SKOPE Centaur Series

Horizontal and Vertical Chillers and Freezers

User Manual

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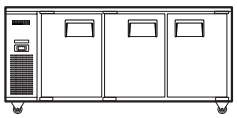
centaur
from SKOPE

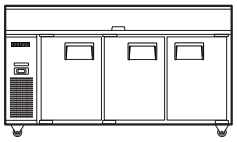
CONTENTS

1 Models



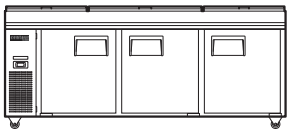
Undercounter

Model	*Type*	*Part No.*	*Doors*	*Operating temperature range*
BC070-CB	Chiller	B070CB-1ROOS-E	1 × solid door	1°C to 4°C up to 38°C ambient
BC090-C		B090-C-1ROOS-E	1 × solid door	
BC090-CS		B090-CS-3ROOS-E	3 × drawers	
BC120-C		B120-C-2RROS-E	2 × solid door	
BC180-C		B180-C--3RRRS-E	3 × solid door	
BC180-CS		B180-CS-6RROS-E	6 × drawers	
BC120-CG		B120-CG-2RROS-E	2 × glass door	1°C to 4°C up to 32°C ambient
BC180-CG		B180-CG-3RRRS-E	3 × glass door	
BC120-C	Freezer	B120-C-2FFOS-E	2 × solid door	-23°C to -18°C up to 38°C ambient
BC150-C	Chiller/Freezer	B150-C-2FROS-E	2 × solid door	Chiller: 1°C to 4°C up to 38°C ambient Freezer: -23°C to -18°C up to 38°C ambient



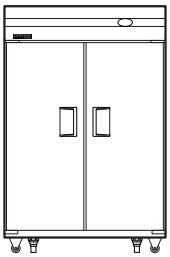
Sandwich

Model	*Type*	*Part No.*	*Doors*	*Operating temperature range*
BC120-S	Chiller	B120-S-2RROS-E	2 × solid door	0°C to 5°C for up to 4 hours in 30°C ambient (with hinged pan covers raised)
BC180-S		B180-S-3RRRS-E	3 × solid door	



Pizza

Model	*Type*	*Part No.*	*Doors*	*Operating temperature range*
BC180-P	Chiller	B180-P-2RROS-E	2 × solid door	0°C to 5°C for up to 4 hours in 30°C ambient (with hinged pan covers raised)
BC240-P		B240-P-2RRRS-E	3 × solid door	
BC240-PS		B240-PS-22RRRS-E	2 × solid doors and 2 × drawers	



Vertical

Model	*Type*	*Part No.*	*Doors*	*Operating temperature range*
BC074	Chiller	B074-1ROOS-E	1 × solid door	1°C to 4°C up to 38°C ambient
BC126		B126-2RROS-E	2 × solid doors	
BC074	Freezer	B074-1FOOS-E	1 × solid door	-23°C to -18°C up to 38°C ambient
BC126		B126-2FFOS-E	2 × solid doors	
BC126	Chiller/Freezer	B126-2RFOS-E	2 × solid doors	Chiller: 1°C to 4°C up to 38°C ambient Freezer: -23°C to -18°C up to 38°C ambient

2 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 rating label.
- 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 cabinet and product. See the rating label inside the cabinet for the safe power supply and current draw.

WARNING

Always disconnect the cabinet from the mains power supply before any cleaning or maintenance.

Locating the Cabinet

Location

When positioning the cabinet, avoid direct sunlight and warm draughts etc, and areas where the refrigeration unit could be exposed to water or moisture. The cabinet must **NOT** be situated where it is affected by warm or hot air from adjacent equipment, as this will compromise the airflow and performance of the cabinet. This 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)
3	25°C	60%
4	30°C	55%
5	40°C	40%

The cabinet must be positioned on a level surface for the doors to shut and seal correctly, and to prevent the condensate tray from overflowing. Adequate allowance should be made for door and/or drawer opening.

Sandwich and Pizza cabinets have pan openings with hinged pan covers on the top of the cabinet. Maximum air movement around the opening area of the cabinet must not exceed 0.3 m/s. Excessive air movement will cause failure of the air curtain above the pans and excessive temperature rise.

When installing the cabinet

- Ensure all packaging is removed from the cabinet.
- Avoid direct sunlight and warm draughts etc.
- Allow adequate space for the door/s and/or drawer/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.
- Air movement above Sandwich and Pizza cabinets must not exceed 0.3 m/s.

Ventilation

It is critical that the hot refrigeration exhaust air is not restricted and that it can easily flow out and away from the front of the cabinet. Never store cardboard cartons or other items in front of or on top of the refrigeration unit. The ventilation slots on the refrigeration unit front cover and at the rear of the cabinet must be kept clear at all times. Normal operating conditions should not exceed the operating temperature range (see page 4).

Horizontal cabinets (undercounter, sandwich and pizza)

Ensure there is always at least a 150mm gap around the back and the refrigeration unit side of the cabinet.

Vertical cabinets

Ensure there is always at least a 150mm gap around the back and sides of the cabinet, and at least 500mm above the cabinet.

Power Supply

The cabinet is supplied with a flexible power cord and plug which exits the rear of the cabinet.

Before final positioning of the cabinet, pull the power cord out from the rear compartment and connect to the power supply. For convenience, any surplus cord length may be left inside the cabinet compartment.

WARNING

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

Positioning the Cabinet

The cabinet is fitted with a set of four swivel castors, and is supplied with a set of four adjustable height legs, which can be fitted in place of the castors depending on specific height and manoeuvrability requirements. The legs or castors should be fitted to the base of the cabinet before final positioning.

Castors

The castors screw into the castor mounting plates on the bottom of the cabinet. Where castors are fitted, the two lockable castors should be fitted to the front of the cabinet and the non-locking castors fitted to the rear.

Adjustable Height Legs

The adjustable height legs screw into the castor mounting plates on the bottom of the cabinet. Remove the castors to fit the legs.

Rotate the bottom section of the legs to adjust the height. The legs can be used to raise the cabinet between 100mm and 160mm above the floor.

To adjust leg height

1. Turn the plastic foot at the bottom of the leg clockwise to increase, or counter-clockwise to decrease the height.

Refer to the table below for the adjustable height leg part number.

Adjustable height leg part number

Item description	SKOPE part number
Centaur adjustable height leg	BC-AJL03-00

Shelving

The cabinet is supplied with shelves and shelf support brackets which can be positioned at different heights to suit various products.

To fit the shelves

1. Unpack 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 the shelf support brackets into the corresponding slots in both the front and back support strips. Each shelf requires four support brackets.
4. Sit each shelf on the support brackets.

The cabinet should be left running for 30 minutes before loading with product.

When loading product

- Allow air space around all the product to ensure even cooling and efficient operation of the cabinet.
- Do not allow products to overhang the front of the shelf as this could prevent the doors from shutting. 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.

Gastronorm Containers

Sandwich and Pizza Cabinets

Sandwich and Pizza cabinets are supplied with gastronorm food preperation containers which fit into openings on top of the cabinet, and hinged covers. Refer to the tables below for standard container and hinged cover quantities:

Sandwich cabinet

Model	Doors	Pans	Hinged covers
BC120-S	2 doors	6 × 1/3 refrigerated containers (176mm wide × 325mm deep)	1
BC180-S	3 doors	9 × 1/3 refrigerated containers (176mm wide × 325mm deep)	1

Pizza cabinet

Model	Doors/Drawers	Pans	Hinged covers
BC180-P	2 doors	9 × 1/3 refrigerated containers (176mm wide × 325mm deep)	2
BC240-P	3 doors	12 × 1/3 refrigerated containers (176mm wide × 325mm deep)	3
BC240-PS	2 doors and 2 drawers	12 × 1/3 refrigerated containers (176mm wide × 325mm deep) (drawer pans not included)	3

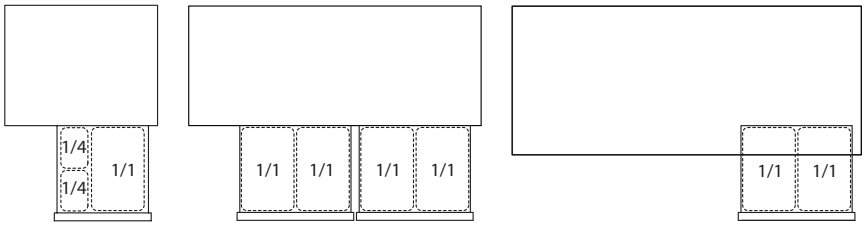
For correct operation of the cabinet, the hinged covers must stay closed to cover the food preparation containers when not in use. The maximum recommended operating ambient temperature for Sandwich and Pizza cabinets is 30°C. Leaving the covers raised for more than 4 hours at the maximum operating temperature will compromise the performance of the chiller.

IMPORTANT

The hinged pan covers should be closed when the pans are not in use. Leaving the covers open for extended periods will compromise performance of the cabinet.

Drawer Cabinets

Drawer cabinets are fitted with dividers designed to fit various 150mm deep gastronorm containers, as shown below. Containers are not included with the cabinet.



BC090-CS
3 × refrigerated stainless steel drawers

BC180-CS
6 × refrigerated stainless steel drawers

BC240-PS
2 × refrigerated stainless steel drawers

3 Operation

Automatic Start-Up

IMPORTANT
If the cabinet has been on its back, leave for 30 minutes before running.

Connect the cabinet to the mains power supply and check operation of the refrigeration unit and electronic controller. Ensure the cabinet power switch is turned on.

Power Switch

The cabinet is fitted with a power switch, usually located beside the electronic controller. Depending on the model, it may be necessary to open the unit front cover to access the switch.

Refrigeration Unit

The compressor, and the condenser and evaporator 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 fan will switch off when the cabinet internal air reaches a pre-set temperature.

Electronic Controller

When the cabinet is connected to the power supply, the electronic controller will display the current cabinet temperature. The compressor symbol ⊖ will come on after a few minutes, indicating the compressor and condenser fan is operating.

To ensure efficient operation, the electronic controller forces regular defrosts. During the defrost cycle, the compressor and condenser fan switch off and the evaporator fan stays on.

Electronic Controller

Introduction

Depending on the model, the cabinet will be fitted with a CAREL Easy electronic controller or a CAREL ir33 electronic controller (refer to faceplate below to identify the type of electronic controller.

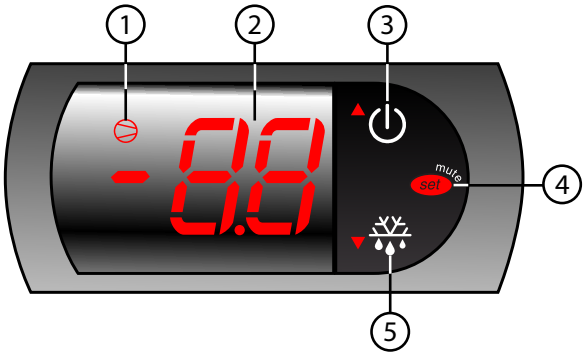
The electronic controller is visible through a cut-out in the front panel. It controls and displays the cabinet interior temperature and signals temperature alarms. It uses temperature probes around different areas of the refrigeration system to collect data and runs the cabinet accordingly .

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.

Faceplate

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

CAREL Easy electronic controller

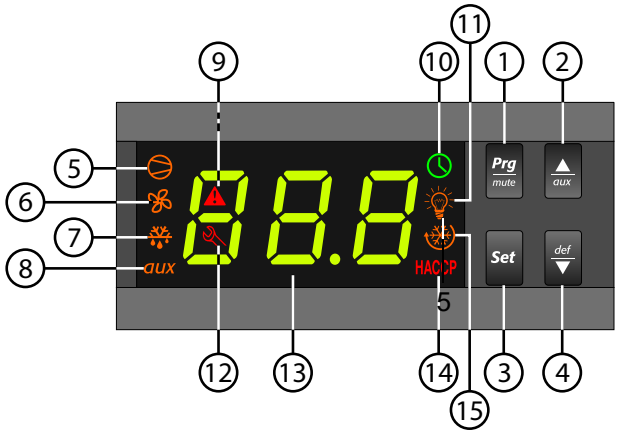


CAREL Easy electronic controller faceplate

Item	Icon	Function
1		**Compressor indicator:** ON when the compressor and condenser fan starts. Flashes when activation of the compressor is temporarily delayed.
2		**Display:** Shows the cabinet temperature. Flashes when the door is open.
3		**Stand-by (up) button:** Turns stand-by mode on and off. To scroll settings up (in program mode). **Note:** This is not an isolation switch.
4	mute set	**Mute (set) button:** Mutes the audible alarm (buzzer) and deactivates the alarm relay, and used in program mode.
5		**Manual defrost button:** Press for more than 5 seconds to initiate manual defrost. To scroll settings down (in program mode).

CAREL ir33 electronic controller

CAREL ir33 electronic controller faceplate



Item	Icon	Function
1	Prg mute	**Mute / program:** Mutes the audible alarm (buzzer) and deactivates the alarm relay. To initiate program sets, press for 5 seconds.
2	aux	**Up:** To scroll settings up (in program mode).
3	Set	**Set point:** If pressed for more than 2 seconds displays and / or enables changing the temperature setpoint.
4	def	**Manual defrost / down:** Press for more than 5 seconds to initiate manual defrost. To scroll settings down (in program mode).
5		**Compressor:** ON when the compressor and condenser fan starts. Flashes when activation of the compressor is temporarily delayed.
6		**Fan:** Shows when the fan is operational.
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:** n.a.
12		**Service:** Flashes in the event of malfunctions.
13	88.8	**DISPLAY:** Shows the cabinet temperature. Flashes when the door is open.
14	HACCP	**HACCP:** n.a.
15		**CONTINUOUS CYCLE:** On when freezer is running in continuous run mode.

Stand-by Mode

Only applicable on the CAREL Easy electronic controller. Press and hold the stand-by button for three seconds to turn stand-by mode on or off. When stand-by mode is on, the controller display will alternate between the cabinet temperature and **Of**, and the compressor, fans and alarms are disabled. Where applicable, the interior lights are still activated by the door switch and will come on when a door is opened.

Temperature Setpoint

The temperature setpoint is factory set and can be adjusted if necessary. 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 until the controller display shows **SEt** followed by a temperature value. The temperature value is the current setpoint.

   Note: If **PS** appears on the display, the **set** button has been held for to long. Release it, then press the **set** button twice to restart the procedure.
2. Press the **up** and **down** buttons to adjust the value to the required setpoint.
3. Press the **set** button again to memorise the new setpoint value.

Controller Messages and Alarms

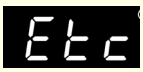
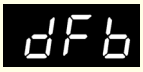
The following table explains messages that the electronic controller displays and related alarms. Alarms signal unexpected operational changes in the freezer and stop when action is taken to resolve the problem.

Note: The messages and alarms differ between the CAREL Easy electronic controller and the CAREL ir33 electronic controller. Refer to the relevant table either below (CAREL Easy) or over page (CAREL ir33).

CAREL Easy messages and alarms

Code	Alarm	Action
dF	Defrost cycle in progress mesasge	Cabinet is running correctly. Message will stop displaying once the defrost cycle is complete.
E0	Temperature sensor fault alarm	Reset alarm by unplugging the cabinet from the power supply for one minute, then reconnect. If alarm persists, arrange service call.
E1		
LO	Product low temperature alarm	
HI	Product high temperature alarm	
EE	Parameter error alarm	
EF		
Ed	Defrost error alarm	

CAREL ir33 messages and alarms

Code	Display	Alarm	Action
	 Flashing	Product HIGH temperature alarm (auto reset)	1. Check the cabinet product loading to ensure ventilation slots are not blocked, and that product does not overhang the shelves. Ensure the doors are closed. 2. Ensure the cabinet is installed with good refrigeration unit ventilation. 3. Check and clean the condenser coil (see page 16). 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.
	 Flashing	Product LOW temperature alarm (auto reset)	
	 Flashing	Refrigeration system high temperature pre-warning (auto reset)	1. Clean the condenser coil (see page 16). 2. Check refrigeration ventilation. Ensure clear airpath in front of the cabinet. 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. If alarm persists, contact SKOPE.
	 Flashing	Refrigeration system and cabinet high temperature shutdown (manual reset)	
	 Flashing	Ambient probe fault (also flashes ‘rE’)	To reset alarm - unplug the cabinet from the power supply for 1 minute, then reconnect to power supply. 1. If alarm persists, contact SKOPE.
	 Flashing	Evaporator probe fault	
	 Flashing	Condenser probe fault	
	None	Defrost over-time limit	
	 Flashing	Real-time clock fault	
	 Flashing	Controller E prom error	
	 Flashing	Controller E prom error	
	None	Start defrost request	None
	None	End defrost request	
	 Flashing	Door open alarm	Check that a door or drawer has not been left open. Note: The audible alarm buzzer cannot be turned off manually.

4 Maintenance

Cleaning

To ensure the chiller continues to run efficiently and reliably, the following maintenance should be carried out:

Cleaning Cabinet	Keep the interior and exterior of the cabinet clean by regular wiping with a damp cloth. The food preparation pans and air diffuser panels can be easily lifted from the cabinet for cleaning (Sandwich and Pizza cabinets only). Be careful not to wash any liquid down into the refrigeration system, as this could lead to refrigeration failure.
Cleaning Condenser Coil	The condenser coil must be cleaned at least monthly with a soft brush to remove dust and fluff (see instructions on page 16).
Regular Servicing	A thorough service clean must be completed by qualified service personnel every six months.
Time Frames	Time frames specified above are indicative only. More regular cleaning and servicing may be required depending on chiller placement and operating environment.

To clean the condenser coil on horizontal cabinets

1. Isolate the cabinet from the power supply by unplugging it from the wall.
2. Open the unit front cover (usually located on the LH side of cabinet) to gain access to the condenser filter and coil.

   Note: On model BC070-CB, the condenser coil is located at the rear of the cabinet. Pull the cabinet out so access is available at the rear of the cabinet, and unscrew the condenser coil cover to access the coil.
3. If fitted, remove the condenser filter by sliding it up, and remove all dust and fluff from the filter.
4. Brush the condenser coil in the directions of the fins to remove all dust and fluff.
5. Refit the condenser filter, close the unit front cover and reconnect the cabinet to the power supply.

To clean the condenser coil on vertical cabinets

1. Isolate the cabinet from the power supply by unplugging it from the wall.
2. Swing the top panel (above the door/s) out to gain access to the condenser coil.
3. Brush the condenser coil in the directions of the fins to remove all dust and fluff.
4. Close the top panel and reconnect the cabinet to the power supply.

CAUTION

Unplug the cabinet from the mains power supply before cleaning the condenser coil or washing the cabinet with water.

Lighting

Cabinet Interior Lights

Depending on the model, the cabinet may be fitted with one of the light variations shown in the table below. Follow the relevant procedure further below to replace the light.

Note: Some models are not fitted with interior lights.

Centaur light variations

Light type
25W bulb (OSRAM PYGMY CL25E14)
15W T8 fluorescent tube
Centre pillar LED strip light

To replace an interior 25W bulb (OSRAM PYGMY CL25E14)

1. Isolate the cabinet from the power supply by unplugging it from the wall.
2. Unscrew and remove the light cover.
3. Remove the light, and replace with the same type.
4. Refit the light cover and reconnect the cabinet to the power supply.

To replace an interior 15W T8 fluorescent tube

1. Isolate the cabinet from the power supply by unplugging it from the wall.
2. Remove the diffuser by squeezing it until it is released from the housing, and then push the diffuser out of the way.
3. Rotate the fluorescent tube until the pins on the ends of the tube align with the slots, then slide it out. **Note:** Access can be made easier by removing the shelves.
4. Fit a new fluorescent tube and clip the diffuser back into place. When fitting vertically mounted fluorescent tubes, ensure the tube is fitted with the ‘Power’ end at the top.

Centre pillar LED strip light

Centre pillar LED strip lights are 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.

Troubleshooting

Complaint	Possible Cause	Repair
1. Cabinet not operating and no controller display:	• Loss of power supply.	• Check that the cabinet power switch is turned on (see page 10). • Check mains power supply.
2. Power consumption is higher than expected:	• Unit operating too hot.	• Clean condenser. Ensure the cabinet is installed with good ventilation around the refrigeration unit.
	• Cabinet doors are opened excessively.	• Keep door/s open for minimum time.
3. Product is too warm and spoiling:	• Restricted cabinet airflow.	• Ensure product is not blocking airflow slots and the product is no closer than 75mm from the cabinet top.
	• Temperature setpoint is too warm.	• Adjust setpoint (see page 13).
	• Food preparation covers raised for extended periods.	• The covers must stay closed when not in use (see page 9).
4. Warm cabinet temperatures and/or compressor operating for long periods (more than 1 hour):	• Blocked condenser.	• Clean condenser coil (see page 16).
	• Poor refrigeration unit ventilation.	• Ensure the cabinet is installed with good ventilation around the refrigeration unit.

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