

SKOPE Open Deck Chiller

OD1100



SKOPE OD1100
Open Deck Chiller
User Manual

MAN1510
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INSTALLATION

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 system.
- 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.
- 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.

Do **NOT** allow liquids or any other materials to drain into the bottom of the cabinet, as this could lead to refrigeration system failure.

Caution:

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

Positioning the Cabinet

Ensure the cabinet is positioned on a level surface to prevent the condensate tray from overflowing.

Power Supply

The power supply cord, which exits out the bottom rear of the cabinet, should be retrieved before the cabinet is positioned. The power supply must be plugged directly into a dedicated wall socket. Extension cords or multi-boxes should **NOT** be used.

Air Movement

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

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

Warning:

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

Ventilation

Never store cardboard cartons or other items in front or rear of the refrigeration unit. The ventilation slots in the front and rear of the cabinet must be kept clear at all times.

For efficient operation of the chiller, it is essential that adequate ventilation clearance be provided around the refrigeration unit. Normal operating conditions should not exceed 25°C at 60% RH (Climatic Class 3). It is critical that the hot refrigeration exhaust air is not restricted and that it can easily flow up, away from the cabinet.

Warning:

For efficient operation of the chiller, it is essential that adequate ventilation clearance be provided around the refrigeration unit.

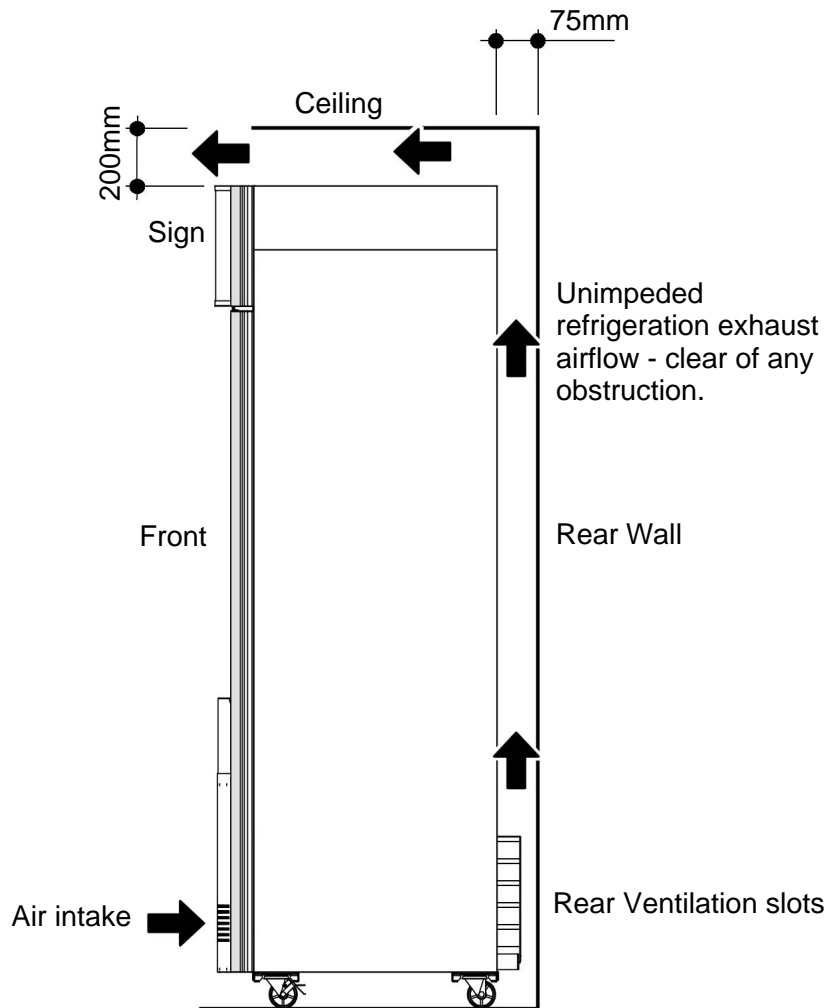


Figure 1: Cabinet Ventilation

Important:

The minimum clearance between the cabinet back and the rear wall must be at least 75mm (see Figure 1 below). The minimum clearance above the cabinet must be at least 200mm. The cabinet should also have 60mm clearance on both sides.

Fitting the High Sign

For transit purposes the OD1100 High Sign model has the high sign assembly packed separately inside the cabinet. The OD1100 Low Sign model has the sign assembly already fitted to the cabinet and requires no additional assembly.

To fit the high sign assembly to the cabinet:

1. Unpack the sign assembly. There should be four pieces - two identical side panels, one rear panel and the sign assembly.
2. Loosen the four retaining screws on the roof of the cabinet and fit each sign side panel over the screws. Slide the sign side panels forward, flush with the front of the cabinet and tighten all four retaining screws (see Figure 2 below).
3. Fit the sign rear panel across the back of the sign side panels by clipping each end tag into the retaining slot in the side panels (see Figure 3 below).

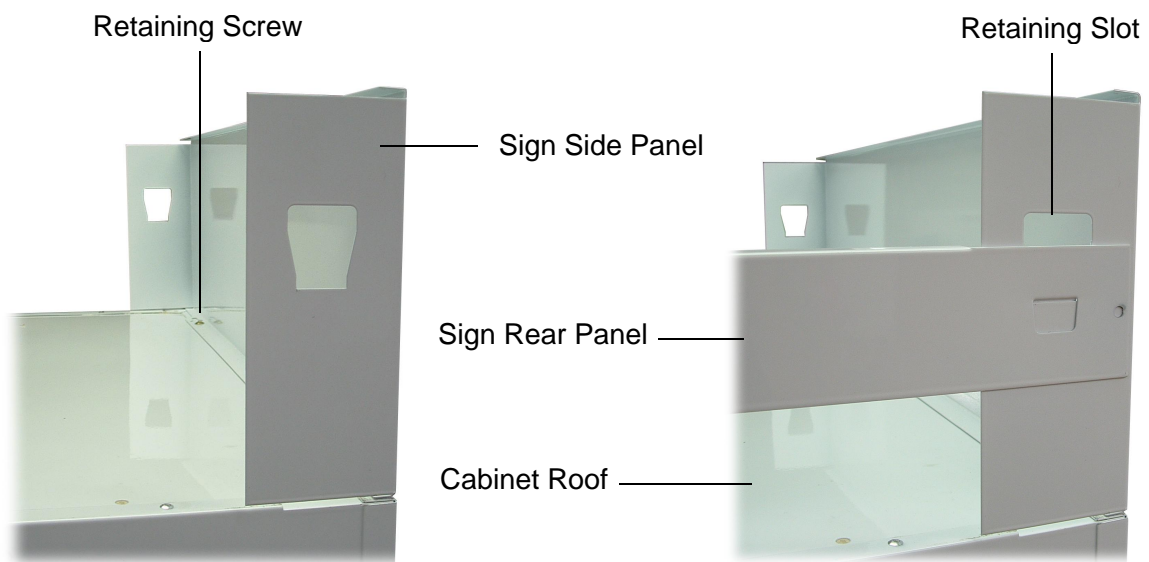


Figure 2: Sign Side Panel

Figure 3: Sign Rear Panel

4. Attach the high sign assembly onto the cabinet by clipping the top of the sign into the retaining slots at the top of both side panels and then locating the bottom of the sign over both the bottom keyhole screws (see Figure 4 below).
5. Pull the sign assembly down to ensure it is securely attached.
6. To remove the sign assembly from the cabinet, lift the sign up to disengage from the sign sides and then pull the sign assembly away from the cabinet.

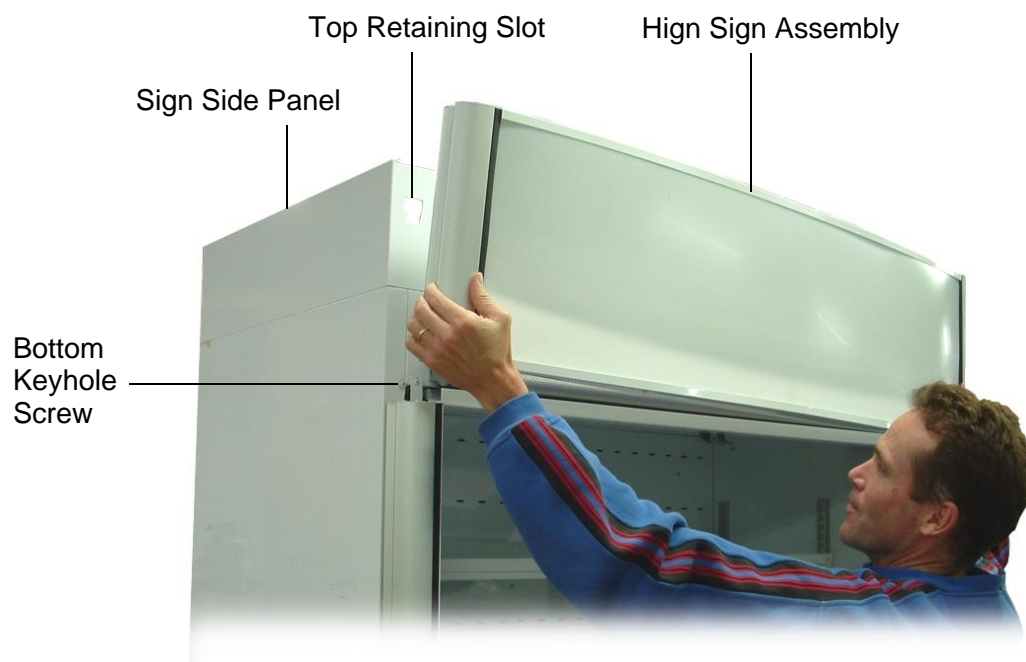


Figure 4: Attaching the High Sign Assembly

Shelving

The SKOPE OD1100 Open Deck Chiller is supplied with the following standard shelving items, packed inside the cabinet:

- 2 adjustable height top shelves (shallow depth)
- 2 adjustable height middle shelves (medium depth)
- 1 fixed bottom shelf (deep - supplied fitted)
- 5 merchandising ticket strips
- 16 shelf support clips

Adjustable Shelves

The four top shelves can be positioned at different heights to suit various products and are each held in place with four shelf support clips. The two top shelves are shallow depth and the two middle shelves are medium depth.

The four adjustable shelves are designed to be positioned either flat or angled down to accommodate the optional gravity feed shelf slides and dividers.

To fit the adjustable height shelves:

1. Unpack all the shelving items from inside the cabinet.
2. Establish the desired position for each of the shelves, based on the height of the product intended to go on each shelf.
3. Fit four shelf clips in each of the shelf support strips. To angle the shelves, fit the front clips two holes lower than the back clips (see Figure 5 on page 10).
4. Fit the four shelves, beginning with the bottom shelf working up to the top shelf.

Bottom Shelf

The bottom shelf is deeper than the adjustable shelves and is fixed at an angle to the floor of the cabinet.

Ticket Strips

The merchandising ticket strips, which go on the front of all the shelves, are intended for inserting advertising material.

Before fitting the shelves, fit the merchandising ticket strips to the front of each shelf, as required, by sliding the strips on to the metal strip riveted to the front of the shelf (see Figure 5 below).

To fit a ticket strip to the fixed bottom shelf, press the ticket strip on from the front ensuring it engages along the full length of the shelf.



Figure 5: Adjustable Top Shelf (angled down)

Gravity Feed Shelf Slides and Dividers (optional)

When the adjustable shelves are positioned angled down, optional gravity feed shelf slides and dividers can be fitted to the shelves. The angle ensures that cold product slides to the front of the shelf.

The shelf slides are different depths to match the different depths of the shelves. The two top shelves are shallow depth, the two middle shelves are medium depth and the bottom fixed shelf is deep depth.

To fit the gravity shelf slides and dividers (see Figure 6 below):

1. Place the gravity slides onto the corresponding shelf, with the smooth side facing up and the upstand towards the front.
2. Clip the dividers into the gravity shelf slides, as per the installation instructions printed on the side of each divider. The spacing between the dividers depends on the size and quantity of product.



Figure 6: Optional Gravity Feed Shelf Slides and Dividers

Loading

When loading the cabinet shelves with product:

- Ensure all shelves are securely fitted (see Figure 5 on page 10).
- Allow air space around all packages etc. for even cooling and efficient operation of the chiller.
- Leave an air space of at least 50mm (2") above packages etc. on the top shelf.
- Do not allow products to overhang the front of the shelves, as this will effect the air flow.
- Do not exceed a maximum loading of 20kg per shelf.
- Remove some product if the shelves are flexing or bending.

Spill Trays

The two supplied spill trays aid in the capture of any spilt liquid. Unpack both spill trays and place in the bottom of the cabinet (see Figure 7 below). The trays can be removed for ease of cleaning.

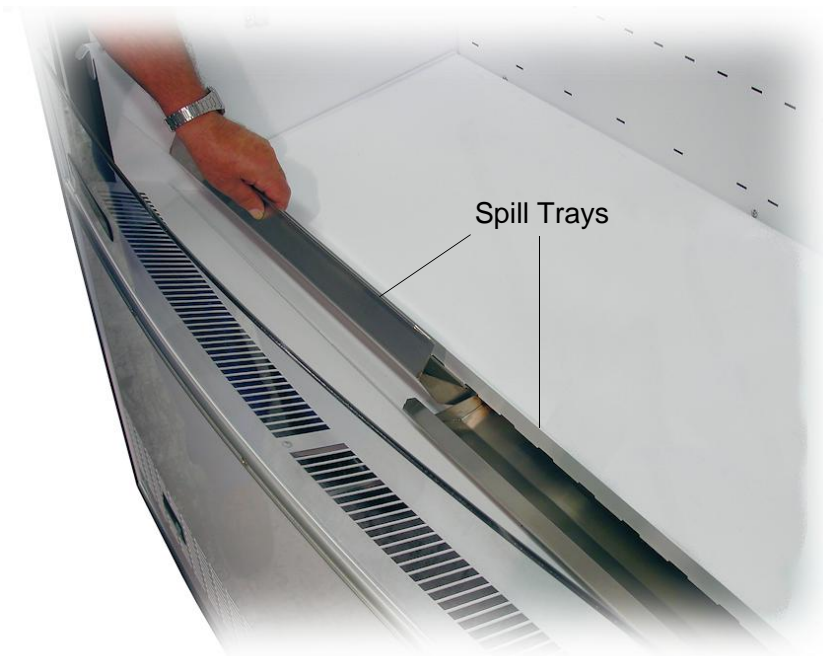


Figure 7: Fitting the Spill Trays

Security Grille (optional)

For security purposes an optional lockable security grille is available for the SKOPE OD1100 Open Deck Chiller. The security grille fits in the front opening of the cabinet and is locked by means of two keyed security bolts. For convenience both locks use the same key.

To fit the optional security grille:

1. Position the security grille (with the tags at the top and locks on the sides) into the top of the cabinet opening.
2. Manoeuvre the security grille into position so as both the tags at the top of the grille locate into the slots under the sign assembly (see Figure 8 below).
3. Position the sides of the grille to align both the security lock bolts with the holes in the sides of the cabinet.
4. Engage both the lock bolts and lock with the security key (see Figure 9 below).
5. Removing the security grille is a reversal of the above fitting instructions.

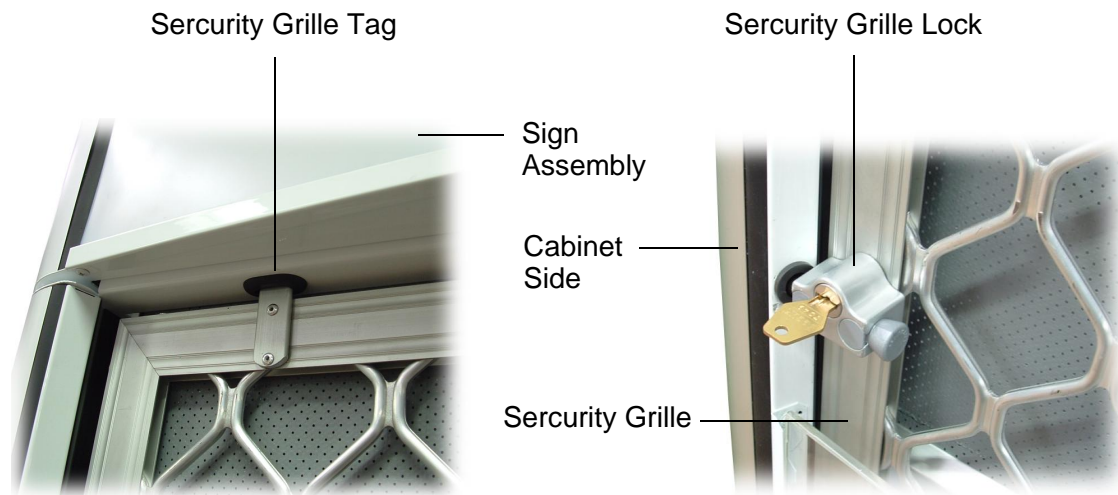


Figure 8: Security Grille Tag

Figure 9: Security Grille Lock

OPERATION

Cabinet Operation



Connect the cabinet to the mains power supply and check operation of the refrigeration unit, electronic controller and cabinet lighting. The mains flex exits out the bottom rear left hand side of the cabinet.

Refrigeration Unit

The refrigeration unit evaporator and condenser fans should all operate continuously 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 internal cabinet air will continue to circulate at all times.

The compressor will start after approximately one minute. The compressor will switch off when the cabinet internal temperature reaches approximately +1.5°C, and on again at approximately +4°C.

Electronic Controller

When the cabinet is connected to the power supply, the electronic controller will display the current cabinet temperature. The compressor LED  will indicate the compressor is operating and the evaporator fan LED  will normally come on within 2 minutes (see page 16 for controller display).

Cabinet Lighting

The illuminated sign and cabinet interior light will both go on when the cabinet is plugged in. The cabinet lighting will stay on permanently while the night blind is up and will turn off when the night blind is pulled down (see 'Night Blind' on the following page). The only time that a light should not turn on is either if a bulb is faulty or the 'CHT' high temperature shutdown alarm has been activated (see pages 20-21 for controller alarms). The fluorescent lights will require a period of time to stabilise following initial start up.

Service Notes:

1. The two cabinet lights both share the same electrical control, therefore if one fluorescent tube fails neither light will operate.
2. When replacing a faulty fluorescent tube, ensure to use the correct wattage.
3. To replace a fluorescent tube see the service instructions on pages 22-23.

Night Blind

The SKOPE OD1100 Open Deck Chiller is fitted with an energy saving night blind. The blind, located behind the sign, may be pulled down outside of trading hours to save energy (see Figure 10 below).

When the night blind is down the cabinet enters into 'Night Mode, temperature setting automatically alters to maintain an optimum temperature. When in Night Mode, the controller will display 'nHt'.

Lowering the night blind also operates the light switch - turning all the cabinet lighting off (including the sign). The cabinet lighting will turn on again when the night blind is fully raised.

To lower the blind, pull down the centre handle (see Figure 11). To keep the blind down, locate the bottom of the blind into the captive brackets on each side of the cabinet opening (see Figure 12 below).



Figure 10: Night Blind (down)

Night Blind (up)

Night Blind (down)



Figure 11: Centre Handle

Night Blind Captive Bracket



Figure 12: Captive Bracket

ELECTRONIC CONTROLLER

Controller Display

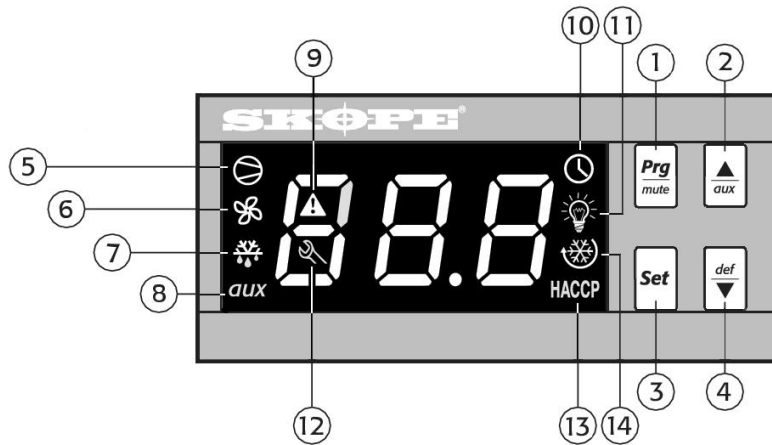


Figure 8: Controller Display

ITEM	ICON	FUNCTION
1		Prg / mute: To initiate 'f' type programme sets, press for 5 seconds. Mutes the audible alarm (buzzer) and deactivates the alarm relay.
2		UP / aux: To scroll settings UP (in programme mode).
3		Set: If pressed for more than 2 seconds displays and / or enables changing the temperature setpoint (see page 18).
4		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	<i>aux</i>	AUX: n.a.
9		ALARM: Flashes in the event of alarms.
10		CLOCK: n.a.
11		LIGHT: n.a.
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 Operation

The CAREL ir33 electronic controller controls and displays the cabinet temperature. The preset temperature setting controls the product temperature between 0°C and 5°C. The electronic controller also signals temperature alarms (see Table 3 on pages 20-21).

The electronic controller is located inside the controller box assembly, attached to the front of the refrigeration unit.

To ensure efficient operation, the electronic controller forces automatic defrosts when required. During the defrost cycle, the compressor switches off.

Temperature Setting

The controller temperature setting is factory set at 1.5°C. If necessary the setting can be altered between 0.5°C and 4.5°C. SKOPE do not recommend that the temperature setting be modified unless it is absolutely necessary, and then only by small increments at a time.

Note: When the night blind is down the temperature setting automatically alters to maintain an optimum temperature. The temperature display will lower slightly but the product temperature will remain relatively constant.

Night Mode

The chiller enters into Night Mode when the night blind is pulled down. During the night mode programme the chiller enters a power saving mode with the cabinet lights off and the temperature setting automatically alters to maintain an optimum temperature. The controller will display 'nHt' when in night mode.

The controller will display 'nHt' when in Night Mode.

A digital display showing the characters 'nHt' in a white, segmented font on a black background.

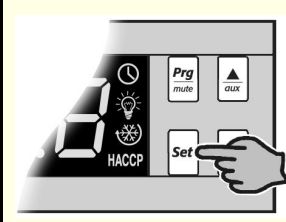
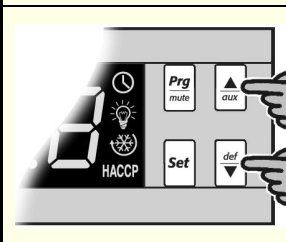
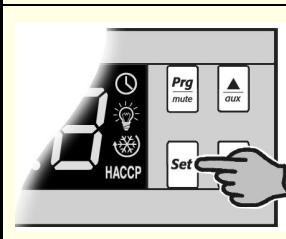
The chiller will exit night mode when the night blind is fully raised.

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.

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:

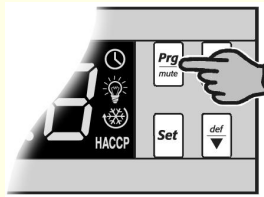
	<p>1. To view the setpoint:</p> <p>Press and hold the Set key for 2 seconds, until the setpoint value flashes.</p>
	<p>2. To adjust the setpoint:</p> <p>Press either the $\frac{\blacktriangle}{aux}$ or $\frac{\blacktriangledown}{def}$ keys to display the required setpoint value.</p>
	<p>3. Press the 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 if the chiller operation is erratic, a 'Controller Reset' must be performed.

To Perform a Controller Reset:

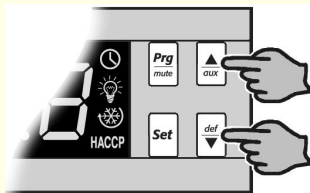
1. Unplug the chiller from the mains power supply.



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 (suitable for perishable product), '**bn2**' for non-perishable product, or '**bn3**' for a remote refrigeration system.



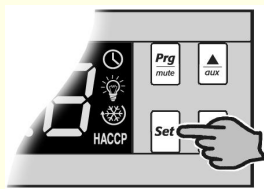
bn1
SKOPE Default



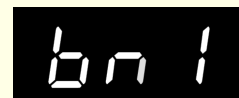
bn2
Non-Perishable



bn3
Remote System



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.



bn1

Warning:

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

Controller Alarms

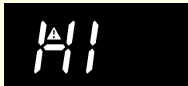





















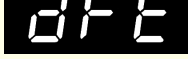
CODE	DISPLAY LED	BUZZER	ALARM DESCRIPTION
	 Flashing	on	Product HIGH temperature alarm (auto reset)
	 Flashing	on	Product LOW temperature alarm (auto reset)
	 Flashing	off	Refrigeration system high temperature pre-warning (auto reset)
	 Flashing	on	Refrigeration system high temperature shutdown (manual 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 3: 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. If immediate alarm recovery is required - unplug the cabinet from the power supply for 1 minute, then reconnect to power supply. 	
→	<ol style="list-style-type: none"> 1. 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. 2. Ensure the cabinet is installed in a suitable environment. 3. 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 3: Controller Alarms (continued)

SERVICING

Lighting

Sign Light

The illuminated sign is fitted with one 54 Watt T5 fluorescent tube (Ø16mm x 1150mm, Daylight colour 860).

To replace the fluorescent tube:

1. Disconnect the cabinet from the mains power supply.
2. Remove the sign assembly from the cabinet, by lifting the sign up to disengage from the sign side panels and then pulling forward to separate the sign from the cabinet (see Figure 4 on page 8).
3. Revolve the fluorescent tube until the pin position allows withdrawal and then lift the tube up to remove (see Figure 14 below).
4. Replace the fluorescent tube with SKOPE part no. ELL1296.

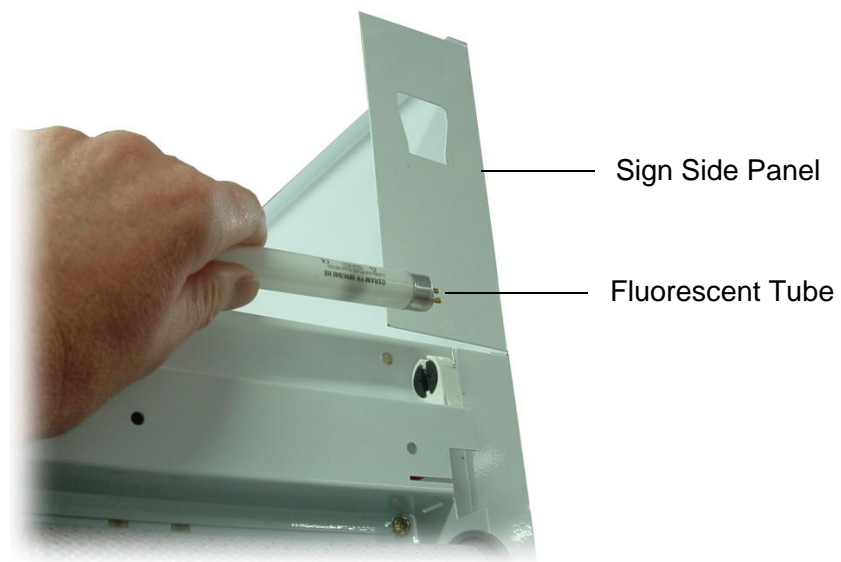


Figure 14: Replacing the Sign Light

Cabinet Interior Light

The cabinet interior light is fitted with one 54 Watt T5 fluorescent tube (Ø16mm x 1150mm, Daylight colour 860).

To replace the fluorescent tube:

1. Disconnect the cabinet from the mains power supply.
2. Reach inside the cabinet and remove the light diffuser, from underneath the sign assembly, by compressing the front section of the diffuser until it disengages from the aluminium housing (see Figure 15 below).
3. Revolve the fluorescent tube until the pin position allows withdrawal and then pull the tube down to remove.
4. Replace the fluorescent tube with SKOPE part no. ELL1296.



Figure 15: Replacing the Cabinet Interior Light

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. The spill trays, in the base of the cabinet, can be removed for ease of cleaning.

Warning:

Do **NOT** wash any solvents down into the refrigeration system, as this could lead to refrigeration failure.

The bottom air vent panel can be opened to remove any foreign objects that may fall down the air slots into the unit compartment (see Figure 16 below).

To open the bottom air vent panel:

1. Disconnect the cabinet from the mains power supply.
2. Undo the centre screw and hinge the air vent panel up.

Warning:

Care must be taken, when the air vent panel is open, not to allow anything to drop into this area, as retrieval would be difficult.



Figure 16: Opening the Bottom Air Vent

Advanced Servicing

Advanced servicing should be carried out by an authorised service agent. Servicing must comply with all relevant standards and regulations, including Australian and New Zealand 'Refrigerant Handling Code of Practice 2007' (Part 1 and Part 2) and AS/NZS 3000:2000 Wiring Rules.

Detailed service and spare parts information is available in the SKOPE OD1100 Operating and Service Manual (SKOPE part no. MAN1511).

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