EURO MADEIRA

(Euro Madeira, Eco Madeira)

USE AND MAINTENANCE MANUAL

Read carefully and preserve together with the counter

EN

Manual	VZST11851 D-G2713
Revision	00
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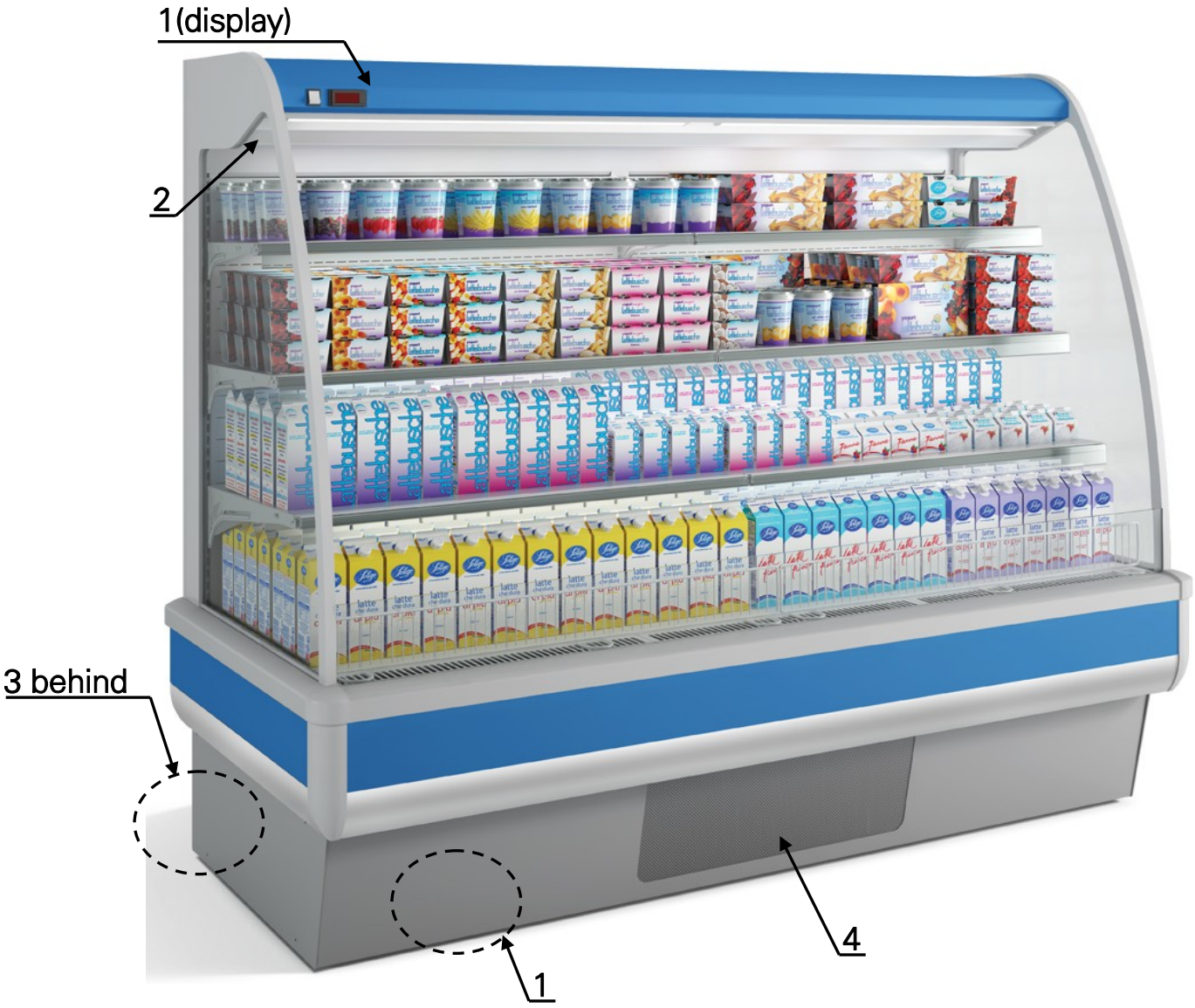
We recommend reading the contents of this manual and keeping it together with the counter. The manufacturer will not be held liable for property damage and/or personal harm due to failure to comply with the instructions contained in this manual. It is therefore recommended that whoever uses this counter carefully read the use and maintenance manual.

The refrigerated counters which the following use and maintenance instructions refer to comply with Standard ISO 23953-2 - Refrigerated display cabinets - and apply the HACCP Foodstuff and relative control system safety standards.

The products are manufactured in accordance with the following standards and their specific updates:
EN 60335-2-24 (1994) + A51('95) + A52('96) + A53('97), EN 60335-1 (1988) + A2('88) + A5('89) + A6 ('89) + A51('91) + A52('92) + A53('92) + A54('92) + A55('93) + A56('95), IEC 60335-2-24 (1997) + A1 ('98), IEC 60335-1 (1991) + A1('94)

EURO MADEIRA



GENERAL FEATURES

Madeira is a plug-in refrigerated counter for the display and sale of meat, cold cuts, dairy products, fruit and vegetables with ISO 23953-2 class 3 climate operating conditions.
The maximum depth of the counter when using 450mm shelves is equal to 850mm and is available in 937, 1250, 1875 and 2500 mm lengths. In addition, it is available in Eco Madeira where a sliding door is provided that allows good energy savings.
All wall counters in the Madeira range are, furthermore, available in plug-in and remote versions. The plug-in wall counter is equipped with a compressor and begins operation as soon as the plug is connected to the mains supply, while the counter in the remote version requires connection to the central refrigerant.

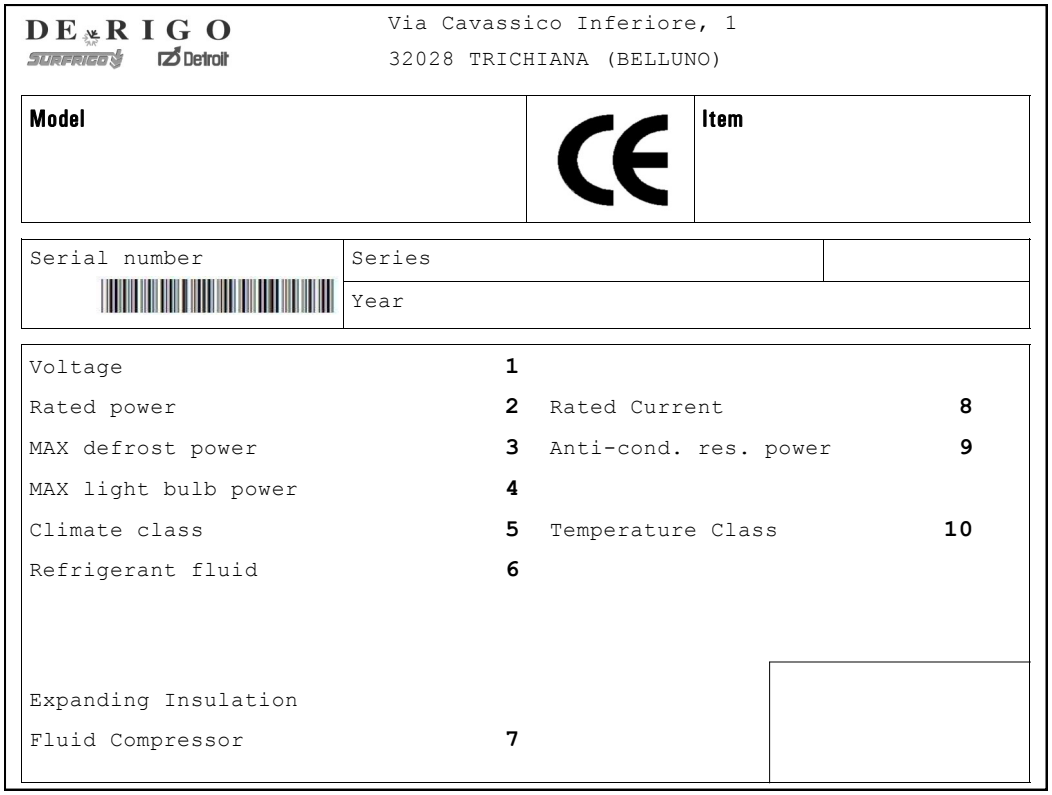
Position of main components

1. Electric panel
2. Serial number plate
3. Equipotential point
4. Access to the condenser for cleaning

General Description

In the PLUG IN version, the wall counter is equipped with a microprocessor controller that carries out all operations necessary for the proper operation of the wall counter itself. It has 2 relay exits to control the electric compressor and defrost. It is equipped with two entries for the NTC probes, one inside the wall counter under the roof, to view the remote display, the other is positioned on the evaporator for thermostat control and temperature control at defrosting end (refer to pag. 9).

Serial number plate



1. Voltage
2. Rated power
3. Maximum defrost power
4. Maximum light bulb power (if present)
5. Climate class (see table)
6. Refrigerant fluid/Refrig. fluid mass (Plug-in)
7. Compressor model (if present)
8. Standard absorbed current
9. Anti-condensation resistances power (if present)
10. Temperature Class (ISO 23953-2)

Environmental climate classes (ISO 23953-2)

Climate class	Dry bulb temp.	Relative humidity	Dew point
1	16 C	80%	12 C
2	22 C	65%	15 C
3*	**25 C**	**60%**	**17 C**
4	30 C	55%	20 C
5	40 C	40%	24 C
6	27 C	70%	21 C

* With reference to environmental climate classes, it must be specified that when climate class 3 is indicated, it means that climate class 3 or lower can be valid.

IMPORTANT INSULATION CONDITIONS

Climate

The climate conditions of the environment where the counter is installed must be within the temperature range established by the counter class. To be within these parameters, it could be necessary to install an air-conditioning system. The system should include an air humidity controller as excessive humidity harms proper operation of the counter.
Dehumidifying the air with an air conditioner instead of with evaporators could be more economical as the counters operate at lower temperatures and therefore absorb more electric energy at the same cooling capacity efficiency.
Grouping several counters together in the same area could be advantageous operating-wise but could be inconvenient for customers.

Air draughts

The counters must be positioned in such a way to limit or avoid air draughts which keep them from operating properly. The counters must not be installed near doors or in areas exposed to strong air currents coming from ventilation or air conditioning vents, for example.
The design of the ventilation systems must take into account that there must be low air speed near the counters, which in any case must never exceed 0.2 m/s.
Special attention must be paid to heating vents.

Thermal radiation and lighting

To limit the negative effects of radiant heat, make sure that the counters are not exposed to sunlight, diffusers or air ducts, to uninsulated roofs or walls heated by sun or other heat sources. The penetration of radiant heat inside the counter increases operating costs and downgrades performance. Do not point spotlights or other concentrated lighting devices towards the inside of the counters. External fluorescent lighting is preferable to incandescent lighting and should be used.
Should incandescent lights be used, make sure that the lighting devices are appropriately ventilated by large ventilation slots.
Surfaces at room temperature radiate enough heat to harm proper operation of the counter. This effect can be limited by installing heat-reflecting ceilings or placing the counters one in front of the other.

Condensation

It is normal for absolute humidity to condensate on a cold surface if the air dew point is higher than the temperature of the surface. Regardless of how a counter is insulated, condensation will be formed if there is no ventilation around it. We therefore recommend leaving at least 60mm between the counter and wall or any other object which can obstruct proper air circulation around the counter.

Transport and handling

The counter is shipped packed in a plastic sheet and fastened on two wooden boards which act as a delivery support to facilitate handling. Keep the counter fully packed until it reaches the installation site to prevent it from being damaged during transport. When the counter has been unpacked, do not dispose of the packaging in common waste disposal centres, but contact specific waste collection facilities for the recovery of materials and substances harmful for the environment.
The counter must be moved using a forklift truck, paying attention to the electrical devices and drains underneath the counter.

Cleaning

The frequency at which display cabinets for vegetables, meat and other unpacked products must be cleaned varies depending on the displayed product. Counters for preserving products such as meat, dairy products and cold cuts must have the display surface cleaned at least once a week to prevent the development and accumulation of bacteria.
The bottom of the tank must be washed frequently in cabinets subject to leakage of liquids or other food products.

The frequency of cleaning however depends on how the counter is used and on hygienic requirements or other particular reasons. Blockage of the water drain can cause a failure which could possibly damage other parts of the counter. Therefore qualified technical personnel should clean the drains periodically.

We recommend:
⇒Wait for the counter temperature to come close to room temperature, empty the counter and clean it without using abrasive products or solvents;
⇒Daily cleaning with water and non-aggressive detergents of the outside zones surrounding the display area and the top parts of the shelves in contact with the product, paying special attention if meat counters. Do not touch electric parts with a wet cloth;
⇒Weekly, full cleaning of bottom shelves with water and non-aggressive detergents, lifting them with the supplied hook and wearing the protective gloves foreseen by standards in force;
⇒Full cleaning every three months of all parts of the counter, wearing the protective gloves foreseen by standards in force.
⇒Do not clean the appliance with water jets.

Cleaning the condenser

If present, the counter condensers gather dust and filth and must be cleaned regularly. In standard use conditions, this operation must be done at least once a month using a hard bristle brush and a vacuum cleaner. We recommend wearing gloves as the reduced thickness of the fins can cause cuts and abrasions. A dirty condenser reduces the counter's performance and increases energy consumption.

In detail:
⇒Periodically remove dust from the front grate. Clean the condenser with a brush every month;
⇒To access, slide the painted strip upwards Fig. 1b;
⇒Rotate the aluminium profile until it is released and remove it from the position Fig. 1c, 1d;
⇒Remove the screws and cover Fig. 1e;
⇒Clean the condenser Fig. 1g;
⇒Replace the condenser cover fastening it with the previously removed screw and reattach the painted strip and aluminium profile.


Fig. 1a

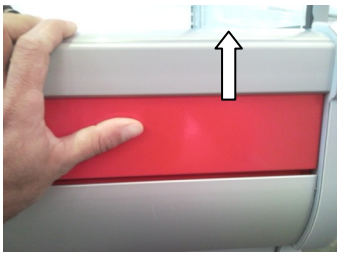


Fig. 1b


Fig. 1c


Fig. 1d


Fig. 1e

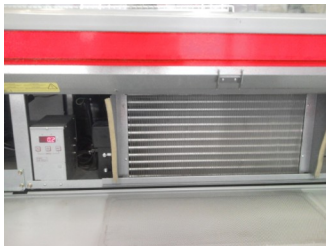


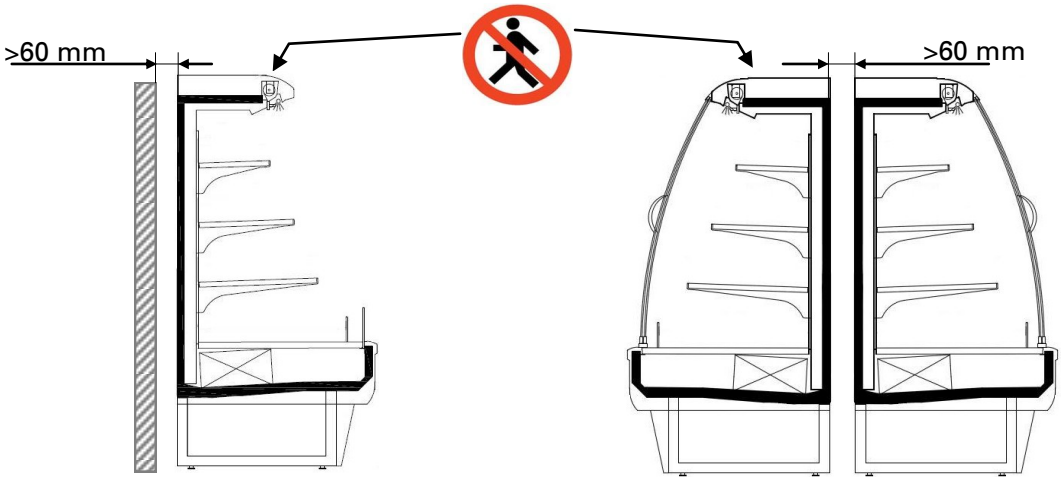
Fig. 1f


Fig. 1g

WARNINGS

Installation recommendations

- Qualified technical personnel must perform installation and maintenance of this appliance;
- Correct positioning of the counter;



- Check that the mains voltage corresponds to that provided on the identification plate.
- This equipment may not be used in the open air and cannot be exposed to rain.
- Connect the appliance to an efficient earthing system.
- Installation and the electrical connection must be performed in compliance with national and local standards in force.
- For the replacement of the cable and plug use only original factory spare parts.
- Connect the power cable to a plug that is easily accessible even after the counter is positioned.
- Isolate the power circuit upstream by means of an omnipolar circuit breaker switch with a minimum contact opening of 3 mm.

ATTENTION: The arrangement and amount of products must not exceed the load limit. We also recommend making sure that the full load is not excessive for the structure of the counter. The following are the approximate capacity values of the shelves. Respect these indications as much as possible.

Max capacity of bottom surface	Max capacity of hanging shelf
100 Kg x Surface 625	60 Kg x Shelf 300
	80 Kg x Shelf 400
	100 Kg x Shelf 500

N.B.: it is important that the full load of 350 Kg is not exceeded for a 1250 mm module.

General recommendations

To be read before using the counter.

- This manual forms an integral part of the product and must be stored with the equipment to facilitate rapid consultation.
- The adjuster must not be used with other functions other than those described below, specifically it can not be used as a safety device.
- Before proceeding check the application limits.

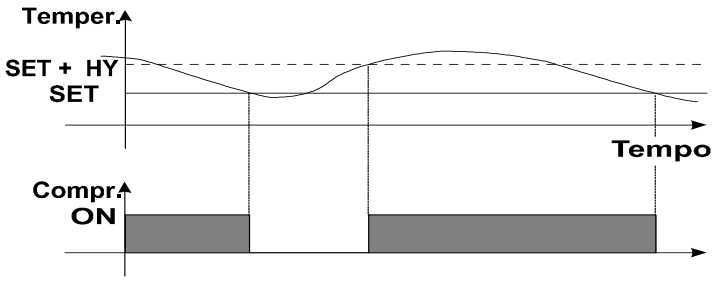
Safety precautions.

- Before connecting the counter ensure that the supply voltage is as required.
- Do not expose the unit to water or humidity: use the counter only within the limits of operation provided for.
- Attention: before carrying out any kind of maintenance remove electric connections from the counter.
- The electric panel must never be opened.
- If malfunction or failure occurs, contact qualified staff for analysis and repair.

Adjustment

Compressor

The compressor's relay is enabled to maintain a defined temperature fixed from the set point. The hysteresis Hy is automatically added to the set point. If the temperature increases and reaches the set point plus hysteresis the compressor is started and then turned off when the temperature reaches the set point value. (refer to figure)
In case of probe fault, compressor on and off are governed by time through the parameters Con and COF.



Defrosting

There are two defrost modes via the parameter tdF:

- tdF = EL: defrosting with *the electrical resistance* (the compressor is switched off);
- tdF = in *hot gas* defrost (the compressor remains on).

Through the IdF parameter the interval between defrosting cycles with MdF its maximum duration, with Con P2P the second probe is enabled (defrosting end and temperature) or it disables it (end of timed defrost).
Once defrosting ends dripping time starts, manageable through the Fdt parameter.

Synchronised defrosting

If the digital entry is set with i1F = dEF defrosting would be synchronised. When any network tool requests defrosting it enables its relay and closes all the digital entrances connected. When it ends its defrosting it opens the relay, leaving the line free and remains paused until the digital entrance is opened. It is opened only when the last network device has finished defrosting.

PRECAUTIONS FOR USE AND MINOR MAINTENANCE

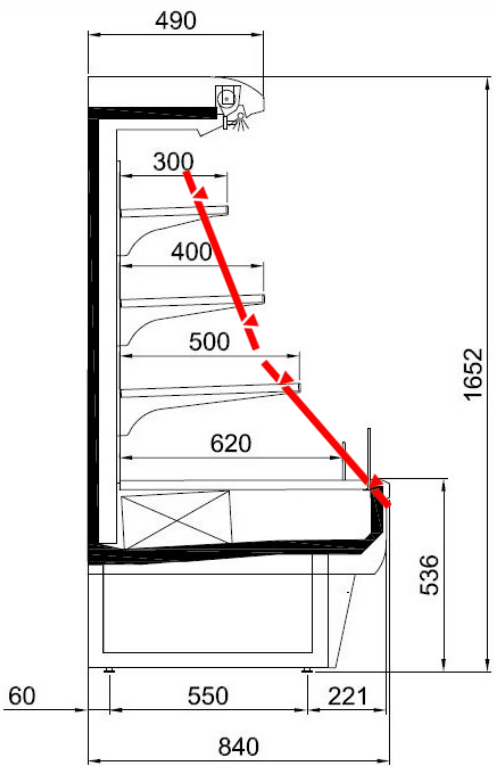
Before starting any cleaning, maintenance or parts replacement, even if not electrical, make sure that electric power is disconnected and/or open the omnipolar power isolator.
Any technical assistance and extraordinary maintenance must only be carried out by qualified technical personnel.

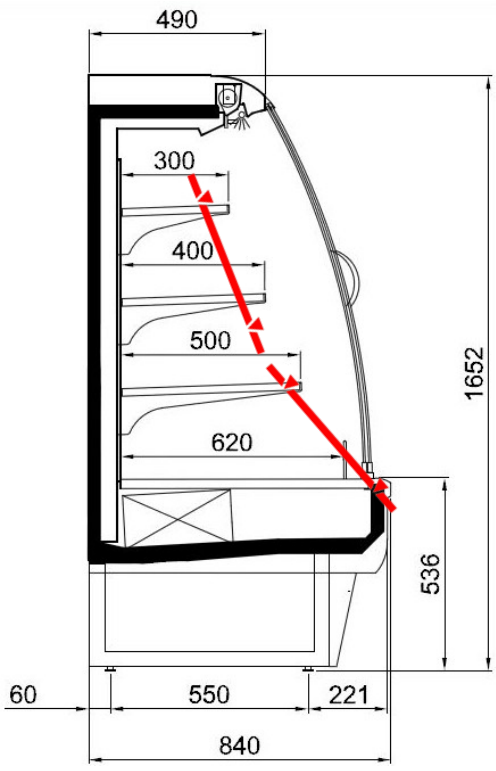
ATTENTION: when the appliance is no longer working or usable, do not dispose of it in common waste disposal centres, but contact specific waste collection facilities for the recovery of materials and substances harmful for the environment.

Loading products for display

Height of Load

Food products preserved within the load limit are appropriately refrigerated. Those preserved beyond the load limit cannot be appropriately refrigerated and impair the circulation of air, thus jeopardising operation of the counter and deterioration of all the food products. Also remember that products must not cover the air inlet for the counter to operate properly.
A refrigerated display counter is not intended to chill perishable food products but rather to keep them at the temperature at which they were introduced. Food products warmer than that specified for the counter should not be placed in a refrigerated counter.
Do not leave refrigerated food products on pallets or similar structures inside the shop longer than that strictly necessary for transport and loading.
Do not overload the counter: this is the most common error which can cause secondary defects, such as the anomalous formation of frost thus blocking the evaporator and even causing the complete stoppage of the counter. The even distribution of the goods without leaving empty spots guarantees the best operation of the counter. It is good practice to rotate the stock when loading the counters with new products. The older products must be the ones closest to the customers so they are sold first.





N.B.: Counter operation is guaranteed in the climate conditions indicated on the serial number plate and according to standards ISO 23953-2 if loaded evenly and not beyond the conforming loading line on each counter.

Replacing light bulbs

Replacing roof light bulb

Before starting any operation entailing light bulb replacement, make sure power is disconnected and/ or open the power isolator. Also remember that any technical assistance and extraordinary maintenance must only be carried out by qualified technical personnel.

IMPORTANT: replace the light bulb with a part of the same type and power.

To replace the light bulb:

1. Disconnect power to the counter;
2. Release the light bulb, both on the right and left, slightly pressing downwards Fig. 2a;
3. Remove the light bulb from the protective tube, taking off the plastic end piece, making sure it does not come out suddenly Fig. 2b (except for LED lamps);
4. Reinsert the new light bulb in the protection;
5. Restore the new light bulb in its seat;
6. Power the counter, closing the power isolator.

Fig. 2a

Fig. 2b

Replacing shall lighting

Before starting any operation entailing light bulb replacement, make sure power is disconnected and/or open the power isolator. Also remember that any technical assistance and extraordinary maintenance must only be carried out by qualified technical personnel.

IMPORTANT: replace the light bulb with a part of the same type and power.

To replace the light bulb:

1. Disconnect power to the counter;
2. Release the light bulb, both on the right and left, slightly pressing downwards Fig. 3a;
3. Remove the light bulb from the protective tube, taking off the plastic end piece, making sure it does not come out suddenly Fig. 3b-3c (except for LED lamps);
4. Reinsert the new light bulb in the protection;
5. Restore the new light bulb in its seat;
6. Power the counter, closing the power isolator.

Fig. 3a

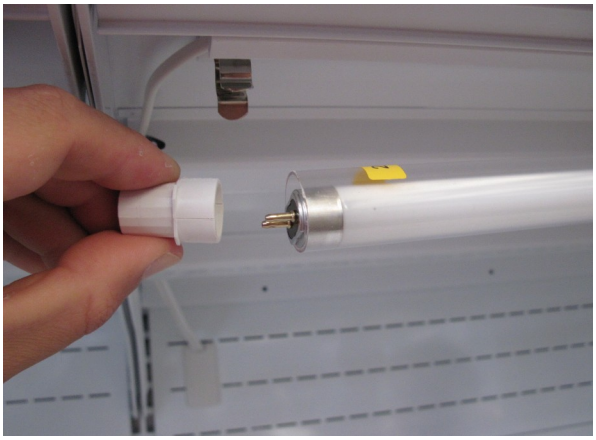


Fig. 3b

Fig. 3c

Positioning display shelves

Apply the price tag profile on the shelves proceeding as follows:

1. Insert the price tag spacers in the specific housings **Fig. 4a**;
2. Turn the price tag spacers 90 until they lock;
3. Insert the aluminium profile along the entire length of the shelf **Fig. 4b**;
4. Insert the price tag profile along the entire length of the previously positioned aluminium profile **Fig. 4c**.

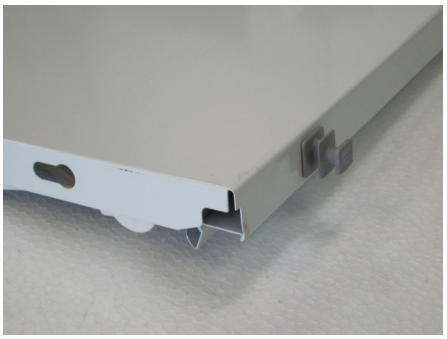


Fig. 4a

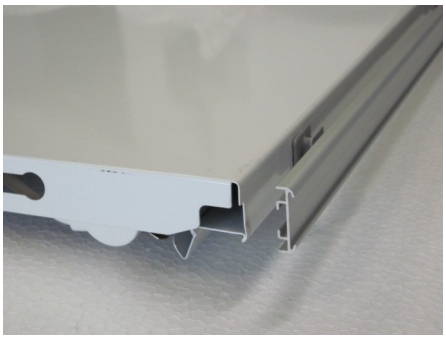


Fig. 4b

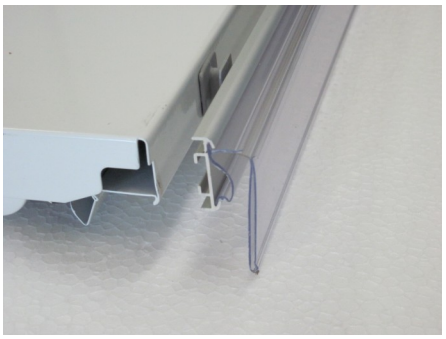


Fig. 4c

Apply the shelf supports and shelves only after having installed the price tag profile, keeping in mind that the shelves can also be positioned horizontally **(Fig. 5a)** or with a –10 inclination **(Fig. 5b)**.

Fig. 5a

Fig. 5b

A

B

Night blinds

If the counter is configured with night blinds, remember that closing them during the night hours saves a considerable amount of energy.

ATTENTION: Clean the blind using only soft non-abrasive cloths, neutral soap and water. Rewind the blind slowly using the handle.

ELECTRIC COMPONENTS

Lighting

For that which regards counter lighting, remember to switch the lights off as soon as possible to save energy.
Furthermore the counters are equipped with electronic reactors which, if operating conditions are not appropriate, can trip switching off the lights connected to them. To restore correct functioning, just switch the counter off and back on.

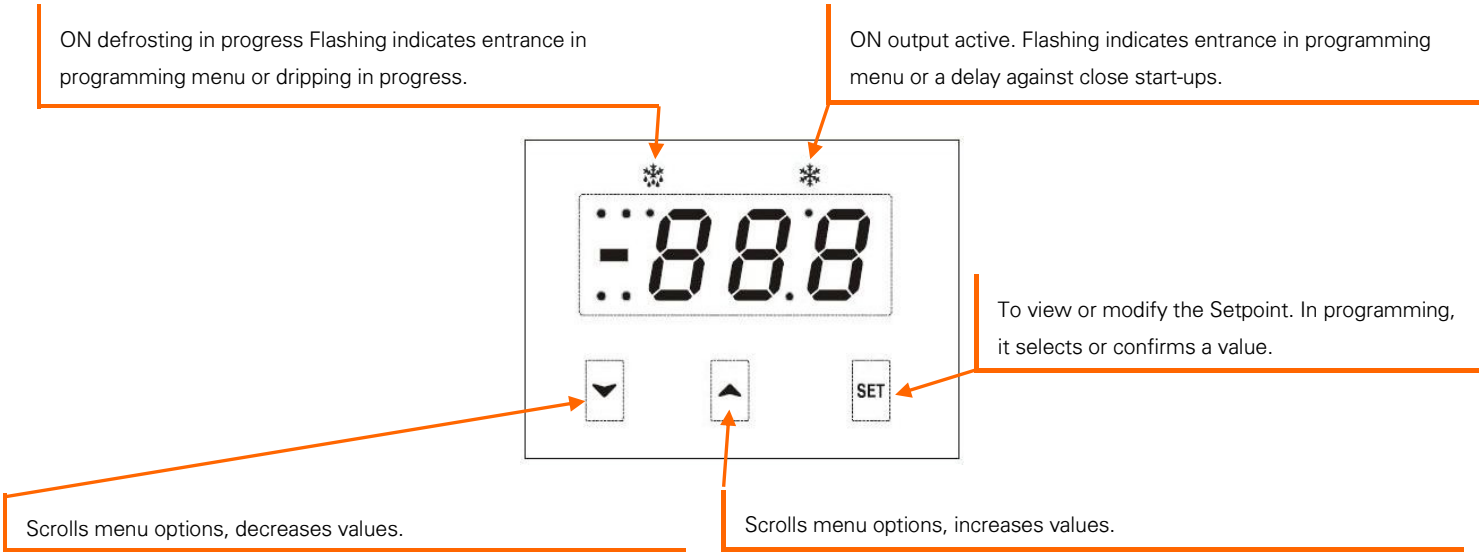
Electric panels

The following are the different types of electric controllers belonging to the panels with which the counter can be configured. Also remember that the product will only have one of the available configurations.

ATTENTION: For further information on the chosen instrument, consult the specific manual of the device supplied together with the counter (see pag. 17). Also pay close attention to consult the technical sheet of the controller actually installed on your counter.

Electric panels

DIXELL PLUG-IN



Locking the keypad

Press ▲ and ▼ simultaneously for 2 seconds to lock the keypad; the flashing text "POF" appears; repeating the procedure unlocks the keypad and displays the flashing text "POn".

View the setpoint value

If you press "set" and release it, the value will be view-only, without any possibility of editing it. Pressing it again and waiting 5 seconds, it returns to the probe temperature reading.

Edit the setpoint value

Press the "set" key for approximately 3s until the LED ❄ starts flashing. Then release the key and set the new value by pressing ▲ and ▼. When finished, press the "set" key once to memorise the value.

Manual activation of defrost cycle

The defrost cycle can be activated manually by keeping the ▼ key pressed for more than 10 seconds. If defrosting starts, the LED ❄ switches on fixed. If nothing has happened after this amount of time, check that the evaporator probe temperature (Pd2) is lower than the block temperature DTE.

Local alarms

Mes.	Cause	Status of outputs
P1	Probe 1 error	Output according to CON e COF
P2	Probe 2 error	End of timed defrost
P5	Probe 5 error	Not modifiable
HA	High temperature alarm	Not modifiable
LA	Low temperature alarm	Not modifiable
EA	External Alarm	Not modifiable

Exiting alarm

Once detected, the alarm signal remains displayed until the alarm condition finishes.

How to reset alarms

Probe alarms P1 and P2 trigger approximately 10 seconds after the probe failure; they reset automatically 10 seconds after the probe resumes proper operation. We recommend checking the connections before replacing the probe.

Temperature alarms HA and LA are reset automatically as soon as the thermostat temperature returns to normal, when defrost starts or the door opens.

The **external alarm** EA is reset as soon as the digital input is deactivated.

TECHNICAL INFORMATION: main adjustment parameters.

Par.	DESCRIPTION	Adjustment range	EURO MADEIRA			ECO MADEIRA		
			Cl. H (+1/+10 C)	Cl. M2 (+5/+8 C)	Cl. M1 (-1/+5 C)	Cl. H (+1/+10 C)	Cl. M2 (-1/+7 C)	Cl. M1 (-1/+5 C)
SET	Temperature control setting	LS US	2.0	0.0	-4.0	2.0	0.0	-2.0
HY	Differential	0,1 25,5	4.0	4.0	4.0	4.0	4.0	4.0
dtE	End defrost temp.	-50,0 50,0 C	12.0	12.0	12.0	8.0	8.0	8.0
idF	Defrost cycles interval	1 120 hours	6.0	6.0	6.0	12.0	12.0	12.0
MdF	Maximum defrost duration	0 255 min	40.0	40.0	40.0	50.0	50.0	50.0

TECHNICAL DOCUMENTATION INSERTED IN COUNTER

Each counter has a **yellow envelope placed inside near the serial number plate**. This envelope contains all the required technical documentation, such as:
- Use and maintenance manual;
- Declaration of conformity;
- Quality control sheet;
- Test inspection certificate;
- Counter wiring diagram;
- Reactor board diagram (only if foreseen);
- Manual of controller installed on electric panel (only if foreseen);
- Controller parameters map (only if present);
- Various documentation such as: motorised night blind instructions, electronic valve instructions,... (only if present).

N.B.: At times, labels with additional instructions and/or recommendations are applied on some counter surfaces.

TECHNICAL DATA

Euro Madeira M1 with MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	0/+2			
Max absorbed nominal power	W	1628	1893	2288	3286
Max absorbed nominal current	A	7.09	8.73	10.38	15.28
Max absorbed defrost power	W	801	875	1193	1400
Climate class	ISO 23953-2	M1			

Euro Madeira M1 without MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	0/+2			
Max absorbed nominal power	W	53	92	138	184
Max absorbed nominal current	A	0.23	0.40	0.60	0.80
Max absorbed defrost power	W	228	302	598	754
Climate class	ISO 23953-2	M1			

Euro Madeira M2 with MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	+3/+5			
Max absorbed nominal power	W	1515	1667	1939	2834
Max absorbed nominal current	A	6.30	6.62	8.29	11.07
Max absorbed defrost power	W	626	665	711	830
Climate class	ISO 23953-2	M2			

Euro Madeira M2 without MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	+3/+5			
Max absorbed nominal power	W	53	92	138	184
Max absorbed nominal current	A	0.23	0.40	0.60	0.80
Max absorbed defrost power	W	53	92	138	184
Climate class	ISO 23953-2	M2			

Eco Madeira M1 with MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	0/+2			
Max absorbed nominal power	W	///	660	1030	1163
Max absorbed nominal current	A	///	3.04	4.83	5.07
Max absorbed defrost power	W	///	44	141	161
Climate class	ISO 23953-2	M1			

Eco Madeira M1 without MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	0/+2			
Max absorbed nominal power	W	///	44	68	88
Max absorbed nominal current	A	///	0.19	0.30	0.38
Max absorbed defrost power	W	///	44	68	88
Climate class	ISO 23953-2	M1			

Eco Madeira M2 with MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	+3/+5			
Max absorbed nominal power	W	///	660	1030	1163
Max absorbed nominal current	A	///	3.04	4.83	5.07
Max absorbed defrost power	W	///	44	141	161
Climate class	ISO 23953-2	M2			

Eco Madeira M2 without MULTIDECK

Climate class T		937	1250	1875	2500
Voltage	V	220 230			
Frequency	Hz	50			
Operating temperature	C	+3/+5			
Max absorbed nominal power	W	///	44	68	88
Max absorbed nominal current	A	///	0.19	0.30	0.38
Max absorbed defrost power	W	///	44	68	88
Climate class	ISO 23953-2	M1			

EMERGENCY SITUATIONS

1. The counter does not start or switches off. ⚠

- Check whether there is an electrical blackout in progress;
- Check that the main wall switch is on.

If the electrical interruption does not depend on the above-mentioned reasons, immediately contact the closest service centre and fully empty the counter, placing the removed products in cold rooms or in other equipment capable of preserving them.

2. The counter temperature is too low. ⚠

- Check that the counter is not loaded beyond the recommended level and that the air vents are not obstructed;
- Start a forced defrost and clean the counter (following safety measures) to then resume standard operation;
- Make sure that the counter is not near heat sources and/or air draughts which could hinder proper operation;
- Should malfunctioning persist, immediately contact the closest service centre.

3. The counter makes too much noise. ⚠

- Check that the screws and nuts are fastened all the way.
- Using a level, check that the counter is level.

Should the noise persist, immediately contact the closest service centre.

4. Gas Leak or Fire. ⚠

Should this critical situation occur, move away from the counter. Disconnect the counter from the main switch and ABSOLUTELY DO NOT USE WATER TO PUT OUT A FIRE, BUT ONLY USE DRY FIRE EXTINGUISHERS and activate the emergency procedures.

5. Other particular situations. ⚠

- Metal parts must be handled with care to avoid possible and not unlikely abrasions and/or cuts as well as possible crushing.
- Removing the bottom surfaces exposes the evaporator and motor fans with the ensuing danger that this could cause.
- Should an accident damage one or more glass doors, pay attention not to touch live wires which could easily be reached.

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