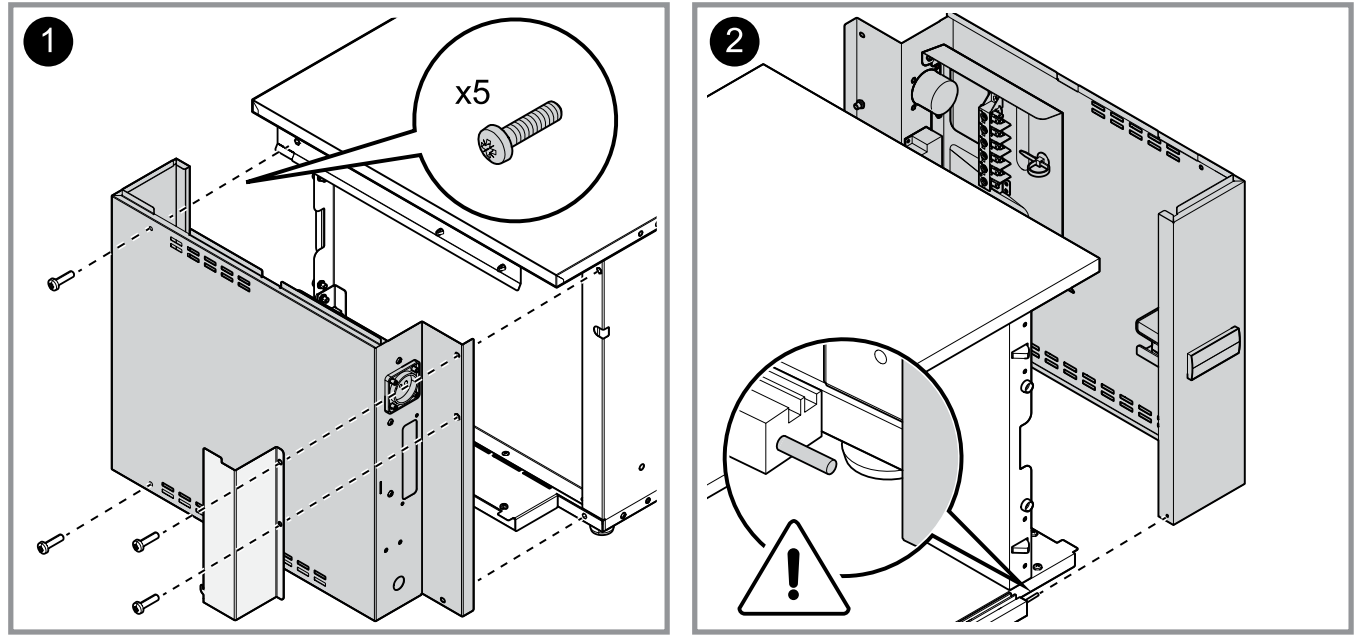
H.3.2 Components

	PO-S.	COMPONENT	CHAPTER
	1	Thermoregulator	H.3.2.1 <i>Side components</i>
	2	Door micros	H.3.2.1 <i>Side components</i>
	3	Socket	H.3.2.1 <i>Side components</i>
	4	Fuse holder	H.3.2.1 <i>Side components</i>
	5	Heating element	H.3.3.2.1 <i>Heating element</i>
	6	Motor ventilator	H.3.3.2.2 <i>Motorventilator and fan</i>
	7	Safety thermostats	H.3.3.1.1 <i>Safety thermostats</i>
	8	UVC led bar	H.3.3.2.3 <i>UVC led bar</i>
	9	Quartz glass	H.3.3.2.3 <i>UVC led bar</i>
	10	Temperature probe	H.3.2.3 <i>Thermostat probe</i>
	11	voltage adaptor 12v	H.3.2.1 <i>Side components</i>

H.3.2.1 Side components

The list of components that can be reached from the right side panel:

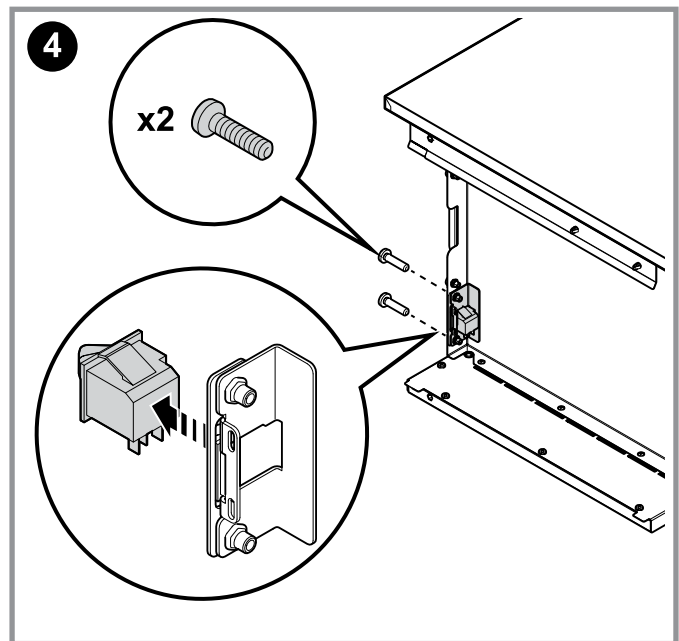
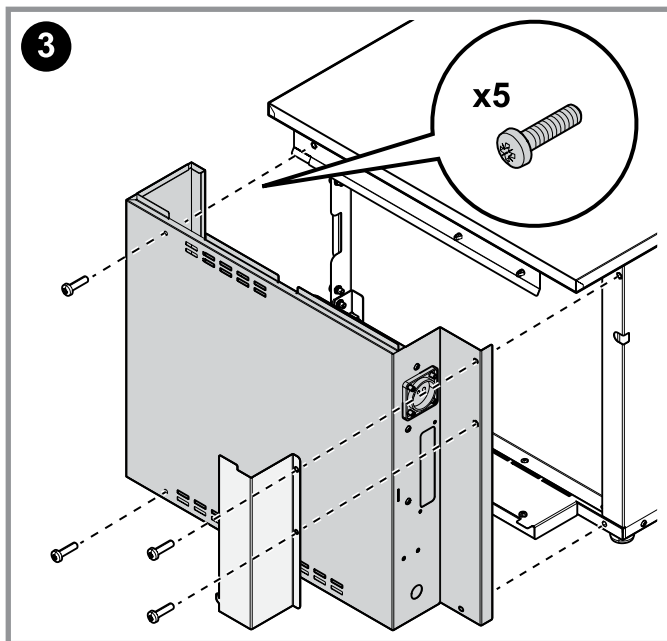
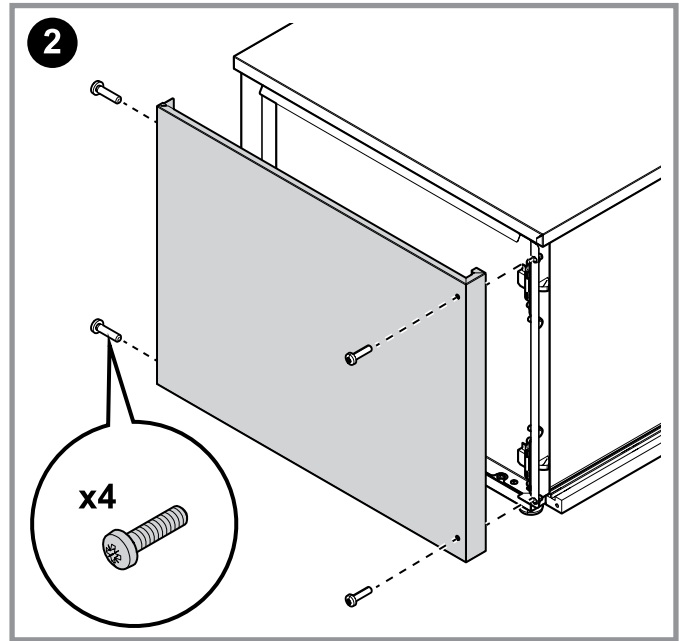
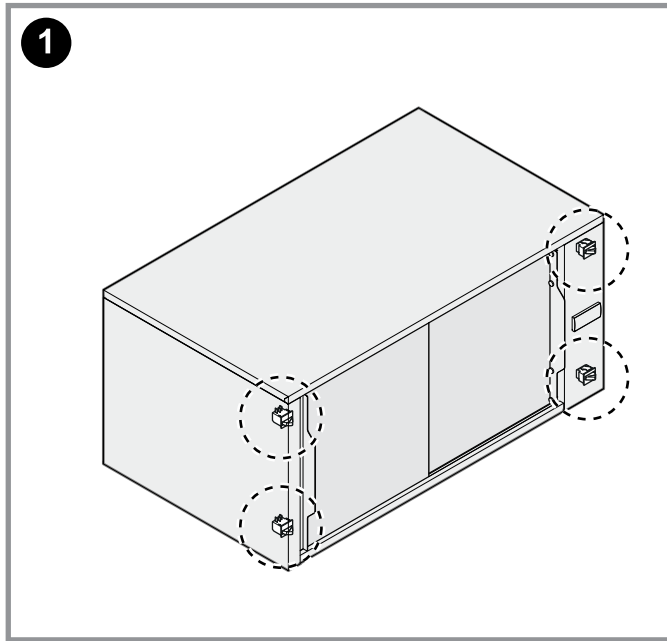
POS.	COMPONENT
1	Thermoregulator
2	Door micros
3	Socket
4	Fuse holder
10	Temperature probe
11	voltage adaptor 12v



Remove the panels to gain access to the side components. Pay attention to the side pin used to fix the side panel (pic 2).

H.3.2.2 Door micros

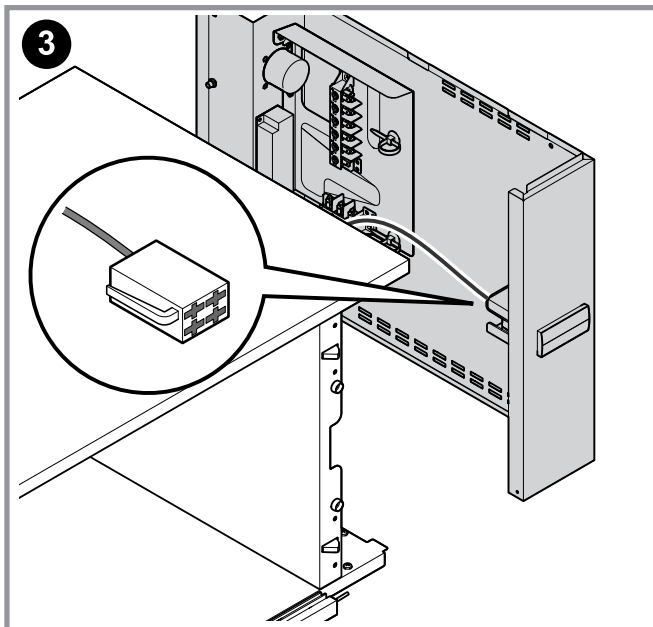
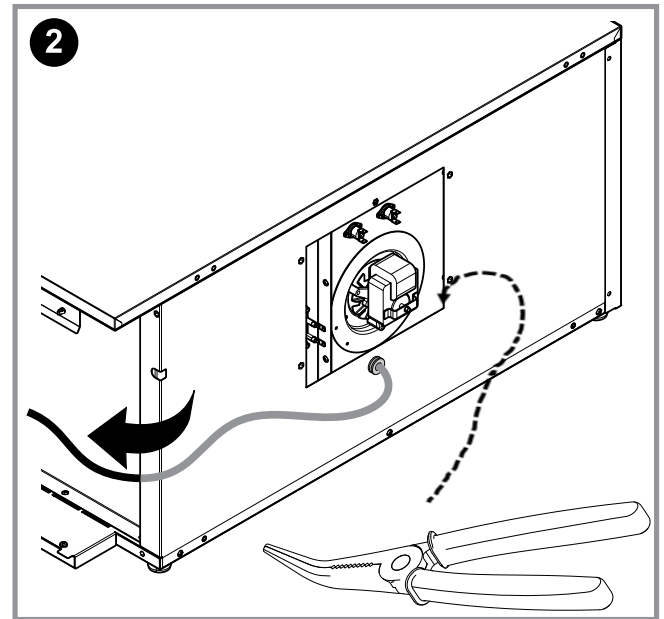
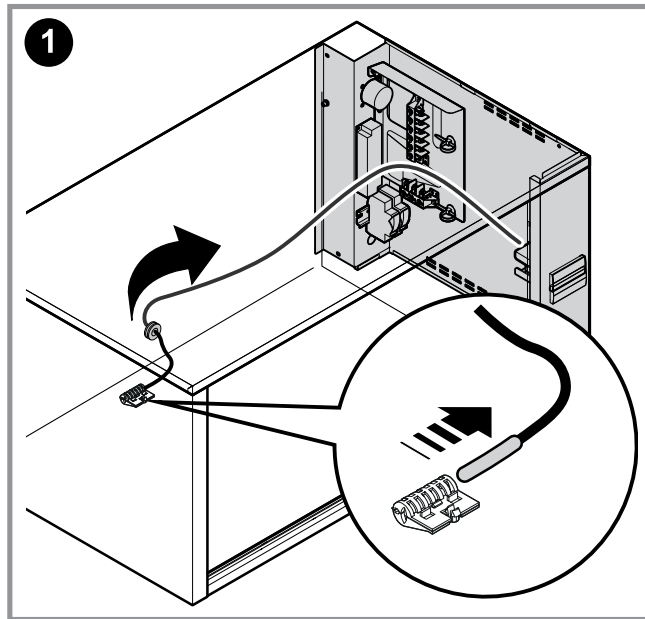
The door micros can be reached from the right and left side panel:



H.3.2.3 Thermostat probe

Remove the inner cell ventilator panel; refer to H.3.3.2 *Cell components*.

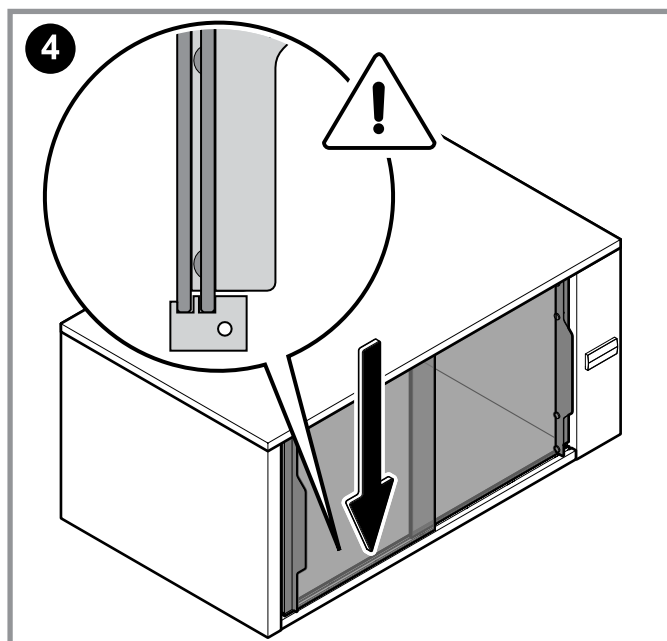
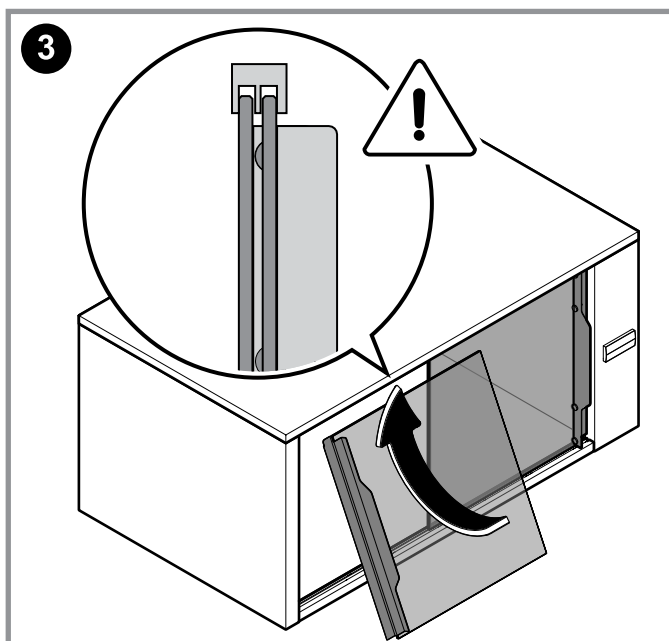
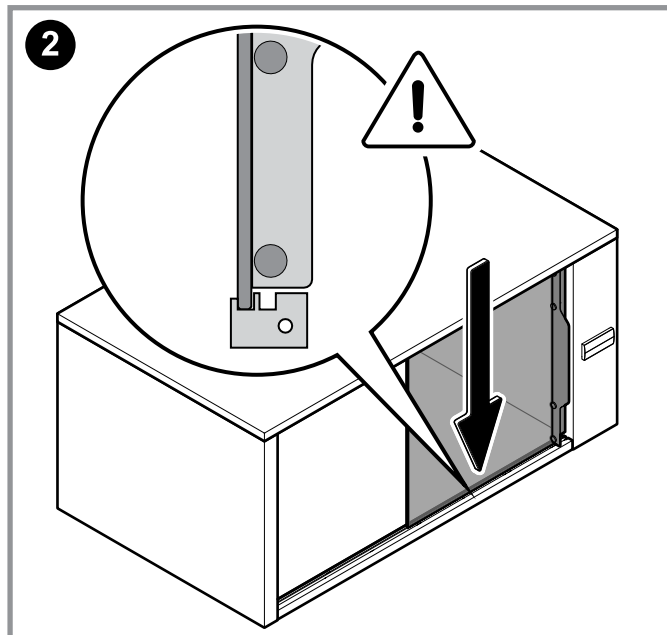
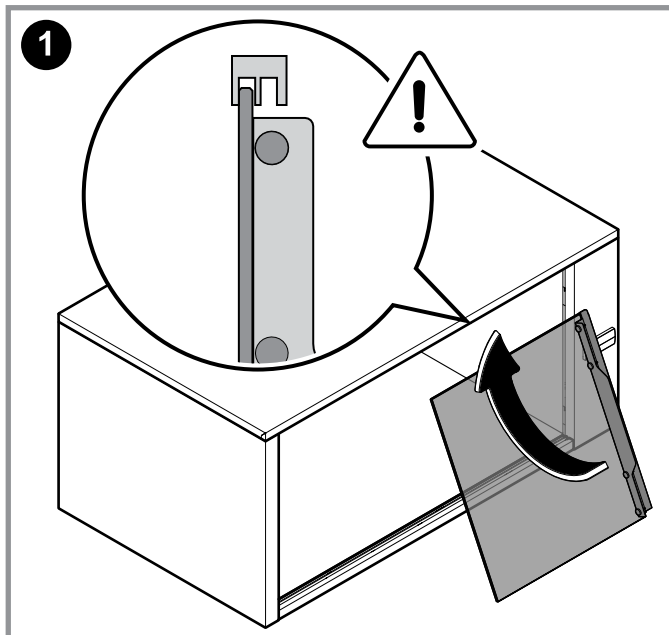
The probe can be easily replaced by connecting a new probe (with electrician's tape) to the old probe before slipping it out from the back panel. In case you forget to pull the new probe when slipping out the old one don't worry a new one can be inserted it will just take a little bit more to find your way through the back panel until you can reach it with a pair of flat head pointed pliers (pic 2).



H.3.3 Doors

The doors can be installed / removed without any tools they can be removed by the operator for cleaning purposes or in case of maintenance operations, lift and remove.

In the following pictures is illustrated their installation



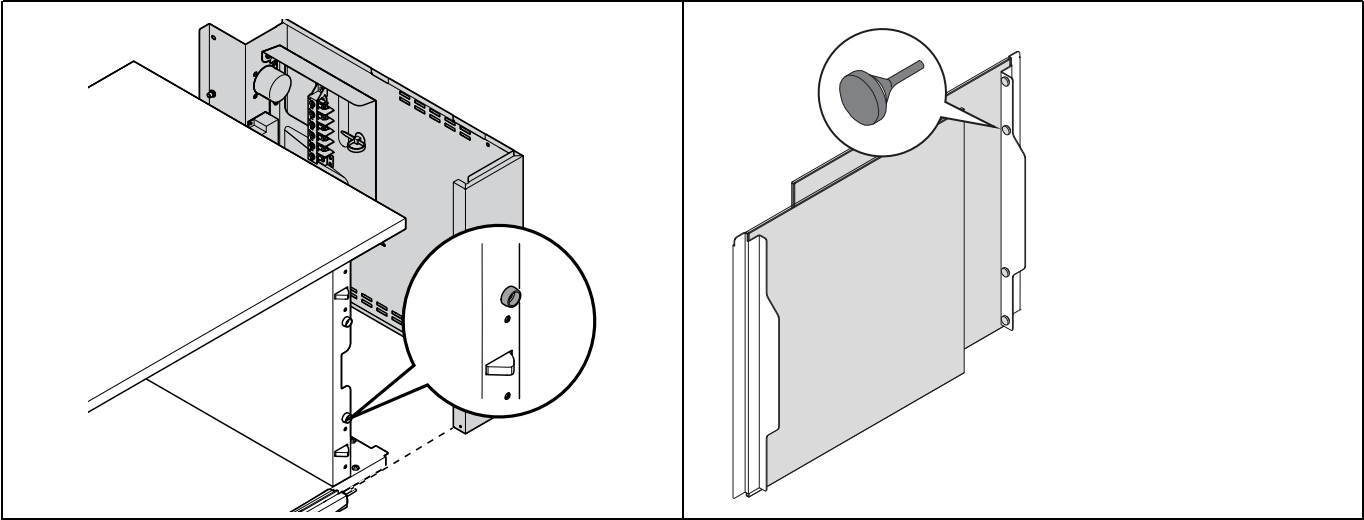
NOTE!

Be careful the doors are left and right model, it is possible to invert the doors and also install them; anyway the appliance will not turn on because the door micros will not engage.

The doors can be slid from side to side, but they have a constrained side to side movement.

The appliance is equipped with **four side stoppers** (two on left / two on right side), they are located under the side panels (example picture of right side stopper).

During full opening of the doors, to soften the touching of each other. The door is equipped with 4 rubber dampers:

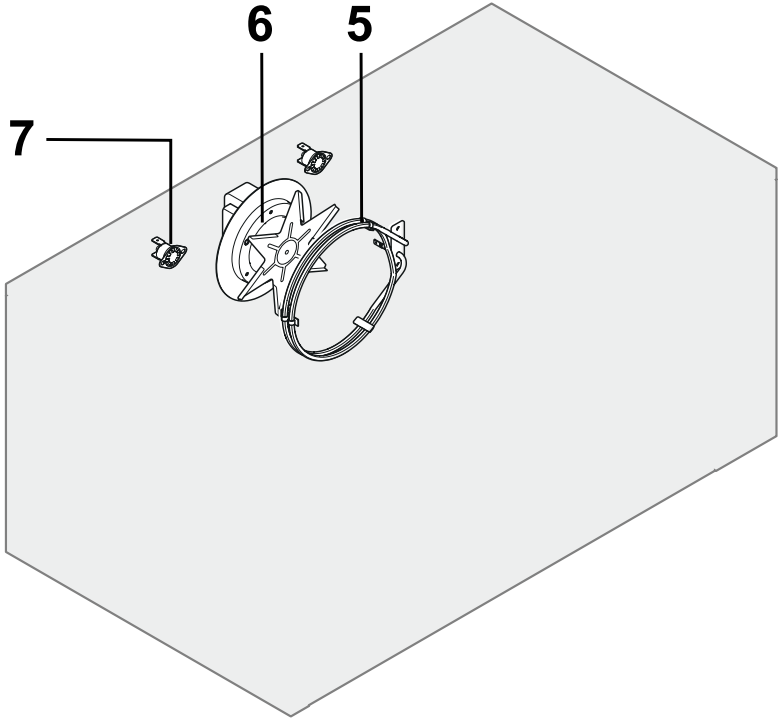


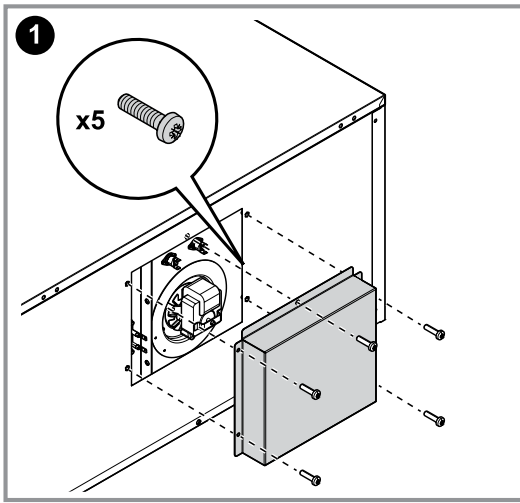
H.3.3.1 Rear components

Some components need to be extracted from the cell but are fastened in the rear.

- Motorventilator and fan follow instructions described at H.3.3.2.2 *Motorventilator and fan*.
- Heating element follow instructions described at H.3.3.2.1 *Heating element*.

The list of components that can be reached from the rear panel:

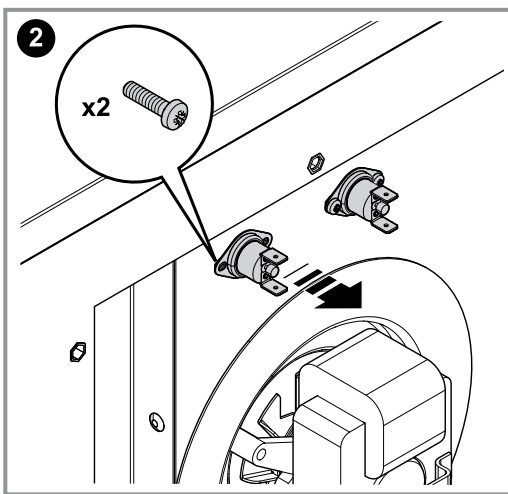
	POS.	COMPONENT
	5	Heating element
	6	Motorventilator
	7	Safety thermostats



Remove the rear panel to gain access to the rear components

H.3.3.1.1 Safety thermostats

Remove the rear ventilator panel described at H.3.3.1 *Rear components* to gain access.

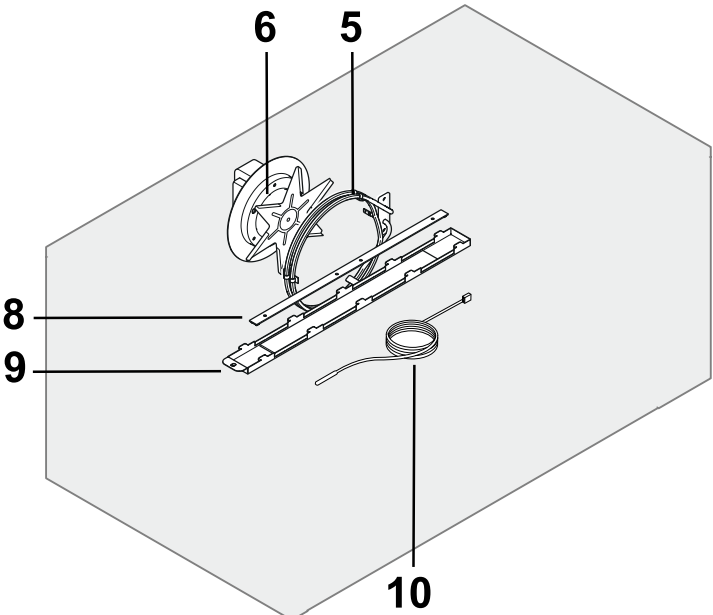


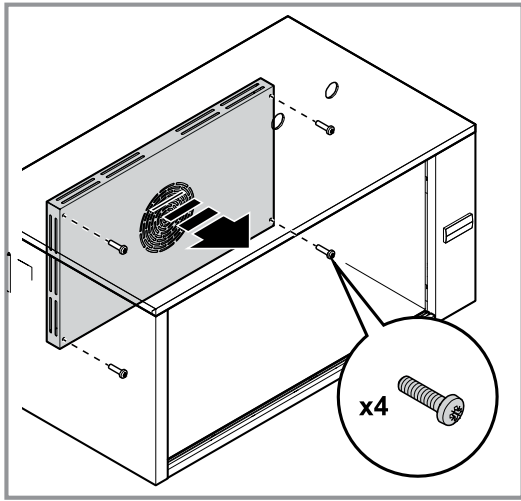
The screws of the safety thermostats are removable from the rear because they are tightened into threaded riv nuts fastened into the rear panels.

H.3.3.2 Cell components

Some components need to be extracted from the cell but are fixed in the rear.

- Motorventilator and fan follow instructions described at H.3.3.2.2 *Motorventilator and fan*.
- Heating element follow instructions described at H.3.3.2.1 *Heating element*.

	POS.	COMPONENT
	5	Heating element
	6	Motorventilator
	8	UVC Led bar
	9	Quartz glass
	10	Thermostat probe

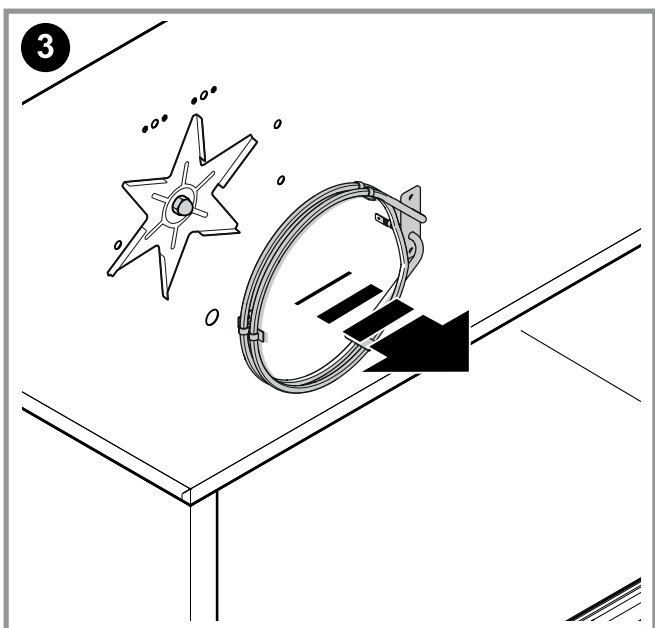
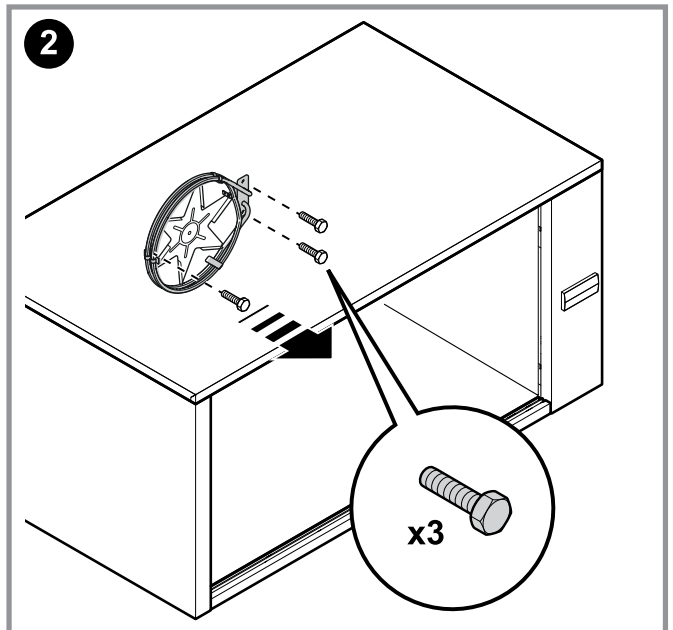
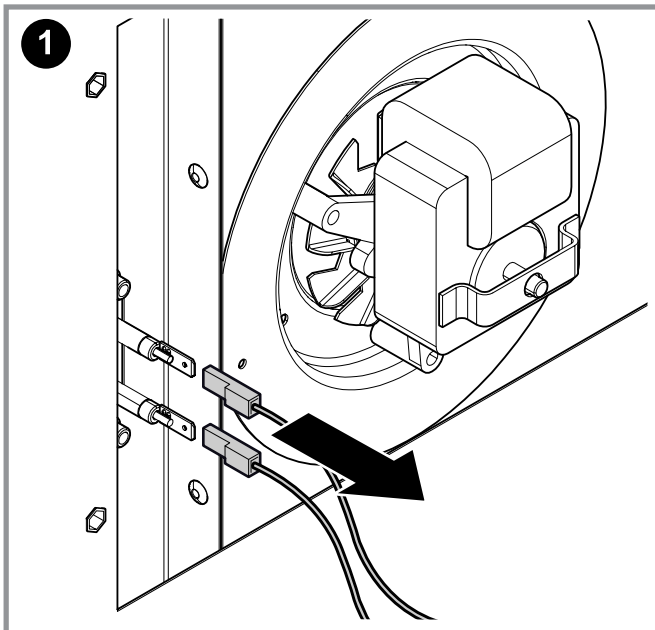


Remove the cell ventilator panel to gain access to the components

H.3.3.2.1 Heating element

Remove the cell ventilator panel described at H.3.3.2 *Cell components* to gain access.

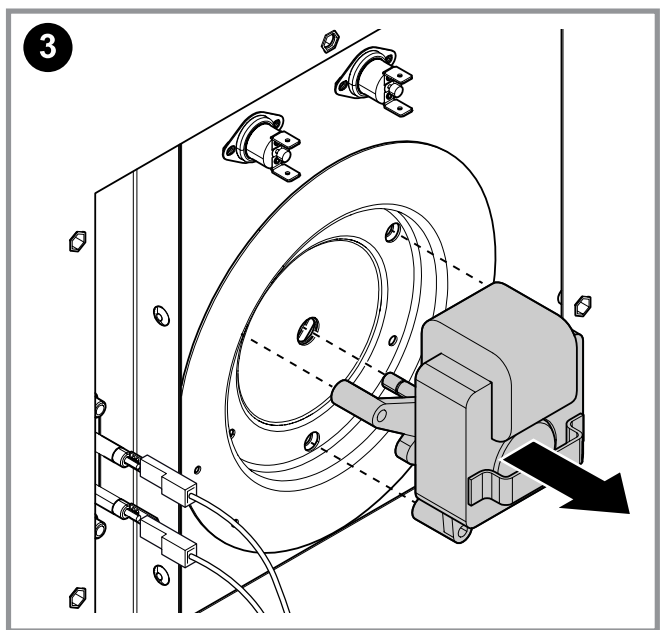
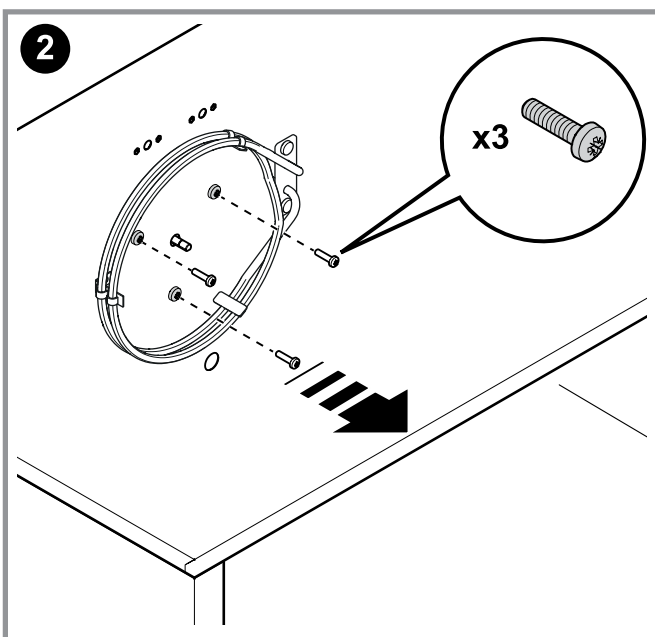
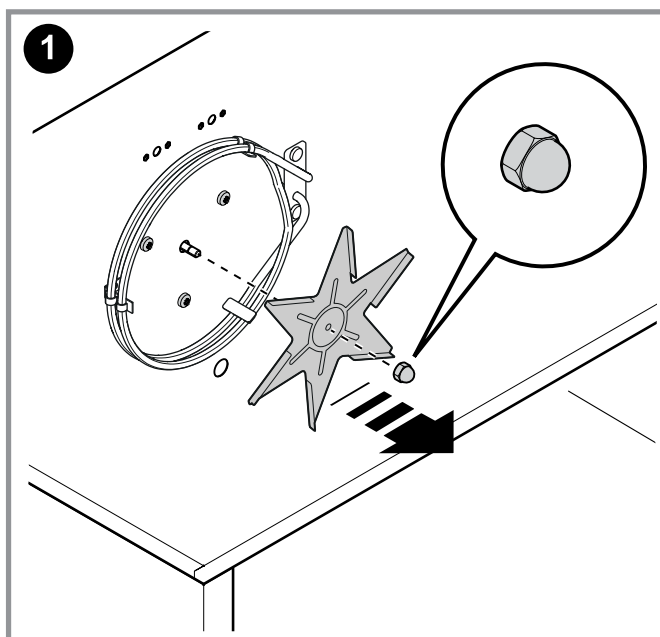
The heating element supply cables are loosened and disconnected from the rear panel (pic.1) described at H.3.3.1 *Rear components*, the heating element fixing screws are loosened from the cell (pic. 2). Removal of the component is obtained from the cell (pic.3).



H.3.3.2.2 Motorventilator and fan

Remove the cell ventilator panel described at H.3.3.2 *Cell components* to gain access.

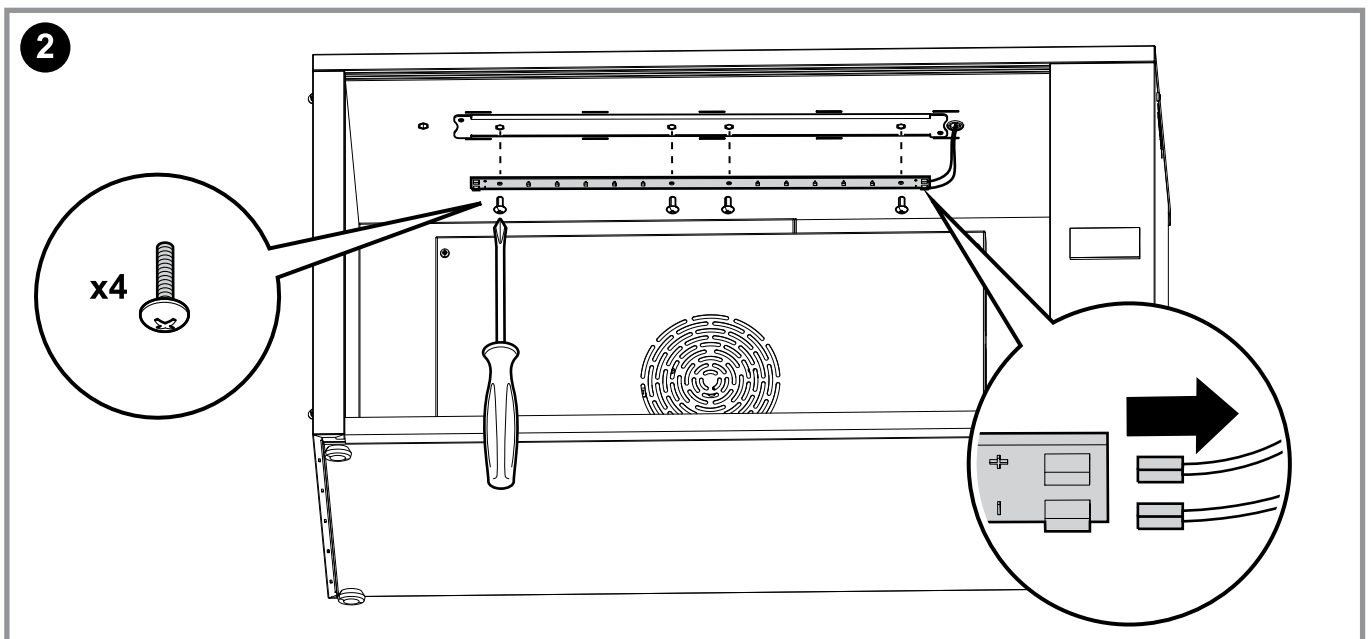
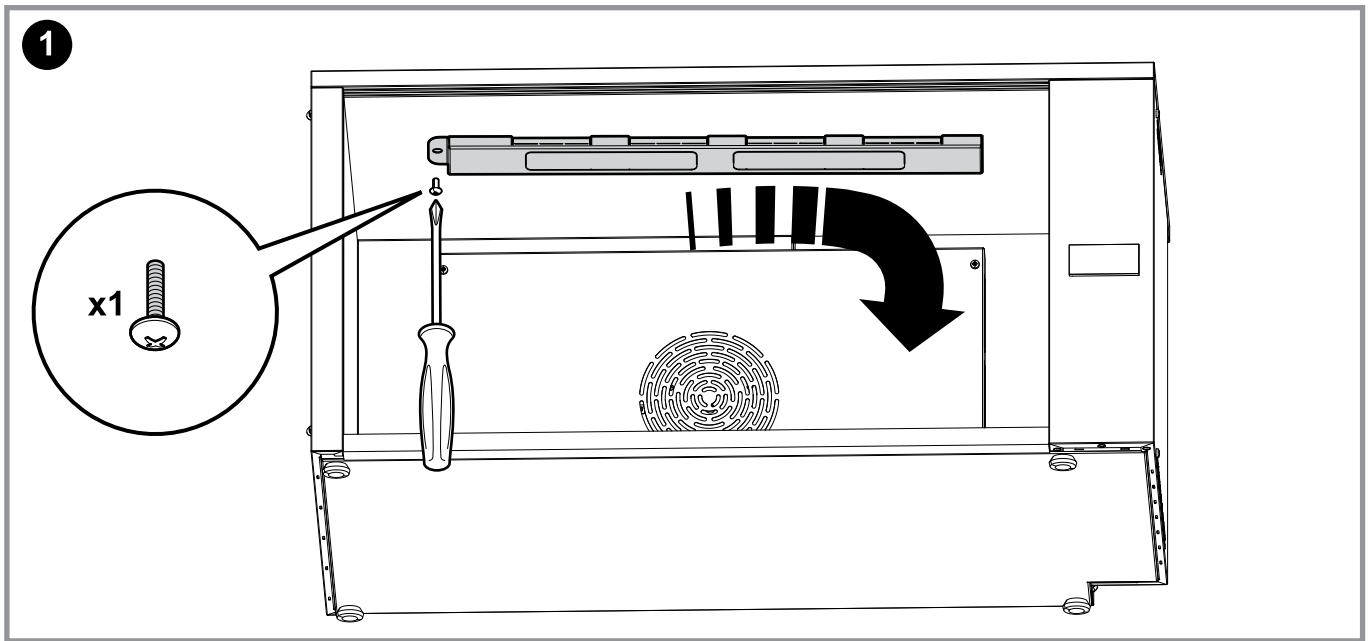
The fan is removed from the cell (pic. 1), the motorventilator fixing screws can be loosened and removed from the cell (pic. 2), the motor is removed from the rear (pic. 3) described at H.3.3.1 *Rear components*.



Pic 3 is a rear view.

H.3.3.2.3UVC led bar

Remove the doors before proceeding follow instructions to remove doors as described at H.3.3 *Doors*.



H.3.4 Preventive maintenance

All documentation for each PNC is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL -

AGELUX etc..) and can be downloaded in file. For those that do not have access to the web sites, refer to your local country customer care.

I RELATED DOCUMENTS

I.1 Certificates of conformity

All documentation for each PNC is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL - AGELUX etc..) and can be downloaded in file. For those that do not have access to the web sites, refer to your local country customer care.

I.2 Electrical wiring diagram

All documentation for each PNC is available for authorized technicians on the web sites (PRIDE-SERVICE PORTAL- AGELUX etc..) and can be downloaded in file. For those that do not have access to the web sites, refer to your local country customer care.
The following Electric Wiring Diagrams is a generic scheme for an electric SINGLE ZONE appliance.

