

# OD720N

SKOPE Open Deck Cooler  
Hydrocarbon



OD720N  
SKOPE Open Deck Cooler  
Service Manual

MAN80307  
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# Contents

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<b>1 Specifications</b>	
Overview	5
Models	6
OD720N	6
<b>2 Electronic Controller</b>	
Overview	7
Controller Faceplate	7
Buttons and Display	7
Service Mode	8
SCS Connect Field App	8
Connecting	8
App Categories	9
Faults and Alarms	10
<b>3 Wiring</b>	
Model: OD720N – pre-June 2022	13
Model: OD720N – June 2022 onwards	14
<b>4 Spare Parts</b>	
Cabinet Assembly – OD720N	15
Refrigeration Cassette Assembly	17
Cassette Junction Box Assembly	19
<b>5 Installation</b>	
Climate Class	20
Cabinet Location	20
Ventilation	20
Power Cord	20
Shelves	20
Adjusting the Shelves	20
Gravity Shelf System	21
<b>6 Replacement Procedures</b>	
Disconnect the Cabinet from the Power Supply	22
Kick Panel	22
Cladding	23
Removing and Refitting the Cladding	23
Lighting	24
Shelf Lights	24
Cabinet Electrics Gear Tray	25
Cabinet Electrics Gear Tray	25
Night Blind	26
Night Blind Switch	27
Refrigeration System	27
Before Servicing	27
On-site Work	29
Off-site Work	29
Refrigeration Cassette Assembly	29
Cassette Removal	31
Cassette Junction Box	32
Condenser Fan	33
Evaporator Fan	34
Compressor	36
Refrigeration Cassette	36

Cassette Removal . . . . .	36
Diagnostics . . . . .	36
Electronic Controller . . . . .	37
QC Terminals . . . . .	37
Electronic Controller Location . . . . .	37
Replacing the Controller . . . . .	38
PIR Sensor . . . . .	39
Control and Evaporator Probe . . . . .	40
Condenser Probe . . . . .	41
<b>7 Maintenance</b>	
Cleaning . . . . .	42
Cabinet . . . . .	42
Air Filter and Condenser Coil . . . . .	42
<b>8 Troubleshooting</b>	
Electronic Controller . . . . .	43
Cabinet and Refrigeration Cassette . . . . .	43

# 1 Specifications

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## Overview

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This cabinet uses hydrocarbon (HC) R290 as its refrigerant. R290 is a natural refrigerant that has a very low environmental impact.

Special service requirements are needed as R290 is a flammable refrigerant.

### Safety hazards

The main R290 safety hazards are:



- Flammable refrigerant.
- Venting of R290 and compressor oil.
- Asphyxiation.

SKOPE does NOT recommend performing hazardous activities on the refrigeration system.

## Models

This service manual is applicable to the SKOPE cabinets detailed below.

**Table 1: Model specifications**

Model	Description	Type
OD720N	Free-standing	O72CLN

### OD720N

**Table 2: Cabinet**

<b>Description</b>	Free-standing	
Type	O72CLN	
<b>Construction</b>		
Insulation	40mm thick, polyurethane foam. Cyclo-iso pentane blowing agent: C <sub>5</sub> H <sub>10</sub> /C <sub>5</sub> H <sub>12</sub>	
Doors	n.a. Fitted with manual night blind	
<b>Dimensions</b>	<i>External</i>	<i>Internal</i>
Height	1540 mm	1058 mm
Width	1282 mm	1191 mm
Depth	836 mm (includes 46 mm stand-off)	633 mm
Floor area	1.07m <sup>2</sup> (includes 46 mm stand-off)	
Internal volume	798 litres	
Shelves	3 adjustable angle (8° or flat) adjustable height shelves + 1 fixed angle (8°) bottom shelf. Fitted with gravity feed system and shelf lighting.	
Product loading	4 layers of 600ml PET bottles. Top and middle shelves: 14 facings × 5 deep, bottom shelf: 14 facings × 6 deep, 294 per cabinet.	
<b>Operating conditions</b>		
Max operating temp.	25°C @ 60% relative humidity (Climate Class 3)	
Cabinet temp. range	-1°C to +5°C	
<b>Electrical</b>	220-240 Volts a.c. 50 Hz, single phase supply	
Total run Amps	4.8 Amps (cassette 4.0 Amps)	
GEMS energy consumption	16.15 kWh/day	
Energy star rating	3 stars	
Sign lighting	n.a.	
Internal lighting	4 × 7.5 W LED shelf lights	

**Table 3: Refrigeration Cassette**

<b>Description</b>	R290 (hydrocarbon) Open Deck Cassette
Cassette model	UBQENI-0034
Compressor	Embraco NT6224U
Controller	SCS Connect
Nominal capacity	1700 Watts
Refrigerant	R290 / 135g

## 2 Electronic Controller

### Overview

The cabinet is fitted with an SCS Connect electronic controller. The controller is located behind the front kick panel.

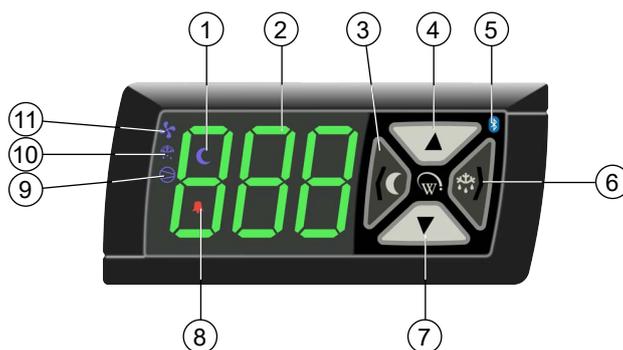
The controller is pre-programmed. SKOPE does not recommend that settings be changed unless it is absolutely necessary. To ensure efficient operation, the controller automatically forces a defrost cycle when required.

**IMPORTANT**  
The controller must only be adjusted by an authorised service agent.

Controller servicing can be performed via the controller faceplate, or the SCS Connect Field app.

### Controller Faceplate

**Buttons and Display** The faceplate includes the front display panel and interface buttons.



**Table 4: Controller faceplate**

No.	Description
1	<b>Night Mode:</b> Indicator. On during cooler night mode.
2	<b>Display:</b> Indicator. Digital display of cabinet air temperature or messages. The temperature is what the sensor inside the cabinet detects, and not necessarily the product temperature. However, they may be very close depending on how the controller is set to sense temperature.
3	<b>Light Switch - Night Mode (back/abort):</b> Button. Press to switch the lights on or off. Press and hold to switch cabinet between day and night mode. Used during programming.
4	<b>Up:</b> Button. Used for programming.
5	<b>Bluetooth:</b> Indicator. On when ready to connect to a device. Flashing when connected to a device.
6	<b>Defrost Cycle (next/enter):</b> Button. Press and hold to initiate manual defrost. Used during programming.
7	<b>Down:</b> Button. Used for programming.
8	<b>Fault - Alarm:</b> Indicator. On during fault or alarm. Note: Alarm message is also shown on the display during alarm.
9	<b>Compressor:</b> Indicator. On when the compressor is running.
10	<b>Defrost Mode:</b> Indicator. On during defrost cycle.
11	<b>Fan:</b> Indicator. On when fans running.

**Service Mode** Service mode can be accessed and used via the controller faceplate, refer to Wellington Drive Technologies documentation for further information.

**Note:** A 9 digit pin code is required to access service mode via the controller buttons. Contact your User Manager to receive your activation code.

There are 5 main service mode categories when accessing and using service mode via the controller faceplate:

#### **Parameters**

Provides access and editing of individual controller parameters.

It is not recommended that parameters are changed unless absolutely necessary. If incorrect parameter settings are suspected, reload the complete parameter set.

#### **Reset**

Returns the controller back to factory or default settings.

#### **Manual test**

Allows inspection of input values from sensors, and check the effects of output adjustments to peripherals, and to run preset test routines.

#### **Statistics**

Displays logged values and event counts to assist with fine tuning and diagnostics.

#### **About**

Lists the properties of the refrigeration system and the controller, including cabinet model codes, firmware, hardware and software versions.

## **SCS Connect Field App**

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**Connecting** The SCS connect field app allows authorised Service Technicians wireless access to the controller from mobile devices with Bluetooth capability. The app provides information on data logging, alarm notification and diagnostic control.

#### **Procedure 1: To install the SCS connect field app**

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1. Download and install the Connect Field app from Google Play or Apple Store (search for "scs wellington" to find it).
  2. When you first run the app, you will be requested to enter an activation code. Contact your User Manager to receive your activation code (you must be connected to the internet at the time of activation).  
Your activation code is unique to you, and should NEVER be shared with anyone else, as it determines your personal access level for the app. The same code will give you access to all SCS apps you are authorised to use.
  3. Once activation is complete, you must define a 4-digit PIN code. This can be any code unique to you. Each time you start the app, you will be required to enter this same PIN code. This is to prevent other people accessing the app from unlocked phones.
  4. You can see which databases you have activate from the "Settings" screen. You can have more than one database at the same time. Simply select ACTIVATE ANOTHER DATABASE, and enter the new database's unique activation code (see Step 2).
-

## Procedure 2: To connect to a controller

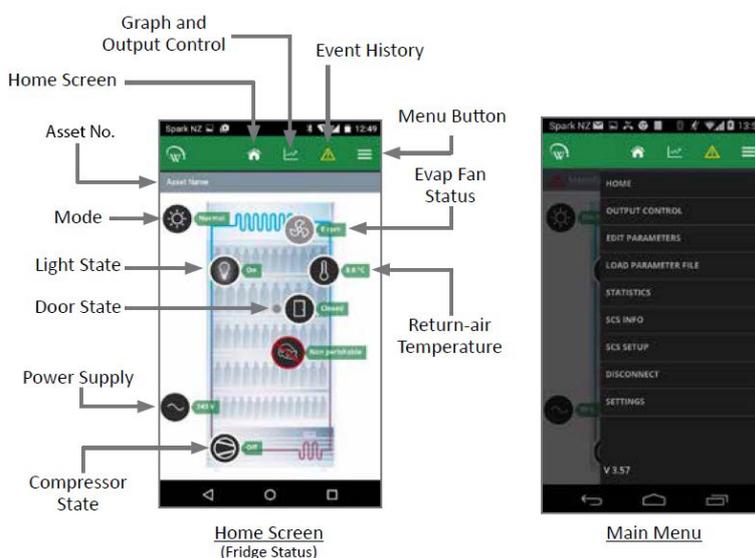
1. Check that the Bluetooth logo on the top right of the controller faceplate is lit, indicating that the controller is ready to connect to a device.  
**Note:** A flashing Bluetooth logo indicates that the controller is currently connected to a device.
2. Open the SCS connect field app.
3. Select a controller to connect to from the list of visible controllers.  
**Note:** This list is filtered by your activation permissions, so devices you are not authorised to connect to will not be displayed.
4. Select 'CONNECT' to connect to the controller.
5. Check that the Bluetooth logo on the top right of the controller faceplate is flashing, indicating that the controller is connected.

## App Categories

Various options are available in the app menu to provide information about the connected controller and its cabinet.

### Home screen

The home screen shows a graphic representation of the current state of the cabinet being controlled.



### Output control

Provides control of the controller input sensors and switches, and output relays.

### Edit parameters

Provides access and editing of individual controller parameters.

**Note:** Parameter changes must be recorded on warranty/job card.

It is not recommended that parameters are changed unless absolutely necessary. If incorrect parameter settings are suspected, reload the complete parameter set.

**Note:** Updated parameters are not applied until DISCONNECT has been selected from the menu (after loading new parameter set).

### Load parameter file

Allows reloading of cabinet default parameter set or changing to new parameter set.

**Note:** Updated parameters may not be applied until DISCONNECT has been selected from the menu (after loading new parameter set).

### Statistics

Information from the past seven days on cabinet activity including temperatures, door openings and alarms.

**SCS info**

Controller version and cabinet asset information.

**SCS setup**

Add or change SCS info (see above).

**Disconnect**

Disconnect from currently connected controller.

**Settings**

Change app general settings.

**Faults and Alarms**

Table 5 and Table 6 explain the faults and alarms that the electronic controller may log and display.

If a fault occurs, the Fault - Alarm indicator is lit on the controller faceplate, but no message is displayed. Faults do not affect product temperature, and require no action from the shop owner.

Alarms are logged and the alarm message is displayed on the controller faceplate. Alarms may result in abnormal product temperature.

Some faults and alarms can be cleared by the shop owner, and others can only be cleared by a service technician.

If the cabinet is connected to the power supply and has warm product, check the SCS Connect Field App for active fault or alarm, and investigate. If the cabinet does not have an active fault or alarm, check the app statistics to determine if and when the controller signalled a fault or alarm.

Refer to the tables below for faults and alarm descriptions and possible causes and actions.

**Table 5: Faults (alarm indicator lit – no message displayed)**

Description	Possible root cause
<p><b>Over-voltage protection</b></p> <p>The maximum allowable mains supply voltage has been exceeded. The cabinet has temporarily shut down to prevent damage and will restart once the supply voltage decreases.</p>	<p>Should be a one off. If it continues, consider:</p> <ul style="list-style-type: none"> <li>• line voltage/rural</li> <li>• voltage setting parameter</li> <li>• controller</li> </ul>
<p><b>Under-voltage protection</b></p> <p>The mains supply voltage has dropped below the minimum allowable level. The cabinet has temporarily shut down to prevent damage and will restart once the supply voltage increases.</p>	<p>Should be a one off; if continues, consider:</p> <ul style="list-style-type: none"> <li>• power supply overloaded/multi-box</li> <li>• line voltage/rural</li> <li>• voltage setting parameter</li> <li>• controller</li> </ul>
<p><b>High condensing temperature protection</b></p> <p>The system was operating at an elevated temperature and has temporarily shut down to prevent damage. Extended operation in this condition may result in ALARM 15, increased energy consumption and a reduction in cabinet life. This alarm may be caused by very high ambient temperature.</p>	<p>NO cassette swap required. Consider</p> <ul style="list-style-type: none"> <li>• condenser not clean</li> <li>• poor installation/ventilation problems</li> <li>• condenser fan motor or blade</li> <li>• controller</li> </ul>
<p><b>Excessive compressor cycling protection</b></p> <p>The system has been turning on and off too frequently.</p>	<p>Take spare cassette in case there is a refrigeration system fault. Consider:</p> <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• cabinet or cassette gasket seals leaking</li> <li>• door not self-closing or gasket leaking</li> <li>• product hot or blocking cabinet airflow</li> <li>• compressor overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>

Table 6: Alarms

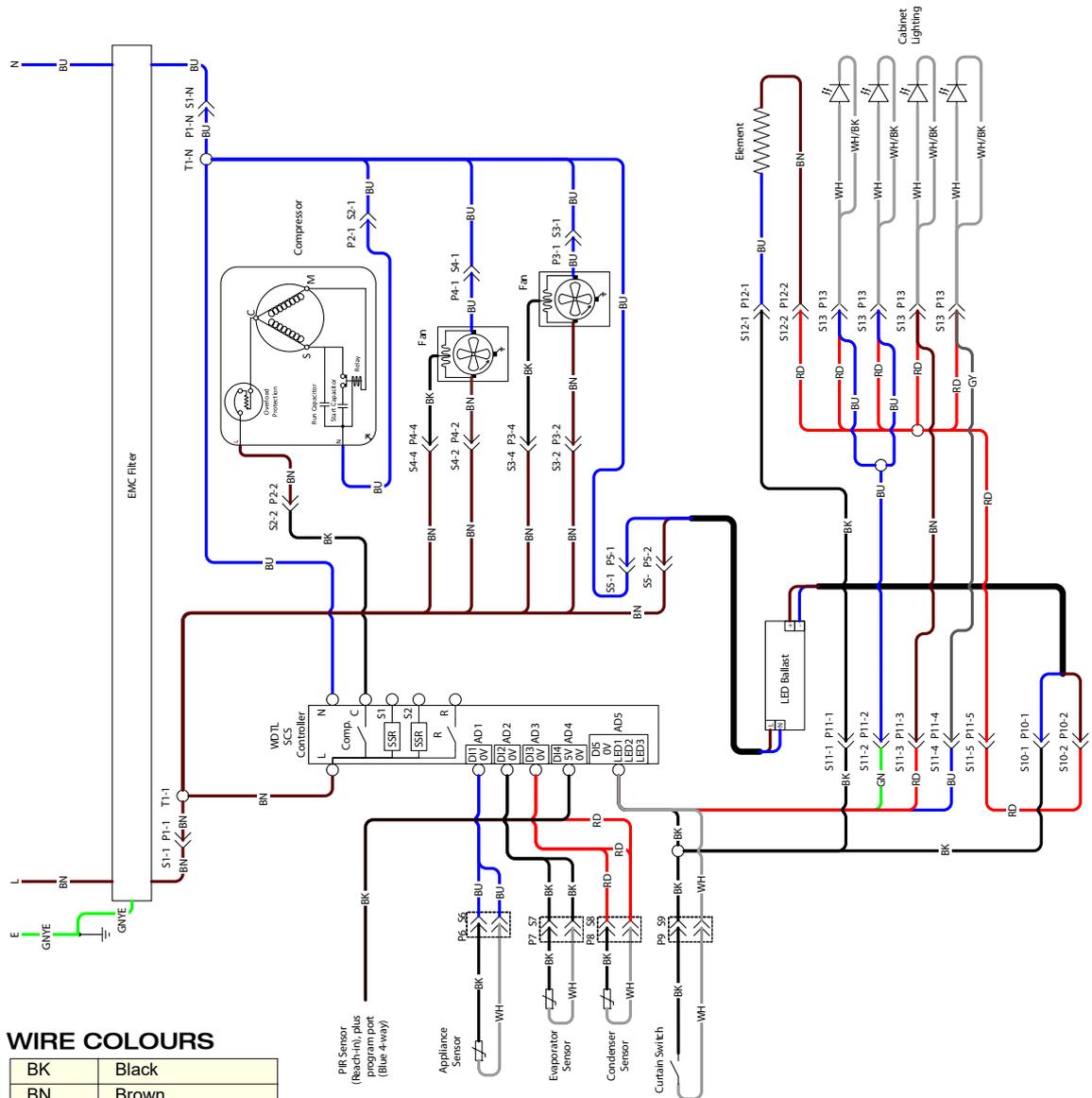
Code	Description	Possible root cause
8	<b>Estimated product temperature below allowable range</b> The estimated product temperature has been below the allowable range for longer than the permissible time. Potential causes are: an empty or partially filled cabinet, or low ambient temperature.	<ul style="list-style-type: none"> <li>• Low ambient</li> <li>• App settings</li> <li>• Controller</li> </ul>
9	<b>Estimated product temperature above allowable range</b> The estimated product temperature has been above the allowable range for longer than the permissible time. Potential causes are: excessive door openings, door being left open, or warm product loaded into cabinet.	<p>NO cassette swap required to be taken (but may be required as fault could still be with sealed refrigeration system). Consider:</p> <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• frozen or blocked evaporator coil</li> <li>• cassette gasket leaking (to cabinet or lid seal)</li> <li>• door leaking air (bad gasket or door not self-closing)</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• app settings</li> <li>• controller</li> <li>• compressor or gas leak = arrange SWAP cassette</li> </ul>
15	<b>Excessive condensing temperature protection</b> The system was operating at an excessive temperature and has shut down to prevent permanent damage. This alarm may occur due to very high ambient temperature.	<p>NO cassette swap required. Consider:</p> <ul style="list-style-type: none"> <li>• condenser not clean</li> <li>• poor installation/ventilation problems</li> <li>• condenser fan motor or blade</li> <li>• controller</li> </ul>
17	<b>Control probe failure</b> A critical system sensor has failed and the cabinet can no longer operate.	<p>NO cassette swap required</p> <ul style="list-style-type: none"> <li>• control probe/circuit</li> <li>• controller</li> </ul>
18	<b>Electrical over-current protection activated</b> The compressor was drawing too much current and has shut down to prevent permanent damage.	<p>Take spare cassette in case refrigeration system fault. Consider:</p> <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• cabinet or cassette gasket seals leaking</li> <li>• door not self-closing or gasket leaking</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>
19	<b>Failed to reach set temperature</b> The refrigeration system has been operating continuously for a long period without reaching the set temperature.	<p>Take spare cassette in case refrigeration system fault. Consider:</p> <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• frozen or blocked evaporator coil</li> <li>• cabinet seal leaking/door/cassette</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>
20	<b>Over cooling product</b> The internal temperature is too low. The system has temporarily shut down until the temperature has returned to normal. This can occur if the set temperature has been raised by a large amount.	Confirm if really too cold. If required, change the parameters.
22	<b>Evaporator fan over-current protection</b> The current supplied to the evaporator fan motor is too high.	<p>NO swap cassette required. Consider:</p> <ul style="list-style-type: none"> <li>• faulty fan motor</li> <li>• fan blade fault (imbalance/debris/blockage)</li> <li>• controller</li> </ul>
23	<b>Condenser fan over-current protection</b> The current supplied to the condenser fan motor is too high.	<p>NO cassette swap required. Consider:</p> <ul style="list-style-type: none"> <li>• faulty fan motor</li> <li>• fan blade fault (imbalance/debris/blockage)</li> <li>• controller</li> </ul>
24	<b>Controller communication error</b> Controller has lost communication channels.	<ul style="list-style-type: none"> <li>• App</li> <li>• Controller/circuit</li> </ul>
25	<b>Controller update failed</b> Controller update could not be completed.	<ul style="list-style-type: none"> <li>• App</li> <li>• Controller/circuit</li> </ul>

Table 6: Alarms (continued)

Code	Description	Possible root cause
26	<b>Controller hardware failure</b> Controller hardware has failed.	<ul style="list-style-type: none"> <li>• App</li> <li>• Controller/circuit</li> </ul>
27	<b>Probe failure</b> A non-critical system probe has failed. The cabinet will continue to operate with partial function but requires service.	NO cassette swap required. Consider: <ul style="list-style-type: none"> <li>• evaporator probe or connections</li> <li>• controller</li> </ul>
28	<b>No downward tendency</b> The temperature is no longer decreasing.	Take spare cassette in case refrigeration system fault. Consider <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• cabinet or cassette gasket seals leaking</li> <li>• door not self-closing or gasket leaking</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>
29	<b>Compressor cutting out</b> The compressor cut out on its internal protection or pressure switch.	Take spare cassette in case refrigeration system fault. Consider: <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• cabinet seal leaking/door/cassette</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>
30	<b>Excessive automatic defrosting</b> The system is automatically defrosting too frequently.	Take spare cassette in case refrigeration system fault. Consider: <ul style="list-style-type: none"> <li>• door not self-closing or gasket leaking</li> <li>• evaporator probe</li> <li>• evaporator motor or fan</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>
31	<b>Compressor stalling</b> The compressor is stalling on start up.	Take spare cassette in case refrigeration system fault. Consider: <ul style="list-style-type: none"> <li>• condenser blocked</li> <li>• poor installation/ventilation problems</li> <li>• cabinet or cassette gasket seals leaking</li> <li>• door not self-closing or gasket leaking</li> <li>• product hot or blocking cabinet airflow</li> <li>• overloaded from excess door openings/ambient</li> <li>• fan motor or blade (condenser or evaporator)</li> <li>• controller</li> <li>• compressor or gas leak = SWAP cassette</li> </ul>

### 3 Wiring

Model: OD720N - pre-June 2022



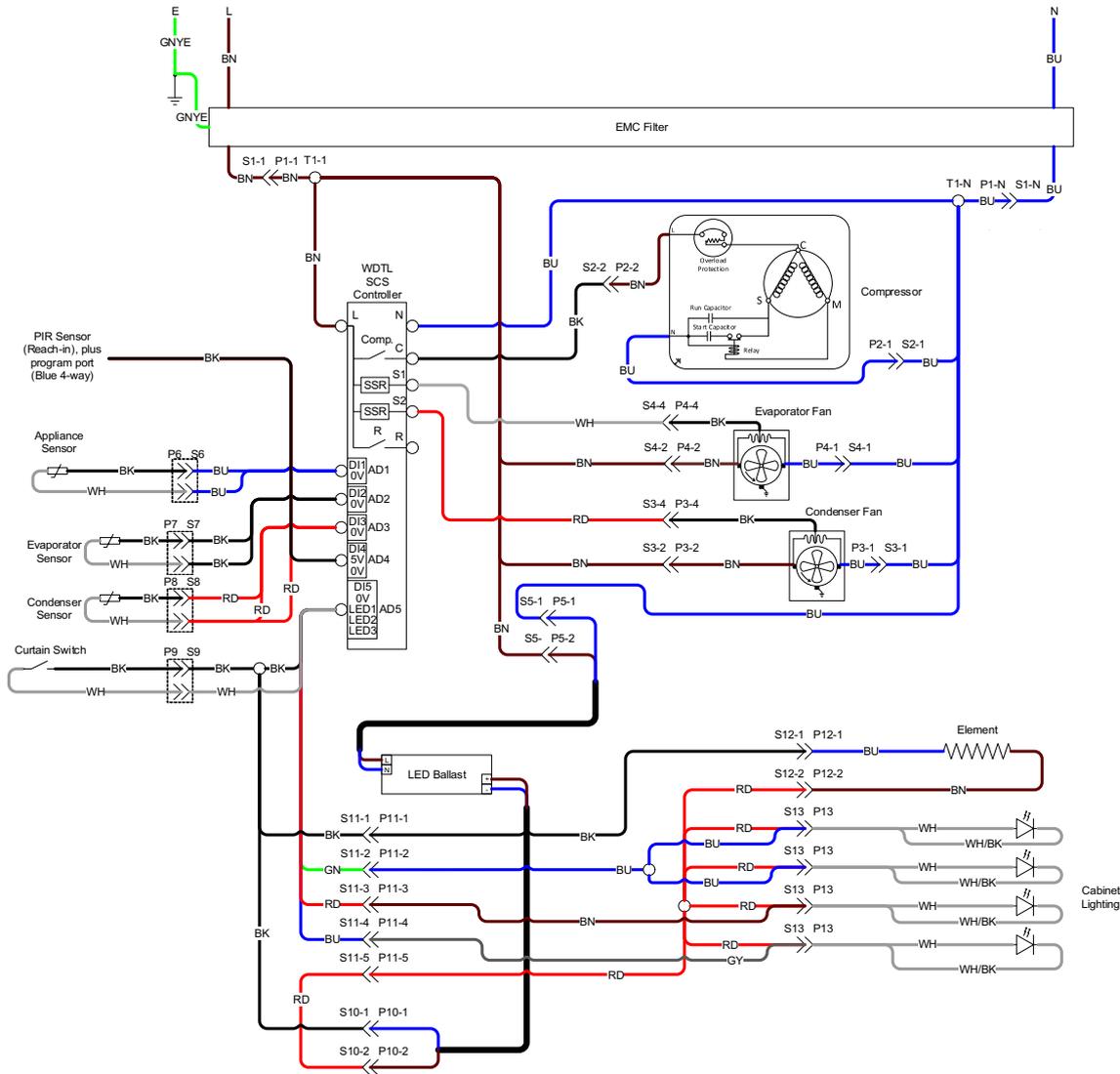
**WIRE COLOURS**

BK	Black
BN	Brown
RD	Red
OG	Orange
GN	Green
BU	Blue
GY	Grey
WH	White
GNYE	Green-Yellow
Based upon IEC 757 Standard	

**LEGEND**

T1	Unit Junction Box Terminal	S7/P7	Evaporator Sensor Socket/Plug (Black 2-way)
S1/P1	IEC Isolation Socket/Plug	S8/P8	Condenser Sensor Socket/Plug (Red 2-way)
S2/P2	Compressor Socket/Plug (Blue 4-way)	S9/P9	Door/Curtain Switch Socket (White 2-way)
S3/P3	Fan Motor Socket/Plug (Red 4-way)	S10/P10	LED Driver Output Socket/Plug (Red 2-way)
S4/P4	Fan Motor Socket/Plug (Red 4-way)	S11/P11	Cabinet Supply Socket/Plug (6-way)
S5/P5	LED Driver/Plug (on Unit) (White 3-way)	S12/P12	Heater Socket/Plug (Black 3-way)
S6/P6	Appliance Sensor Socket/Plug (Blue 2-way)	S13/P13	Cabinet Lighting Sockets/Plugs (Red 2-way)

Model: OD720N – June 2022 onwards



WIRE COLOURS

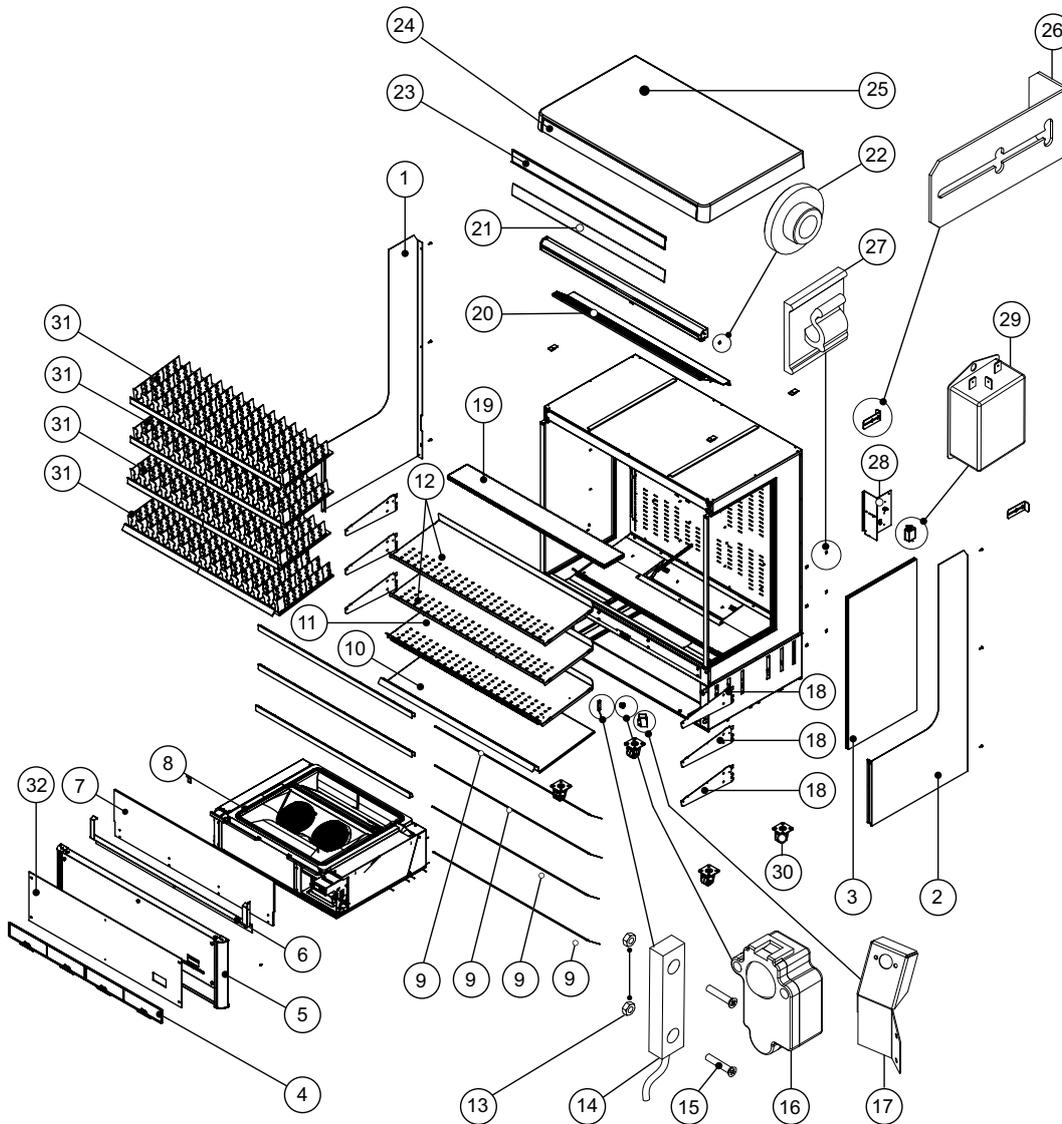
BK	Black
BN	Brown
RD	Red
OG	Orange
GN	Green
BU	Blue
GY	Grey
WH	White
GNYE	Green-Yellow
Based upon IEC 757 Standard	

LEGEND

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S4/P4	Fan Motor Socket/Plug (White 4-way)	S11/P11	Cabinet Supply Socket/Plug (6-way)
S5/P5	LED Driver/Plug (on Unit) (White 3-way)	S12/P12	Heater Socket/Plug (Black 3-way)
S6/P6	Appliance Sensor Socket/Plug (Blue 2-way)	S13/P13	Cabinet Lighting Sockets/Plugs (Red 2-way)
>>	Socket and Plug	O	Terminal

## 4 Spare Parts

### Cabinet Assembly - OD720N



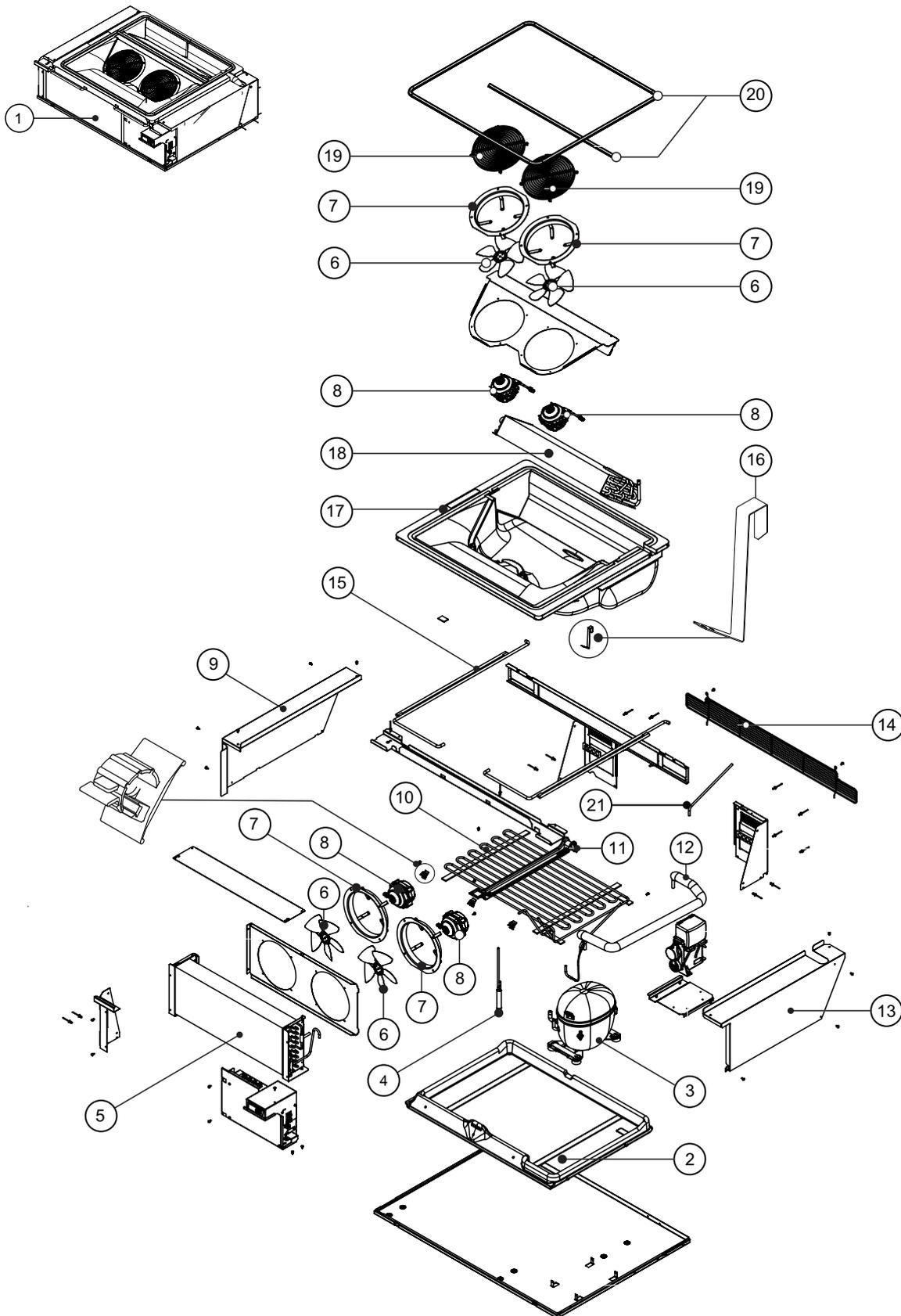
**Table 7: Parts – Cabinet OD720N**

Item	Description	SKOPE Part No.	CCEP-NZ Part No.
1	Cladding – left hand side	O720/009L-EX	TBC
2	Cladding – right hand side	O720/009R-EX	TBC
3	Glass unit (left and right hand side)	GLA12200	150103195
4	Filter	HB0070204892	150100863
5	Kick panel assembly	O720/131A-EX	150103197
6	Night blind bracket	O720/678-32	TBC
7	Upstand	PLY12196	150103208
8	Cassette assembly	UBQENI-0034-P	TBC
9	LED shelf light	ELL12193	150103192
10	Shelf – bottom	O720/590A-32	150103198
11	Shelf – mid	O720/590B-32	150103199

Table 7: Parts – Cabinet OD720N (continued)

Item	Description	SKOPE Part No.	CCEP-NZ Part No.
12	Top shelf assembly – white	O720/590C-32	150103200
13	M3 x16 mm Nylon Ph C/Snk Scr Blk	FAS11917	TBC
14	Night blind sensor	HB0074091444	150100034
15	M3 nylon nut black	FAS11918	TBC
16	PIR sensor	O332N/X03	150103196
17	PIR sensor bracket	O720/U07-32	TBC
18	Shelf bracket	STY12223-32	150103210
19	Honeycomb air guide	PLX12199	TBC
20	Return air grille	O720/586-32	TBC
21	OD720N manual night blind	SXX12195	150103212
22	Night blind spigot bush	PLM10342	150103206
23	Sign clear polycarbonate	PLY12255	TBC
24	Sign insert holder	PLE11375-1160	TBC
25	Top lid	PLM12191BK	TBC
26	Rear cabinet stop	SM12BV/106	TBC
27	Shelf bracket wire clip	PLM12298	150103207
28	Electrics gear tray assembly	O720/G29	TBC
29	EMC/EMI filters	ELZ10136	150103193
30	Castors	SXX11977	150103211
31	Matting + ticket strips	CCEP source – MFT	TBC
32	Overlay upstand acrylic	PLY12197	TBC
-	OD720 mains flex	OD720/E53	TBC
-	Lighting lead – 1930 mm (not shown)	O720/X01	150103202
-	Lighting lead – 1700 mm (not shown)	O720/X02	150103203
-	Lighting lead – 1450 mm (not shown)	O720/X03	150103204
-	Lighting lead – 550 mm (not shown)	O720/X04	150103205
-	Unit to cab lighting loom (not shown)	O720/X05	TBC
-	Cab IEC flex (not shown)	O720/X06	TBC

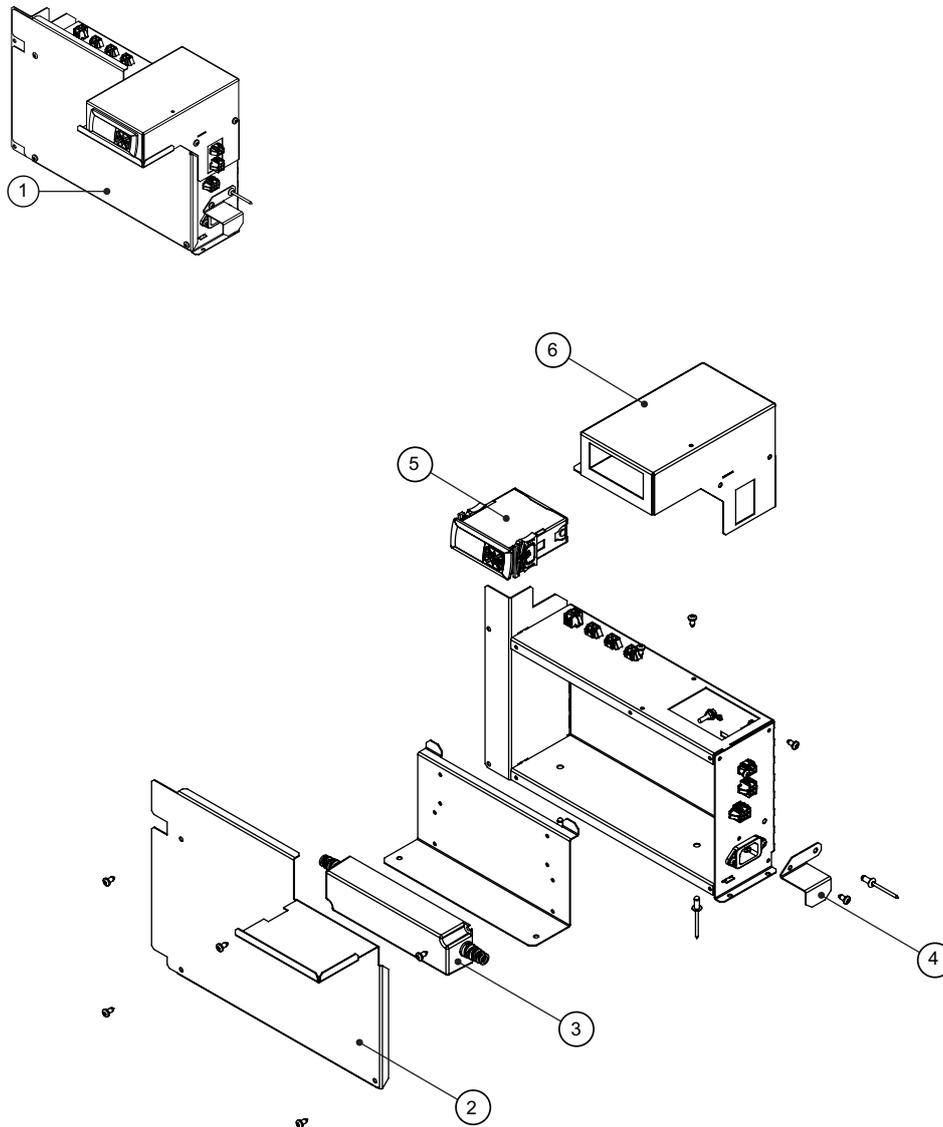
# Refrigeration Cassette Assembly



**Table 8: Parts – Refrigeration cassette**

Item	Description	SKOPE Part No.	CCEP-NZ Part No.
1	Cassette	UBQENI-0034-P	TBC
2	Condensate tray	UP10N00003	150103216
3	Compressor	CPR12170	150103190
4	Drier	DRY11210	150103191
5	Condenser coil	CLS12068	150103179
6	Fan blades	FAN1168	150102216
7	Wall ring	HB0070109669	TBC
8	Fan motors	ELM11309	150102489
9	Side cover – left hand	US04N00010	TBC
10	Condensate line	UT03N00021	150103217
11	Condensate tray hold down bracket	UP10N00004	TBC
12	Suction line assembly	UA0400018	150103214
13	Side cover – right hand	US04N00011	TBC
14	Cassette rear guard	UX02N00002	150103223
15	Lifting arm	UX01N00001	TBC
16	Probe bracket	US09N00001	
17	Evaporator tub	UA0500015	150103215
18	Evaporator coil	CLS12067	150103178
19	Fan guard	UX02N00001	150103222
20	Gaskets/seals – perimeter	RUE12210-OD720-KIT	150103209
21	Process tube	UT04N00001	TBC
-	Evaporator fan extension flex (not shown)	UW0100094	TBC
-	Condenser fan extension flex (not shown)	UW0100065	TBC
-	OD720 evaporator probe – black (not shown)	UW0300037-150BK	150103218
-	OD720 control probe – blue (not shown)	UW0300037-150BU	150103219
-	OD720 condenser probe – red (not shown)	UW0300037-150RD	150103220

## Cassette Junction Box Assembly



**Table 9: Parts – Cassette junction box**

Item	Description	SKOPE Part No.	CCEP-NZ Part No.
1	Cassette junction box assembly	UA0300028	150103213
2	Mounting bracket – controller	US07N00015	TBC
3	LED driver (MEAN WELL LPF-60-24)	ELZ12205	150103194
4	ICE retaining clip	US07N00017	TBC
5	W/Drive SCS Controller – CCEP	ELZ11488-1627	150102785
-	Junction box loom (not shown)	UW0300041	150103221

## 5 Installation

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**Climate Class** The cabinet is designed to operate within a climate class 3 environment (25°C @ 60% relative humidity).

**Cabinet Location** The cabinet should not be left exposed to direct sunlight at any time as this may cause distortion of plastic parts.

**IMPORTANT**

Do **not** leave the cabinet exposed to direct sunlight as this may cause distortion of the plastic cladding.

The cabinet must not be situated where it is affected by air-conditioning air outlets, ventilation fans or air re-circulation fans, as this will compromise the airflow and product temperature in the open cabinet zone.

There must be no air movement directly into the cabinet opening. Air movement will cause failure of the air curtain over the product, resulting in excessive temperature rise. Detectable air draft will adversely affect the cabinet operation. Maximum air movement across the cabinet opening must not exceed 0.2 m/s.

**IMPORTANT**

There must be **no** air movement directly into the cabinet opening.

**Ventilation** Keep the ventilation slots in the front panel clear at all times. **Never** store cardboard cartons or other objects in front or behind the cabinet. To maximise airflow on the rear of the cabinet, ensure rear stand-off's are fully extended when cabinet is installed.

**CAUTION**

To prevent over-heating and conserve energy, ensure air flows freely all around the cabinet, including underneath and on top.

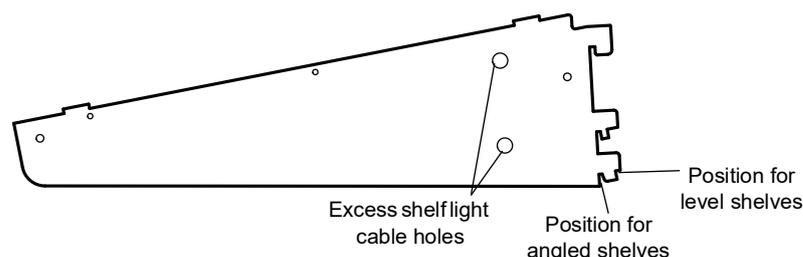
**Power Cord** The cabinet has a flexible power cord fitted with a 3-pin plug, which exits the rear of the cabinet. Pull the power cord around so that it's not trapped before you position the cabinet.

## Shelves

---

**Adjusting the Shelves** The cabinet is fitted with four metal shelves. The three top shelves are height and angle adjustable, and removable. The angled bottom shelf is not adjustable. The top two shelves are the same depth, shelf three is slightly deeper and the bottom shelf deeper again.

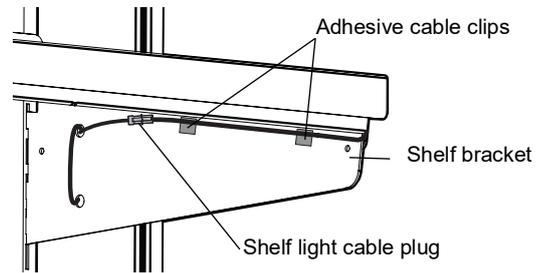
The three top shelves are each held in place by two cantilevered shelf brackets which clip into cut-outs in the cabinet back duct. The top three shelves can be adjusted at 28mm increments (see image below).



**Procedure 3: To reposition a shelf**

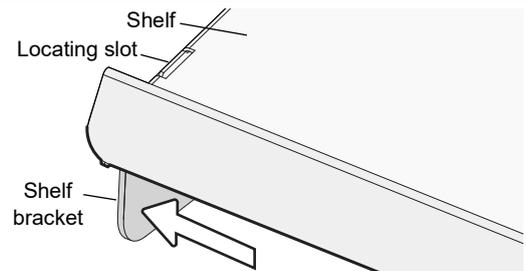
1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove product from the shelf that is being moved.

3. Unplug the shelf light cable at the inside of the right hand shelf bracket.



4. If present, lift the gravity feed matting from the shelf and remove from the cabinet.
5. Lift the shelf up off the brackets and remove from the cabinet. Be careful not to damage the shelf light cable.
6. Unwind the cable from the back of the shelf bracket.
7. Establish the desired shelf position. The shelves can be repositioned as far as the shelf light cable reasonably allows.
8. Reposition the shelf brackets to the desired position.
9. Place the shelf, and if present the gravity feed matting, onto the shelf brackets. Ensure the back of the shelf clips over the rear of the brackets.

10. Push the cantilevered brackets outwards until they clip into the edge locating slots on the side of the shelf.



11. Take up any excess shelf light cable by winding it through the two holes at the rear of the shelf bracket, and reconnect the shelf light cable plug.
12. Reassemble the cabinet and check for correct operation.

**Gravity Shelf System** Each shelf is supplied with corresponding gravity feed matting (including shelf light) and shelf dividers. The gravity shelf system comes in two sizes to suit the different size shelves (see chart below).

**Table 10: Gravity shelf system dimensions**

Shelf position	Matting depth	Divider quantity
Top 3 shelves	369 mm	15
Bottom shelf	413 mm	15

**Procedure 4: To fit the gravity feed matting and shelf dividers**

1. Match up the shelf dividers with the corresponding mats (see above chart).
2. Starting from the left hand side of the mat, fit the end divider into the end row of slots.
3. Work across the matting and fit the centre dividers at required intervals, then fit the opposite end divider.
4. Place the mat and dividers onto the corresponding shelf inside the cabinet.
5. Repeat for the remaining shelves.

## 6 Replacement Procedures

### Disconnect the Cabinet from the Power Supply

Disconnect the cabinet from the power supply before attempting **any** maintenance.

#### Procedure 5: To disconnect the cabinet

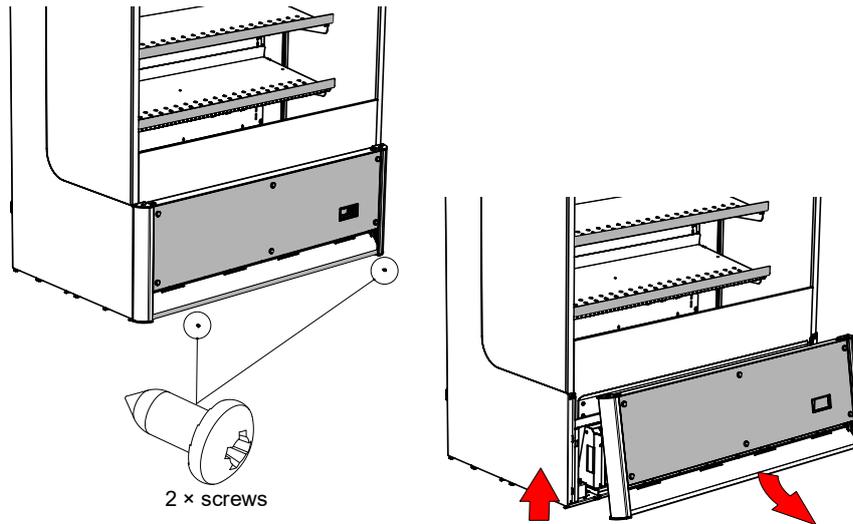
1. Switch the cabinet off at the mains power supply.
2. Unplug the power cord from the mains power supply.

### Kick Panel

The cabinet is fitted with a kick panel that hooks onto the front of the cabinet.

#### Procedure 6: To remove the kick panel

1. Remove the two screws (1) (bottom of the front panel).
2. Lift the panel up and off the cabinet (2).

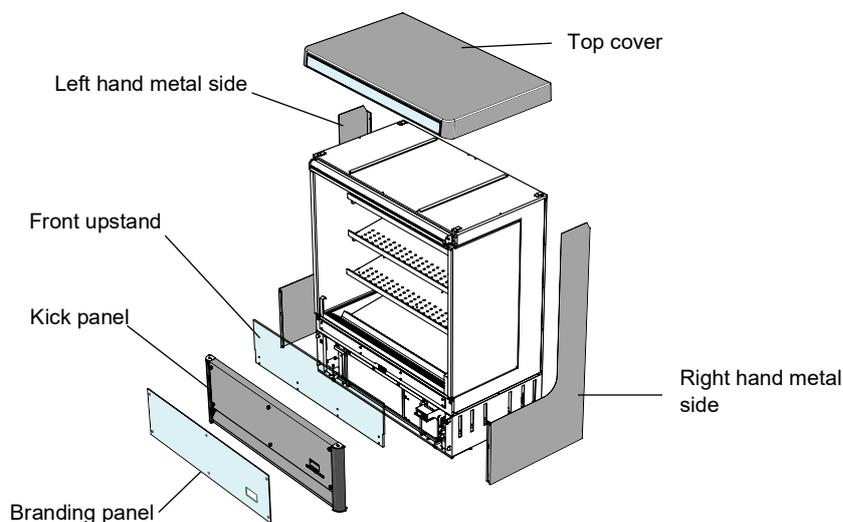


#### Procedure 7: To refit the kick panel

1. Lift the kick panel over and on to the retainer.
2. Fasten the two screws to the bottom of the front cover.

## Cladding

The cabinet is clad with a metal kick panel and branding panel, top cover, front upstand and painted metal sides. All cladding is removable and replaceable.



When changing the cladding, remove the kick panel, top cover and side cladding before fitting new cladding. The instructions over the page detail the procedure for removing a complete set of existing cladding, and for fitting a complete set of cladding. If you only need to remove a single cladding component, follow the steps sequentially until the specific component has been removed, and then reassemble.

### IMPORTANT

Do **not** expose the cabinet to direct sunlight as this may cause distortion of plastic parts.

### Removing and Refitting the Cladding

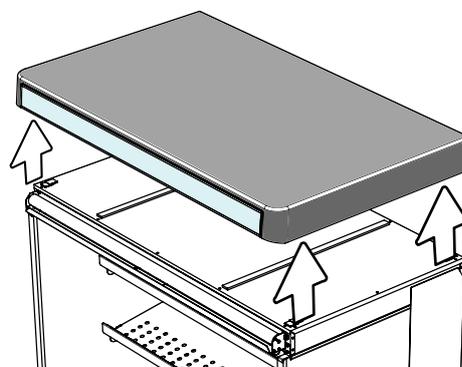
Follow the steps below to remove the cladding. The cladding should be removed in the following order:

1. Kick panel (see Procedure 6, on page 22)
2. Cabinet lid (see Procedure 8, on page 23)
3. Left hand side/right hand side (see Procedure 10, on page 24)

#### Procedure 8: To remove the cabinet lid

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).

2. Remove the top cover by lifting it up and off the cabinet.



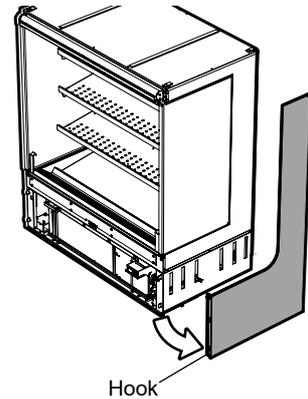
**Procedure 9: To remove the front upstand**

1. Remove the kick panel (see Procedure 6, on page 22).
2. Undo the fixing screws from the front upstand and remove the upstand.

**Procedure 10: To remove the side cladding**

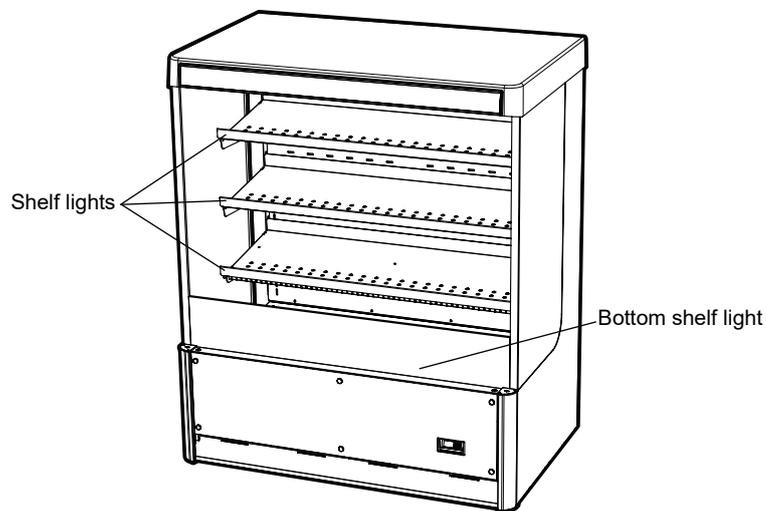
1. Remove the kick panel (see Procedure 6, on page 22).
2. Remove the cabinet lid (see Procedure 8, on page 23).

3. Undo the fixing screws from the back of the side cladding panel, and lift the panel off the cabinet.



**Lighting**

The cabinet is fitted with shelf lights. The lights turn on and off automatically when the night blind is opened or closed. The lights can also be switched on and off manually by pressing the light button on the electronic controller faceplate (see “Controller Faceplate” on page 7).



**Shelf Lights** The shelves are fitted with lights at the front of each shelf. The lights are connected to the power supply by cables which run under the right hand side of each shelf. The cables are fitted with plugs which must be disconnected when moving or replacing the shelves or lights.

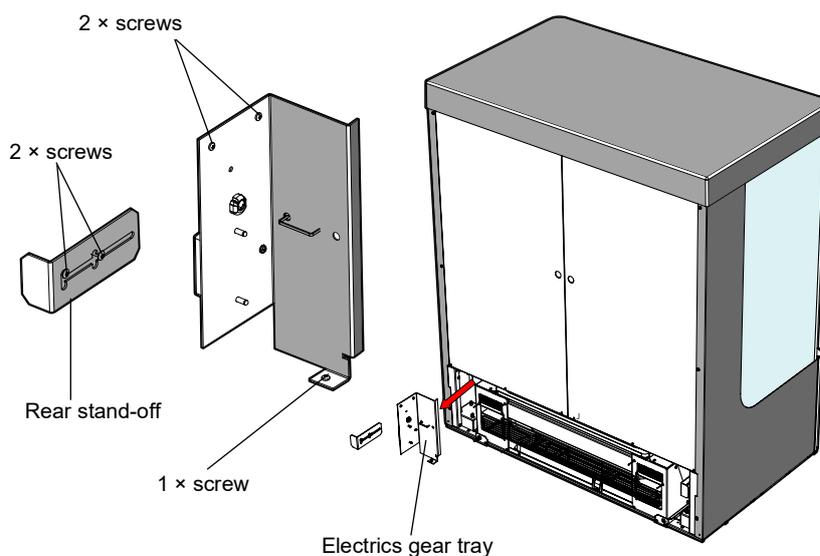
**Procedure 11: To replace a shelf light**

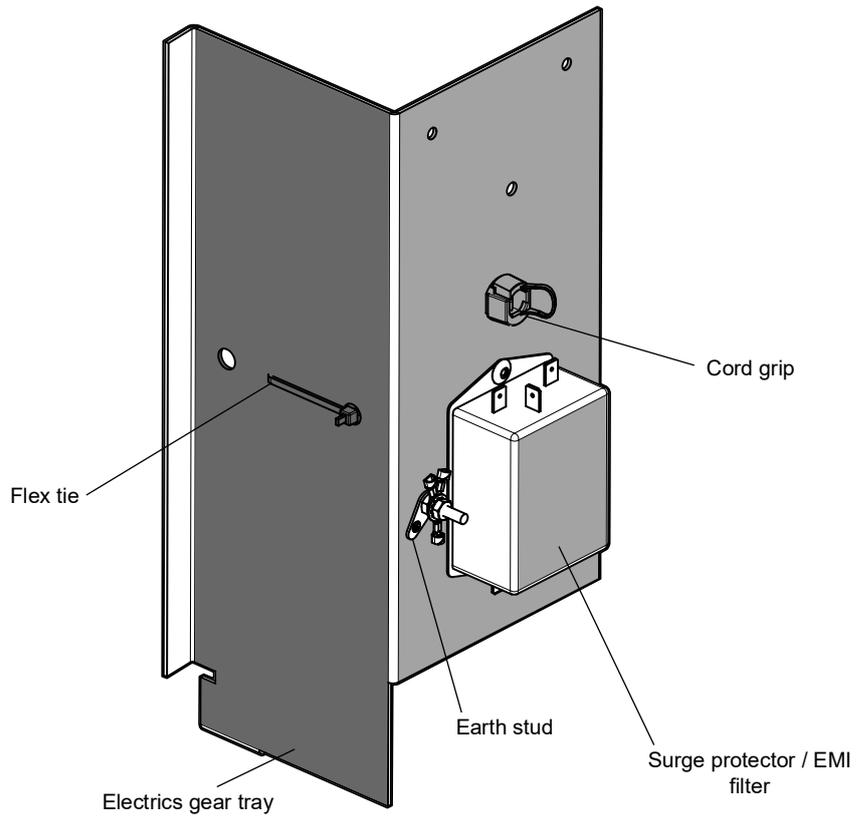
1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove product and gravity feed matting from the shelf.
3. Unplug the light and remove the shelf from the cabinet (see Procedure 3, on page 21).
4. Replace the light by sliding it out of the side of the shelf, and slide the new light into the shelf.
5. Refit the shelf and connect the light cable plug.
6. Refit the gravity feed matting.
7. Test and tag as per standard procedure.
8. Reconnect to the power supply, check for correct operation and reload product.

**Cabinet Electrics Gear Tray****Cabinet  
Electrics Gear  
Tray**

The cabinet is fitted with an electrics gear tray which houses the surge protector/EMI filter.

The surge protector/EMI filter protects the cabinet from voltage spikes and eliminates possible electromagnetic interference, and regulates the supplied voltage before feeding it into the refrigeration cassette.



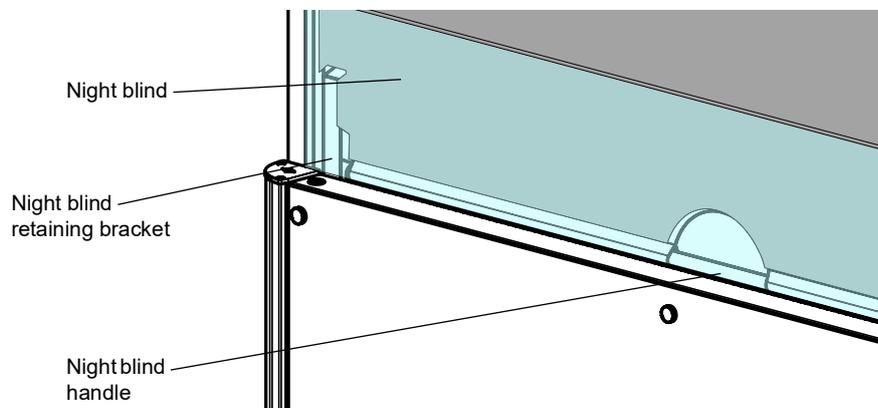


## Night Blind

The cabinet is fitted with a manual night blind which should be pulled down into the closed position during store closing hours to save power. The night blind has a switch which automatically tells the electronic controller to run the cabinet in night mode (with the lights off) when the blind is in the closed position, or day mode (with the lights on) when in the open position.

The night blind is located under the top cover and is not visible when in the open position.

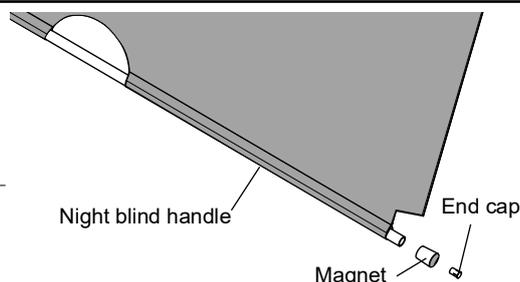
To close the night blind, use the handle pull the blind down and hook it under the night blind retaining brackets at the bottom of the cabinet opening. To open, use the handle to release the blind from the retaining brackets and control the blind as it opens.



**Night Blind Switch** The switch mechanism is made up of a magnet in the night blind handle and a switch fitted to a bracket at the bottom right hand side of the cabinet opening. The switch cable is connected to the cassette.

### Procedure 12: To replace the night blind magnet

1. Free the night blind handle from the cabinet opening to gain access to the right hand end of the handle, and remove the end cap to access the magnet.



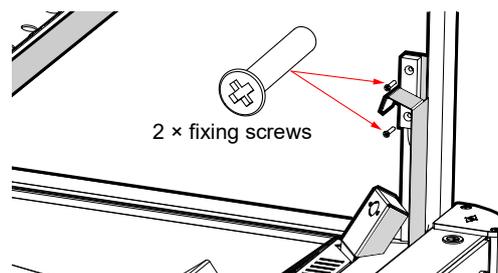
2. Remove and replace the magnet.

3. Refit the end cap and position the night blind back inside the cabinet.

### Procedure 13: To replace the night blind switch

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the kick panel (see Procedure 6, on page 22) to access the cassette.
3. Disconnect the night blind switch cable from cassette
4. Undo the night blind switch cable from the connector block on the right hand cabinet electrics panel, and withdraw the cable up into the cabinet.

5. Remove the right hand night blind bracket (with night blind switch fitted) by undoing the two fixing screws at the bottom of the bracket.



6. Remove the night blind switch from the bracket.
7. Fit the new night blind switch.
8. Run the new night blind switch cable back and reconnect the cassette.
9. Reassemble the cabinet and check for correct operation.

## Refrigeration System

### Before Servicing Overview

Ensure you have read and understood this manual before starting any servicing.

#### Important

- SKOPE hydrocarbon refrigeration systems must only be serviced by appropriately skilled and qualified refrigeration mechanics.
- Servicing a sealed refrigeration system must occur at a hydrocarbon workshop or service area with dedicated hydrocarbon equipment and personal protective equipment (PPE).
- All local hydrocarbon storage and handling regulations and procedures must be followed at all times.

Ensure all electronic controller alarms diagnostics and refrigeration system diagnostics are performed to confirm a refrigeration system fault is present.

Check all components including the electronic controller and electrical systems.  
Ensure your work area is well ventilated.

**IMPORTANT**

Use only dedicated hydrocarbon SKOPE OEM spare parts.

**DO NOT** use alternative parts.

For safety compliance, use only SKOPE-supplied components specified for the appliance.



**Safety hazards**

The main hydrocarbon safety hazards are:

- Flammability
- Venting of hydrocarbon and compressor oil
- Asphyxiation

**Refrigerant identification**

Correctly identifying the refrigerant is critical to maintain safety and the correct functioning of the cabinet.

- The cabinet rating label (located in the upper inside of the cabinet) states the refrigerant type.
- Warning labels are fitted to hydrocarbon refrigeration cabinets to indicate the use of hydrocarbon refrigerant.

**Personal protective equipment (PPE)**

Correctly wear or use all PPE required by local regulations and procedures during servicing.

**Service equipment**

Only use dedicated hydrocarbon service equipment which is hydrocarbon-compliant. Electrical equipment that could be exposed to the refrigerant must be intrinsically safe.

In addition to standard tools for accessing and removing parts, specialist tools are required for completing the refrigeration system service tasks in this manual:

- Intrinsically safe refrigeration vacuum pump, rated by the manufacturer as suitable for use with hydrocarbon refrigerant
- Dedicated hydrocarbon gauge set
- Flammable gas detector to warn if flammable refrigerant is present
- Charging scales, rated by the manufacturer as suitable for use with hydrocarbon refrigerant, accurate to 1.0 gm

**Leak detector**

A leak detector is used to track and locate the source of hydrocarbon gas leaks. It is:

- recommended for servicing hydrocarbon units on-site.
- required for servicing hydrocarbon units off-site.

**Service vehicle**

- Must be suitable for transporting flammable gas.
- Vehicle cargo area:
  - Must be well ventilated to outside the vehicle only.
  - Must have no ignition sources, nor any areas where the gas may pool.
- Must be able to transport swap units.
- Should carry minimum SKOPE hydrocarbon service parts.

**On-site Work** The service technician must have required knowledge, skills, qualifications, and tools before beginning any on-site work on the refrigeration sealed system.

**Minimum knowledge and skills**

- Qualifications and certifications required by local/state regulatory bodies to service hydrocarbon refrigeration systems
- Safe working practices, including a safe working environment at all times

**Minimum tools and equipment**

- Safety signage and/or barrier – suitable to create a safe work zone 1.5 m around the cabinet
- Hydrocarbon gas detector
- Dedicated hydrocarbon gauge set
- Bullet valves/line piercing valves suitable for a 6 mm tube

**Off-site Work Hydrocarbon workshop**

The following tools and equipment are required in the hydrocarbon workshop:

- Dedicated area for hazardous work – suitable for servicing and releasing flammable hydrocarbon refrigerant
- Hydrocarbon leak detector
- Refrigeration gauge set – suitable for flammable hydrocarbon refrigerant
- Dry nitrogen – suitable for purging and high pressure testing
- Intrinsically safe refrigeration vacuum pump, rated by the manufacturer as suitable for use with hydrocarbon refrigerant
- Charging scales, rated by the manufacturer as suitable for use with hydrocarbon refrigerant, accurate to 1.0 gm
- Hydrocarbon refrigerant supply cylinder

**Refrigeration  
Cassette  
Assembly**

The refrigeration cassette is a bottom-mounted, electronically controlled removable cassette.

For safety and compliance, only SKOPE supplied parts specifically for this appliance may be used for repairs. Other parts may appear to be suitable, but may not be approved or safe for use in an appliance with hydrocarbon refrigerant.

The electronic controller assembly is located in front of the refrigeration cassette, but is matched to the cabinet.

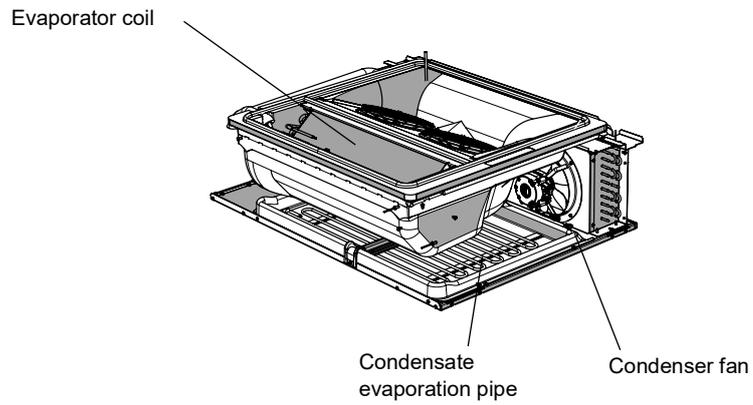
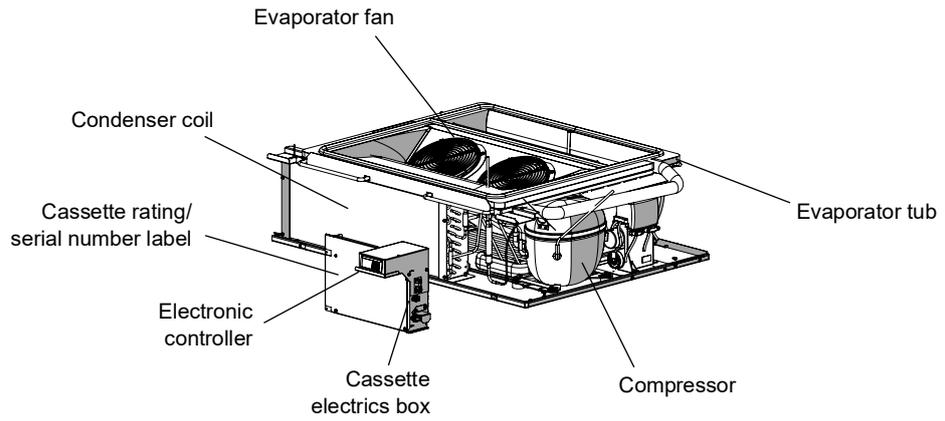
For servicing or transportation, the refrigeration cassette unplugs and pulls out of the cabinet.

The model and serial number are both printed on the cassette rating/serial number label attached to the front of the cassette. Before ordering spare parts, take note of the model and serial numbers.

Specifications for the model are in the following table. Verify model and basic requirements before servicing.

**Table 11: Cassette specifications**

Cassette model	UBQENI-0034
Compressor	Embraco NT6224U
Nominal capacity	1700 watts
Refrigerant	R290
Charge	135 g



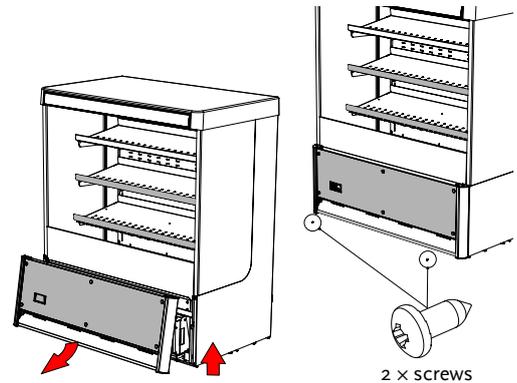
## Cassette Removal

Follow the steps below to remove the refrigeration cassette.

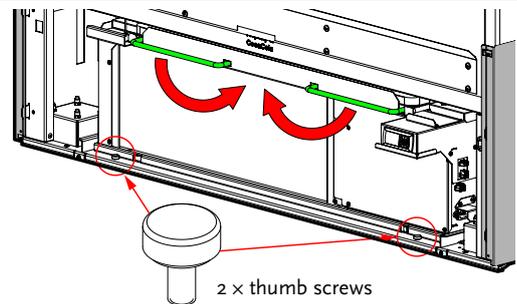
### Procedure 14: To remove the refrigeration cassette

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).

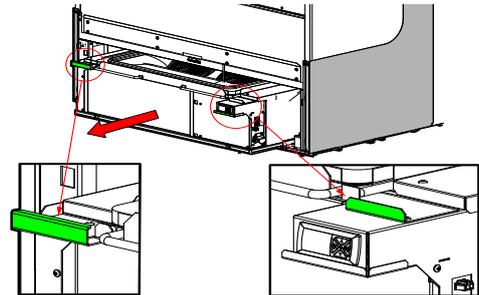
2. Remove the kick panel: Unscrew the two bottom screws, then pull out the bottom of the kick panel gently and lift vertically off the cabinet.



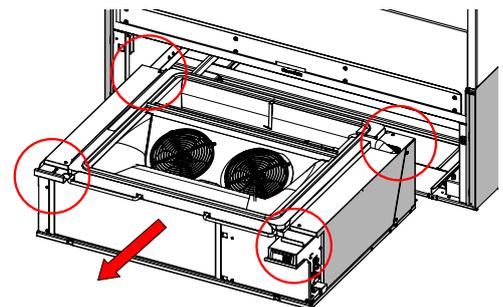
3. Pull the two cassette lifting levers and rotate inwards to a horizontal position to lower the refrigeration cassette evaporator tub. Remove 2 x thumb screws from plinth cross member.



4. Pull the cassette out approximately 200 mm using handles (see drawing details). Unplug all electrical connections.



5. Using the hand holds remove the cassette from the cabinet. When removing take care of loose plugs, cables and the cassette sealing gasket. **Important:** Ensure the cassette remains level when it is removed from the cabinet to avoid damage to the cassette seals.



6. When refitting the refrigeration cassette, ensure that:
  - the cassette sealing gasket on top of the cassette is in good condition.
  - all plugs are securely re-connected.
  - the refrigeration cassette evaporator lifts and seals correctly.
  - the front panel is refitted.

## Cassette Junction Box

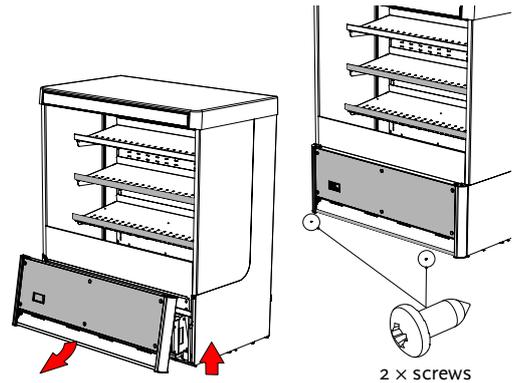
The cassette junction box assembly contains the electronic controller, the mains supply socket, the LED power supply, and panel mount socket connectors. The light, night blind switch, and PIR sensor sockets are external to the electrics box. The probe and condenser fan sockets are visible behind the electrics box front cover. The compressor and evaporator fan sockets are behind the electrics panel and require removing the side cassette side cover.

Due to the confined space within the cassette electrics box, plugs may come loose as a result of movement and vibrations. Take care when refitting to ensure all plugs are securely attached to the correct sockets.

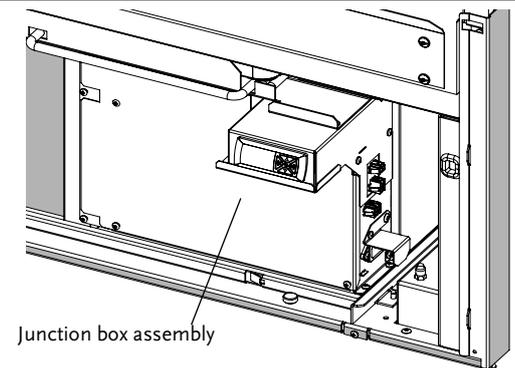
### Procedure 15: To access the interior of the cassette junction box

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).

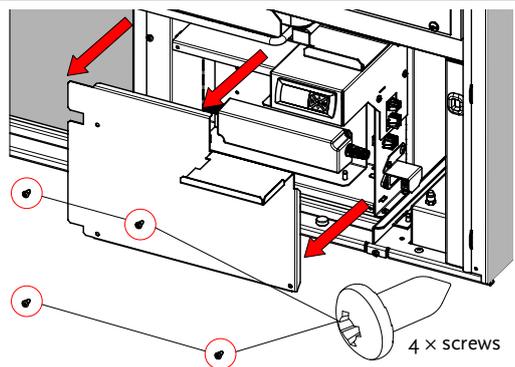
2. Remove the front panel:
  - Unscrew the two bottom screws.
  - Pull out the bottom of the kick panel gently and lift it vertically off the cabinet.



3. The cassette junction box can be accessed or removed.



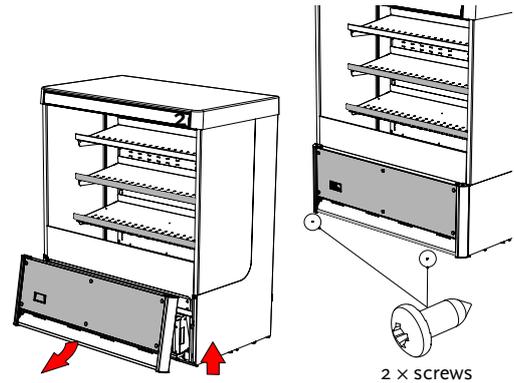
4. Remove 4 x screws from junction box lid. The lid can be removed for internal access.



**Procedure 16: To remove the junction box**

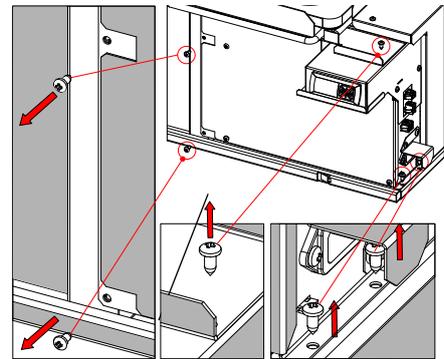
1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).

2. Remove the front panel: Unscrew the two bottom screws, then pull out the bottom of the kick panel gently and lift vertically off the cabinet.

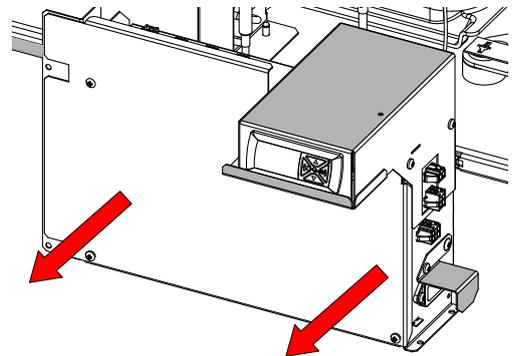


3. Remove the cassette from the cabinet (see Procedure 14, on page 31).

4. Remove 5 × screws from the junction box. Two screws on the left side of the junction box. One screw to the rear of controller and two screws on the right side.



5. Carefully lift the tub to access electrical sockets. Disconnect four sockets on the top left of the junction box and two on the rear side. The electric junction box can now be removed.



**Condenser Fan** The condenser fan assembly is made up of two high speed EC fan motors, fan blades and mounting brackets which can be replaced if necessary.

If the fan stops for any reason, check all connections to ensure no plugs have come loose.

The fan motor, fan blade and mounting brackets are removed from the refrigeration cassette as a complete assembly. The fan blade, fan motor and mounting brackets can then be replaced.

**IMPORTANT**

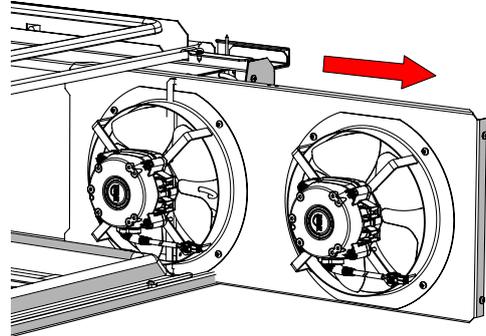
Replace the motor with the same SKOPE OEM part.  
**DO NOT** use alternative parts.

It is important that the fan blade and/or fan motor is replaced with the same part to ensure safety, and correct alignment and refrigeration performance. Fan blades should be tightened to 1.5 Nm.

**Procedure 17: To access the condenser fan assembly**

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the refrigeration cassette (see Procedure 14, on page 31).
3. Remove the cassette's left side panel.

4. Remove the fan assembly (fan motor, fan blade, mounting brackets) from the cassette:
  - Unplug the fan motor cable connectors.
  - Remove the two screws from the fan mounting plate.
  - Pull the fan mounting plate sideways out of the cassette.



**Procedure 18: To replace the fan blade**

1. Remove the condenser fan assembly (see above).
2. Remove the screw and washer from the centre of the fan blade, and lift the blade from the motor.
3. Replace new blade and fix with 12 mm flat washer and serrated head screw. Tighten the blade to 1.5 Nm.
4. Reassemble the cassette and test.

**Procedure 19: To replace the fan motor**

1. Remove the condenser fan assembly and the fan blade (see above).
2. Detach the fan motor from the fan mounting brackets by removing the four nuts and spring washers from the mounting bracket.
3. Fit new motor and reattach fan blade with 12 mm flat washer and serrated head screw. Tighten the blade to 1.5 Nm.
4. Reassemble the cassette and test for correct operation, and test and tag as per standard procedure on completion.

**Evaporator Fan** The evaporator fan assembly is made up of two high speed EC fan motors and fan blades, both of which can be replaced if necessary (see image below). The evaporator fan flexible cord has a red plug.

Before replacing fan parts, check all connections to ensure no plugs have come loose.

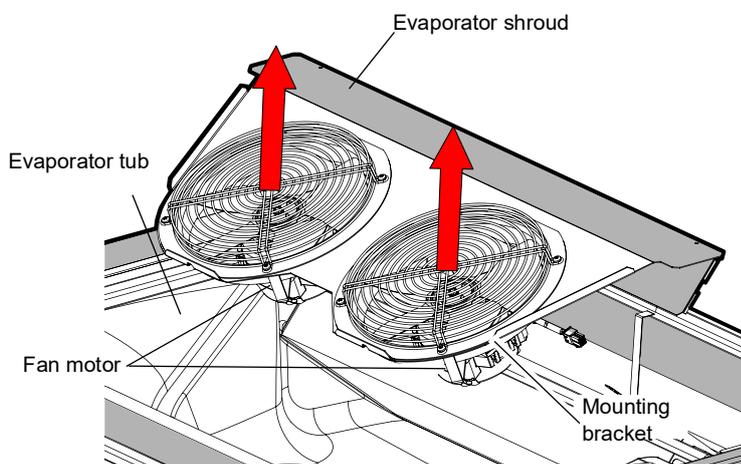
The fan motor and fan blade are fixed to the evaporator shroud via the brackets. The shroud (complete with fan motor and fan blade) can be lifted off the evaporator tub.

**IMPORTANT**  
 Replace the motor with the same SKOPE OEM part.  
**DO NOT** use alternative parts.

It is important that the fan blade and/or fan motor is replaced with the specified part to ensure safety, and correct alignment and refrigeration performance. When refitting or replacing fan motors, ensure the blade screw is tightened to 1.5 Nm.

**Procedure 20: To access the evaporator fan assembly**

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the refrigeration cassette (see Procedure 14, on page 31).
3. The evaporator fan assembly can now be accessed.

**Procedure 21: To replace the fan blade**

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the refrigeration cassette (see Procedure 14, on page 31).
3. Remove fan guard.
4. Remove the screw and washer from the centre of the fan blade, and lift the blade from the motor.
5. Fit new blade, ensuring it is centred within the evaporator shroud, and fix with 12 mm flat washer and serrated head screw. Tighten the blade to 1.5 Nm.
6. Reassemble the cassette and test.

**Procedure 22: To replace the fan motor**

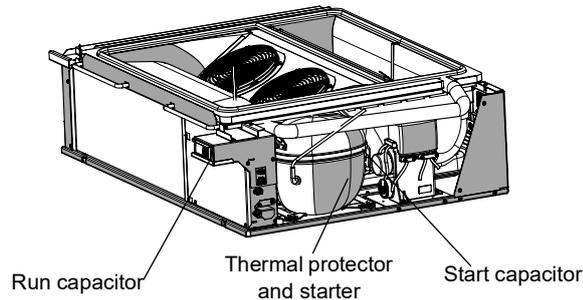
1. Follow the above steps to access the evaporator fan assembly and remove the fan blade.
2. Unscrew and remove cassette's right hand side panel to access fan motor cable connectors.
3. Lift the evaporator shroud (complete with fan motor) from the evaporator tub. **Note:** The evaporator and control probe flexible cords may restrict movement when lifting the shroud from the evaporator tub.
4. Free the fan flexible cord by cutting the cable ties and removing from the evaporator tub edge putty.
5. Remove the four nuts and spring washers from the fan mounting brackets and lift the fan motor from the bracket.
6. Attach the replacement fan motor to the fan mounting brackets using the nuts and spring washers.
7. Reattach the fan motor so that the flexible cord will point towards the right side of the evaporator tub once reinstalled. Re-cable tie the fan cord back onto the mounting bracket (to prevent high frequency vibration).
8. Place back into the evaporator tub, and ensure there is no interference between the fan motor and evaporator tub (to prevent high frequency vibration). Trace flexible cords back through the evaporator tub edge transition putty and back into the electrical box area. Ensure that the putty fills all gaps around the evaporator tub edge transition.
9. Reattach fan blade and tighten to 1.5 Nm. Ensure the correct fasteners are used (serrated head screw and 12 mm flat washer). Refit the fan guard.
10. Reassemble the cassette and test for correct operation, and test and tag as per standard procedure on completion.

**Compressor** The cassette is designed for use only with the specified compressor. If the compressor must be replaced, ensure that the SKOPE specified compressor is used as a replacement. Do not use other compressors within this refrigeration cassette.

**IMPORTANT**  
 Replace the compressor with the same SKOPE OEM part.  
**DO NOT** use alternative parts.

The compressor is located at the front of the refrigeration cassette, beside the condenser coil. If the compressor is causing excessive noise, check the mountings to ensure there is no damage to the rubber or the washers, nuts and screws.

Before replacing the compressor, check all plug connections and ensure the compressor electrics are operating correctly. The compressor must be supplied with consistent voltage over 220 volts, ensure the voltage does not drop at start-up. If the voltage does drop, ensure the cassette has a direct power supply (not from a multi-box or extension cord).



**IMPORTANT**  
 To eliminate possible vibration noise, ensure no pipes touch the evaporator tub bottom surface, evaporator tub support legs, plastic base, and condenser coil assembly.

## Refrigeration Cassette

**Cassette Removal** For detailed instructions on removing the cassette, refer to the cassette removal instructions available on the instruction sheet attached to the back of the cabinet, or on page 31 of this service manual.

**Diagnostics** The following diagnostic test is useful for workshop diagnosis of a short of gas situation. Perform the test before opening the refrigeration system.  
 It is useful to have a correctly operating cassette running beside the cassette being serviced to compare behaviour.

**Note:** These diagnostic procedures are indicative only.

### Procedure 23: Refrigeration system diagnostic test

**Before you start**

Perform this procedure in a suitable workshop.

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the refrigeration cassette (see Procedure 14, on page 31).
3. Remove the cassette cover.
4. Place the cassette on the bench and disconnect the:
  - evaporator probe (black plug) from the top of the cassette electrics.
  - evaporator fan motor (red plug) from the back of the cassette electrics box.

**Procedure 23: Refrigeration system diagnostic test (continued)**

5. Connect the refrigeration cassette to the power supply and allow to run for approximately 10 minutes until the evaporator temperature stabilises.
6. Refer to table below as a guideline to determine if the system charge is correct.
7. A system with the correct refrigerant charge will frost back to the compressor. If the frost does not go back to the point shown there may be a capillary blockage or compressor fault. The point where the frost stops is affected by the ambient temperature.
8. The table below shows system characteristics at different charge and ambient conditions for a cassette running on the bench.

**Table 12: OD720N Series (cassette UBQENI-0034)**

Observation	50% charged – 67g	75% charged – 101g	100% charged – 135g
Suction pipe at compressor	Cold sweat up to compressor stub	Frosty suction up to compressor shell	Palm size frost on compressor shell
Evaporator coil	30% frosted	30% frosted	30% frosted
Cassette power	460 W, 2.1 amps	490 W, 2.2 amps	520 W, 2.2 amps
Evaporator temperature	>-17°C	-19 to -21°C	<-22°C

9. Determine whether the system is short of refrigerant, blocked capillary or compressor fault.
  - A dry suction could indicate either short of gas, blocked capillary or compressor fault, and further analysis may be required.
  - If there is no frost present at the evaporator coil inlet pipe a blocked capillary is likely.
  - If frost is forming at evaporator coil inlet pipe system, and suction/compressor is behaving as shown in table above at 50% or 75%, the system is likely short of gas.

**Table 13: Diagnosing the problem**

Diagnosis	Frost back (after 10 mins)
Blocked capillary	None
Normal operation	Refer to table above

10. After fault has been diagnosed and repaired, reassemble the refrigeration system and test run.

**Electronic Controller**

**QC Terminals** The terminals at the back of the controller are locking QC terminals, which cannot be pulled off without pressing in the locking tabs.

Use needle nose pliers to unlock and gently remove the terminals.



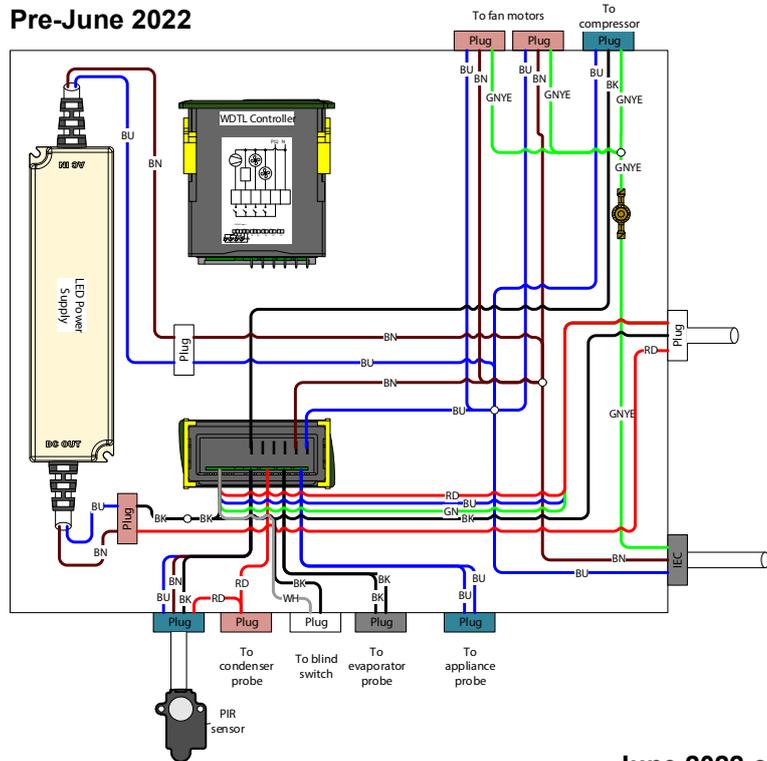
**Electronic Controller Location** The electronic controller is located within the cassette electrics box assembly, which is attached to the front of the refrigeration cassette.

## Replacing the Controller

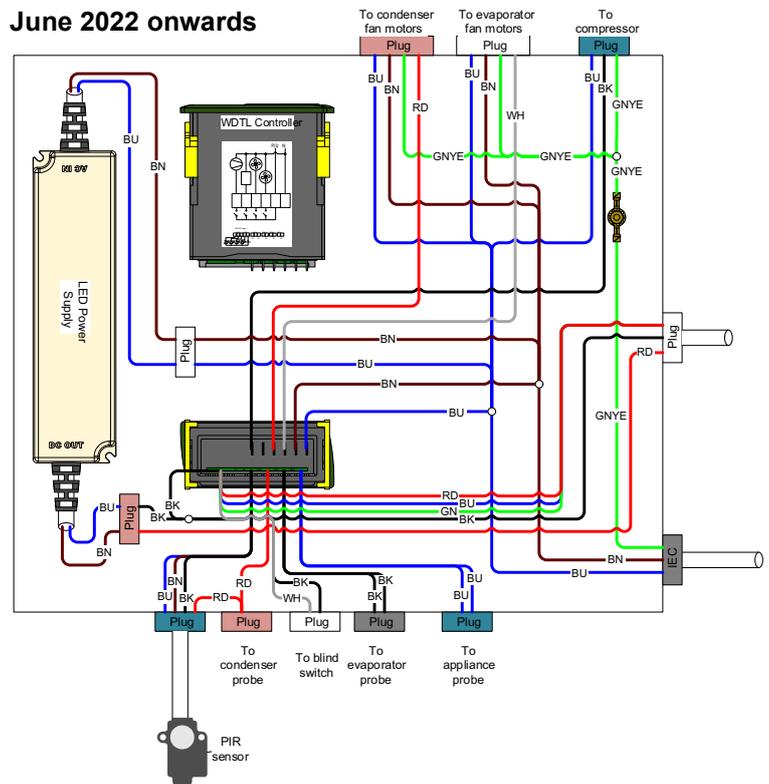
### Procedure 24: To access and replace the controller

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the kick panel (see Procedure 6, on page 22).
3. Remove the cassette electrics box (see Procedure 15, on page 32).
4. Remove the fixing screws from the electronic controller mounting, and pull the faceplate and controller from the spacer.
5. Fit the new electronic controller based on the cassette's wiring:

#### Pre-June 2022



#### June 2022 onwards



**Procedure 24: To access and replace the controller (continued)**

6. Reassemble.
7. Perform electrical safety test.
8. Reconnect the cabinet to the power supply, and use a mobile device to connect to the controller with the SCS Connect Field app (see "SCS Connect Field App" on page 8).
9. Navigate to the LOAD PARAMETER FILE menu.
10. Select the appropriate parameter file from LOCAL. If not available in LOCAL, search for the parameter file in SERVER (internet access required), and download to LOCAL.
11. Confirm correct file and WRITE TO SCS.
12. After WRITE TO SCS is complete, select MENU DISCONNECT to save parameter set on SCS.
13. Power cycle the controller and check that correct parameter set has been applied
14. Open the SCS Connect Field app and re-connect to the controller.
15. Follow CCEP procedure for "Field SCS Change Over Process" to assign the controller to the outlets details.

**PIR Sensor** The electronic controller is fitted with a PIR sensor to monitor activity inside the cabinet. The PIR sensor is located at the bottom of the cabinet opening.

**Procedure 25: To replace the PIR sensor**

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the kick panel (see Procedure 6, on page 22).

3. Unplug the PIR sensor from the electrics box (blue plug).



4. Move to the cabinet interior, and lift the return air grille out of the cabinet.



5. Unscrew the PIR sensor bracket from the cabinet and detach the PIR sensor from the bracket.



6. Unscrew the front upstand (to allow PIR sensor plug removal).

**Procedure 25: To replace the PIR sensor (continued)**

7. To remove the PIR sensor from the cabinet: Pull the cable and up through the cabinet corner.
8. Following the same path as the original cable, fit the replacement PIR sensor assembly, connect to the electrics box, and attach the sensor to the bracket and the bracket to the cabinet.
9. Reassemble the cabinet and check for correct operation: Connect to the cabinet with the SCS Field App and confirm 'Motion' appears when waving in front of the PIR sensor, and 'No Motion' appears when there is no motion.

**Control and Evaporator Probe**

The control probe is located on a bracket at the rear of the evaporator tub.

The evaporator probe is located on the right hand side of the evaporator pipe bends.

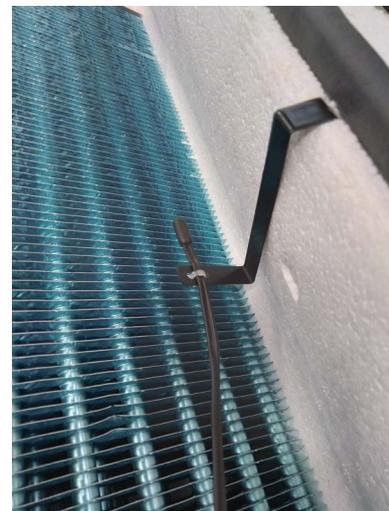
**Procedure 26: To replace the control probe**

1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
2. Remove the refrigeration cassette (see Procedure 14, on page 31).
3. Remove the cassette's right side panel.
4. Remove the electrics junction box (see Procedure 15, on page 32).
5. Unplug the control probe from the electrics box (blue socket).
6. Remove the control probe from the cassette. Cut cable ties where necessary.
7. Following the same path as the original probe, run the new probe to the original location and secure with cable ties.
8. Reassemble the cassette and test for correct operation.

**Procedure 27: To replace the evaporator probe**

1. Unplug the evaporator probe from the electrics box (black socket).
2. Remove the cork tape and cable tie from the evaporator probe. Remove the evaporator from the cassette, cutting cable ties where necessary.

3. Following the same path as the original probe, run the new probe to the original location and secure with cable ties. The evaporator probe needs to be covered with insulating cork tape.



4. Reassemble the cassette and test for correct operation.

**Condenser Probe** The condenser probe is located on the side of the condenser coil.



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**Procedure 28: To replace the condenser probe**

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1. Disconnect the cabinet from the mains power supply (see Procedure 5, on page 22).
  2. Remove the refrigeration cassette (see Procedure 14, on page 31).
  3. Remove the electrics box cover, detach the electrics box, unscrew the four fixing screws from the side of the cassette cover and lift the cover from the cassette. Place aside.
  4. Detach the probe from the condenser coil. Trace the probe cable to the cassette junction box and unplug it.
  5. Following the same path as the original probe, run the new probe to the condenser coil and secure with cable ties. Use cork tape to insulate the probe. Ensure the probe cable is securely plugged into the rear of the cassette junction box.
  6. Reassemble.
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## 7 Maintenance

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### Cleaning

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**Cabinet** Periodically wipe the inside and outside of the cabinet with a damp cloth, taking care to keep moisture away from electrical parts. As with any maintenance, ensure the chiller is isolated from the power supply before cleaning.

**Air Filter and Condenser Coil** To ensure trouble-free performance, we strongly urge monthly cleaning with a soft brush to remove dust and fluff. A more thorough cleaning is required by qualified service personnel every six months. The condenser coil and air filter **must** be kept clean for efficient and reliable operation.

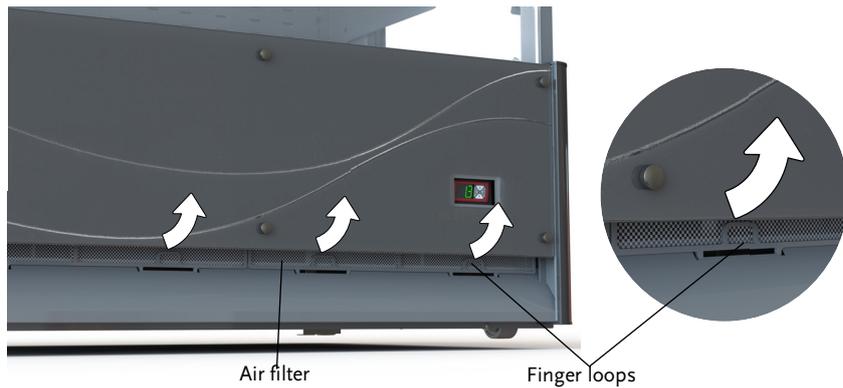
#### WARNING

Unplug the cabinet from the power supply before cleaning the condenser coil.

#### Procedure 29: To remove and clean air filter and clean condenser coil

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1. To remove the filter, use the finger loops to pull the filter up and detach from the front panel.



2. Clean the filter with a vacuum cleaner, wash with cold water and shake excess water off before refitting. Do not apply hot water, blow dry or place in dishwasher. If necessary, discard and refit new air filter.
  3. To refit the filter, insert it up into the locating bracket on the top face of the front panel vent with the finger loops facing out. Then clip into the slots on the bottom face of the front panel vent.
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## 8 Troubleshooting

### Electronic Controller

Alarms signal unexpected operational changes in the cabinet. When an alarm is activated, use the electronic controller app to assist with fault diagnosis and service as necessary. See “SCS Connect Field App” on page 8 for information.

### Cabinet and Refrigeration Cassette

For problems with the cabinet and refrigeration cassette use Table 14.

**Table 14: Cabinet and refrigeration cassette troubleshooting**

Problem	Possible Cause	Repair
<ul style="list-style-type: none"> <li>Cabinet not operating</li> <li>No controller display</li> </ul>	<ul style="list-style-type: none"> <li>Loss of power supply</li> <li>Loose plug</li> </ul>	<ul style="list-style-type: none"> <li>Check mains power supply.</li> <li>Check all plugs are connected correctly.</li> </ul>
<ul style="list-style-type: none"> <li>Lights not on.</li> </ul>	<ul style="list-style-type: none"> <li>Electronic controller is in 'Night' mode</li> <li>Light switched off / Night blind closed</li> <li>Electronic controller displays alarm indicating a refrigeration system error.</li> <li>Failed LED light</li> </ul>	<ul style="list-style-type: none"> <li>Switch the light on while keeping the chiller in night mode by pressing the light button on the electronic controller faceplate.</li> <li>Change the chiller into 'day' mode by pressing and holding the Day-Night button on the electronic controller faceplate, or hold the door open for ten seconds.</li> <li>Switch light on via button on the electronic controller faceplate (see“Controller Faceplate” on page 7).</li> <li>Open night blind.</li> <li>Diagnose and repair.</li> <li>Service light.</li> </ul>
<ul style="list-style-type: none"> <li>Excess noise vibration</li> </ul>	<ul style="list-style-type: none"> <li>Refrigeration pipes transferring vibration the into the cassette</li> </ul>	<ul style="list-style-type: none"> <li>Re-align pipes.</li> </ul>
<ul style="list-style-type: none"> <li>Frozen evaporator coil</li> </ul>	<ul style="list-style-type: none"> <li>Evaporator probe fault</li> <li>Controller fault</li> <li>Short of refrigerant</li> </ul>	<ul style="list-style-type: none"> <li>Replace evaporator probe.</li> <li>Replace controller.</li> <li>Perform refrigeration system diagnostics (see page 36) and service as required.</li> </ul>
<ul style="list-style-type: none"> <li>Power consumption is higher than expected</li> </ul>	<ul style="list-style-type: none"> <li>Cassette operating too hot</li> <li>Product too cold</li> </ul>	<ul style="list-style-type: none"> <li>Clean the condenser.</li> <li>Ensure the cabinet has good ventilation around the refrigeration cassette.</li> <li>Ensure the cabinet is within the maximum operating temperature.</li> <li>Raise set point</li> </ul>
<ul style="list-style-type: none"> <li>Product is too warm.</li> </ul>	<ul style="list-style-type: none"> <li>Refrigeration cassette operating too hot.</li> <li>Excessive door opening or refrigeration heat load</li> <li>Electronic controller is in night mode</li> <li>Set point is to high</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the cabinet has good ventilation around the refrigeration cassette.</li> <li>Ensure the cabinet is within the maximum operating conditions.</li> <li>Switch the chiller to day mode via button on electronic controller faceplate.</li> <li>Lower set point.</li> </ul>
<ul style="list-style-type: none"> <li>Moisture build up on cabinet exterior.</li> </ul>	<ul style="list-style-type: none"> <li>High humidity.</li> </ul>	<ul style="list-style-type: none"> <li>Check ambient operating temperature and reposition chiller if necessary.</li> </ul>
<ul style="list-style-type: none"> <li>Warm cabinet temperatures</li> <li>Compressor operating for long periods (more than 1 hour)</li> </ul>	<ul style="list-style-type: none"> <li>Blocked condenser coil</li> <li>Poor ventilation around refrigeration cassette</li> </ul>	<ul style="list-style-type: none"> <li>Clean the condenser coil.</li> <li>Ensure the cabinet has good ventilation around the refrigeration cassette.</li> <li>Ensure the cabinet is within the maximum operating temperature.</li> </ul>

# SKOPE Contacts

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