

TME/SKT ActiveCore

SKOPE Top Mount Vertical Fridge



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SKOPE Top Mount Vertical Fridge
Service Manual

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SKOPE INDUSTRIES LIMITED

Head Office
PO Box 1091, Christchurch
New Zealand
A.B.N. 73 374 418 306
AU: 1800 121 535
NZ: 0800 947 5673
E-mail: skope@skope.com
Website: www.skope.com

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1 Specifications

Models

This service manual is applicable to the SKOPE TME and SKT ActiveCore top mount fridges listed in the table below. Refer to the relevant product specification sheet (available on the SKOPE website: www.skope.com) for specifications.

Table 1: Specifications

Series	Model	Type	Series	Model	Type
TME650 ActiveCore	TME650-A	SM65GV	SKT650T ActiveCore Tropical	SKT650T-A	MT65DY
	TME650-AC	SM65BV		SKT650T-AC	MT65TY
TME1000 ActiveCore	TME1000-A	SM10GV		SKT650T-ACX	MT65TX
	TME1000-AC	SM10BV	SKT1000T ActiveCore Tropical	SKT1000T-A	MT10DY
TME1500 ActiveCore	TME1500-A	MT15GV		SKT1000T-AC	MT10TY
	TME1500-AC	MT15BV		SKT1000T-ACX	MT10TX
SKT650 ActiveCore	SKT650-A	MT65GY	SKT1500T ActiveCore Tropical	SKT1500T-A	MT15DY
	SKT650-AC	MT65BY		SKT1500T-AC	MT15TY
	SKT650-ACX	MT65BX		SKT1500T-ACX	MT15TX
SKT1000 ActiveCore	SKT1000-A	MT10GY	SKT600S ActiveCore Solid Door	SKT650S-A	MT65SZ
	SKT1000-AC	MT10BY			MT65SY
	SKT1000-ACX	MT10BX	SKT1000S ActiveCore Solid Door	SKT1000S-A	MT10SZ
SKT1500 ActiveCore	SKT1500-A	MT15GY			MT10SY
	SKT1500-AC	MT15BY	SKT1500S ActiveCore Solid Door	SKT1500S-A	MT15SZ
	SKT1500-ACX	MT15BX			MT15SY

2 Installation

Positioning the Cabinet

Climate Class The fridge is designed to operate within a climate class 5 environment (40°C @ 40% relative humidity). We recommend that you put the fridge in the coolest place possible because it will use less power and last longer.

Fridge Location The location of the fridge may be the single most important decision that will extend its life and ensure economical, high performance. Allow adequate space for the door/s to open and close properly. Self-closing doors have internal torsion bars pretensioned at the factory. Ensure the cabinet sits on a level surface so that the door shuts and correctly seals, and that the doors are unobstructed. Level footing also prevents the condensate tray from overflowing.

Power Cord The power cord exits from the top rear of the cabinet and is fitted with a 3-pin plug. Pull the power cord around so that it's not trapped before you position the cabinet.

Ventilation For efficient operation, it is essential that adequate ventilation is provided above the refrigeration unit. Never store cardboard cartons or other items on top of the refrigeration unit. Minimum ventilation clearances vary depending on whether the fridge is installed free-standing or built-in. Free-standing fridges are fridges that are installed with free space around the sides and top of the cabinet and unit. Built-in fridges are fridges that are enclosed within cabinetry or confined spaces. Ensure the minimum clearances below are met when installing the fridge. No clearance is required behind the fridge.

IMPORTANT

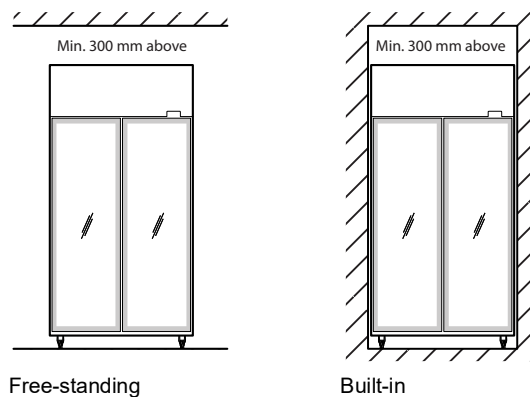
To ensure efficient and reliable operation, ensure minimum ventilation clearances are met.

Free-standing ventilation clearance

A minimum 300 mm space is required above the refrigeration unit. Free-standing fridges may be installed in environments up to 43°C.

Built-in ventilation clearance

A minimum 300 mm space is required above the refrigeration unit. Built-in fridges may be installed in environments up to 40°C.



Door Handles

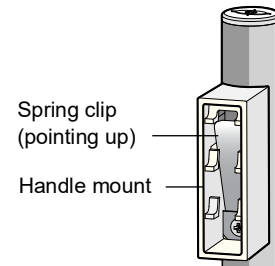
Fitting Door Handles For transit purposes door handles may be packed separately inside the cabinet. If the door handle/s are packed separately, follow the procedure below.

Procedure 1: To fit a door handle

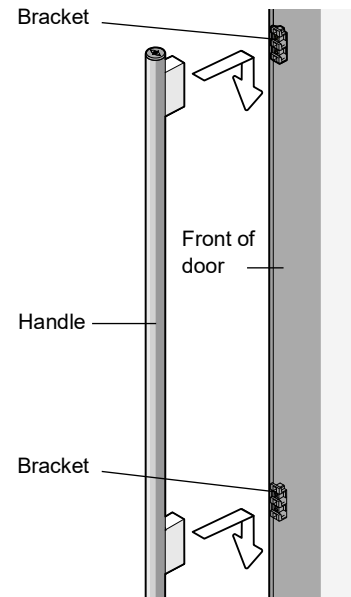
1. Remove the handle/s from inside the cabinet by carefully cutting the cable ties securing the handle, and remove the packaging.

A metal spring clip is fitted inside the handle mounts at each end of the handle.

2. Ensure that the spring clips point up.



3. Place **BOTH** handle mounts simultaneously onto both door brackets.



4. Push the handle down onto the brackets until the handle locks into place.

CAUTION

Ensure **BOTH** handle mounts are in position before pushing down.

Troubleshooting

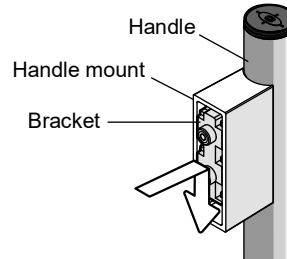
- If the handle does not lock into place, ensure the spring clips are pointing up and try again.
- If only one end of the handle locks into place, unscrew the door handle (See "To remove a door handle" on page 8), and refit, ensuring both the handle mounts are placed onto the brackets before pushing the handle down and locking into place.

Removing Door Handles The door handles can be removed for transporting and moving the cabinet through doorways, or for refitting.

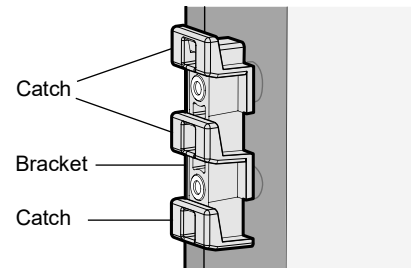
Procedure 2: To remove a door handle

1. Open the door, and peel back the door gasket from behind the handle mounts on the inside of the door frame.
2. Unscrew the handle mounts through the holes on the inside of the door frame (top and bottom screws only), and remove the handle.

3. Remove the bracket/s from the handle mount by pressing the bracket in and down until it unclips from the handle mount.



4. Fit and screw the bracket/s back onto the door. Ensure the catches are pointing up as pictured.



5. Refit the door gasket by clipping it back into place on the inside of the door frame.
6. If the gasket is out of shape after refitting it, use a hair drier to heat and reshape it.

Shelves

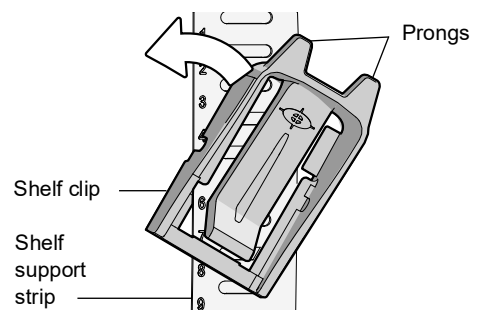
The fridge is fitted with five wire shelves per door, which may be positioned at different heights to suit various products

Shelf Clips Each wire shelf is held in place with four shelf clips, which engage in the shelf support strips and slide up and down to the desired shelf position.

The support strips are numbered for easy location of shelf clips. View the numbers in the bottom left hand corner of the shelf clip.

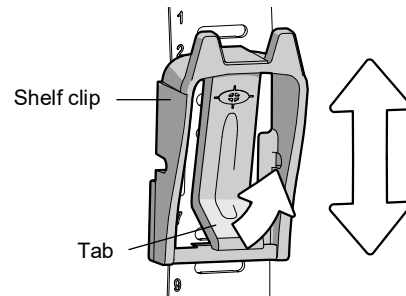
Procedure 3: To fit a shelf clip

1. The shelf clip twists onto the shelf support strip. Position the shelf clip with the flat side up against the shelf support strip and the two prongs pointing up. Twist the top of the clip anticlockwise onto the shelf support strip until it locks in place.



Procedure 4: To slide a shelf clip up and down

1. Pull the shelf clip tab up and slide the shelf clip up or down as required. Once in position, ensure the shelf clip is locked into place.

**Procedure 5: To remove a shelf clip**

1. Pull the shelf clip tab up and twist the top of the clip clockwise off the shelf support strip.

Repositioning Shelves When repositioning standard shelves, unload and remove the shelf, establish the desired position and slide the shelf clip in each of the shelf support strips to the desired position (see Procedure 4 above). Sit the shelves on the shelf clips.

When repositioning shelves fitted with shelf lights, the height is adjusted as per normal with the shelf clips. The shelves can be repositioned as far as the shelf light cable reasonably allows via the fixed cut out in the side channel cover (see procedure below).

Procedure 6: To reposition shelves fitted with lights

1. Isolate the fridge from the power supply (see "Replacement Procedures" on page 23).
2. Remove product from the shelf required to be moved, and from the shelf immediately above it.
3. Establish the desired shelf position.
4. Support the weight of the shelf and lift it up off the shelf clips. Be careful not to damage the connected shelf light cables running through the front shelf clips.
5. Slide the shelf clip in each of the shelf support strips to the desired position (see "" on page 9). The shelves can be repositioned as far as the shelf light cable reasonably allows.
6. After the shelves have been securely positioned, connect cabinet to the power supply and check for correct operation.
7. Reload the shelves with product.

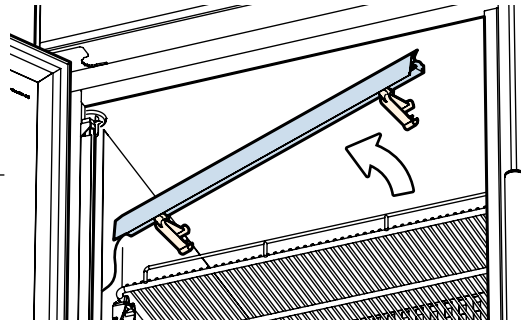
Top Shelf Light and Ticket Strip Adjustment Cabinets fitted with shelf lights are supplied with additional grey coloured shelf light clips. If required, these can be fitted in place of the existing standard top shelf light clips to lower the top shelf light and ticket strip, providing greater visibility to the top shelf.

Follow the procedure below to fit the grey clips.

Procedure 7: To lower the top shelf light and ticket strip

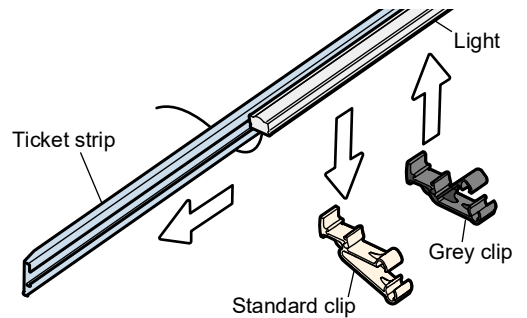
1. Isolate the fridge from the power supply (see "Replacement Procedures" on page 23).

2. Unclip the shelf light assembly from the front of the shelf.



3. Take care of the wires while handling the shelf light.

4. Slide the ticket strip off the clips.



5. Detach the two standard clips from the light, and replace with two grey clips.

6. Slide the ticket strip onto the grey clips.

7. Fit the shelf light assembly onto the front of the shelf.

8. Connect cabinet to the power supply and check for correct operation.

3 Electronic Controller

Electronic Controller Operations

Introduction The fridge is fitted with a CAREL S4 or a CAREL S4 Evo electronic controller, which is visible on the front panel and is housed inside the electronic controller box assembly at the front of the refrigeration unit.

The electronic controller controls and displays the fridge temperature, signals temperature alarms, and switches the fridge between Normal and Energy Saving modes depending on usage. During normal operation, when the cabinet door is being opened and closed, the fridge is in Normal mode with the lights on. If the door is not opened for a period of time, the fridge will automatically enter Energy Saving mode and the lights will switch off. See page 12 for more information on operating modes.

To ensure efficient operation, the electronic controller automatically forces a defrost cycle when required.

The electronic controller is pre-programmed. SKOPE does not recommend that settings be changed unless it is absolutely necessary.



Faceplate Because the electronic controller plays such an important role, it's helpful to know the parts of the faceplate you may use.

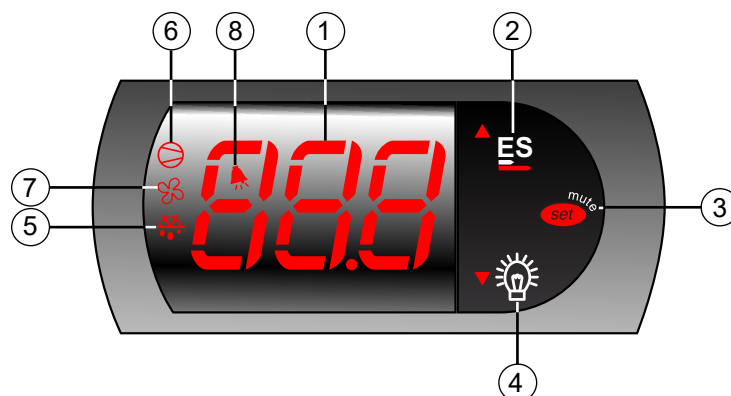










Table 2: Controller faceplate

No.	Item	Description
1		Digital display of cabinet temperature or messages. The temperature is what the sensor inside the fridge detects, and not necessarily the product temperature. However, they may be very close depending on how the controller is set to sense temperature.
2		Energy Save (up): Press and hold for 3 seconds to switch the fridge between 'Energy Save' and 'Normal' mode. Press to display mode that the fridge will switch to. 'ECO' = Energy Saving and 'nor' = Normal.
3		Set (mute): Press to mute the alarm. Press and hold to access parameters.
4		Light (down): Press and hold to switch the cabinet lights on and off.
5		Defrost: ON when the defrost is activated. Flashes when the activation of the defrost is temporarily delayed due to procedures in progress.
6		Compressor: ON when the compressor and condenser fan starts. Flashes when activation of the compressor is temporarily delayed.
7		Fan: ON when the internal cabinet fans are activated. Flashes when activation of the fans is temporarily delayed.
8		Alarm: ON when alarm is signalled.

Running the Fridge

Operating Modes The electronic controller will automatically switch the fridge between Normal and Energy Saving modes depending on usage. During Normal mode, the lights are on and product is fully chilled. During Energy Saving mode the lights are off and the product temperature is moderated.

Note: Normal and Energy Saving mode are both suitable for perishable product (all shelves maintain temperature below 5°C).

If the door is not opened for 3 hours (parameter r6), the fridge will automatically enter Energy Saving mode and the sign and interior lights will switch off. To manually switch the fridge between Normal and Energy Saving modes, press and hold the Energy Save (up) button on the electronic controller faceplate. If not manually brought into Normal mode (by pressing Energy Save up button or opening door), the electronic controller will automatically bring the fridge into Normal mode after 9 hours (parameter r7) in Energy Saving mode.

During some refrigeration system alarms, the electronic controller will shut down the lights and/or refrigeration system. Refer to "Messages and Alarms" on page 13 for alarm information.

Compressor and Fans The compressor and condenser fan will start approximately one minute after the fridge is turned on. During Normal mode, the compressor and condenser fan will turn off when the control probe temperature reading reaches 2°C (parameter St), and on again when it reaches 4°C (parameter St + rd). During Energy Saving mode, the compressor and condenser fan will turn off when the control probe temperature reading reaches 3°C (parameter St + r4), and on again when it reaches 5°C (parameter St + r4 + r5).

The evaporator fan starts approximately 3 seconds (parameter F0) after the compressor and condenser fan. To verify, check that the FAN light is lit on the electronic controller.

Temperature Probes Two temperature probes feed data to the electronic controller: the control probe and the evaporator probe. The control probe monitors and controls the fridge temperature, provides the fridge temperature for the electronic controller to display, and notifies the electronic controller of any erratic or abnormal temperatures that could identify an issue within the refrigeration system. The evaporator probe controls the refrigeration system defrost initiation and termination.

Door Switch The fridge is fitted with a door switch below each door. A small magnet in the door frame activates the switch. The door switch tells the electronic controller to turn off the evaporator fan motor (when door opened) and compressor (if door left open for 2 minutes [parameter A10]) during normal run operation, initiate Energy Saving mode if the door is not opened for 3 hours (parameter r6), and to reactivate Normal mode if the door is opened during Energy Saving mode.

Defrost Cycle The defrost cycle will begin after 2 hours (parameter dI) of cumulative compressor run time (not real time) or during no-downward tendency protection (see over page). During the defrost cycle the compressor stops and the evaporator fan runs continuously. The defrost cycle will terminate when the evaporator probe reaches 4.5°C (parameter dt), or after the defrost cycle has been running for 90 minutes (parameter dP).

Lighting Depending on the model, the cabinet may be fitted with an LED lit sign, LED interior sidelights and/or LED module shelf and side lights.

The electronic controller will automatically switch the lights on when the fridge enters Normal mode, and off when the fridge enters Energy Saving mode. Press the Light button on the electronic controller faceplate to manually switch the lights on and off.

Messages and Alarms

Controller Display The following table explains messages and alarms that the electronic controller displays. Alarms signal unexpected operational changes in the fridge and can be muted by pressing the alarm set (mute) button on the electronic controller faceplate (see page 11).

Refer to “Controller Alarms” on page 70 for alarm diagnostics and actions.

Table 3: Messages


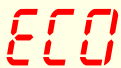

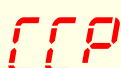
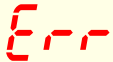







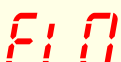


Display	Description
	The fridge is in Normal mode and the electronic controller displays the fridge temperature.
	Message: The fridge is in Energy Saving mode. When in Energy Saving mode the temperature inside the fridge is moderated and the cabinet lights turn off. The lights can be switched on and off by pressing the light button on the controller faceplate, and the fridge can be switched into Normal mode by pressing the Energy Saving button on the electronic controller faceplate.
	Alarm: The front door has remained open for over two minutes. An alarm sounds, and the compressor and evaporator fan turn off.
	The fridge is in Cold Climate Protection mode. The fridge enters cold climate protection mode if the room ambient temperature gets too cold. The lights remain on and cannot be switched off.

Table 4: Alarms

Display	Description
	Refrigeration system error. An alarm sounds. The controller turns the fridge off to avoid damage. Investigate fault with refrigeration system.
	
	Control probe fault. An alarm sounds.
	Evaporator probe fault. An alarm sounds.
	Door switch fault. An alarm sounds.
	Low temperature alarm. An alarm sounds. The temperature inside the fridge is too cold and an alarm sounds. The controller will automatically reset the alarm once the temperature inside the fridge raises.
	High temperature alarm. An alarm sounds. The temperature inside the fridge is too warm and an alarm sounds. The controller will automatically reset the alarm once the temperature inside the fridge drops.
	Low voltage alarm. An alarm sounds. The mains voltage is low. An alarm sounds and the controller switches off the compressor. The controller will automatically reset the alarm once the mains voltage raises.
	High voltage alarm. An alarm sounds. The mains voltage is high. An alarm sounds and the controller switches off the compressor. The controller will automatically reset the alarm once the mains voltage drops.
	Electronic controller fault.
	

No-downward Tendency Protection The electronic controller initiates No-downward Tendency Protection (NDTP) when the compressor has been running for 200 minutes (parameter d12) and the control probe temperature has not decreased. This will force a standard defrost cycle (see page 13). If the electronic controller is required to force consecutive defrost cycles due to NDTP, the refrigeration system error alarm will start (E3) and the fridge will shut down indicating a fault within the refrigeration system.

High Pressure Switch The refrigeration unit is fitted with a high pressure switch which protects the refrigeration unit from damage due to over-pressure (high temperature) conditions. When activated, the high pressure switch cuts power to the electronic controller, the controller display goes blank and the cabinet lights turn off. Refer to page 41 for service information.

Cold Climate Protection The fridge will enter cold climate protection (CCP) mode if the ambient temperature becomes too cold. This happens if the control probe (at the evaporator air out) detects the interior temperature below 0°C (parameter St - CCt) for more than 30 minutes (parameter CCd). The lights will stay on and cannot be switched off while the fridge is in CCP mode. The fridge will return to its previous mode (Normal or Energy Saving mode) once the control probe reading raises to parameter St temperature.

Hardware Setup

Hardware Inputs The controller has three hardware inputs as detailed in the table below. All use pin 9 as common.

Table 5: Electronic controller hardware inputs

Pins (on rear of controller)	Hardware description
9-8	Control probe
9-10	Evaporator probe
9-11	Door switch

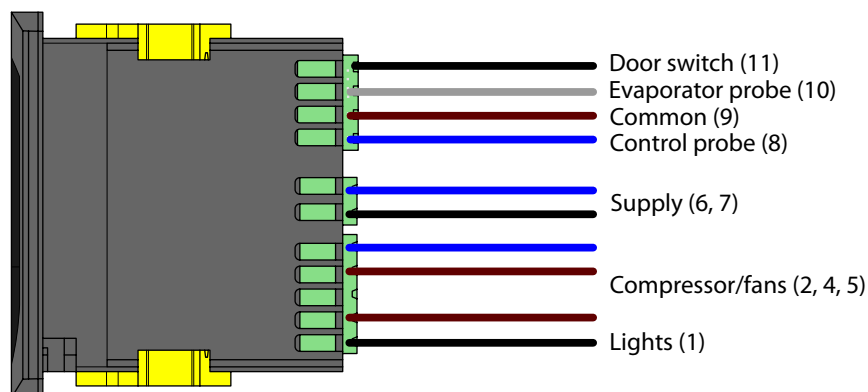
Temperature Settings The standard temperature settings for this fridge are set up for perishable product. All product temperatures are continuously below 5°C in Normal and Energy Saving mode. The Normal mode temperature can be altered by changing the setpoint (parameter St), and the Energy Saving mode temperature altered by changing the Energy Saving mode setpoint delta (parameter r4).

Temperature Control probe
Probe Readings If parameter /4 is set to 1, the control probe temperature reading is displayed on the controller faceplate during normal operation. If parameter /4 is not set to 1, it can be changed to 1 to view the control probe temperature reading.

Evaporator probe

To view the evaporator probe temperature reading, press and hold the Energy Save (up) and Set (mute) buttons. The temperature reading will display on the controller faceplate.

Wiring Termination Refer to the diagram below for controller termination details.



Programming the Electronic Controller

The electronic controller parameter configuration program is set by SKOPE at the factory. A label on the controller box indicates the parameter configuration program number (e.g. the ActiveCore Series use program '081').

The electronic controller parameters can be modified using the keypad. Frequent parameters can be access and changed without entering a password (e.g. change normal and energy save

times, temperature setpoint). Locked parameters are protected by a password to prevent accidental or unauthorised modifications.

Normal and Energy Saving Modes

To change the default times for automatic switching between Normal mode and Energy Saving mode, follow the procedure below.

Procedure 8: To change the time between Normal and Energy Saving modes

1. Press and hold the **set** button for 3 seconds until **PS** is shown on the display, indicating entry into the controller settings menu.

2. Press the **down** button to scroll the menu until **r6** is shown on the display.

The **r6** value is the time (in hours) without the door being opened. When this time is reached (during store closing hours or quiet periods) the electronic controller will switch the fridge from 'Normal' mode to 'Energy Saving' mode. The **r6** value must be ≥ 1 hour.

IMPORTANT

Do **not** set r6 to 0.

3. Press the **set** button. The current **r6** value (in hours) is shown on the display.
4. Press the **up** or **down** button to increase or decrease the value (in hourly increments).
5. Press the **set** button to temporarily save the new **r6** value.
6. Press the **down** button to scroll the menu until **r7** is shown on the display.

The **r7** value is the maximum time (in hours) that the fridge will stay in 'Energy Saving' mode. When this time is reached the electronic controller will switch the fridge from 'Energy Saving' mode to 'Normal' mode.

7. Press the **set** button. The current **r7** value (in hours) is shown on the display.
8. Press the **up** or **down** button to increase or decrease the value (in hourly increments).
9. Press the **set** button to temporarily save the new **r7** value.
10. Press and hold the **set** button for 3 seconds to permanently save the new values and exit the controller settings menu.

Temperature Setpoint

The fridge temperature setpoint is factory set at 2.5°C for storage of perishable products (all shelves maintain temperatures below 5°C). The cabinet setpoint can be adjusted between 1°C and 15°C for other specialist applications if required (see below).

SKOPE do not recommend that the setpoint be changed unless it is absolutely necessary, and then only by small increments at a time.

Procedure 9: To view and adjust the temperature setpoint

1. Press and hold the **set** button for 3 seconds until **PS** is shown on the display, indicating entry into the controller settings menu.

2. Press the **up** or **down** button to scroll the menu until **St** is shown on the display.

3. Press the **set** button. The current setpoint value is shown on the display.
4. Press the **up** or **down** button to increase or decrease the setpoint value to the required temperature.
5. Press the **set** button to temporarily save the setpoint value.
6. Press and hold the **set** button for 3 seconds to permanently save the setpoint value and exit the controller settings menu.

Parameters Follow the steps below to access the locked parameters.

Procedure 10: To access the locked parameters

1. Press and hold the **Set (mute)** button for 5 seconds until the display shows '**PS**'.
2. Press the **Set (mute)** button to access the password parameter, '**0**' is displayed.
3. Use the **Energy Save (up)** and **Light (down)** buttons to display the password '**22**' (default password).
4. Press the **Set (mute)** button to confirm the password. The display shows '**PS**'.
5. Use the **Energy Save (up)** and **Light (down)** buttons to scroll the parameter codes and locate the required parameter.

Parameter categories can be identified by the initial symbol or letter of the code, and the icon displayed on the electronic controller faceplate:

Table 6: Parameter categories

Category	Initial	Icon	Category	Initial	Icon
Probe parameters	/	—	Defrost parameters	d	
Control parameters	r	—	Alarm parameters	A	
Compressor parameters	c		Fan parameters	F	

6. Press the **Set (mute)** button to display the value associated with the parameter code.
7. Use the **Energy Save (up)** and **Light (down)** buttons to increase or decrease the value of the parameter.
8. Press the **Set (mute)** button to temporarily save the new value. The display shows the parameter code.

IMPORTANT

If no buttons are pressed for 60 seconds or the power is disconnected before the temporarily saved values are permanently saved, the temporarily saved values will be cancelled and the previous setting will be restored.

9. If necessary, repeat steps 5 to 7 to change other parameters as required.
10. Press and hold the **Set (mute)** button for 3 seconds to permanently save the parameters and exit the parameter menu.

Parameter History To see if the parameters have changed from the factory settings, check the H5 parameter. If it is a positive value the parameters are still at factory settings. If H5 is a negative value, the parameters have been changed and are not at factory settings.

Parameter list – Program 081: S4 ActiveCore Series



Electronic Controller Parameter Sheet

081

Revision: 1.1

Full List

SET0

CPS1016-081-SET0

Last Revised on

15 April 2016

This sheet is only for use in SKOPE product(s) **ActiveCore Top & Bottom Mount**Controller Type **SKOPE S4**Controller Model & Revision **PZSKC0H001K (Rev 1.211)**SKOPE Part Number **ELZ11042P-081**

Parameter	Setting	Unit	Access Level	Range		Description of Parameter
				Min	Max	
Probe Parameters						
PS	22	-	F	0	200	Password
/2	4	-	C	1	15	Probe measurement stability
/4	1	-	C	1	3	Select probe displayed
/5	0	-	C	0	1	Select °C/°F (0 = °C, 1 = °F)
/6	0	-	C	0	1	Disable decimal point
/C1	0.0	°C/°F	C	-12.7°C	12.7°C	Probe 1 off set
/C2	0.0	°C/°F	C	-12.7°C	12.7°C	Probe 2 off set
Control Parameters						
St	2.0	°C/°F	F	r1	r2	Set point
rd	2.0	°C/°F	C	0.0°C	19°C	DAY differential
r1	1.0	°C/°F	C	-50.0°C	r2	Minimum set point value
r2	15.0	°C/°F	C	r1	150°C	Maximum set point value
r4	1.0	°C/°F	C	1°C	50°C	Night Mode set point delta
r5	2.0	°C/°F	C	0°C	19.0°C	Night differential
r6	3	hrs	F	0	90	Automatic Day to Night Mode: Time Period with Door Closed
r7	9	hrs	F	1	90	Automatic Night to Day Mode: Time Period in Night mode
r8	10	sec	C	0	90	Time allowed for door closure after entering Night mode via keypad
CCt	2.0	°C/°F	H	0.1°C	20.0°C	CCP Mode: Temperature Delta
CCd	30	min	H	0	199	CCP Mode: delay
Compressor Parameters						
c0	1	min	C	0	200	Compressor start delay on power-up
c1	0	min	C	0	100	Minimum time between consecutive compressor starts
c2	5	min	C	0	100	Minimum compressor off time
c3	5	min	C	0	100	Minimum compressor on time
c4	7	min	C	0	100	Compressor on time with duty setting
Defrost Parameters						
d0	1	-	C	0	2	Type of defrost
dl	2	hrs	C	0	199	Compressor Runtime between Defrosts
dt	4.5	°C/°F	C	-50.0°C	127°C	Defrost Termination Temperature
dP	90	min	C	1	199	Maximum defrost duration
d4	1	-	C	0	1	Defrost when switching the instrument on (0:no 1:yes)
d5	0	min	C	0	199	Defrost delay on power-up (when d4=1)
d6	1	-	C	0	1	Freeze temperature display during defrost
dd	0	min	C	0	15	Dripping time
d8	0	hrs	C	0	15	Bypass high and low temperature alarms (AH,AL) after defrost
d9	0	-	C	0	1	Defrost priority over compressor protectors
d/	-	°C/°F	C	-	-	Defrost probe reading
d10	-10.0	°C/°F	C	-50.0°C	127°C	Start defrost condition: evaporator temperature threshold
d11	127	°C/°F	H	-50.0°C	127°C	Enabling defrost condition: Control probe threshold
d12	200	min	C	A10	200	No Downward Tendency Defrost - Start Delay
d20	20	min	H	0	200	Sample time of Tendency evaluation (minutes)
d21	1	-	H	1	5	Number of allowed defrost before RSF alarm
d22	0.1	°C/°F	H	1.0°C	5.0°C	Temperature gap of Tendency evaluation (°C/°F)
Alarm Parameters						
A0	2.0	°C/°F	C	-20°C	20°C	Temperature Alarm Differential
AL	4.0	°C/°F	C	-50°C	150°C	Low Temperature Alarm Setpoint. (Absolute if A0≤0, relative A0>0)
AH	8.0	°C/°F	C	-50°C	150°C	High Temperature Alarm Setpoint. (Absolute if A0≤0, relative A0>0)
Ad	180	min	C	0	199	Temperature Alarm Delay
A10	2	min	C	0	10	Open Door Alarm Delay
Fan Parameters						
F0	3	sec	C	1	100	Start delay when FAN ON is required by the Regulation
Fd0	100	min	C	1	100	Fan DAY Duty Cycle : ON time
FdF	1	min	C	1	100	Fan DAY Duty Cycle : OFF time
Fn0	2	min	C	1	100	Fan NIGHT Duty Cycle : ON time
FnF	2	min	C	1	100	Fan NIGHT Duty Cycle : OFF time
Configuration Parameters						
H0	1	-	C	0	207	Supervisor Serial address
H4	0	-	C	0	1	Disable buzzer
H5	81	-	C	0	199	ID code (read-only)

Warning:

1. Only make program modifications with reference to relevant Operating Manual.
2. This parameter sheet is exclusively for SKOPE refrigeration systems with its dedicated Carel controller.
3. Any alteration from this program may adversely affect the SKOPE Refrigeration System operation.
4. Specification may change without notice. Please check with Skope Customer Service for latest version.

Parameter list – Program 101: ActiveCore Series S4 EVO (continued over page)



Electronic Controller Parameter Sheet

Application **ActiveCore Top & Bottom Mount**
 Controller Type **SKOPE S4 EVO**
 Controller Model & Revision **PZSKCOH002K (Rev 1.414)**
 SKOPE Part Number **ELZ11478-101**

101Revision: **2.0**

Full List

SET0

CPS1017-101-SET0

Last revised on
7-Dec-2017

Parameter	Setting	Unit	Access Level	Range		Description
				Min	Max	
Probe Parameters						
PS	22		F	0	200	Password (Read Only)
/2	4		C	1	15	Measurement stability (Applies to all probes)
/4	1		C	1	5	Select probe displayed
/5	0		C	0	1	Select °C/°F (0=°C ; 1=°F)
/6	0		C	0	1	Disable decimal point
/8	0.0	°C	C	-99.00	99.0	Display Offset (Only if /E > 0)
/9	0.0	°C	C	-40.0	/A	Minimum Display value (Only if /E > 0)
/E	1		C	0	50	Display Dampening Coefficient
/C1	0.0	°C	C	-50.0	50.0	Probe 1 Calibration Offset
/C2	0.0	°C	C	-50.0	50.0	Probe 2 Calibration Offset
/C3	0.0	°C	C	-50.0	50.0	Probe 3 Calibration Offset
Regulation Parameters						
St	2.0	°C	F	r1	r2	Set point
rd	2.0	°C	C	0.0	19.0	DAY differential
r1	1.0	°C	C	-50.0	r2	Minimum set point value
r2	15.0	°C	C	r1	150	Maximum set point value
r3	1		C	0	1	Enable Auto Day/Night Mode Switching
r4	1.0	°C	C	-50.0	50.0	Night Mode set point delta (added to St)
r5	2.0	°C	C	0.0	19.0	Night differential
r6	3	hrs	F	0	90	Night Mode Start Delay (time period with no door openings)
r7	9	hrs	F	1	90	Night Mode Timeout (time period in night mode)
r10	0	hrs	C	0	24	Light Delay On Time after entering DAY mode
Cold Climate Protection Parameters						
CcT	2.0	°C	C	0.1	20.0	Cold Climate Protection Temperature Delta
CCd	30	mins	C	0	199	Cold Climate Protection Delay
Pull Down Mode Parameters						
Pt	127	°C	C	0	127	Pull-down Mode - Activation Temperature
Pd	250	hrs	C	0	250	Pull-down Mode - Maximum Duration
Compressor Parameters						
c0	1	mins	C	0	200	Comp. and Fan start delay at power-up.
c1	0	mins	C	0	100	Minimum time between consecutive compressor starts
c2	5	mins	C	0	100	Minimum compressor off time
c3	5	mins	C	0	100	Minimum compressor on time
c4	7	mins	C	0	100	Compressor on time with duty setting
c5	1		C	0	1	Enable mains voltage protection (0 = disabled, 1 = enabled)
Defrost Parameters						
d0	0		C	0	1	Type of defrost (0 = Electric, 1 = Hot Gas)
d1	2	hrs	C	0	199	Defrost interval time (Time between defrosts)
d2	1		C	0	1	Run defrost interval timer only when compressor running
dt	4.5	°C	C	-50.0	127	Defrost Termination temperature
dP	90	mins	C	1	199	Maximum defrost duration
d4	1		C	0	1	Defrost request at power-on: (0 = no, 1 = yes)
d5	0	mins	C	0	199	Defrost delay on power-up (when d4=1)
d6	1		C	0	1	Display during defrost (0 = "dEF", 1 = Temperature at start of defrost)
dd	0	mins	C	0	15	Dripping time (compressor and fans stopped after defrost)
d8	0	mins	C	0	199	Bypass high temperature alarm after defrost or door opening
d9	0		C	0	1	Defrost priority over compressor protectors
d/1	-	°C	F	-	-	Probe reading on 2nd Input (read only)

Parameter list – Program 101: ActiveCore Series S4 EVO (continued from previous page)



Electronic Controller Parameter Sheet

Application **ActiveCore Top & Bottom Mount**
 Controller Type **SKOPE S4 EVO**
 Controller Model & Revision **PZSKCOH002K (Rev 1.414)**
 SKOPE Part Number **ELZ11478-101**

101

Revision: 2.0

Full List

SET0

CPS1017-101-SET0
 Last revised on
 7-Dec-2017

Parameter	Setting	Unit	Access Level	Range		Description
				Min	Max	
d/2	-	°C	F	-	-	Probe reading on 3rd Input (read only)
d10	-50.0	°C	C	-50.0	127	On demand defrost Start Temperature
d11	0	mins	C	0	60	On demand defrost: start delay
d12	127	°C	C	-50.0	127	Enabling defrost condition: Control probe threshold
d13	1		C	0	1	Evaporator Fans During Defrost (0 = Off 1 = ON)
d19	200	mins	C	0	200	No Downward Tendency Defrost - Start Delay (0 = function disabled)
d20	20	mins	C	1	< d19	No Downward Tendency Evaluation (Sample Time)
d21	1		C	0	5	Number of NDT defrosts before R.S.F. "Err" alarm (0 = function disabled)
d22	0.1	°C	C	0.0	5.0	No Downward Tendency Evaluation (Temperature Delta)
Alarm & Input Configuration Parameters						
A0	2.0	°C	C	-20.0	20.0	Temperature Alarm Differential
AL	4.0	°C	C	-50.0	150	Low temperature alarm setpoint. (Relative if A0>0, Absolute (A0≤0))
AH	8.0	°C	C	-50.0	150	High temperature alarm setpoint. (Relative if A0>0, Absolute (A0≤0))
Ad	180	mins	C	0	199	Temperature alarm delay (0 = AL and AH alarms disabled)
A10	2	mins	C	0	10	Door Open Alarm delay (0 = door open alarm disabled)
A11	1		C	0	5	2nd Input Configuration
A12	3		C	0	16	Number of cA alarm events to trigger manual reset 'CA' alarm
A13	24	hrs	C	0	240	cA alarm counter reset delay
A14	60	mins	C	0	240	cA alarm reset delay
A15	1		C	0	1	Lights switched OFF when CHT, cA or CA alarm occurs
A18	1		C	0	1	Allow power cycle to reset CA alarm
A20	4	mins	C	A10	60	Faulty door/curtain switch E2 alarm delay
Ac	70.0	°C	C	-50.0	250	High condenser temperature alarm set point
AE	5.0	°C	C	0.1	20.0	High condenser temperature alarm differential
Acd	0	mins	C	0	250	High condenser temperature alarm delay
Acr	1		C	0	2	High condenser temperature alarm reset method
A21	2		C	0	5	3rd Input Configuration
Evaporator Fan Parameters						
F0	3	secs	C	1	100	Loads Activation Delay
Fd0	20	mins	C	1	100	Fan DAY Duty Cycle : ON time
FdF	0	mins	C	0	100	Fan DAY Duty Cycle : OFF time
Fn0	2	mins	C	1	100	Fan NIGHT Duty Cycle : ON time
FnF	2	mins	C	0	100	Fan NIGHT Duty Cycle : OFF time
Other Parameters						
H0	1		C	0	207	Supervisor Serial address
H01	1		C	0	1	Baud Rate (0 = 9600, 1 = 19200)
H02	2		C	0	2	Stop Bits
H03	0		C	0	2	Parity (0 = None, 1 = Odd, 2 = Even)
H2	1		C	0	3	Enable Keypad
H4	0		C	0	1	Disable buzzer (0 = Buzzer Enabled, 1 = Buzzer Disabled)
H5	101		F	0	199	ID code (read-only)

Warning

1. Only make program modifications with reference to relevant Operating Manual.
2. This programming sheet is exclusively for SKOPE refrigeration systems with its dedicated Carel controller.
3. Any alteration from this program may adversely affect the SKOPE Refrigeration System operation.
4. Specification may change without notice. Please check with SKOPE Customer Service for latest revision.

Parameter list – Program 105: ActiveCore Series Solid Door S4 EVO (continued over page)



Electronic Controller Parameter Sheet

Application **ActiveCore Top & Bottom Mount (Solid Door)**
 Controller Type **SKOPE S4 EVO**
 Controller Model & Revision **PZSKCOH002K (Rev 1.414)**
 SKOPE Part Number **ELZ11478-105**

105

Revision: 2.0

Full List

SET0

CPS1017-105-SET0

Last revised on

17-Feb-2017

Parameter	Setting	Unit	Access Level	Range		Description
				Min	Max	
Probe Parameters						
PS	22		F	0	200	Password (Read Only)
/2	4		C	1	15	Measurement stability (Applies to all probes)
/4	1		C	1	5	Select probe displayed
/5	0		C	0	1	Select °C/°F (0=°C ; 1=°F)
/6	0		C	0	1	Disable decimal point
/8	0.0	°C	C	-99.00	99.0	Display Offset (Only if /E > 0)
/9	0.0	°C	C	-40.0	/A	Minimum Display value (Only if /E > 0)
/E	1		C	0	50	Display Dampening Coefficient
/C1	0.0	°C	C	-50.0	50.0	Probe 1 Calibration Offset
/C2	0.0	°C	C	-50.0	50.0	Probe 2 Calibration Offset
/C3	0.0	°C	C	-50.0	50.0	Probe 3 Calibration Offset
Regulation Parameters						
St	2.0	°C	F	r1	r2	Set point
rd	2.0	°C	C	0.0	19.0	DAY differential
r1	1.0	°C	C	-50.0	r2	Minimum set point value
r2	15.0	°C	C	r1	150	Maximum set point value
r3	1		C	0	1	Enable Auto Day/Night Mode Switching
r4	1.0	°C	C	-50.0	50.0	Night Mode set point delta (added to St)
r5	2.0	°C	C	0.0	19.0	Night differential
r6	1	hrs	F	0	90	Night Mode Start Delay (time period with no door openings)
r7	90	hrs	F	1	90	Night Mode Timeout (time period in night mode)
r10	0	hrs	C	0	24	Light Delay On Time after entering DAY mode
Cold Climate Protection Parameters						
CCt	2.0	°C	C	0.1	20.0	Cold Climate Protection Temperature Delta
CCd	30	mins	C	0	199	Cold Climate Protection Delay
Pull Down Mode Parameters						
Pt	127	°C	C	0	127	Pull-down Mode - Activation Temperature
Pd	250	hrs	C	0	250	Pull-down Mode - Maximum Duration
Compressor Parameters						
c0	1	mins	C	0	200	Comp. and Fan start delay at power-up.
c1	0	mins	C	0	100	Minimum time between consecutive compressor starts
c2	5	mins	C	0	100	Minimum compressor off time
c3	5	mins	C	0	100	Minimum compressor on time
c4	7	mins	C	0	100	Compressor on time with duty setting
c5	1		C	0	1	Enable mains voltage protection (0 = disabled, 1 = enabled)
Defrost Parameters						
d0	0		C	0	1	Type of defrost (0 = Electric, 1 = Hot Gas)
d1	2	hrs	C	0	199	Defrost interval time (Time between defrosts)
d2	1		C	0	1	Run defrost interval timer only when compressor running
dt	4.5	°C	C	-50.0	127	Defrost Termination temperature
dP	90	mins	C	1	199	Maximum defrost duration
d4	1		C	0	1	Defrost request at power-on: (0 = no, 1 = yes)
d5	0	mins	C	0	199	Defrost delay on power-up (when d4=1)
d6	1		C	0	1	Display during defrost (0 = "dEF", 1 = Temperature at start of defrost)
dd	0	mins	C	0	15	Dripping time (compressor and fans stopped after defrost)
d8	0	mins	C	0	199	Bypass high temperature alarm after defrost or door opening
d9	0		C	0	1	Defrost priority over compressor protectors
d/1	-	°C	F	-	-	Probe reading on 2nd Input (read only)

Parameter list – Program 105: ActiveCore Series Solid Door S4 EVO (continued from previous page)



Electronic Controller Parameter Sheet

Application **ActiveCore Top & Bottom Mount (Solid Door)**
 Controller Type **SKOPE S4 EVO**
 Controller Model & Revision **PZSKCOH002K (Rev 1.414)**
 SKOPE Part Number **ELZ11478-105**

105
 Revision: 2.0

Full List

SET0

CPS1017-105-SET0
 Last revised on
 17-Feb-2017

Parameter	Setting	Unit	Access Level	Range		Description
				Min	Max	
d/2	-	°C	F	-	-	Probe reading on 3rd Input (read only)
d10	-50.0	°C	C	-50.0	127	On demand defrost Start Temperature
d11	0	mins	C	0	60	On demand defrost: start delay
d12	127	°C	C	-50.0	127	Enabling defrost condition: Control probe threshold
d13	1		C	0	1	Evaporator Fans During Defrost (0 = Off 1 = ON)
d19	200	mins	C	0	200	No Downward Tendency Defrost - Start Delay (0 = function disabled)
d20	20	mins	C	1	< d19	No Downward Tendency Evaluation (Sample Time)
d21	1		C	0	5	Number of NDT defrosts before R.S.F. "Err" alarm (0 = function disabled)
d22	0.1	°C	C	0.0	5.0	No Downward Tendency Evaluation (Temperature Delta)
Alarm & Input Configuration Parameters						
A0	2.0	°C	C	-20.0	20.0	Temperature Alarm Differential
AL	4.0	°C	C	-50.0	150	Low temperature alarm setpoint. (Relative if A0>0, Absolute (A0≤0))
AH	8.0	°C	C	-50.0	150	High temperature alarm setpoint. (Relative if A0>0, Absolute (A0≤0))
Ad	180	mins	C	0	199	Temperature alarm delay (0 = AL and AH alarms disabled)
A10	2	mins	C	0	10	Door Open Alarm delay (0 = door open alarm disabled)
A11	1		C	0	5	2nd Input Configuration
A12	3		C	0	16	Number of cA alarm events to trigger manual reset 'CA' alarm
A13	24	hrs	C	0	240	cA alarm counter reset delay
A14	60	mins	C	0	240	cA alarm reset delay
A15	1		C	0	1	Lights switched OFF when CHT, cA or CA alarm occurs
A18	1		C	0	1	Allow power cycle to reset CA alarm
A20	4	mins	C	A10	60	Faulty door/curtain switch E2 alarm delay
Ac	70.0	°C	C	-50.0	250	High condenser temperature alarm set point
AE	5.0	°C	C	0.1	20.0	High condenser temperature alarm differential
Acd	0	mins	C	0	250	High condenser temperature alarm delay
Acr	1		C	0	2	High condenser temperature alarm reset method
A21	2		C	0	5	3rd Input Configuration
Evaporator Fan Parameters						
F0	3	secs	C	1	100	Loads Activation Delay
Fd0	20	mins	C	1	100	Fan DAY Duty Cycle : ON time
FdF	0	mins	C	0	100	Fan DAY Duty Cycle : OFF time
Fn0	2	mins	C	1	100	Fan NIGHT Duty Cycle : ON time
FnF	2	mins	C	0	100	Fan NIGHT Duty Cycle : OFF time
Other Parameters						
H0	1		C	0	207	Supervisor Serial address
H01	1		C	0	1	Baud Rate (0 = 9600, 1 = 19200)
H02	2		C	0	2	Stop Bits
H03	0		C	0	2	Parity (0 = None, 1 = Odd, 2 = Even)
H2	1		C	0	3	Enable Keypad
H4	0		C	0	1	Disable buzzer (0 = Buzzer Enabled, 1 = Buzzer Disabled)
H5	105		F	0	199	ID code (read-only)

Warning

1. Only make program modifications with reference to relevant Operating Manual.
2. This programming sheet is exclusively for SKOPE refrigeration systems with its dedicated Carel controller.
3. Any alteration from this program may adversely affect the SKOPE Refrigeration System operation.
4. Specification may change without notice. Please check with SKOPE Customer Service for latest revision.

4 Replacement Procedures

Lighting

Depending on the model, the cabinet may be fitted with an LED tube sign light, LED tube interior side light/s, LED modular interior side lights, or LED modular shelf lights.

See the table below for light tube specifications. Before replacing a light, determine the light specification and part number, and replace with the same light type. Fluorescent tubes cannot be used in place of LED tubes.

IMPORTANT

Replace the light with the same type (LED tube or modular light). **DO NOT** use fluorescent tubes.

Refer to the table below for replacement light specifications.

Table 7: Light specifications

Model	Interior light		Sign light	
	Description	Part No.	Description	Part No.
TME650-A	LED tube side light	ELL10180	n.a.	n.a.
TME650-AC			LED tube sign light	ELL10741
TME1000-A			n.a.	n.a.
TME1000-AC			LED tube sign light	ELL11288
TME1500-A	LED tube side light and modular pillar light	ELL10180	n.a.	n.a.
TME1500-AC		ELL11049	LED tube sign light	ELL10743
SKT650-A	LED modular side light	ELL11049	n.a.	n.a.
SKT650-AC			LED tube sign light	ELL10741
SKT650-ACX	LED modular side and shelf lights	ELL11049 ELL11048	LED tube sign light	ELL10741
SKT1000-A	LED modular side light	ELL11049	n.a.	n.a.
SKT1000-AC			LED tube sign light	ELL11288
SKT1000-ACX	LED modular side and shelf lights	ELL11049 ELL11388	LED tube sign light	ELL11288
SKT1500-A	LED modular side/pillar light	ELL11049	n.a.	n.a.
SKT1500-AC			LED tube sign light	ELL10743
SKT1500-ACX	LED modular shelf light	ELL11388	LED tube sign light	ELL10743

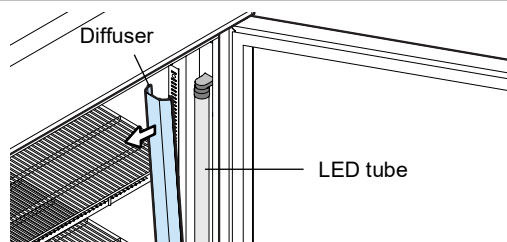
Note: LED tube lights may be fitted with rotating end caps at each end of the tube. Ensure both end caps are positioned at the '0' setting and that the light faces the correct direction.

LED Tube Side Lighting LED tube side lit cabinets are lit by one or two T8 LED tube side lights, which can be replaced without moving shelves or product.

Procedure 11: To replace an LED tube side light

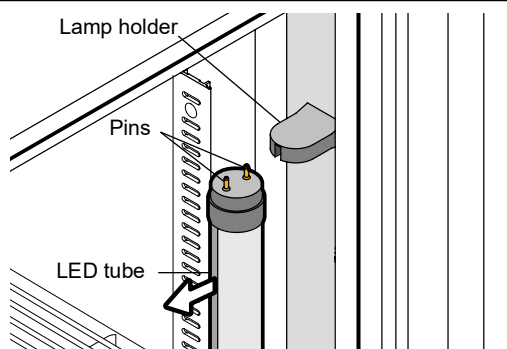
1. Isolate the fridge from the power supply.

2. Remove the diffuser by squeezing it until it is released from the aluminium housing, and then push the diffuser out of the way.



3. Rotate the LED tube until the pins on the ends of the tube align with the slots, then slide it out.

4. Fit a new LED tube. Ensure the LED tube is fitted with the 'Power' end at the top (usually marked 'POWER' or similar). **Note:** If present, the pointer at each end of the tube should be set to the "0" position.



5. Refit the diffuser by slipping the back section into the housing, then squeezing and snapping the front section of the diffuser into place as you work down the length of the light.

Modular Lighting Modular lighting is made up of three components which are replaceable:

- LED modular shelf light (1 per shelf)
- LED driver power supply (1 per cabinet)
- Interior wiring loom (1 per door)

Power is supplied to the lights by the LED driver power supply (located on the cabinet roof) via the wiring loom/s which run down the sidelight channel.

Modular lighting components are all non serviceable items. If a component is faulty, it should be removed and a new replacement component fitted.

Refer to the diagnostics table below to determine what component may be at fault, and the procedures over the next few pages for component replacement instructions.

Ensure the cabinet is isolated from the power supply before cleaning or removing parts.

Table 8: Modular lighting fault diagnostics

Problem	Possible cause	Repair
No lights working. Cabinet is dark.	Lights switched off.	Switch lights on at electronic controller faceplate (see page 11).
	Controller is in Energy Saving mode.	Open the door to bring the controller into Normal mode.
	High pressure switch activated.	Investigate possible high pressure event (see page 41).
	Plug not connected properly.	Check and clean plugs on top of the cabinet.
	LED driver power supply fault.	Replace LED driver power supply.

Table 8: Modular lighting fault diagnostics (continued)

Problem	Possible cause	Repair
Modular light component not working.	Plug not connected properly.	Check and clean plug connection in side light channel, behind the loom cover.
	Faulty modular lighting component.	Replace faulty modular lighting component.
Segment of modular component not working.	Faulty modular lighting component.	Replace faulty modular lighting component.

Procedure 12: To replace an LED modular shelf light component

1. Isolate the fridge from the power supply (see page 23).
2. Gain access to the shelf light plug by undoing the side light assembly fixing screws (×3, located behind the light assembly) and moving the assembly out of the way.
3. Unplug the shelf light
4. Unclip the shelf light from the front of the shelf.
5. Clip the replacement shelf light into place and plug it in.
6. Refit the side light assembly by clipping the lip on the inside of the plastic casing behind the front edge of the side channel.
7. Once clipped in place, the plastic casing should line up with the front face of the cabinet opening, providing a neat finish.

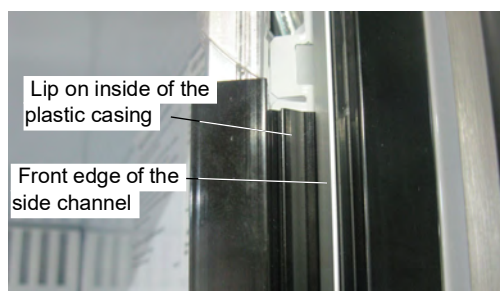
Procedure 13: To replace an LED modular side light component

1. Isolate the fridge from the power supply (see page 23).
2. Undo the light assembly fixing screws (×3, located behind the light assembly), unplug the light and remove from the cabinet.
3. Remove the light strip from the plastic casing.

4. Fit the replacement light strip into the plastic casing, ensuring the male end of the light is at the top.



5. Plug the light in, and refit the light assembly by clipping the lip on the inside of the plastic casing behind the front edge of the side channel.



Procedure 13: To replace an LED modular side light component (continued)

Once clipped in place, the plastic casing should line up with the front face of the cabinet opening, providing a neat finish.



6. Screw the assembly into place with the three fixing screws.
7. Ensure the light is firmly clipped in. Tap the assembly to correct if necessary.
8. Reconnect to the power supply and check for correct operation.

Procedure 14: To replace the LED driver power supply

1. Isolate the fridge from the power supply (see page 23).
2. Unplug the LED driver.
3. Remove the LED driver.
4. Replace the LED driver and reassemble.

Procedure 15: To replace an interior wiring loom

1. Isolate the fridge from the power supply (see page 23).
2. Gain access to the shelf and side light plugs by undoing the side light assembly fixing screws (×3, located behind the light assembly) and moving the assembly out of the way
3. Unplug all shelf and side light components from the wire loom.
4. Move up to the cabinet roof, and unplug the wiring loom from the power supply.
5. Remove the putty from the loom entry point on the cabinet roof, and pull the loom up through the cabinet ceiling.
6. Refit the new loom and reassemble. Ensure:
 - All plugs are clean, correctly fitted and plugged in.
 - That the shelf light component plugs are hidden behind the side light assembly.
 - That the ceiling and roof hole is completely sealed with putty.
7. Refit the side light assembly by clipping the lip on the inside of the plastic casing behind the front edge of the side channel.

Once clipped in place, the plastic casing should line up with the front face of the cabinet opening, providing a neat finish.

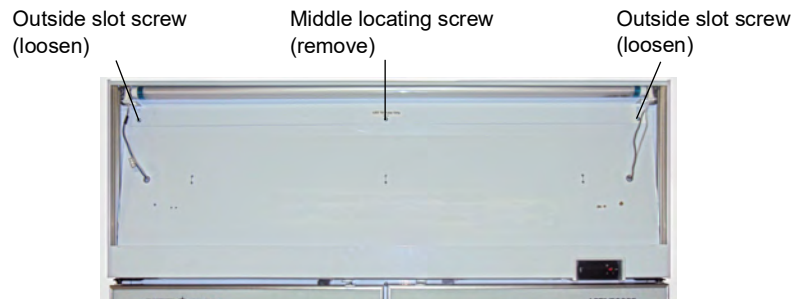
Sign Light The sign is lit by one T8 LED tube which can be replaced by following the steps below.

Procedure 16: To replace the sign light

1. Isolate the fridge from the power supply.
2. Undo the two fixing screws from the sign top cover and remove the top cover.
3. Remove the front sign panels and decal by sliding them up and out of the sign.

Procedure 16: To replace the sign light (continued)

4. To provide adequate space for tube removal, undo and remove the middle locating screw and loosen the two outside slot screws to lower the top reflector (with LED tube).



5. Rotate and remove the failed LED tube, and fit the new LED tube.
6. Slide the top reflector back up as far as the slots allow, refit the middle locator screw and tighten the outside screws to fix the top reflector in place.
7. Reassemble the fridge and reconnect to the power supply.

Doors

WARNING

For safe door operation the door bottom hinge bracket must always be fitted with a split pin.

Alignment Adjustment If a door is out of alignment, realign it by loosening the top hinge bracket fixing screws, and move the top of the door as required.

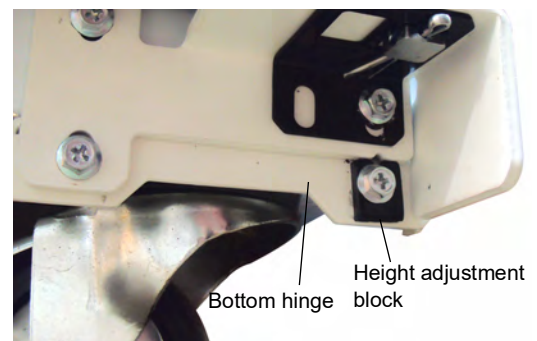
Height Adjustment A height adjustment block is fitted below the bottom hinge. As standard, the notched edges on the bottom of the hinge and the top of the height adjustment block align to set the door to the correct level. If the door is not at the correct height when at the standard setting, follow the steps below to adjust the height.

Note: The door height cannot be adjusted on solid door cabinets, and on the middle door on three door models.

Procedure 17: To adjust the door height

1. Isolate the fridge from the power supply.

2. Loosen off the bottom hinge, and remove the height adjustment block.



3. Set the door to the correct height, rotate and refit the height adjustment block to the most appropriate setting and tighten up the bottom hinge screws.

Replacing the Gasket The one-piece door gasket clips into the door frame and runs around the perimeter of the door. Remove the gasket by peeling it from the door frame, starting at a corner.

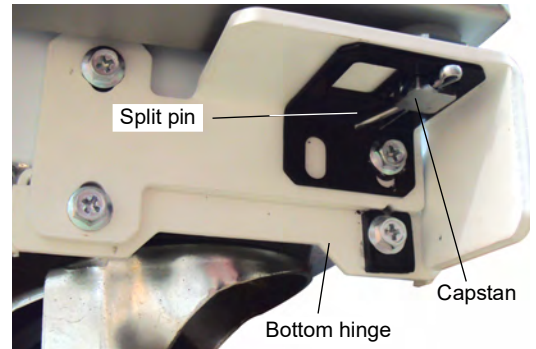
If the gasket is out of shape after refitting, use a hair dryer to heat and reshape it.

Removing and Refitting the Door For ease of servicing and to reverse the hinging, the door can be removed from the cabinet. Refer to image below for door hinging components.

Procedure 18: To remove the door

1. Isolate the fridge from the power supply.
 2. Remove the sign panel.
-

3. Remove the split pin from the capstan at the bottom hinge (outside door pictured).



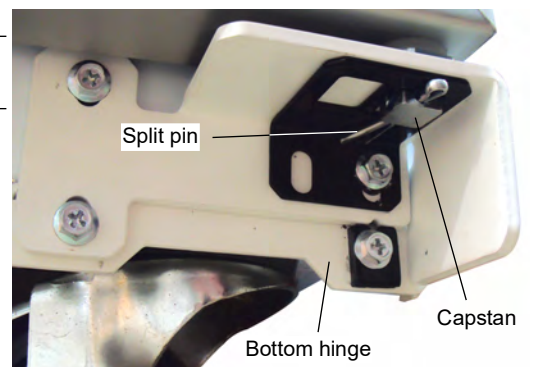
4. Unscrew the top hinge, and lift the door up and off the cabinet.
-

Procedure 19: To replace the top hinge bracket

1. Follow Procedure 18 to remove the door.
 2. Remove the top hinge from the top of the door and replace.
-

Procedure 20: To refit the door

1. Lift the door onto the bottom hinge.
2. Fit the top hinge to the top of the door, and partially fix in place on the top of the cabinet. Align the door with the cabinet and tighten the fixing screws.
3. Ensure the top hinge spacer is fitted under the top hinge before fixing the top hinge in place.
4. Apply tension to the door (see page 28).
5. Fit the split pin through the hole in the capstan to lock the door in place (outside door pictured).
6. Fit the height adjustment block to the bottom screw hole (not fitted to middle doors).
 - As standard, the notched edges on the bottom of the hinge and the top of the height adjustment block align to set the door to the correct level.
 - If necessary, rotate the height adjustment block to level the door.



Adjusting Door Tension The door has an internal torsion bar, pretensioned at the factory, that lets the door self-close. If necessary, the door tension can be further adjusted by rotating the capstan mounted in the bottom hinge bracket.

Procedure 21: To adjust the door tension

1. Remove the split pin from the capstan at the bottom hinge.

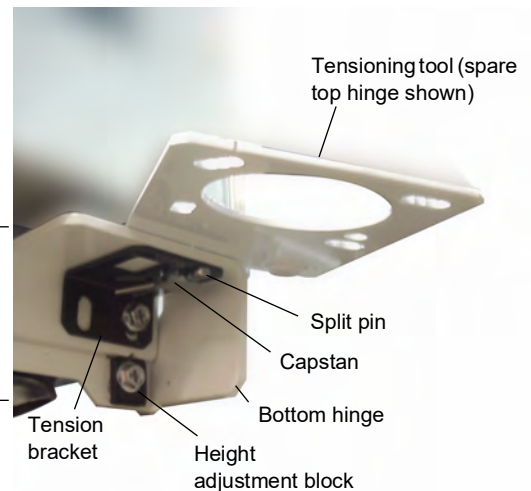
2. Remove the tension bracket from the bottom hinge.

3. Use a tool to apply tension to the door via the capstan (the top hinge has a cut out for tensioning, if a spare is available).

- First, rotate the capstan against the door opening direction to remove any slack.
- Once resistance is felt, continue to rotate 180° to provide tension.

4. While holding door tension on the capstan, fit the tension bracket to the top screw hole so that it supports the door tension on the capstan.

5. Fit the split pin through the hole in the capstan to lock the door in place.



Outside door

6. Check door tension by holding the door open about 100 mm and letting it go. The door should gently close, with the gasket forming an airtight seal with the cabinet.

Replacing the Torsion Bar

When the door tension can no longer be adjusted, replace the torsion bar.

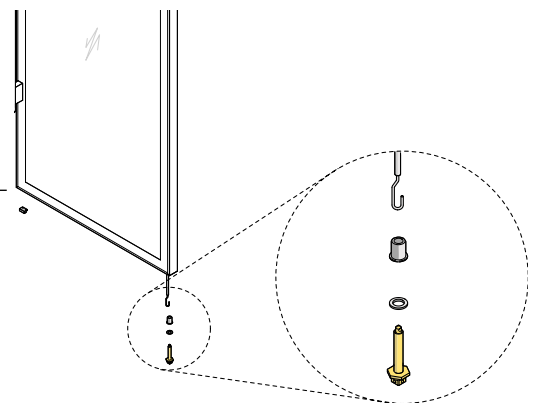
Procedure 22: To replace the torsion bar

1. Remove the door from the cabinet (see page 28).

2. Lever the capstan, bush and bush washer from the bottom of the door, and unhook from the torsion bar.

Note: The torsion bar cannot easily be removed from the door. Cut the old torsion bar and push it into the door frame.

3. Fit the capstan, bush and bush washer to the new torsion bar, and fit this assembly into the bottom of the door.



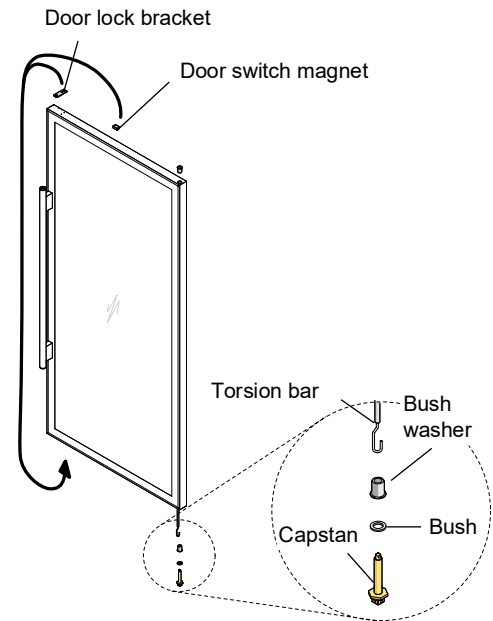
4. Refit the door (see page 28).

Reversing the Hinges

Single door cabinets only. The cabinet is supplied with the door hinged on the right hand side. If required, the hinge can be swapped to the left hand side. Some spare parts are required to complete the procedure, and are available in the Left Hand Hinge Kit (see page 50).

Procedure 23: To reverse the door hinging

1. Remove the door from the cabinet (see page 28).
 2. Remove the door lock bracket from the top of the cabinet and fit to the other side.
 3. Remove the bottom hinge, tension bracket and height adjustment block. Retain the tension bracket and height adjustment block (these are fitted to the opposite side once the door is refitted). The bottom hinge can be discarded.
 4. Unplug the door switch cable from the cabinet. The door switch is fitted to the door switch bracket, above the door.
 5. Fit the new bottom hinge.
 6. Remove the door lock bracket from the door, and fit to the opposite end.
 7. Remove the bush and retain for the other end of the door.
 8. Remove the capstan, bush and bush washer, and unhook from the torsion bar.
- Note:** The torsion bar cannot easily be removed from the door.
9. Push the torsion bar into the door frame.
 10. Fit the capstan, bush and bush washer to the new torsion bar, and fit this assembly to the opposite end of the door.
 11. Fit the bush (retained from step 2) to the end of the door, opposite the capstan.
 12. Remove the door switch magnet from the end of the door, and fit to the opposite end.
- Note:** Ensure the magnet is orientated correctly and does not protrude past the frame edge.
13. Remove all labels from the door, and clean off any adhesive left by the labels.
 14. Refit the door (see page 28).



15. Apply the SKOPE logo label to the top left hand corner of the door. Use the label backing to align the label as pictured.



16. Apply the ACTIVECORE label to the top right hand corner of the door. Use the label backing to align the label as pictured.



17. Use the supplied ActiveCore badge positioning jig to position and apply the ActiveCore badge to the bottom right hand corner of the door as pictured.



Refrigeration Unit

Refrigeration Unit Assembly The SKOPE ActiveCore refrigeration unit is an electronically controlled removable unit. For servicing or transportation, the refrigeration unit unplugs and lifts off the TME cabinet. Some minor servicing can be performed without removing the refrigeration unit.

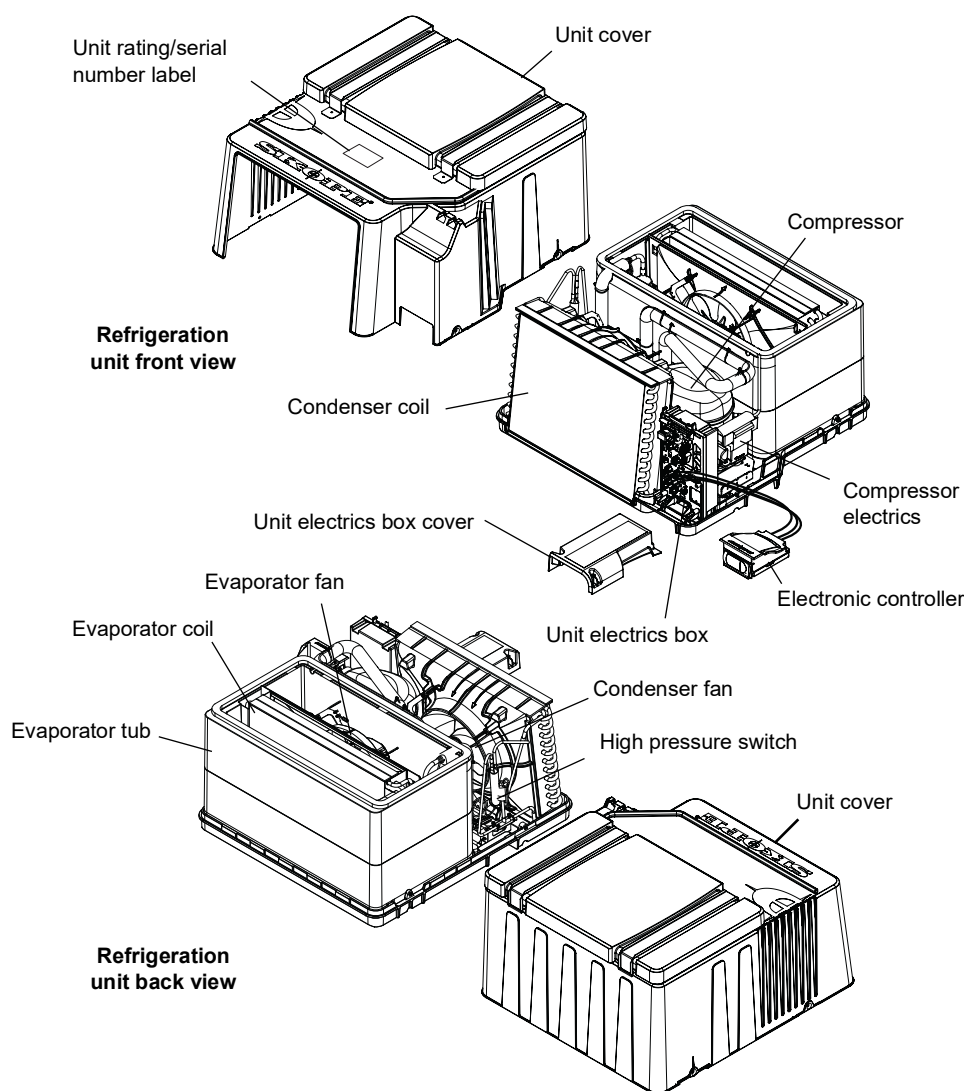
The model and serial number are both printed on the unit rating/serial number label attached to the top of the unit (see image below). Before ordering spare parts take note of the model and serial numbers.

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

Table 9: Unit specifications

Unit model	UTHCCI-0002 (part number: HB0070823484)	UTHCCI-0004 (part number: HB0070826577)
Compressor	Embraco FFI12HBK	Kirby Kulthorn CA9440Y
Compressor capacity	836 Watts	1000 Watts
Refrigerant	R134a	R134a
Charge	380 g	475 g

ActiveCore Remote Refer to the SKOPE ActiveCore Remote Specification instruction sheet (PRN80029) and Guidelines for SKOPE Remote Refrigeration instruction sheet (PRN2362) for information.



- Compressor Operation** The compressor will operate according to temperature settings, but with run time priority.
- Off cycle minimum Parameter 'C2' = 5 minutes (to allow for system equalisation and reduced compressor start load).
 - On cycle minimum Parameter 'C3' = 5 minutes (to ensure efficient run cycles i.e. the refrigerant / heat exchangers have had time to optimise for maximum COP).
 - To meet run time priority the compressor may run to a temperature below setpoint (during periods of low load).

Defrost Off cycle Defrost (compressor off only).

Defrost is time initiated (Parameter 'dl' = every 2 hours of compressor run time) and temperature terminated.

- Parameter 'dt' for Day mode = 4.5°C.
- Parameter 'dP' for defrost time = 90 minutes.

Servicing and Diagnosis Overview All work must be undertaken by fully qualified refrigeration technicians and in accordance with "Refrigerant Handling Code of Practice 2007 Part 1 and Part 2".

Procedure 24: To diagnose a problem

1. Do **NOT** initially fit system gauges.
2. Is the refrigeration system simply overloaded? Interview fridge owner to determine if there has been any high heat loads. Visually check entire cabinet body, and seals for any air leakage. Check product temperatures are in fact warm.
3. Perform a quick probe reading'. The control probe reading is shown on the controller faceplate during normal operation. Press and hold the **Energy Save (up)** and **Set (mute)** buttons to display the evaporator probe reading.
 - 'P_1' = Control probe
 - 'P_2' = Evaporator coil probe. Should = -1~-5°C
4. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
5. Refer to the quick touch guide below, and go to frost test on the next page if necessary.

Quick Touch Guide Possible faults with compressor and fans all operating and condenser is clean.					
Temperature	Compressor	Discharge pipe	Suction pipe	Condenser	Evaporator
Frozen	Perform Frost Test	n.a.	Perform Frost Test	n.a.	OK / Defrost problem
Cold	Perform Frost Test	n.a.	OK	Perform Frost Test	OK
Cool	Perform Frost Test	Compressor fault?	OK	Perform Frost Test	Perform Frost Test
Warm	OK	OK	Perform Frost Test		
Hot	OK with high load	OK	Perform Frost Test	OK with high load	n.a.
Extremely Hot	Compressor fault?	OK with high load	n.a.	Bad ventilation	n.a.

Procedure 25: Frost Test

1. Disconnect evaporator fan motor and remove the control probe from the evaporator box. Run the refrigeration unit for 8 minutes. Check the test results guide below.

Frost Test Results Guide Possible faults with evaporator fan off, control probe out and 8 minute run time.			
Temperature	Compressor	Suction pipe	Evaporator
Frozen	Overcharge*	OK	OK
Cold and sweaty	Overcharge*	OK	SOG / Blockage*
Cool	OK	OK	SOG / Blockage*
Warm	OK	SOG / Blockage*	SOG / Blockage*

* Fit line piercing valves. SOG = Short of Gas

2. If Quick Touch and Frost Test prove OK, then investigate external influences. If possible allow fridge to continue to operate and recover temperature.
3. If it is then necessary to fit Line tap valves and fit gauges ensure no refrigerant ventilation to atmosphere and that all refrigerant is reclaimed and correctly disposed.
4. At completion of Service Repair braze closed process tubes. Ensure process tubes are left at least 100 mm in length. Line tap valves must be removed.

Short of refrigerant

SKOPE recommends leak detection using high pressure dry nitrogen with pressure testing and soap bubbles. Ensure all refrigerant is reclaimed from the system before introducing nitrogen. Do not mix refrigerant and nitrogen to detect leaks.

Capillary restriction

After reclaiming refrigerant attempt to clear restriction with dry nitrogen. If it cannot be cleared then it is necessary to replace suction assembly (which includes the capillary).

Compressor pumping fault

For suspected compressor fault, listen to the compressor for internal gas bypass. Fit suction and discharge line piercing valves to prove a pumping fault.

After reclaiming refrigerant, perform compressor pump down test: Remove the system dryer and braze the capillary entry closed. The compressor should then pump down to -100kPa and, after being switched off, maintain this vacuum for 5 minutes.

General

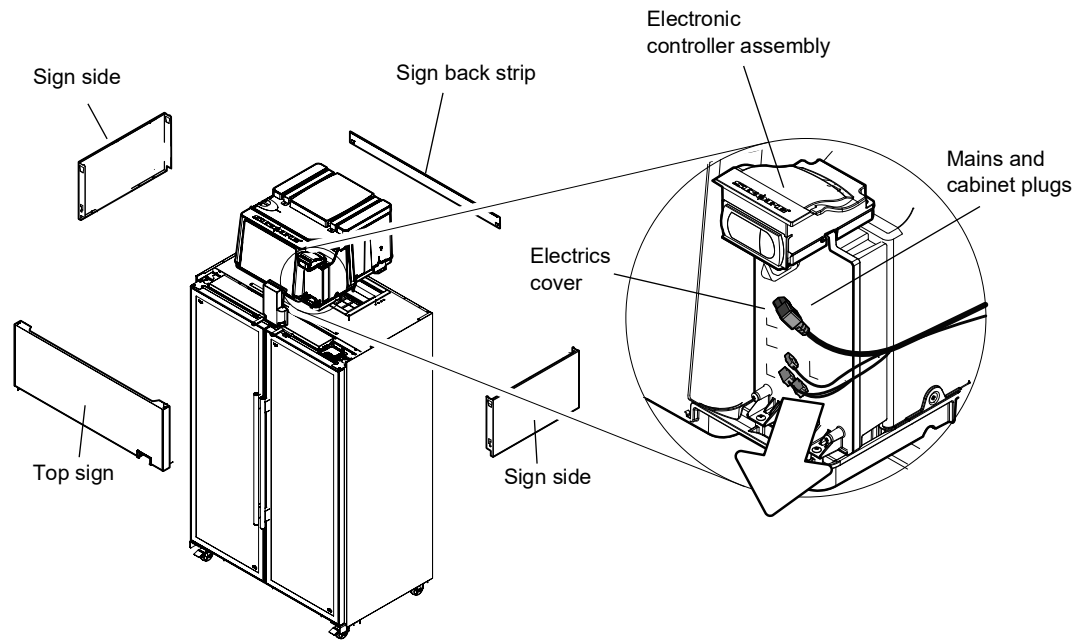
- During a refrigerant service always replace filter/dryer. For a refrigerant leak fit a solid core filter / dryer.
- Never leave the system open to atmosphere. If extended service time is required then isolate and braze closed pipes to compressor.

Removing the Unit Follow the steps below to remove the refrigeration unit. Ensure the fridge is disconnected from the power supply before removing the unit.

The unit is heavy and requires a minimum of two people to lift from the cabinet. Steps or a platform about one metre high are suggested to allow the unit to be safely lifted, carried and put down at waist height.

Procedure 26: To remove the refrigeration unit

1. Isolate the fridge from the power supply.
2. Remove the top sign.
3. Detach the electronic controller assembly from the top of the cabinet, and clip it onto the top of the unit.
4. Remove electrics cover and unplug the mains supply plug and cabinet plugs.
Note: The unit plugs (plugs feeding into the unit) and electronic controller plugs (plugs feeding to the electronic controller assembly) do not need to be unplugged.
5. Remove the sign back strip.
6. If present, remove the baffles. **Note:** If necessary the sign sides can also be removed.
7. Undo the two unit fixing screws (one on each side of the unit) and lift the unit off the cabinet.
8. When refitting the unit, ensure:
 - The gasket on the top of the cabinet is in good condition.
 - The mains and cabinet plugs are reconnected, and the mains cable is threaded through the baffle slot.
 - The electrics cover is refitted.
 - The unit is re-fixed in place.

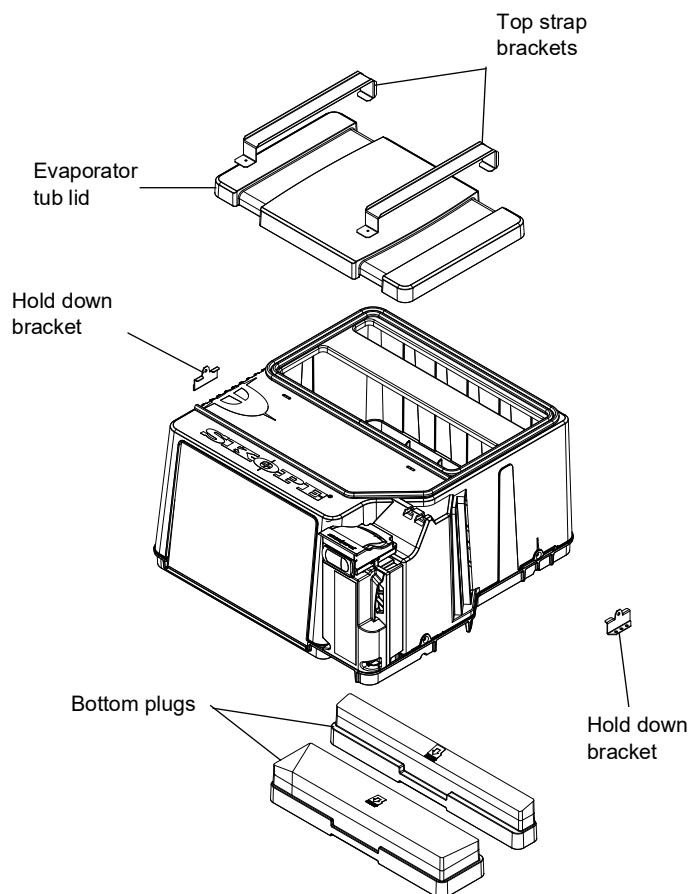


Replacing the Unit The SKOPE ActiveCore refrigeration unit is interchangeable between bottom and top mount ActiveCore fridges.

When changing from a bottom mount fridge to a top mount fridge, an evaporator lid, strap brackets and hold down brackets must be fitted to seal the top of the evaporator tub, and to fix the unit to the top of the cabinet.

New spare part refrigeration units supplied by SKOPE are not supplied with the evaporator tub lid, top strap brackets and hold down brackets. When replacing a faulty top mount refrigeration unit, retain these parts for use on the new spare part replacement unit.

The evaporator tub lid, top strap brackets and hold down brackets can be ordered in addition to the refrigeration unit if required. See page 50 for spare part numbers.



Procedure 27: To replace a unit with a SKOPE supplied spare part refrigeration unit

1. Isolate the fridge from the power supply and remove the existing unit (see page 34).
2. On the new unit, push the bottom plugs out of the bottom of the evaporator box.
3. Swap the evaporator tub lid, top strap brackets and hold down brackets from the existing unit to the new unit.
4. Fit the new unit to the cabinet.

Unit Electrics Box Assembly The unit electrics box assembly contains the mains supply socket, fuses, EMI filter and panel mount socket connectors for the unit and cabinet. Refer to the label on the electrics box cover for socket connection identification.

Due to the confined space within the unit 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 28: To remove and open the unit electrics box assembly

1. Isolate the fridge from the power supply.
2. If present, unclip the electronic controller from the top of the electrics box.



3. Undo the two fixing screws at the bottom of the electrics box cover, and remove the cover.
4. Unplug all unit plugs from the unit electrics box.
5. Undo the two fixing screws at the base of the electrics box, and detach the electrics box from the unit.
6. To open the electrics box, undo the two fixing screws on the back of the electrics box and swing the back cover off.

Unit Cover Remove the unit cover to access parts within the unit assembly.

Procedure 29: To remove the unit cover

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).



2. Unscrew the four machine screws from the sides of the refrigeration unit and lift the cover off the unit.

Condenser Fan The condenser fan assembly is made up of a fan motor, fan blade 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. Refer to the label on the electrics box cover to identify the condenser fan plug and socket in the electrics box.

It is important that the fan blade and/or fan motor is replaced with the same part to ensure correct alignment and refrigeration performance. Fan blades should be tightened to the fan motor manufacturer recommended torque settings (shown in the table below).

Table 10: Fan motor manufacturer recommended torque settings

Fan motor manufacturer	Torque setting
EBM	1.4 N m
Wellington Drive	2.1 N m

Procedure 30: To access the condenser fan assembly

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
2. Remove the unit cover (see page 37).
3. Open the electrics box and unplug the condenser fan motor plug (see page 35).

4. Cut the cable ties holding the cables along the base of the unit, and free up the condenser fan motor cable.



5. Detach the high pressure switch flex from the fan mounting bracket.



6. Remove the fan assembly (fan motor, fan blade, mounting brackets) from the unit by lifting the shroud up and out.

Procedure 31: 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 screw to the fan motor manufacturer's recommended torque setting (see page 37).
4. Reassemble unit and test.

Procedure 32: To replace the fan motor

1. Remove the condenser fan assembly and the fan blade (see above).
2. Unplug the fan flexible cord from the electrics box (see page 35).
3. Detach the fan motor from the fan mounting brackets by removing the four screws from the mounting bracket.
4. Fit new motor and reattach fan blade with 12 mm flat washer and serrated head screw. Tighten the screw to the fan motor manufacturer's recommended torque setting (see page 37).
5. Reassemble unit, ensuring all cables are neatly cable tied away from the fan blade, and test for correct operation.

Evaporator Fan The evaporator fan assembly is made up of a fan motor and fan blade, both of which can be replaced when necessary (see image below). The evaporator fan flexible cord has a white plug.

If the fan stops for any reason, check all connections to ensure no plugs have come loose. Refer to the label on the electrics box cover to identify the evaporator fan plug and socket in the electrics box.

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 once the refrigeration unit cover has been removed.

It is important that the fan blade and/or fan motor is replaced with the specified part to ensure correct alignment and refrigeration performance. Fan blades should be tightened to the fan motor manufacturer recommended torque settings (shown in the table below).

Table 11: Fan motor manufacturer recommended torque settings

Fan motor manufacturer	Torque setting
EBM	1.4 N m
Wellington Drive	2.1 N m

Procedure 33: To access the evaporator fan assembly

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
2. Remove the refrigeration unit cover.
3. Free up cables from the putty on the evaporator tub perimeter.
4. Cut cable ties to release control probe from the fan bracket.

5. Lift the assembly up and out of the evaporator box.



Procedure 34: To replace the fan blade

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
2. Gain access to the evaporator fan assembly (see Procedure 33 above).
3. Remove the screw and washer from the centre of the fan blade, and lift the blade from the motor.
4. Fit new blade, ensuring it is centred within the evaporator shroud. Tighten the screw to the fan motor manufacturer's recommended torque setting (see Table 11 above).
5. Reassemble unit and test for correct operation.

Procedure 35: To replace the fan motor

1. Follow the above steps to access the evaporator fan assembly and remove the fan blade.
2. Free the fan flexible cord by cutting the cable ties, trace the cable back to the connector (near the compressor electrics) and unplug.
3. Detach the fan motor from the fan mounting brackets by removing the four screws from the mounting bracket.

Procedure 35: To replace the fan motor (continued)

4. Attach to the replacement motor.
 - Ensure that the flexible cord points towards the bottom of the evaporator tub once reinstalled.
 - Take care to re-cable tie the fan and temperature probe flexible cords back onto the mounting bracket to prevent high frequency vibration.
5. Fit fan blade, ensuring it is centred within the evaporator shroud. Tighten the screw to the fan motor manufacturer's recommended torque setting (see Table 11 above).
6. Reassemble unit and test for correct operation.

Compressor The compressor is located at the front of the refrigeration unit, beside the condenser. 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 (see "Compressor Electrics" on page 41). 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 unit has a direct power supply (not from a multi-box or extension cord). Generally a faulty compressor may have a distinct hissing sound and run with a very hot body temperature. Only replace the compressor if the capillary and gas charge are first confirmed as absolutely correct (see "Servicing and Diagnosis Overview" on page 32).

If replacing the compressor, move the evaporator tub and condenser fan assembly out of the way to create space for brazing and to access the compressor bolts.

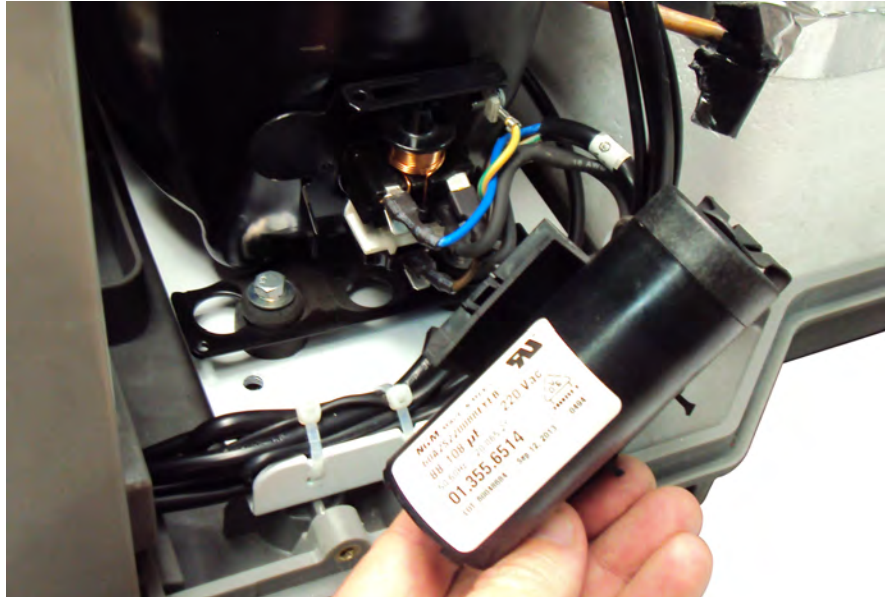
**IMPORTANT**

To eliminate possible vibration noise, ensure no pipes touch the evaporator tub bottom surface, evaporator tub support legs, plastic base, and condenser assembly (see image above).

Compressor Electrics

The compressor electrics are located on the front of the compressor (see image below).

To access the compressor electrics, remove the refrigeration unit (see page 34) and unit cover (see page 37). The capacitor unclips from the relay cover, and the relay cover unclips from the compressor.



Pressure Switch

A manually resettable high pressure switch is fitted to protect the refrigeration unit from over-pressure (high temperature) conditions.

Conditions that may activate the high pressure switch include:

- High ambient conditions (ensure adequate ventilation)
- Lack of refrigeration ventilation
- Blocked or restricted condenser or condenser filter
- Faulty condenser fan motor
- Poor refrigeration unit sealing



Procedure 36: To reset the high pressure switch

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
2. Determine and eliminate what caused the high pressure switch to activate.
3. Remove the refrigeration unit cover.
4. Reset the high pressure switch by pressing the red button on the side of the refrigeration unit.
5. Reassemble and test for correct operation.

Electronic Controller

Electronic Controller Location The electronic controller is located within the electronic controller box assembly.

Procedure 37: To access the controller

1. Isolate the fridge from the power supply.

2. Open the electronic controller box assembly by undoing the two fixing screws at the rear of the assembly.



Door Switch The fridge is fitted with a door switch above each door, which tells the electronic controller when a door is opened. A small magnet in the door frame activates the switch. A cable connects the switch to the electronic controller via an inline connector on top of the cabinet.

Procedure 38: To remove the door switch

1. Isolate the fridge from the power supply.
2. Disconnect the door switch cable plug from the inline connector on top of the cabinet.
3. Unscrew the two fixing screws from the door switch and remove from the door switch bracket.
4. Fit the replacement door switch and connect via the inline connector.

NTC Probe Resistance To test a probe for correct operation, check that its resistance falls within the limits in the table below.

Table 12: Probe resistance

Temperature	Resistance (kΩ)		
	Maximum	Typical	Minimum
-10°C	43.52	42.47	41.43
-5°C	34.66	33.90	33.15
0°C	27.83	27.28	26.74
5°C	22.45	22.05	21.66
10°C	18.25	17.96	17.67
20°C	12.24	12.09	11.94
25°C	10.10	10.00	9.90
30°C	8.41	8.31	8.21
40°C	5.92	5.83	5.74
50°C	4.24	4.16	4.08

Control Probe The control probe is cable tied to a bracket on the evaporator fan motor bracket.



Procedure 39: To replace the control probe

1. Remove the evaporator fan assembly (see page 38).
 2. Detach the probe from the evaporator fan shroud bracket and trace the probe cable back to the unit electrics box and unplug (see page 35).
 3. Following the same path as the original probe, fit the new probe with cable ties as necessary. Ensure the probe cable is securely plugged into the rear of the unit junction box, and that it is cable tied to the evaporator fan shroud bracket, with the probe bent away from the fan bracket at a 45° angle.
-

Evaporator Probe The evaporator probe is located within the evaporator coil. It controls the refrigeration system defrost initiation and termination.



Procedure 40: To replace the evaporator probe

1. Isolate the fridge from the power supply and remove the refrigeration unit (see page 34).
 2. Remove the unit cover (see page 37)
 3. Remove the evaporator fan assembly (see page 38).
 4. Remove both pieces of putty securing the pipes and cables on the evaporator tub perimeter.
 5. Carefully lift the coil up and out of the evaporator tub. Take care of pipes and cables when lifting out.
 6. Detach the probe from the side of the evaporator coil, and trace the probe cable back to the unit electrics box and unplug (see page 35).
 7. Following the same path as the original probe, run the new probe to the evaporator coil and secure with cable ties. Locate the probe on the bottom hairpin bend, and ensure the probe is cabled tied and insulated with cork tape as necessary, and that the probe cable is securely plugged into the electrics box.
 8. Reassemble the unit and test for correct operation.
-

5 Maintenance

Cleaning

Cabinet 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 fridge is unplugged from the power supply before cleaning.

Condenser Coil and Optional Filter To ensure trouble-free performance, the condenser coil must be kept clean. 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 **must** be kept clean for efficient and reliable operation.

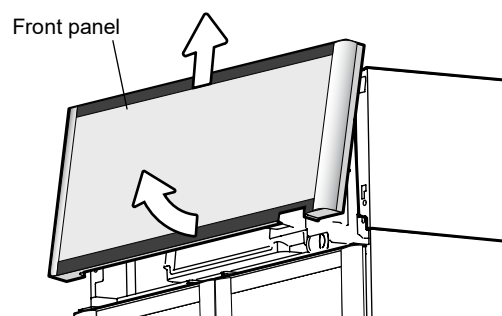
WARNING

Unplug the fridge from the power supply before cleaning the condenser filter and condenser coil.

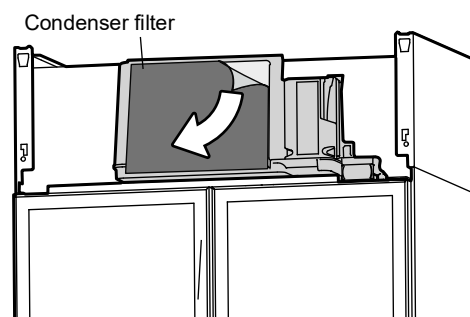
Procedure 41: To clean the condenser coil and optional condenser filter

1. Isolate the fridge from the power supply.

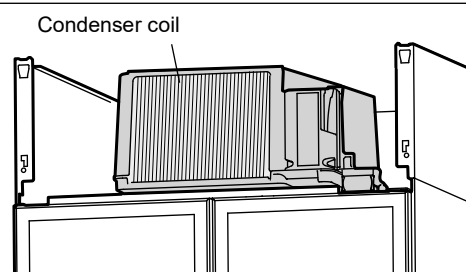
2. Remove the front panel from the top of the cabinet by swinging it out and off. Lit sign front panels will also need to be unplugged.



3. If the fridge is fitted with a filter, remove the filter from the front of the refrigeration unit and clean with a vacuum cleaner and cold water, and shake excess water off before refitting. Do not apply hot water, blow dry or place in dishwasher. If necessary, discard and use new air filter.



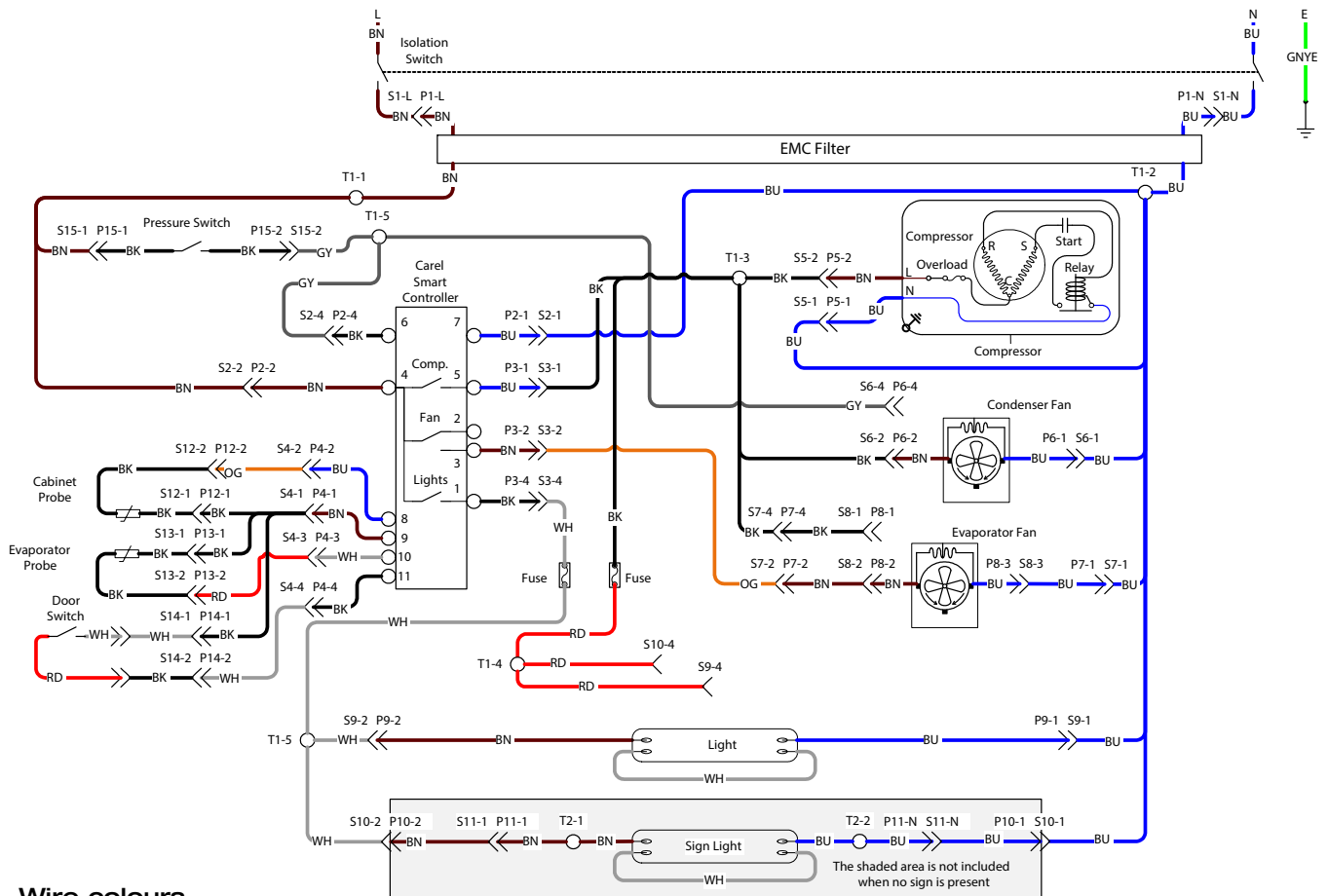
4. Brush the condenser coil with a soft brush to remove any dust and fluff.



5. Refit or replace the filter (where fitted), refit the sign panel and reconnect to the power supply.

6 Wiring

Model: TME650 Series



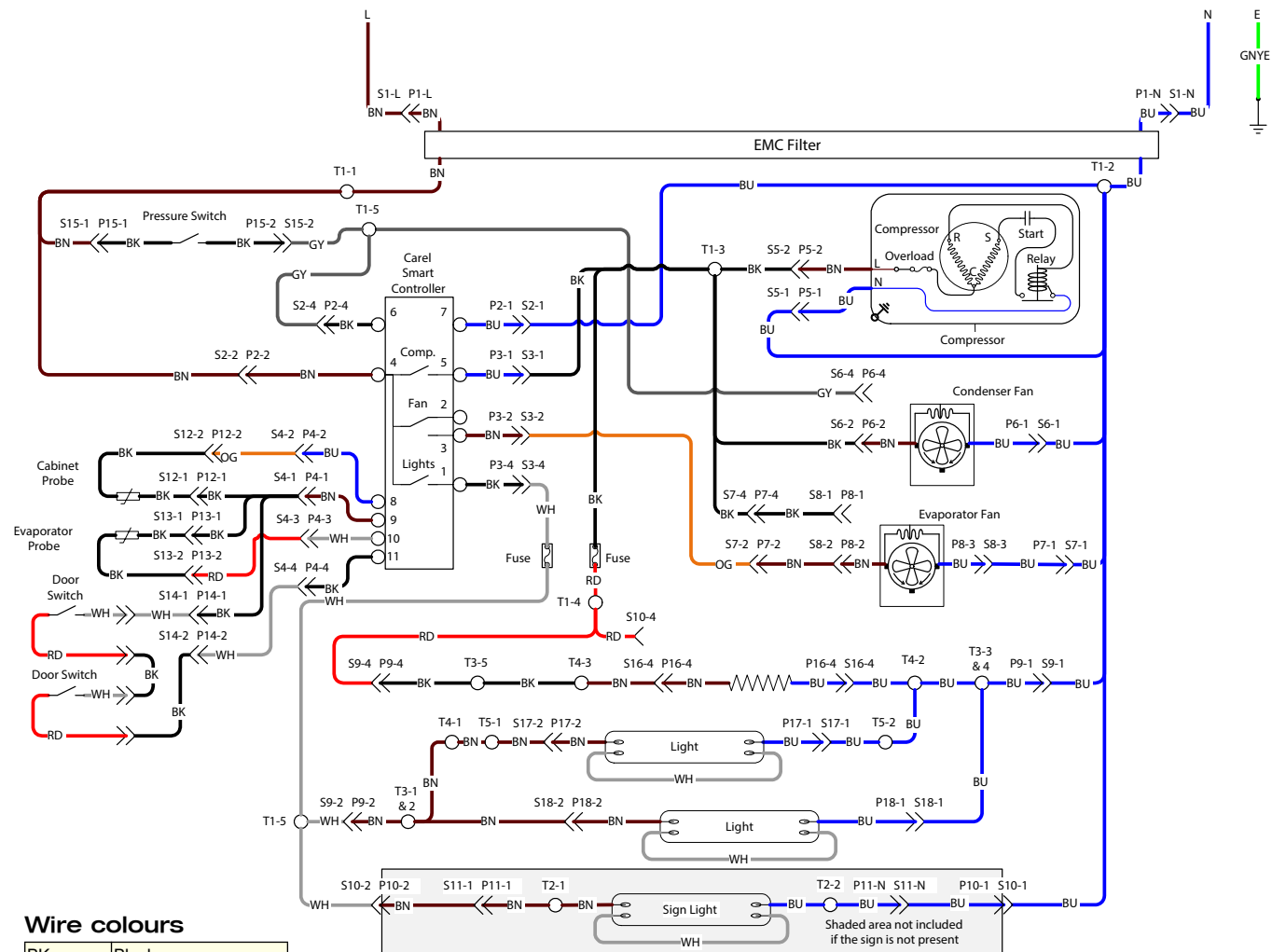
Wire colours

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

S1/P1	IEC cabinet socket/plug	S10/P10	Light unit socket/plug (yellow 4-way)
S2/P2	Unit junction box to controller power socket/plug (red 4-way)	S11/P11	Cabinet to sign intermediary socket/plug (ENSTO)
S3/P3	Unit junction box to controller power socket/plug (blue 4-way)	S12/P12	Cabinet sensor socket/plug (blue 2-way)
S4/P4	Unit junction box to controller signal socket/plug (6-way)	S13/P13	Evaporator sensor socket/plug (black 2-way)
S5/P5	Compressor unit socket/plug (blue 4-way)	S14/P14	Door sensor socket/plug (white 2-way)
S6/P6	Condenser motor unit socket/plug (red 4-way)	S15/P15	Pressure switch socket/plug (red 2-way)
S7/P7	Evaporator motor unit socket/plug (white 4-way)	T1	Unit terminals
S8/P8	Evaporator motor changeover socket/plug (white 4-way)	T2	Sign terminal block (where fitted)
S9/P9	Light unit socket/plug (yellow 4-way)	-	-
<<	Plug and socket	O	Terminal on terminal block

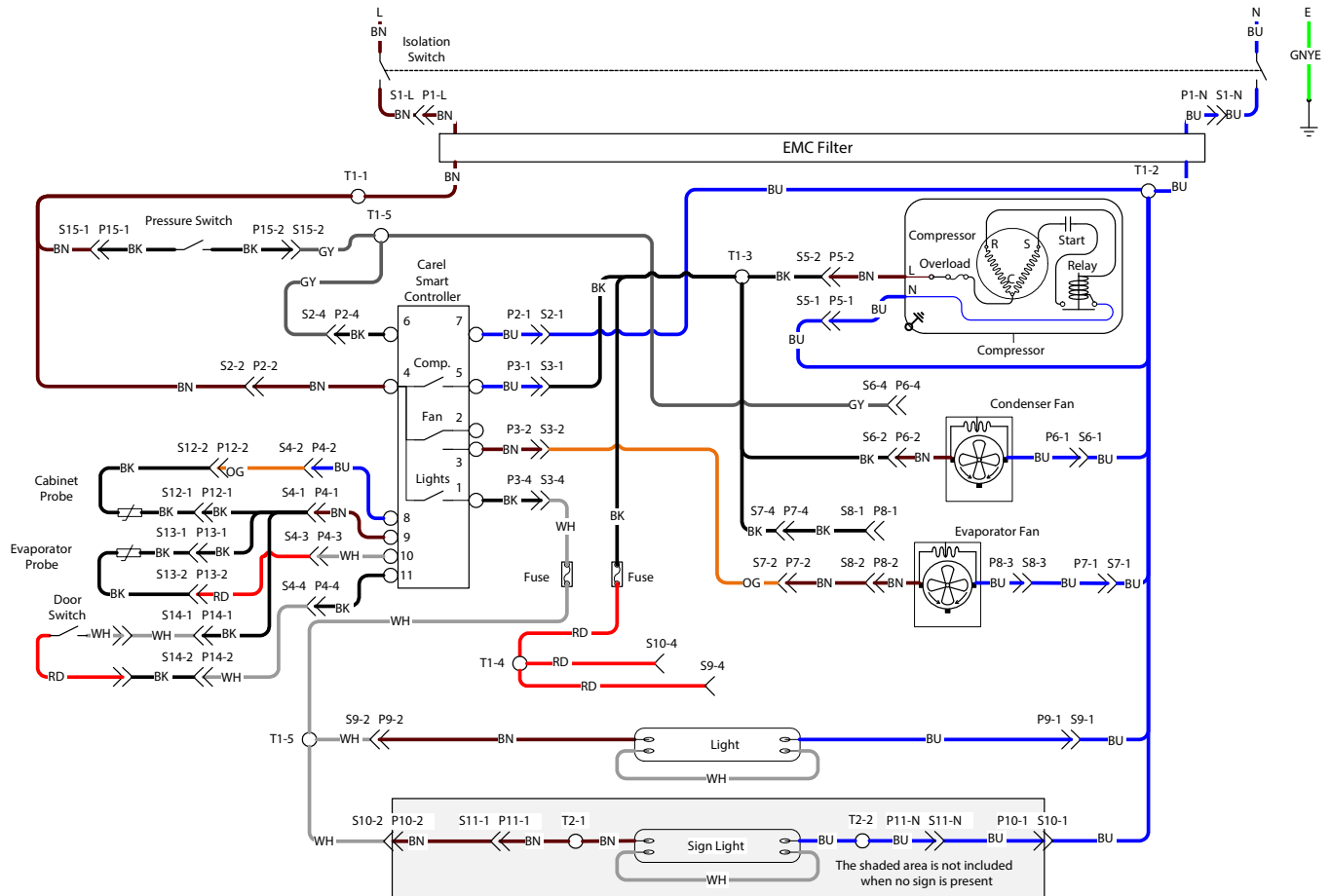
Model: TME1000 Series



Legend

S1/P1	IEC cabinet socket/plug	S13/P13	Evaporator sensor socket/plug (black 2-way)
S2/P2	Unit junction box to controller power socket/plug (red 4-way)	S14/P14	Door sensor socket/plug (white 2-way)
S3/P3	Unit junction box to controller power socket/plug (blue 4-way)	S15/P15	Pressure switch socket/plug (red 2-way)
S4/P4	Unit junction box to controller signal socket/plug (6-way)	S16/P16	Cabinet element socket/plug (white 3-way)
S5/P5	Compressor unit socket/plug (blue 4-way)	S17/P17	Left side side light socket/plug (yellow 4-way)
S6/P6	Condenser motor unit socket/plug (red 4-way)	S18/P18	Right side side light socket/plug (yellow 4-way)
S7/P7	Evaporator motor unit socket/plug (white 4-way)	T1	Unit terminals
S8/P8	Evaporator motor changeover socket/plug (white 4-way)	T2	Sign terminal block (where fitted)
S9/P9	Light unit socket/plug (yellow 4-way)	T3	Cabinet terminal block 1
S10/P10	Light unit socket/plug (yellow 4-way)	T4	Cabinet terminal block 2
S11/P11	Cabinet to sign intermediary socket/plug (ENSTO)	T5	Cabinet terminal block 3
S12/P12	Cabinet sensor socket/plug (blue 2-way)	—	—
<<	Plug and socket	O	Terminal on terminal block

Model: SKT650 Series



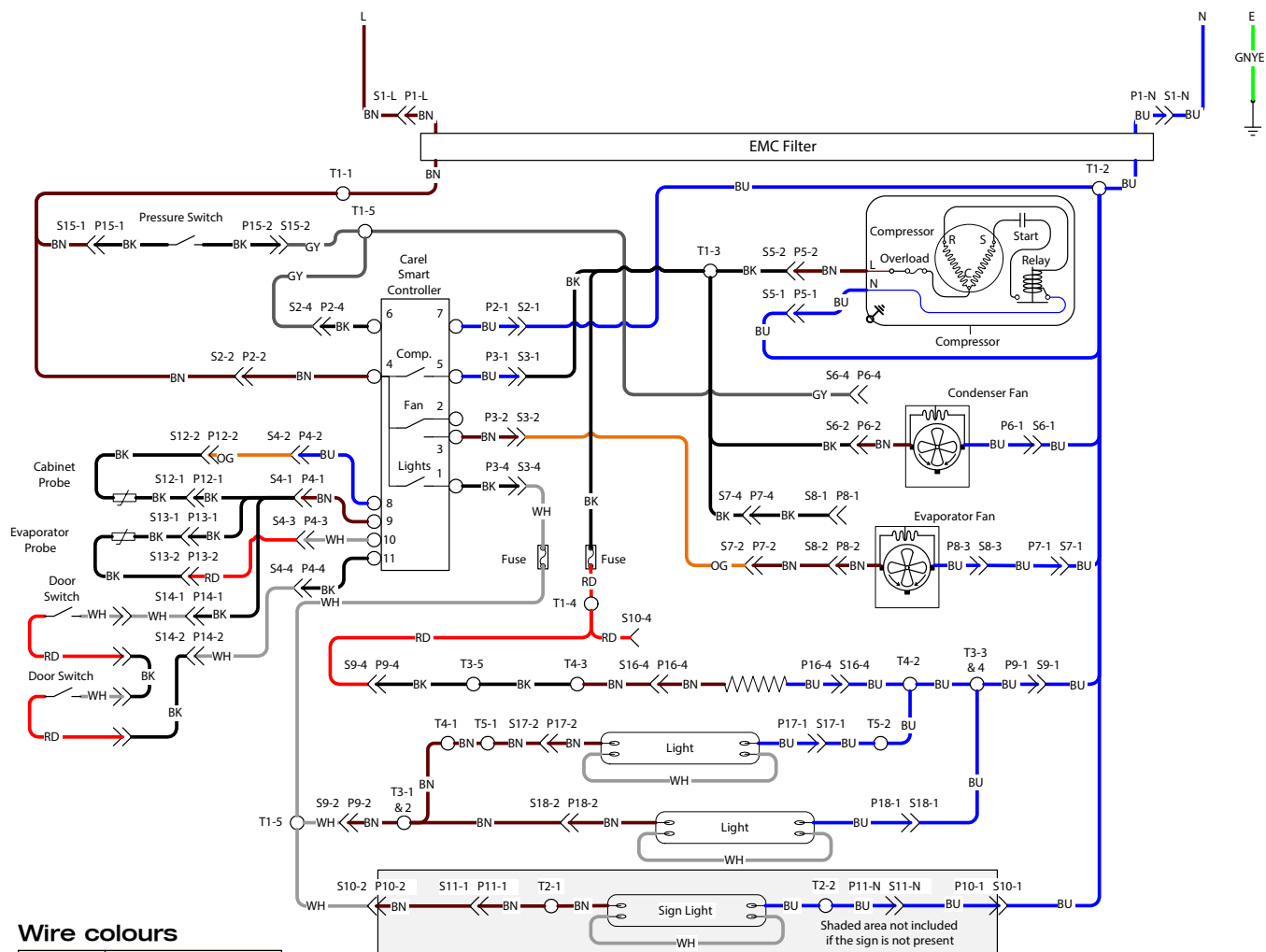
Wire colours

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

S1/P1	IEC cabinet socket/plug	S10/P10	Light unit socket/plug (yellow 4-way)
S2/P2	Unit junction box to controller power socket/plug (red 4-way)	S11/P11	Cabinet to sign intermediary socket/plug (ENSTO)
S3/P3	Unit junction box to controller power socket/plug (blue 4-way)	S12/P12	Cabinet sensor socket/plug (blue 2-way)
S4/P4	Unit junction box to controller signal socket/plug (6-way)	S13/P13	Evaporator sensor socket/plug (black 2-way)
S5/P5	Compressor unit socket/plug (blue 4-way)	S14/P14	Door sensor socket/plug (white 2-way)
S6/P6	Condenser motor unit socket/plug (red 4-way)	S15/P15	Pressure switch socket/plug (red 2-way)
S7/P7	Evaporator motor unit socket/plug (white 4-way)	T1	Unit terminals
S8/P8	Evaporator motor changeover socket/plug (white 4-way)	T2	Sign terminal block (where fitted)
S9/P9	Light unit socket/plug (yellow 4-way)	—	—
<<	Plug and socket	O	Terminal on terminal block

Model: SKT1000 Series



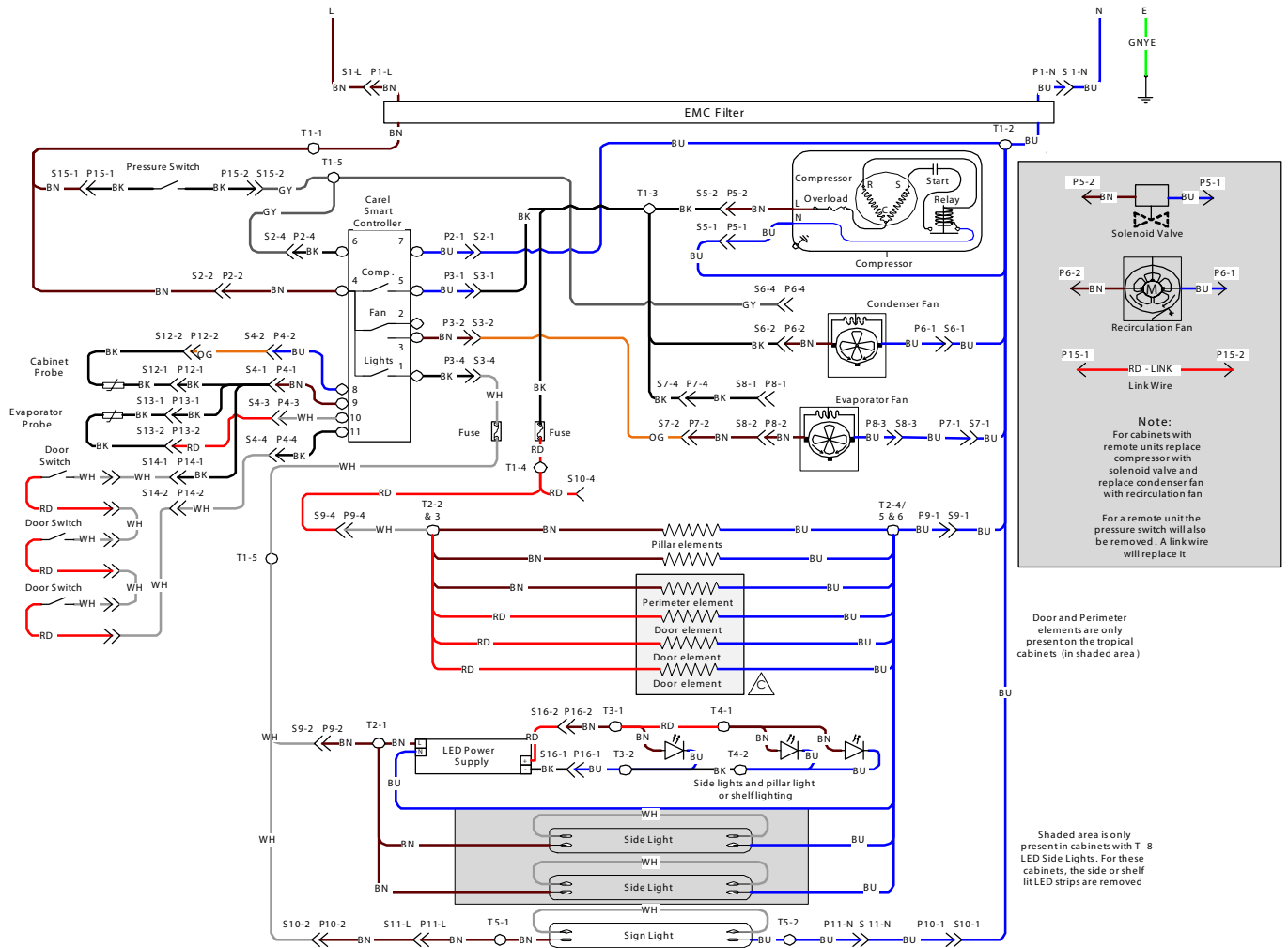
Wire colours

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

S1/P1	IEC cabinet socket/plug	S13/P13	Evaporator sensor socket/plug (black 2-way)
S2/P2	Unit junction box to controller power socket/plug (red 4-way)	S14/P14	Door sensor socket/plug (white 2-way)
S3/P3	Unit junction box to controller power socket/plug (blue 4-way)	S15/P15	Pressure switch socket/plug (red 2-way)
S4/P4	Unit junction box to controller signal socket/plug (6-way)	S16/P16	Cabinet element socket/plug (white 3-way)
S5/P5	Compressor unit socket/plug (blue 4-way)	S17/P17	Left side side light socket/plug (yellow 4-way)
S6/P6	Condenser motor unit socket/plug (red 4-way)	S18/P18	Right side side light socket/plug (yellow 4-way)
S7/P7	Evaporator motor unit socket/plug (white 4-way)	T1	Unit terminals
S8/P8	Evaporator motor changeover socket/plug (white 4-way)	T2	Sign terminal block (where fitted)
S9/P9	Light unit socket/plug (yellow 4-way)	T3	Cabinet terminal block 1
S10/P10	Light unit socket/plug (yellow 4-way)	T4	Cabinet terminal block 2
S11/P11	Cabinet to sign intermediary socket/plug (ENSTO)	T5	Cabinet terminal block 3
S12/P12	Cabinet sensor socket/plug (blue 2-way)	—	—
<<	Plug and socket	O	Terminal on terminal block

Model: TME1500 Series and SKT1500 Series



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

S1/P1	IEC cabinet socket/plug	S11/P11	Cabinet to sign intermediary socket/plug
S2/P2	Unit junction box to controller power socket/plug 1 (red 4-way)	S12/P12	Cabinet sensor socket/plug (blue 2-way)
S3/P3	Unit junction box to controller power socket/plug (blue 4-way)	S13/P13	Evaporator sensor socket/plug (black 2-way)
S4/P4	Unit junction box to controller signal socket/plug (6-way)	S14/P14	Door sensor socket/plug (white 2-way)
S5/P5	Compressor unit socket/plug (blue 4-way)	S15/P15	Pressure switch socket/plug (red 2-way)
S6/P6	Condenser motor unit socket/plug (red 4-way)	T1	Unit terminals
S7/P7	Evaporator motor unit socket/plug (white 4-way)	T2	Cabinet terminal block 1
S8/P8	Evaporator motor changeover socket/plug (white 4-way)	T3	Cabinet terminal block 2
S9/P9	Light unit socket/plug (yellow 4-way)	T4	Cabinet terminal block 3
S10/P10	Light unit socket/plug 2 (yellow 4-way)	T5	Sign terminal block
<<	Plug and socket	O	Terminal on terminal block

7 Spare Parts

Cabinet Assembly

TME650 Series, SKT650 Series – Cabinet Assembly

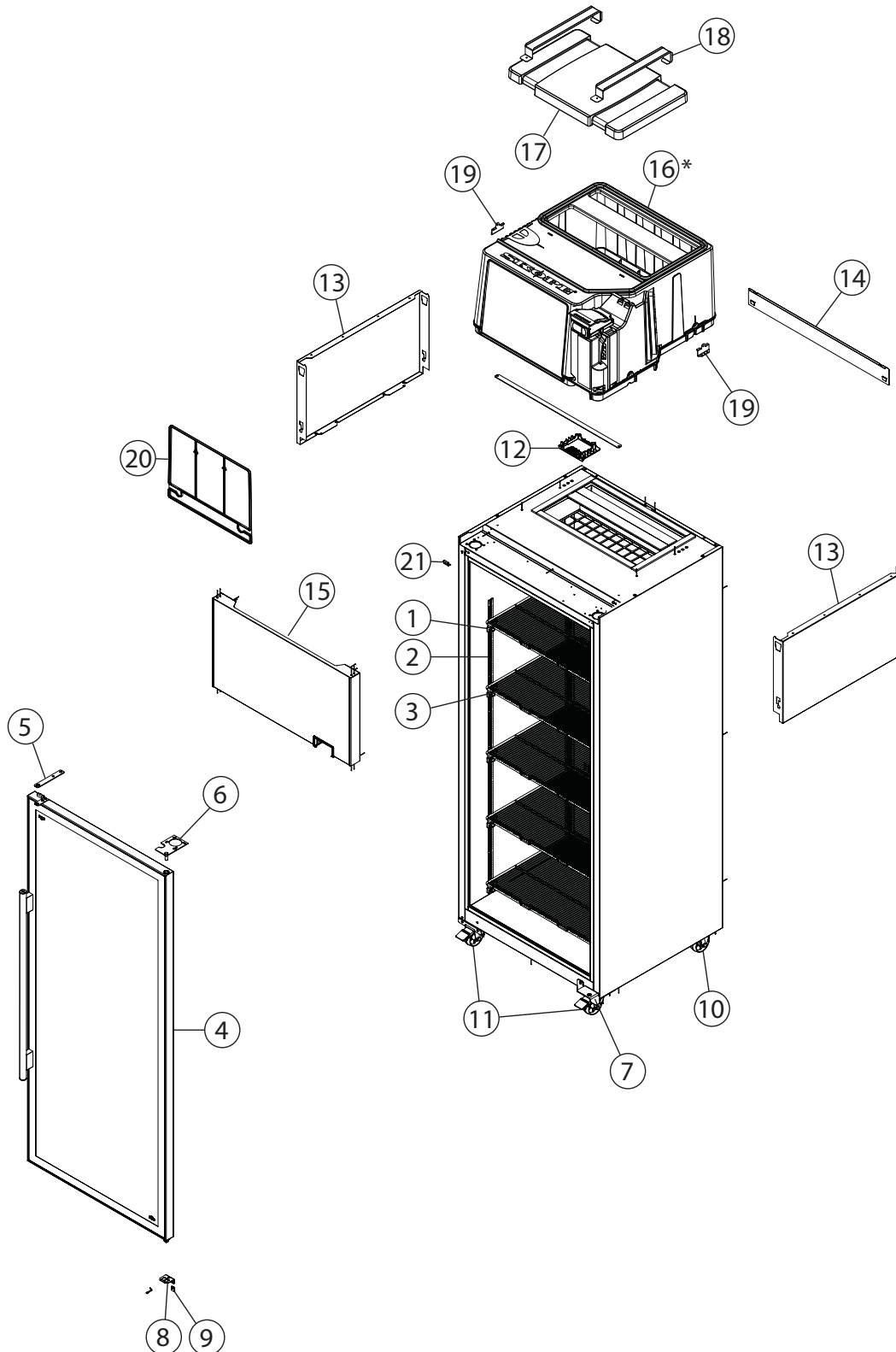


Table 13: Parts – Cabinet assembly: TME650 series, SKT650 series

No.	Description	Part No.		
		Unpainted/standard	Colour: White	Colour: Black
1	Shelf clip	–	HB0070205867	PLM10903BK
2	Shelf support strip	HB0070110331	–	–
3	Wire shelf	–	HB0070110864	–
4	Door assembly – standard*	–	HB0070824789	GLD11403R-BK
	Door assembly – tropical*	–	GLD11404R-WH	GLD11404R-BK
	Door assembly – solid*	MT65SZ/D40	MT65SZ/D40-32	MT65SZ/D40-49
5	Door lock bracket – cabinet piece	–	HB0070110584A	HB0070110584A
6	Top hinge – right hand	–	HB0070110582B	SM12BV/388R-49
7	Bottom hinge – right hand	–	HB0070110851	SM10BV/393R-49
8	Tension bracket	–	–	HB0070110580
9	Vertical lock nut	–	–	HB0070110581
10	Rear castor – TME650 Series	HB0070105066	–	–
	Rear castor – SKT650 Series	SXX4339	–	–
11	Front castor lockable – TME650 Series	HB0070105065	–	–
	Front castor lockable – SKT650 Series	SXX4539	–	–
12	Controller clip	–	HB0070206333	HB0070206333A
13	Sign side	–	SM65BV/182-32	SM65BV/182-49
14	Sign back strip	–	HB0070110813	SM65BV/C53-49
15	Sign replacement panel – TME650-A	–	HB0070825987	–
	Sign replacement panel – SKT650-A*	–	MT65GV/S22-32	MT65GV/S22-49
	Lit sign assembly (excluding LED tube) – TME650-AC	–	HB0070825410	–
	Lit sign assembly (excluding LED tube) – SKT650-AC and SKT650-ACX*	–	MT65BV/T61-32	MT65BV/T61-49
16	Refrigeration unit assembly**	HB0070823484	–	–
17	Evaporator box lid	HB0070511356	–	–
18	Top metal strap bracket	HB0070110816	–	–
19	Hold down bracket	HB0070110815	–	–
20	Optional condenser filter	FIL 11321	–	–
21	Door switch	HB0074091496-1	–	–
–	Door switch flex (not shown) – TME650 Series	HB0070400586A	–	–
	Door switch flex (not shown) – SKT650 Series	MT65BV/X04	–	–
–	Side light assembly (not shown) – TME650 Series	–	HB0070825407	–
	Side light assembly (not shown) – SKT650 Series	–	MT65BY/L 10R-32	MT65BY/L 10R-49
–	Shelf light assembly (not shown) – SKT650-ACX	See page 60	–	–
–	Mains flex (not shown)	HB0070400636	–	–
–	Key lock (not shown)	SXX11581	–	–
–	Hinge reversal kit – left hand (not shown)	–	SM65BV/D100-32	SM65BV/D100-49

Notes:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

* If key lock/s are fitted, please contact SKOPE for part number.

** When ordered as a spare part, the refrigeration unit does not include evaporator box lid, top metal strap brackets, or hold down brackets. If required, these items must be ordered in addition to the refrigeration unit (items 17, 18 and 19).

TME1000 Series, SKT1000 Series – Cabinet Assembly

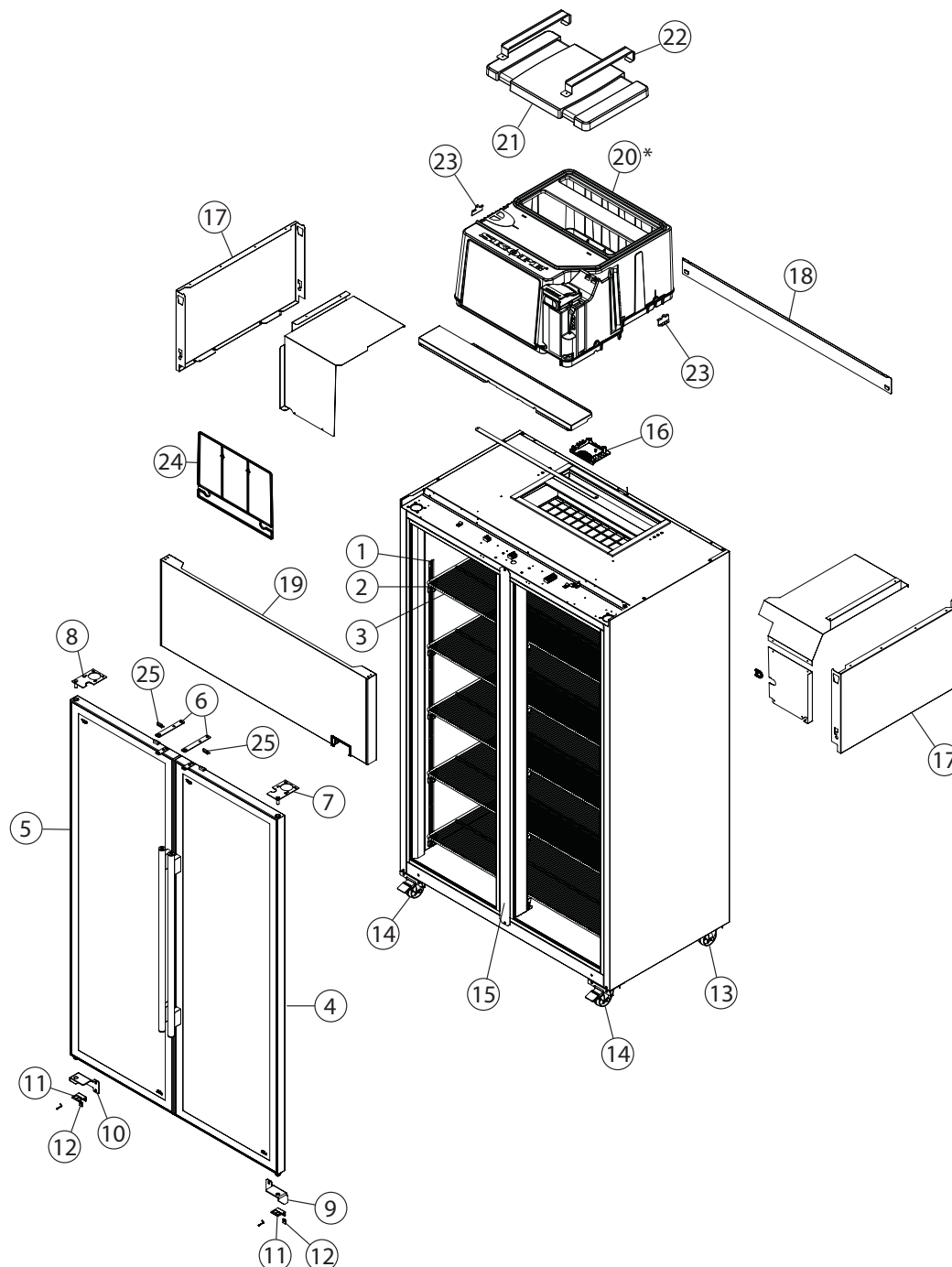


Table 14: Parts – Cabinet assembly: TME1000 series, SKT1000 series

No.	Description	Part No.		
		Unpainted/standard	Colour: White	Colour: Black
1	Shelf clip	–	HB0070205867	PLM10903BK
2	Shelf support strip	HB0070110331	–	–
3	Wire shelf – split (10 per cabinet)	–	HB0070110862	–
	Wire shelf – wide (5 per cabinet)	–	HB0070110863	–
4	Door assembly (right hand) – standard	–	HB0070824788	GLD11372R-BK
	Door assembly (right hand) – tropical	–	GLD11406R-WH	GLD11406R-BK
	Door assembly (right hand) – solid	MT10SZ/D40	MT10SZ/D40-32	MT10SZ/D40-49

Table 14: Parts – Cabinet assembly: TME1000 series, SKT1000 series (continued)

No.	Description	Part No.		
		Unpainted/standard	Colour: White	Colour: Black
5	Door assembly left hand – standard*	–	HB0070824787	GLD11372L-BK
	Door assembly left hand – tropical*	–	GLD11406L-WH	GLD11406L-BK
	Door assembly left hand – solid*	MT10SZ/D41	MT10SZ/D41-32	MT10SZ/D41-49
6	Door lock bracket – cabinet piece	–	HB0070110584A	HB0070110584B
7	Top hinge – right hand	–	HB0070110582B	SM12BV/388R-49
8	Top hinge – left hand	–	HB0070110583B	SM12BV/388L-49
9	Bottom hinge – right hand	–	HB0070110851	SM10BV/393R-49
10	Bottom hinge – left hand	–	HB0070110850	SM10BV/393L-49
11	Tension bracket	–	–	HB0070110580
12	Vertical lock nut	–	–	HB0070110581
13	Rear castor – TME1000 Series	HB0070105066	–	–
	Rear castor – SKT1000 Series	SXX4339	–	–
14	Front castor lockable – TME1000 Series	HB0070105065	–	–
	Front castor lockable – SKT1000 Series	SXX4539	–	–
15	Centre pillar assembly – TME1000 Series	–	HB0070825318	–
	Centre pillar assembly – SKT1000 Series	–	MT15BY/L40N-32	MT15BY/L40N-49
16	Controller clip	–	HB0070206333	HB0070206333A
17	Sign side	–	SM65BV/182-32	SM65BV/182-19
18	Sign back strip	–	HB0070110812	SM10BV/C53-49
19	Sign replacement panel – TME1000 Series	–	HB0070825986	–
	Sign replacement panel – SKT1000 Series	–	MT10GV/S22-32	MT10GV/S22-49
	Lit sign assembly (excluding LED tube) – TME1000 Series	–	HB0070825408	–
	Lit sign assembly (excluding LED tube) – SKT1000 Series*	–	MT10BV/T61-32	MT10BV/T61-49
20*	Refrigeration unit assembly*	HB0070823484	–	–
21	Evaporator box lid	HB0070511356	–	–
22	Top metal strap bracket	HB0070110816	–	–
23	Hold down bracket	HB0070110815	–	–
24	Optional condenser filter	FIL11321	–	–
25	Door switch	HB0074091496-1	–	–
–	Door switch flex (not shown) – TME1000 Series	HB0070400584	–	–
	Door switch flex (not shown) – SKT1000 Series	MT10BV/X04	–	–
–	Side light assembly (not shown) – TME1000 Series	–	HB0070825407	–
	Side light assembly left hand (not shown) – SKT1000 Series	–	MT65BY/L10L-32	MT65BY/L10L-49
–	Side light assembly, right hand (not shown) – SKT1000 Series	–	MT65BY/L10R-32	MT65BY/L10R-49
–	Shelf light assembly (not shown) – SKT1000-ACX	See page 60	–	–
–	Cabinet power flex (not shown)	HB0070400579	–	–
–	Key lock (not shown)	SXX11581	–	–
–	Mains flex (not shown)	HB0070400636	–	–

Notes:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

* If key lock/s are fitted, contact SKOPE for the part number.

** When ordered as a spare part, the refrigeration unit does not include evaporator box lid, top metal strap brackets, or hold down brackets. If required, these items must be ordered in addition to the refrigeration unit (items 17, 18 and 19).

TME1500 Series, SKT1500 Series – Cabinet Assembly

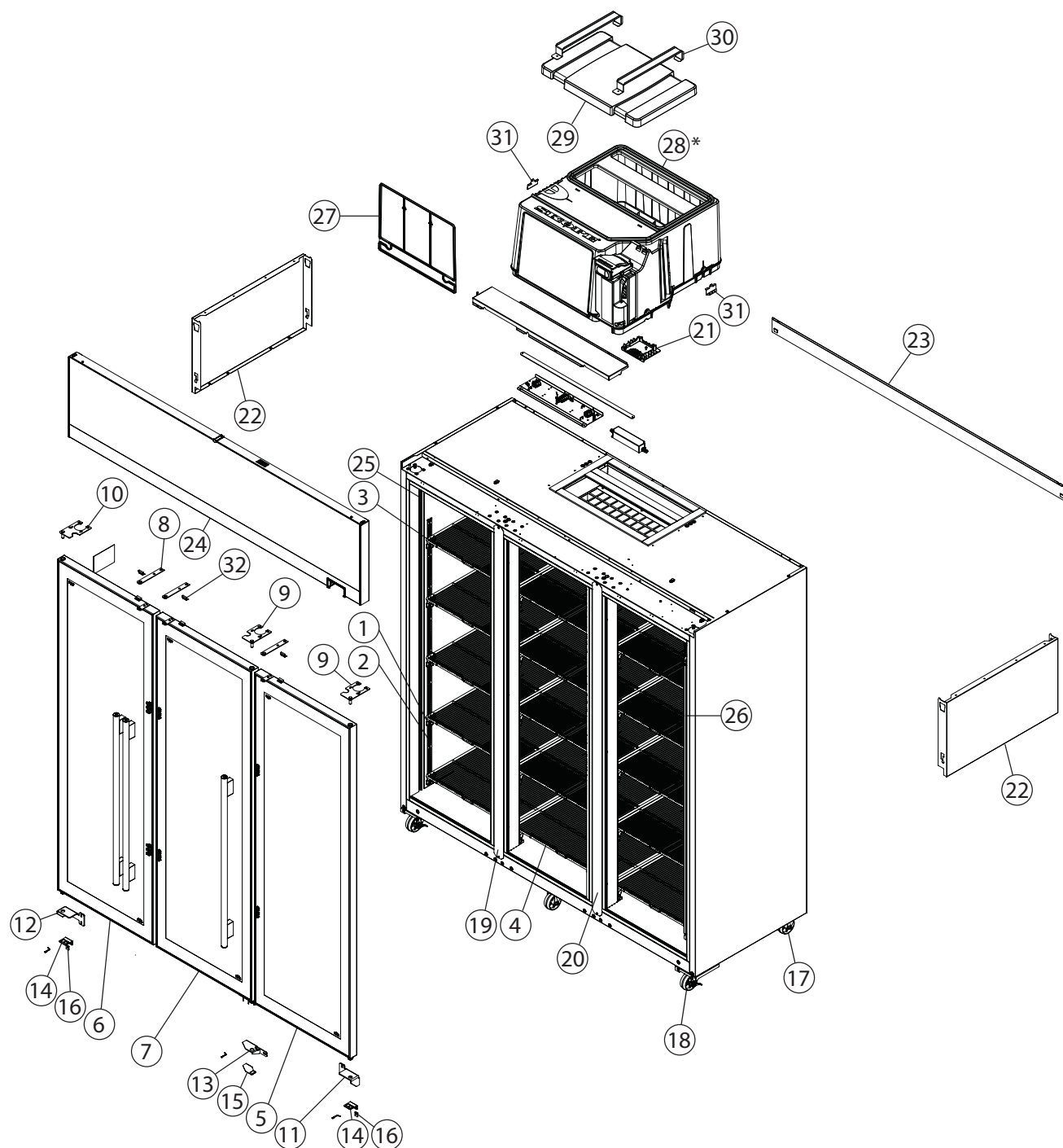


Table 15: Parts – Cabinet assembly: TME1500 series, SKT1500 series

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
1	Shelf clip	–	HB0070205867	PLM10903BK
2	Shelf support strip	HB0070110331	–	–
3	Wire shelf – outside	–	SM15BV/570S	–
4	Wire shelf – middle	–	SM15BV/570	–
5	Door assembly right hand – standard*	–	HB0070824788	GLD11372R-BK
	Door assembly right hand – tropical*	–	GLD11406R-WH	GLD11406R-BK
	Door assembly right hand – solid*	MT10SZ/D40	MT10SZ/D40-32	MT10SZ/D40-49

Table 15: Parts – Cabinet assembly: TME1500 series, SKT1500 series (continued)

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
6	Door assembly left hand – standard*	–	HB0070824787	GLD11372L-BK
	Door assembly left hand – tropical*	–	GLD11406L-WH	GLD11406L-BK
	Door assembly left hand – solid*	MT10SZ/D41	MT10SZ/D41-32	MT10SZ/D41-49
7	Door assembly middle – standard*	–	MT10BV/Y03MR-WH	MT10BV/Y03MR-BK
	Door assembly middle – tropical*	–	MT10TY/Y06MR-WH	MT10TY/Y06MR-BK
	Door assembly middle – solid*	MT15SZ/D42	MT15SZ/D42-32	MT15SZ/D42-49
8	Door lock bracket – cabinet piece	–	HB0070110584A	HB0070110584A
9	Top hinge – right hand/middle	–	HB0070110582B	SM12BV/388R-49
10	Top hinge – left hand	–	HB0070110583B	SM12BV/388L-49
11	Bottom hinge – right hand	–	HB0070110851	SM10BV/393R-49
12	Bottom hinge – left hand	–	HB0070110850	SM10BV/393L-49
13	Bottom hinge – middle	–	MT15BV/393R-32	MT15BV/393R-49
14	Tension bracket	–	–	HB0070110580
15	Tension bracket (middle door)	–	MT15BV/394R-32	MT15BV/394R-32
16	Vertical lock nut	–	–	HB0070110581
17	Rear castor	SXX4339	–	–
18	Front castor lockable	SXX4539	–	–
19	Centre pillar assembly – non-lit	–	MT15BY/L40N-32	MT15BY/L40N-49
20	Centre pillar assembly – lit	–	MT15BY/L40L-32	MT15BY/L40L-49
21	Controller clip	–	HB0070206333	HB0070206333A
22	Sign side	–	SM65BV/182-32	SM65BV/182-49
23	Sign back strip	–	MT15BV/C53-32	MT15BV/C53-49
24	Sign replacement panel (TME/SKT1500-A)*	–	MT15GV/S22-32	MT15GV/S22-49
	Lit sign assembly (excluding LED tube) (TME/SKT1500-AC/ACX)*	–	MT15BV/T61-32	MT15BV/T61-32
25	Side light assembly – left hand	–	MT65BY/L10L-32	MT65BY/L10L-49
26	Side light assembly – right hand	–	MT65BY/L10R-32	MT65BY/L10R-49
27	Condenser filter	FIL11321	–	–
28	Refrigeration unit assembly*	HB0070826577	–	–
29	Evaporator box lid	HB0070511356	–	–
30	Top metal strap bracket	HB0070110816	–	–
31	Hold down bracket	HB0070110815	–	–
32	Door switch	HB0074091496-1	–	–
–	Door sensor flex (not shown) (TME1500 Series only)	MT15BV/X04	–	–
–	Door sensor flex (unit to flex extension) (not shown) (SKT1500 Series only)	MT15BV/435	–	–
–	Door sensor flex extension (door sensor flex to door switch) (not shown)	FLX11398	–	–
–	Shelf light assembly (not shown)	See page 60	–	–
–	Cabinet power flex (not shown)	HB0070400579	–	–
–	Key lock (not shown)	SXX11581	–	–
–	Mains flex (not shown)	HB0070400636	–	–

Notes:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

* If key lock/s are fitted, please contact SKOPE for part number.

** When ordered as a spare part, the refrigeration unit does not include evaporator box lid, top metal strap brackets, or hold down brackets. If required, these items must be ordered in addition to the refrigeration unit (items 17, 18 and 19).

Door Assembly

Glass Door

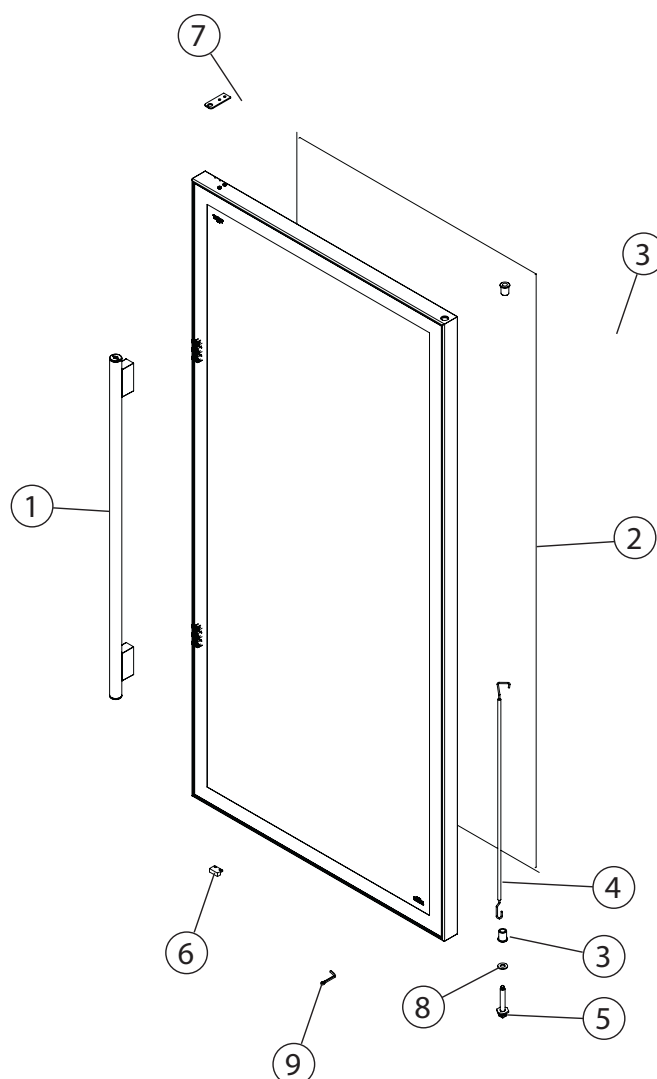


Table 16: Parts – Glass door assembly TME650 series, SKT650 series

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Door assembly – right hand	–	HB0070824789	GLD11403RH-BK
1	Door handle	–	HAN11195/0844-AS (silver, for white door)	HAN11195/0844-49
2	Magnetic gasket	GKT0432SK	–	–
3	Bush	PLM5075	–	–
4	Torsion bar	REF5014	–	–
5	Capstan	SM12BV/396	–	–
6	Door switch magnet	HB0074091496	–	–
7	Door lock bracket – door piece	HB0070109269	–	–
8	Bush washer	PLM11298	–	–
9	Split pin	FAS5076	–	–

Table 17: Parts – Glass door assembly TME1000/1500 series, SKT1000/1500 series

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Door assembly – right hand	–	HB0070824788	GLD11372R-BK
	Door assembly – left hand	–	HB0070824787	GLD11372L-BK
	Door assembly – middle (TME/SKT1500 series)	–	HB0070824788	GLD11372R-BK
1	Door handle	–	HAN11195/0844-AS (silver, for white door)	HAN11195/0844-49
2	Magnetic gasket	GKT0572SK	–	–
3	Bush	PLM5075	–	–
4	Torsion bar	REF5014	–	–
5	Capstan	SM12BV/396	–	–
6	Door switch magnet	HB0074091496	–	–
7	Door lock bracket – door piece	HB0070109269	–	–
8	Bush washer	PLM11298	–	–
9	Split pin	FAS5076	–	–
–	Door stop (middle door) (not shown)	MT15BV/400R-32	–	–

Note:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

Solid Door

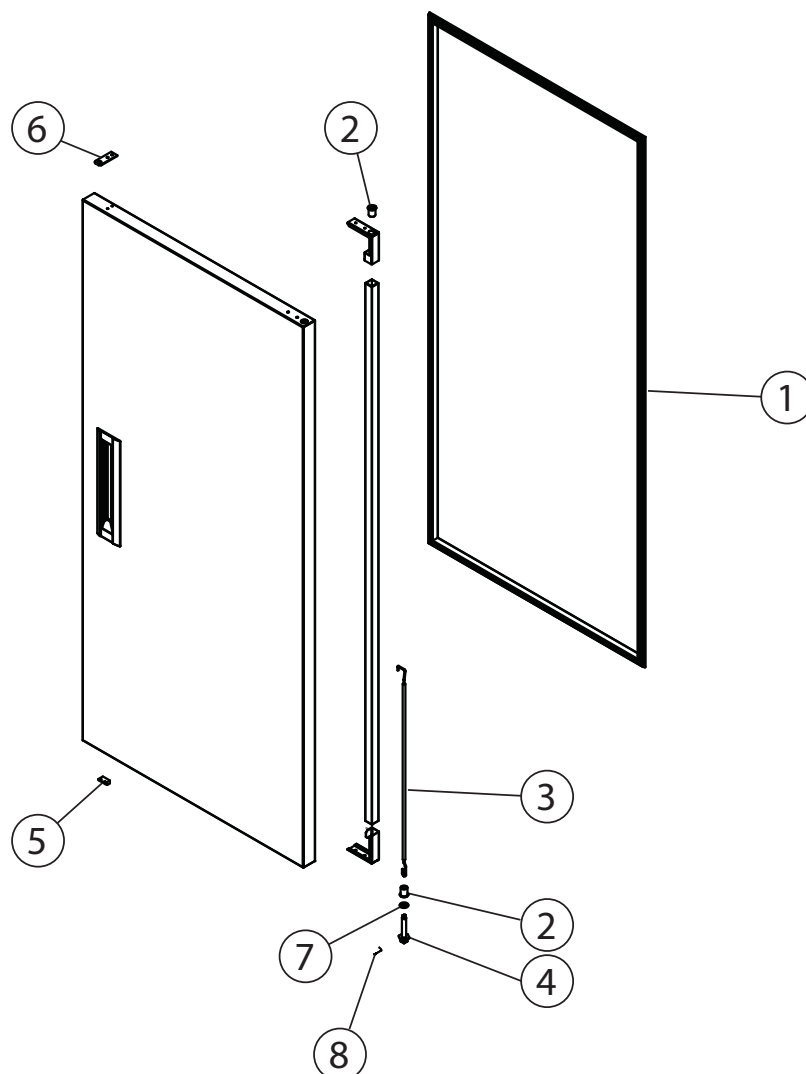


Table 18: Parts – Solid door assembly SKT650S-A

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Door assembly – right hand	MT65SZ/D40	MT65SZ/D40-32	MT65SZ/D40-49
1	Magnetic gasket	GKT0432SK	–	–
2	Bush	PLM5075	–	–
3	Torsion bar	REF5014	–	–
4	Capstan	SM12BV/396	–	–
5	Door switch magnet	HB0074091496	–	–
6	Door lock bracket – door piece	–	HB0070109269P	HB0070109269Q
7	Bush washer	PLM11298	–	–
8	Split pin	FAS5076	–	–

Table 19: Parts – Solid door assembly SKT1000S-A

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Door assembly – right hand	MT10SZ/D40	MT10SZ/D40-32	MT10SZ/D40-49
	Door assembly – left hand	MT10SZ/D41	MT10SZ/D41-32	MT10SZ/D41-49
1	Magnetic gasket	GKT0572SK	–	–
2	Bush	PLM5075	–	–
3	Torsion bar	REF5014	–	–
4	Capstan	SM12BV/396	–	–
5	Door switch magnet	HB0074091496	–	–
6	Door lock bracket – door piece	–	HB0070109269P	HB0070109269Q
7	Bush washer	PLM11298	–	–
8	Split pin	FAS5076	–	–

Table 20: Parts – Solid door assembly SKT1500S-A

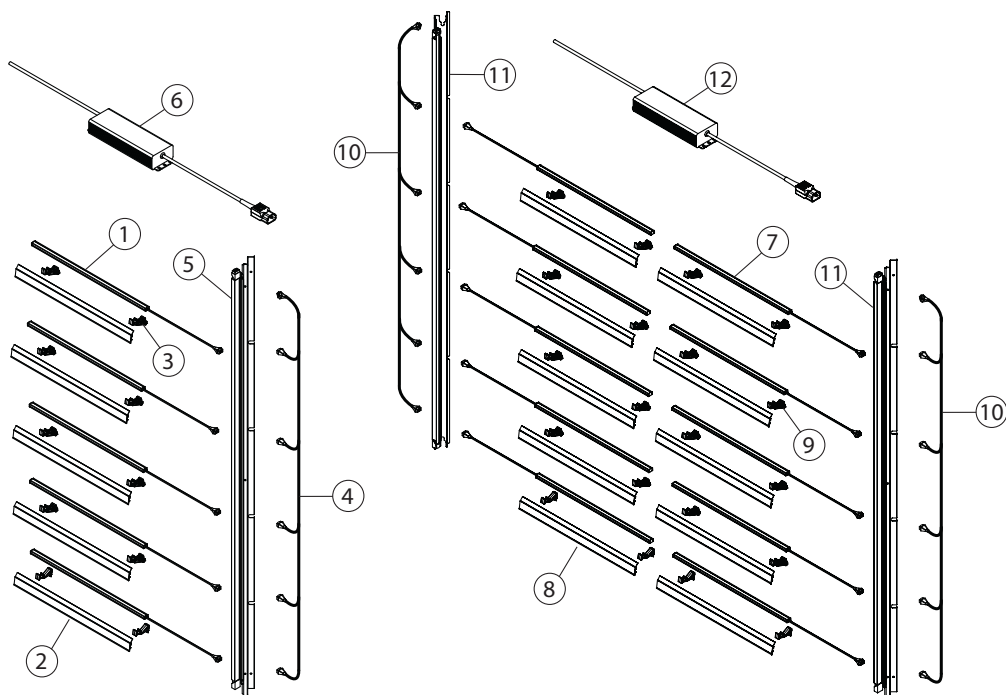
No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Door assembly – right hand	MT10SZ/D40	MT10SZ/D40-32	MT10SZ/D40-49
	Door assembly – left hand	MT10SZ/D41	MT10SZ/D41-32	MT10SZ/D41-49
	Door assembly – middle	MT15SZ/D42	MT15SZ/D42-32	MT15SZ/D42-49
1	Magnetic gasket	GKT0572SK	–	–
2	Bush	PLM5075	–	–
3	Torsion bar	REF5014	–	–
4	Capstan	SM12BV396	–	–
5	Door switch magnet	HB0074091496	–	–
6	Door lock bracket – door piece	–	HB0070109269P	HB0070109269Q
7	Bush washer	PLM11298	–	–
8	Split pin	FAS5076	–	–
–	Door stop (not shown)	MT15BV/400L-32	–	–

Note:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

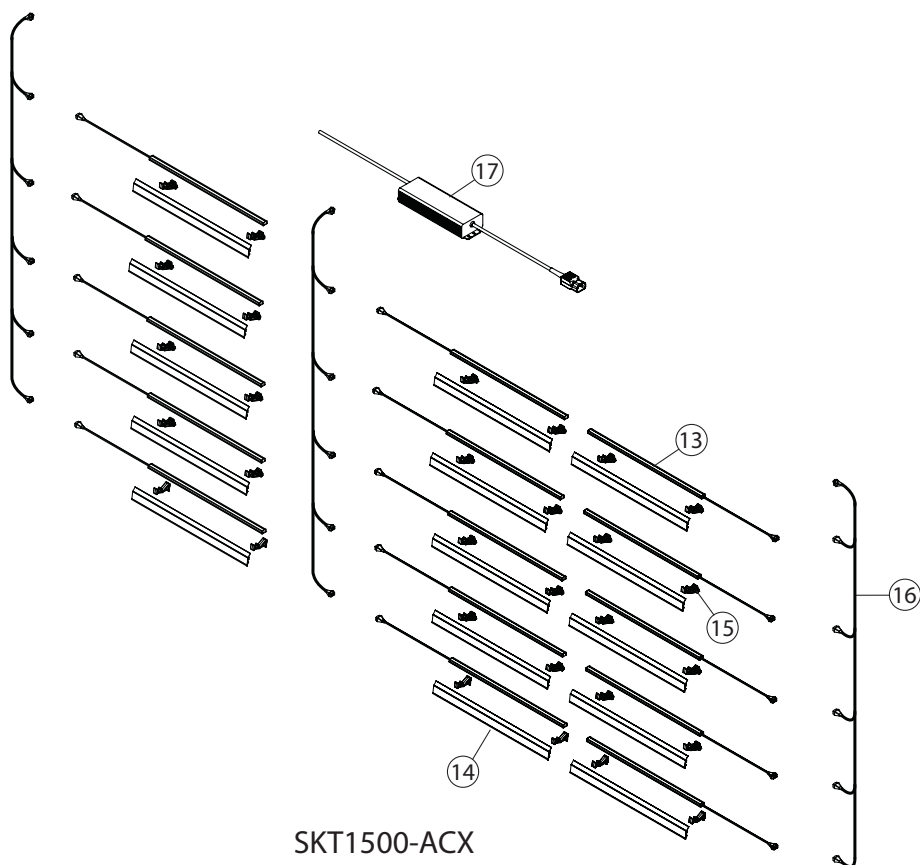
Lighting

Modular Light Assembly



SKT650-ACX

SKT1000-ACX



SKT1500-ACX

Table 21: Parts – Shelf light assembly SKT650-ACX

No.	Description	SKOPE Part No.		
		<i>Unpainted/standard</i>	<i>Colour: White</i>	<i>Colour: Black</i>
1	Shelf light module	ELL11048	–	–
2	Ticket strip	PLE11038-600	–	–
3	Light/ticket strip clip	PLM11037	–	–
4	Side loom	FLX11066	–	–
5	Side light module	ELL11049	–	–
6	24V power supply	MT10BX/K08	–	–

Table 22: Parts – Modular light assembly SKT1000-ACX

No.	Description	SKOPE Part No.		
		<i>Unpainted/standard</i>	<i>Colour: White</i>	<i>Colour: Black</i>
7	Shelf light module	ELL11388	–	–
8	Ticket strip	PLE11038-440	–	–
9	Light/ticket strip clip	PLM11037	–	–
10	Side loom	FLX11066	–	–
11	Side light module	ELL11049	–	–
12	24V power supply	MT10BX/K08	–	–

Table 23: Parts – Modular light assembly SKT1500-ACX

No.	Description	SKOPE Part No.		
		<i>Unpainted/standard</i>	<i>Colour: White</i>	<i>Colour: Black</i>
13	Shelf light module	ELL11388	–	–
14	Ticket strip	PLE11038-440	–	–
15	Light/ticket strip clip	PLM11037	–	–
16	Side loom	FLX11066	–	–
17	24V power supply	MT15BX/K08	–	–

Note:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

Side Light Assembly

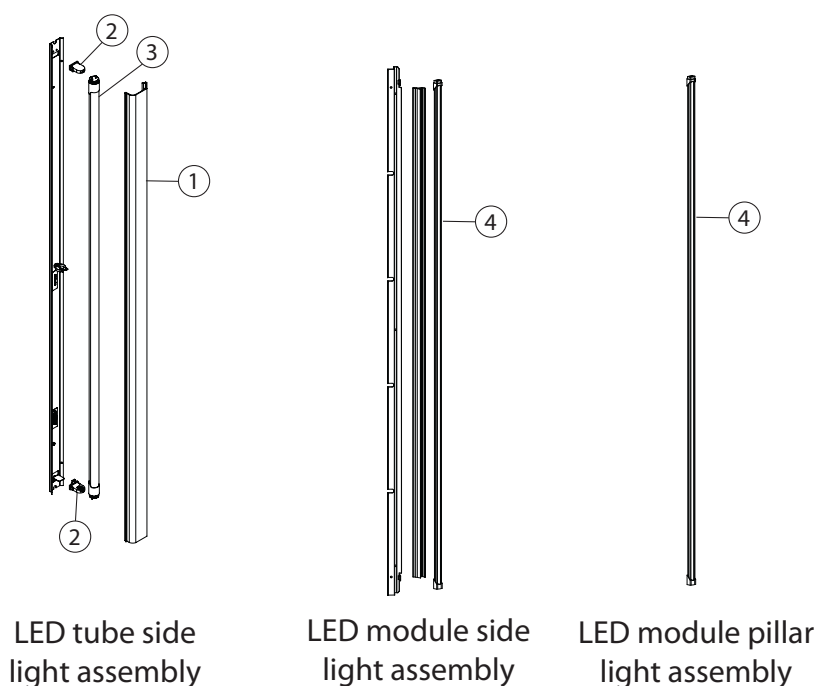


Table 24: Parts – LED tube side light assembly TME650/1000/1500 Series

No.	Description	SKOPE Part No.
	Side light assembly – right hand	HB0070825407
	Side light assembly – left hand	HB0070825407A
1	Side light diffuser	HB0070201457D
2	Lamp holder	HB0074090728
3	Eco-Point 22 Watt T8 LED tube (Ø26 mm × 500 mm)	ELL10180

Table 25: Parts – LED Module Side Light Assembly SKT650/1000/1500 Series

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Side light assembly – right hand	–	MT65BY/L10R-32	MT65BY/L10R-49
	Side light assembly – left hand	–	MT65BY/L10L-32	MT65BY/L10L-49
4	LED light module	ELL11049	–	–
–	Light holder (not shown)	PLE11040-1347	–	–
–	Supply harness (not shown)	FLX11156	–	–
–	24V power supply – 40W (not shown)	MT15BY/K08	–	–

Table 26: Parts – LED pillar light assembly TME1500 series, SKT1500 series

No.	Description	SKOPE Part No.
4	LED light module	ELL11049

Note:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

Lit Sign Assembly

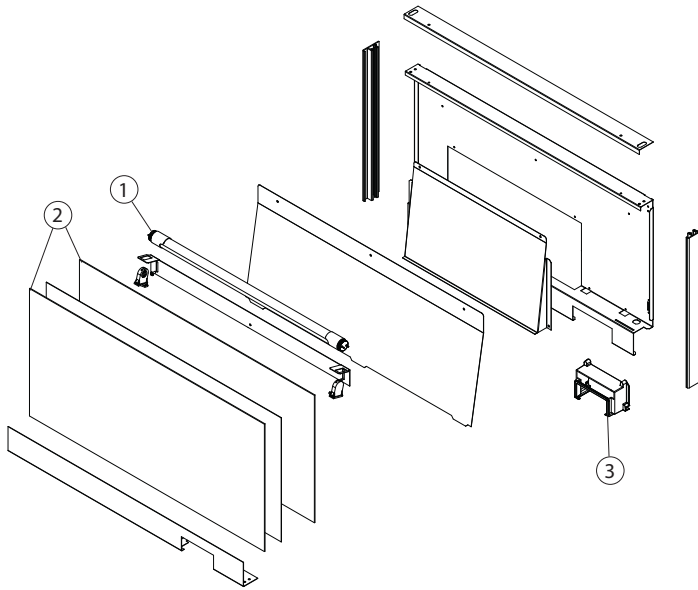


Table 27: Parts – Lit sign assembly TME650-AC/ACX, SKT650-AC/ACX

No.	Description	SKOPE Part No.
	Sign assembly (excluding LED tube)	HB0070825410
1	Eco-Point 11 watt frosted T8 LED tube (Ø26 mm × 600 mm)	ELL10741
2	Sign panel (transparent)	HB0070206409
	Sign panel (opal)	PLY11242-MT65
3	Controller surround	HB0070206332
–	Sign extension flex (not shown)	HB0070400627

Table 28: Parts – Lit sign assembly TME1000-AC/ACX, SKT1000-AC/ACX

No.	Description	SKOPE Part No.
	Sign assembly (excluding LED tube)	HB0070825408
1	Eco-Point 17 watt frosted T8 LED tube (Ø26 mm × 1034 mm)	ELL11288
2	Sign panel (transparent)	HB0070206408
	Sign panel (opal)	PLY11242-MT10
3	Controller surround	HB0070206332
–	Sign extension flex (not shown)	HB0070400627

Table 29: Parts – Lit sign assembly TME1500-AC/ACX, SKT1500-AC/ACX

No.	Description	SKOPE Part No.
	Sign assembly (excluding LED tube)	MT15BV/T61
1	Eco-Point 22 watt frosted T8 LED tube (Ø26 mm × 1500 mm)	ELL10743
2	Sign panel (transparent)	PLY11241-MT15
	Sign panel (opal)	PLY11242-MT15
3	Controller surround	HB0070206332
–	Sign extension flex (not shown)	HB0070400627

Note:

Check the part colour before ordering. If the colour differs from the list above, state the specific colour when ordering.

Unit Assembly

UTHCCI-0002

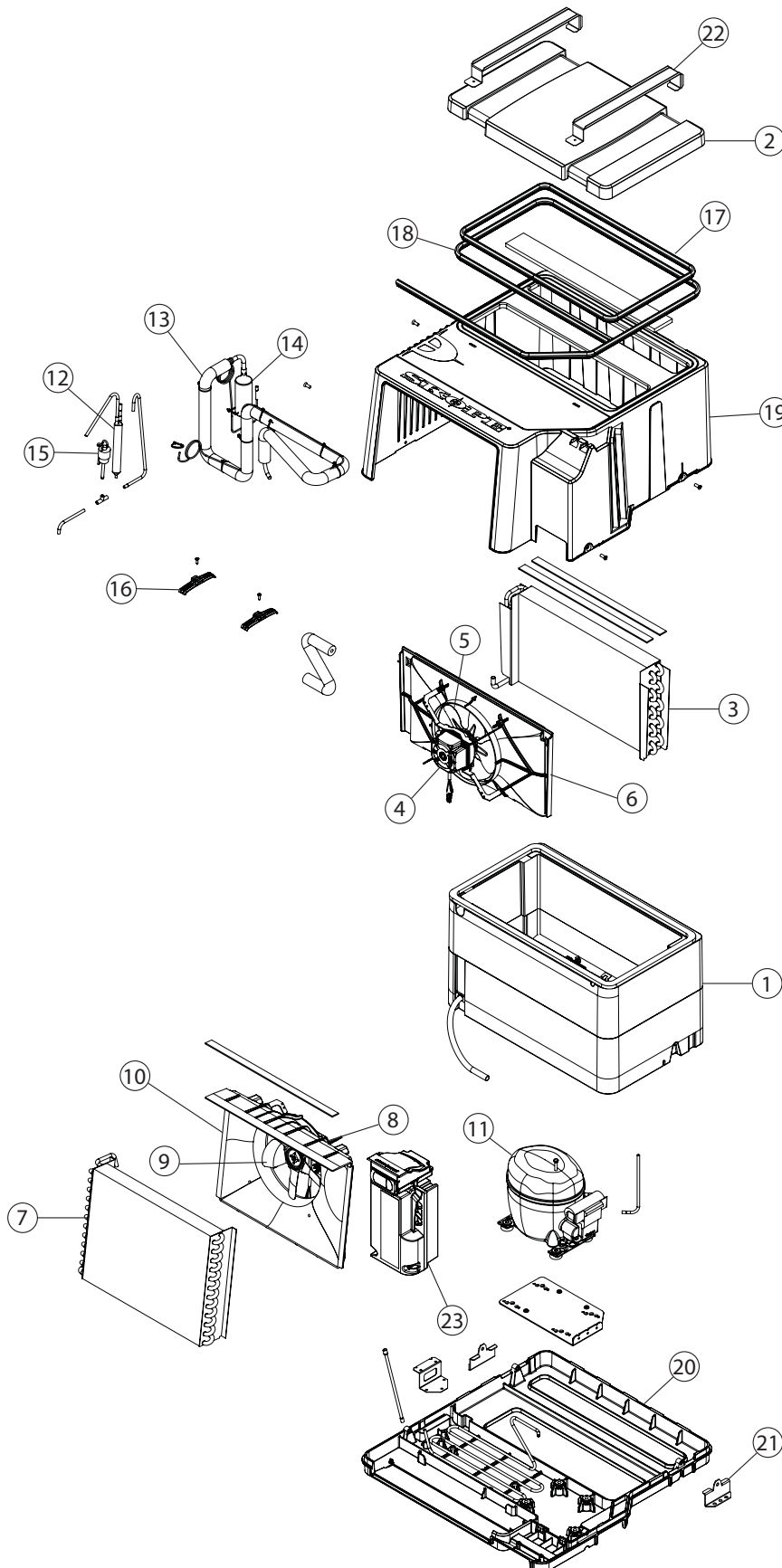


Table 30: Parts – Unit assembly UTHCCI-0002 TME650/1000 series, SKT650/1000 series

No.	Description	SKOPE Part No.
	Unit assembly*	HB0070823484
1	Evaporator box	HB0070510928A
2	Evaporator box lid	HB0070511356
3	Evaporator coil	HB0070702232
4	Evaporator fan motor	HB0074000512
5	Evaporator fan blade	HB0074000313A
6	Evaporator fan shroud	HB0070206123
7	Condenser coil	HB0070702233
8	Condenser fan motor	HB0074000513
9	Condenser fan blade	FAN5043
10	Condenser fan shroud	HB0070206124
11	Compressor – Embraco FFI12HBK	HB0074000248
	Compressor electrics	ELZ11744
12	Drier	HB0070700780
13	Suction line assembly	HB0070702236
14	Accumulator (142 mm)	V8100/496
15	High pressure switch	HB0074000537
16	Condensate pipe support	HB0070110674
17	Unit gasket seal 1571 mm	PLE11052-1571
18	Unit gasket seal 2306 mm	PLE11052-2306
19	Unit plastic top cover	HB0070206133
20	Unit plastic bottom	HB0070206212
21	Hold down bracket	HB0070110815
22	Top metal strap bracket	HB0070110816
23	Unit electrics box assembly	HB0070825230

***Note:**

When ordered as a spare part, the refrigeration unit does not include evaporator box lid and top metal strap bracket. If required, these items must be ordered in addition to the refrigeration unit (items 2 and 20).

UTHCCI-0004

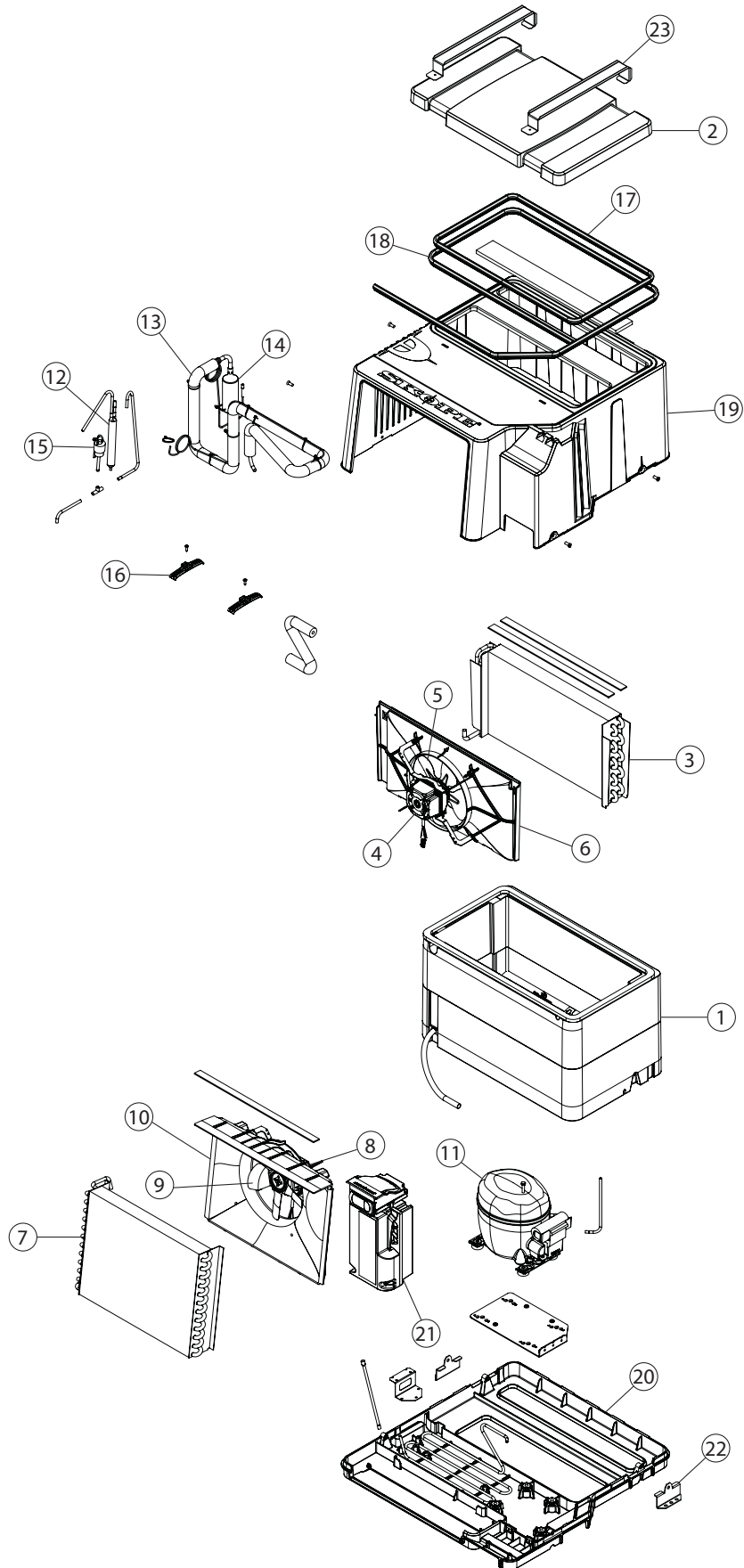


Table 31: Parts – Unit assembly UTHCCI-0004 TME1500 series, SKT1500 series

No.	Description	SKOPE Part No.
	Unit assembly*	HB0070826577
1	Evaporator box	HB0070510928
2	Evaporator box lid	HB0070511356
3	Evaporator coil	HB0070702232A
4	Evaporator fan motor	HB0074000581
5	Evaporator fan blade	HB0074000313A
6	Evaporator fan shroud	HB0070206123
7	Condenser coil	HB0070702233A
8	Condenser fan motor	HB0074000513
9	Condenser fan blade	FAN5043
10	Condenser fan shroud	HB0070206124
11	Compressor – Kulthorn Kirby CA9440Y	HB0074000266
	Compressor electrics kit	HB0074000266
	Start relay	HB0074000266-1
	Start capacitor	HB0074000266-2
	Run capacitor	HB0074000266-3
	Overload	HB0074000266-4
12	Drier	HB0070700780
13	Suction line assembly	HB0070702236A
14	Accumulator (142 mm)	V8100/496
15	High pressure switch	HB0074000537
16	Condensate pipe support	HB0070110674
17	Unit gasket seal 1571 mm	PLE11052-1571
18	Unit gasket seal 2308 mm	PLE11052-2306
19	Unit plastic top cover	HB0070206133
20	Unit plastic bottom	HB0070206212
21	Unit electrics box assembly	HB0070825230
22	Hold down bracket	HB0070110815
23	Top metal strap bracket	HB0070110816

*** Note:**

When ordered as a spare part, the refrigeration unit does not include evaporator box lid and top metal strap bracket. If required, these items must be ordered in addition to the refrigeration unit (items 2 and 21).

UTSCCR-0001 (Remote)

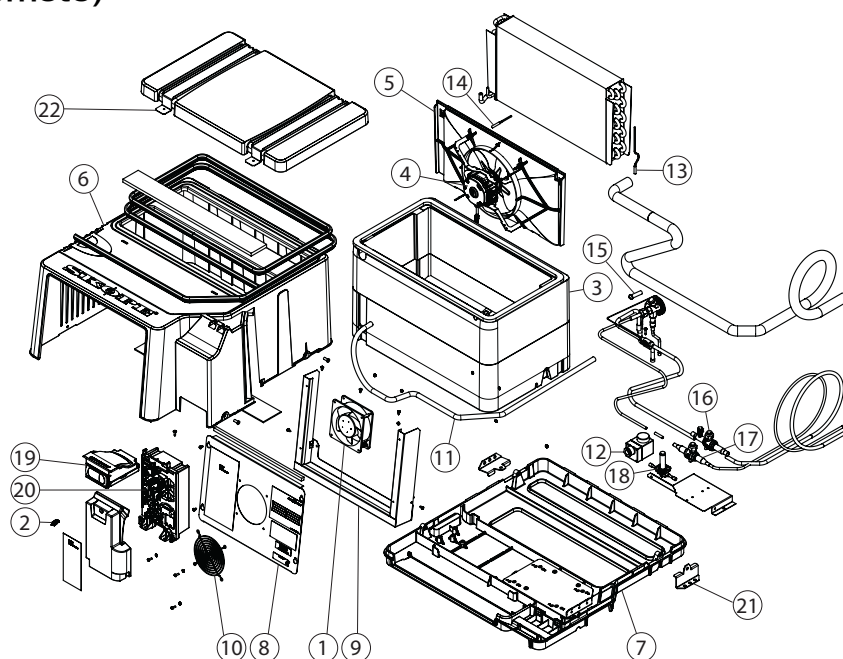


Table 32: Parts – Unit assembly UTSCCR-0002 (remote)

No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
	Unit assembly*	UTSCCR-0001	—	—
1	Ventilation fan	ELM10347	—	—
2	Tyco 2-way bridge	ELZ11199-RD	—	—
3	Evaporator tub	HB0070510928A	—	—
4	Evaporator fan motor	HB0074000581	—	—
	Evaporator fan blade	HB0074000313A	—	—
5	Evaporator fan shroud	HB0070206123	—	—
6	Remote unit plastic top cover	UP02N00003A	—	—
7	Remote unit plastic bottom	UP01N00003A	—	—
8	Ventilation fan panel	UTSC CR/G51	—	—
9	Ventilation fan surround	UTSCCR/G51A	—	—
10	Fan guard	WRK11151	—	—
11	Drain tube	PLE1057-1090	—	—
12	Valve coil	ELZ7654	—	—
13	Defrost probe	HB0070400506	—	—
14	Control probe	HB0070400542	—	—
15	No. 00 orifice	REF7596	—	—
16	Ball valve – 3/8" + Schrader	VAL11572	—	—
17	Ball valve – 1/4"	VAL11573	—	—
18	Valve body	VAL7653	—	—
19	Electronic controller assembly	HB0070825231	—	—
20	Unit electrics box assembly	HB0070825230	—	—
21	Hold down bracket	HB0070110815	—	—
22	Top metal strap bracket	HB0070110816	—	—
23	Evaporator box lid	HB0070511356	—	—

***Note:** When ordered as a spare part, the refrigeration unit does not include evaporator box lid and top metal strap bracket. If required, these items must be ordered in addition to the refrigeration unit (items 21 and 22).

Unit Electrics Box Assembly

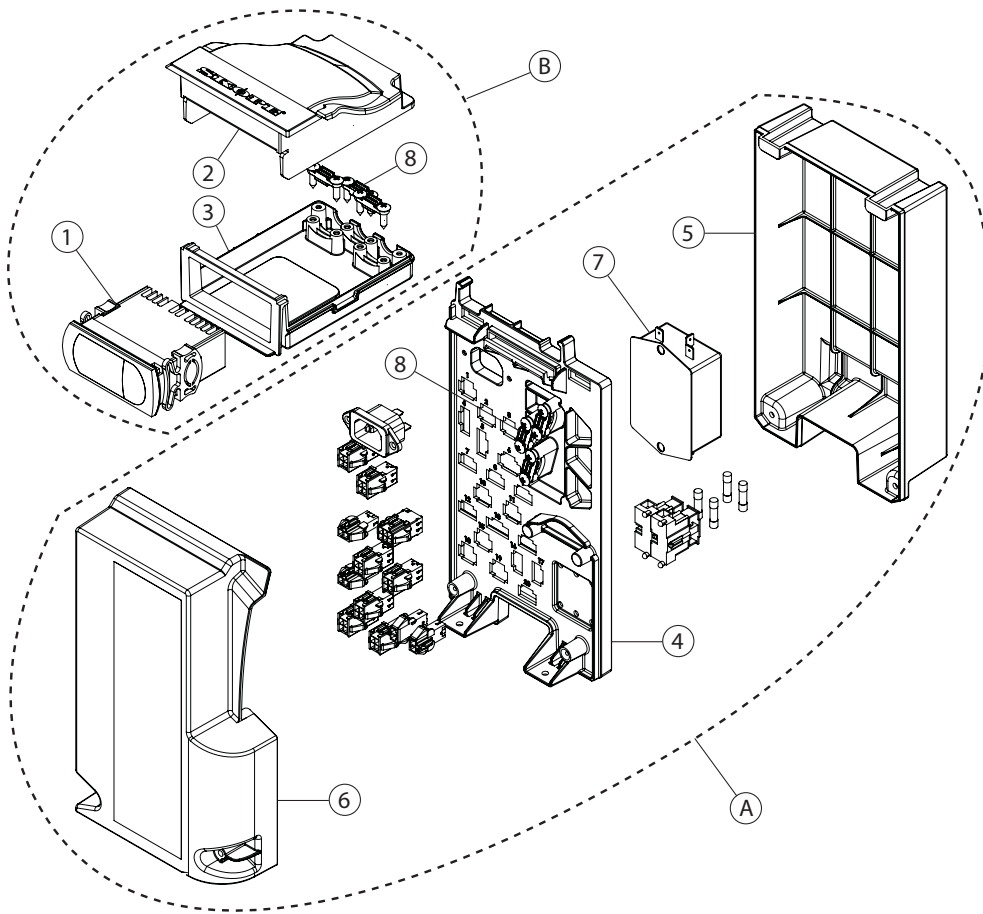


Table 33: Parts – Unit electrics box assembly




No.	Description	SKOPE Part No.		
		Unpainted/standard	Colour: White	Colour: Black
A	Unit electrics box assembly	HB0070825230	—	—
B	Electronic controller assembly (inc. CAREL S4 controller and 3 flexes)	HB0070825231	—	—
1	CAREL S4 electronic controller	ELZ11478-101	—	—
2	Electronic controller housing lid	HB0070206126	—	—
3	Electronic controller housing base	HB0070206125	—	—
4	Unit electrics box base	HB0070206211	—	—
5	Unit electrics box back cover	HB0070206132	—	—
6	Unit electrics box cover	HB0070206131	—	—
7	EMI filter	HB0074600001		
8	Cable clamp	HB0070206127	—	—
—	Evaporator temperature probe (not shown)	HB0070400542	—	—
—	Control temperature probe (not shown)	HB0070400506	—	—
—	Temperature probe electrical wiring loom (not shown)	HB0070400574	—	—
—	Power electrical wiring loom (not shown)		—	—
—	Door switch (not shown)	HB0074091496		
—	Door switch cable (not shown)	See cabinet assembly		

8 Troubleshooting

Controller Alarms

Alarms signal unexpected operational changes in the fridge. When an alarm is activated, use the following charts to assist with fault diagnosis and service as necessary.

Table 34: Electronic controller alarms

Alarm	Possible cause	Repair
 Door alarm. The door has been open for longer than parameter A10 time. An alarm sounds, and the controller turns the compressor and evaporator fan off.	• Door is open	• Close door
	• Door/s not aligned correctly	• Realign door/s
	• Door switch/es not aligned	• Realign door switch/es
	• Door switch cable not connected to electrics box correctly.	• Check connection in electrics box.
	• Door switch cable plug and sockets not connected correctly.	• Check connection of door switch cable plug and sockets in refrigeration unit compartment.
	• Door switch cable damaged.	• Inspect door switch cable, and repair or replace if necessary. • Use multi meter to check for signal through lead when opening and closing door/s.
	• Door switch faulty.	• Disconnect door switch plug and use multi meter to check open/closed signal while opening and closing door.
 Refrigeration system error. An alarm sounds and the controller turns the fridge off to avoid damage. This alarm is triggered if no-downward tendency protection is triggered twice consecutively.	• Cabinet not installed correctly.	• Check the installation meets specification. Ensure there are no blockages in front or behind fridge. Make installation changes or advise shop-keeper of any changes required.
	• Abnormal environmental conditions.	• Discuss with shop staff to determine and advise why alarm occurred and how to avoid it in future.
	• Very high use of fridge	
	• Condenser blockage.	• Check and clean condenser filter and coil.
	• Door/s not closing and sealing.	• Service the door/s.
	• Refrigeration unit not sealing properly.	• Inspect seal between top of cabinet and bottom of refrigeration unit. Reseal as necessary. • Remove refrigeration unit and inspect gasket condition. Replace gasket if damaged.
	• Electronic controller not reading correct temperature.	• Investigate temperature probe or electronic controller fault.
 Probe fault. An alarm sounds.	• Fans and/or compressor not running correctly.	• Investigate fan, compressor and/or compressor electrics fault.
	• Probe not securely fitted.	• Secure loose probe.
	• Probe is open circuit.	• Replace probe.
	• Controller fault.	• Replace controller.

Cabinet and Refrigeration Unit

For problems with the cabinet and refrigeration unit use the following table.

Table 35: Cabinet and unit troubleshooting

Problem	Possible cause	Repair
<ul style="list-style-type: none"> Cabinet not operating No controller display 	<ul style="list-style-type: none"> Loss of power supply Loose plug in electrics box High pressure event 	<ul style="list-style-type: none"> Check mains power supply. Check all plugs in electrics box are connected correctly. Service unit and reset pressure switch.
<ul style="list-style-type: none"> Sign and/or Interior lights not on. 	<ul style="list-style-type: none"> Electronic controller displays ECO indicating the fridge is in Energy Saving mode. Light switched off. Electronic controller displays E3 indicating a refrigeration system error. Failed LED light. 	<ul style="list-style-type: none"> Switch the light on while keeping the fridge in Energy Saving mode by pressing the light button on the electronic controller faceplate. Change the fridge into Normal mode by pressing and holding the Day-Night button on the electronic controller faceplate, or hold the door open for ten seconds. Switch light on via button on the electronic controller faceplate. See "Controller Alarms" on page 70. Service light.
<ul style="list-style-type: none"> Sign and interior lights will not switch off. 	<ul style="list-style-type: none"> Fridge in Cold Climate Protection (CCP) mode. 	<ul style="list-style-type: none"> It is not possible to turn the lights off when the fridge is in CCP mode. Wait for the fridge temperature to raise as necessary and then switch the lights off.
<ul style="list-style-type: none"> Excess noise vibration 	<ul style="list-style-type: none"> Refrigeration pipes transferring vibration into unit 	<ul style="list-style-type: none"> Re-align pipes.
<ul style="list-style-type: none"> Frozen evaporator coil 	<ul style="list-style-type: none"> Setpoint is too cold Control probe fault Evaporator probe fault. Controller fault Short of refrigerant Compressor pumping fault. 	<ul style="list-style-type: none"> Check and raise (see page 16). Check and replace control probe. Check and replace evaporator probe. Replace controller. Perform refrigeration system diagnostics (see page 32) and service as required. Check compressor and replace if necessary.
<ul style="list-style-type: none"> Power consumption is higher than expected 	<ul style="list-style-type: none"> Unit operating too hot Cabinet door is opened excessively Product too cold 	<ul style="list-style-type: none"> Clean the condenser. Ensure the cabinet has good ventilation around the refrigeration unit. Ensure the cabinet is within the maximum operating temperature. Ensure door is closed more often. Raise setpoint
<ul style="list-style-type: none"> Product is too warm. 	<ul style="list-style-type: none"> Frequent door opening. Recently loaded Door not closing properly. Refrigeration unit operating too hot. Excessive door opening or refrigeration heat load. Electronic controller displays ECO indicating the fridge is in Energy Saving mode Setpoint is too high 	<ul style="list-style-type: none"> Limit door openings. Allow time for the product to cool down. Check and clean door gasket. Ensure the cabinet has good ventilation around the refrigeration unit. Ensure the cabinet is within the maximum operating conditions. Switch the fridge to Normal mode via button on electronic controller faceplate. Lower setpoint.

Table 35: Cabinet and unit troubleshooting (continued)

Problem	Possible cause	Repair
<ul style="list-style-type: none"> Moisture build up on door or exterior. 	<ul style="list-style-type: none"> High humidity. Frequent door opening. Door not closing properly. 	<ul style="list-style-type: none"> Check ambient operating temperature and reposition fridge if necessary. Limit door openings. Check and clean door gasket.
<ul style="list-style-type: none"> Fridge door does not shut properly. 	<ul style="list-style-type: none"> Fridge is on an uneven surface. Door is obstructed. 	<ul style="list-style-type: none"> Level the fridge. Check shelves and product.
<ul style="list-style-type: none"> Warm cabinet temperatures Compressor operating for long periods (more than 1 hour) 	<ul style="list-style-type: none"> Blocked condenser Poor ventilation around refrigeration unit 	<ul style="list-style-type: none"> Clean the condenser filter (if fitted) and condenser. Ensure the cabinet has good ventilation around the refrigeration unit. Ensure the cabinet is within the maximum operating temperature.

SKOPE Contacts

SKOPE Industries Limited

ABN: 73 374 418 306

AU: 1800 121 535

NZ: 0800 947 5673

skope@skope.com

www.skope.com