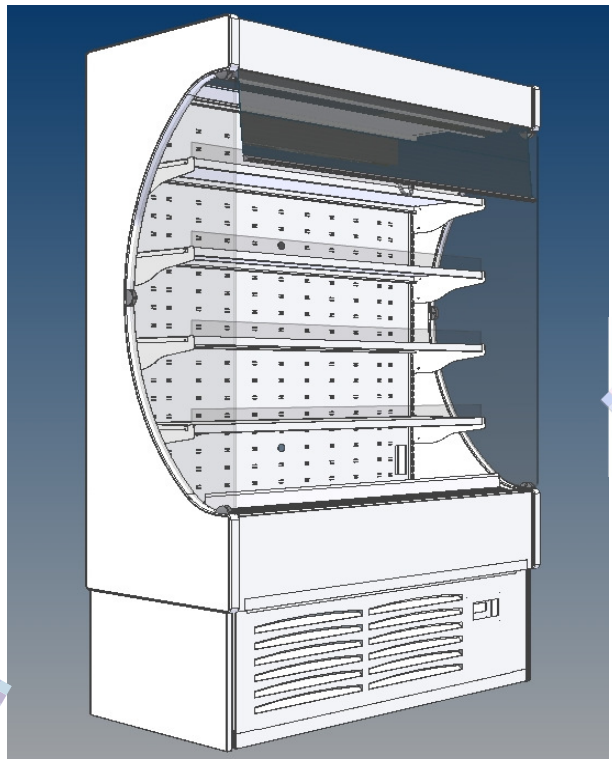
Integral Multi-Deck Cases

MOSCOW S & MOSCOW M & MOSCOW L



Installation, Operation & Maintenance Manual

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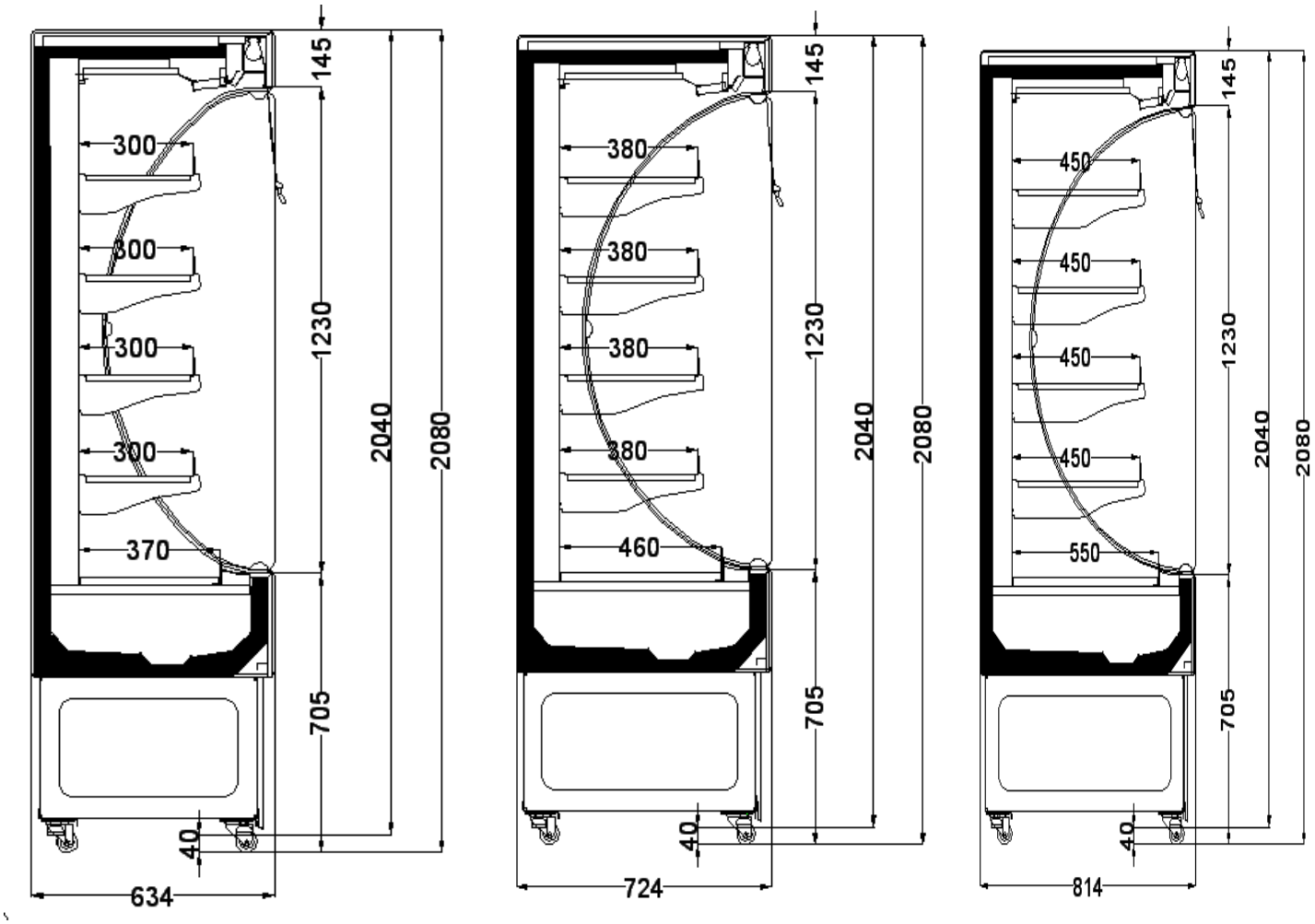
Introduction and index

Cross sectional profile

All dimensions in mm.



Moscow S Moscow M Moscow L

VOLTAGE: 220-240 V.
ELECTRICITY POWER: Nominal absorbed power
LIGHTING: Absorbed power by the lights
FUSE: Fuse type&size in the electrical board.
CLIMATIZATION RANGE: Class III
REFRIGERATING CAPACITY: Refrigerant charge at Class III
REFRIGERANT FLUID: R404A
AMPERS : Power drawn from the case
CONTROLLER : Digital model used in

Technical specifications

Model no	7	10	13 S	13 M&L	15	20
Length (mm)	685	997	1310	1310	1560	1935
Height (mm)	1850					
Depth (mm)	634 for S / 724 for M / 814 for L					
Display area Model S (m²)	0.94	1.45	1.95	1.95	2.34	2.75
Display area Model M(m²)	1.28	1.84	2.46	2.46	2.95	3.9
Display area Model L (m²)	1.45	2.18	2.92	2.92	3.51	4.38
Temperature range (°C)	+2°C to +4°C					
Refrigerant	R404A					
Refrigerant charge S (g)	800	1200	1200	1200	1400	1800
Refrigerant charge M&L (g)	800	1200	1800	1800	1500	1900
Defrost cycle	4 defrosts x 45 minutes each/per 24 hours period					
Voltage (V)	230					
Frequency (Hz)	50					
Fuse (A)	13	13	13	13	13	13
Condenser Fans (W)	55	55	110	110	110	165
(A)	0.26	0.52	0.52	0.52	1.65	1.65
Evaporator Fans (W)	40	80	80	80	120	120
(A)	0.18	0.36	0.36	0.36	0.54	0.54
Compressors (W)	1310	1310	1540	2010	2354	2310
(A)	0.26	5.96	7	9.1	10.7	1.65
Condensate heater (W)	400	400	400	400	400	400
(A)	1.8	1.8	1.8	1.8	1.8	1.8
Lighting (W)	15	18	36	36	36	58
(A)	0.07	0.08	0.16	0.16	0.16	0.26
Maximum power (W)	1280	1863	2166	2636	3020	3053
(A)	16.57	8.4	9.85	11.99	13.72	25.9

Data specified in the above table is based on the following parameters: EN 441 Class III, 25°C ambient temperature, 60% relative humidity, 0,2 m/s. Air flow, 600 lux fluorescent lighting.

Transport & Delivery

Transport:

Cases should always be transported in the upright position.

Cases should be handled with care. Avoid dropping or jolting the case, which may cause damage.

Remove packaging carefully

Unpacking:

Protective packaging should be removed carefully. If using knives or sharp implements avoid damaging glass or paintwork.

Check case for damage and if neccessary report damage to the carrier and supplier.

Your case will be supplied assembled, with shelves held in place by plastic transit clips. Check for any deficiencies and advise shortages to your supplier. Remove plastic clips (ties) with a sharp knife or scissors and avoid damaging pa,ntwork while doing so

Remove plastic shelf clips (ties) with a knife or scissors if any

Remove metal shelf transit clips with pliersif any

Location of your display case

Siting:

Cases should be located on a flat and even surface. Feet may be adjusted as required to ensure that the case is level. If there is castors, please lock the brake as in the picture
Do not expose the case to direct sunlight or other sources of heat. Avoid incandescent lighting

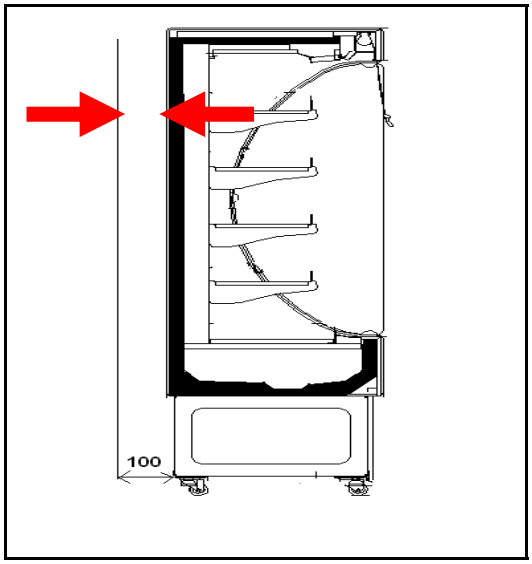
Avoid locations where the case may be knocked by cleaning machines and pallets

Adjustable feet

Access:

Ensure that the case is easily accessible for loading and unloading

Place the case in a prominent position within the store to maximise visibility of merchandise, promoting impulse purchases



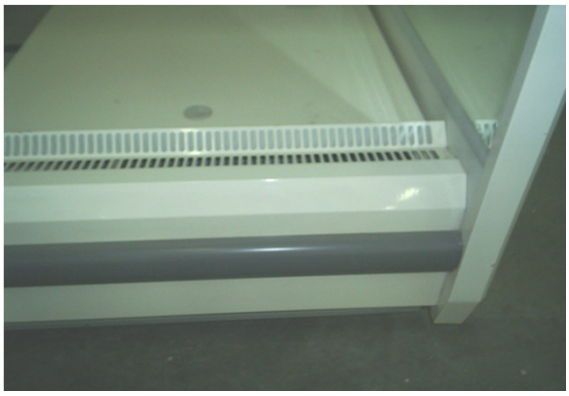
100 mm air gap

Ventilation:

Maintain a minimum air gap of 100 mm from the back of the case to the store wall, to allow air circulation

Do not locate the case close to sources of draught, such as doors, open windows or air conditioning vents

Never place boxes in a position which may obstruct or restrict the circulation of air to the condenser



Make sure air return grille was open

Never place somethings in a position which may restrict air flow

Installation

Assembly:

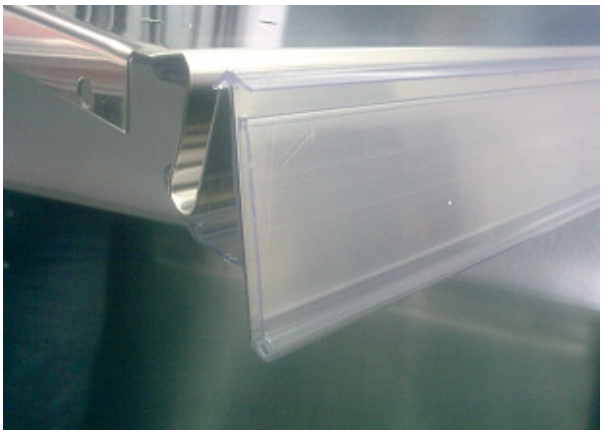
Assembly, installation and connection of the case should always be undertaken by appropriately qualified personnel

Adjustable shelves should be located and locked into position in the desired shelving configuration

To adjust the shelves lift brackets straight up firmly and remove the shelf. Relocate the shelf as required and push brackets firmly into place. It is recommended that two people undertake this procedure- one on each shelf bracket

Epos ticket strips should be located on the front edge of the shelves

Firmly lift up shelf bracket



Epos ticket strips on the front edge of the shelf

Power Supply:

As standard the case is supplied at 230V-50 Hz. Please ensure that the local power supply is appropriate

Check the rating for your case model by consulting the table on page 4 of this manual and ensure that the plug is correctly fused

If the case is hard wired to the mains supply, a means of isolation must be provided

If a plug and socket supply is used, the power point should be accessible after the case is positioned

The case should be earthed.

An equipotential earth bonding terminal is also supplied, allowing the case to be bonded to a building surge earth or adjacent equipment

Operation

Switching On&Off:

Ensure that the mains power supply is connected and switched on.Once the power is connected case will start running.

Please turn on the lights from the switch located behind the lower front panel, next to the thermostat

The case fans will operate as soon as the power is switched on

Case temperature will begin to fall to its pre-set value. For the pre-set temperature for your specific model, please refer to the table on page 4

Should you need to turn the case off, please press the " Φ " button located on the thermostat. This will stop the compressor but will not isolate the case. For isolation please remove the supply cable from the mains/plug

The light switch is located next to the thermostat

Power button to turn on&off the case
Warning:This will not isolate the case!

Merchandising:

Allow the case to operate for at least two hours before loading merchandise

When loading cases do not exceed loading limits or allow product to overhang shelf front edges or obstruct air return grilles

A tidy, well merchandised case will function more efficiently than a badly loaded one

Ensure free air flow around the merchandise and between the air discharge and return ducts.

Always load chilled product. Your display case is designed to maintain not reduce temperature. If warm product is loaded within the case, there may be a delay in the case reaching its normal operating temperature.

A well merchandised case will function more efficiently

Control Panel

As standard the case is supplied with an carel easy or full functional electronic controller, incorporating an LED thermometer, which displays average case operating temperature.

The controller is factory pre-set, but parameters may be programmed as detailed below.

Reprogrammed parameters take immediate effect and will be saved in the event of loss of power to the controller.

PJEZC easy

Parameter Definition	Display on LED	MOSCOW S & MOSCOW M & MOSCOW L Models
SET POINT **Temperature Set Point**	SEt	+3 °C
OPERATING PARAMETERS **Temperature Differential**	diF	2 °C
Probe Offset	C1/C2	0
Set Point Maximum	r2	+7 °C
Set Point Minimum	r1	-1 °C
Compressor Rest Time	cc	0 minutes
DEFROST PARAMETERS **Time between Defrosts**	dit	4 hours
Termination Time	dEt	45 minutes
Defrost Recovery Temp.	dSt	12 °C
ALARM PARAMETERS **High Temperature Alarm**	AH	+25 °C
Low Temperature Alarm	AL	5 °C
Alarm Delay	Ad	45 minutes

Setting parameters on the PJEZC easy

The easy electronic controllers comprise a three digit LED display, 'SET', 'UP', DOWN' buttons which allow parameters to be set or reprogrammed.

To set or check temperature:

Ensure that the case is switched on and lights,fans and compressor are running.
Press 'SET' button to display SET on LED

Press 'SET' button again and set point value of '**22**' should be displayed on LED.

To change the set point, use the 'DOWN' and 'UP' buttons within 5 seconds. New parameter has been set.

To set minimum temperature limit parameter:

Ensure that the case is switched on and lights,fans and compressor are running.
Press 'SET' button for a count of more than 5 seconds until P5 is displayed on LED.

Press 'SET' button again.'0'appears on the screen.
Use 'UP' or 'DOWN' buttons until '22' displayed on the LED.

Press 'SET' button and see d0. Change the value with 'UP' or 'DOWN' buttons. Press 'SET' again and see 'd0' on the LED.
Press 'set' button once. New parameter has been set.

To set maximum temperature limit parameter:

The same applies for the maximum temperature.

But unlike Press 'SET' button and see d1. Change the value with 'UP' or 'DOWN' buttons. Press 'SET' again and see 'd1' on the LED.
Press 'set' button once. New parameter has been set.

Display

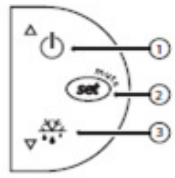
Fig. 3.f

but. no.	function	normal operation			start up
		ON	OFF	flash	
1	compressor 1/2	on	off	call	ON
2	fan	on	off	call	ON
3	defrost	on	off	call	ON
4	auxiliary output (AUX) - light	output active	output not active	-	ON
5	clock (RTC)	RTC available, enabled (tEN=1) and at least one time band has been set	RTC not available or not enabled (tEN=0) or no time band set		ON (if the clock is fitted)
6	alarm	alarm in progress	no alarm in progress	-	ON
7	digits	three digits with decimal point and range -199 to 999. See parameters /4, /5, /6 for the type of probe displayed, values in °C/°F and decimal point			

MEANS OF THE SYMBOLLS

Setting parameters on the PJEZC easy

Keypad:



but. no.	normal operation		start up	
	pressing the button alone	pressing with other buttons		
1	more than 3 s: switch ON/ OFF	pressed together with 3 activates / deactivates the continuous cycle	-	
2	- 1 s: displays/sets the set point - more than 3 s: accesses the parameter setting menu (enter password 22) - mutes the audible alarm (buzzer)	-	for 1 s RESET current EZY set	pressed together (2 and 3) activate parameter reset procedure
3	more than 3 s: activates / deactivates the defrost	pressed together with 1 activates / deactivates the continuous cycle	for 1 s displays firmware version	

Once the electrical connections have been completed, simply power-up the controller to make it operative.
CAREL then recommends to check that the display does not show any alarm signals , then set the time and date, and finally set the parameters as desired. The main parameters are as follows

Control parameters	
st	set point
rd	set point differential
/P (only easy split)	select type of probe
Defrost parameters	
d0	type of defrost
dI	interval between two defrosts
dt	end defrost temperature
dP	maximum defrost duration
Alarm parameters	
Ad	temperature alarm delay
AL	low temperature alarm threshold/deviation
AH	high temperature alarm threshold/deviation
A0	alarm and fan temperature differential

Controller error and alarm messages

A variety of error and alarm messages may be displayed on the LED of the electronic controller. A legen is detailed below.

e0 - Faulty probe 1 (Thermostat Probe)

e1 - Faulty probe 2 (Evaporator Probe)

e2 - Faulty probe 3 (Condenser Probe)

HI - High temperature alarm for cabinet

LO - Low temperature alarm for cabinet

AH - High temperature alarm (Condenser Probe)

AL - Low temperature alarm (Condenser Probe)

Ed - Defrosting timed out

A7 - External alarm

dOr - Door open alarm (Optional)

Df - Defrost activated

Press any button to silence the alarm. The LED will start to blink. If simultaneous, they will be showed on the display alternately every 2 seconds.

Cleaning

General:

A regular and thorough cleaning regime is essential for the efficient and hygienic operation of your display case.

Before undertaking any cleaning operation, ALWAYS turn the case off and if possible disconnect from the mains power supply.

Avoid splashing water onto the case's electrical elements. If water splashing should occur make sure that all electrical components are thoroughly dry before reconnecting to the power supply.

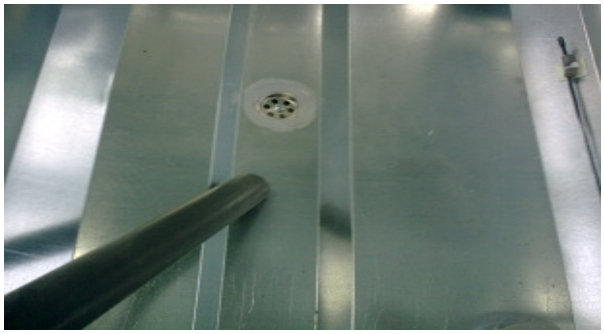
Never use abrasive or caustic cleaning agents.

Exterior / Internal surfaces, shelves and air grilles:

Painted or metal surfaces should be cleaned with a cloth soaked in warm soapy water.

Surfaces should be dried with soft cloth.

Shelves should be removed for cleaning as above.



Glass and Mirror:

Glass and mirrored endwalls should be cleaned with a suitable glass cleaner.

Glass and mirrored surfaces may be buffed with a soft dry cloth

Case Well:

Lift out deck trays and sweep or vacuum any debris from the case well.

The well may be wiped with a cloth and mild disinfectant.

Cleaning

Fan Deck:

Lift the fan plate allow cleaning around the fans.
Make sure that fans are not running !

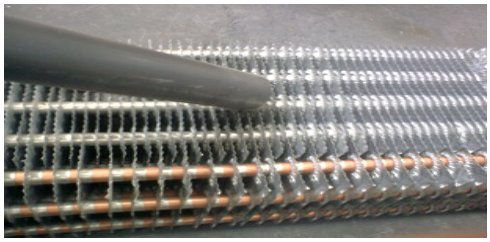
Clean around the fans

Air Cooled Condenser and Coolinf Fins:

Carefully vacuumm dust and air borne debris from the condenser unit and cooling fins.

Exercise care not to damage fins.

Beware of the sharp finds and take care when cleaning this area.



Vacuum dust and debris from the condenser unit and cooling fins

Condensate Tray:

The self evaporating water tray which collects defrost water should be cleaned regularly.

Spilled milk and other dairy products collecting in the condensate tray may lead to odour and should be cleaned immediately.

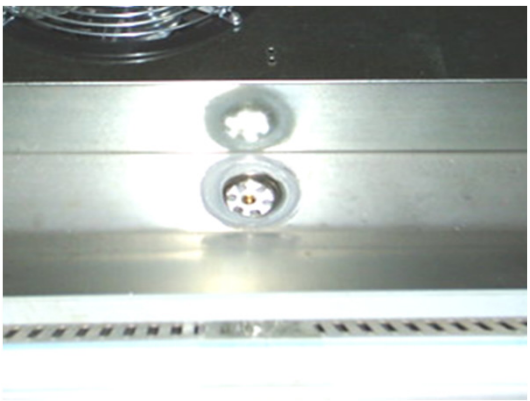
Condensate tray should be cleaned

Water Outlets:

Outlets for waste water should be cleaned regularly to ensure a continious flow of waste water.

Lights:

Lights may be cleaned with a soft
dry cloth. Make sure that lights turned off.



Drain outlet should be cleaned

House keeping routines

Close of business:

Cases should not be switched off at close of business or overnight

If appropriate night blinds may be used for energy conservation of up to 30% during non trading hours

Defrost Cycles:

Your display case is pre-programmed with an automatic defrost cycle of 4 x 45 minutes defrosts in each 24 hour period unless programmed otherwise

The first defrost will take place 4 hours after switching on the case.

Case Inspection:

Operating temperature, as indicated on the controller mounted on the front of the case, should be checked on a daily basis.

Cases should be monitored on a daily basis for any undue noise, smell or malfunction.

Regularly inspect the case for milk spillage or debris in the air grilles, case well and condensate tray. Remove and clean spillages and debris.

Service Request:

In the event of malfunction or failure, you should request a service engineer visit as soon as possible. If in doubt turn off the case and disconnect from the mains supply.

Servicing of your case should only be undertaken by an approved Service Engineer. Failure to comply may invalidate your warranty.

In the event of case failure, remove perishables from the display case and store in an alternative, suitably chilled location to avoid deterioration of merchandise.

Service and maintenance

Symptom	Test	Result	Fault / Action
Compressor not running	Is digital display (if fitted) illuminated ?	No	Check plug fuse
	Are lights & / or evaporator fans running ?	No	Check power supply is on
	Switch off power & disconnect from outlet. Remove lead marked 3 from terminal rail in base & insert terminal 2. Switch on power	Compressor runs	OK
		Compressor does not run	Faulty compressor compressor relay or compressor electrics
Compressor runs continiously	Adjust controller set point	Compressor cycles	OK
	Remove temperature probe connections	Compressor stops	Cabinet not achieving set temp - check refrigeration system &/or site conditions
			Probe dislodged from plastic mounting clip & touching metal work
	Remove temperature probe	Compressor stops	Replace controller
		Compressor runs	Case wiring fault
Condensate tray owerflows	Check heater element & klixons for electrical fault	No continuity or short to earth on heater	Replace heater
		No fault found.Check if ambient conditions are above 25°C / 60% RH	If conditions cannot be controlled then contact Capital Cooling for further guidance
		No continuity or short to earth Note klixon opens at 60 °C closes at 56 °C	Replace klixon(s)
	Check Condenser fans are reversing when compressor off	No continuity or down to earth on motor	Replace fan motor
		No fault on motor	Case wiring fault
Condensate heater operate continuously	Check klixons are not closed above 60 °C	Klixons still closed	Replace klixons
Case not operating at correct temperature. i.e. Air off temperature **cut out -2/-1°C** **cut in +0/+1°C**	Adjust controller set point	Case operates at correct temperature	OK
		Case not operating at correct temperature & compressor runs continuously	If air off temperature is too high check refrigeration system and air flow, iced up evaporator
		Compressor cycles but case temperature too high	Check probe & / or change controller

Service and maintenance

Lights:

Description:

As a standard, MOSCOW S & MOSCOW M & MOSCOW L cases feature
a single row T8 fluorescent tube located in the canopy of case.

A starter is located adjacent to the tube(s).

The lighting tube is located in the case canopy

To replace the tube:

Ensure that the case is switched off and, if possible, disconnected from the mains supply.

Extreme caution should be exercised in changing the tube as it may shatter

Carefully remove the spent tube from its mounting points

Insert a new, appropriately rated, T8 fluorescent tube ensuring that it is securely in place

Restore mains power and switch on the case

Dispose of the spent tube in a safe and environmentally responsible way

The starter is located adjacent to the tube

To replace the tube starter:

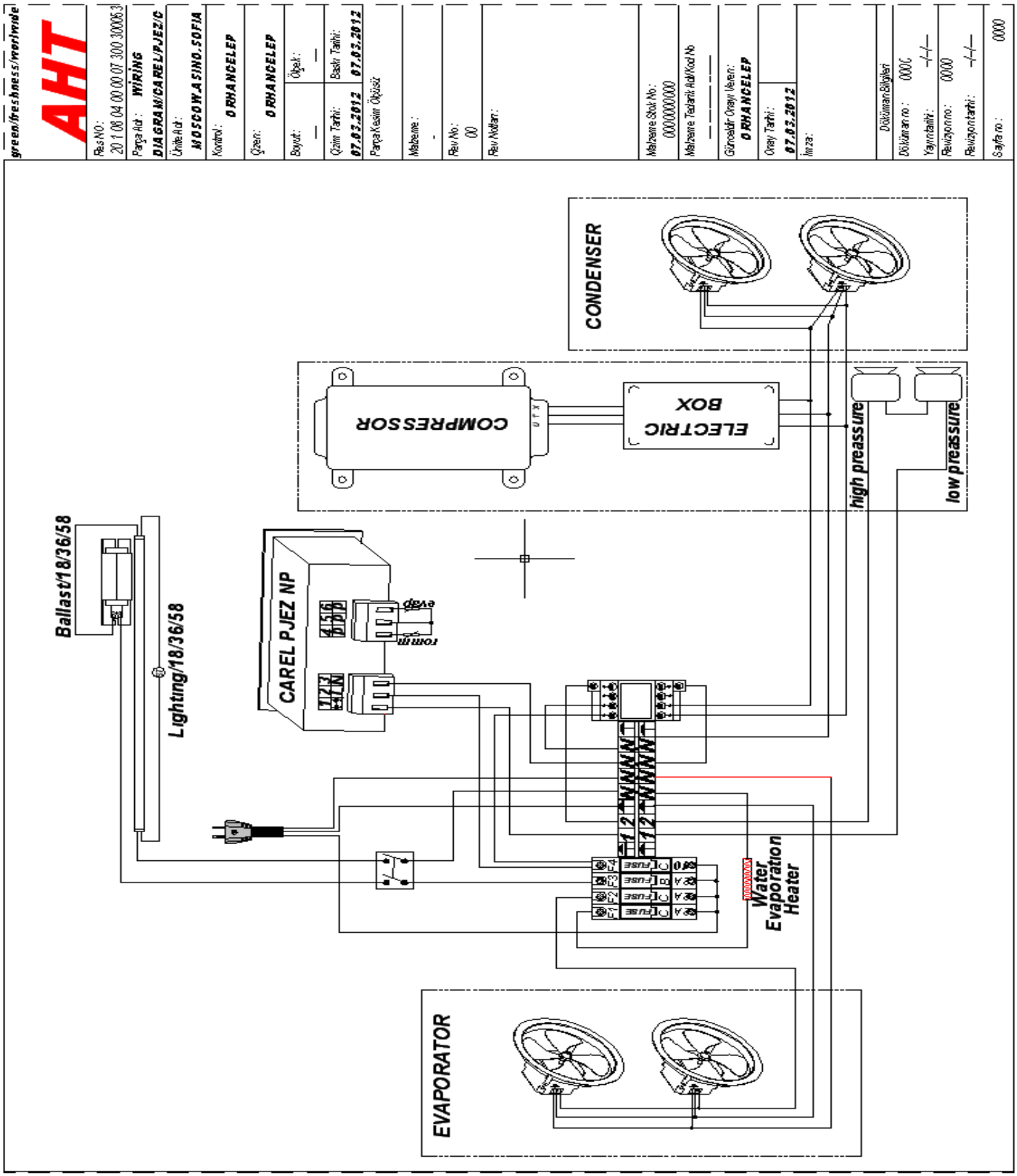
Ensure that the case is switched off and if possible disconnected from the mains power supply

Remove the spent starter from its mounting

Insert a new, appropriately rated, starter in the mounting point, ensuring that it is securely in place

Restore mains power and switch on the case

Electrical circuit drawings for model MOSCOW S & MOSCOW M & MOSCOW L



Warranties and liability

1 The Seller will have no liability to the Buyer for damage in transit, shortage of delivery of loss of Goods unless the Buyer gives written notice to the Seller of such damage, shortage of loss with reasonable particulars thereof within three days of receipt of the Goods or (in the case of total loss) of receipt of the invoice or other notifications of despatch. The Seller's liability (if any) will be limited to replacing or (in its discretion) repairing such Goods and it shall be a condition precedent to any such liability that the Buyer will if so requested, provide authority for the Seller's employees or agents to inspect any damaged Goods within fourteen days of such request. The Seller will not be liable for any damage to or loss of Goods occurring after risk in the Goods has passed to the Buyer. Furthermore, the Seller will have no liability for any consequential loss arising out of any damage in transit, shortage of delivery or loss of the Goods.

2 Subject to clause 2.3 the Seller warrants that:

2.1 the goods shall be free from defect in materials and workmanship for a period of 12 months from the date of delivery to the Buyer.

2.2 it will perform the Services with reasonable care and skill and in accordance with the terms of the Contract.

3 The above warranty is given by the Seller subject to the following conditions:

3.1 the Seller will be under no liability in respect of any defect in the Goods arising from any drawing, design or specification supplied by the Buyer.

3.2 the Seller will be under no liability in respect of any defect in the Goods arising from fair wear and tear, accidental or wilful damage, negligence of the Buyer or it's employees or agents, abnormal working conditions, or use of Goods outside their design parameters, failure to follow the Seller's instructions (whether oral or in writing) or misuse.

3.3 the Seller will be under no liability in respect of any defect in the Goods arising from (a) improper installation service or repair carried out by any one other than the Seller (b) any alteration to the Goods carried out by anyone other than the Seller or a service agent approved by the Seller or (c) the use of any spare part or component which has not been manufactured or supplied by the Seller.

3.4 the above warranty does not extend to parts, materials or equipment not manufactured by the Seller, in respect of which the Buyer will only be entitled to the benefit of any such warranty or guarantee as is given by the manufacturer of such parts, materials or equipment to the Seller.

4 The Buyer will notify the Seller as soon as reasonably practicable after becoming aware of any defect in the Goods or any deficiency in the Services and will provide authority for the Seller's employees or agrees to inspect the Goods and / or Services and if necessary to remove any Goods for further testing and analysis.

5 Where any valid claim is made by the Buyer that the Goods are defective or that the Services have not been performed with reasonable care and skill and in accordance with the terms on the contract then the Seller will (in the case of the Goods) at its discretion either repair or replace the Goods (or the part in question) free of charge and (in the case of the Services) will at its cost re-perform the Services necessary to remedy the deficiency.

6 Subject to the clause 10 the Seller will have no other or further liability to the Buyer and whether for breach of Contract, negligence, breach of statutory duty or otherwise in respect of any claims, proceedings, damages, losses, costs and expenses (whether direct or consequential and including without limitation refrigerant loss, food loss, loss of business, loss of profit and loss of good will) made against or incurred by the Buyer arising from or in connection with any defect in the Goods or any failure by the Seller to perform the Services with reasonable skill and care and in accordance with the Contract.

7 The Seller's liability for any direct loss or damage sustained by the Buyer as a result of any error in any weight, dimension,capacity performance or any other description or information which has formed a representation or is part of the Contract will not exceed the price of the Goods and / or the Services in respect of which description or information is incorrect.

8 Except for the terms applied in Section 1 2 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982, all conditions warranties and other terms express or implied, statuary or otherwise are expressly excluded except in so far as they are contained in these Conditions otherwise expressly agreed by the Seller in writing.

9 Subject to clause 10 the Seller will not be liable to the Buyer in respect of any direct or consequential loss or damage suffered by the Buyer arising from the negligence of the Seller or wilful default of the Seller's employees or agents in connection with the supply of the Goods or the design or manufacture thereof or in the performance of the Services.

10 The terms of clause 6 and 9 will not exclude any liability of the Seller:-

10.1 for the death or personal injury resulting from the negligence of the Seller or the negligence or wilful default of theSeller's employees or agents: or

10.2 under the Consumer Protection Act 1 987.

11 Except in respect of liability for death or personal injury resulting from negligence the Seller will not be liable to the Buyer under any circumstances (and whether arising from breach of Contract or the negligence or breach of statutory duty of the Seller or its employees or agents or otherwise) for any indirect special or consequential loss or damage including without limitatition refrigerant loss, food loss, loss of business or loss of profit and loss of good will surffered by the Buyer which arises out or in connection with the supply of the Goods or their use or resale by the Buyer or the performance of the Services even if such loss was reasonably foreseeable or the Seller had been advised of the possibility of the Buyer incurring the same.

12 The seller shall not be liable to the Buyer or to deem to be in breach of the Contract by reason of any delay in performing or any failure to perform any of the Seller's obligations in relation to the goods or the Services if the delay or failure was due to any cause beyond the Seller's reasonable control. Without prejudice to the generality of the foregoing the following shall be regarded as causes beyond the Seller's reasonable control.

12.1 Act of God, explosion, flood, tempest, fire or accident;

12.2 war or threat of war, sabotage, insurrection, civil disturbance or requisition;

12.3 acts, restrictions, regulations, bye-laws, prohibitions or measures of any kind on the part of any governmental, parliamentary, or local authority;

12.4 import or export regulations or embargoes;

12.5 strike, lock outs or other industrial actions or trade disputes (whether involving employees of the Seller or the third party);

12.6 difficulties in obtaining raw materials,labour,fuel,parts or machinery;

12.7 power failure or breakdown in machinery.

Declaration of Conformity

CE

EC Declaration of Conformity

HEREWITH CERTIFY UNDER OUR RESPONSIBILITY THAT THE FOLLOWING HOUSEHOLD REFRIGERATORS & FREEZERS

MANUFACTURER: EFE MARKET EKIPMANLARI SAN VE TIC A.S
MANUFACTURER'S ADDRESS: GEBZE PLASTIKCILER OSB ATATURK CAD. NO:45 41400 GEBZE, KOCAELI

DEVICE/S: Integral Multi-Deck Cases / MOSCOW S & MOSCOW M & MOSCOW L
DESCRIPTION : SIZES 625,937,1250,1500,1875.

MANUFACTURED BY EFE A.S ARE ACCORDING WITH THE EUROPEAN COMMUNITY DIRECTIVES :

96/57/EC : DIRECTIVE OF ENERGY EFFICIENCY: HOUSEHOLD REFRIGERATORS & FREEZERS
89/336/EEC : DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY (EMC)
73/23/EEC : DIRECTIVE OF LOW VOLTAGE ELECTRICAL EQUIPMENT
98/37/EC : DIRECTIVE OF MACHINERY

EFE MARKET EKIPMANLARI SAN VE TIC A.S CONFIRMS THAT NO OTHER APPLICATION HAS BEEN LODGED WITH ANOTHER NOTIFIED BODY FOR