

SKOPE SK Series

SK500/650/1000-3

Vertical Display Chiller - INTEGRAL



SK500/650-3



SK1000-3

SK500/650/1000-3
SKOPE SK Series Chiller - INTEGRAL
User Manual

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INSTALLATION

Introduction

Thank you for choosing a SKOPE chiller. To ensure you get the most out of your chiller, please read this manual prior to installation and plugging in of the chiller.

Power Saving

Although this chiller is very energy efficient, further reduction in power consumption can be achieved. There are essentially three levels of reduced power consumption:

Level 1 - Requires no adjustment. Simply plug in the chiller for significant power savings.

Level 2 - Utilises the 'Day and Night Programme', which requires a simple press of a button for further power reduction (see page 16 for details).

Level 3 - If 100% non-perishable product is stored in the chiller, then maximum power savings can be made with a simple one-off controller re-programme to 'Power Save Mode 0', and then a simple press of a button to initiate 'Night' programme.

Helpful Tips

Below are some helpful tips on how to reduce power consumption and service costs:

1. Actively use the 'Day and Night Programme' (see page 16).
2. Ensure the condenser is kept clean. Check the condenser is clean every month. See page 26 for instructions on cleaning the condenser.
3. Ensure good ventilation of the refrigeration unit on top of the cabinet, by installing in an area away from low ceilings, heated appliances (ovens) and away from direct sunlight (see pages 6-7).
4. If the chiller has to be installed in an area where there is limited ventilation above the refrigeration unit, an optional 'Ventilated Sign Side Kit' is available (see page 7).
5. Ensure the door is opened for the minimum of time. Encourage customers to make product choice prior to opening the door.
6. Ensure the cabinet is loaded correctly with product (see page 10).
7. Consider a cost effective maintenance programme with a SKOPE Authorised Service Agent.

Safety Information

When using any electrical appliance, safety precautions should always be observed. Read these instructions carefully and retain for future reference.

- When used by, or near, young children or infirm persons, close supervision is necessary. Young children should be supervised to ensure that they do not play with the appliance.
- Do **NOT** use this appliance for other than its intended use.
- Do **NOT** cover the grilles or block the entry or exhaust of airflow by placing objects up against the refrigeration unit.
- Do **NOT** probe any opening.
- Only use this appliance with voltage specified on the rating label.
- Ensure adequate ventilation of the SKOPE refrigeration unit.
- Be careful not to touch moving parts and hot surfaces.
- Regulations require that all electrical work be carried out by authorised persons. For your own safety, and that of others, ensure this is done.
- If the supply cord becomes damaged, it must be replaced by a SKOPE authorised service agent, or similarly qualified person, in order to avoid a hazard.
- If the refrigeration unit is required to be installed or removed from the cabinet, ensure all necessary safety precautions are observed.
- This chiller is not designed to be stable in motion. Exercise caution when moving or transporting this chiller.

Warning:

Do NOT overload the power supply. See the rating label inside the cabinet for power supply and current draw.

Caution:

Disconnect the cabinet from the mains power supply before attempting any cleaning or maintenance.

Positioning the Cabinet

Location

When positioning the chiller, avoid direct sunlight and warm draughts etc. The cabinet must NOT be situated where it is affected by hot air from adjacent equipment, as this will compromise the airflow and performance of the chiller.

The cabinet must be positioned on a level surface for the door/s to shut and seal correctly, and to prevent the condensate tray from overflowing. After final positioning of the cabinet the front castors may be locked to prevent the cabinet moving (see Figure 1 on page 7).

Installation Guidelines

The maximum recommended ambient temperature (at place of installation) for the chiller is 43°C. This chiller will generally use less power when installed in a cooler location.

When installing the chiller:

- Avoid direct sunlight and warm draughts etc.
- Allow adequate space for the door/s to open fully.
- Ensure the cabinet is positioned on a level surface so the door/s shut and seal correctly and to prevent the condensate tray from overflowing.
- To provide adequate stability, the stabiliser feet provided with the SK500-3 chiller MUST be fitted to the mounting plates (underneath the front of the cabinet) and screwed down to contact firmly with the floor (model SK500-3 only).
- The self-closing door/s have internal torsion bars, pretensioned at the factory, and should not require any further adjustment.
- Do not overload the power supply. See the rating label inside the cabinet for power supply and current draw.

Power Supply

The chiller is supplied with a 1.8m flexible power cord fitted with a 3-pin plug, which exits out the rear of the refrigeration unit. The power cord should be retrieved before the cabinet is positioned, as wall and partitions may make access difficult.

Ventilation

Adequate ventilation is essential. For efficient operation of the chiller, it is essential that adequate ventilation be provided above the refrigeration unit. Never store cardboard cartons or other items on top of the refrigeration unit. When positioning the cabinet, a gap of at least 200mm must be left above the refrigeration unit.

Important:

To ensure efficient and reliable operation, a minimum of 200mm clear ventilation space is required above the refrigeration unit.

If the chiller has to be installed in an area where there is limited ventilation above the refrigeration unit, an optional 'Ventilated Sign Side Kit' is available. Using the Ventilated Sign Sides will enable the refrigeration system to operate cooler and more efficiently. To use the Ventilated Sign Side Kit there **MUST** be at least 100mm clearance on both sides of the cabinet and a minimum clearance of 50mm above the refrigeration unit.

The Ventilated Sign Sides are intended for single installation cabinets only, there must **NOT** be two or more SKOPE chillers placed side by side (see Instruction Sheet PRN2020 for installation details).

Stabiliser Feet (SK500-3 only)

To provide adequate stability, both stabiliser feet provided with the SK500-3 chiller **MUST** be fitted to the mounting screws (underneath the front of the cabinet) and screwed down clockwise, to contact firmly with the floor (see Figure 1 below). The foot screws onto the mounting screw anti-clockwise.

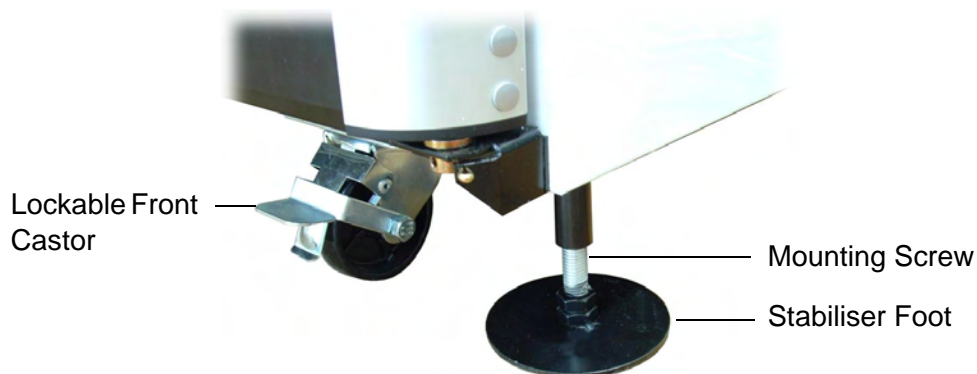


Figure 1: SK500-3 Stabiliser Feet

Fitting the Sign Unit

For transit purposes the sign unit and sign side panels are packed inside the cabinet.

To Fit the Sign Unit on Top of the Cabinet:

1. Unpack the sign unit parts from inside the cabinet.
2. Fit the left and right hand sign side panels in position, with the bottom catch on each panel facing forward (see Figure 2 below). Each side panel locates on two retaining screws on top of the cabinet. Ensure both side panels are flush with the edges of the cabinet before tightening the retaining screws.
3. Clip the sign rear panel into the top retaining slots at the rear of the side panels (see Figure 3 below) and fasten with the two screws provided.

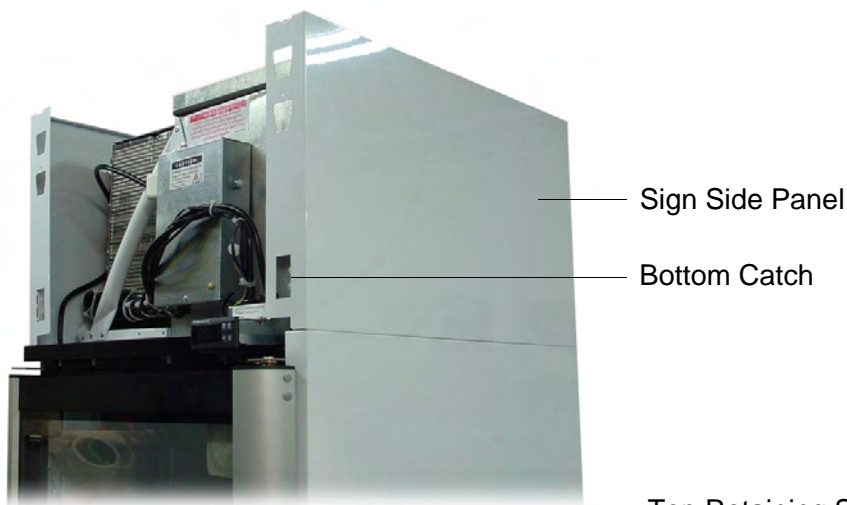


Figure 2: Sign Side Panels

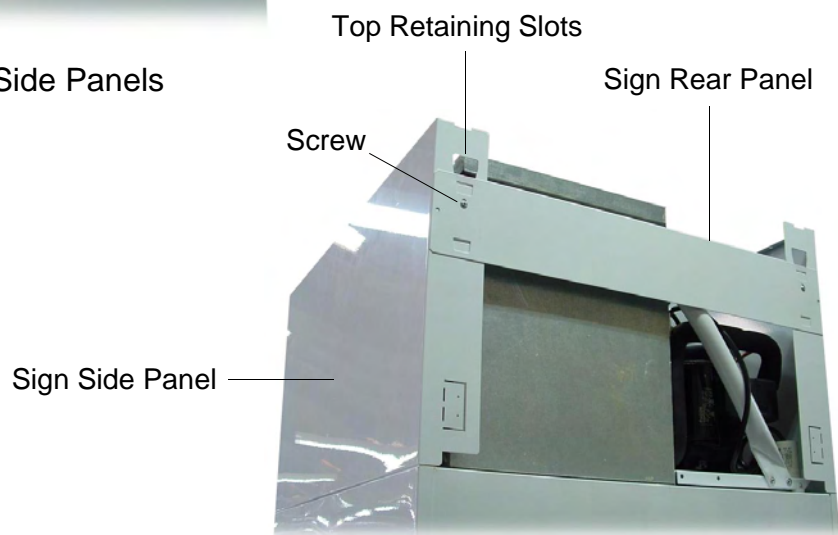


Figure 3: Sign Rear Panel

4. Lift the sign assembly up and hook over the top of both the sign side panels.
5. Connect the sign plug into the 'Sign' socket on the front of the refrigeration unit (see Figures 4 or 5 depending on model).
6. Swing the sign assembly downwards, aligning the controller display window with the controller. Align the bottom clips on the sign assembly with the catch on each side panel and press firmly to click in position (see Figure 6 below).



Figure 4:
Connecting the Sign plug
(SK500-3)



Figure 5:
Connecting the Sign plug
(SK650/1000-3)



Figure 6: Fitting the Sign Assembly

Fitting the Shelves

The chiller is supplied with five shelves, which may be positioned at different heights to suit various products. Depending on the model cabinet, each shelf is held in place with either four or six shelf clips, which engage in the shelf support strips. The support strips are marked with a '+' for easy location of shelf clips.

To fit the cabinet shelves:

1. Unpack the shelves and shelf clips from inside the cabinet.
2. Establish the desired position for the shelves and securely engage a shelf clip in each of the shelf support strips (see Figure 7 below).
3. Sit the shelves onto the shelf support clips.

Loading Product

The chiller should be left running for 30 minutes before loading with product. When loading the cabinet shelves with product:

- Allow air space around all the product, to ensure even cooling and efficient operation of the chiller.
- Do not allow products to overhang the front of the shelf as this could prevent the doors from shutting or cause glass breakage. Leave an airspace of at least 75mm above product loaded on the top shelf.
- Do not exceed a maximum loading of 20kg per shelf.
- Remove some product if the shelves are flexing or bending.



Figure 7: Shelf Clip

Cabinet Operation

Plug the chiller into the power supply and check operation of the refrigeration unit, cabinet lighting and electronic controller. To quickly chill your product, nothing further is required. However, if you want to take advantage of the additional power savings, see 'Day and Night Programme' on page 16.

Refrigeration Unit

The compressor and evaporator and condenser fans should all operate within two minutes from the time the cabinet is plugged in. This may be verified by listening for compressor switch on and checking for air movement inside the cabinet.

The compressor and condenser fans should switch off and on, depending on the cabinet temperature.

Cabinet Lighting

The cabinet lighting will be ON during 'Day' programme' and OFF during 'Night' programme. The fluorescent lights will require a period of time to stabilise following initial start up. The cabinet lighting will operate continuously unless the cabinet is switched into 'Night Programme' (see page 16 for details) or if there is a fault.

Electronic Controller

At initial start up, the electronic controller will display the current cabinet temperature (see page 12 for controller display).

ELECTRONIC CONTROLLER

Controller Display

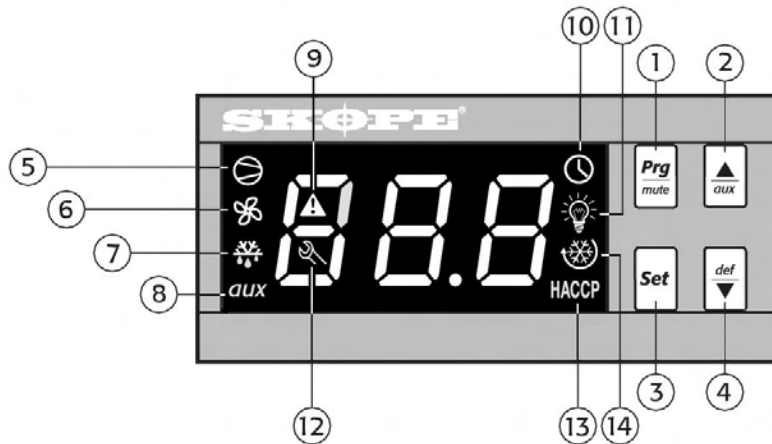


Figure 8: Controller Display

ITEM	ICON	FUNCTION
1	Prg mute	Prg / mute: To initiate 'f' type programme sets, press for 5 seconds. Mutes the audible alarm (buzzer) and deactivates the alarm relay.
2	▲ aux	UP / aux: To scroll settings UP (in programme mode) and to switch between Day and Night Programmes.
3	Set	Set: If pressed for more than 2 seconds displays and / or enables changing the temperature setpoint (see page 20).
4	def ▼	DOWN / def: To scroll settings DOWN (in programme mode). Press for more than 5 seconds to initiate manual defrost.
5	⊘	COMPRESSOR: ON when the compressor and condenser fan starts. Flashes when activation of the compressor is temporarily delayed.
6	⊗	FAN: ON when the internal cabinet fans are activated. Flashes when activation of the fans is temporarily delayed.
7	⊗ ⊘	DEFROST: ON when the defrost is activated. Flashes when the activation of the defrost is temporarily delayed due to procedures in progress.
8	aux	AUX: n.a.
9	⚠	ALARM: Flashes in the event of alarms.
10	🕒	CLOCK: n.a.
11	💡	LIGHT: ON when the cabinet lighting is activated.
12	🔧	SERVICE: Flashes in the event of malfunctions.
13	HACCP	HACCP: On if HACCP function is enabled. Flashes if HACCP alarm has occurred.
14	⊗ ⊘	CONTINUOUS CYCLE: n.a.

Table 1: Controller Functions

Controller Overview

Function

The SKOPE electronic controller is a unique SKOPE customised CAREL ir33 controller. The controller has several new functions, additional parameters and unique connectivity. This custom controller cannot be interchanged with a standard CAREL ir33 controller.

Setup

The electronic controller can be setup initially by the customer to utilise the power saving features in conjunction with product type and the required ease of use. Further setup can be performed by an authorised service agent. The figure and table below demonstrate the association between power saving, product type and ease of use.

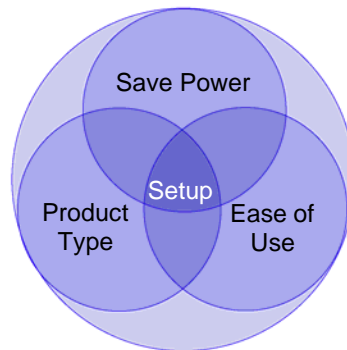


Figure 9: Controller Setup

Setup	Save Power	Product Type	Ease of Use
Save Power			
Reference →		All product	Plug-in and Forget
Up to 15% →		All product	Push button twice daily
Up to 25% →		Non-perishable product only	Push button twice daily
Product Type			
Perishable →	Power Save Mode 1		Initial setup only
Non-Perishable →	Power Save Mode 0		Initial setup only
Elevated Temp →	Programme mode bn2		initial setup only
Ease of Use			
Do Nothing →	Plug-in and Forget	All product	
Manual →	Push button twice daily	All product	
Automatic →	Service agent setup & cost of maintenance	Customised to suit customer and product	

Table 2: Controller Setup Requirements

Operation Modes

The SKOPE electronic controller has five different modes of operation. Four of the modes are customer initiated, while the fifth mode is hidden and requires setup by an authorised service agent.

1. Plug-in and Forget
2. Power Saving for Perishable Product
3. Power Saving for Non-Perishable Product
4. Elevated Mode
5. Automatic Night Mode (hidden mode)

1. Plug-in and Forget

This is the default operation mode, which requires no initial setup or programming of the controller for general refrigeration storage.

2. Power Saving for Perishable Product

This operation mode will save power while still maintaining cold product temperatures suitable for food type products. This is the default power saving mode and requires no installation setup. The 'Day & Night' programme must be activated twice every business day (see page 16).

3. Power Saving for Non-Perishable Product

This operation mode will give maximum power savings for beverage type products. The cabinet temperature will rise by approximately 10°C during 'Night' programme. This mode requires some setup at installation. The power saving mode needs to be changed from '1' to '0' once only. The 'Day & Night' programme must be activated twice every business day (see page 16).

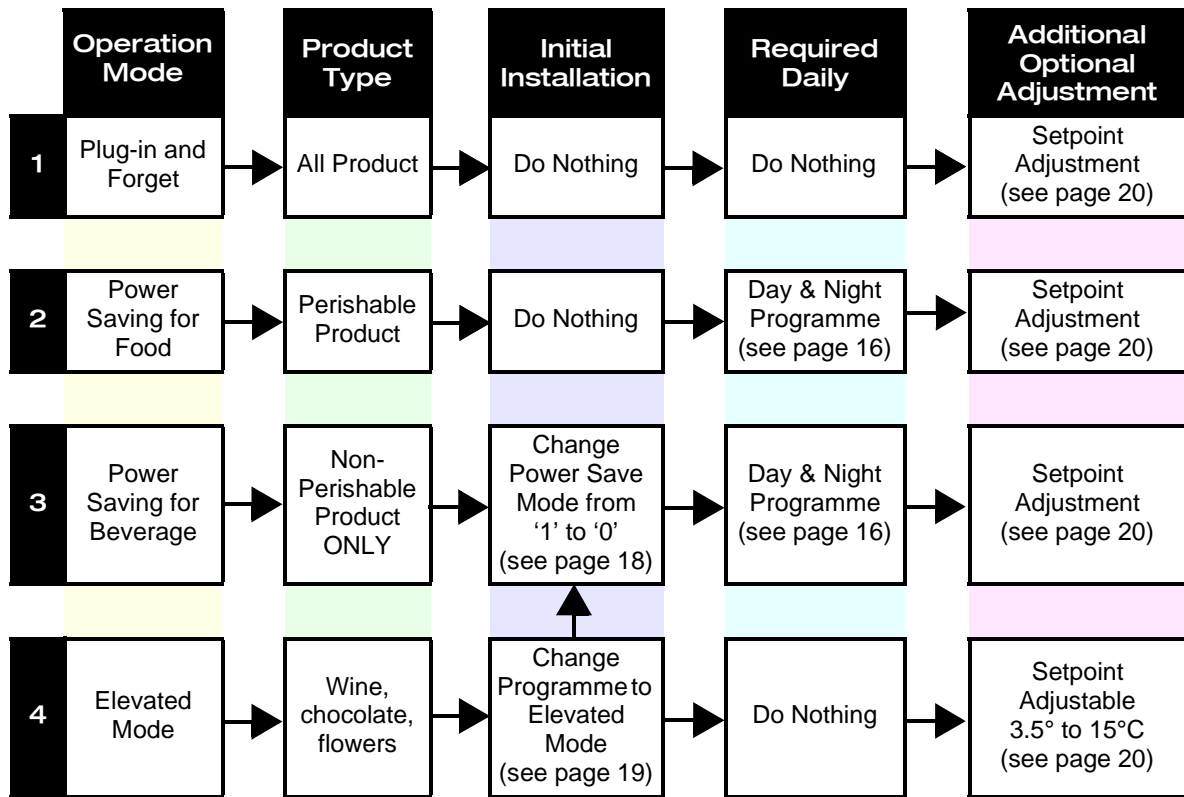
4. Elevated Mode

This custom operation mode is solely for use when storing elevated temperature products and is not intended for general refrigeration storage. This programme mode is suitable for wine, flowers or chocolate and can be set to maintain product temperatures from 3.5° to 15°C. To use the 'Elevated Mode', you will need to change the programme mode from 'bn1' to 'bn2' during installation (see page 21).

5. Automatic Night Mode

This automatic power saving mode is hidden and requires setup by a SKOPE authorised service agent.

Customer Setup



Authorised Service Agent Setup

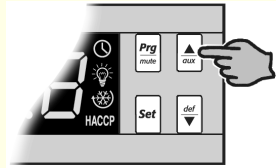


Table 3: Controller Operation Setup

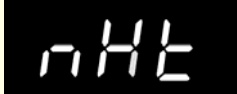

Day & Night Programme

Introduction

Although this chiller is very energy efficient, further reduction in power consumption can be achieved by utilising the electronic controller 'Day & Night Programme'. During the 'Day' programme the chiller operates at normal temperature with the cabinet lights permanently on. During the 'Night' programme the chiller enters a power saving mode with the cabinet lights off. Additional power savings are only made while the chiller is in 'Night' programme.



Press the controller $\frac{\blacktriangle}{aux}$ key for 2 seconds to activate the 'Day and Night Programme'. The controller will display 'nHt' when in 'Night' programme or will display 'dAY' at change-over then permanently display the cabinet temperature when in 'Day' programme.

Every time 'Night' programme is selected it automatically uses one of two selectable 'Power Save Modes'. At time of chiller installation the customer may determine which Power Save Mode is suitable for their application. As standard the SKOPE factory will dispatch the chiller set to Power Save Mode '1', however if all of the stored product is always non-perishable you can change to Power Save Mode '0' to achieve further power savings (see Table 4 below).



Power Save Modes (H22)	
Mode	Description
	PERISHABLE PRODUCT Power Save Mode '1' will save power while still maintaining cold product temperatures suitable for perishable product. This is the default mode.
	NON-PERISHABLE PRODUCT ONLY Power Save Mode '0' will give maximum power savings. The cabinet temperature will rise by approx. 10°C during 'Night' programme.

Table 4: Power Save Modes

What is Perishable Product?

Perishable product consists of high risk foods and drinks that are likely to support the growth of food poisoning bacteria, such as meat, fish, eggs and dairy products. Generally, perishable product should be kept continuously cold.

Power Save Modes

Power Save Mode '0' (7 hours MAX duration)

A programme ONLY for Non-Perishable Product that will give maximum power savings. This must NOT be used when the product is temperature intolerant. During Power Save Mode the stored product temperature is not maintained and will warm up (this is variable but typically 12°C). Power Save Mode '0' is not suitable for perishable products such as dairy, fresh meat and some fresh juices etc.

Operation during Power Save mode '0':

- Entire cabinet is off for 7 hours maximum. Only controller display is on 'nHt'.
- After 7 hours the chiller will enter a 'Recovery Mode', where the refrigeration system will pull the product back down to normal temperature, during which time the cabinet lights will remain off.
- If the 7 hours is inappropriate for a particular installation (product temperatures are too warm at shop opening), then parameter 'H23' could be changed. 'H23' is the length of time in X10 minute increments for duration of Power Save Mode. (e.g. H23 @ 42 = 420minutes = 7 hours. To change to 5 hour Power Save Mode change to H23 @ 30).

Power Save Mode '1' (7 hours MAX duration)

A programme that will save power and maintain cold product temperatures for perishable product. Power Save Mode '1' will ensure product is always cold at start of business trading hours.





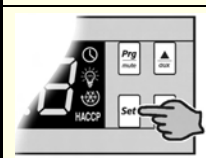

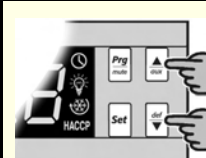
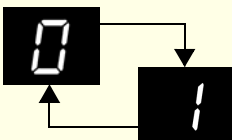

Operation during Power Save mode '1':

- Cabinet lights are off but cold product temperatures are maintained.
- The evaporator fans will cycle regularly during the compressor off time at 2 minutes on and 2 minutes off.
- The compressor setpoint is offset for improved energy efficiency (parameter 'r4' @ 1.5" = Setpoint + 1.5°C).

Important:

- As standard, the chiller is set to Power Save Mode '1' (suitable for perishable product). Power Save Mode '0' is only suitable for NON-PERISHABLE product.
- Ensure compliance with all Food Safety Requirements. If there is any doubt about product type, and whether it is perishable, then Power Save Mode '1' must be used.
- If you are using Power Save Mode '0' and are finding product temperatures too warm at business opening hours, change back to Power Save Mode '1' so that the product will remain cold during future 'Night Programme' operation.
- Both of the Power Save modes are limited to 7 hours maximum so that product temperatures may quickly recover. If the Power Save Mode time elapses (after 7 hours), the chiller will operate normally but the lights will remain off until 'Day' programme is selected.

To Change the Power Save Mode (H22):

	<p>1. Press and hold the Prg mute key for 7 seconds.</p>	
	<p>2. Press either the aux or def keys until 'H22' is displayed.</p>	
	<p>3. Press the Set key.</p>	
	<p>4. Press the aux or def keys to display either '0' (for Power Save Mode '0') or '1' (for Power Save Mode '1').</p>	
	<p>5. Press and hold the Prg mute key for 7 seconds to confirm selection. If this step is not completed within 60 seconds all changes will be lost.</p>	

Elevated Mode

This operation mode is solely for use when storing elevated temperature products and is of no use for general refrigeration storage. This programme mode is suitable for wine, flowers or chocolate and can be set to maintain product from 3.5° to 15°C.

If you choose to use the 'Elevated Mode', you will need to perform a 'Controller Reset' and change the programme mode to '**bn2**' (see page 21). The controller must never be left in programme mode '**bn0**' as failure will occur. After selecting '**bn2**' check and, if required, change the temperature setpoint. The temperature setpoint default is 10°C.

Warning:

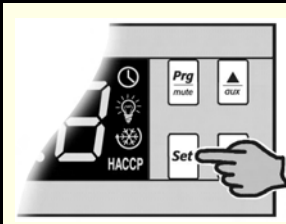
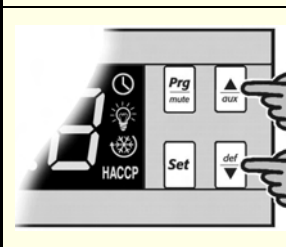
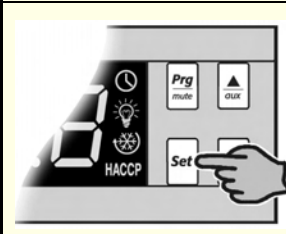
The controller must never be left in programme mode '**bn0**' as failure will occur.

Temperature Setpoint

The chiller temperature setpoint is factory set at 2.0°C. If necessary the standard setting can be adjusted between 1.5°C and 3.5°C. In 'Elevated Mode' the setpoint default is 10°C and can be adjusted from 3.5°C to 15°C.

Note: The setpoint is overridden by the minimum compressor run time of 5 minutes. SKOPE do not recommend that the setpoint be changed unless it is absolutely necessary, and then only by small increments at a time.

To View and Adjust the Temperature Setpoint:

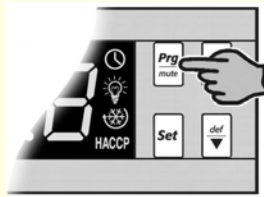
	<p>1. To view the setpoint:</p> <p>Press and hold the Set key for 2 seconds, until the setpoint value flashes.</p>
	<p>2. To adjust the setpoint:</p> <p>Press either the $\frac{\blacktriangle}{aux}$ or $\frac{def}{\blacktriangledown}$ keys to display the required setpoint value.</p>
	<p>3. Press the Set key again to memorise the new setpoint value. If this is not done within 60 seconds changes will be lost and you will need to repeat the above procedure.</p>

Controller Reset

To delete programme modifications and reset the controller to SKOPE default programme or when a replacement controller is being fitted, a 'Controller Reset' must be performed.

To Perform a Controller Reset:

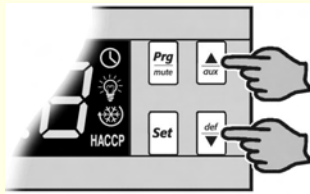
1. Unplug the chiller from the mains power supply.



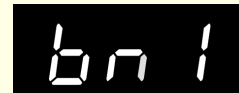
2. Press and hold the **Prg mute** key while plugging the chiller into the power supply (this may require two people). After a few seconds the controller is reset and programme mode 'bn0' is displayed. The controller must never be left in programme mode 'bn0' as failure will occur.



bn0

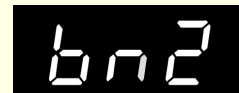


3. Press the $\frac{\blacktriangle}{aux}$ or $\frac{\blacktriangledown}{def}$ keys to select 'bn1' for SKOPE default programme, 'bn2' for Elevated Mode or 'bn3' for Automatic Night Mode.



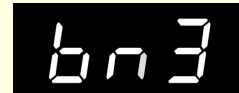
bn1

SKOPE Default



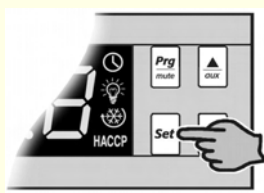
bn2

Elevated Mode



bn3

Automatic Night Mode



4. Immediately press the **Set** key to confirm the preferred programme. If not confirmed within 60 seconds the chiller will remain in programme mode 'bn0' (and cause failure). If this occurs, repeat the above procedure.

Note:

If after performing a 'Controller Reset' the cabinet lights remain off, as a once only requirement, press the $\frac{\blacktriangle}{aux}$ key for 2 seconds to enter Night Mode 'nHt' and then again to re-enter Day Mode 'dAY'. The lights should then continue to work correctly.

Controller Alarms

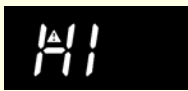



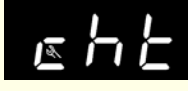









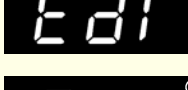








CODE	DISPLAY LED	BUZZER	ALARM DESCRIPTION
	 Flashing	on	Product HIGH temperature alarm (auto reset)
	 Flashing	on	Product LOW temperature alarm (auto reset)
	 Flashing	off	Refrigeration system high temperature pre-warning (auto reset)
	 Flashing	on	Refrigeration system high temperature shutdown (manual reset)
	 Flashing	off	Ambient probe fault (also flashes 'rE')
	 Flashing	off	Evaporator probe fault
	 Flashing	off	Condenser probe fault
	None	off	Defrost over-time limit
	 Flashing	off	Real-time clock fault
	 Flashing	off	Controller E prom error
	 Flashing	off	Controller E prom error
	None	-	Start defrost request
	None	-	End defrost request

Table 5: Controller Alarms

Controller Alarms

	INITIAL ACTION	FINAL ACTION
→	<ol style="list-style-type: none"> 1. Check the cabinet product loading to ensure ventilation slots are not blocked and that product does not overhang the shelves. 2. Ensure the cabinet is installed with good refrigeration unit ventilation. 3. Check and clean the condenser coil. 4. If immediate alarm recovery is required - unplug the cabinet from the power supply for 1 minute, then reconnect to power supply. 	If alarm persists, contact SKOPE.
→	<ol style="list-style-type: none"> 1. Clean the condenser coil (see pages 26-27). 2. Check refrigeration ventilation. Ensure clear airpath at the top and front of the cabinet (to extract hot air). A minimum of 200mm clear space is required above and in front of the refrigeration unit. 3. Ensure the cabinet is installed in a suitable environment. 4. To reset the 'CHt' alarm - unplug the cabinet from the power supply for 1 minute, then reconnect to power supply. 	
→	To reset alarm - unplug the cabinet from the power supply for 1 minute, then reconnect to power supply.	
→	None	None

Table 5: Controller Alarms (continued)

SERVICING

Lighting

Cabinet Interior Lights

Depending on the model cabinet, the chiller has either one or two interior side lights. Each side light houses a 35 Watt T5 fluorescent tube (Ø16mm x 1450mm), which may be replaced without removing shelves or product from the cabinet.

To Replace the Fluorescent Tube:

1. Disconnect the cabinet from the mains power supply.
2. Remove the side light diffuser, by compressing the back section of the diffuser until it disengages from the aluminium housing and then push the diffuser back (see Figure 10 below).
3. The fluorescent tube can now be removed. Revolve the tube until the pin position allows withdrawal.
4. When refitting the new fluorescent tube ensure the printing on the tube is at the bottom, as the tube orientation is important.
5. When refitting the diffuser, engage the back section into the housing, and then compress and snap the front section of diffuser back into place working down the full length of the light.

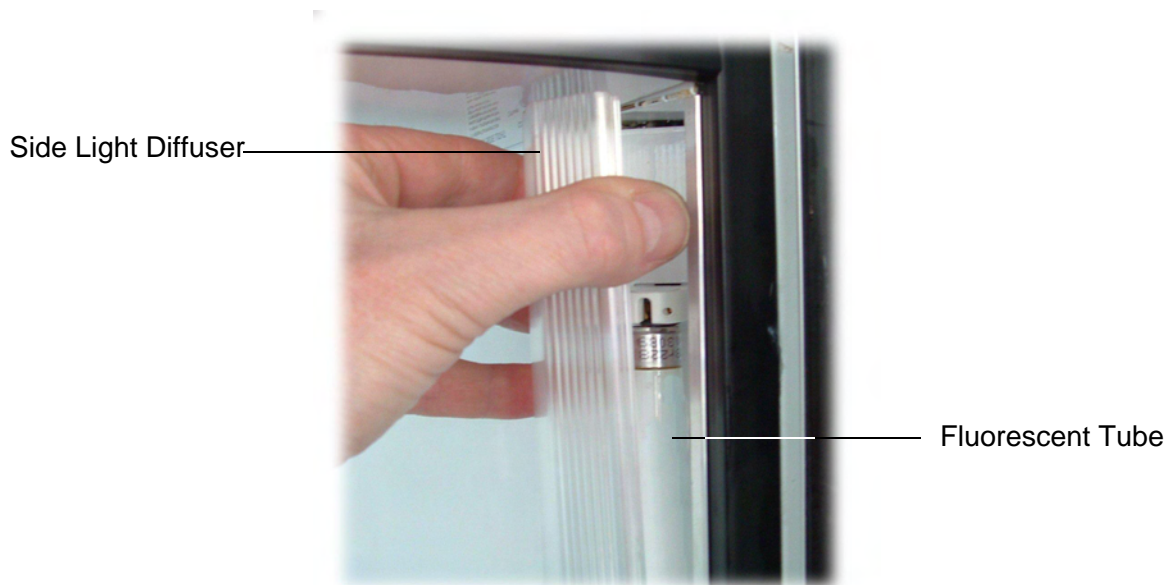


Figure 10: Replacing the Fluorescent Tube

Cabinet Sign Light

The cabinet sign light is fitted with one fluorescent tube which can be replaced by removing the front sign panel (see Table 6 below for the correct tube size).

Model	Fluorescent Tube
SK500-3	8 Watt T5 fluorescent tube (Ø16mm x 288mm)
SK650-3	14 Watt T5 fluorescent tube (Ø16mm x 550mm)
SK1000-3	21 Watt T5 fluorescent tube (Ø16mm x 850mm)

Table 6: Sign Light Fluorescent Tube Sizes

To Replace the Fluorescent Tube:

1. Disconnect the cabinet from the mains power supply.
2. Unclip the sign top cap. Start at one end and work along the length of the sign, lifting the top cap up as you go (see Figure 11 below).
3. Carefully remove the sign panel away from the sign unit.
4. The fluorescent tube can now be removed. Revolve the tube until the pin position allows withdrawal (see Figure 12 below).
5. When refitting the sign panel, ensure the top cap is firmly clipped in place.

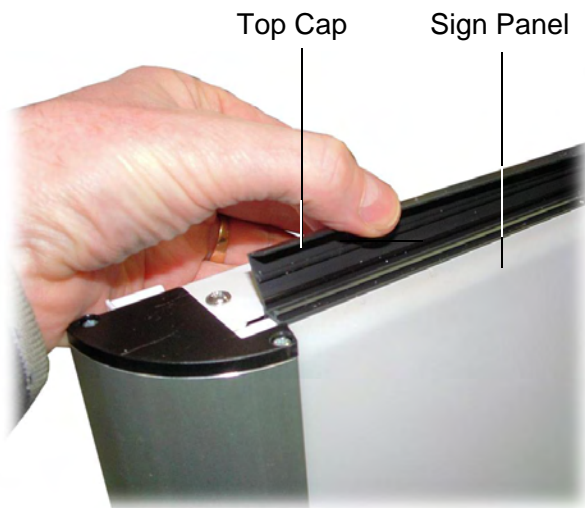


Figure 11:
Removing the Sign Panel

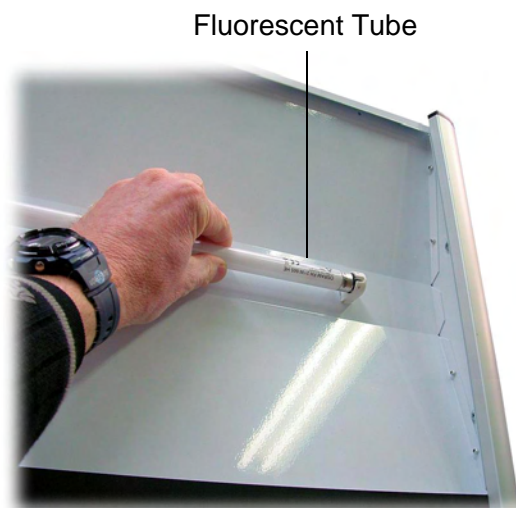


Figure 12:
Replacing the Fluorescent Tube

Cleaning

When necessary, wipe both the interior and exterior of the cabinet with a damp cloth. Ensure the cabinet is disconnected from the mains power supply before cleaning the cabinet. Periodic cleaning of the condenser coil is also recommended.

Condenser Coil

The condenser coil is situated behind the sign unit. The condenser coil **MUST** be kept clean for reliable operation and to minimise power consumption. A blocked condenser can double normal power consumption.

To ensure trouble free performance, the condenser coil should be brushed clean once a month (see Figure 13) and blown clean by qualified service personnel every 6 months. SKOPE recommend a preventative maintenance check every 6 to 12 months. If the electronic controller display flashes '**cht**' the condenser coil must be cleaned immediately.

Over time, dust may accumulate within the condenser that cannot be removed with a brush. If this occurs, contact SKOPE to arrange for a SKOPE authorised service agent to clean the condenser with compressed air.

Important:

If the electronic controller display flashes '**cht**' the condenser coil must be cleaned immediately.

To access the condenser coil:

1. Disconnect the cabinet from the mains power supply.
2. Remove the sign unit by pulling the bottom of the sign unit out to unclip from the sign sides and then lift the sign up off the top of the sign sides.
3. Disconnect the sign plug from the electrical box socket and remove the sign unit from the cabinet (see page 9).
4. The condenser coil is now accessible for cleaning (see Figure 13).
5. See pages 8-9 for instructions on re-fitting the sign unit.

Caution:

Disconnect the cabinet from the mains power supply before attempting any cleaning or maintenance.

Condenser Coil

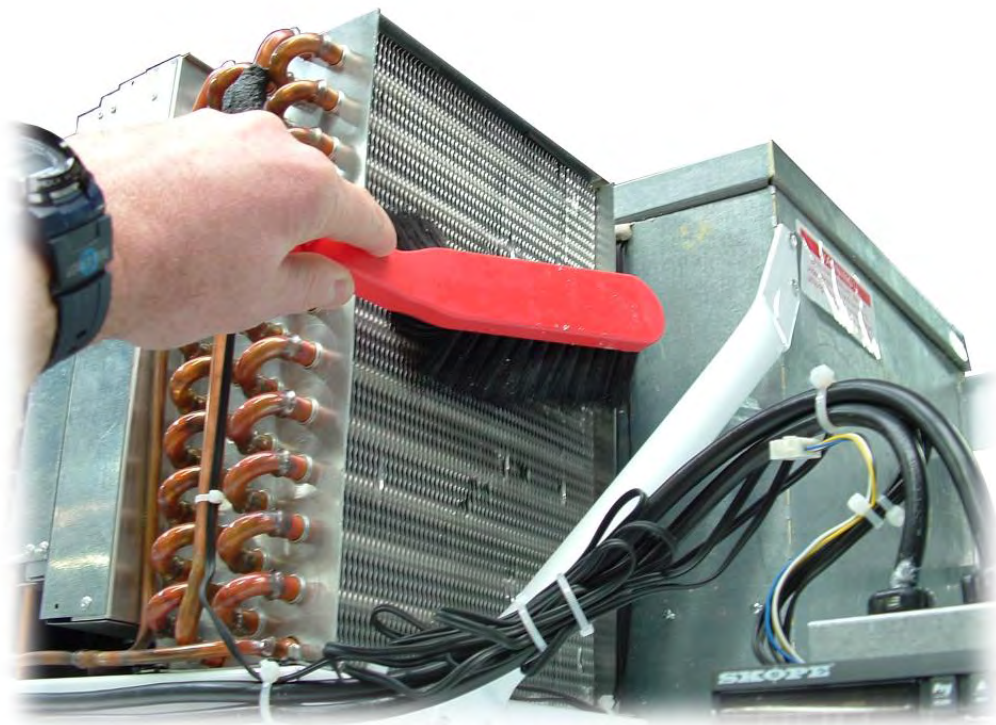


Figure 13: Cleaning the Condenser Coil

Unit Removal and Refitting

The SKOPE Cyclone refrigeration unit can easily be removed from the top of the cabinet for transporting and moving the cabinet through doorways etc.

To remove the refrigeration unit:

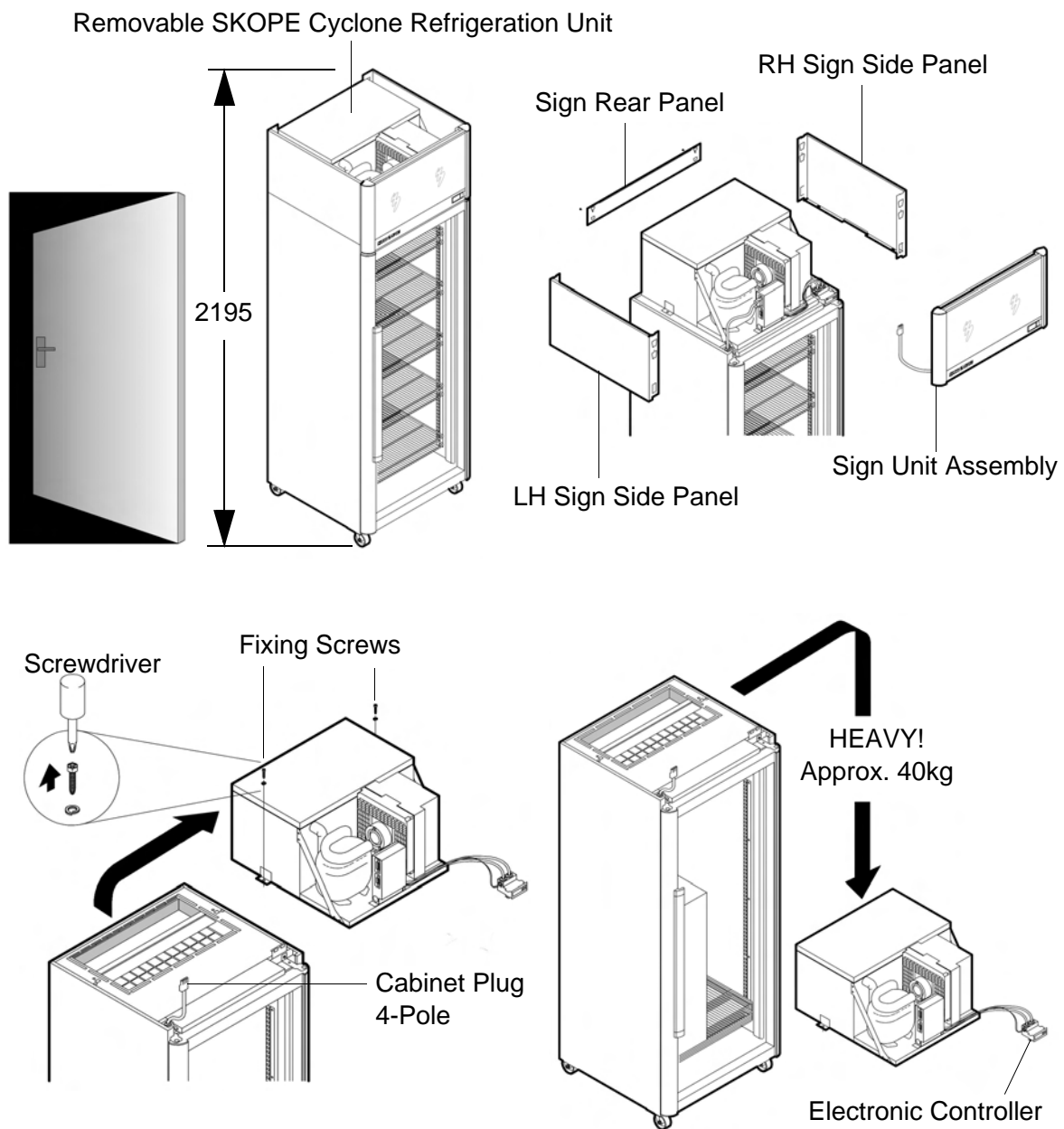


Figure 14: Removing the Refrigeration Unit

To refit the refrigeration unit:

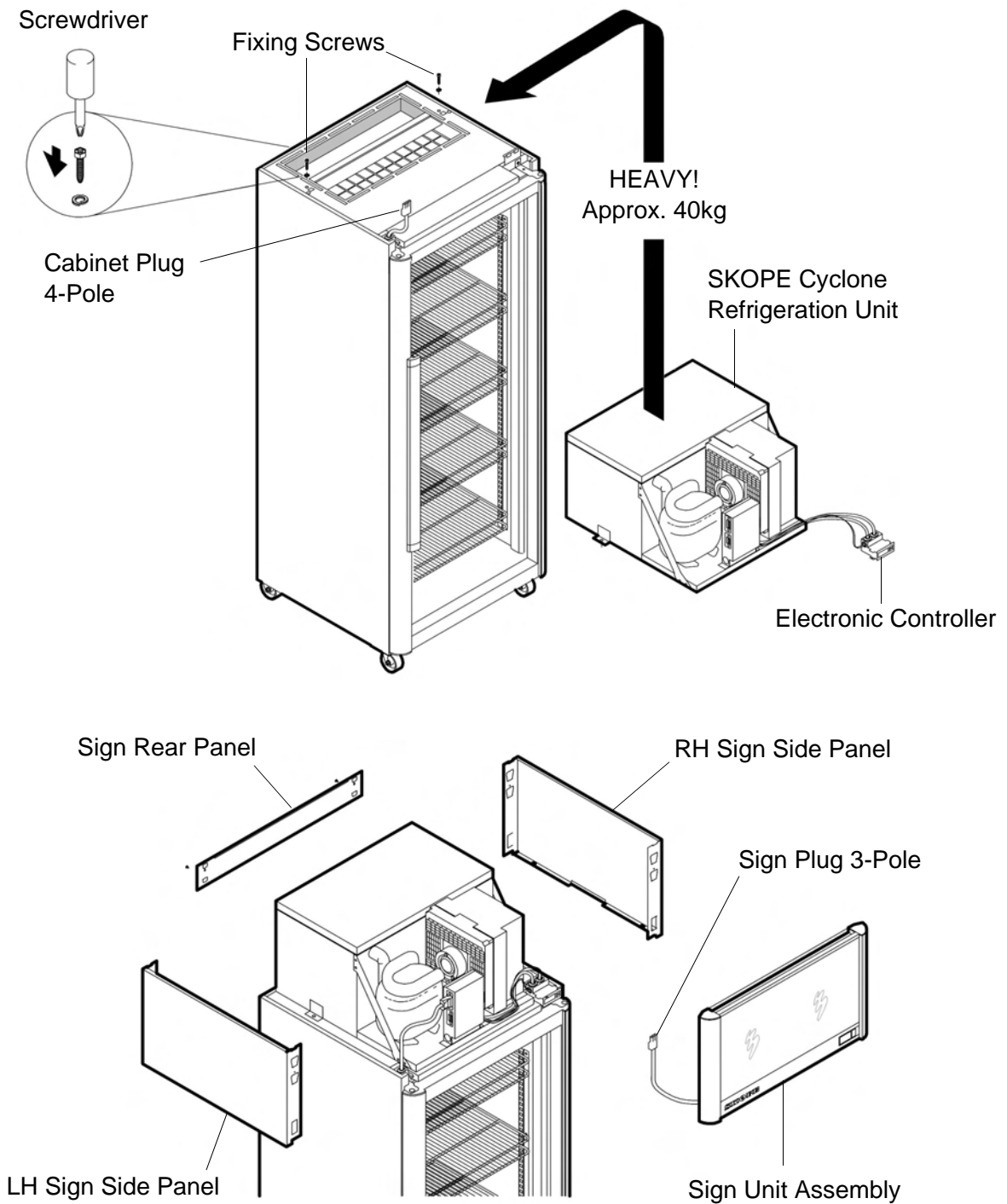


Figure 15: Refitting the Refrigeration Unit

Troubleshooting

Complaint	Possible Cause	Repair
1. Cabinet not operating and no controller display:	<ul style="list-style-type: none"> Loss of power supply. 	<ul style="list-style-type: none"> Check mains power supply.
2. Cabinet not operating but controller displays 'nHt':	<ul style="list-style-type: none"> Cabinet in 'Night' Programme. 	<ul style="list-style-type: none"> Change to 'Day' programme (see page 16).
3. Cabinet lights not operating:	<ul style="list-style-type: none"> Blown cabinet fuse. Failed fluorescent tube. Cabinet in 'Night Programme'. 'nHt' will be displayed on the controller. Controller alarm. 'Controller Reset' performed. 	<ul style="list-style-type: none"> Requires technical repair by a SKOPE Authorised Service Agent. Check fluorescent tubes. Change to 'Day Programme' for cabinet lights to come on. Determine cause and eliminate (see pages 22-23). Enter 'Night' and then 'Day' mode (see page 16).
4. Power consumption is higher than expected:	<ul style="list-style-type: none"> Unit operating too hot. Cabinet door is opened excessively. 'Day Programme' selected. 	<ul style="list-style-type: none"> Clean condenser. Ensure the chiller is installed with good ventilation above the refrigeration unit. Keep door open for minimum time. Utilise 'Night' Programme outside of business hours.
5. Product is too warm and spoiling:	<ul style="list-style-type: none"> Controller is using Power Save Mode '0'. Restricted cabinet airflow. Temperature setpoint is too warm. 	<ul style="list-style-type: none"> Change to Power Save Mode '1' (see page 18). Ensure product is not blocking airflow slots and the product is no closer than 75mm from the cabinet top. Adjust setpoint (see page 20).
6. Warm cabinet temperatures and/or compressor operating for long periods (more than 1 hour):	<ul style="list-style-type: none"> Blocked condenser. Poor refrigeration unit ventilation. 	<ul style="list-style-type: none"> Clean condenser (see pages 26-27). Ensure the cabinet is installed with good ventilation above the refrigeration unit. If there is limited clearance around the top of the cabinet, call a SKOPE Authorised Service Agent to discuss the benefit of fitting an extraction fan above the refrigeration unit.
7. Chiller operating incorrectly after selecting 'Elevated Mode':	<ul style="list-style-type: none"> Programme mode 'bn0' has inadvertently been selected (see page 15). 	<ul style="list-style-type: none"> Perform a controller reset (see page 21). Ensure only programme modes 'bn1' or 'bn2' are selected. Programme mode 'bn0' must NOT be used.

Table 7: Troubleshooting

Contact Addresses

New Zealand

SKOPE INDUSTRIES LIMITED

Head Office

PO Box 1091, Christchurch

New Zealand

Freephone: 0800 947 5673

Fax: (03) 983 3896

E-mail: enquiry@skopeco.nz

Website: www.skopeco.nz

Australia

SKOPE AUSTRALIA PTY LTD

A.C.N. 000 384 270

PO Box 7543, Baulkham Hills B.C.

NSW 2153, Australia

Freephone: 1800 121 535

Fax: 1800 121 533

E-mail: enquiry@skopeco.au

Website: www.skopeco.au

Warranty

To receive a warranty for your purchased cabinet, you **MUST** register your cabinet within four weeks from the date of invoice either by:

- filling out the in-cabinet warranty form and posting or faxing it back to SKOPE
- or filling out the online warranty form.

Cabinets that are not registered within the four weeks are not eligible for a warranty.