TME/SKT ActiveCore

SKOPE Top Mount Vertical Chiller

TME1000-AC

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Refrigeration

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CONTENTS

1 Installation

Safety First Always observe safety precautions when using any electrical appliance. Read these instructions carefully and retain them for future reference.

◘ When the appliance is used by or near young children or infirm persons, close supervision is necessary, especially to ensure children do not play with it.

◘ 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 the voltage specified on the cabinet rating label affixed to the refrigeration unit.

◘ Ensure the appliance has adequate ventilation as this is essential to economical, high performance.

◘ Be careful not to touch moving parts and hot surfaces.

◘ For your own safety and that of others, ensure that all electrical work is done by authorised personnel.

◘ If the power supply flexible cord becomes damaged, it must be replaced by an authorised service agent or similarly qualified person in order to avoid a hazard.

◘ Ensure all necessary safety precautions are observed during installation or removal of the refrigeration unit.

◘ The appliance is not designed to be stable while in motion. Use extreme caution when moving or transporting it.

◘ Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.

◘ Please contact SKOPE Customer Services for advice regarding disposal of this appliance.

CAUTION

Never overload the power supply, which could damage the chiller and product. See the rating label inside the cabinet for the safe power supply and current draw.

WARNING

Always unplug the chiller from the mains power supply before cleaning or maintenance.

Positioning the Cabinet

Climate Class The chiller is designed to operate within a specific climatic class environment (see cabinet rating label for climate class number).

Climate Classes

Climate Class	Ambient Temperature	Relative Humidity (RH)
5	40°C	40%
7 (tropical)	35°C	75%

Chiller Location The location of the chiller may be the single most important decision that will extend its life and ensure economical, high performance. Allow space for the door/s to open and close properly. Self-closing doors have internal torsion bars pretensioned at the factory. Ensure the cabinet is 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, adequate ventilation must be 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 chiller is installed free-standing or built-in. Free-standing chillers are chillers that are installed with free space around the sides and top of the cabinet and unit. Built-in chillers are chillers that are enclosed within cabinetry or confined spaces. Ensure the minimum clearances below are met when installing the chiller. No clearance is required behind the chiller.

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

A minimum 300mm space is required above the refrigeration unit. Refer to the table below for maximum ambient temperatures at place of installation.

Maximum ambient temperature

Environment	Free-standing chiller	Built-in chiller
Standard	43°C	40°C
Tropical*	35°C	35°C

*Tropical cabinet in tropical environment


Free-standing   Built-in
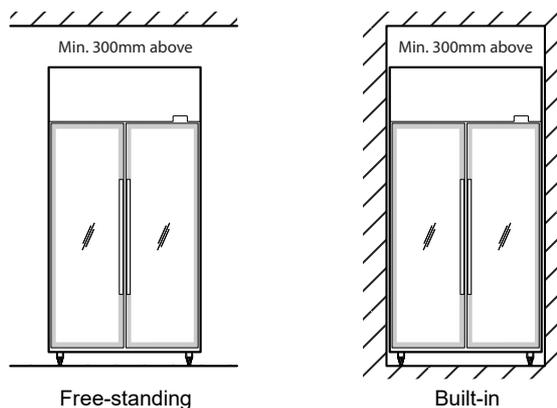
Door Handles

Fitting Door Handles For transit purposes, door handles may be packed separately inside the cabinet. If the door handles are packed separately, follow the steps below to fit them to the door/s.

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.

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

    Ensure that the spring clips point up.

Spring clip (pointing up)

Handle mount
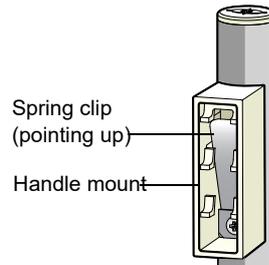
Bracket

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

    Then push the handle down onto the brackets, until the handle locks into place.

Front of door

Handle

Bracket
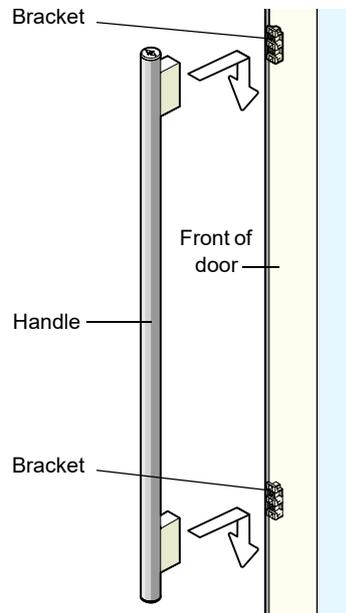
> **CAUTION**
> Ensure **BOTH** handle mounts are located before pushing down.

4. If the handle does not lock into place, check that the spring clips are pointing up and try again.

    If only one end of the handle locks into place, unscrew the door handle (see over page), and refit ensuring both of the handle mounts are located 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.

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, 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.
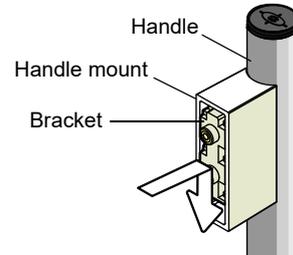
4. Fit and screw the bracket/s back onto the door. Ensure the catches are pointing up as pictured.
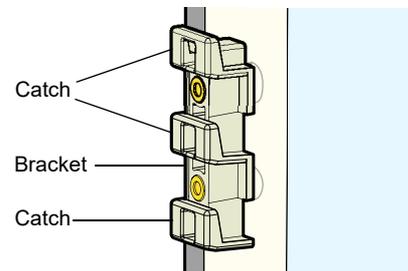
5. Refit the door gasket by clipping it back into place on the inside of the door frame. If the gasket is out of shape after refitting it, a hair drier can be used to heat and reshape it.

Shelves

The chiller is fitted with five layers of wire shelves 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 LH corner of the shelf clip.

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.

Prongs

Shelf clip

Shelf support strip
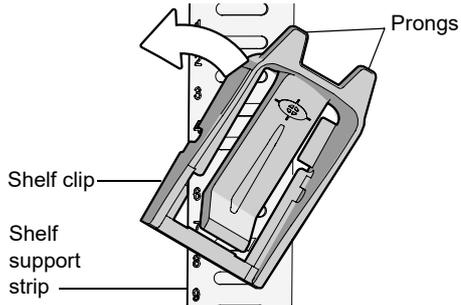
To slide a shelf clip up and down

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.

Shelf clip

Tab
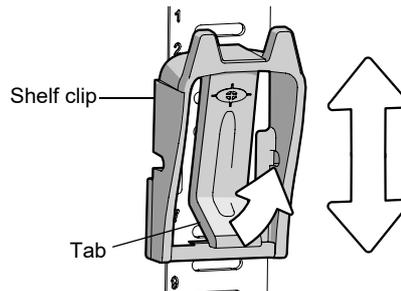
To remove a shelf clip

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 "To slide a shelf clip up and down" on page 8). 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).

To reposition shelves fitted with lights

1. Isolate the chiller from the power supply (see "Cleaning" on page 16).

2. Remove product from the shelf required to be moved, and from the shelf immediately above it.

3. Establish the desired shelf position.

Continued over page

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 "To slide a shelf clip up and down" on page 8). 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 & Ticket Strip Adjustment**

Cabinets fitted with shelf lights are supplied with additional grey coloured shelf light clips. 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.

To lower the top shelf light and ticket strip

1. Disconnect the chiller from the power supply.

2. Unclip the shelf light assembly from the front of the shelf.
   Take care of the wires while handling the shelf light.
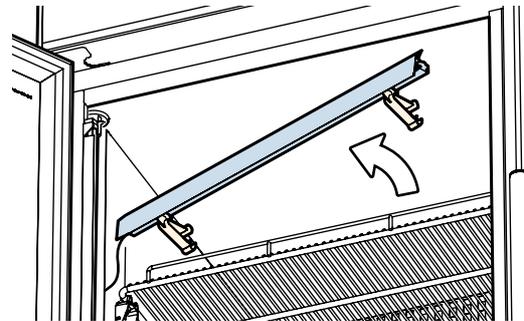
3. Slide the ticket strip off the clips.

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

Light

Ticket strip

Grey clip

Standard clip
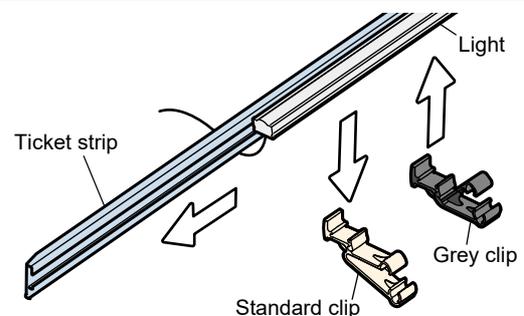
5. Slide the ticket strip onto the the grey clips.

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

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

2 Operation

Automatic Start-Up

After the cabinet has been positioned in a suitable place, plug it in and check the following activity.

Item	Activity
Electronic Controller	An electronic controller runs the chiller and is visible behind the front panel. The display panel first flashes start-up messages before stabilising on the cabinet temperature.
Lighting (lit cabinets only)	The lights that illuminate the sign and cabinet interior will come on approximately five seconds after the chiller is turned on.
Compressor and Condenser Fan	The compressor and condenser fan will start approximately one minute after the chiller is turned on.
	To verify, listen for the compressor and check that the COMPRESSOR light is lit on the electronic controller. The compressor and condenser fan will turn off when the product temperature reaches around +2°C, and on again when it reaches about +4°C (SKOPE ActiveCore default settings).
Evaporator Fan	The evaporator fan starts approximately three seconds after the compressor and condenser fan. To verify, check that the FAN light is lit on the electronic controller.

Lighting

Only applicable to cabinets fitted with lights. The cabinet interior lighting will consist of either LED tube side lights, LED modular side and pillar lights, LED modular shelf lights, or LED modular shelf and side lights. The cabinet may also be fitted with a top sign assembly which is lit by an LED tube.

The cabinet lighting will automatically switch on and off depending on chiller usage. The lights can also be manually switched on and off using the light button on the electronic controller faceplate (see page 12).

Tube Side Lights Cabinets with LED tube side lights are fitted with LED tube/s which can be replaced without moving shelves or product (see page 17 for replacement instructions).

Modular Side and Pillar Lights Cabinets with LED modular side lights are lit by LED strip lights mounted on both side of the cabinet opening. Three door cabinets are also fitted with an LED modular pillar light on one of the centre pillars. LED modular light components are all non-serviceable items and must not be tampered with in any way. If a component is suspected of being faulty, a service call should be arranged so that a replacement component can be fitted.

Modular Shelf and Side Lighting Cabinets with LED modular shelf lighting are lit by shelf lights mounted on the front of the shelves, and on one and two door cabinets LED side lights. LED modular light components are all non-serviceable items and must not be tampered with in any way. If a component is suspected of being faulty, a service call should be arranged so that a replacement component can be fitted.

Sign Light Cabinets with a lit top sign assembly are fitted with a sign light LED tube, located inside the top sign assembly. In the event of sign light failure, a service call should be arranged so that a replacement tube can be fitted.

Loading Product

Let the chiller run 30 minutes before loading it with product the first time. When loading the shelves with product:

◻ Allow adequate air space around each item to ensure even cooling and efficient operation of the chiller.

◻ Do not exceed a maximum load of 20kg per shelf.

◻ Remove some product if the shelves are flexing.

◻ Do not let anything overhang the shelves because this might stop the doors from shutting or even break something.

Door Locks

The chiller may be fitted with bracket locks or key locks.

Bracket Locks Bracket locks are located above each door. Attach a lock through the brackets to secure the door.

Some bracket locks are retractable and partially concealed when not in use. Align the brackets to fit a lock.

To use the swivel bracket locks

1. Slide the top bracket all the way out from the top of the cabinet.
Top bracket
Bottom bracket
2. Rotate the bottom bracket out 90° from the top of the door, to align with the top bracket.	
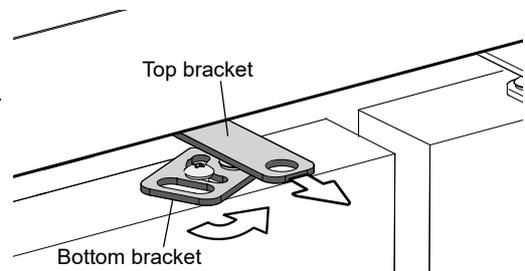
3. Fit a lock through the brackets to secure the doors.

   When the lock is removed, slide and rotate the brackets back into the cabinet.

Key Locks Key locks are located above each door. Use the supplied keys to lock and unlock the door as necessary.

Electronic Controller

Introduction The chiller is fitted with a Carel S4 electronic controller which is visible through a cutout in the cabinet front panel. The electronic controller is pre-programmed and requires no initial setup or additional programming. SKOPE does not recommend that the settings be changed unless it is absolutely necessary.

> **CAUTION**
> The electronic controller must only be adjusted by an authorised service agent.

To achieve energy efficient operation, the electronic controller uses temperature probes and door switches to monitor chiller usage and switch the chiller between 'Normal' and 'Energy Saving' modes, control and display the chiller temperature, collect data, and signal temperature alarms.

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

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

Normal and Energy Saving Modes

The electronic controller is programmed to run the chiller in 'Normal' mode or 'Energy Saving' mode.

When plugged in, the chiller will run in 'Normal' mode. If the front door/s are not opened for a specified time period (default setting is three hours), the electronic controller will switch the chiller from 'Normal' mode to 'Energy Saving' mode and the cabinet lights will turn off. The electronic controller will switch the chiller back into 'Normal' mode when a door is opened, or after a specified time period (default setting is nine hours) in 'Energy Saving' mode.

To manually switch the chiller between 'Normal' and 'Energy Saving' modes, press and hold the Energy Save (up) button on the electronic controller faceplate.To change the default times for automatic switching between 'Normal' mode and 'Energy Saving' mode, follow the procedures below.

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 chiller from 'Normal' mode to 'Energy Saving' mode. The **r6** value must be ≥1 hour.

IMPORTANT
Do **not** set r6 to 0.

Continued over page

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 decease 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 chiller will stay in 'Energy Saving' mode. When this time is reached the electronic controller will switch the chiller 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 decease 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.

Lights

When in 'Normal' mode the cabinet lights are on. When in 'Energy Saving' mode the cabinet lights are off. Press the Light button on the electronic controller faceplate to manually switch the cabinet lights on and off.

Door Switch

Each door is fitted with a door switch which tells the electronic controller when the door is opened and closed. If the door is opened for over two

minutes an alarm will sound. Press the set (mute) button on the electronic controller to mute the alarm.

Temperature Setpoint

The chiller 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.

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.	*PS*
2. Press the *up* or *down* button to scroll the menu until **St** is shown on the display.	*St*
3. Press the *set* button. The current setpoint value is shown on the display.	
4. Press the *up* or *down* button to increase or decease 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.	

Messages and Alarms
The following table explains messages and alarms that the electronic controller displays.

Messages

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

Alarms

Display	Description
Err	Refrigeration system error. An alarm sounds. The controller turns the chiller off to avoid damage. Contact a service agent.
E0	
E1	Probe fault. An alarm sounds. Contact a service agent.
E2	
ELO	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.
EHI	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.
EE	
EF	Electronic controller fault. Contact a service agent.

3 Servicing

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 chiller is unplugged from the power supply before cleaning.

Condenser Coil & 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.
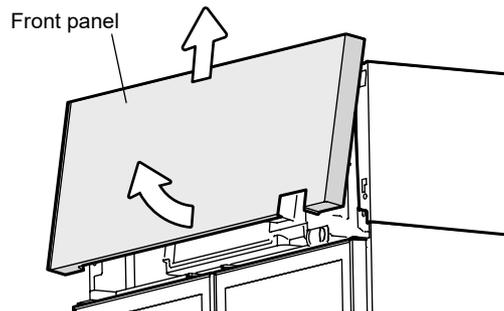
| **WARNING** |
|---|
| Unplug the chiller from the power supply before cleaning the condenser filter and condenser coil. |

To clean the condenser coil and optional condenser filter

1. Unplug the chiller 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.

Front panel

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

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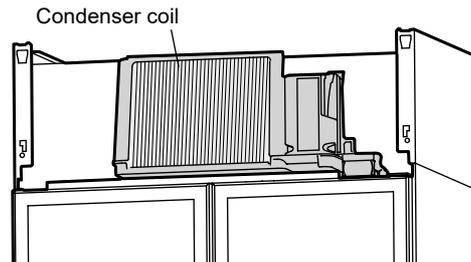
4. Refit or replace the filter (where fitted), refit the sign panel and reconnect to the power supply.

Lighting

Only applicable to cabinets fitted with lights.

The chiller is designed for use with LED lights and is not compatible with fluorescent tubes.

> **IMPORTANT**
> **DO NOT** use fluorescent tubes.

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. See the table below for light tube specifications.
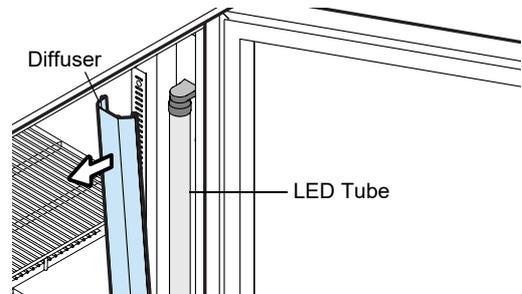
Interior light tube specifications

| Item	Description
Interior light	Eco-Point 22 Watt T8 LED tube (Ø26mm × 1500mm)

To replace an LED tube side light

1. Unplug the chiller 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.

Diffuser

LED Tube

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.

Lamp holder

Pins

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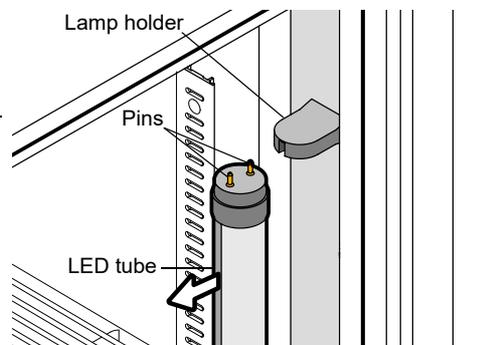
5. Refit the diffuser by slipping the back section into the housing, then squeezing and snapping the front section of the diffuser into place as you work down the length of the light.

LED Modular Shelf and Side Lighting

LED modular light components are all non-serviceable items and must not be tampered with in any way. If a component is suspected of being faulty, a service call should be arranged so that a replacement component can be fitted.

Sign Light

In the event of sign light failure, a service call should be arranged so that a replacement LED tube can be fitted.

Troubleshooting

For questions about the electronic controller, see page 12. For problems with the cabinet and refrigeration unit, use the following table.

Problem	Possible Cause	Suggestions
• Cabinet not operating.	• Loss of power supply.	• Check mains power supply.
	• Controller alarm.	• Refer to "Messages and Alarms" on page 15.
• No controller display.	• Loss of power supply.	• Check mains power supply.
• Light not on.	• Electronic controller displays **ECO** indicating the chiller is in 'Energy Saving' mode.	• Switch the light on while keeping the chiller in night mode by pressing the *light* button on the electronic controller faceplate. • Change the chiller into 'normal' mode by pressing and holding the *Energy Saving* button on the electronic controller faceplate, or open the door.
	• Lights switched off.	• Switch light on by pressing the *light* button on the electronic controller faceplate.
	• Failed LED tube.	• Replace LED tube (see page 17).
	• Failed LED modular light.	• Contact an authorised service agent to replace it.
	• Blown cabinet fuse.	• Contact an authorised service agent to replace it.
• Power consumption is higher than expected.	• Unit operating too hot.	• Clean the condenser (see page 16). • Ensure the cabinet is in a cool spot (see page 5). • Ensure the cabinet has good ventilation around the refrigeration unit (see page 5).
	• Cabinet doors are opened excessively.	• Ensure doors are closed more often.
• Product is too warm.	• Restricted airflow to cabinet.	• Ensure product is not blocking airflow slots. • Ensure there is space around individual product pieces.
• Warm cabinet temperatures. • Compressor operating for long periods (more than 1 hour).	• Blocked condenser.	• Clean the condenser (see page 16).
	• Poor ventilation around refrigeration unit.	• Ensure the cabinet has good ventilation around the refrigeration unit (see page 5).

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The SKOPE trademark on this product is infringed if the owner, for the time being, does any of the following:

- Applies the trade mark to the product after their state, condition, get-up or packaging has been altered in any manner
- Alters, removes (including part removal) or obliterates (including part obliteration) the trade mark on the product
- Applies any other trade mark to the product
- Adds to the product any written material that is likely to damage the reputation of the trade mark

Notice of the above contractual obligations passes to:

- Successors or assignees of the buyer
- Future owners of the product

TME/SKT ActiveCore
SKOPE Top Mount Vertical Chiller
User Manual

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