9124917
SERVICE MANUAL DC Hot EU FS 4.3 + UF / Drop-in EN

- NOTICE -

This service manual is prepared to be used by trained Service Technicians and should not be used by those not properly qualified. If you have attended a training for this product, you may be qualified to perform all repair procedures, replacements and adjustments described in this service manual.

The information presented in this document is only valid for **DC, Deli Counter Hot** configurations and is not intended to be all encompassing. The individual specifications may differ.

Procedures for which you do not have the necessary tools, instruments or skills should not be performed by you.

The information presented in this document is valid for standard counter configurations, specifications for custom configurations may differ. No rights can be derived from this document, specifications and technical data are subject to amendment without prior notice..

Version	Issue date	Remarks
	dd/mm/yy	
0	08-2023	Revision 0 <DRAFT>
1	03-2024	First Release
2	07-2024	New format

We refer to our General Terms and Conditions for Sales and Delivery that are available upon request.

The manufacturer does not accept any liability for damage or injury caused by failing to adhere to these regulations or by not observing the usual caution or care in actions, operation, maintenance or repair activities, even if not explicitly described in this manual.

As a result of constant commitment to improvement, it may happen that your unit deviates in detail from what is described in this manual. For this reason, the given instructions are only a guideline for the installation, use, maintenance and repair of the unit referred to in this manual.

This manual has been composed with the utmost care. The manufacturer shall, however, not be held responsible for any mistakes in this manual nor for any consequences thereof.

Modifications:
In case of unauthorized modifications in or on the unit, every liability on the part of the manufacturer becomes null and void.

Index

1.0 Introduction

1.1 General

This manual is intended for trained technicians, performing repairs on the DC Hot.
The features and controls are being described, along with directions for the safest and most efficient way to service these counters.

All pictograms, symbols and drawings in this manual apply to all available DC models.

1.2 Pictograms and symbols

In this manual, the following pictograms and symbols are used:

WARNING symbols:

WARNING
Possible physical injury or serious damage to the unit

WARNING
Risk of Fire.

WARNING
Hazardous electrical voltage.

WARNING
Danger of getting injured by hot surfaces.

1.3 SAFETY symbols:

SAFETY
Wear safety gloves for installation and dismantling.

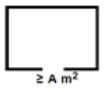
SAFETY
Wear eye protection

SAFETY
Remove power plug from outlet

SAFETY
Clean hands and/or tools

Notification
Take care of:

Reading
Instructions referred to, to be read



Minimum floor area.

Cleaning
Not Allowed to use water hose.

Cleaning
On regularly interval

Disposal
According local regulations

Recycling symbol

Part of manual
Under construction

Pictures
To be added

1.4 Identification of the unit

The identification plate can be found on the outside of the machine, and contains the following data:

- Name of the supplier or manufacturer
- Model
- Serial number
- Year of construction code
- Voltage
- Frequency
- Power consumption

1.5 Moving

- Before moving the unit, first switch off the mains switch and disconnect power by pulling the plug from the wall socket.
- Let unit cool down.
- Remove all product from the unit.
- Always keep the unit in upright position.

1.0 Introduction

1.6 Safety rules and regulations

The technician, working on the unit will be fully responsible for abiding the locally prevailing safety rules and regulations.

Technical activities must be performed by qualified and authorized persons only.

Before working on any electrical part, or dismantling the unit by means of using a screwdriver or any other tool,
ALWAYS REMOVE THE POWER PLUG from the main outlet.

Anyone performing technical repairs, replacements or adjustments on or with this unit must be familiar with the contents of this service manual and carefully follow all guidelines and instructions.

Never change the order of the steps to be performed.

The pictograms, labels, instructions and warning signs attached to the unit, are part of the safety measures.

Notes:

- To avoid short-circuiting, never clean the unit using a water hose.

- The shelves, all glass parts and the back panel of the unit can get hot.

- All units must be cleaned regularly to ensure proper functioning.

- Do not store explosive substances;
such as aerosol cans with flammable propellant,
in this appliance.

1.7 Connection to main voltage.

Warning
Electrical shock Hazard

- ***Grounding instructions:***
Only connect the appliance
> on: an alternating current,
> on: a grounded wall socket,
> with a mains voltage in accordance with the information indicated on the type plate of the appliance.
- It is the consumer's responsibility to make sure the electrical installation conforms with current national and local codes and wiring regulations.

It is not allowed to use a multi-plug or extension cord.

Such can result in fire, electrical shock, or personal injury.
Failure to follow these instructions can result in serious injury or even death.

1.8 Outdoor use restrictions

WARNING
To avoid short-circuiting, the units may not be used outdoors nor in a rainy or very moist environment.

1.9 Service and technical support

In case of malfunctions which are not fixable by you, please contact your supplier or Fri-Jado.
Service@Frijado.com
Make sure you have the following data available:
- Model.
- Serial number.

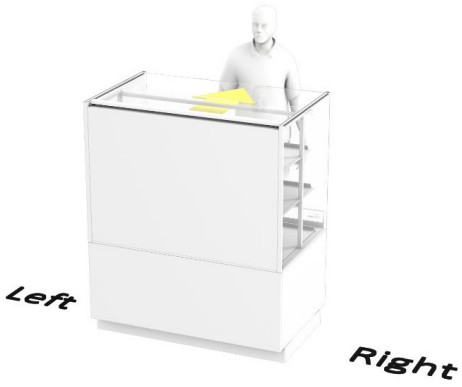
1.10 Storage

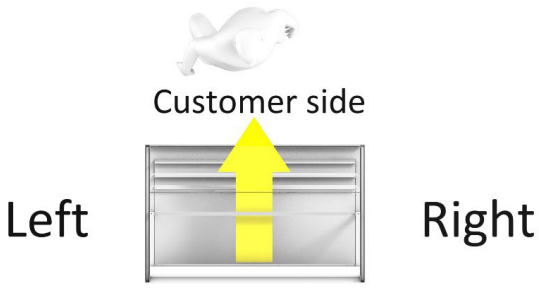
If the unit will not be used temporarily, and will be stored, follow these instructions:
- Clean and dry the unit thoroughly.
- Wrap the unit from getting dusty.
- Store the unit in a dry, non-condensing environment.
- Ensure good ventilation.

Definition of left and right side merchandisers

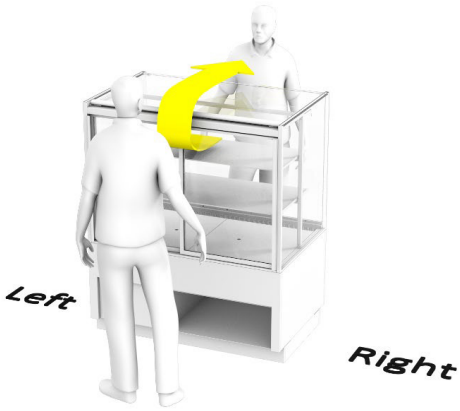
Within Fri-Jado the definition of the left and right side of merchandisers is determined by looking at the direction in which the products are moving (indicated by the yellow arrow).

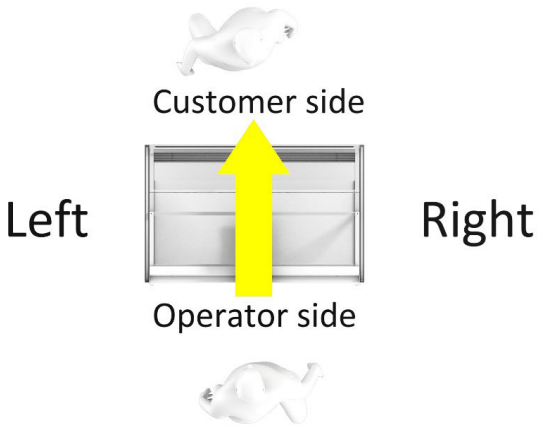
Self-serve counter





Serve over counter





2.0 Detailed description

Introduction

The DC H FS is a single tier serve over heated display cabinet intended for hot presentation of food products. A heating element and an array of fans are located in the base of the unit and circulate hot air throughout the cabinet, creating uniform holding conditions.

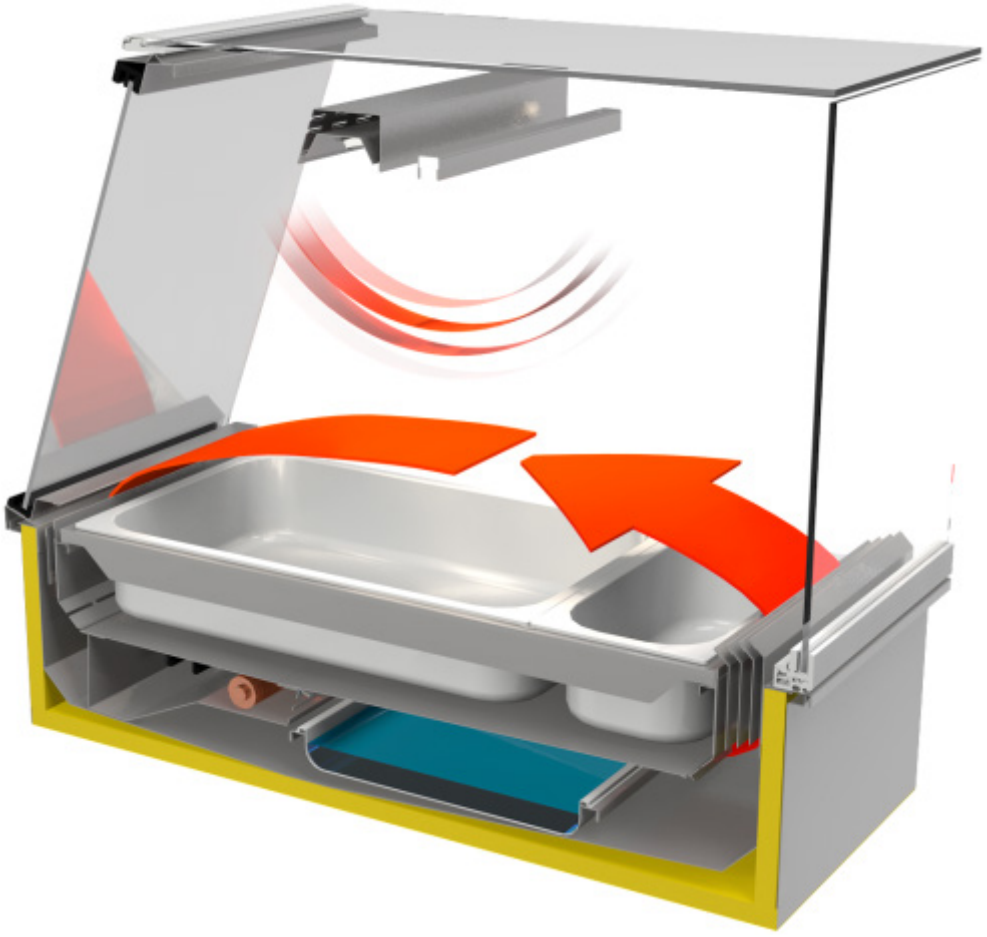
Any air in- and outlet openings should be kept clear.

A digital controller with sensor(s) is installed to regulate the temperature inside the cabinet. Additional radiant heating elements are installed in the canopy above the product deck and can be switched on or off individually.

A water tray is present underneath the base deck which is used to increase the humidity levels inside the cabinet, hereby increasing the shelf life of delicate products.

To make sure the cabinet is installed, operated and serviced in a safe manner, these instructions,provided by the manufacturer should be adhered to at all times.

The cabinets can also be supplied without Under-Frame to be installed into an existing counter top.

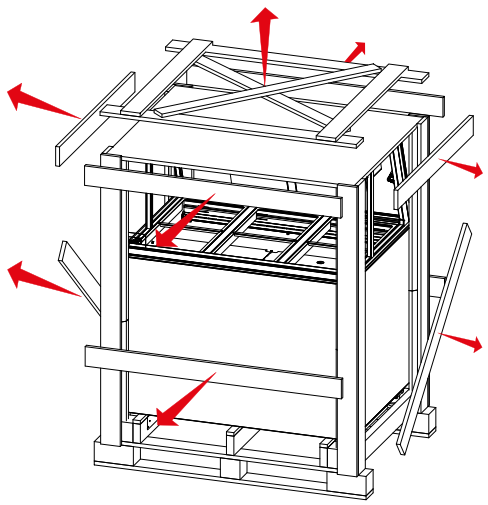


3.0 Unpacking

UNPACKING INSTRUCTION DC

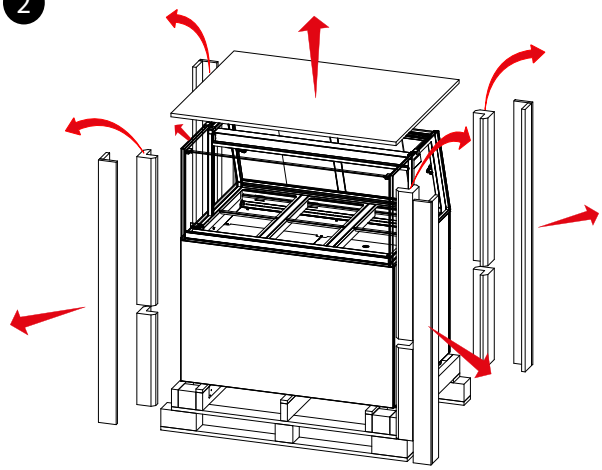
9124880 rev. 11/2023

1



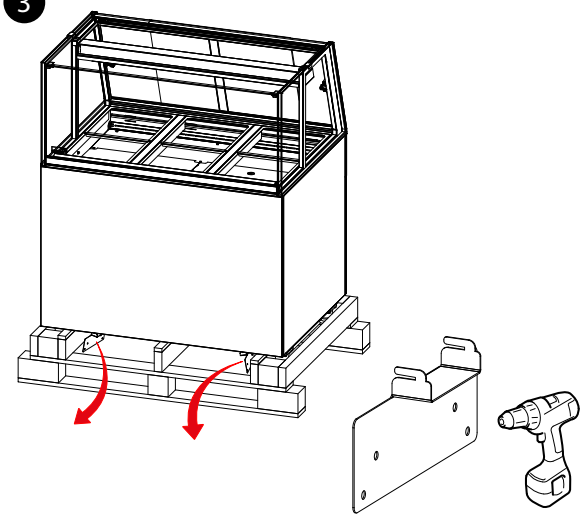
Start by removing the top and side beams.

2



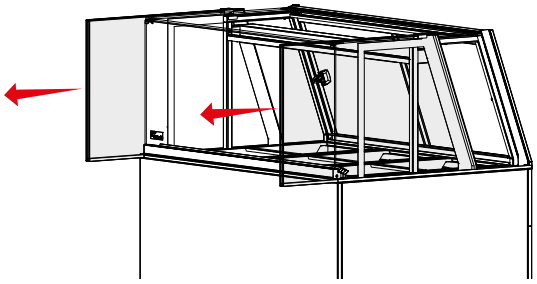
Remove the corner beams + eps

3



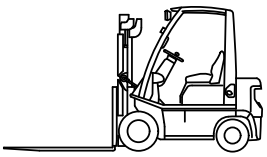
Remove brackets below the device (4x).

4



To prevent damage when moving the unit, the side glass can be removed.

5



Attention!

Make sure the electric panel and box are out of the way of the forks.

Note! Always lift a drop-in unit underneath the support frame.

Use a reach truck or electrtic stacker to remove the unit from the pallet.

6

NL - Lees de handleiding voordat u verder gaat.
EN - Read the manual before proceeding.
DE - Lesen Sie die Gebrachsanleitung, bevor Sie Fortfahren.
FR - Lire le manuel avan de continuer
ES - Leer el manual antes de continuar
PT - Leia o manual de instruções antes de continuar.
IT - Leggere il manuale prima di procedere.
NO - Les nøye gjennom instruksjonene før du tar apparatet i bruk.
SV - Läs igenom bruksanvisningen innan du fortsättler.
FI - Lue käyttöohje ennen kuin otat laitteen käyttöön.

4.0 Installation

Installation and positioning

WARNING

Position the unit on a flat and horizontal surface.
A temporally inclined plane of maximum 5° is allowed.

- Place the unit level on a sufficiently sturdy floor.
- Keep the weight of the unit in mind.
- Use a leveling instrument to level the unit by adjusting the unit's legs.
- Be sure that the personnel have sufficient room to work with the unit.
- Do not position a unit near a doorway, a ventilation device or a refrigerator in order to avoid any negative effects on the unit's operation by a cold airflow. The unit is designed for a maximum draft of 0.2 m/s (0.65 ft./sec).
- Do not place the unit into direct sunlight.
- Hot units should not be used below 20 °C (68 °F) ambient temperatures.
- Relative air humidity must be below 60%.
- Keep the plinth free from any obstacles to ensure ventilation.

First use
Before starting to use the unit, clean the inside thoroughly with a mild detergent and water. After cleaning it, wipe it with a cloth moistened with clean water to remove residual detergent, then dry the entire unit.

Level the unit

Place the unit on a sturdy, flat surface
and level the unit by adjusting the unit's legs
(max.15mm).

Unit

The unit is set at 85 °C (185 °F) temperature.
If required, this temperature can be adjusted to some degree.

At an ambient temperature of 20 ° C (68 °F) and an initial core temperature of 85 °C (185 °F) these factory settings of the unit's temperature ensure a constant core temperature of at least 63 ° C (145.5 °F) for 4 hours.

Switching-on the unit:

- Switch the heating on.
- Switch on the Humidification.
- Preheat the unit for approx. 30 minutes.
- Switch on the lighting.

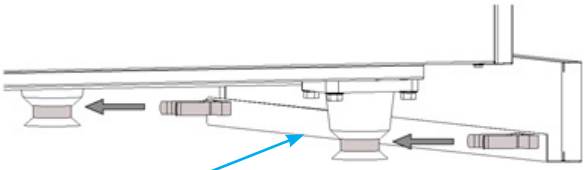
Loading the unit:

- Only place products that have a core temperature of at least 85 ° C (185 °F).

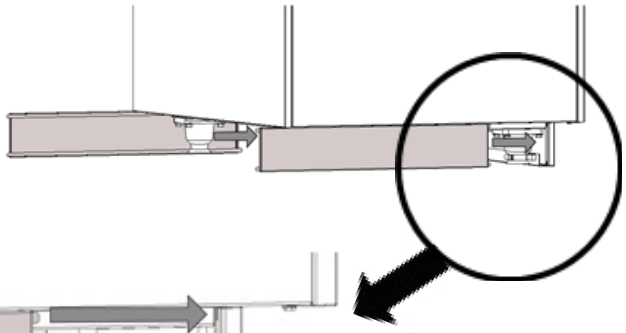
4.0 Installation

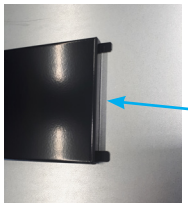
Mounting the plinths

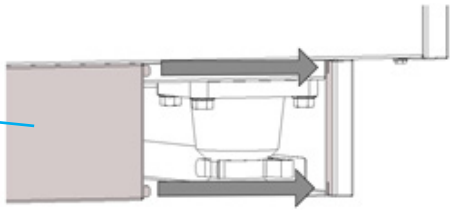
Place the rear plinth by attaching it to both rear adjustable legs using its two clamps.



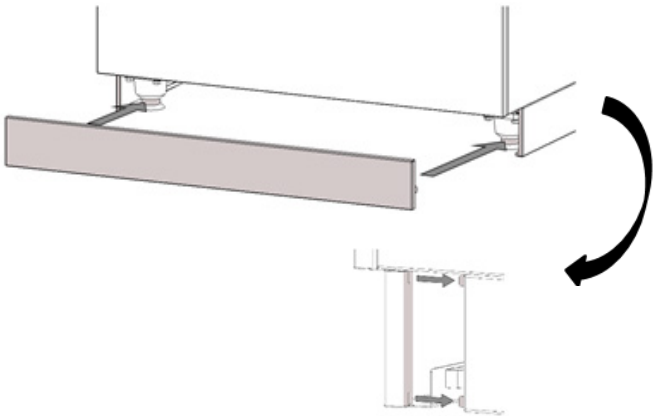
Insert the pegs of both side plinths into the slots of the rear plinth.



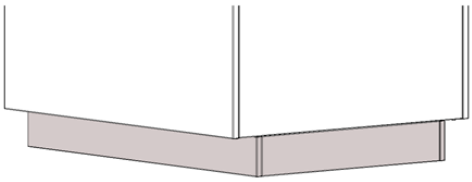




Secure the side plinths by inserting the pegs into the slots of the front plinth, while clamping the front plinth to the front adjustable legs.



Result



Warning Electrical shock Hazard

- Grounding instructions:
  Only connect the appliance to an alternating current, to a grounded wall socket, with a mains voltage in accordance with the information indicated on the type plate of the appliance.

- It is the consumer's responsibility to make sure the electrical installation conforms with current national and local codes and wiring regulations.

It is not allowed to use a multi plug or extension cord!

Failure to follow these guidelines can result in fire, electrical shock, personal injury or in death.

4.0 Installation

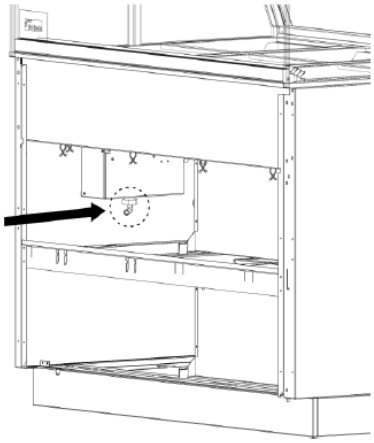
Humidification system

Water connection
When connected to the water supply the water tray will fill automatically when the water level is too low.

How to connect the water supply:

- Remove the front panel screws (when delivered with under frame).
- Remove the front panel.

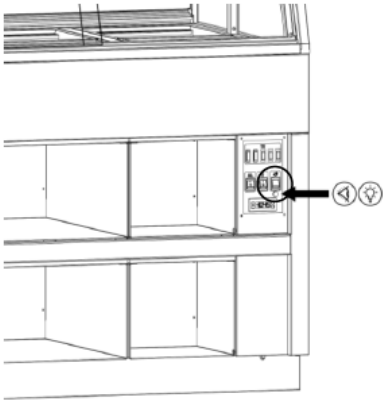
- Connect the water supply hose to 3/4” inlet pipe of the water tray.
- Replace the front panel and secure it with the screws, removed earlier.



Lime scale filter:
To reduce the amount of lime scale, usage of a scale filter in the water supply is recommended.

4.0 Installation

- When the water level in the reservoir drops below the minimum level, an alarm light will light up underneath the Humidifier button.



- During installation the red light can flash on or off

Reason:

- In case the alarm goes off: the water level in the water tray is below the required level.
- Once the water tray has been filled.
- Switch the alarm button of the humidifier off for 5 seconds and switch it back on

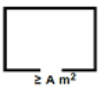
WARNING:
When filling the water tray for the first time, water may come out of the pipe at high speed.
This is the result of air that was trapped in the pipe or water hose.

To prevent this, open tap slowly.

4.1 Installation Drop-in Unit

Safety instructions

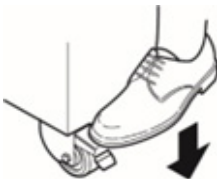
WARNING
The maximum load on top of the unit may never exceed 10 kg.



MINIMUM ROOM FLOOR AREA
Refer to the data label on the unit for the required floor area.

WARNING
See installation instructions for grounding requirements.

WARNING
Always use the brakes on both front wheels when applicable:



Installation must comply with:

- Make sure that the furniture is still easily accessible for service after installation by means of a removable hatch.
- Provide enough space to place the furniture with a stacker.
  Maintain the dimensions and minimum height as indicated on page 16.
- Provide adequate ventilation; keep the minimum air inlet and outlet opening as indicated on page 16.
- Make sure that the room / shop in which the furniture is placed meets the minimum dimensions as indicated on page 16.
- All warning signs / labels, minimum floor area label and identification plate must remain visible after installation.
- Operation of the appliance must be accessible.

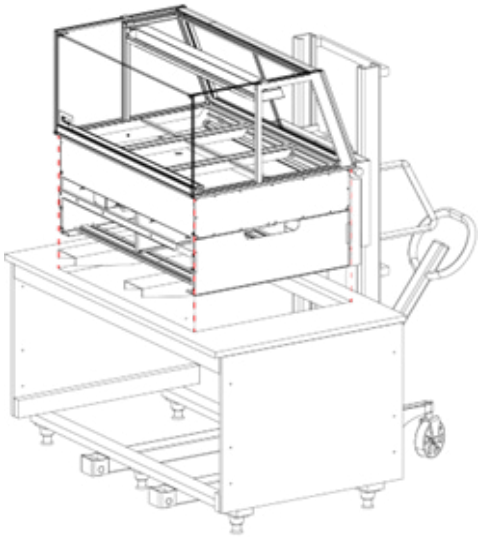
4.1 Installation Drop-in Unit

Step 1

Collect all the necessary equipment.

Before starting, make sure to follow the unpack instruction carefully.

To prevent damage from tilting over, perform the installation with at least two persons.

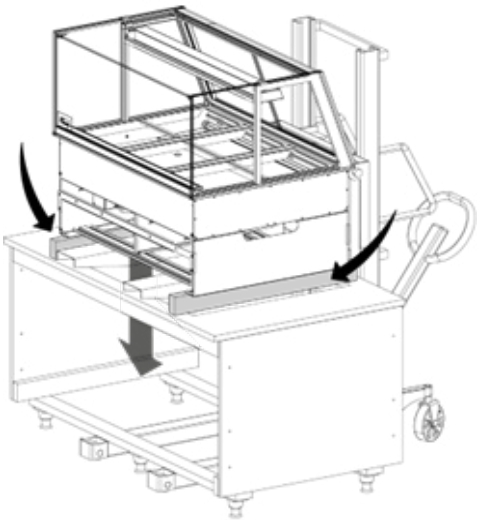


Step 2

Position the deli counter above the cut-out in the counter-top, using a forklift or electronic stacker.

Make sure the unit stays in balance.

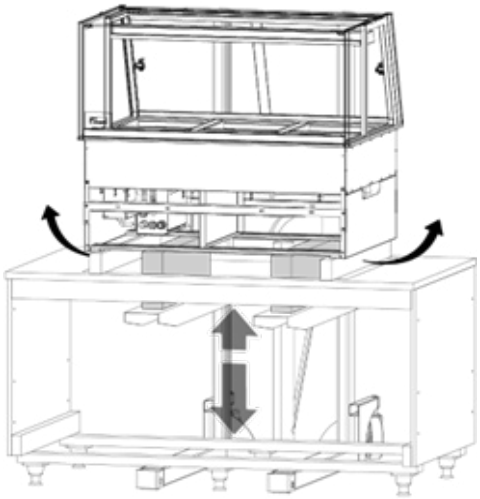
The centre of gravity of cold units lays slightly further off centre.



Step 3

Place the deli counter mounted to its support frame on the counter-top, using two wooden beams to support it.

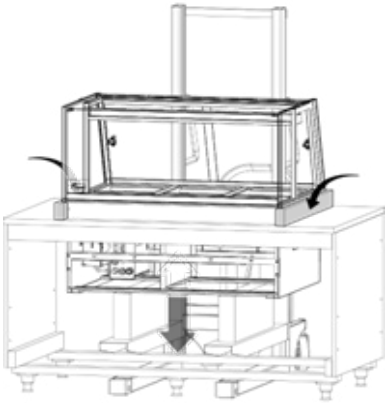
4.1 Installation Drop-in Unit



Step 4

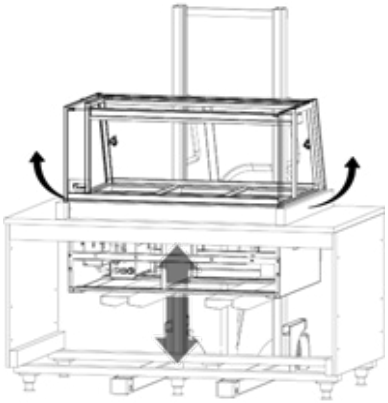
Lift the deli counter from below the counter-top, by using stable raising blocks on the forks.

Raise the unit slightly to remove the wooden beams from the previous step.



Remark

If necessary, take an extra step by resting the deli counter on the two wooden beams underneath its glass frame, being able to remove the filler blocks.



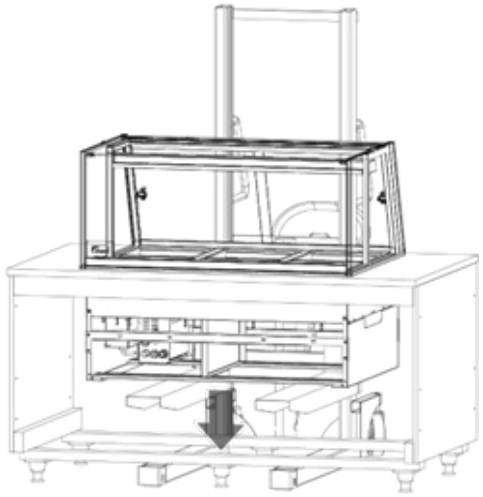
Remark

Next, lift the unit on its support frame without any filler blocks and remove the wooden beams.

Remark

The water control box can be re-placed within specific range.
Please connect water supply before closing counter top completely.

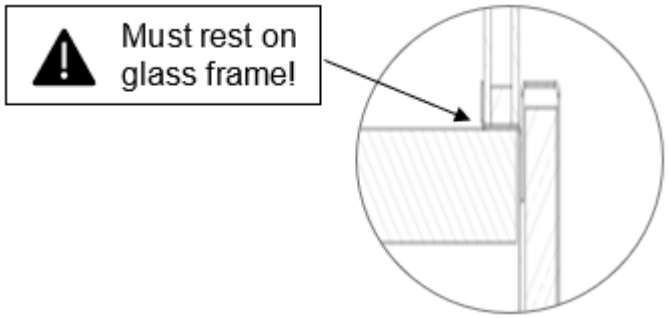
4.1 Installation Drop-in Unit

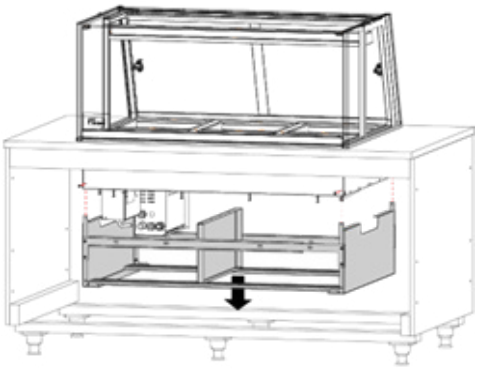


Step 5

Apply sealant or a thin flexible foam seal round the cut-out in the counter-top.

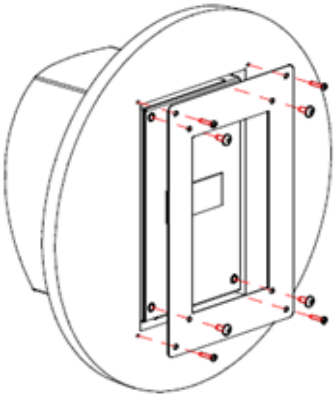
Carefully lower the deli counter in its place.





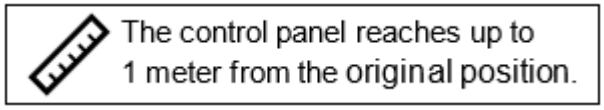
Step 6

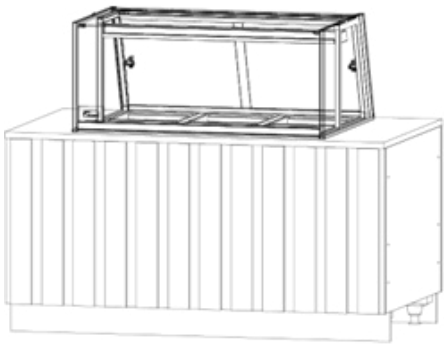
Remove and discard the metal support frame.



Step 7

Install the control panel using the supplied mounting plate and screws.





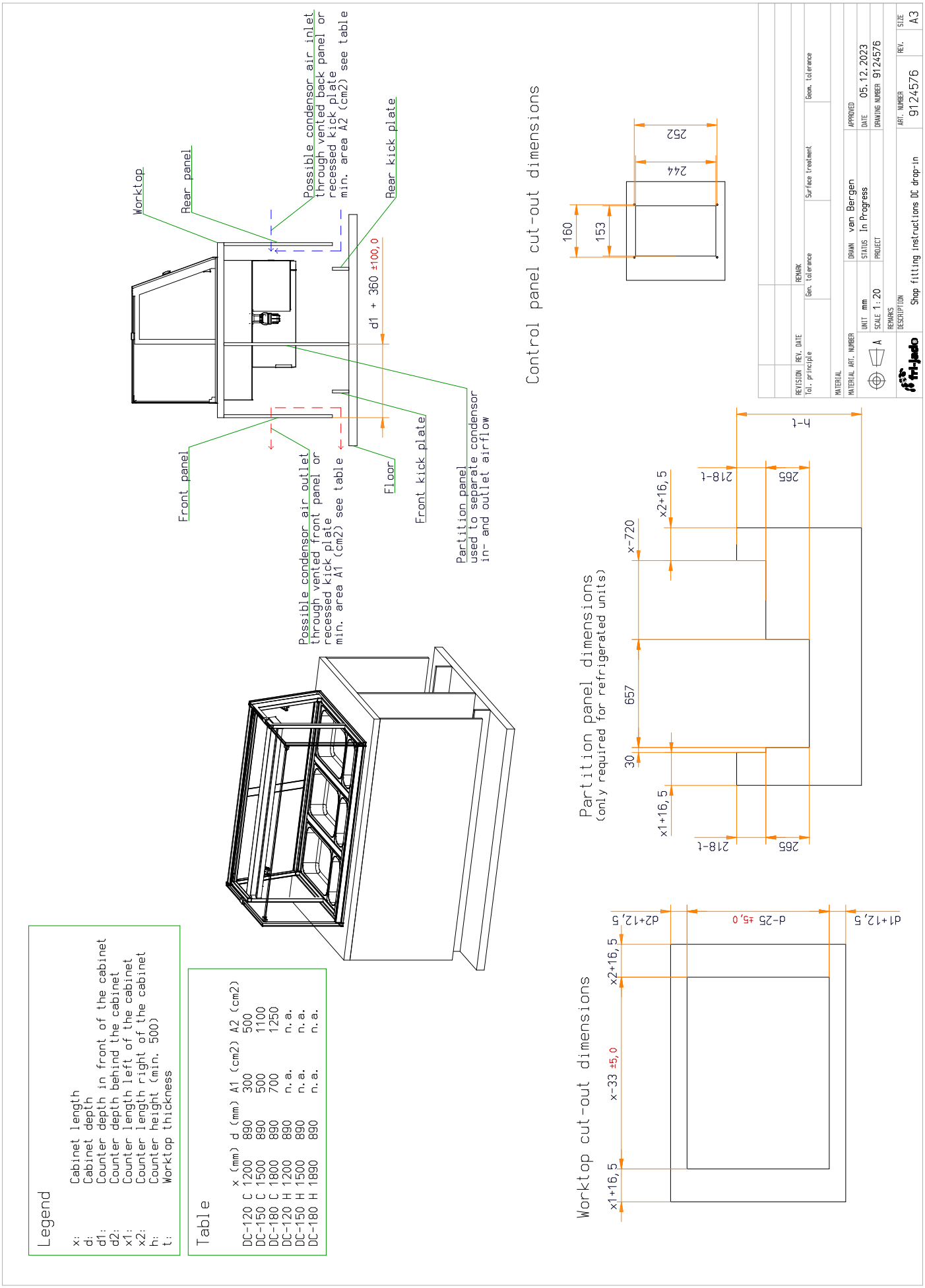
Step 8

Install all remaining trim panels.

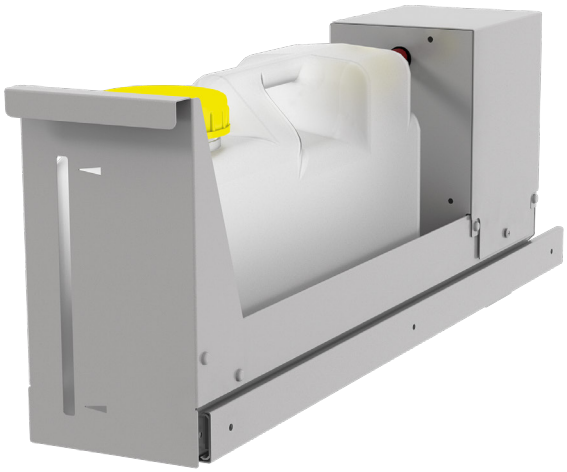
Make sure of the following:

- Ventilation openings have the correct size.
- The unit remains accessible for service and maintenance.

4.1 Installation Drop-in Unit



4.2 Installation Manual water fill



This instruction is valid for:

- DC Hot FS drop-in models
- MCC Hot FS drop-in models
- MCC Hot SS Humidified drop-in models

Introduction

The manual water fill system can be used to supply a heated display cabinet with water for humidification purposes in case a fixed water supply cannot be realised.

It consists of a 12 litre water tank mounted on linear guide rails so it can be pulled from underneath the cabinet for easy access.

An electronic pump automatically transports water from the tank to the humidification tray inside the cabinet if the water drops below a certain level.

Power is supplied from a socket mounted on the back of a control box underneath the cabinet.

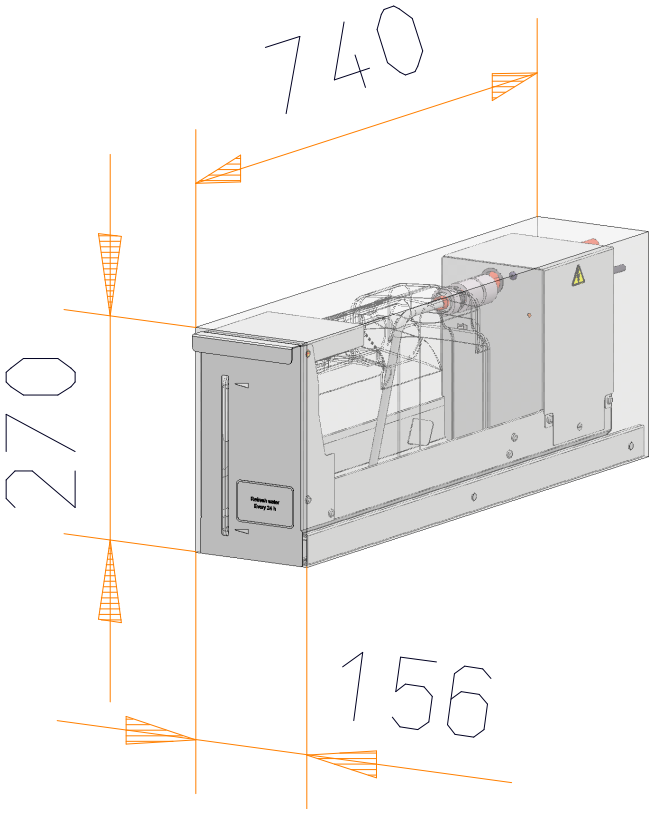
The tank itself can be disconnected by a quick release fitting so it can be removed completely for cleaning.

Important notes for using the manual water fill system:

- Only use drinking quality water to fill and clean the tank,
- Rinse/clean the tank every 3 days,
- Close the drawer slowly to prevent spillage of water and make sure the splash cap is closed.

This document describes how to install the system in case of drop-in cabinets.

4.2 Installation Manual water fill



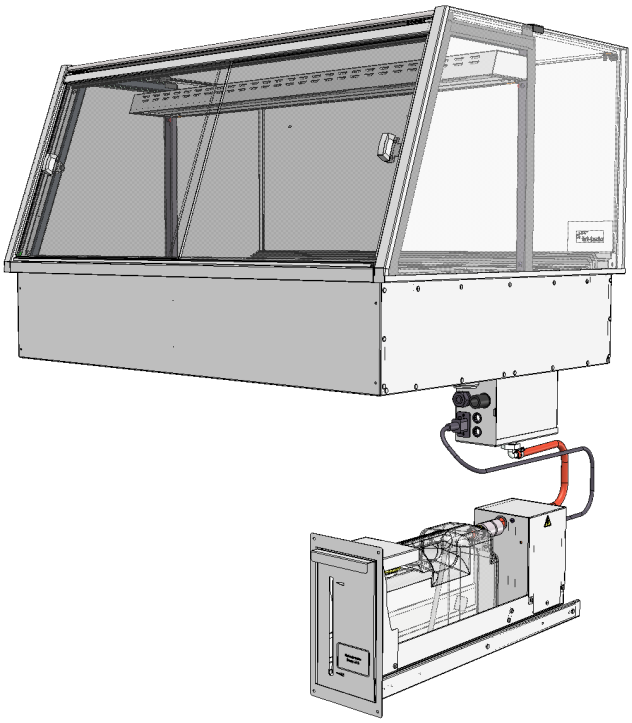
Installation

Step 1

The total space required for the system is 156 x 740 x 270 mm (W x D x H).

Make sure this space is available to install the complete system.

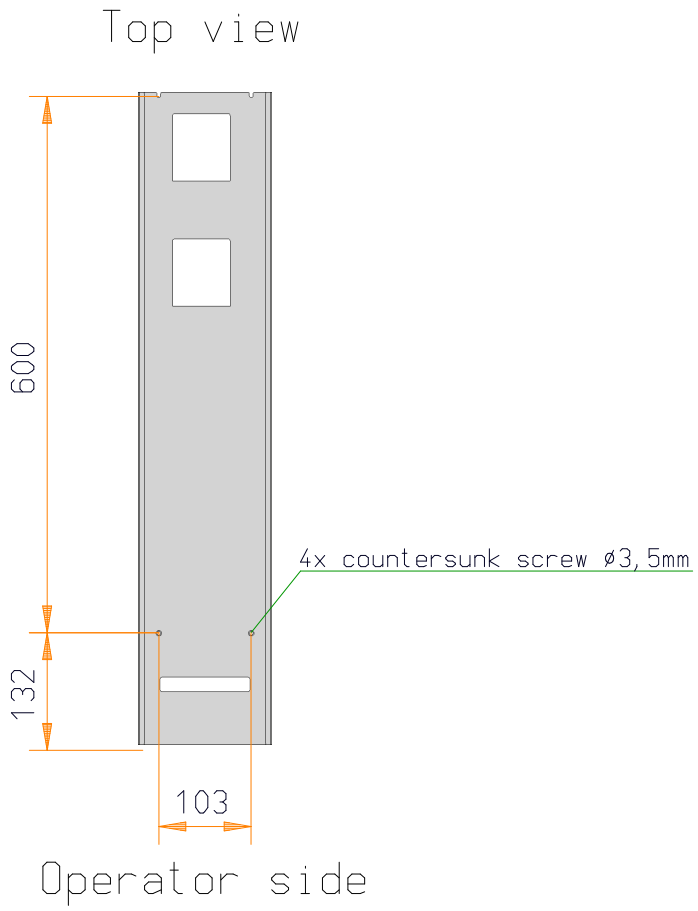
A 3D STEP file is available on request.



Step 2

The system can be mounted up to approximately 1 meter away from the control box underneath the cabinet.

4.2 Installation Manual water fill

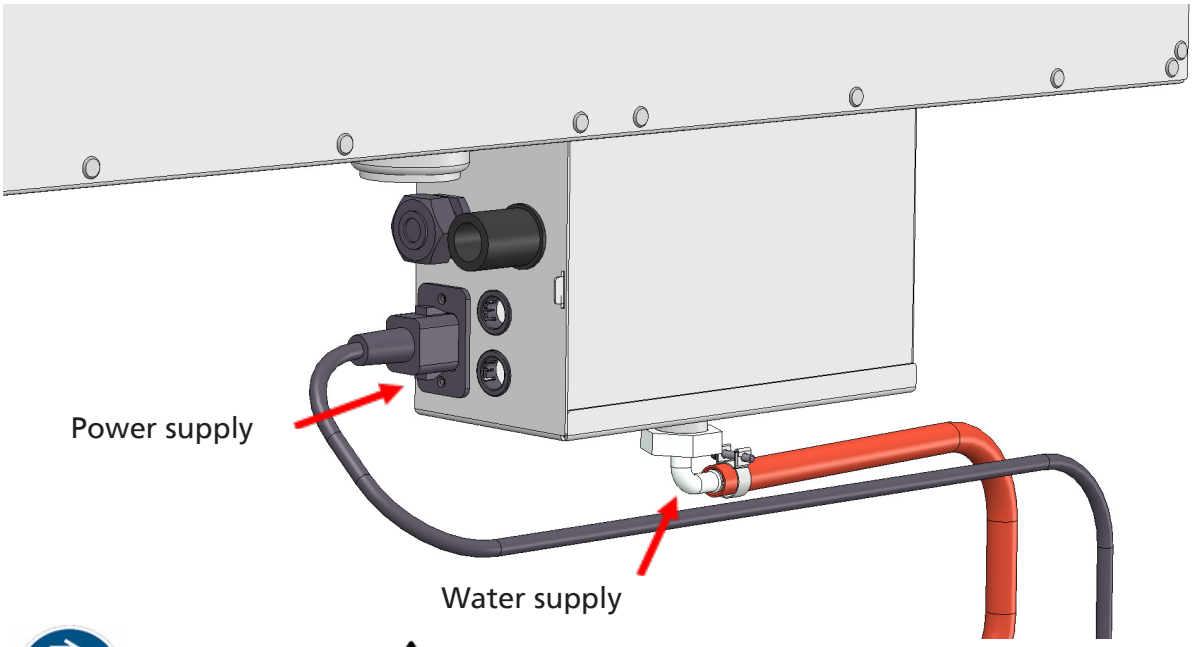


Step 3

Slide out the drawer and remove the tank if necessary.

Use the mounting holes indicated on the drawing to fix the drawer base plate onto the substructure.

Make sure the screws used have a countersunk profile to prevent rubbing on the bottom of the drawer.

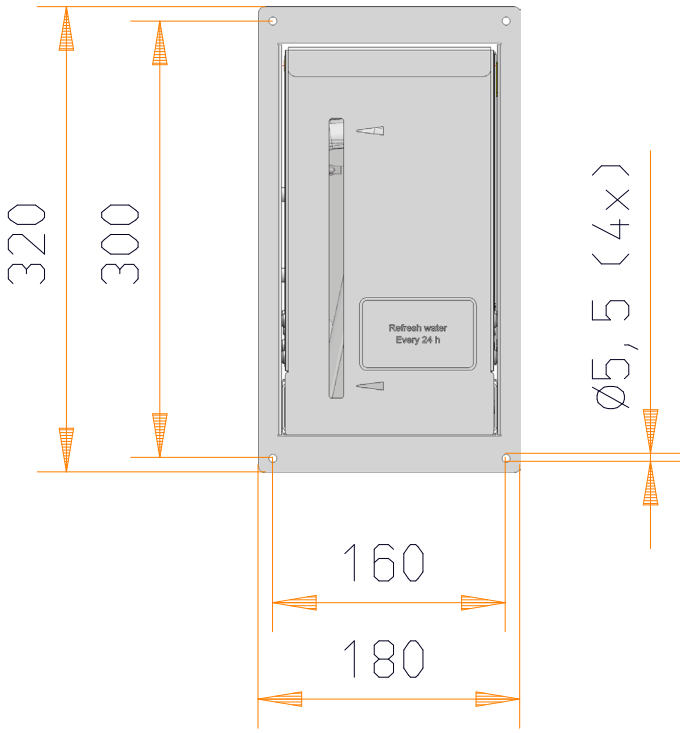


Step 4

Make sure the cabinet power supply is still disconnected.
Connect the water hose to the water supply connection of the control box underneath the cabinet.

Plug the power supply cord into the socket located on the same box.

4.2 Installation Manual water fill



Step 5 (optional)

Mount the cover panel in front of the drawer to finish the installation.

Step 6

Restore the cabinet power supply and fill the water tank with water.

Switch on the heating of the cabinet.
The pump should now start working and fill the humidification tray inside the cabinet.
Once the water has reached the required level the pump should stop.

Check if this works properly.

In case of problems please check the service manual or contact Fri-Jado for further assistance.

For normal operation and use please refer to the user manual supplied with the cabinet.

5.0 Operation

The display value is not the product temperature!

When switched on, the display performs a lamp test; the display and LED's will flash for several seconds to check all functions are working correctly.

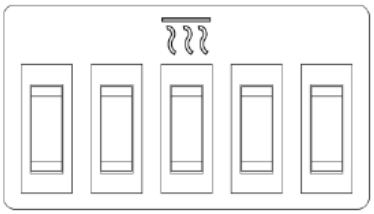
Control Panel

On/Off Switches

Heating

Lighting

Humidifier reset button



Heating Top switch on for each element

Temperature controller

⏻	Power on/off button*
∧	UP-button
∨	DOWN-button
SET↵	SET-button

* Switch on/off: hold for several sec.

Switching-on the unit

- Switch the heating on.
- Preheat the unit for approx. 30 minutes.
- Switch on the lighting.
- Switch on the Humidification

Checking the temperature in the unit

- During operation the display of the thermostat shows the temperature at the probe in the unit. The indication ON will light when the elements are active.

Checking the SET temperature

1. Scroll through the folders with ∧ and ∨ button until you find the folder Pb1, Pb2 or Pb3. (Refer to parameter settings 5.1.)
2. Press SET to view the value measured by the corresponding probe.

5.0 Operation DC Hot

Adjusting the SET Temperature

1. During operation the display of the thermostat shows the temperature in the unit.
2. Push twice on the SET-button. The set temperature will appear on the display.
3. Push the ∧ and ∨ button within 15 sec.
4. Adjust the set temperature by means of the ∧ and the ∨ button.
5. Push once on the SET-button to store the new set temperature.

Checking the product temperature

- Once every hour, the product temperature should be checked using a digital thermometer. Write down the measured values in a log.
- Always use a disinfected thermometer sensor.

Operating

The unit is set at 85°C intake air temperature. If required, this temperature can be adjusted.

At an ambient temperature of 20°C and an initial core temperature of 85°C these factory settings of the unit's temperature ensure a constant core temperature of at least 65°C for most products for 4 hours.

5.1 Operation DC Hot <Parameter settings>

Doc. nr.	Rev.	Registration form.	fri-jado
9124881	A	Settings – 85 °C DC	

DC HOT FS	

Controller: Eliwell ICPlus 902

User parameters:

SP1	Temperature set point	85	°C
df1	Differential	1	K
HS1	Max set point limitation	90	°C
LS1	Min set point limitation	40	°C
LoC	Keypad lock n(0)=lock disabled y(1)=lock enabled	n	
ndt	Display with decimal point, n(0)=no y(1)=yes	y	
CA1	Display offset	0	°C
H00	Sensor type, 0 = ptc, 1 = ntc, 2 = pt1000	0	

Installer parameters:

rE1	HC1	Cold “C(0)” or hot “H(1)” operation	H	
	HA1	Max temp alarm	100	°C
CnF	dro	Unit of measurement (0=C 1 =F)	0	

6.0 Maintenance

DC-Unit

Use a mild detergent and soapy water for the cleaning of the unit.

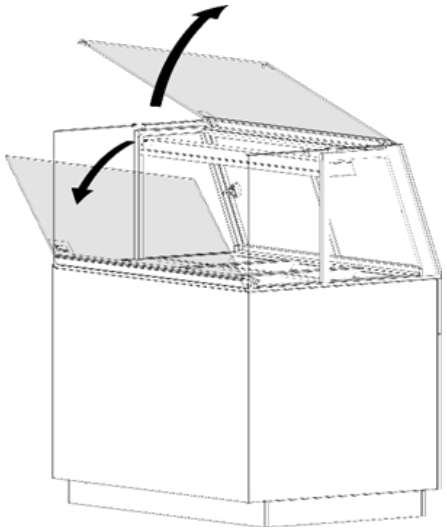
Cleaning exterior-glass windows

To assist with the cleaning of the unit, it is possible to open and/or remove glass panes of the unit.

Make sure the glass is not damaged while removed from the unit by placing it on a suitable surface.

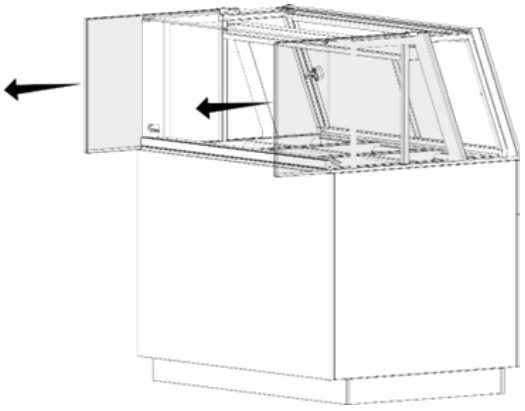
Put the glass panes back in the unit before turning the unit on again.
Place any glass pane back into the unit in reverse order of removing them
always move carefully and do not use excessive force to place the glass pane back.

Lift the top window first before opening the front glass pane.



Always lower the top glass pane slowly and do not drop it.

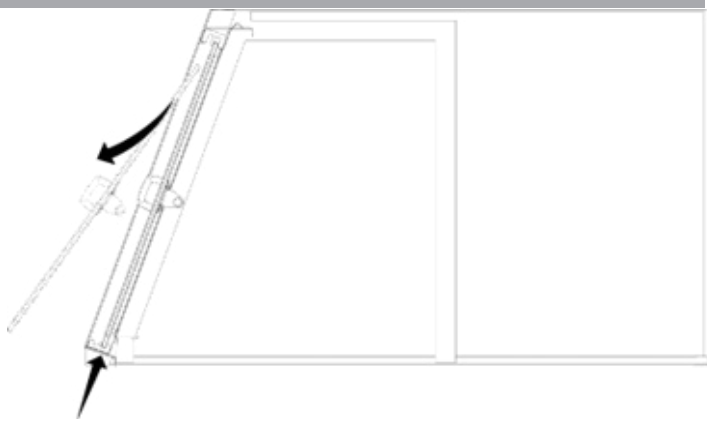
The side glass pane can be removed by sliding them out of the frame of the unit



Keep in mind: Once a glass pane is chipped (damaged) eventually it will break within time.

6.0 Maintenance

Sliding windows



The sliding windows can be removed by
- lifting them up
- tilting them towards yourself
- removing them from the frame

Clean the bottom frame of the windows.
These can be removed if required

Make sure the glass is not damaged while removed from the unit by placing it on a suitable surface.

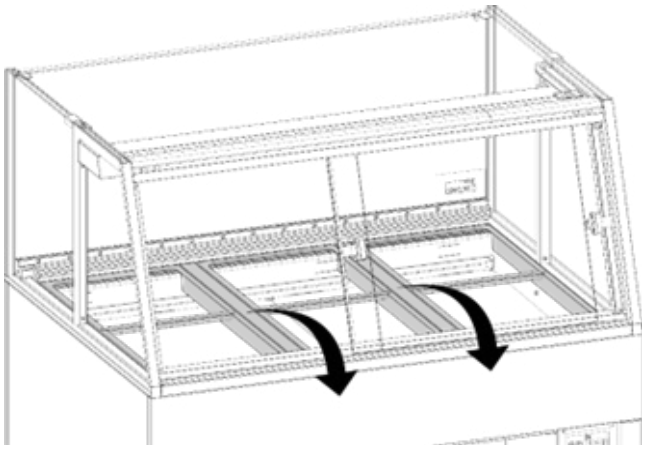
Cleaning air guides, fans and water tray (optional)

WARNING
Switch off the unit first and let it cool down.
Be aware of rotating parts.

Be aware that high humidity levels may encourage the growth of biological organisms in the environment.

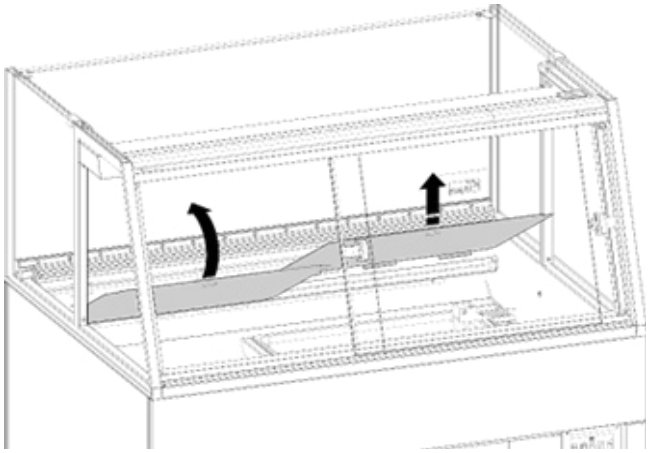
GN-pans

Remove the GN-pans and clean these.



Take out the GN-frames.

Do not touch the glass with the GN-panes or frames.



Remove first the plating of the lower presentation deck.

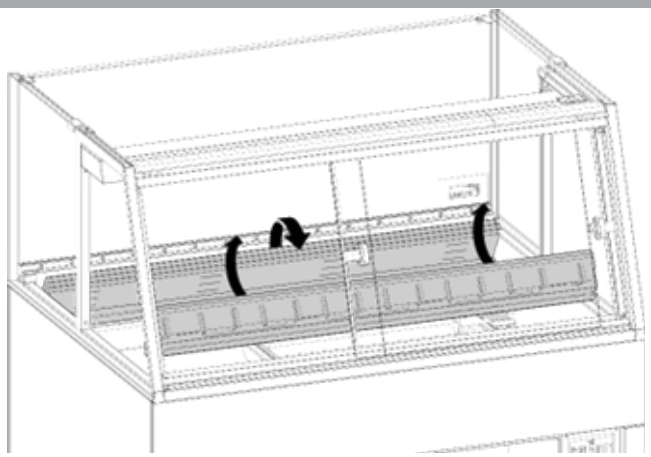
Keep in mind: Once a glass pane is chipped (damaged) eventually it will break within time.

6.0 Maintenance

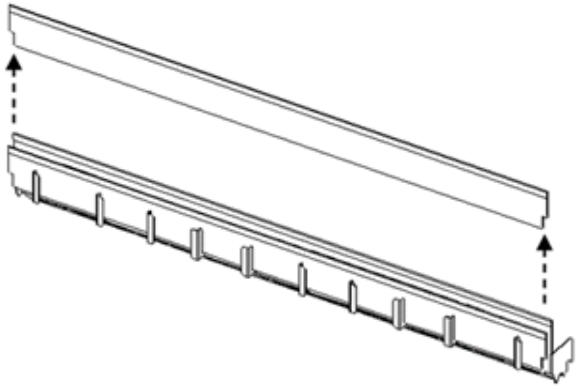
Air guides

At the front and the back of the unit there are air guides, which can be removed.

Tilt the fan-box at the back of the unit to clean below it.



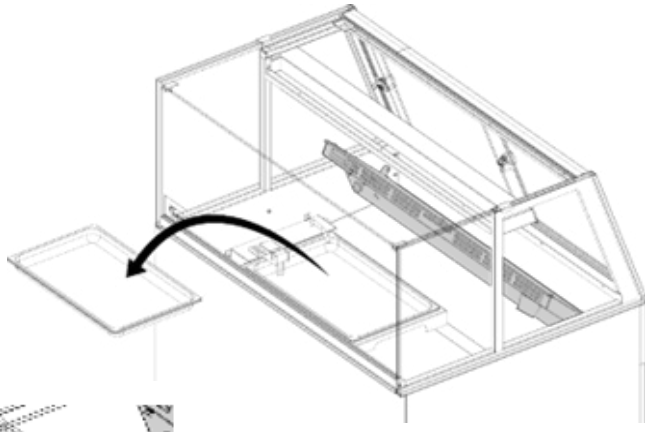
To assist in the cleaning, parts of the air guides can be removed separately.



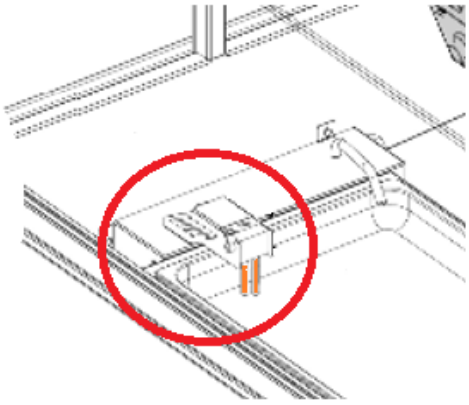
Evaporation reservoir

The water evaporation reservoir can be removed and cleaned separately.

Be sure to put the electrodes back into the reservoir afterwards.



Clean the electrodes, removing lime and/or chalk.



Keep in mind: Once a glass pane is chipped (damaged)
eventually it will break within time.

7.0 Trouble shooting

Problems which can be checked by user

Each user can check the following points as mentioned in the user manual:

- Is the power supply OK?
- Check the fuses and the earth leakage circuit breaker in the fuse box of the building.
- Are all the switches in the correct "on" position?

Item	Malfunction	Possible action
Unit	Unit does not work	• Check the power supply. • Are all switches in the correct position. • Check earth Leakage circuit breaker
Unit	Display shows error code	• Contact your supplier or service agency.
Lamp	Does not light up	• Switch ON.
Mains cord	Damaged	• Replace.
Window	Damaged	• Replace.

<u>Problems which must be dealt with by a trained (service) technician</u>

Replace the mains cord

WARNING
Hazardous electrical voltage.

If the mains cord is damaged, it must be replaced by a fully certified and qualified person, in order to avoid hazards.

Heating element testing

<u>Resistance</u>

1. Remove wiring (two) from the element.
2. Connect the probes of the multimeter to each of the wires.
3. Test the resistance of the element with a Ohm tester.

PT sensor testing

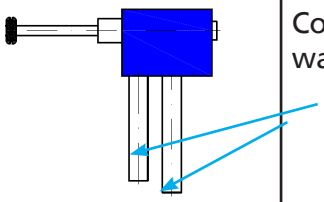
1. Remove wiring from the sensor.
2. Connect a temperature tester to the probe of the sensor for comparison.
3. Test the probe with a Ohm tester.

Temperature		Resistance Ω
°F	***°C***	***+/- 5 Ohms***
-4	-20	677
14	-10	740
32	0	807
50	10	877
68	20	951
77	25	990

7.0 Trouble shooting

Symptom	Possible causes
No power	1. Main circuit breaker open 2. Earth Leakage circuit breaker open 3. Fuse Blown 4. Loose wire connection 5. Clixon tripped
Main fuse or breaker blown	1. Wiring incorrectly 2. Short circuit heating element 3. Short circuit fan element 4. Short circuit wiring
Illumination does not work	1. LED malfunction 2. Tumble switch malfunction 3. LED driver malfunction 4. Loose / short circuit wiring connection
No heating	1. Heating element malfunction 2. Relay malfunction 3. Loose wiring connection 4. Thermostat malfunction 5. Loose wiring connection 6. Air flow not functioning 7. Clixon tripped
Unit does not reach desired temperature	1. Heating element malfunction 2. Strong air current along unit / Draft 3. Burned contact on contactor 4. Sensor malfunction 5. Sliding doors not closed 6. Air flow not functioning
No indication on controller	1. Electronic controller malfunction 2. Blown fuse 3. Loose wiring connection
No air flow inside unit	1. Fans do not work 2. Blown fuse 3. Loose wiring connection
Products dry out	1. No water intake 2. No water intake, supply not open 3. No water intake, inlet valve blocked, or defective 4. No water, or too much water, Water level sensor 5. No water, manual tank not filled (Red light lighting)

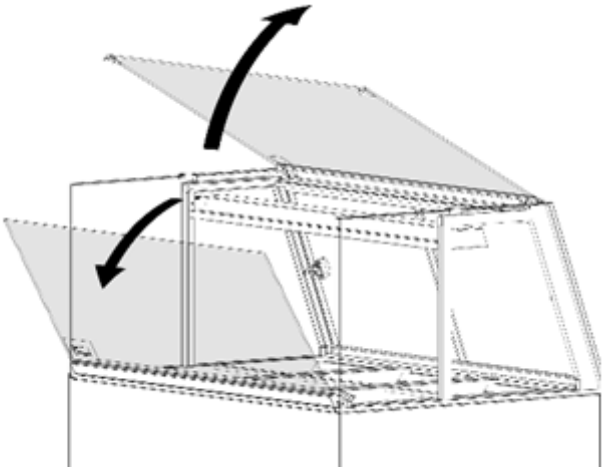
7.0 Trouble shooting

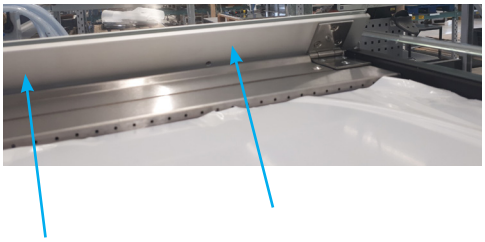
Description of part	Symptoms	Possible causes	Solution / Action
Contactor	Contactor does not work	Wiring Coil malfunction Contact burned	Check wiring Check resistance of coil +/- 525Ω Check the contacts Replace contactor
Heating element	Unit is not reaching the set temperature	Wiring Element malfunction	Check wiring Check power on element Check current with AC current tester Check Resistance Replace element Check wiring Check power on fans
Tumble switch	Light, heating does not switch on	Wiring Contact burned	Check wiring Check the voltage on “in“ and “output“ Replace switch
LED	Light does not turn on	Wiring LED broken LED driver defect	Check Wiring Replace LED Replace LED driver
Electronic thermostat	Display does not light up The unit is not reaching the set temperature	Wiring Loose sensor Clixon tripped Thermostat Malfunction Thermostat setting	Check wiring Check sensor Replace Clixon Replace thermostat Check parameters
PT sensor	The unit is not reach-ing the set tempera-ture or does not heat up at all The unit becomes too hot	Broken Sensor Loose sensor Broken Sensor Loose sensor	
Water intake	Not filling of Humidification tray 	Water supply closed Inlet Valve Contaminated of water level sensor	Open water supply Check, clean or replace Clean or replace

8.1 Top glass replacement

1. For replacement, open top glass pane.

Be aware of the weight of the glass.

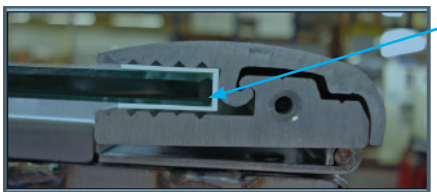




2. Loosen the adjusting screws which secure the glass with a torques key TX15

   Depending on the width of the unit, there are 4, 6 or 8 screws.

3. Remove the end bracket (1 x each side)

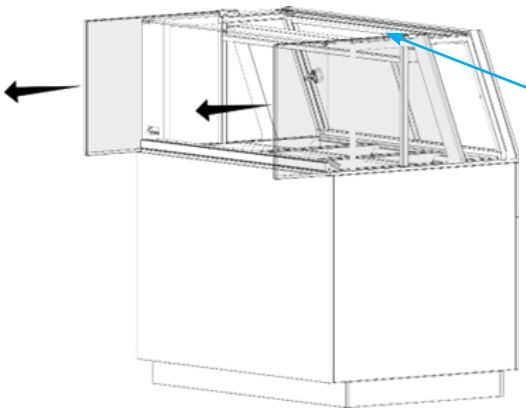


4. When refitting the glass, make sure the silicon protection profile is on.

8.2. Side glass replacement

The side pane glass of the units can easily be replaced.

1. Slide the double glass pane towards the front along the top and bottom guiding rails.
   The side pane can be removed from the unit once it has slid entirety past the top guide.



Please mind:
Left and right version

CAUTION:
Once past the top guide, the glass pane might fall if not properly held.

Hence do not leave it standing upright without being supported by both guide rails or holding it.

2. Before placing a new side pane, clean the guiding rails. (Top, back and bottom)

3. Slide it all the way back till the front of the pane is in line with the front plating.

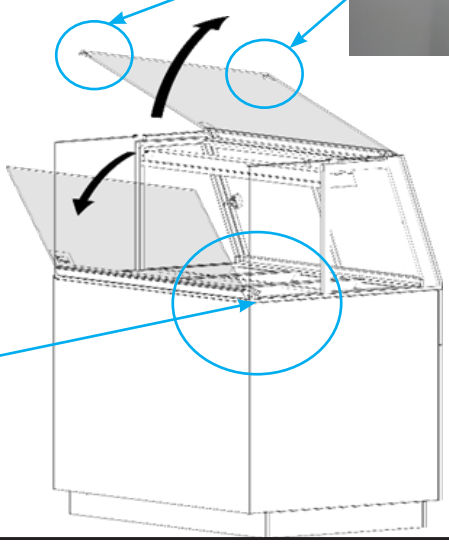
8.3 Front glass pane replacement

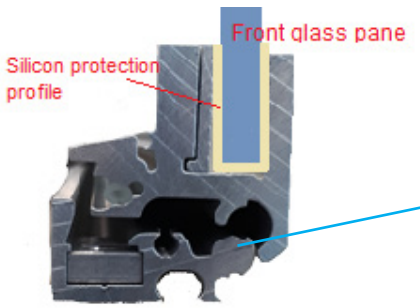
1. Lift top glass to "unlock" the front glass

2. Slightly turn the front glass towards you about approx 40 degrees.

3. In the right tilted position, you can take glass pane including profile out.

4. Replace in reverse order.



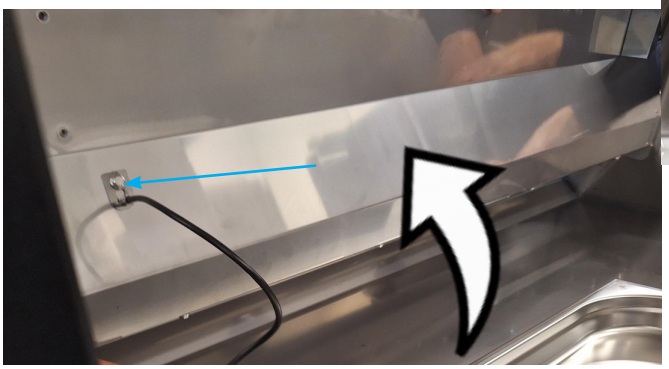


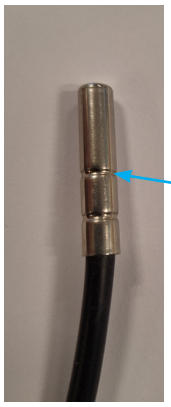
8.4 PT Sensor Replacement

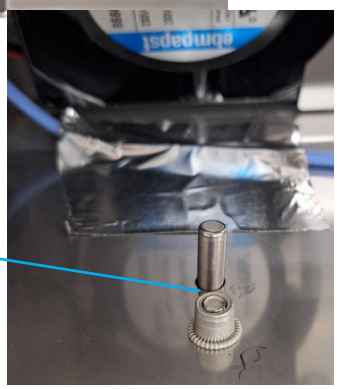
1. Remove GN-panes
2. Remove GN-frames

3. Open cover of heating box (6 bolts)
4. Sensor is placed in front of first fan.

5. Turn heating box upwards to reach mounting screw.





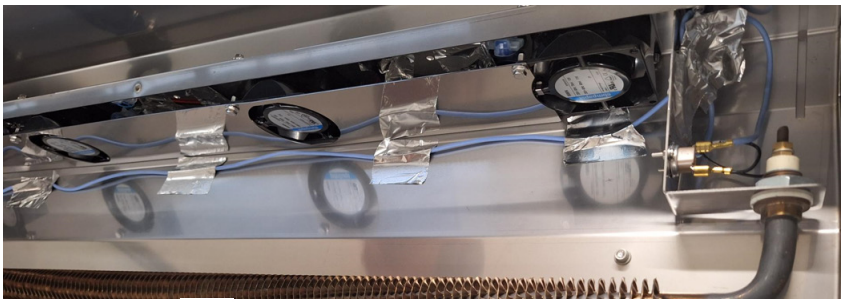


6. Replace in reverse order.

8.5 Fan Replacement

1. Remove GN-panes
2. Remove GN-frames

3. Open cover of heating box (6 bolts)

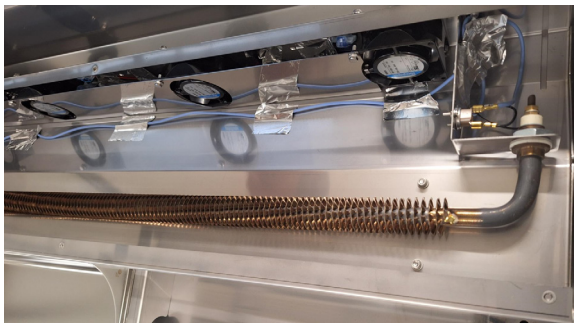


4. Remove fan cover plate (6 bolts)
5. Remove fan.
6. Use new waterproof connector to connect new fan
7. Replace in reverse order.

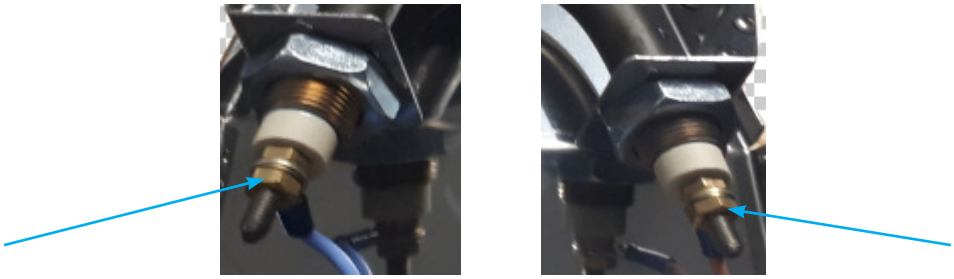
8.6 Heating element Replacement

1. Remove GN-panes
2. Remove GN-frames

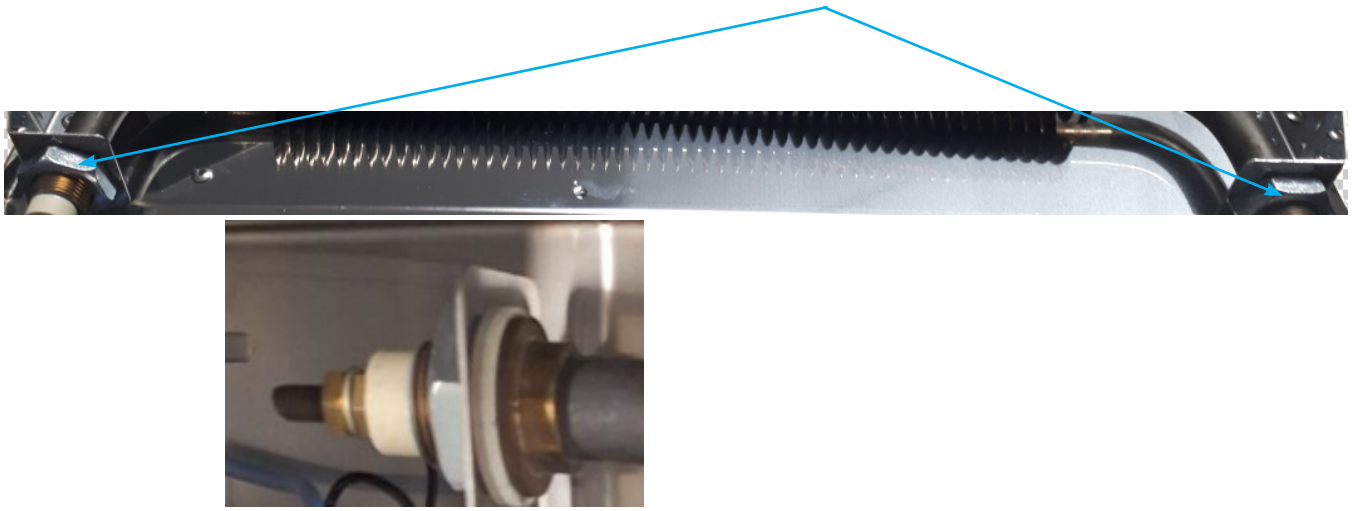
3. Open cover of heating box (6 bolts)



4. Remove wire connection from element by removing the nut.



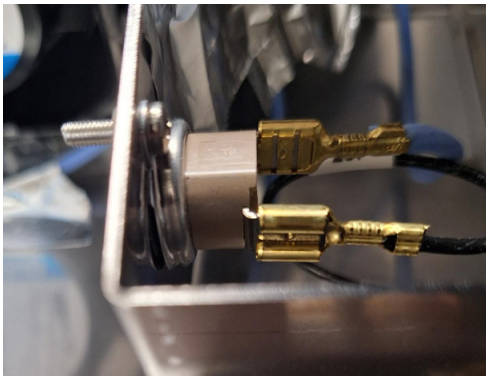
5. Remove old type heating element by removing the mounting nuts and ring.



6. Replace in reverse order.
7. Tighten strongly.

8.7 Clixon Replacement

1. Remove GN-panes
2. Remove GN-frames
3. Open cover of heating box (6 bolts)
4. Remove wiring from clixon
5. Remove clixon by removing mounting screw and nut



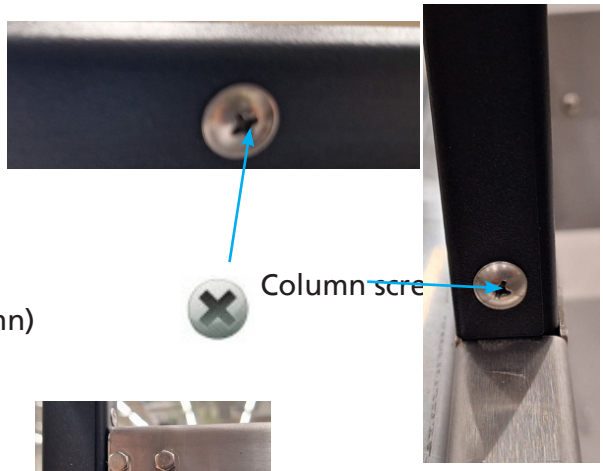
6. Replace in reverse order.

8.8 Replacement and adjustment (8.8 LED, 8.9 Ceramic heater)

8.8 Led light Replacement

1. Remove side glass panes. (8.2)

2. Remove column cover.
(two screws, one on top middle and one at the bottom back side of column)



3. Pull off column cover.

4. Remove bolts (left and right) holding the LED.

5. Disconnect connector in Column, before you do so, make note of the placing of the red and black cable in the connector.

6. Take LED light out of LED light holder, and place new LED.

7. Connect the wires from the new LED in the column, taking care of the red and black cable.

8.9 Ceramic heating element replacement

1. Remove 2 x cap nut which holds the frame containing the ceramic heater elements.

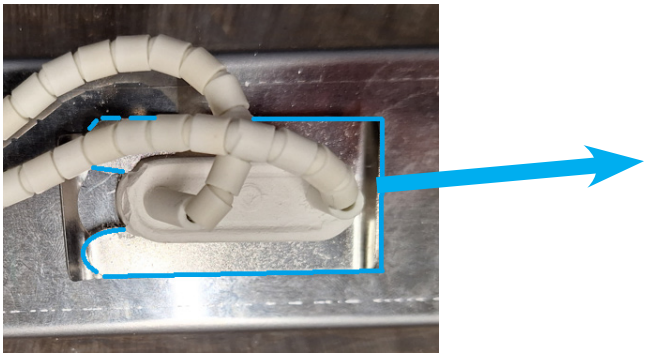
2. Turn the inside of the holding frame away from you.
The inner frame will hang inside the outer frame.

8.9 Replacement and adjustment 8.9 Ceramic heater)

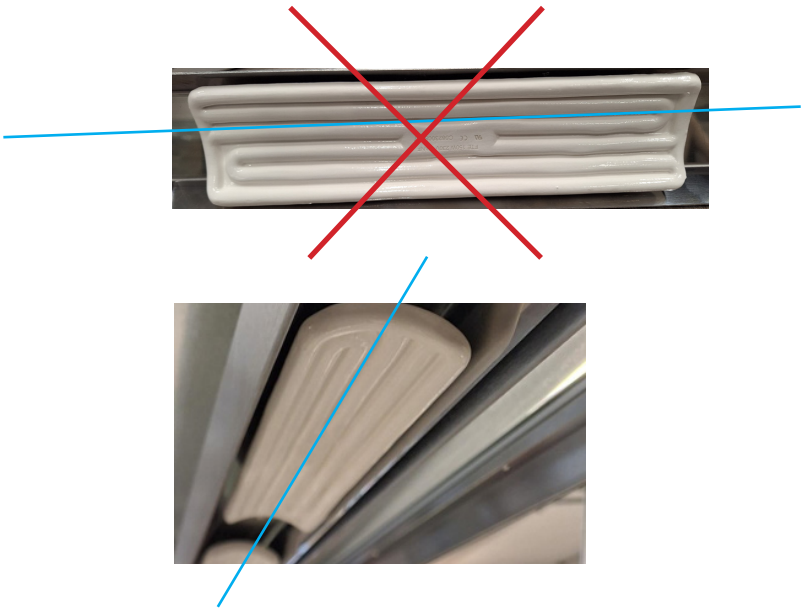
3. Now the connections in the frame are reachable.

4. Disconnect the wiring from the porcelain connecting block

5. Slide clamp holding the ceramic element away, element will come loose.



6. Place new element from underneath,
make sure the element is hanging straight.



7. Slide retaining clamp over holding piece of the new element

8. Connect wiring to the porcelain connecting block.

9. Replace in reverse order, and check al functionalities.

8.10 Opening Electrical box

1. Depending on unit type, on under frame or drop in the electrical box is mounted as seen on photo below.

Drop-in

Under-frame

2. For Drop in;
Remove 4 x mounting screws.

2. For units on under-frame;
Remove 2 x mounting screw mounted from underneath.

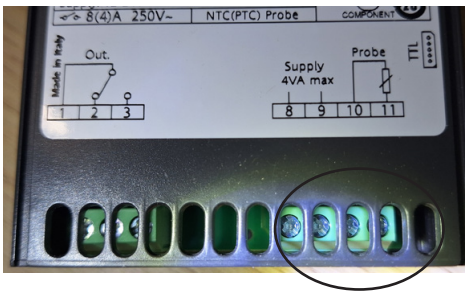
3. Now you can pull the box toward you the box will slide in its rails.

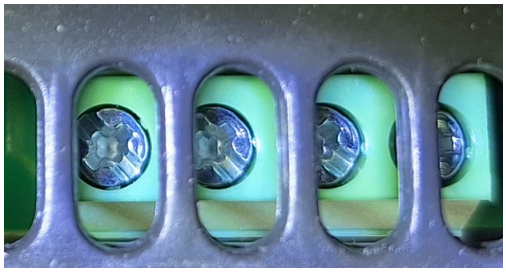
4. All electrical parts are reachable in this way.

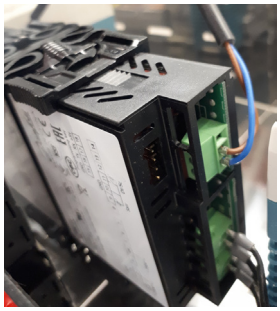
8.11 Controller Replacement

1. Open Electric box.(8.10)

2. Unscrew the brown and Blue wire
(Make note of connection points)







3. Unscrew the four black wires.
(Make note of number and connection position)

4. Using a flat screwdriver push out
the controller to the front of the box

5. Place new controller, by pushing it in.

6. Connect wires again, to the marked positions
(point 2 and 3)

7. Check all parameter settings according the
parameter list. (chapter 5.1)

9.0 Specifications

Specification	Unit	Model			
General		**90-4.3**	**120-4.3**	**150-4.3**	**180-4.3**
Length incl. end walls	mm	N.A	1200	1500	1800
Length excl.. end walls	mm	N.A	1150	1450	1750
Depth excl. worktop	mm	890			
Height on stand	mm	1420			
Height above worktop	mm	520			
Under frame height	mm	900			
Plinth Height	mm	100			
Drop-in cut out (W x D)	mm	N.A	1167 x 865 (+/-5)	1467 x 865 (+/-5)	1767 x 865 (+/-5)
Electronics panel cut out (W x D)	mm	153 x 244 (+/-5)			
Weight on under frame/drop-in (net)	kg	N.A	198/152	239/180	283/208
Weight on under frame/drop-in (gross)	kg	N.A	236/190	283/224	333/258
Packaging dimensions (W x D x H)	mm	N.A	1280 x 1060 x 1673	1680 x 1060 x 1673	1980 x 1060 x 1673
Nr. of presentation levels		1			
Production deck dimensions (W x D)	mm	N.A	1100 x 730	1400 x 730	1700 x 730
Product deck area	m2	N.A	0,80	1,02	1,24
Gastronorm Capacity	GN	N.A	3 x 4/3	4 x 4/3	5 x 4/3
Maximum Gastronorm pan depth	mm	100			

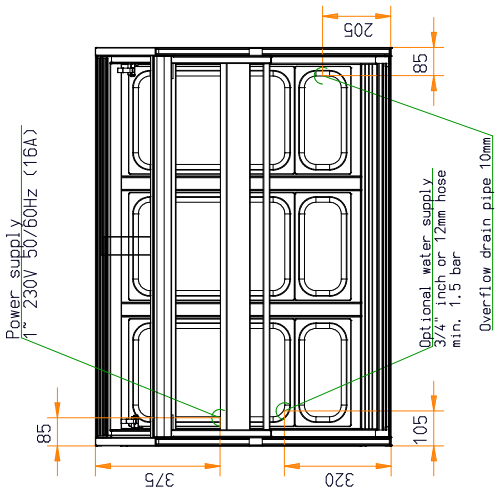
Specification	Unit	Model			
Performance		**90- 4.3**	**120- 4.3**	**150- 4.3**	**180- 4.3**
TEC/TDA at climate class 0	kWh/h	N.A	1,61	1,86	2,11
TEC/TDA at climate class 0	kWh/ day	N.A	38,64	44,64	50,64
Sound pressure	dB(A)	< 55			
Minimum ambient temperature	°C	20			
Maximum ambient temperature	°C	30			
Maximum relative air humidity	%	60			

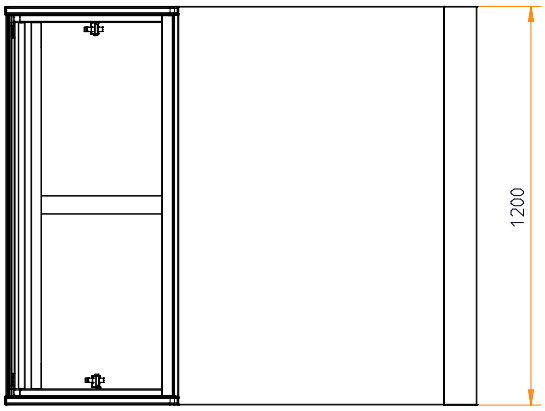
9.0 Specifications

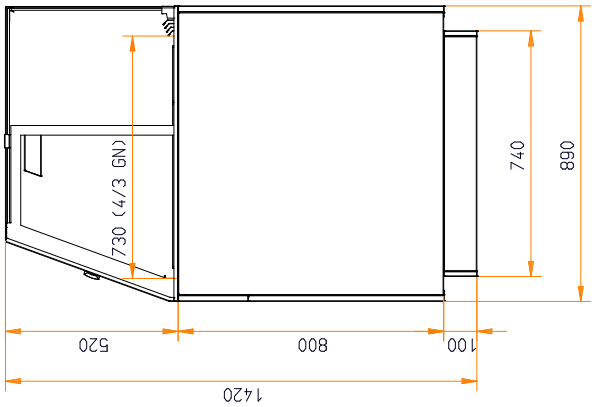
Specification	Unit	Model			
Electrical		90- 4.3	120- 4.3	150- 4.3	180 4.3
Electrical connection		Two-pole Earthed plug 16A*		CEE-form 16A*	
Nominal voltage	V	1N~ 230		3N~ 400/230	
Nominal frequency	Hz	50/60			
Maximum power	W	N.A	3156	3983	4810
Nominal current	A	N.A	13,8	14,2	8,5**
Required fuses		1 x 16A		3 x 16A	
Heating fan power	W	N.A	48	60	72
Nr.of heating fans (total)		N.A	4	5	6
Heating element power	W	N.A	2400 (-0/+10)	3000 (-0/+10)	2 x 1800 (-0/+10)
Ceramic heaters power	W	N.A	3 x 150	4 x 150	5 x 150
LED lighting power	W	N.A	18	23	28

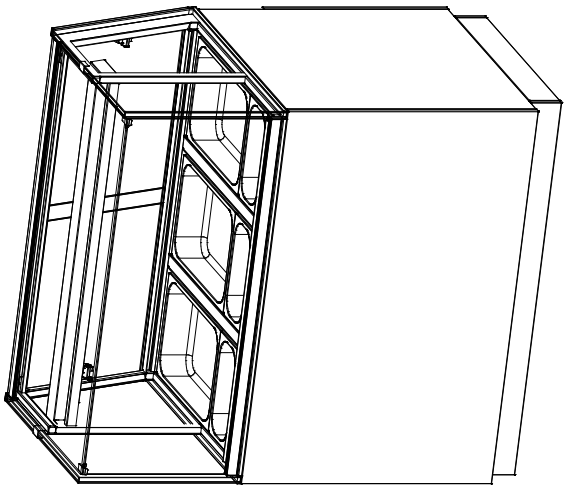
* Standard plug
** per phase

9.1 DC-120-4.3GN H FS +UF

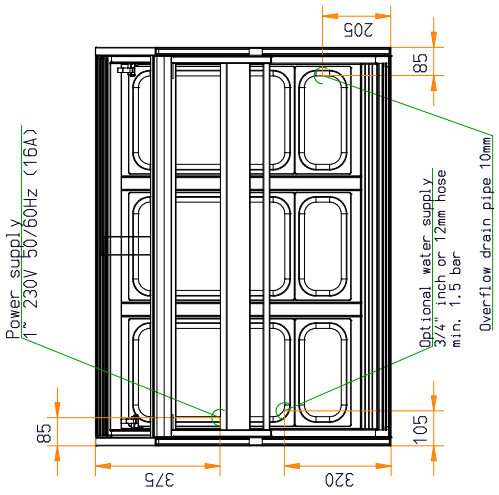


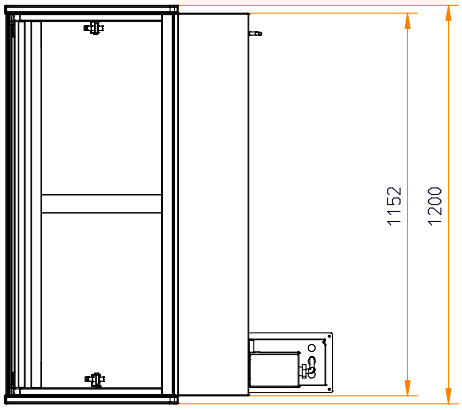


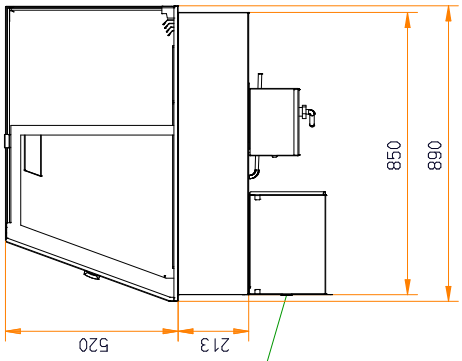




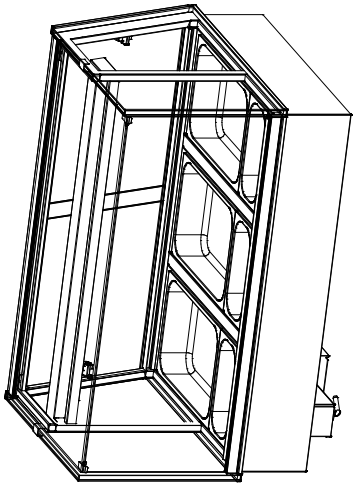
9.2 DC-120-4.3GN H FS





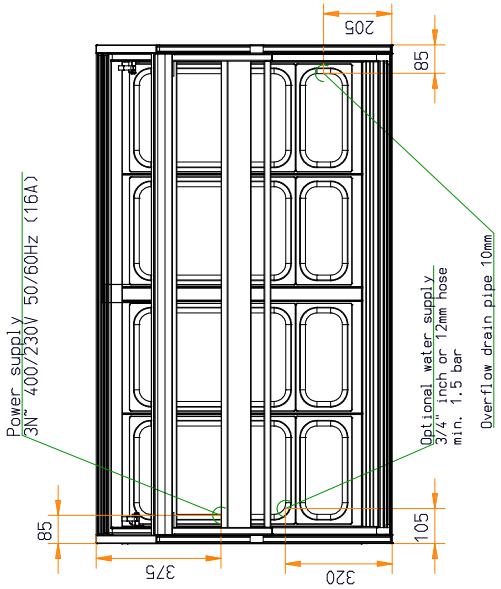


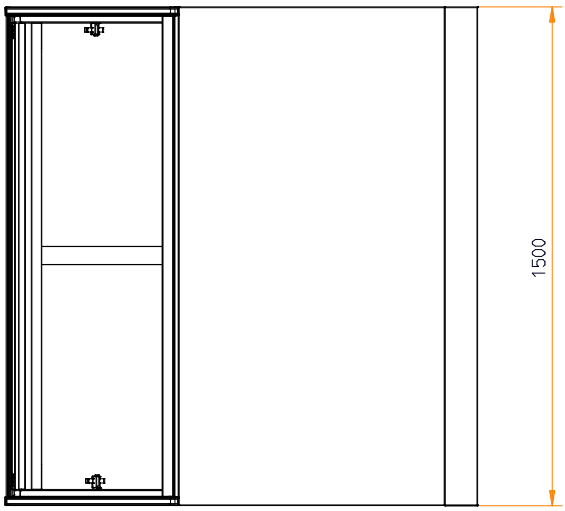
Control box can be mounted remotely
up to 1 meter from indicated position

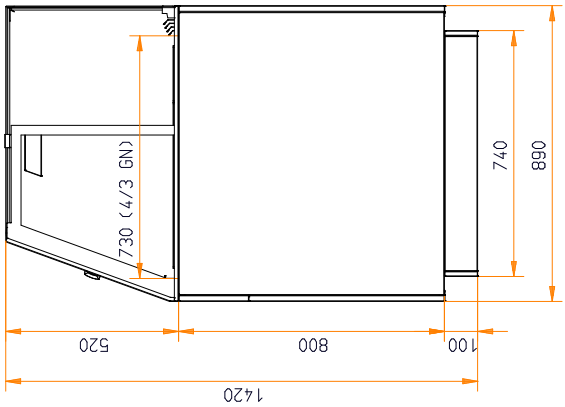


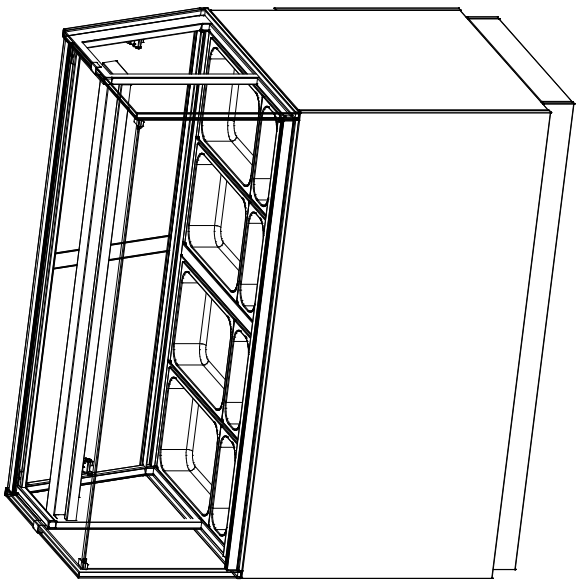
Drop-in cut out (L x D): 1167 x 865 (+/- 5)
Electronics panel cut out (L x H): 153 x 244 (+/- 5)

9.3 DC-150-4.3GN H FS +UF

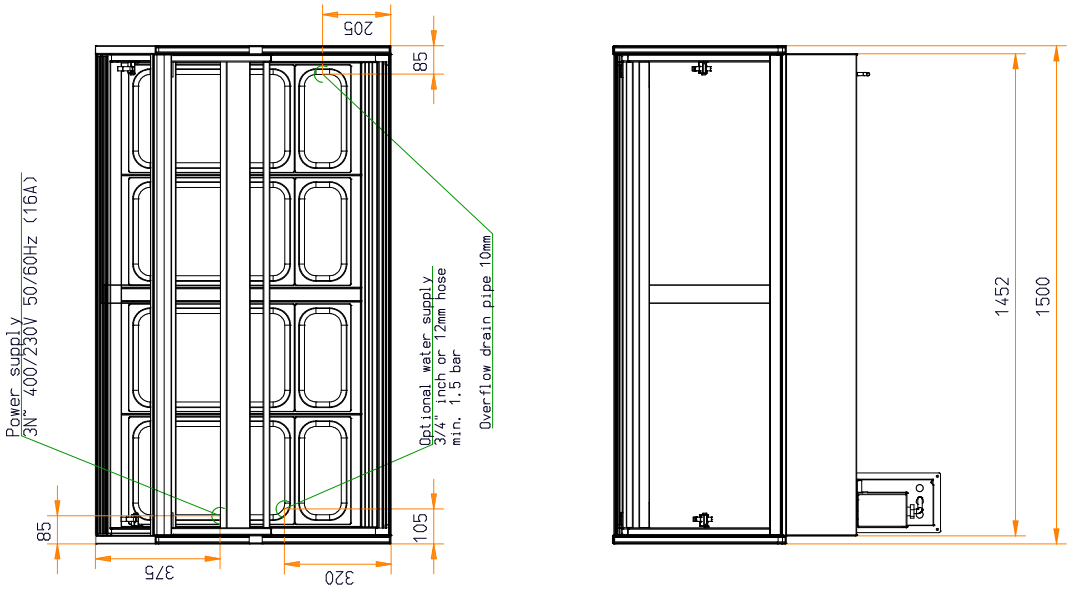


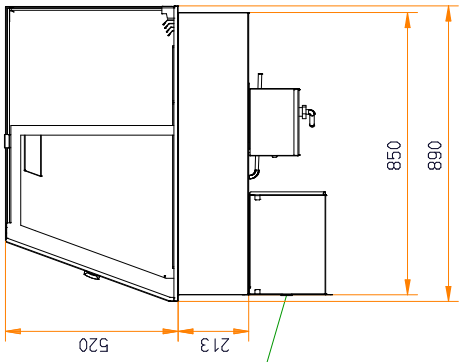


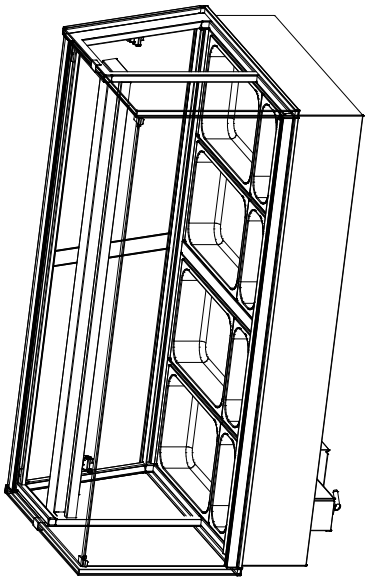




9.4 DC-150-4.3GN H FS



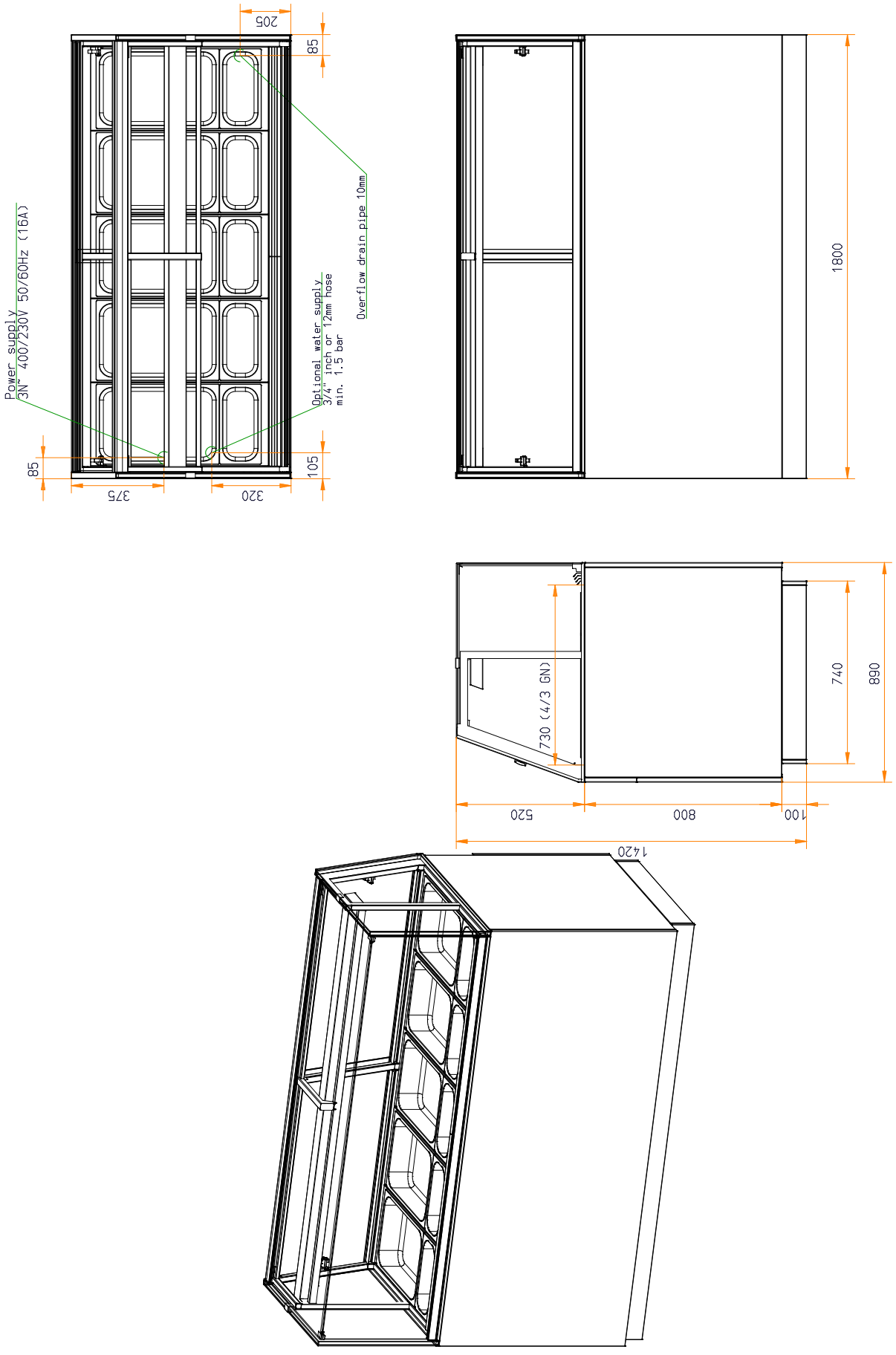




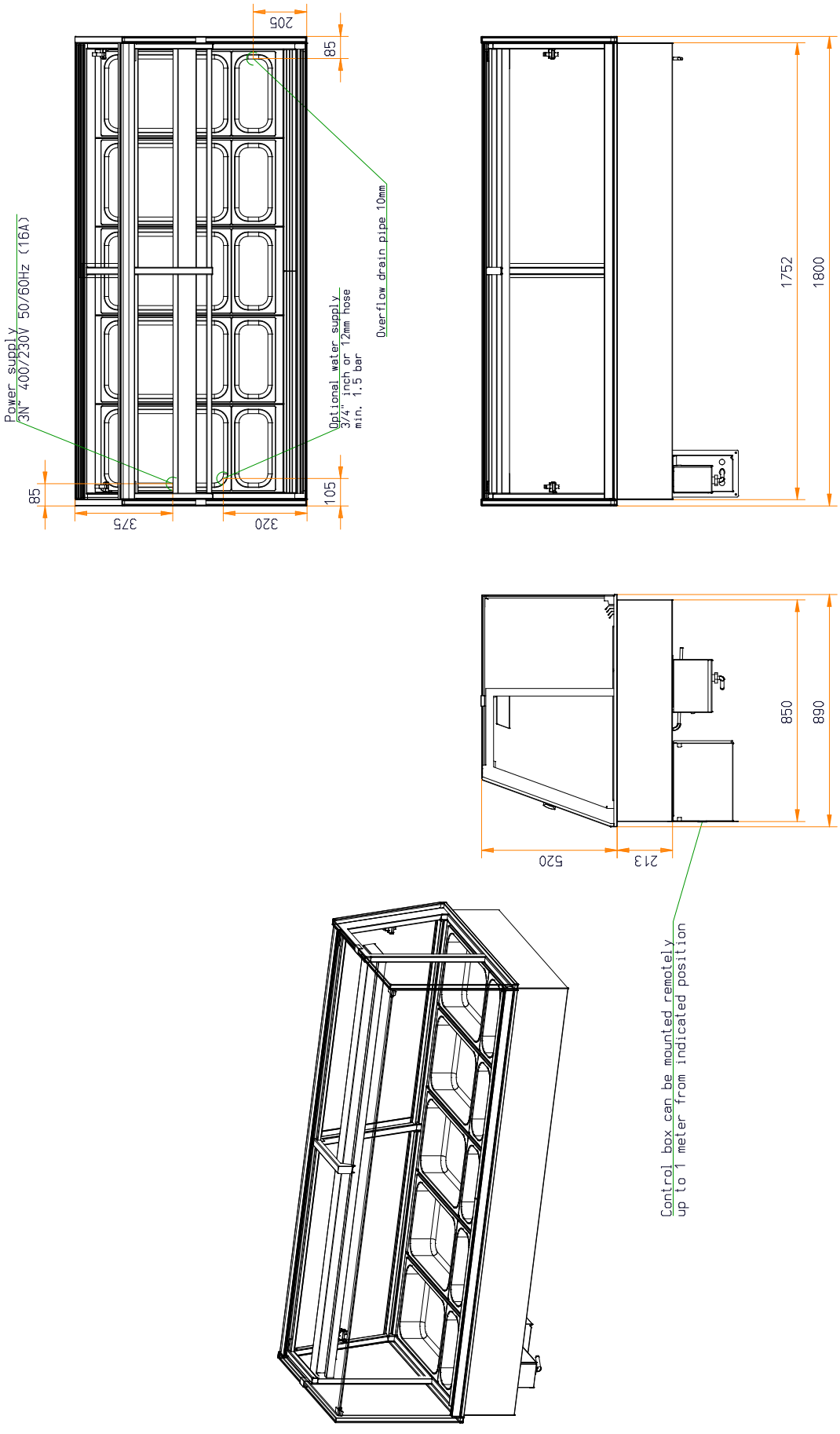
Control box can be mounted remotely
up to 1 meter from indicated position

Drop-in cut out (L x D): 1467 x 865 (+/- 5)
Electronics panel cut out (L x H): 153 x 244 (+/- 5)

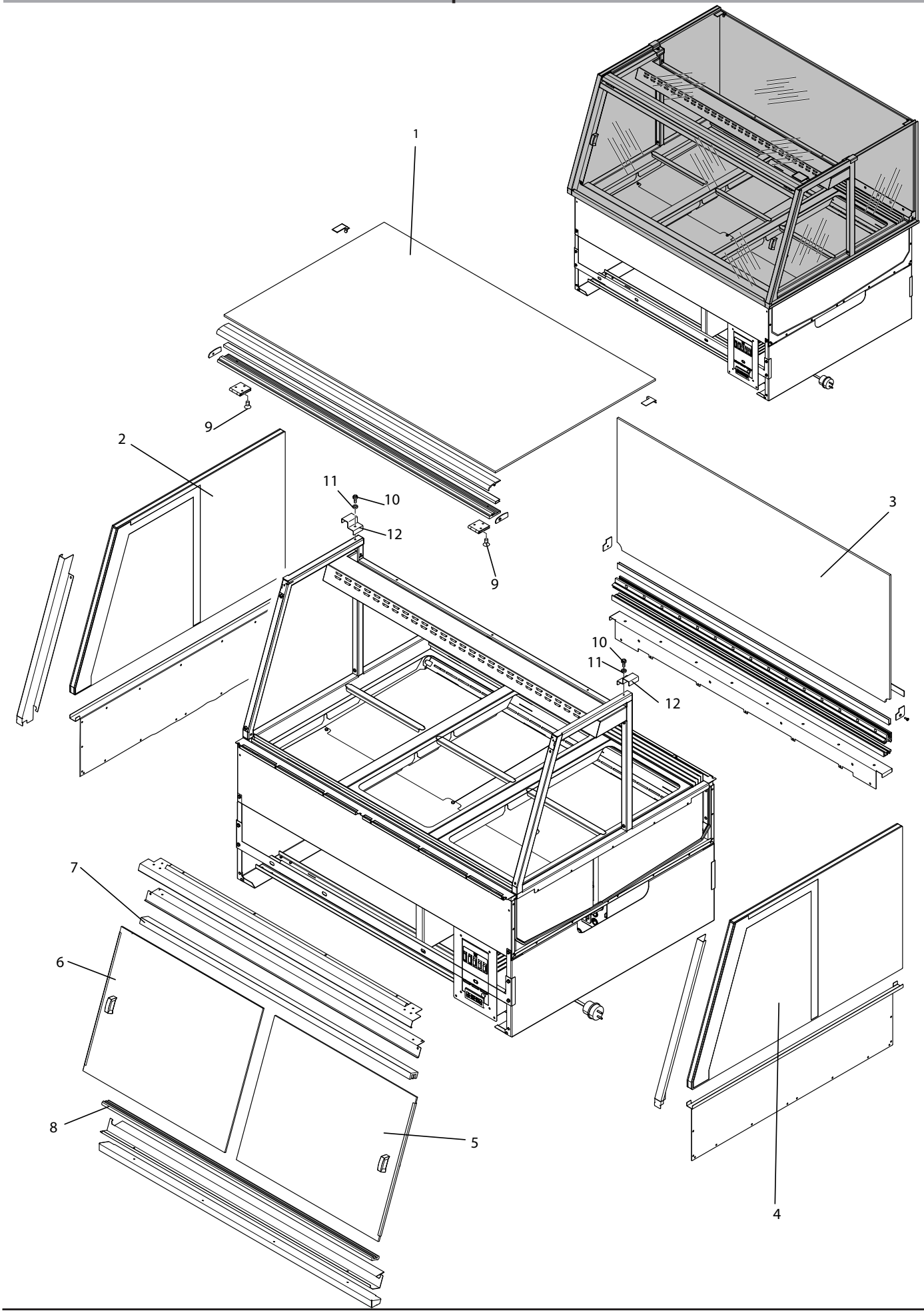
9.5 DC-180-4.3GN H FS +UF



9.6 DC-180-4.3GN H FS



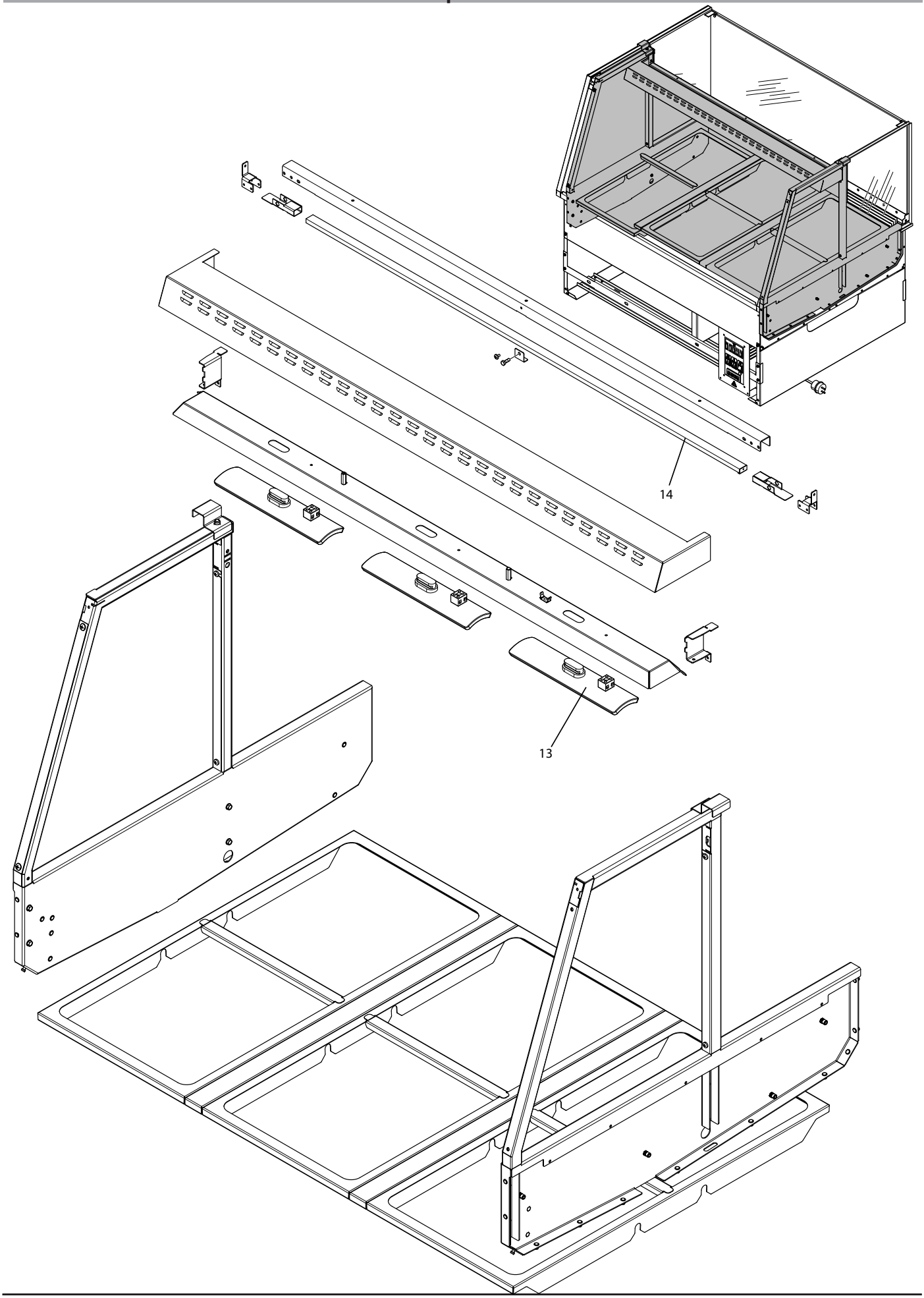
10.0 Exploded view



10.0 Exploded view

Number	Description	Article number	Quantity
1	Top glass DC-120-4/3 GN Top glass DC-150-4/3 GN Top glass DC-180-4/3 GN	9382166s 9382167s 9362006s	1 1 1
2	Side glass DC-120-4/3 GN Right Side glass DC-150-4/3 GN Side glass DC-180-4/3 GN	9362003s 9362003s 9362003s	1 1 1
3	Front glass DC-120-4/3 GN Front glass DC-150-4/3 GN Front glass DC-180-4/3 GN	9382753s 9382754s 9362005s	1 1 1
4	Side glass DC-120-4/3 GN Left Side glass DC-150-4/3 GN Side glass DC-180-4/3 GN	9362000s 9362000s 9362000s	1 1 1
5	Sliding glass door DC-120-4/3 GN Right Sliding glass doorDC-150-4/3 GN Sliding glass door DC-180-4/3 GN	9360058s 9360059s 9360060s	1 1 1
6	Sliding glass door DC-120-4/3 GN Left Sliding glass doorDC-150-4/3 GN Sliding glass door DC-180-4/3 GN	9360058s 9360059s 9360060s	1 1 1
7	Sliding door profile top DC-120-4/3 GN Sliding door profile top DC-150-4/3 GN Sliding door profile top DC-180-4/3 GN	9362015 9362014 9362016	1 1 1
8	Sliding door profile bottom DC-120-4/3 GN Sliding door profile bottom DC-150-4/3 GN Sliding door profile bottom DC-180-4/3 GN	9362026 9362025 9362024	1 1 1
9	Screw hinge top glass	0141335	6
10	Stud top glass	9381046	2
11	Washer	4289966	2
12	Bracket holder side glass	9364107	2

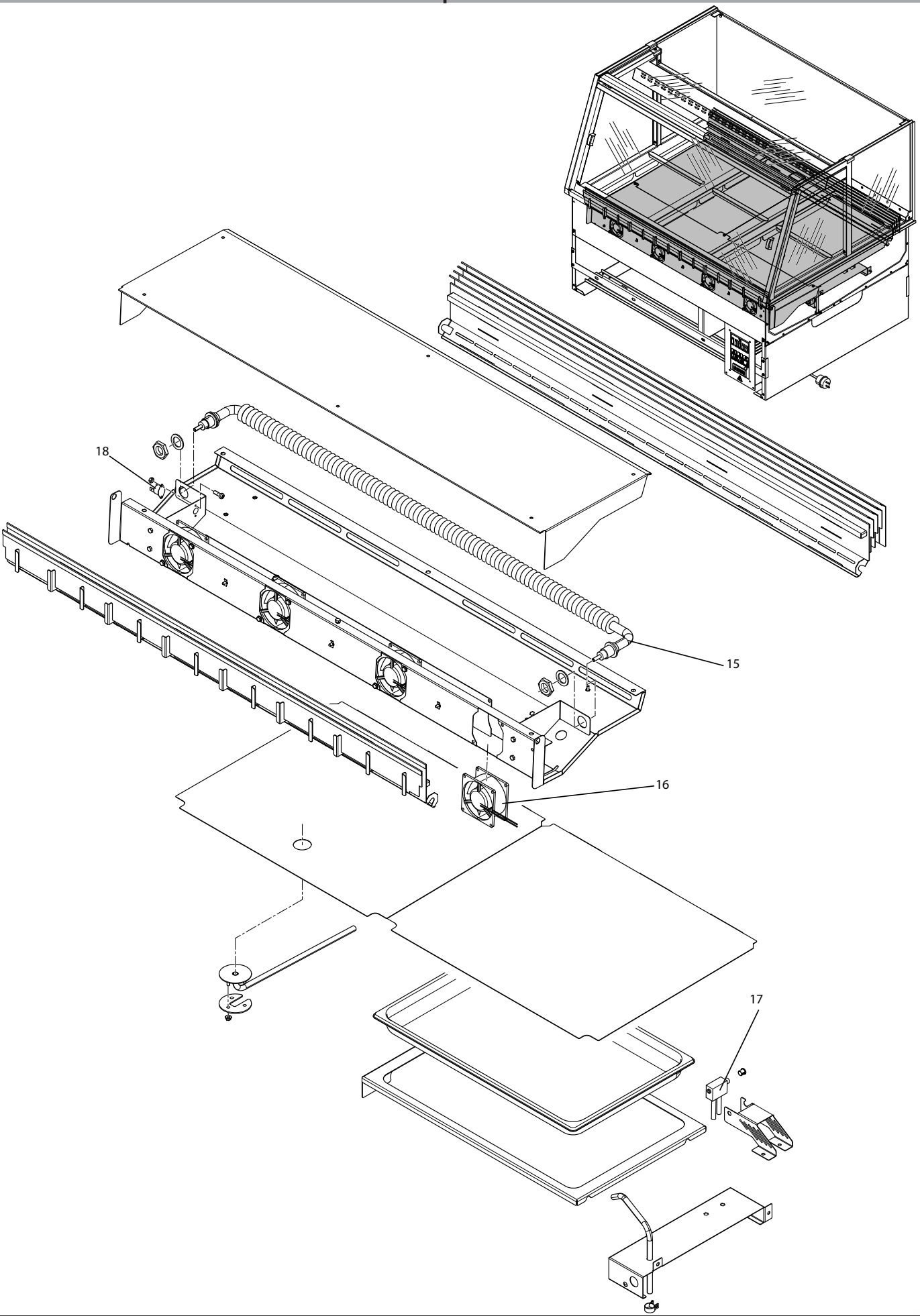
10.0 Exploded view



10.0 Exploded view

Number	Description	Article number	Quantity
13	Ceramic heater	9181065	depending on width
14	Led light DC-120-4/3 GN LED right 3000K 12V 1000mm Led light DC-150-4/3 GN LED right 3000K 12V 1300mm Led light DC-180-4/3 GN LED right 3000K 12V 1600mm	9382068s 9382105s 9362028s	1 1 1

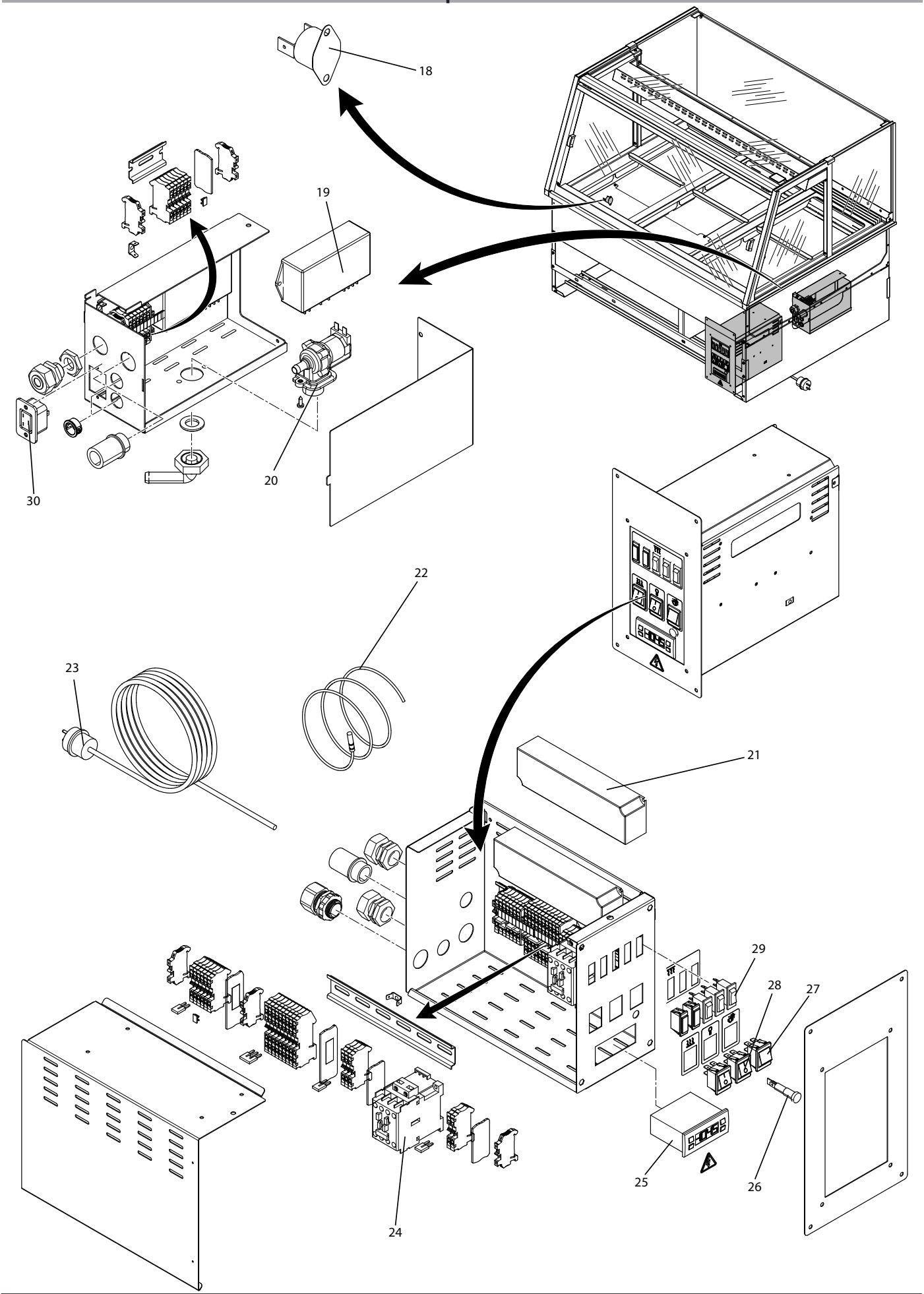
10.0 Exploded view



10.0 Exploded view

Number	Description	Article number	Quantity
15	Heating element DC-120-4/3 GN Element fin 2400w 230V L=1030 Heating element DC-150-4/3 GN Element fin 3000 watt, 230V L=1330 Heating element DC-180-4/3 GN Element Fin 1800Watt, 230 V L=730	9362019 9362020 9362018	1 1 2
16	Fan Compact fan 8556 N Service set including 30009947 waterproof connector	30010380s	depending on width
17	Water level sensor	9382215s	1
18	Clixon	9361003	1 2 in 180 width

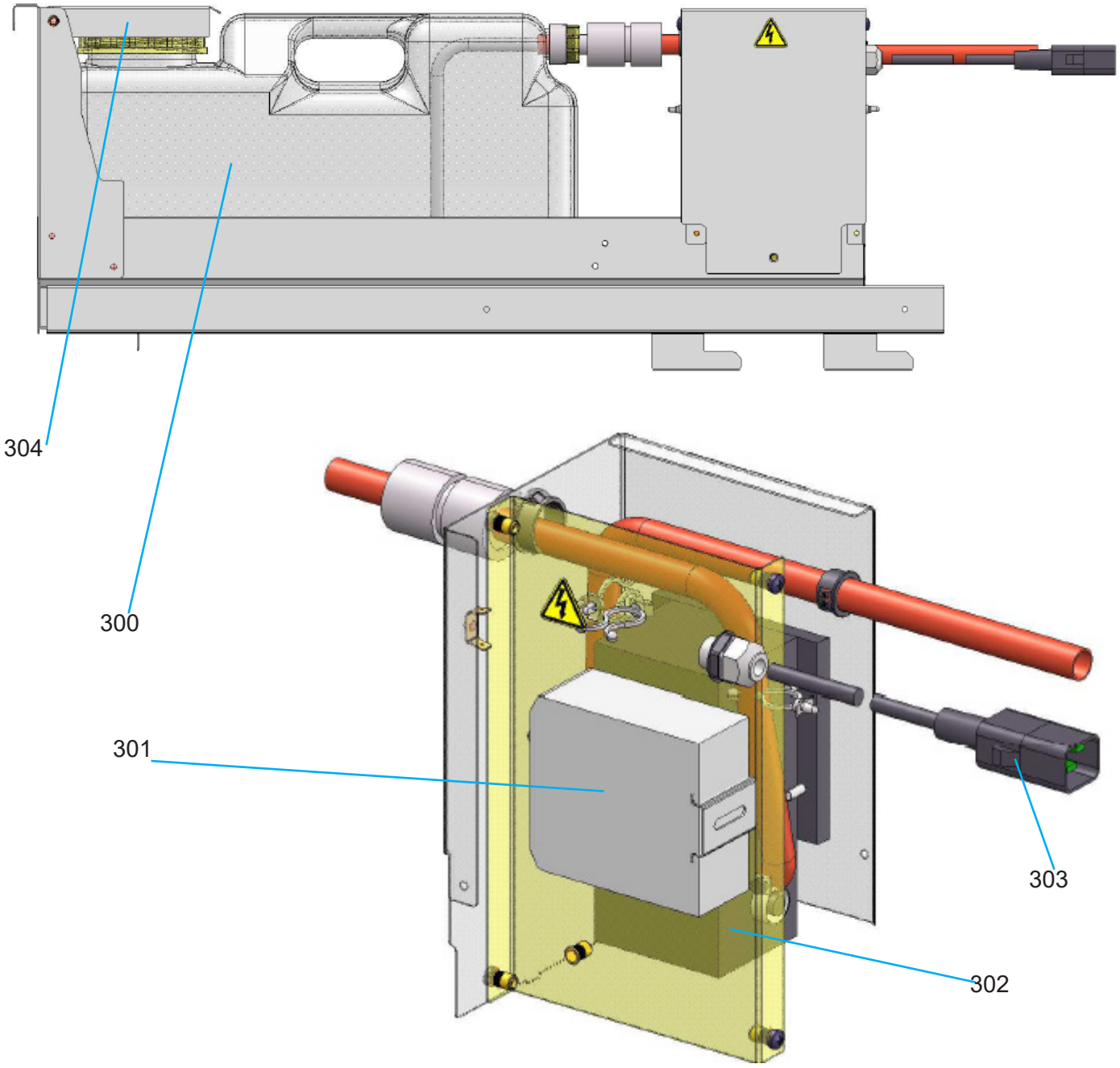
10.0 Exploded view

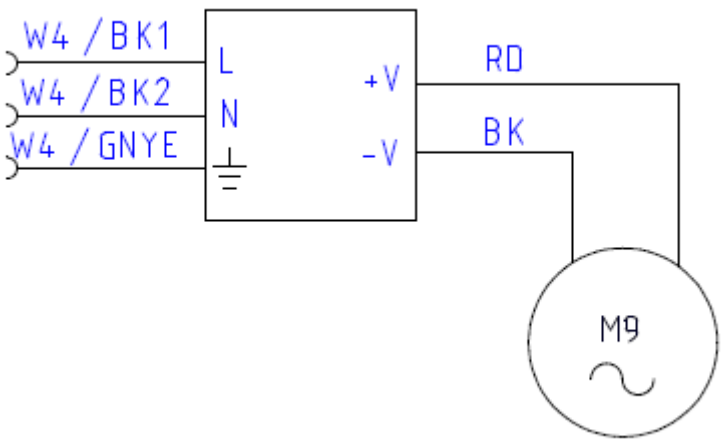


10.0 Exploded view

Number	Description	Article number	Quantity
18	Clixon	9361003	1 2 in 180 width
19	Water control box	9181047s	1
20	Water valve	9261040s	1
21	Led Driver	9381038s	1
22	PT sensor	9221011	1
23	Power supply cable (POWER CORD CE 2,5QMM 3M CEE7_LEADS	9091383	Depending on country
24	Contactor	3500069	1
25	Controller	9281071	1
26	signal light red	9291001	1
27	reset switch humidification alarm	9381042	1
28	Switch tumble	9181008	Depending on width
29	Switch ceramic heater	6791003	1
30	Power socket	9311078	1

10.1 Exploded view Manual Fill





10.1 Exploded view Manual Fill

Number	Description	Article number	Quantity
300	Jerrycan	9361000	1
301	Power supply 24VDC 40W	9381012	1
302	Membrane pump 24V	9361011	1
303	Cable and connector male	7800435 + 9311079	1
304	Splash cover	9364228	1

11.0 Recommended spare parts list (DC120)

Number	DC 120 series Description	Article number	Priority	Quantity
	LED 3000K 12V 1000mm	9382068s	2	3
	Side glass right 4.3	9362003	1	1
	Side glass Left 4.3	9362000	1	1
	Reset switch black	9381042	3	1
	Switch black	9181008	3	1
	Eliwell IC Plus902	9281071	2	1
	PTC sensor	9221011	2	1
	Contactor	3500069	2	1
	Switch rocker	6791003	3	1
	LED driver	9381038s	1	1
	Signal light	9291001	3	1
	Top glass Square 120	9382166s	1	1
	Front glass square 120	9382753s	1	1
	Water level sensor PTFE	9382215s	3	1
	PCB Water Level control	9181047s	3	1
	Valve single inlet 2,5l/min	9261040s	2	1
	Element Fin 2400w 230V l=1030	9362019	2	1
	Clixon Bimetal thermostat 16A 250VA	9361003	1	1
	Compact fan 8556N including 30009947 waterproof connector	30009947	1	3
	Heating Element 150W 230V ceramic	9181065	2	1
	Sliding door incl. handle 120	9360058s	1	2

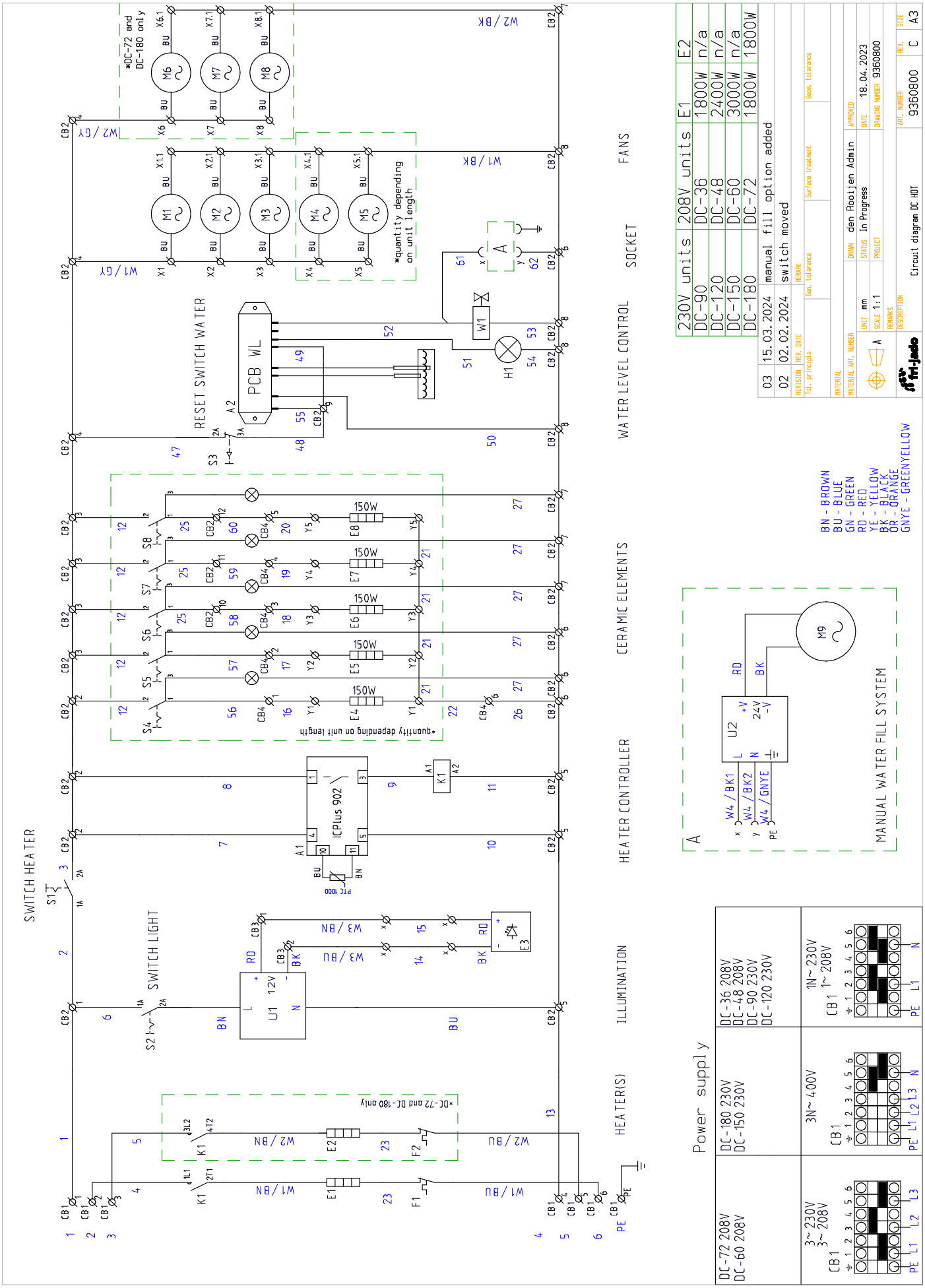
11.1 Recommended spare parts list (DC150)

Number	DC 150 series Description	Article number	Priority	Quantity
	LED 3000K 12V 1300mm	9382105s	2	3
	Side glass right 4.3	9362003	1	1
	Side glass Left 4.3	9362000	1	1
	Reset switch black	9381042	3	1
	Switch black	9181008	3	1
	Eliwell IC Plus902	9281071	2	1
	PTC sensor	9221011	2	1
	Contactor	3500069	2	1
	Switch rocker	6791003	3	1
	LED driver	9381038s	1	1
	Signal light	9291001	3	1
	Top glass Square 150	9382167s	1	1
	Front glass square 150	9382754s	1	1
	Water level sensor PTFE	9382215s	3	1
	PCB Water Level control	9181047s	3	1
	Valve single inlet 2,5l/min	9261040s	2	1
	Element Fin 3000w 230V l=1330	9362020	2	1
	Clixon Bimetal thermostat 16A 250VA	9361003	1	1
	Compact fan 8556N including 30009947 waterproof connector	30009947	1	3
	Heating Element 150W 230V ceramic	9181065	2	1
	Sliding door incl. handle 150	9360059s	1	2

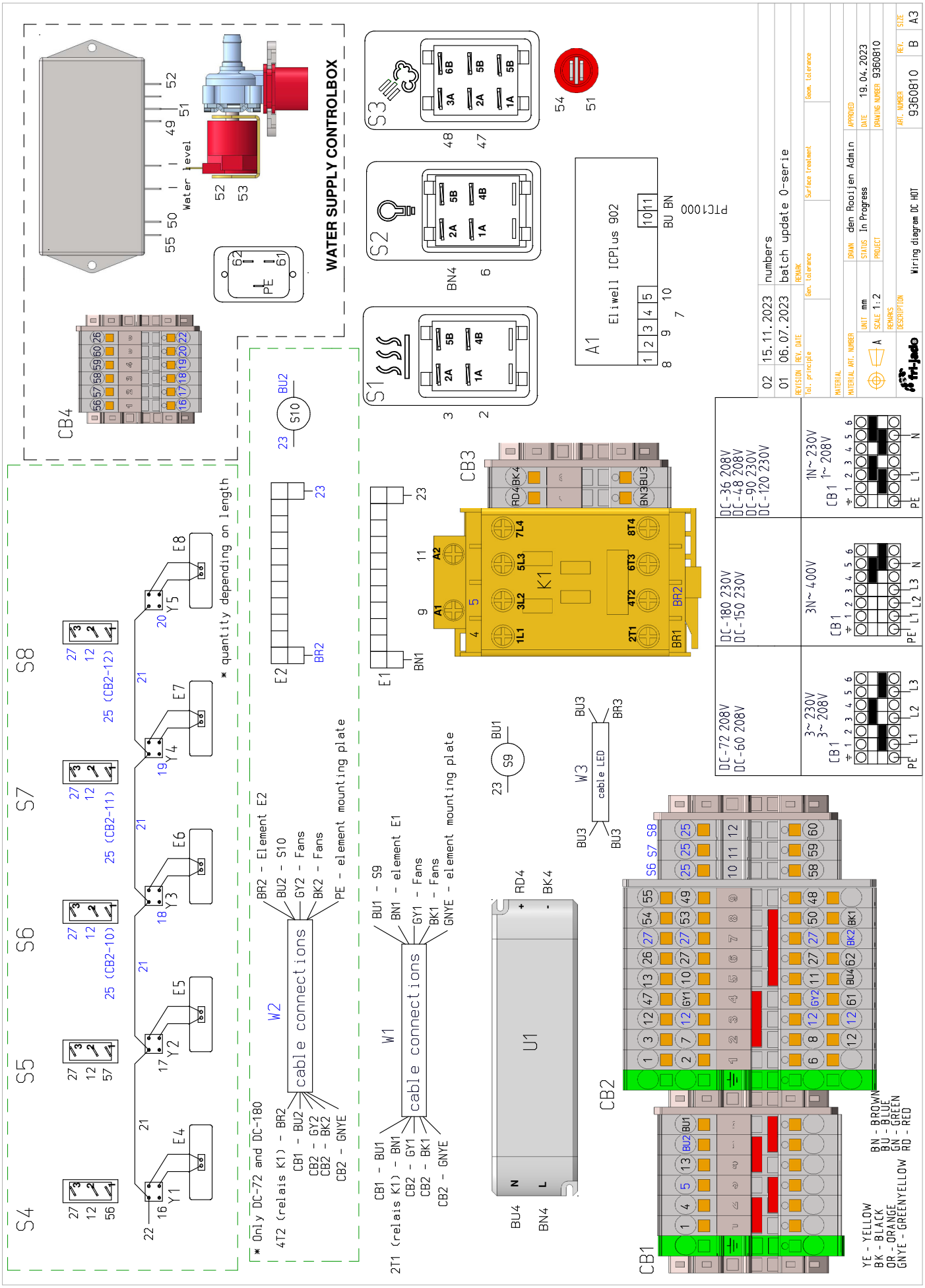
11.2 Recommended spare parts list (DC180)

Number	DC 120 series Description	Article number	Priority	Quantity
	LED 3000K 12V 1600mm	9362028s	2	3
	Side glass right 4.3	9362003	1	1
	Side glass Left 4.3	9362000	1	1
	Reset switch black	9381042	3	1
	Switch black	9181008	3	1
	Eliwell IC Plus902	9281071	2	1
	PTC sensor	9221011	2	1
	Contactor	3500069	2	1
	Switch rocker	6791003	3	1
	LED driver	9381038s	1	1
	Signal light	9291001	3	1
	Top glass Square 180	9362006s	1	1
	Front glass square 180	9362005s	1	1
	Water level sensor PTFE	9382215s	3	1
	PCB Water Level control	9181047s	3	1
	Valve single inlet 2,5l/min	9261040s	2	1
	Element Fin 1800w 230V l=730	9362018	2	2
	Clixon Bimetal thermostat 16A 250VA	9361003	1	2
	Compact fan 8556N including 30009947 waterproof connector	30009947	1	3
	Heating Element 150W 230V ceramic	9181065	2	1
	Sliding door incl. handle 180	9360060s	1	2

12.0 Electrical Circuit diagram



12.1 Electrical wiring diagram



Fri-Jado B.V.
Blauwhekken 2
4751 XD Oud Gastel
The Netherlands
Tel: +31 (0) 76 50 85 400

Fri-Jado Inc.
1401 Davey Road, Suite 100
Woodridge IL 60517
USA
Tel: +1-630-633-7950

https://www.frijado.com