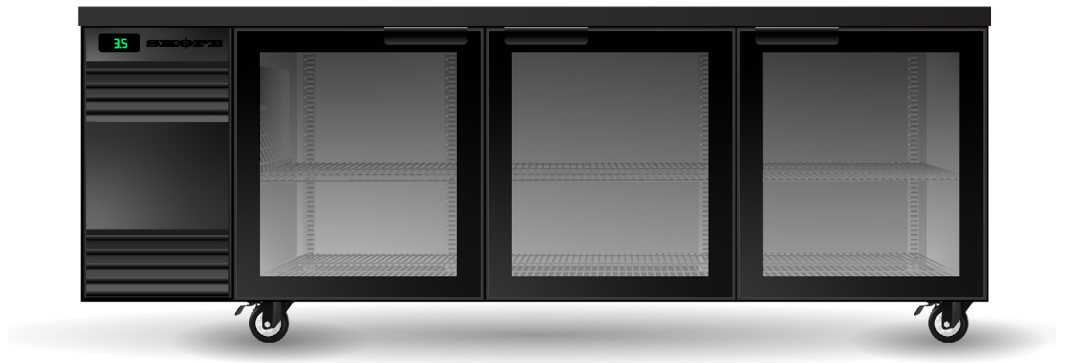


BackBar

BackBar BB, BackBar CL, BackBar SL
SKOPE BackBar Range
R290



Three Glass Swing Door CounterLine

SKOPE BackBar Range
BackBar BB, BackBar CL, BackBar SL
R290
Service Manual

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SKOPE INDUSTRIES LIMITED

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

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1 Servicing Hydrocarbon

Overview

This cabinet uses hydrocarbon (HC) R290 as its refrigerant. R290 is a natural refrigerant that has a very low environmental impact.

Special service requirements are needed, as R290 is a flammable refrigerant.

Safety hazards



The main hydrocarbon safety hazards are:

- Flammability
- Venting of hydrocarbon and compressor oil
- Asphyxiation

Service requirements

Do not interfere with the refrigeration system. All refrigeration maintenance and repairs must be undertaken according to the SKOPE Hydrocarbon Service Requirements. See the “SKOPE Hydrocarbon Service Requirements” below for more information, including examples of hazardous activities.

Electrical safety precautions

To comply with safety and radio interference regulations, make sure you route wiring correctly and use the correct components. In order to maintain safety and compliance with regulations, any wiring that is disturbed during servicing must be replaced and secured in its original position.

SKOPE Hydrocarbon Service Requirements

Servicing must only be performed by approved SKOPE Service Technicians, and must meet all requirements in the SKOPE Hydrocarbon Service Policy (available from SKOPE), including the following:

Hydrocarbon work – SKOPE Service Policy

It is the responsibility of the service technician to follow SKOPE's Hydrocarbon equipment service policy and by accepting a service work order they agree to the following (where applicable):

- MUST – Ensure all workers are trained in the SAFETY of hydrocarbon products to the appropriate level for the work required.
- MUST – Follow all Local Safety Regulations relevant to flammable refrigerant gases.
 - Australia should reference - AIRAH Flammable Refrigerants – Safety Guide
 - New Zealand should reference – Flammable Refrigerant Safety Documentation (Refrigerant License NZ)
- MUST – Adhere to all on-site (workplace) Health and Safety requirements
- MUST – Not modify or alter the design of SKOPE equipment in any way
- MUST – In cases where the refrigeration system is not readily removable from the cabinet; then the entire cabinet MUST be sent to the Hydrocarbon workshop for repair.
- MUST – ONLY use SKOPE OEM Spare Parts; or identical replacement parts. Any variation in replacement part may render the system non-compliant and unsafe.
- MUST – Follow all best practice work activities for servicing hydrocarbon refrigerants (SKOPE recommend attending specific hydrocarbon refrigeration handling training courses). Nitrogen must be used for purging system before commencing “Hot Work” – brazing.
- MUST – Adhere to relevant SKOPE Service Manual. If any contradiction, the local Regulations take precedence over SKOPE requirements
- MUST – Work only in suitable, safe and compliant work spaces. Personal Protective Equipment must always be used when working on Hydrocarbon equipment.
- MUST – Service people diagnosing refrigeration faults must always carry and utilise Flammable Gas detectors when working on Hydrocarbon equipment.
- MUST – Prior to any service work; know where and how to safely and quickly isolate power supply to cabinet
- MUST – Not perform any Hot Work (brazing etc.) in the field. These are to be completed in a suitable service depot / workshop (in a dedicated specific Hazardous Work Area compliant to local flammable gas regulations)
- MUST – Not transport a refrigeration system with a known active leak. If there is an active leak the refrigerant must be safely removed (with use of Bullet Piercing Valve or Line Tap valves) before transporting. Valves must be removed at the hydrocarbon service depot once repair is completed.
- MUST – All hydrocarbon workshop areas must have emergency plans; that includes suitable evacuation and fire control plans and equipment.
- MUST – Only use refrigerant grade hydrocarbon, to precise mass specified on removable refrigeration system serial label.
- MUST – Be accurate refrigerant charge; The refrigerant mass is ultra-low charge and must only be measured in by accurate scales to +/- 1.0gram. Refrigerant MUST not be overcharged; or added to an already charged system.
- MUST – Use identical drier replacement; as any change will affect gas charge volume; and effect reliability compliance and safety.
- MUST – Any pipework replacement, must be identical to genuine SKOPE parts.
- MUST – Not introduce a sparking device inside a cabinet or inside a removable refrigeration system. Battery drills should not be used.
- MUST – Not perform any activity that could stress a refrigeration pipe (unless in a workshop).
- MUST – Get customer authorisation to permanently swap a removable refrigeration system.
- MUST – Have the Wellington Drive SCS Field app installed on a Bluetooth enabled device carried by the service technician (exception is for cabinets that do not utilise the Wellington Drive Controller). The app should be utilised for safe, accurate diagnosis of the system and it is required to complete a controller replacement in the field.
- RECOMMENDED – Have the Wellington Drive SCS Track app installed on a Bluetooth enabled device carried by the service technician. This passive app collects system data from the Wellington Drive SCS Connect Controller and transmit it to the cloud.
- Logistics companies may be used to transport a complete refrigerator where no separation of the refrigeration system occurs. Logistics companies are not required to be contracted to this SKOPE Service Policy.

2 Specifications

Models

This Service Manual applies to the SKOPE BackBar BB, BackBar CL and BackBar SL horizontal fridges detailed in the tables below.

Refer to the relevant product specification sheet (available on the SKOPE website: www.skope.com) for cabinet specifications.

Table 1: BackBar BB (left hand cabinets)

Model	SKOPE ID	Cartridge	Model	SKOPE ID	Cartridge
BB.2.GSW	BB002	ULQCNI-0047	BB.2.GSW.r	BB402	ULSCCR-0054/ ULSCDR-0058
BB.3.GSW	BB003		BB.3.GSW.r	BB403	
BB.4.GSW	BB004		BB.4.GSW.r	BB404	
BB.2.GSW.T	BB102	ULQCNI-0047	BB.2.GSW.Tr	BB502	
BB.3.GSW.T	BB103		BB.3.GSW.Tr	BB503	
BB.4.GSW.T	BB104		BB.4.GSW.Tr	BB504	
BB.2.SSW	BB002S	ULQCNI-0047	BB.2.SSW.r	BB402S	
BB.3.SSW	BB003S		BB.3.SSW.r	BB403S	
BB.4.SSW	BB004S		BB.4.SSW.r	BB404S	
BB.2.GSL	BB012	ULQCNI-0047	BB.2.GSL.r	BB412	
BB.3.GSL	BB013		BB.3.GSL.r	BB413	
BB.4.GSL	BB014		BB.4.GSL.r	BB414	

Table 2: BackBar CL (left hand cabinets)

Model	SKOPE ID	Cartridge	Model	SKOPE ID	Cartridge
CL.2.GSW	CL002	ULQCNI-0047	CL.2.GSW.r	CL402	ULSCCR-0054/ ULSCDR-0058
CL.3.GSW	CL003		CL.3.GSW.r	CL403	
CL.4.GSW	CL004		CL.4.GSW.r	CL404	
CL.2.GSW.T	CL102	ULQCNI-0047	CL.2.GSW.Tr	CL502	
CL.3.GSW.T	CL103		CL.3.GSW.Tr	CL503	
CL.4.GSW.T	CL104		CL.4.GSW.Tr	CL504	
CL.2.SSW	CL002S	ULQCNI-0047	CL.2.SSW.r	CL402S	
CL.3.SSW	CL003S		CL.3.SSW.r	CL403S	
CL.4.SSW	CL004S		CL.4.SSW.r	CL404S	
CL.2.GSL	CL012	ULQCNI-0047	CL.2.GSL.r	CL412	
CL.3.GSL	CL013		CL.3.GSL.r	CL413	
CL.4.GSL	CL014		CL.4.GSL.r	CL414	

Table 3: BackBar SL (left hand cabinets)

Model	SKOPE ID	Cartridge	Model	SKOPE ID	Cartridge
SL.2.GSW	SL002	ULQCNI-0047	SL.2.GSW.r	SL402	ULSCCR-0054/ ULSCDR-0058
SL.3.GSW	SL003		SL.3.GSW.r	SL403	
SL.4.GSW	SL004		SL.4.GSW.r	SL404	
SL.2.GSW.T	SL102	ULQCNI-0047	SL.2.GSW.Tr	SL502	
SL.3.GSW.T	SL103		SL.3.GSW.Tr	SL503	
SL.4.GSW.T	SL104		SL.4.GSW.Tr	SL504	
SL.2.SSW	SL002S	ULQCNI-0047	SL.2.SSW.r	SL402S	
SL.3.SSW	SL003S		SL.3.SSW.r	SL403S	
SL.4.SSW	SL004S		SL.4.SSW.r	SL404S	
SL.2.GSL	SL012	ULQCNI-0047	SL.2.GSL.r	SL412	
SL.3.GSL	SL013		SL.3.GSL.r	SL413	
SL.4.GSL	SL014		SL.4.GSL.r	SL414	

3 Installation

Positioning the Cabinet

Climate Class The cabinet is designed to operate up to a climate class 5 environment (40°C @ 40% relative humidity) with limited door openings. SKOPE recommends that you put the cabinet in the coolest place possible because it will use less power and last longer.

Location When positioning the cabinet, avoid direct sunlight and warm draughts. 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.

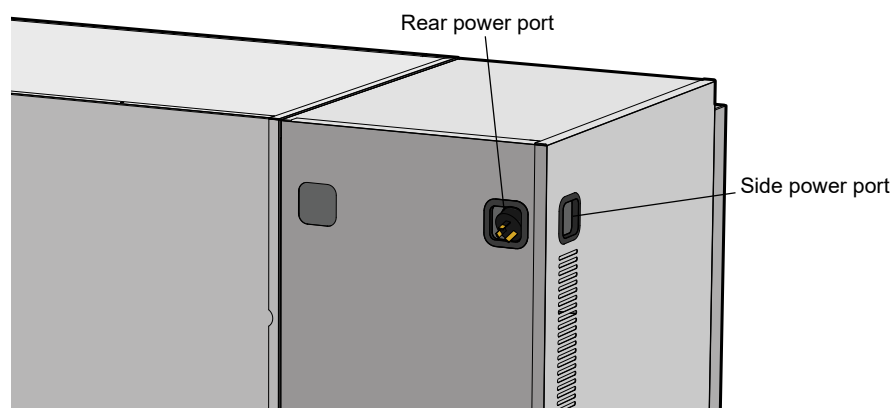
The cabinet must be positioned on a level surface for the doors to shut and seal correctly, and to prevent the condensate tray from overflowing. Make sure there is enough room for the doors to open.

Always ensure that the top of the cabinet is shielded from impact and moisture, with either a SKOPE-provided bench top, or a custom or existing bench top.

Ventilation The cabinet pulls air in from, and blows air out of, the front panel. It is essential that you provide adequate ventilation around the front of the refrigeration cartridge. Normal operating conditions should not exceed the rated climate class (see Climate Class above).

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 the refrigeration cartridge. You must keep the ventilation slots on the service compartment front cover clear at all times.

Power Cord The cabinet is supplied with a flexible power cord and plug, which can exit from either the rear or side of the cabinet. You can leave any surplus cord inside the compartment. Before final positioning of the cabinet, pull the power cord out from the cabinet and connect it to the mains power supply.



WARNING

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

Legs and Castors

The cabinet is packed with a set of adjustable height castors. Adjustable height legs can be purchased as an option. The legs can adjust the cabinet height as much as 30 mm, and the castors can adjust the cabinet height as much as 15 mm. Depending on specific height and manoeuvrability requirements, either of these sets can be screwed into the mounting plates on the bottom of the cabinet.

Note: If fitting the castors, attach the lockable castors to the front of the cabinet, and the non-locking castors to the rear.

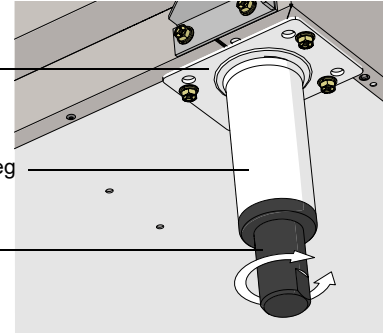
Procedure 1: To adjust the leg height

1. Turn the black plastic foot at the bottom of the leg anti-clockwise to raise the height.

Mounting plate

Adjustable leg

Plastic foot

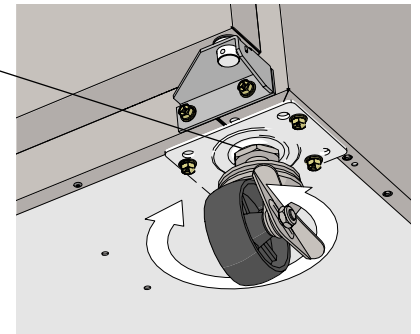


2. Turn the black plastic foot at the bottom of the leg clockwise to lower the height.

Procedure 2: To adjust the castor height

1. Undo the lock nut to free the castor for adjusting.
2. Turn the castor left to raise the height or right to lower the height.
3. Tighten the lock nut up against the castor plate on the cabinet after you have made the final adjustment to lock the castor height.

Lock nut



Shelves

The cabinet is fitted with two layers of wire shelves which may be positioned at different heights to suit various products. The cabinet floor may also be used to store product.

Shelf Clips

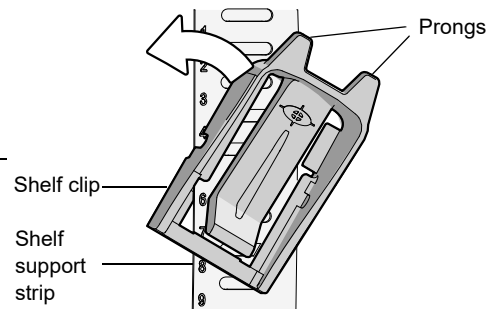
Each wire shelf is held in place with four shelf clips, which clip in the shelf support strips and slide up and down to the required shelf position.

The support strips are numbered to help place the shelf clips. You can see the numbers in the bottom left hand corner of the shelf clip.

Procedure 3: To fit a shelf clip

The shelf clip twists onto the shelf support strip.

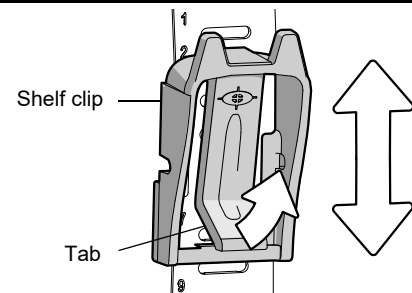
1. Position the shelf clip with the flat side against the shelf support strip and the two prongs pointing up.



2. Twist the top of the clip anticlockwise onto the shelf support strip until it locks in place.

Procedure 4: To slide a shelf clip up and down

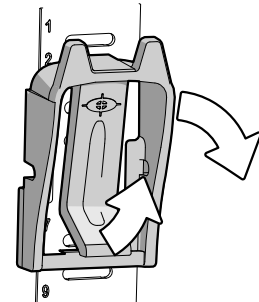
1. Pull the shelf clip tab up and slide the shelf clip up or down as required.



2. Once in position, ensure the shelf clip is locked into place.

Procedure 5: To remove a shelf clip

1. Pull the shelf clip tab up.



2. Twist the top of the clip clockwise off the shelf support strip.

Repositioning a Shelf

Procedure 6: To reposition a standard shelf

1. Unload the shelf and remove it from the cabinet.
2. Slide each shelf clip to the new position in the shelf support strips.
3. Replace the shelf back in the cabinet, and sit it on the shelf clips.

4 Electronic Controller

Overview

The cabinet is fitted with an AoFrio SCS Connect electronic controller. The controller is located on the top left of the refrigeration cartridge cover and is visible from the outside of the cabinet.

The controller is pre-programmed. SKOPE does not recommend changing the settings unless it is absolutely necessary.

The controller does not control the cabinet body or door heater elements.

Apps

SCS Connect Field App The SCS Connect Field app is designed for service technicians, and provides access to the controller from mobile devices with Bluetooth capability. The app provides data logging, alarm notification, and diagnostic control.

SCS Connect Track App The SCS Connect Track app uploads data from the controller.

For more information on the SCS Connect Field and Track apps, see [MAN80199 SCS Connect Electronic Controller](https://tinyurl.com/4n2dvury) (<https://tinyurl.com/4n2dvury>).

SKOPE-connect App The SKOPE-connect app is designed for end users and provides access to the controller from mobile devices using Bluetooth.

The app allows end users to adjust some controller settings, including energy saving modes, opening and closing hours, and preset temperature setpoints for specific products.

The SKOPE-connect app may be useful for diagnostics. You can download it from the Google Play Store or Apple App Store.



Apple App Store



Google Play Store

The controller is pre-programmed. SKOPE does not recommend changing the settings unless it is absolutely necessary. To ensure efficient operation, the controller automatically forces a defrost cycle when required.

IMPORTANT

The controller must only be adjusted by an authorised service agent.

Controller Faceplate

Buttons and Display The faceplate includes the front display panel and interface buttons.

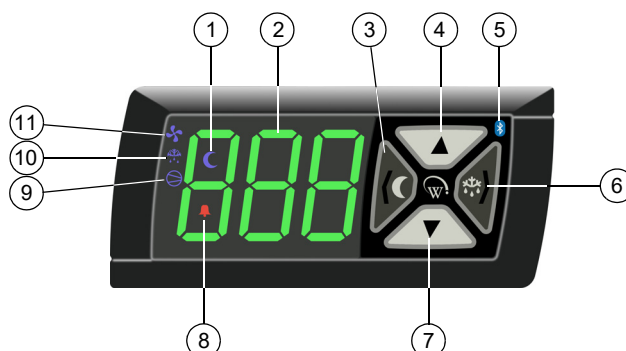


Table 4: Controller faceplate

No.	Description			Use
1	Night mode	Indicator	On during Night mode.	
2	Display	Indicator	Digital display of: <ul style="list-style-type: none"> the cabinet's air (not product) temperature. alarm messages. 	
3	Light switch - Night mode (back/abort)	Button	Used during programming.	<ul style="list-style-type: none"> Press to switch the lights on or off. Press and hold to switch the cabinet between Day and Night modes.
4	Up	Button	Used during programming.	
5	Bluetooth	Indicator	<ul style="list-style-type: none"> On when ready to connect to a device. Flashing when connected to a device. 	
6	Defrost cycle (next/enter)	Button	Used during programming.	Press and hold to start a manual defrost.
7	Down	Button	Used during programming.	
8	Fault - Alarm	Indicator	On during a fault or alarm.	
9	Compressor	Indicator	On when the compressor is running.	
10	Defrost mode	Indicator	On during the defrost cycle.	
11	Fan	Indicator	On when the fans are running.	

Service Mode The service mode can be run using the controller faceplate, but SKOPE strongly recommends using the SCS Connect Field app. You will need a 9-digit PIN to enter the service mode via the controller. If you don't have one, contact SKOPE Customer Services to request a PIN.

Service mode includes:

Parameters

Allows you to access and edit individual controller parameters.

Reset

Returns the controller back to factory or default settings.

Manual test

Allows you to see the input values from the sensors, check the effects of output adjustments to peripherals, and run preset test routines.

Statistics

Displays logged values and event counts for diagnostics and fine tuning.

About

Lists the properties of the refrigeration system and the controller, including fridge model codes, and firmware, hardware and software versions.

Refer to AoFrio documentation for further information.

5 Replacement Procedures

Caution

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

Correct wiring routing is as important as using the correct components for compliance with safety and radio interference regulations.

In order to maintain safety and compliance with regulations, make sure you replace any wiring that is disturbed during servicing and secure it back in its original position.

Procedure 7: To disconnect the cabinet from the mains power supply

1. Switch the cabinet off at the mains power supply.
2. Unplug the power cord from the mains power supply.

Lighting

The cabinet is fitted with LED strip lights, which can be replaced without moving shelves or product.

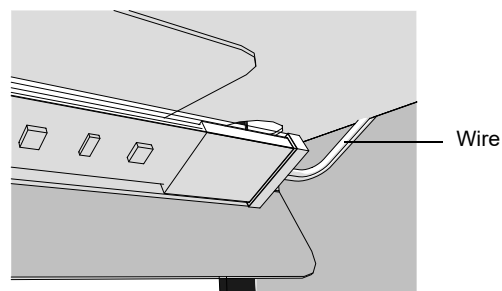
Table 5: LED strip light specifications

Model	Light description	SKOPE part number
BB/CL/SL.2	1 × 16W LED strip – 1000 mm	ELL12417
BB/CL/SL.3	1 × 24W LED strip – 1500 mm	ELL12416
BB/CL/SL.4	2 × 16W LED strip – 1000 mm	ELL12417

Procedure 8: To replace the interior LED strip light

1. Disconnect the cabinet from the mains power supply (see Procedure 7 above).

2. Tease the wire out from the ceiling of the cabinet.



Procedure 8: To replace the interior LED strip light (continued)

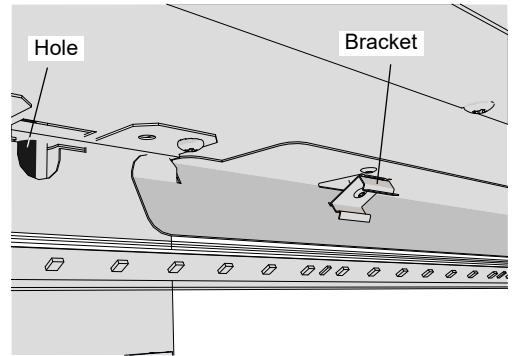
3. Remove the putty from the hole.

4. Unplug the light from the power cable.

5. Unclip the LED strip from the bracket and replace it with the new LED strip.

6. Connect the new light to the power cable.

7. Replace the putty in the hole.



8. Reconnect the cabinet to the mains power supply, and test that the lights are working correctly.

Doors

Swing Doors Swing doors may be:

- solid
- standard glass
- tropical glass

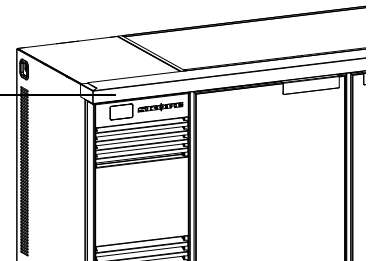
Horizontal Alignment If required, you can align the doors side-to-side.

Procedure 9: To align a swing door horizontally

1. Disconnect the cabinet from the mains power supply (see page 15).

2. Remove the panel covering the top hinges (previously known as the "control panel").

Panel covering the top hinges



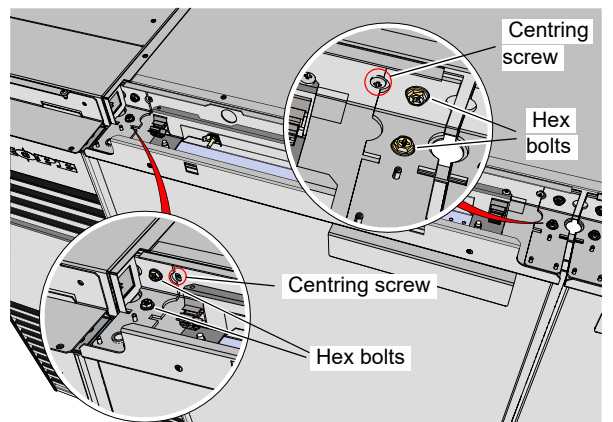
3. Remove the two centring screws, and discard them.

4. Loosen the four hex bolts holding the electrics tray/hinge assembly to the cabinet.

5. Move the electrics tray left or right to the required position.

6. Tighten the hex bolts.

7. Refit the panel covering the top hinges.

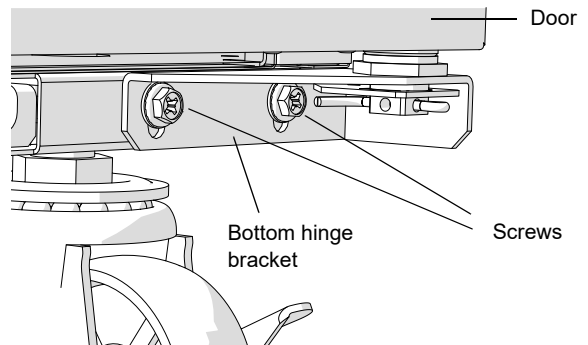


Vertical Alignment The doors are set to the lowest position at the factory, but if required you can raise their height.

Procedure 10: To raise the height of a door

1. Disconnect the cabinet from the mains power supply (see page 15).

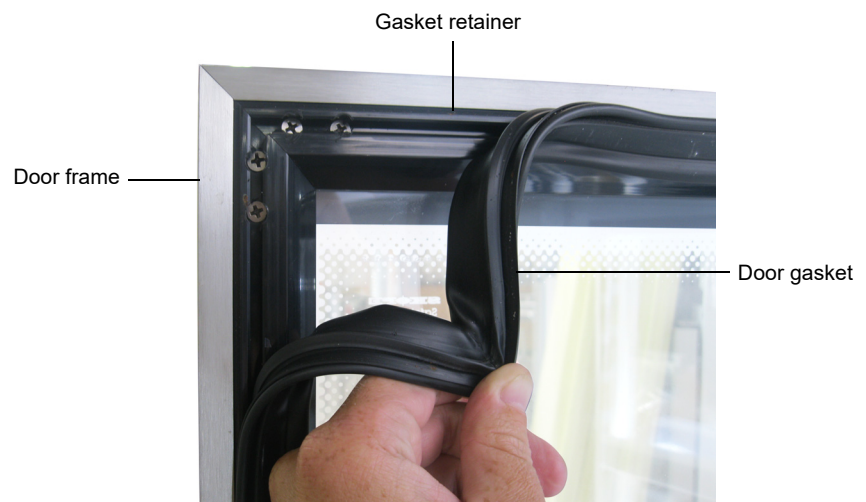
2. Loosen the 2 × screws securing the bottom hinge bracket to the plinth.



3. Move the bracket vertically to the required position, and re-tighten the screws.

Gasket The door gasket clips into the door gasket retainer extrusion on the inside of the door and may be removed for repair or replacement by peeling it from the frame, starting at a corner.

When fitting a new gasket, lightly lubricate it with a clear silicone grease or similar compound to lessen the possibility of it rolling. If the gasket is out of shape when it has been fitted, use hot air (e.g. from hair-dryer) to realign it.

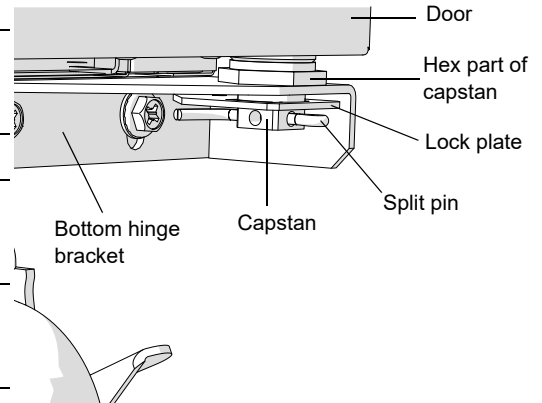


Swing Door Tension Adjustment The doors have an internal torsion bar, pre-tensioned at the factory, which enables them to self-close. If necessary, you can adjust the tension by rotating the capstan mounted in the bottom hinge bracket.

If the door tension can no longer be adjusted, the torsion bar may need to be replaced (see Procedure 12 below).

Procedure 11: To adjust tension on a swing door

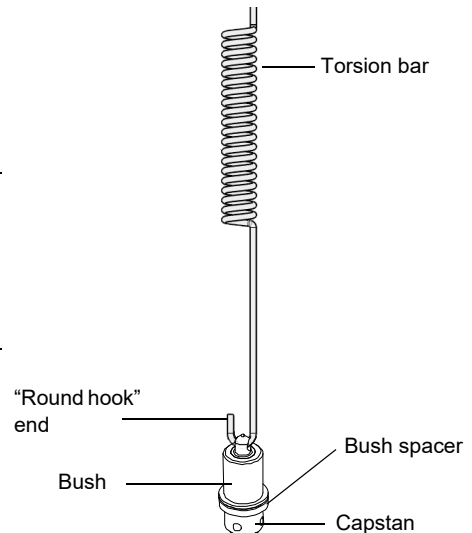
1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the split pin.
3. Release the tension on the door capstan by rotating and holding the hex part of the capstan with a spanner in the direction the door closes.
4. Remove the lock plate.
5. Increase the rotation of the capstan in the direction the door closes until there is adequate tension.
6. Replace the capstan lock plate, ensuring the tab is in the slot on the side of the hinge bracket.
7. Replace the split pin.
8. Check the door tension by holding the door open approximately 100 mm and letting it go. The door should gently close, with the door gasket forming an airtight seal with the cabinet.



Torsion Bar Replacement The torsion bar assembly is located inside the door frame, and can be replaced if necessary.

Procedure 12: To replace the torsion bar assembly on a swing door

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the door (see Procedure 13, on page 19).
3. Carefully lever the bottom bush out from the door frame, and pull the old torsion bar out from the door frame. The end of the torsion bar will need manoeuvring to allow the "flat hook" end to clear the hinge hole.
4. Remove the capstan, bush spacer, and bush from the old torsion bar.
5. Thread the capstan, complete with bush and bush spacer, over the "round hook" end of the new torsion bar.
6. Fit the new torsion bar assembly into the door frame. When the torsion bar is correctly installed, the capstan should not turn.
7. Lightly tap bottom of capstan into the hinge hole, until the bush is flush with door frame.
8. Refit the door to the cabinet, and adjust the tension (see Procedure 11, on page 18) if required.



Swing Door Removing and Refitting

For ease of servicing, the doors can be removed from the cabinet.

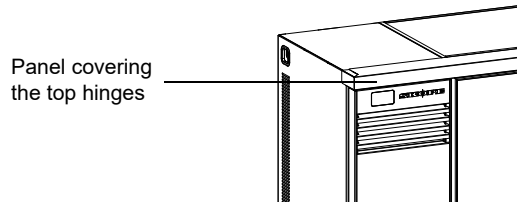
Note: If the glass in a door is damaged, replacing the glass is not economical because it is fixed to the frame for integral strength. If the glass is damaged, SKOPE recommends replacing the door.

Procedure 13: To remove a swing door

1. Disconnect the cabinet from the mains power supply (see page 15).

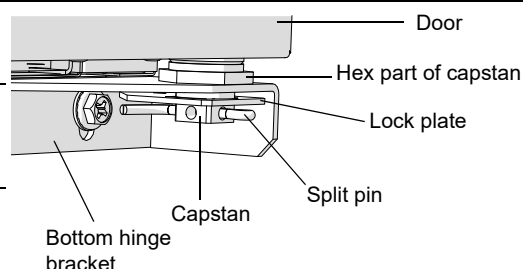
Tropical cabinets only

2. Open the door. Under the panel covering the top hinges (previously known as the "control panel"), remove the 2 × M5 screws holding the electrics cover in place and remove the electrics cover.
3. Disconnect the cable for the heated door.



4. Remove the split pin from the bottom hinge.

5. Release the tension on the door capstan by rotating and holding the hex part of the capstan with a spanner in the direction the door closes.



6. Remove the lock plate and slowly release the tension.

7. Remove the bottom hinge bolts, lower the door, and remove it from the cabinet.

Tropical cabinets only

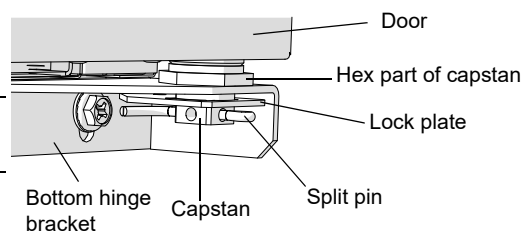
8. Unthread the cable for the heated door through the top hinge.

Procedure 14: To refit a swing door

1. Disconnect the cabinet from the mains power supply (see page 15).

Tropical cabinets only

2. Thread the cable for the heated door up through the top hinge.
3. Lift the door so the top hinge fits into the top bush.
4. Attach the bottom hinge bracket and bolts and adjust the height as required. Tighten the bolts.
5. Slowly apply tension by rotating and holding the hex part of the capstan with a spanner in the direction the door closes.
6. Replace the lock plate, and release the tension applied by the spanner.
7. Fit the split pin through the hole in the capstan.



Tropical cabinets only

8. Reconnect the cable for the heated door.
9. Replace the electrics cover, and attach using the 2 × M5 screws.
10. Replace the panel covering the top door hinges.
11. Check that the door closes and seals correctly.

Sliding Doors Sliding doors run on rollers that engage with an extruded aluminium “T” section in the door frame assembly. They close automatically using an adjustable tension spring fitted on the top of the door.

**Sliding Door
Removal and
Refitting**

Procedure 15: To remove a sliding door

Before you start

For all cabinets, you need to remove the outer doors before the inner doors.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. If the door is locked, unlock it.
3. Remove the outer door by lifting it up into the door guide, then swing it out at the bottom, and lower it down.
4. Disconnect the door tension spring from the adjustable rack on top of door guide assembly.

Procedure 16: To refit a sliding door

Before you start

For all cabinets, you will need to:

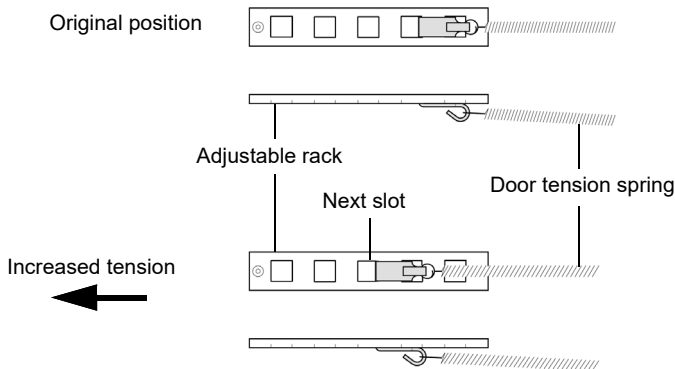
- identify where each door goes.
- fit the inner doors first.

1. Attach the door spring tension hook to the correct tension adjustment plate.
2. Fully insert the top of the door into its top track and swing the lower edge of door in until it is aligned with the lower track.
3. Lower the door until it is resting on its rollers in the door track.
4. Ensure that the door is sliding smoothly and it fully closes. If it does not, remove it and readjust the tension hook position (see Procedure 17 below).

**Sliding Door
Tension
Adjustment** If required, you can adjust the door closing tension.

Procedure 17: To adjust tension on a sliding door

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the door which needs the tension adjusted (see Procedure 15, on page 20).
3. Move the tension spring to the next slot in the adjustable rack in the top of the door guide.



4. Replace the door (see Procedure 16).

Door Rollers Door rollers are located in the recess in the bottom of the door extrusion.

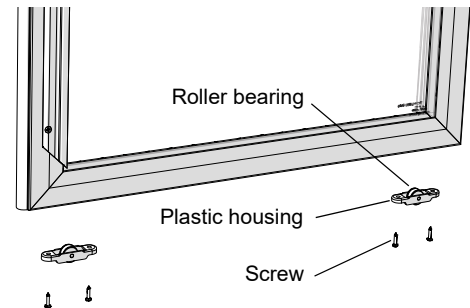
Procedure 18: To replace a sliding door's roller bearings

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the door which needs the roller bearings replaced (see Procedure 15, on page 20).

3. Unscrew the plastic housing which contains the roller bearing.

4. Replace the roller bearing and plastic housing, and screw them back in.

5. Replace the door (see Procedure 16).



Refrigeration System

Before Servicing Overview

Ensure you have read and understood this manual before starting any servicing.

Important

- SKOPE hydrocarbon refrigeration systems must only be serviced by appropriately skilled and qualified refrigeration mechanics.
- Servicing a sealed refrigeration system must occur at a hydrocarbon workshop or service area with dedicated hydrocarbon equipment and personal protective equipment (PPE).
- All local hydrocarbon storage and handling regulations and procedures must be followed at all times.

Ensure all electronic controller alarms diagnostics and refrigeration system diagnostics are performed to confirm a refrigeration system fault is present.

Check all components including the electronic controller and electrical systems.

Ensure your work area is well ventilated.

IMPORTANT

Use only dedicated hydrocarbon SKOPE OEM spare parts.

DO NOT use alternative parts.

For safety compliance, use only SKOPE-supplied components specified for the appliance.



Safety hazards

The main hydrocarbon safety hazards are:

- Flammability
- Venting of hydrocarbon and compressor oil
- Asphyxiation

Refrigerant identification

Correctly identifying the refrigerant is critical to maintain safety and the correct functioning of the cabinet.

- The cabinet rating label (located in the upper inside of the cabinet) states the refrigerant type.
- Warning labels are fitted to hydrocarbon refrigeration cabinets to indicate the use of hydrocarbon refrigerant.

Personal protective equipment (PPE)

Correctly wear or use all PPE required by local regulations and procedures during servicing.

Service equipment

Only use dedicated hydrocarbon service equipment which is hydrocarbon-compliant. Electrical equipment that could be exposed to the refrigerant must be intrinsically safe.

In addition to standard tools for accessing and removing parts, specialist tools are required for completing the refrigeration system service tasks in this manual:

- Intrinsically safe refrigeration vacuum pump, rated by the manufacturer as suitable for use with hydrocarbon refrigerant
- Dedicated hydrocarbon gauge set
- Flammable gas detector to warn if flammable refrigerant is present
- Charging scales, rated by the manufacturer as suitable for use with hydrocarbon refrigerant, accurate to 1 gram

Leak detector

A leak detector is used to track and locate the source of hydrocarbon gas leaks. It is:

- recommended for servicing hydrocarbon units on-site.
- required for servicing hydrocarbon units off-site.

Service vehicle

- Must be suitable for transporting flammable gas.
- Vehicle cargo area:
 - Must be well ventilated to outside the vehicle only.
 - Must have no ignition sources, nor any areas where the gas may pool.
- Must be able to transport swap units.
- Should carry minimum SKOPE hydrocarbon service parts.

On-site Work The service technician must have required knowledge, skills, qualifications, and tools before beginning any on-site work on the refrigeration sealed system.

Minimum knowledge and skills

- Qualifications and certifications required by local/state regulatory bodies to service hydrocarbon refrigeration systems
- Safe working practices, including a safe working environment at all times

Minimum tools and equipment

- Safety signs and/or barrier – suitable to create a safe work zone 1.5 m around the cabinet
- Hydrocarbon gas detector
- Dedicated hydrocarbon gauge set
- Bullet valves/line piercing valves suitable for a 6 mm tube

Off-site Work Hydrocarbon workshop

The following tools and equipment are required in the hydrocarbon workshop:

- Dedicated area for hazardous work – suitable for servicing and releasing flammable hydrocarbon refrigerant
- Hydrocarbon leak detector
- Refrigeration gauge set – suitable for flammable hydrocarbon refrigerant

- Dry nitrogen – suitable for purging and high pressure testing
- Intrinsically safe refrigeration vacuum pump, rated by the manufacturer as suitable for use with hydrocarbon refrigerant
- Charging scales, rated by the manufacturer as suitable for use with hydrocarbon refrigerant, accurate to 1 gram
- Hydrocarbon refrigerant supply cylinder

Refrigeration Cartridge

Refrigeration Integral cabinets

Cartridge Assembly

The SKOPE BackBar refrigeration system for integral cabinets is an end-mounted, removable refrigeration cartridge.

Remote cabinets

The SKOPE BackBar remote refrigeration system is an end-mounted system which does not include a condensing unit. The condensing unit, which is not supplied by SKOPE, needs to be selected and installed by a qualified refrigeration mechanic in the remote location.

The remote refrigeration cartridge is not removable once installed. It comes with a nitrogen holding charge and must be evacuated after connecting the liquid line (Ø6.35 mm, ¼") and suction line (Ø9.53 mm, ⅜"). The lines and condensate drain tube may be directed out the rear or bottom of the cartridge.

All cabinets

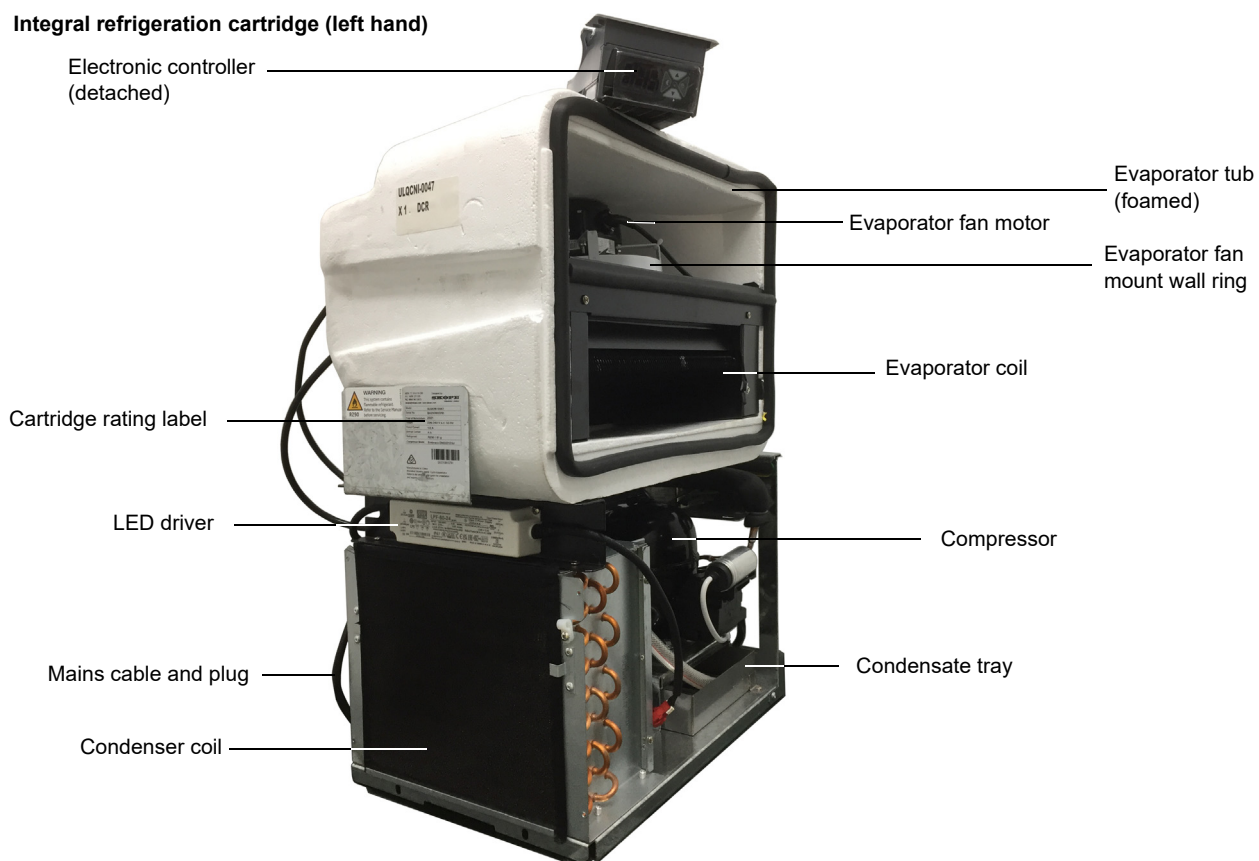
Depending on the cabinet specification, the refrigeration cartridge is on the left or right hand side. The cartridge is end-specific and cannot be reversed.

For safety and compliance, only repair the cartridge with SKOPE-supplied parts made specifically for this cabinet. Other parts may appear to be suitable, but may not be approved or safe for use in a fridge with hydrocarbon refrigerant.

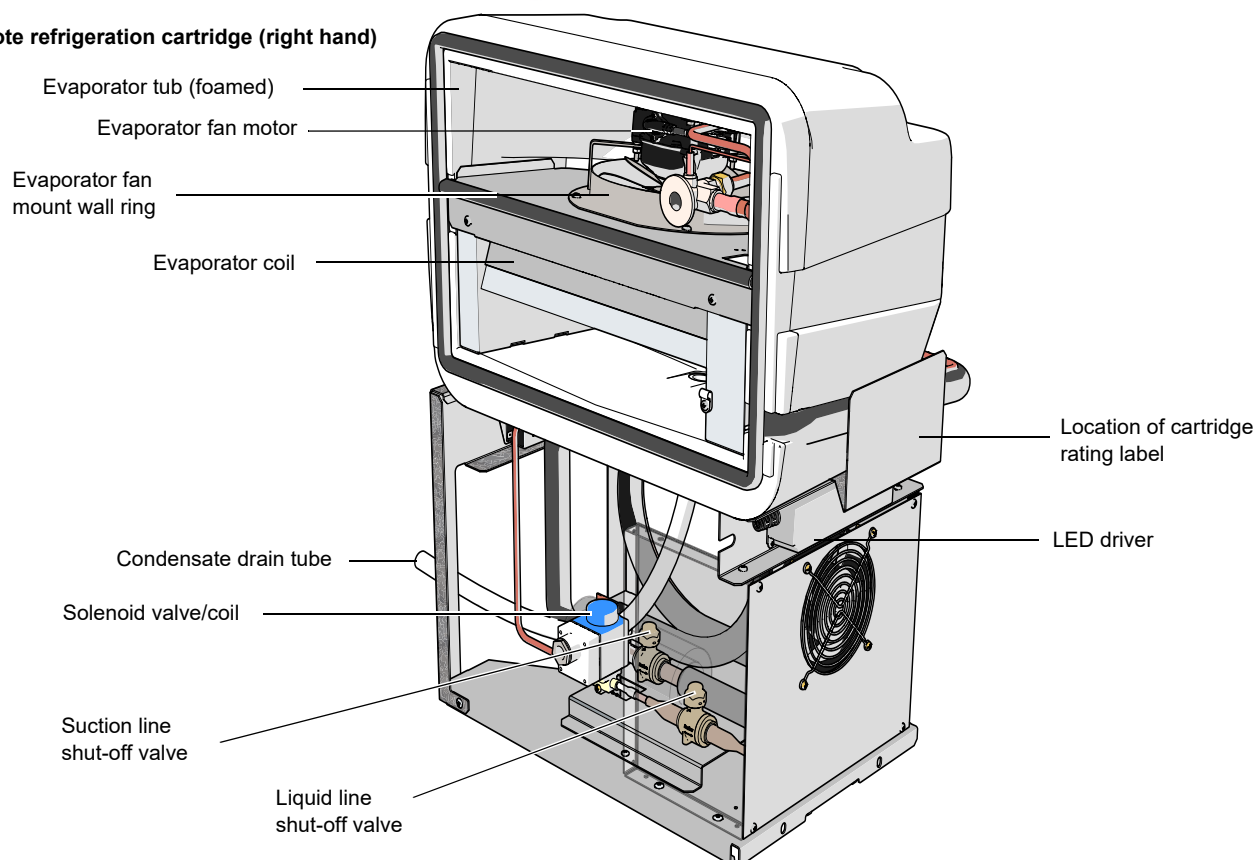
The model and serial number are both printed on the cartridge rating label attached to the front of the cartridge. Before ordering spare parts, take note of the model and serial numbers.

Verify the model and basic requirements before servicing.

Integral refrigeration cartridge (left hand)



Remote refrigeration cartridge (right hand)



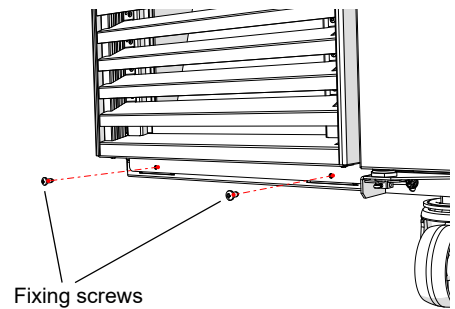
Service Compartment Front Cover

You need to remove the service compartment front cover to access the refrigeration cartridge.

Procedure 19: To remove the service compartment front cover

1. Disconnect the cabinet from the mains power supply (see page 15).

2. Undo the two fixing screws at the bottom of the service compartment front cover.



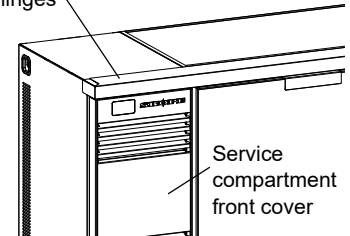
3. Lift the cover up and off the cabinet.

Procedure 20: To refit the service compartment front cover

1. Lift the service compartment front cover and insert the top tabs up into the slots under the panel covering the top hinges.

Panel covering
the top hinges

2. Move the service compartment front cover towards the cabinet and insert the lower tabs into the slots in the chassis rails.

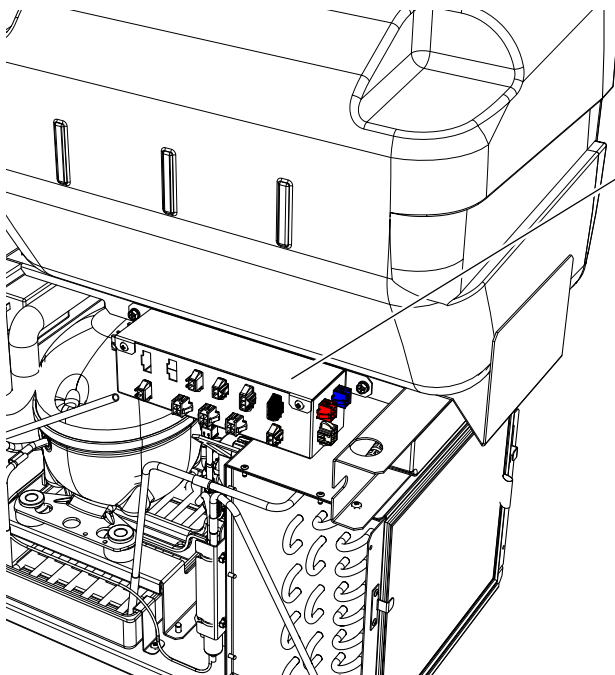


3. Fix the cover in place with the two fixing screws at the bottom of the panel.

Cartridge Electrics Box

The cartridge electrics box houses the refrigeration cartridge and cabinet connectors. It is located under the evaporator tub, and can be accessed when you remove the cartridge.

Note: The electrics box is either left- or right-handed to match the refrigeration cartridge.



Cartridge
electrics box



Refrigeration Cartridge Diagnostics

The following test is useful to do in a hydrocarbon-compliant workshop (see “Off-site Work” on page 22) to work out if the system is short of gas. Always perform it before opening the refrigeration system.

It is helpful to have a correctly operating cartridge running beside the cartridge being serviced to compare behaviour.

Note: This diagnostic procedure is indicative only.

Procedure 21: To diagnose a lack of gas

Before you start

- If a customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55.
- Make sure there is a suitable workshop available (see page 22).
- The electronic controller must be connected to the cartridge to run the diagnostic test.

1. Disconnect the cabinet from the mains power supply.
2. Remove the refrigeration cartridge from the cabinet (see page 26). Make sure the electronic controller remains connected.
3. Ensure you are in a suitable workshop (see page 22).
4. Place the cartridge on the bench, then:
 - connect a service or jumper probe to the door sensor (white two-pin socket) on the cartridge.
 - disconnect the evaporator fan motor (white four-pin plug).
 - move the control probe and p-clip away from the front of the evaporator coil.
5. Start a stopwatch and connect the refrigeration cartridge to the power supply.
6. Watch the compressor and compare it to a system performing normally with the correct refrigeration charge:
 - At 3 minutes it should frost back to the compressor shell.
 - Between 3 and 4 minutes, the evaporator probe should read -15°C and the controller should initiate a defrost and shut off the compressor.
 - If there is no frost at all at the evaporator inlet tube there may be a capillary blockage or compressor fault.
7. If necessary, diagnose and repair the fault.
8. Reassemble the refrigeration system and test run.

Refrigeration Cartridge Removal

Follow the steps below to remove the refrigeration cartridge from the cabinet.

Procedure 22: To remove the cartridge from the cabinet (integral cabinets only)

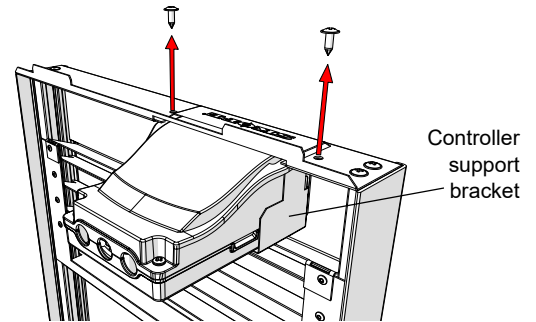
Before you start

If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.

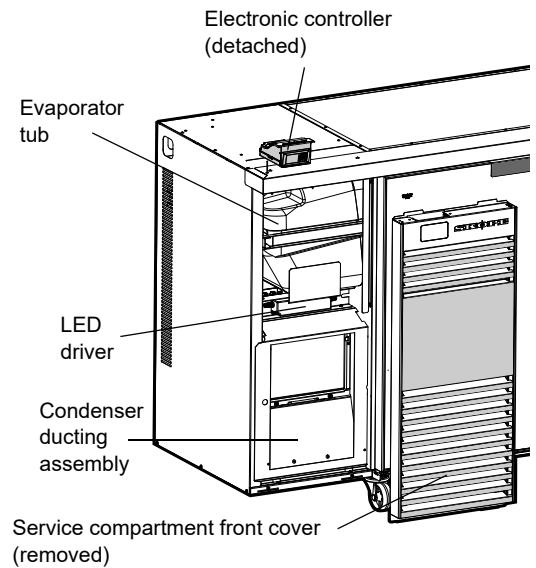
1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the service compartment front cover (see Procedure 19, on page 25).

Procedure 22: To remove the cartridge from the cabinet (integral cabinets only) (continued)

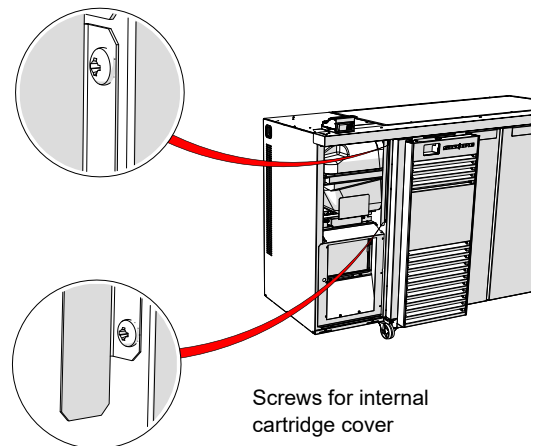
3. Detach the electronic controller from the service compartment front cover. Remove the:
- 2 × screws
 - controller support bracket



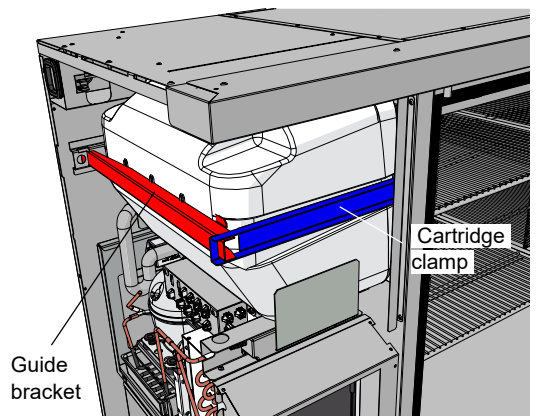
4. Unscrew the 4 × screws and remove the condenser ducting assembly.



5. Unscrew the 2 × screws and remove the cartridge's internal cover.



6. Unscrew the 2 × M6 set screws and remove the front cartridge clamp and guide brackets. Pull the evaporator tub from the cabinet.

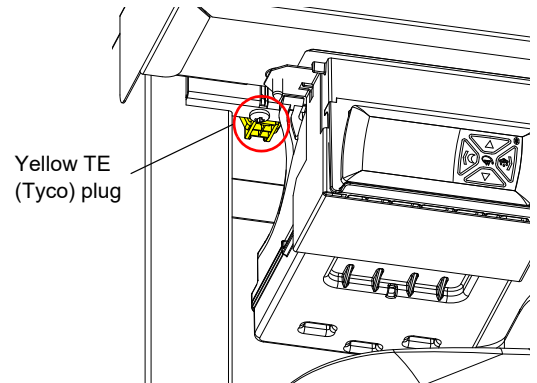


Procedure 22: To remove the cartridge from the cabinet (integral cabinets only) (continued)

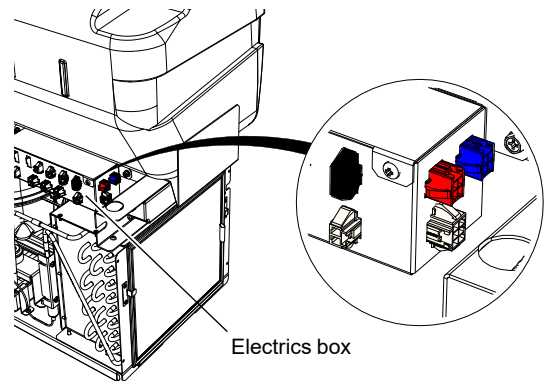
7. Remove the 2 × set screws at the bottom of the cartridge.

8. Disconnect the plugs from the cartridge electrics box. This will allow the cartridge to be moved.

- In the ceiling of the cartridge compartment, disconnect the yellow TE (Tyco) plug.
- On the front of the cartridge electrics box, disconnect the red, blue and white plugs.
- On the left side of the cartridge electrics box, disconnect the black and white plugs.



Plugs to disconnect



9. Using the handle, pull the cartridge forwards to remove it from the cabinet.

Evaporator Fan Assembly

The evaporator fan assembly is made up of a fan motor, fan blade, wall ring, and mounting bracket.

If the fan stops for any reason, check all connections to ensure no plugs have come loose.

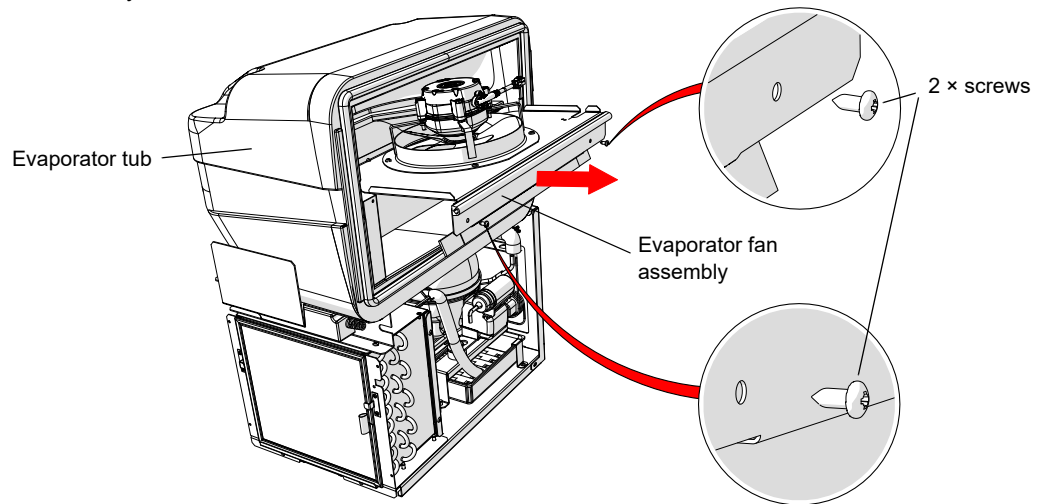
Replace the fan blade and fan motor with the same part to ensure correct alignment and refrigeration performance. Always tighten the fan blades to 1.5 Nm.

You must remove the refrigeration cartridge to access the evaporator fan assembly.

Procedure 23: To remove the evaporator fan assembly (integral cabinets only)**Before you start**

If the customer reports a "not cooling" fault, and it has been established that the cabinet is not cooling, follow the "On-site Work Procedure" on page 55 when making the service visit.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see Procedure 22 above).
3. Undo the screws holding the evaporator fan mounting bracket to the evaporator coil.
4. Pull up or tear the gasket where the pipe enters the evaporator tub, and pull the evaporator assembly out of the tub.

**Procedure 24: To replace the evaporator fan blade (integral cabinets only)****Before you start**

If the customer reports a "not cooling" fault, and it has been established that the cabinet is not cooling, follow the "On-site Work Procedure" on page 55 when making the service visit.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Remove the evaporator fan assembly (see Procedure 23).
4. Take note of the fan blade's orientation.
5. Unscrew and replace the fan blade. Tighten it to 1.5 Nm.
6. Refit the evaporator fan assembly.
7. Reassemble the cabinet. Use putty to seal any gaps around the evaporator tub entry point.
8. Reconnect the cabinet to the mains power supply and check for correct operation.

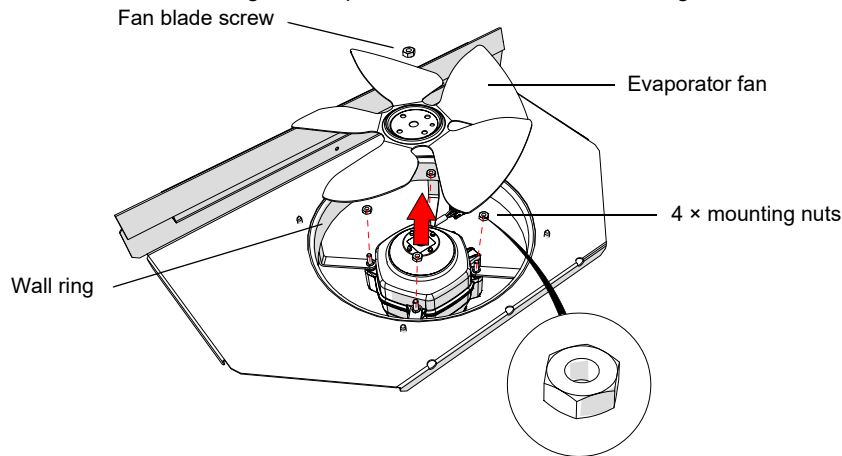
Procedure 25: To replace the evaporator fan motor (integral cabinets only)**Before you start**

1. If the customer reports a "not cooling" fault, and it has been established that the cabinet is not cooling, follow the "On-site Work Procedure" on page 55 when making the service visit.
2. Make sure you take note of the original evaporator fan motor cable's path.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Remove the evaporator fan assembly (see Procedure 23, on page 29).
4. Remove the fan blade (see Procedure 24 above).

Procedure 25: To replace the evaporator fan motor (integral cabinets only) (continued)

5. Undo the nuts holding the evaporator fan motor to the wall ring.



6. Pull out the evaporator fan motor, cutting cable ties where necessary and follow the cable back to the cartridge electrics box and unplug it.
7. Place the new evaporator fan motor in position.
8. Following the same path as the original cable, run the new cable to the cartridge electrics box, and plug it in. Secure it with cable ties as necessary.
9. Do up the nuts holding the evaporator fan motor to the wall ring.
10. Refit the evaporator fan blade (see Procedure 24, on page 29).
11. Refit the evaporator fan assembly (see Procedure 23, on page 29). Use putty to seal any gaps around the evaporator tub entry point.
12. Replace the refrigeration cartridge.
13. Reconnect the cabinet to the mains power supply and check for correct operation.

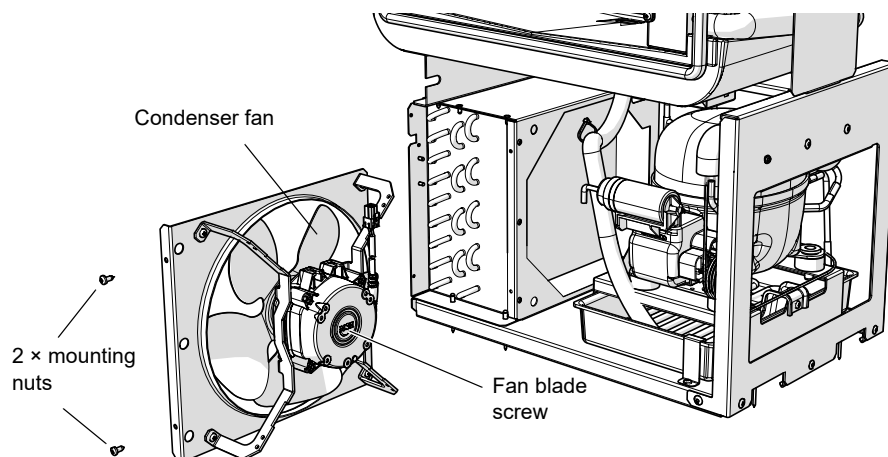
Condenser Fan Assembly

The condenser fan assembly is made up of a fan motor, fan blade and mounting bracket which can be replaced if necessary.

If the fan stops for any reason, check all connections to ensure no plugs have come loose.

Replace the fan blade and/or fan motor with the same part to ensure correct alignment and refrigeration performance. Always tighten the fan blades to 1.5 Nm.

You must remove the refrigeration cartridge to access the condenser fan assembly.

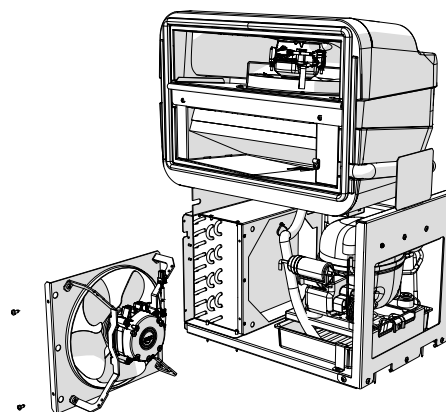


Procedure 26: To access the condenser fan assembly (integral cabinets only)**Before you start**

If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Disconnect the condenser fan motor cable from the cartridge electrics box.
4. Detach the drain pipe from the condenser fan mounting bracket by cutting the cable tie.

5. Unscrew the fan mounting bracket and remove the condenser fan assembly from the cartridge.



6. When refitting the condenser fan assembly, direct the drain pipe to the condensate tray and cable-tie the pipe to the fan mounting bracket.

Procedure 27: To replace the condenser fan blade (integral cabinets only)**Before you start**

If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Remove the condenser fan assembly (see Procedure 26 above).
4. Take note of the fan blade's orientation.
5. Unscrew and replace the fan blade. Tighten it to 1.5 Nm.
6. Refit the condenser fan assembly.
7. Reassemble the cabinet.
8. Reconnect the cabinet to the mains power supply and check for correct operation.

Procedure 28: To replace the condenser fan motor (integral cabinets only)**Before you start**

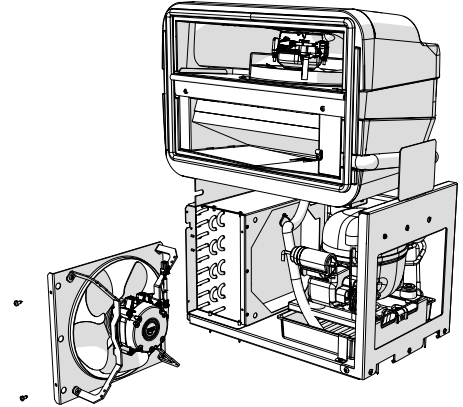
1. If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.
2. Make sure you take note of the original condenser fan motor cable's path.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Remove the condenser fan assembly (see Procedure 26, on page 31).

Procedure 28: To replace the condenser fan motor (integral cabinets only) (continued)

4. Remove the condenser fan blade (see Procedure 27 above).

5. Undo the nuts holding the condenser fan motor to the wall ring.



6. Pull out the condenser fan motor, cutting cable ties where necessary. Follow the cable back to the cartridge electrics box and unplug it.

7. Place the new condenser fan motor in position.

8. Following the same path as the original cable, run the new cable to the cartridge electrics box, and plug it in. Secure it with cable ties as necessary.

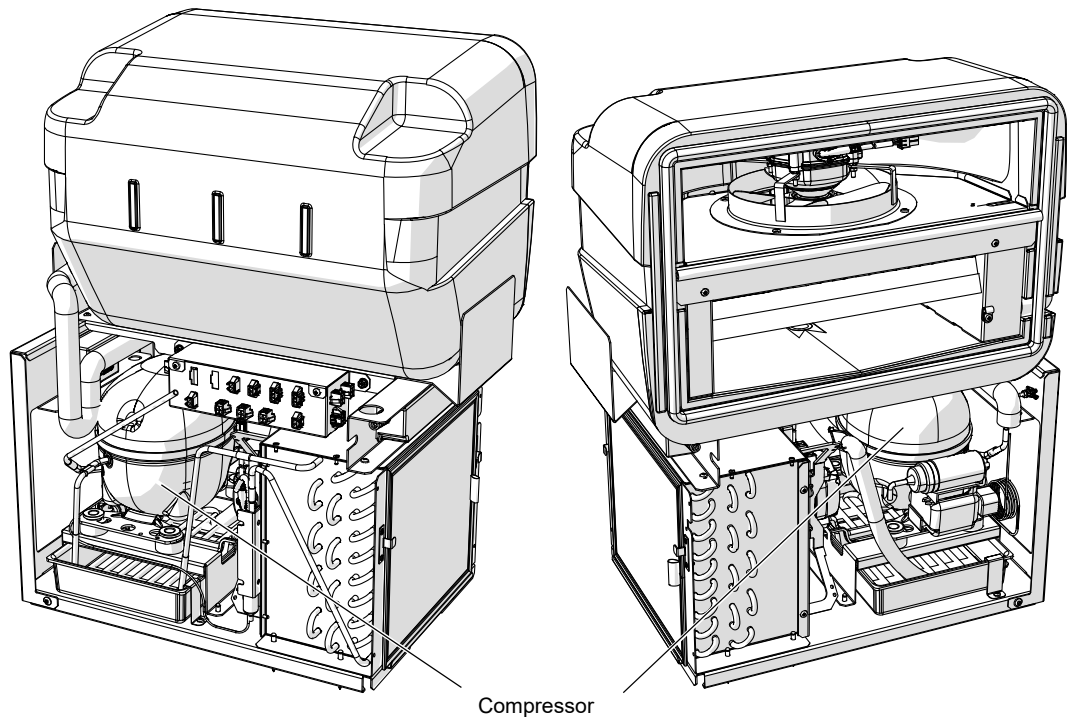
9. Refit the condenser fan blade (see Procedure 27 above).

10. Refit the condenser fan assembly (see Procedure 26, on page 31).

11. Replace the refrigeration cartridge.

12. Reconnect the cabinet to the mains power supply and check for correct operation.

Compressor The compressor is located at the back of the refrigeration cartridge.



Before replacing the compressor

If the compressor is causing excessive noise, check the mountings to ensure there is no damage to the rubber, or the washers, nuts, or screws.

Check all plug connections and ensure the compressor electrics are operating correctly. The compressor must be supplied with consistent voltage over 220 volts. Ensure the voltage does not drop at start-up. If the voltage does drop, ensure the cartridge has a direct power supply (not from a multi-box or extension cord).

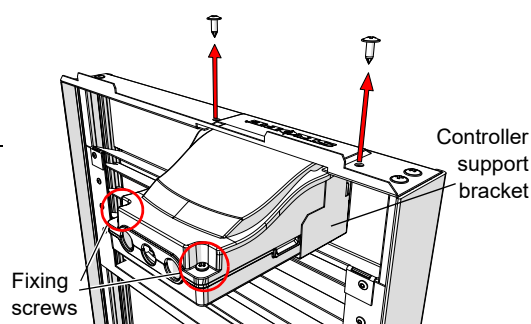
Electronic Controller

Electronic Controller Location

The electronic controller is located within the electronic controller box assembly.

Procedure 29: To access the controller

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the service compartment front cover (see Procedure 19, on page 25).
3. Detach the electronic controller from the service compartment front cover. Remove the:
 - 2 × screws
 - controller support bracket
4. Open the electronic controller box assembly by undoing the two fixing screws at the rear of the assembly.



Diagnostics

If you suspect that the electronic controller has a fault, take care to diagnose it accurately. The controller has various programmable parameters that affect operation, e.g. time delay, defrost modes.

Always double-check any suspected failure, and confirm that all wiring and terminations are correct. Check that the resistance of the probes is correct, and replace any faulty components.

If operation appears erratic, check the controller programming.

Control Probe

The control probe is located in the evaporator tub, tied to a bracket under the evaporator coil.



Procedure 30: To replace the control probe**Before you start**

1. If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.
2. Make sure you take note of the original control probe cable's path.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Unplug the control probe from the cartridge electrics box.
4. Detach the probe from the bracket, and remove it from the evaporator tub.
5. Plug the new probe into the cartridge electrics box.
6. Following the same path as the original probe, run the new probe into the evaporator tub. Use cable ties to hold the probe cable in place, and tie it to the probe bracket.
7. Use putty to seal up any gaps around the evaporator tub entry point.
8. Replace the refrigeration cartridge.
9. Reassemble the cabinet.
10. Reconnect the cabinet to the mains power supply and check for correct operation.

Evaporator Probe The evaporator probe is protected with insulating cork tape and attached to the side of the evaporator coil.

Procedure 31: To replace the evaporator probe**Before you start**

1. If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.
2. Make sure you take note of the original evaporator probe cable's path.

1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (page 26).
3. Unplug the evaporator probe from the cartridge electrics box.
4. Remove the probe from the evaporator coil, then remove it from the evaporator tub.
5. Pull up or tear the gasket where the pipe enters the evaporator tub, and pull the evaporator coil slightly forward.
6. Plug the new probe into the cartridge electrics box.

7. Following the same path as the original probe, run the new probe into the evaporator coil. Use cable ties to hold the probe cable in place.

8. Tie the evaporator probe to the evaporator pipe with a cable tie, and insulate it with cork tape.



9. Use putty to seal up any gaps around the evaporator tub entry point.

Procedure 31: To replace the evaporator probe (continued)

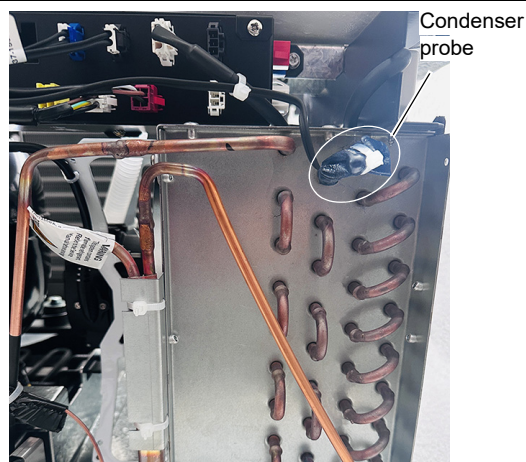
10. Replace the refrigeration cartridge.
11. Reassemble the cabinet.
12. Reconnect the cabinet to the mains power supply and check for correct operation.

Condenser Probe The condenser probe is protected with insulating cork tape and attached to the side of the condenser coil.

Procedure 32: To replace the condenser probe**Before you start**

1. If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.
2. Make sure you take note of the original condenser probe cable’s path.
1. Disconnect the cabinet from the mains power supply (see page 15).
2. Remove the refrigeration cartridge (see page 26).
3. Unplug the condenser probe from the cartridge electrics box.

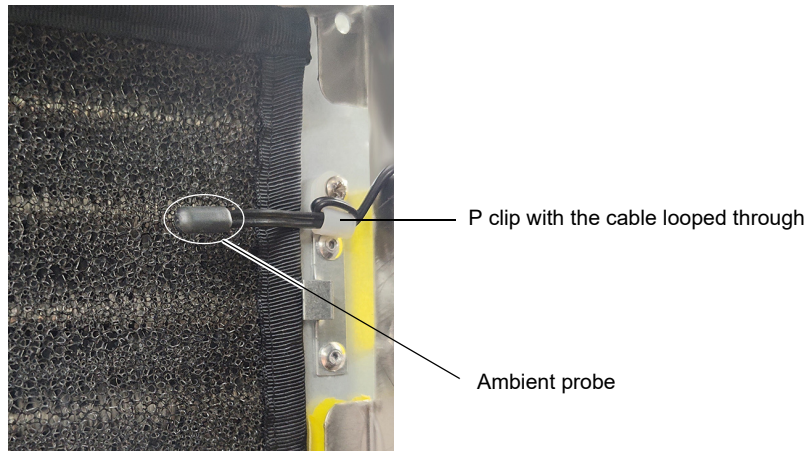
4. Detach the probe from the side of the condenser coil.



5. Plug the new probe into the cartridge electrics box.
6. Following the same path as the original probe, run the new probe to the condenser coil, securing it with cable ties as necessary.
7. Cable-tie the probe in the same location as the original probe, and insulate with cork tape.
8. Replace the refrigeration cartridge.
9. Reassemble the cabinet.
10. Reconnect the cabinet to the mains power supply and check for correct operation.

Ambient Probe The ambient probe is located in front of the condenser coil. It monitors the temperature around the refrigeration cartridge.

Note: The ambient probe is wired in series with the door switch.



Procedure 33: To replace the ambient probe

Before you start

1. If the customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the “On-site Work Procedure” on page 55 when making the service visit.
 2. Make sure you take note of the original ambient probe cable’s path.
-
1. Disconnect the cabinet from the mains power supply (see page 15).
 2. Remove the refrigeration cartridge (see Procedure 22, on page 26).
 3. Detach the probe from the front of the condenser coil by unscrewing the P clip. Trace the probe cable back to the connector, cutting cable ties where necessary, and unplug it.
 4. Fit the new probe, making sure it is in the same location as the original probe.
 - Loop the cable through the P clip once to make sure it stays in position.
 - Screw the P clip back in above the filter hook.
 - Secure the cable with cable ties.
 5. Plug the new probe into the connector.
 6. Replace the refrigeration cartridge.
 7. Reassemble the cabinet and test for correct operation.
-

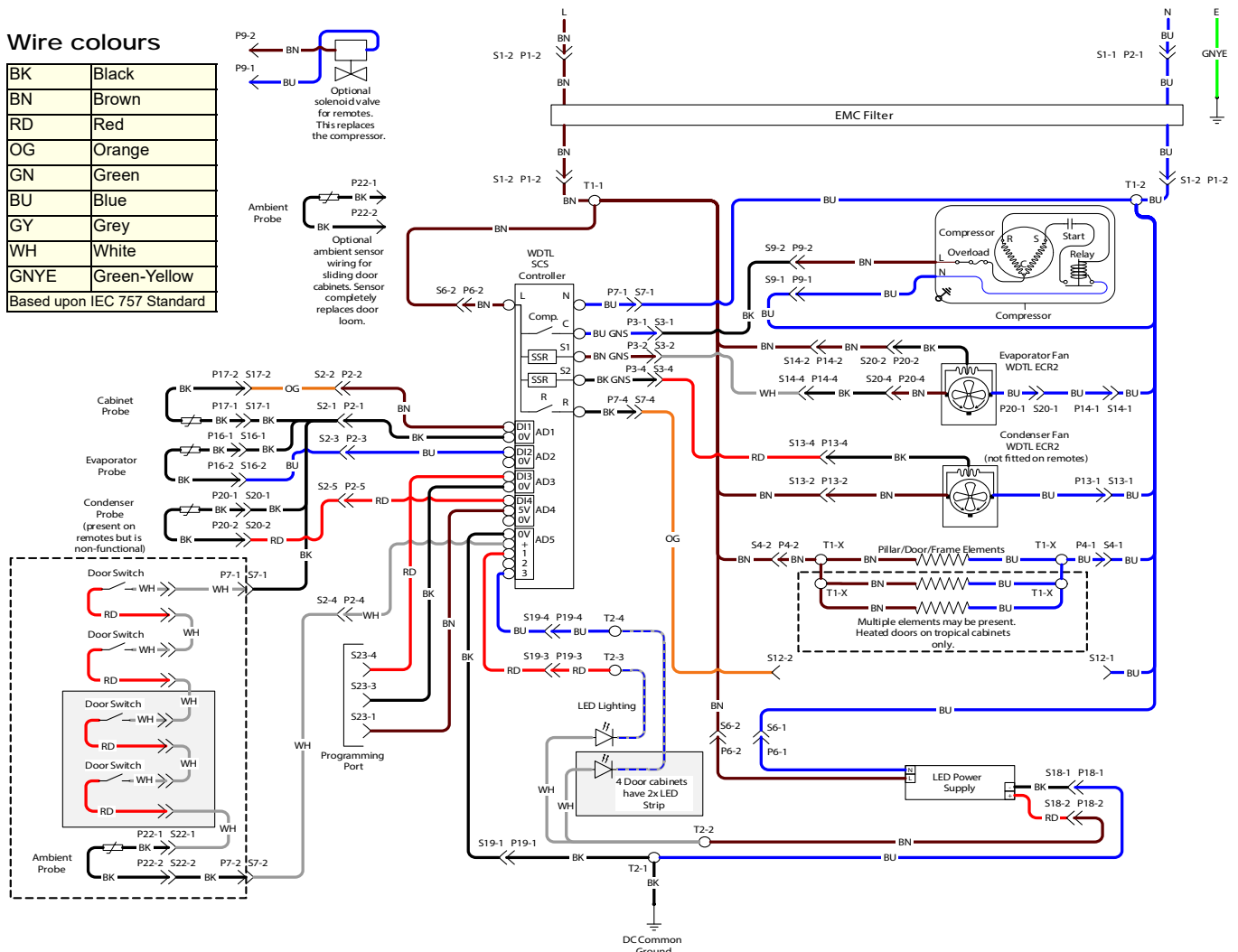
6 Wiring

Model: BackBar BB, CL, SL - Integral and Remote

Wire colours

BK	Black
BN	Brown
RD	Red
OG	Orange
GN	Green
BU	Blue
GY	Grey
WH	White
GNYE	Green-Yellow

Based upon IEC 757 Standard



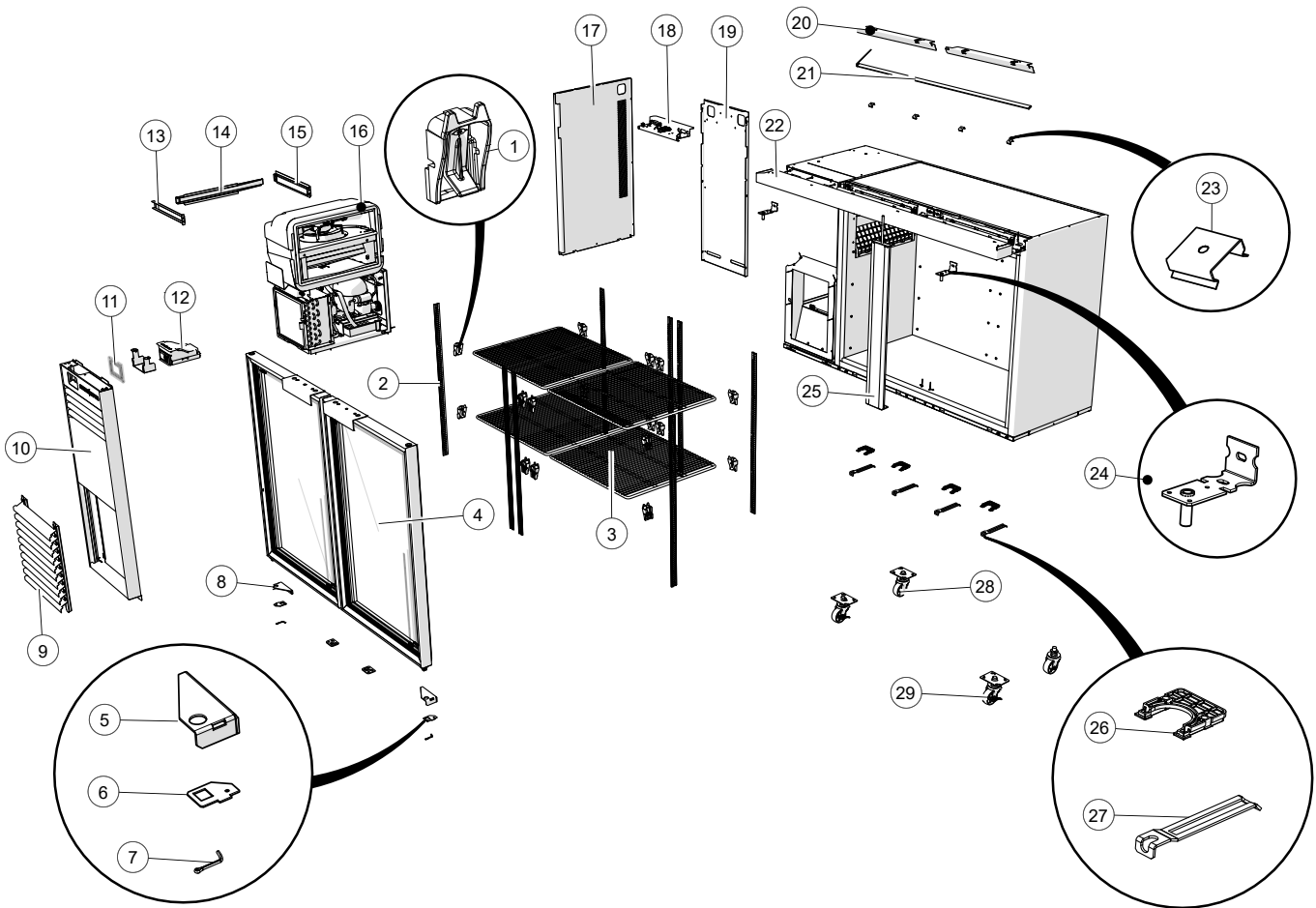
Legend

Item	Description	Item	Description
Internal cartridge junction box sockets/plugs			
Inlet	IEC cabinet socket/plug	S11/P11	Cabinet sensor socket/plug (blue 2-way)
S1/P1	Cabinet power socket/plug (yellow 4-way)	S12/P12	Defrost element socket/plug (yellow 4-way) Not used
S2/P2	Cartridge junction box to controller signal socket/plug (6-way)	S13/P13	Condenser motor cartridge socket/plug (red 4-way)
S3/P3	Cartridge to controller power socket/plug (black 4-way)	S14/P14	Evaporator motor cartridge socket/plug (white 4-way)
S4/P4	Heater wire cartridge socket/plug (black 3-way)	S15/P15	Condenser sensor socket/plug (orange 2-way)
S5/P5	Heater wire cartridge socket/plug 2 (black 3-way)	S16/P16	Ambient sensor socket/plug (white 2-way)
S6/P6	Light cartridge socket/plug (white 3-way)	S17/P17	Programming/comms port socket (blue 4-way)
S7/P7	Cartridge to controller power socket/plug 1 (orange 4-way)	S18/P18	LED driver DC output socket/plug (red 2-way)
S8/P8	Door sensor socket/plug (white 2-way)	S19/P19	LED lighting loom socket/plug (green 4-way)
S9/P9	Compressor cartridge socket/plug (blue 4-way)	S20/P20	Evaporator extension flex socket/plug (white 4-way)
S10/P10	Evaporator sensor socket/plug (black 2-way)	S21/P21	Condenser extension flex socket/plug (red 4-way)
		T1 - X	Cabinet element connections (6.3 QC connectors)

7 Spare Parts

Cabinet

Integral Cabinet Assembly



BB.2.GSW left hand cabinet

Table 6: Colour coding

Description	Code
Black	BK
White	WH
Stainless steel	SS

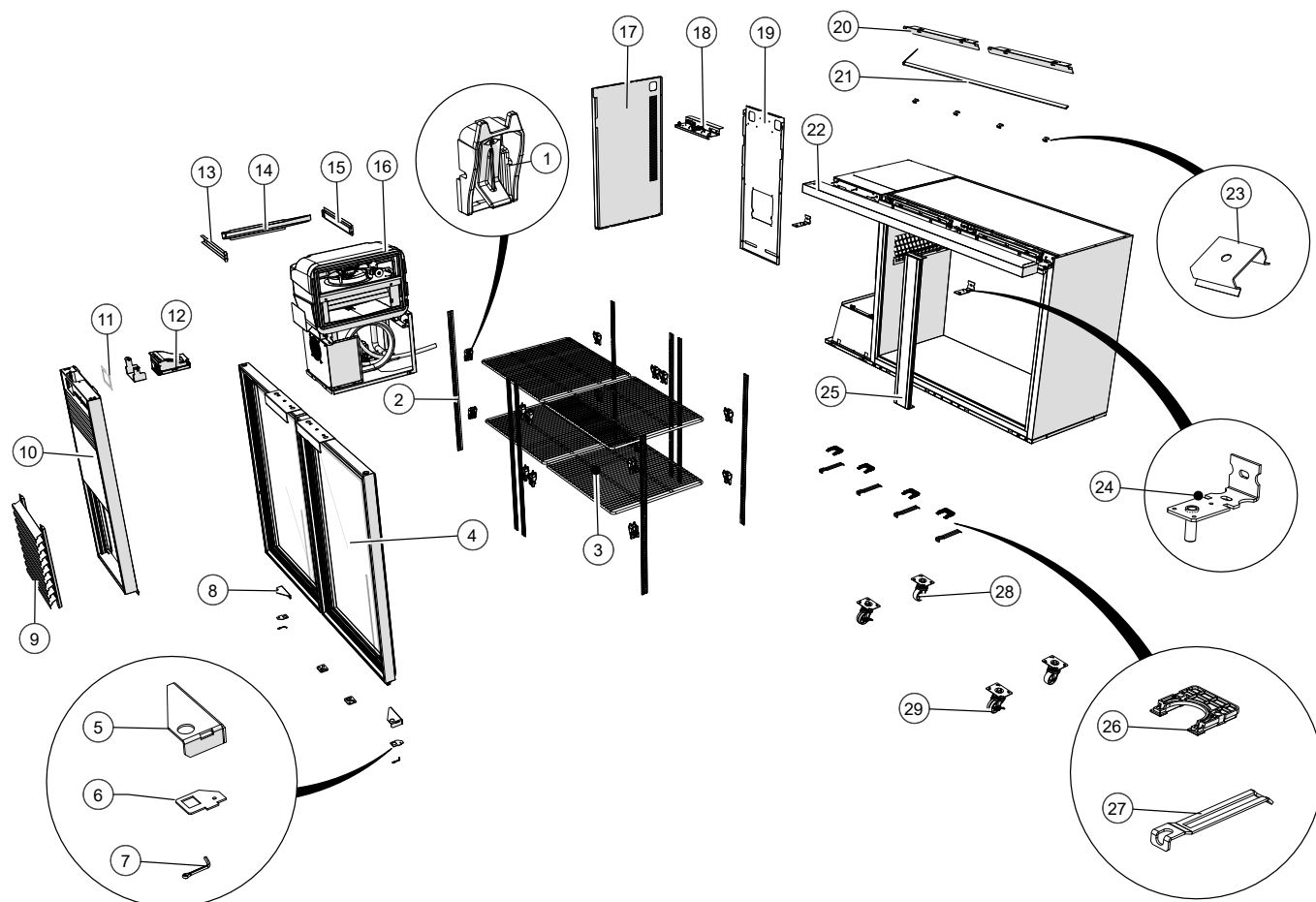
Table 7: Parts – Integral cabinet assembly

No.	Description	SKOPE spare part number		
		BackBar BB	BackBar CL	BackBar SL
1	Shelf clip	HB00700205867A	HB00700205867A	HB00700205867A
2	Shelf support bracket – black	HB0070110331-680-BK	HB0070110331-680-BK	HB0070110331-680-BK
	Shelf support bracket – silver	HB0070110331-680	HB0070110331-680	HB0070110331-680
3	Wire shelf – outer	B2003/160-BK/WH	JC2102/160-BK/WH	SL003/160-BK/WH
	Wire shelf – inner	B2002/160-BK/WH	JC2103/160-BK/WH	SL002/160-BK/WH

Table 7: Parts – Integral cabinet assembly (continued)

No.	Description	SKOPE spare part number		
		BackBar BB	BackBar CL	BackBar SL
4	Door assembly – standard glass	See “Glass Swing Door Assembly – Standard and Tropical”, page 42		
	Door assembly – tropical glass	See “Glass Swing Door Assembly – Standard and Tropical”, page 42		
	Door assembly – solid	See “Solid Door Assembly”, page 43		
	Door assembly – sliding	See “Sliding Door Assembly”, page 44		
5	Bottom hinge – right hand (swing doors only)	SL002/393R	SL002/393R	SL002/393R
6	Capstan lock plate	SL002/394	SL002/394	SL002/394
7	Split pin	FAS5076	FAS5076	FAS5076
8	Bottom hinge – left hand (swing doors only)	SL002/393L	SL002/393L	SL002/393L
9	Bottom grille	BB002/133A-BK/WH/SS	SL002/133A-BK/WH/SS	SL002/133A-BK/WH/SS
10	Service compartment front cover – left hand	BB002/130L-BK/WH/SS	SL002/130L-BK/WH/SS	SL002/130L-BK/WH/SS
	Service compartment front cover – right hand	BB002/130R-BK/WH/SS	SL002/130R-BK/WH/SS	SL002/130R-BK/WH/SS
11	Controller window	PLY12470	PLY12470	PLY12470
12	Electronic controller assembly	See “Electronic Controller Assembly”, page 49		
13	Cartridge clamp bracket – front	SL002-328-GT	SL002-328-GT	SL002-328-GT
14	Cartridge guide bracket – side	SL002-326-GT	SL002-326-GT	SL002-326-GT
15	Cartridge clamp bracket – rear	SL002-327-GT	SL002-327-GT	SL002-327-GT
16	Refrigeration cartridge	See “Integral Cartridge Assembly”, page 46		
17	Cartridge enclosure end panel – left hand	BB002/008L-BK/WH/SS	CL002/008L-BK/WH/SS	CL002/008L-BK/WH/SS
	Cartridge enclosure end panel – right hand	BB002/008R-BK/WH/SS	CL002/008R-BK/WH/SS	CL002/008R-BK/WH/SS
18	Cabinet gear tray	SL002/G30	SL002/G30	SL002/G30
19	Service compartment rear cover	BB002/334	SL002/334	SL002/334
20	Light mounting bracket	BB002/L90-BK/WH/SS	SL002/L90-BK/WH/SS	SL002/L90-BK/WH/SS
21	LED light strip	BB.2: ELL12416	CL.2: ELL12416	SL.2: ELL12416
		BB.3: ELL12417	CL.3: ELL12417	SL.3: ELL12417
		BB.4: ELL12416	CL.4: ELL12416	SL.4: ELL12416
22	Flex clip	PLM7548	PLM7548	PLM7548
23	Panel covering top hinges (control panel) – left hand	BB.2: BB002/785L-BK/WH/SS	CL.2: SL002/785L-BK/WH/SS	SL.2: SL002/785L-BK/WH/SS
		BB.3: BB003/785L-BK/WH/SS	CL.3: SL003/785L-BK/WH/SS	SL.3: SL003/785L-BK/WH/SS
		BB.4: BB004/785L-BK/WH/SS	CL.4: SL004/785L-BK/WH/SS	SL.4: SL004/785L-BK/WH/SS
	Panel covering top hinges (control panel) – right hand	BB.2: BB002/785-BK/WH/SS	CL.2: SL002/785R-BK/WH/SS	SL.2: SL002/785R-BK/WH/SS
		BB.3: BB003/785-BK/WH/SS	CL.3: SL003/785R-BK/WH/SS	SL.3: SL003/785R-BK/WH/SS
		BB.4: BB004/785-BK/WH/SS	CL.4: SL004/785R-BK/WH/SS	SL.4: SL004/785R-BK/WH/SS
24	Top hinge (swing doors only)	SL002/388	SL002/388	SL002/388
25	Pillar	BB002/L43-BK/WH/SS	SL002/L43-BK/WH/SS	SL002/L43-BK/WH/SS
26	Sliding lock bush	PLM11438	PLM11438	PLM11438
27	Cabinet top lock bracket	SL002/347	SL002/347	SL002/347
28	Rear swivel castor	SXX6181	SXX6181	SXX6181
29	Front swivel castor	SXX6182	SXX6182	SXX6182
–	Screw (not shown)	FAS5151	FAS5151	FAS5151
–	Cabinet lighting flex (not shown)	UW0100091	UW0100091	UW0100091
–	Cabinet heater flex (not shown)	UW0100092	UW0100092	UW0100092
–	Cabinet main flex (not shown)	UW0100090	UW0100090	UW0100090
–	Controller lighting loom (not shown)	UW0300049	UW0300049	UW0300049

Remote Cabinet Assembly



BB.2.GSW.r left hand cabinet

Table 8: Colour coding

Description	Code
Black	BK
White	WH
Stainless steel	SS

Table 9: Parts – Remote cabinet assembly

No.	Description	SKOPE spare part number		
		<i>BackBar BB</i>	<i>BackBar CL</i>	<i>BackBar SL</i>
1	Shelf clip	B2003/160	HB00700205867A	HB00700205867A
2	Shelf support bracket – black	HB00700205867A	HB0070110331-680-BK	HB0070110331-680-BK
	Shelf support bracket – silver	HB0070110331-680	HB0070110331-680	HB0070110331-680
3	Wire shelf – outer	B2003/160-BK/WH	JC2102/160-BK/WH	SL003/160-BK/WH
	Wire shelf – inner	B2002/160-BK/WH	JC2103/160-BK/WH	SL002/160-BK/WH
4	Glass door assembly – standard	See “Glass Swing Door Assembly – Standard and Tropical”, page 42		
	Glass door assembly – tropical	See “Glass Swing Door Assembly – Standard and Tropical”, page 42		
	Solid door assembly	See “Solid Door Assembly”, page 43		
	Sliding door assembly	See “Sliding Door Assembly”, page 44		
5	Bottom hinge – right hand (swing doors only)	SL002/393R	SL002/393R	SL002/393R
6	Capstan lock plate	SL002/394	SL002/394	SL002/394
7	Split pin	FAS5076	FAS5076	FAS5076

Table 9: Parts – Remote cabinet assembly (continued)

No.	Description	SKOPE spare part number		
		<i>BackBar BB</i>	<i>BackBar CL</i>	<i>BackBar SL</i>
8	Bottom hinge – left hand (swing doors only)	SL002/393L	SL002/393L	SL002/393L
9	Bottom grille	BB002/133A-BK/WH/SS	SL002/133A-BK/WH/SS	SL002/133A-BK/WH/SS
10	Service compartment front cover – left hand	BB002/130L-BK/WH/SS	SL002/130L-BK/WH/SS	SL002/130L-BK/WH/SS
	Service compartment front cover – right hand	BB002/130R-BK/WH/SS	SL002/130R-BK/WH/SS	SL002/130R-BK/WH/SS
11	Controller window	PLY12470	PLY12470	PLY12470
12	Electronic controller assembly	See “Electronic Controller Assembly”, page 49		
13	Cartridge clamp bracket – front	SL002-328-GT	SL002-328-GT	SL002-328-GT
14	Cartridge guide bracket – side	SL002-326-GT	SL002-326-GT	SL002-326-GT
15	Cartridge clamp bracket – rear	SL002-327-GT	SL002-327-GT	SL002-327-GT
16	Refrigeration cartridge	See “Remote Cartridge Assembly”, page 48		
17	Cartridge enclosure end panel – left hand	BB002/008L-BK/WH/SS	CL002/008L-BK/WH/SS	CL002/008L-BK/WH/SS
	Cartridge enclosure end panel – right hand	BB002/008R-BK/WH/SS	CL002/008R-BK/WH/SS	CL002/008R-BK/WH/SS
18	Cabinet gear tray	SL002/G30	SL002/G30	SL002/G30
19	Service compartment rear cover	BB402/334	SL402/334	SL402/334
20	Light mounting bracket	BB002/L90-BK/WH/SS	SL002/L90-BK/WH/SS	SL002/L90-BK/WH/SS
21	LED light strip	BB.2: ELL12416	CL.2: ELL12416	SL.2: ELL12416
		BB.3: ELL12417	CL.3: ELL12417	SL.3: ELL12417
		BB.4: ELL12416	CL.4: ELL12416	SL.4: ELL12416
22	Flex clip	PLM7548	PLM7548	PLM7548
23	Panel covering top hinges (control panel) – left hand	BB.2: BB002/785L-BK/WH/SS	CL.2: SL002/785L-BK/WH/SS	SL.2: SL002/785L-BK/WH/SS
		BB.3: BB003/785L-BK/WH/SS	CL.3: SL003/785L-BK/WH/SS	SL.3: SL003/785L-BK/WH/SS
		BB.4: BB004/785L-BK/WH/SS	CL.4: SL004/785L-BK/WH/SS	SL.4: SL004/785L-BK/WH/SS
	Panel covering top hinges (control panel) – right hand	BB.2: BB002/785-BK/WH/SS	CL.2: SL002/785R-BK/WH/SS	SL.2: SL002/785R-BK/WH/SS
		BB.3: BB003/785-BK/WH/SS	CL.3: SL003/785R-BK/WH/SS	SL.3: SL003/785R-BK/WH/SS
		BB.4: BB004/785-BK/WH/SS	CL.4: SL004/785R-BK/WH/SS	SL.4: SL004/785R-BK/WH/SS
24	Top hinge (swing doors only)	SL002/388	SL002/388	SL002/388
25	Pillar	BB002/L43-BK/WH/SS	SL002/L43-BK/WH/SS	SL002/L43-BK/WH/SS
26	Sliding lock bush	PLM11438	PLM11438	PLM11438
27	Cabinet top lock bracket	SL002/347	SL002/347	SL002/347
28	Rear swivel castor	SXX6181	SXX6181	SXX6181
29	Front swivel castor	SXX6182	SXX6182	SXX6182
–	Screw (not shown)	FAS5151	FAS5151	FAS5151
–	Cabinet lighting flex (not shown)	UW0100091	UW0100091	UW0100091
–	Cabinet heater flex (not shown)	UW0100092	UW0100092	UW0100092
–	Cabinet main flex (not shown)	UW0100090	UW0100090	UW0100090
–	Controller lighting loom (not shown)	UW0300049	UW0300049	UW0300049

Doors

Glass Swing Door Assembly – Standard and Tropical

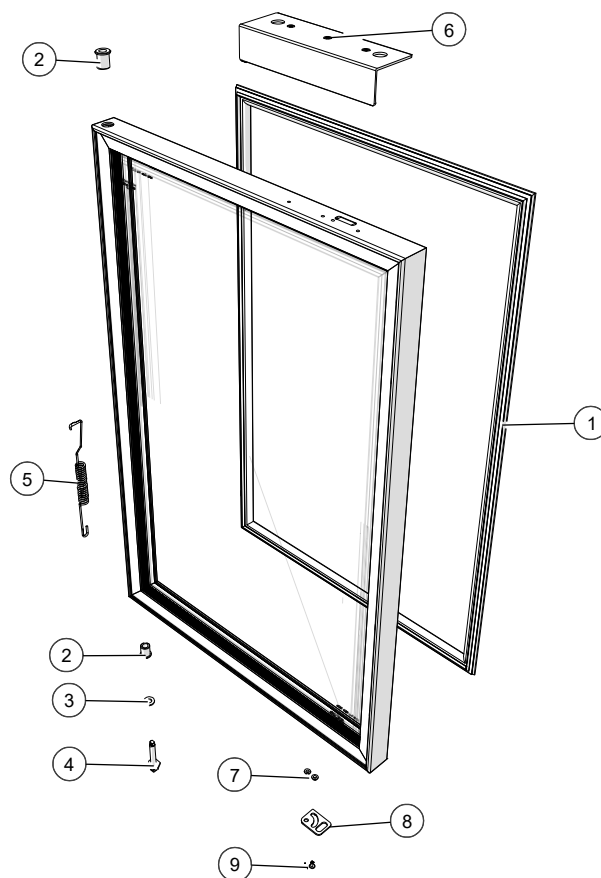


Table 10: Colour coding

Description	Code
Black	BK
Stainless steel	SS

Table 11: Parts – Glass door assembly

No.	Description		SKOPE spare part number	
			BackBar BB	BackBar CL and BackBar SL
–	Standard door assembly	Left hand	GLD12440L-BK/SS	GLD12452L-BK/SS
		Right hand	GLD12440R-BK/SS	GLD12452R-BK/SS
	Tropical door assembly	Left hand	GLD12439L-BK/SS	GLD12451L-BK/SS
		Right hand	GLD12439R-BK/SS	GLD12451R-BK/SS
1	Door gasket		GKT12444	GKT12455
2	Bush		PLM5075	
3	Bush spacer		PLM11298	
4	Capstan		TUR11299	
5	Torsion bar		REF11457	
6	Handle		HAN11450-BK/SS	
7	Rear stopper bush		SM12BV/107	
8	Bottom lock plate		SM60BV/348-BK/WH/SS	
–	Screw (not shown)		FTAS08004MPP	

Solid Door Assembly

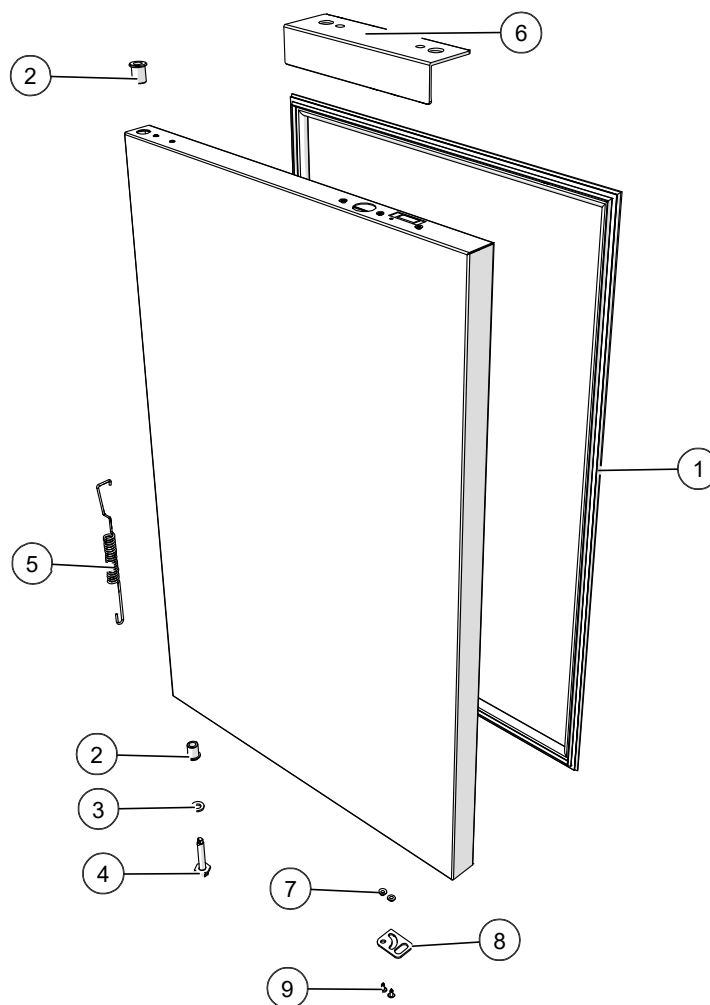


Table 12: Colour coding

Description	Code
Black	BK
White	WH
Stainless steel	SS

Table 13: Parts – Solid door assembly

No.	Description	SKOPE spare part number	
		BackBar BB	BackBar CL and BackBar SL
–	Solid door assembly – left hand	BB002/D41-BK/WH/SS	SL002/D41-BK/WH/SS
	Solid door assembly – right hand	BB002/D40-BK/WH/SS	SL002/D40-BK/WH/SS
1	Door gasket	GKT12444	GKT12455
2	Bush	PLM5075	
3	Bush spacer	PLM11298	
4	Capstan	TUR11299	
5	Torsion bar	REF11457	
6	Extrusion handle 200 mm	HAN11450-BK/SS	
7	Rear stopper bush	SM12BV/107	
8	Bottom lock plate	SM60BV/348-BK/WH/SS	
9	Screw	FTAS08004MPP	

Sliding Door Assembly

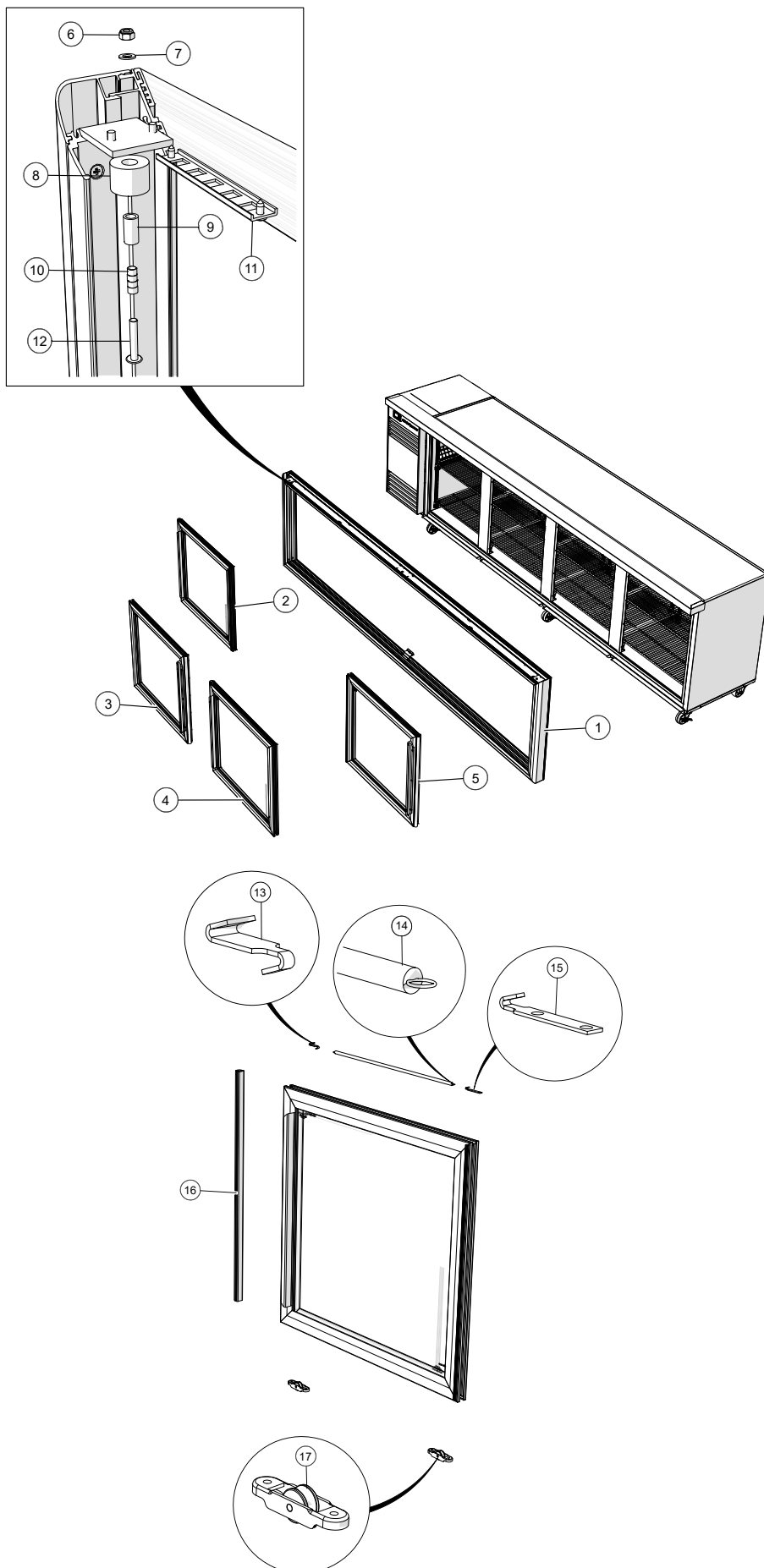


Table 14: Colour coding

Description	Code
Anodised silver	[no added code]
Black satin	AB
Black satin	AB-SP

Table 15: Parts – Sliding door assembly

No.	Description		SKOPE spare part number	
			BackBar BB	BackBar CL and BackBar SL
–	Two sliding door assembly		BB012/N09AB-SP	SL012/N09AB-SP
	Three sliding door assembly		BB013/N09AB-SP	SL013/N09AB-SP
	Four sliding door assembly		BB014/N09AB-SP	SL014/N09AB-SP
1	Outer frame	Two-door sliding outer frame horizontal – silver	B2002/N22	JC2102/N22
		Two-door sliding outer frame horizontal – black	B2002/N22AB	JC2102/N22AB
		Three-door sliding outer frame horizontal – silver	B2003/N22	JC2103/N22
		Three-door sliding outer frame horizontal – black	B2003/N22AB	JC2103/N22AB
		Four-door sliding outer frame horizontal – silver	B2004/N22	JC2104/N22
		Four-door sliding outer frame horizontal – black	B2004/N22AB	JC2104/N22AB
2	Sliding door assembly – left hand back door		BB012/N30LB	SL012/N30LB
3	Sliding door assembly – left hand front door		BB012/N30LF	SL012/N30LF
4	Sliding door assembly – right hand front door		BB012/N30RF	SL012/N30RF
5	Sliding door assembly – right hand back door		BB012/N30RB	SL012/N30RB
6	Nut		FAS2386	FAS2386
7	Washer		FLMS051000Z	FLMS051000Z
8	Door stop bush 25 × 18 mm		RUM7129	RUM7129
9	Door stop bush spacer 18 mm		V4100/526	V4100/526
10	Spacer		SXX8693	SXX8693
11	Spring adjuster		V4100/532	V4100/532
12	Mushroom head Pozidriv screw		FMMS05030FCZ	FMMS05030FCZ
13	Top spring clip		V4100/535	V4100/535
14	Spring door 360 mm/6.2/0.71		SPR7106	SPR7106
15	Spring clip		V4100/536	V4100/536
16	Vertical door edge seal		RUE10041-760	RUE10041-760
17	Roller bearing FAG BH65-16		SXX11792	SXX11792
	Vertical trim	850 mm – silver	BB012/N21	–
		850 mm – black	BB012/N21AB	–
		655 mm – silver	–	JD2102/N21
		655 mm – black	–	JD2102/N21AB
–	Sliding door extrusion seal (not shown)		RUE0325	RUE0325
–	Heater element – 3504 mm (not shown)		ELE8491	ELE0880
–	Heater element – 4724 mm (not shown)		ELE9713	ELE0881
–	Heater element – 5944 mm (not shown)		ELE0368	ELE0882

Cartridge

Integral Cartridge Assembly

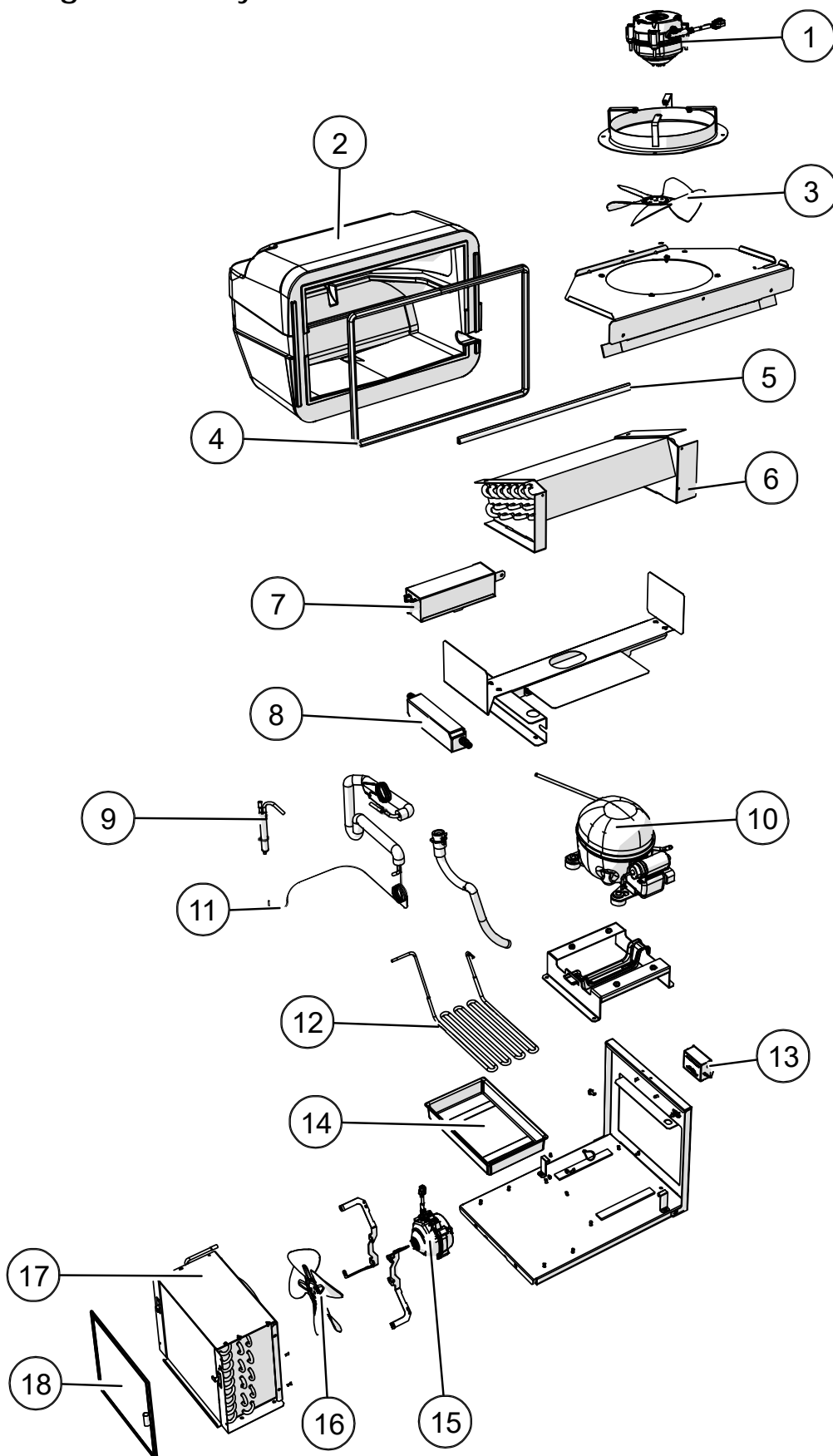


Table 16: Parts – Integral cartridge assembly

No.	Description	SKOPE spare part number			
–	Cartridge assembly	ULQCNI-0047-627	ULQCNI-0048-627	URQCNI-0049-627	URQCNI-0050-627
1	Evaporator fan motor	ELM11858	ELM11858	ELM11858	ELM11858
2	Evaporator tub	PLX12351	PLX12351	PLX12351	PLX12351
3	Evaporator fan blade	HB0074000314	HB0074000314	HB0074000314	HB0074000314
–	Evaporator fan assembly	UA0700004	UA0700004	UA0700004	UA0700004
4	Cartridge gasket 11 × 13 × 1614	RUEI2210-1614	RUEI2210-1614	RUEI2210-1614	RUEI2210-1614
5	Cartridge gasket 11 × 13 × 490	RUEI2210-490	RUEI2210-490	RUEI2210-490	RUEI2210-490
6	Evaporator coil	CLS12353	CLS12353	CLS12353	CLS12353
7	Electrics box assembly	UA0300043	UA0300044	UA0300043	UA0300044
8	LED driver	ELZ12205	ELZ12205	ELZ12205	ELZ12205
9	Drier	HB0074180006	HB0074180006	HB0074180006	HB0074180006
10	Compressor	CPR12100	CPR12164	CPR12100	CPR12164
11	Suction line assembly	COT12354LH	COT12355LH	COT12354RH	COT12355RH
12	Discharge line	COT12362	COT12363	COT12362	COT12363
13	EMI filter	ELZ12166	ELZ12166	ELZ12166	ELZ12166
14	Condensate tray	UP10N00007	UP10N00007	UP10N00007	UP10N00007
15	Condenser fan motor	ELM11309	ELM11309	ELM11309	ELM11309
16	Condenser fan blade	HB0074000313	HB0074000313	HB0074000313	HB0074000313
17	Condenser coil	CLS12357	CLS12357	CLS12357	CLS12357
18	Condenser filter magnet	SXX12342	SXX12342	SXX12342	SXX12342

Remote Cartridge Assembly

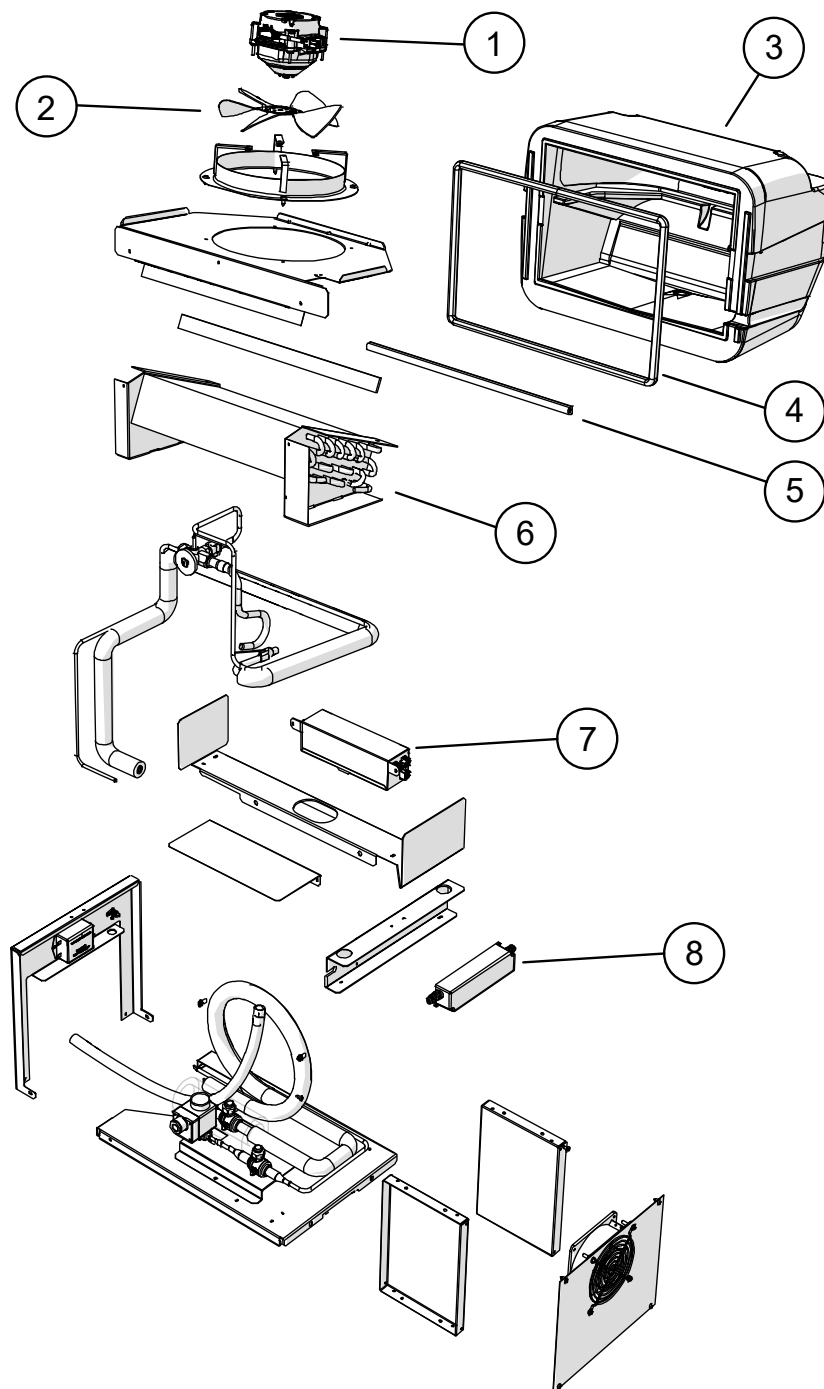


Table 17: Parts – Remote cartridge assembly

No.	Description	SKOPE spare part number			
–	Cartridge assembly	ULSCCR-0054	URSCCR-0055	ULSCDR-0058	URSCDR-0059
1	Evaporator fan motor	ELM11858	ELM11858	ELM11858	ELM11858
2	Evaporator fan blade	FAN1168	FAN1168	FAN1168	FAN1168
3	Evaporator tub	PLX12351	PLX12351	PLX12351	PLX12351
4	Cartridge gasket 11 × 13 × 1614	RUEI2210-1614	RUEI2210-1614	RUEI2210-1614	RUEI2210-1614
5	Cartridge gasket 11 × 13 × 490	RUEI2210-490	RUEI2210-490	RUEI2210-490	RUEI2210-490
6	Evaporator coil	CLS12353-REM	CLS12353-REM	CLS12353-REM	CLS12353-REM
7	Electrics box assembly	UA0300043	UA0300044	UA0300043	UA0300044
8	LED driver	ELZ12205	ELZ12205	ELZ12205	ELZ12205

Electronic Controller Assembly

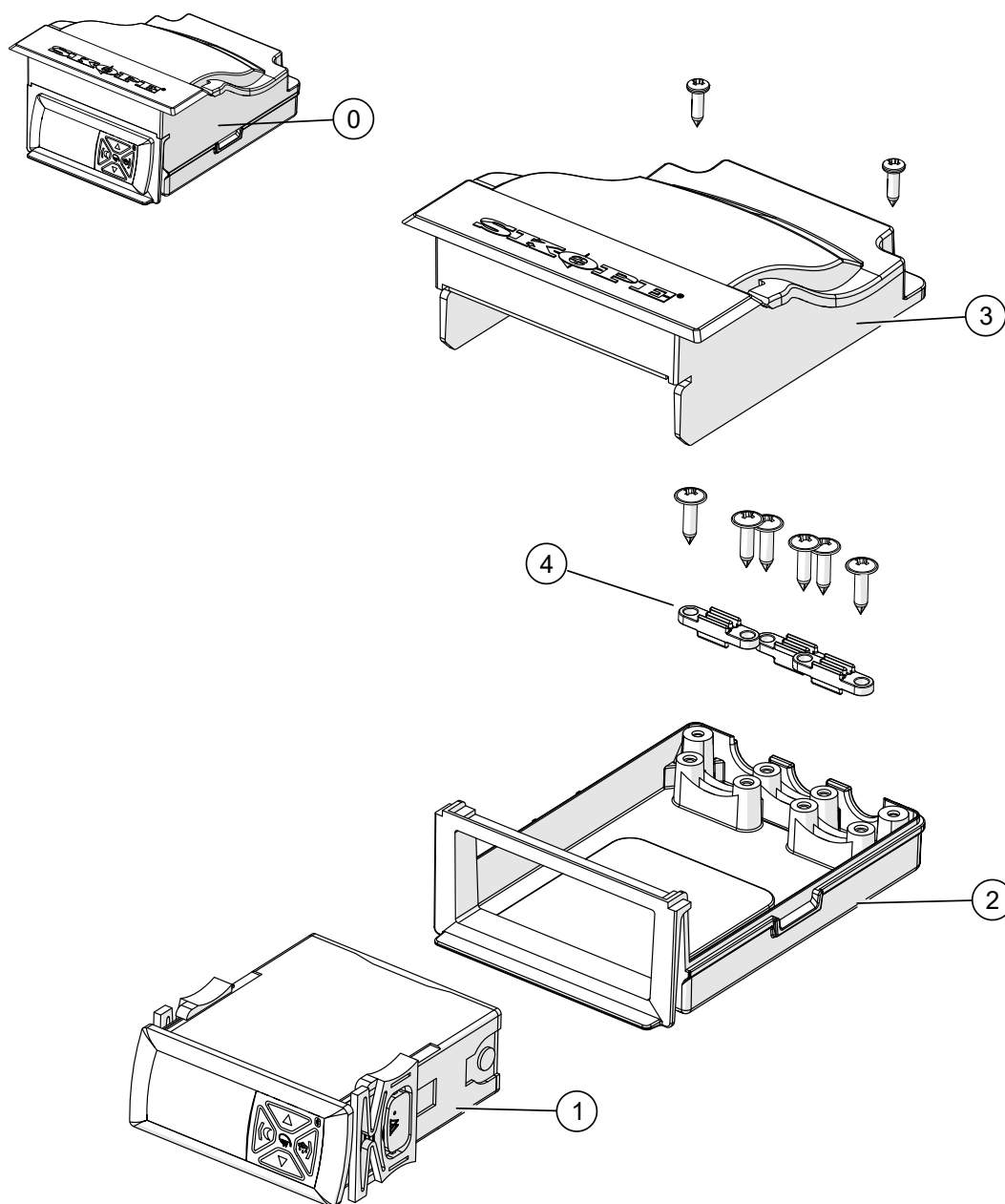


Table 18: Parts – Electronic controller assembly

No.	Description	SKOPE spare part number
0	Electronic controller assembly	UA0300043
1	AoFrio electronic controller	ELZ11749-627
2	Electronic controller housing base	HB0070206125
3	Cable clamp	HB0070206127
4	Electronic controller housing lid	HB0070206126
-	Ambient probe (not shown)	UW0300037-075WH
-	Control probe (not shown)	UW0300037-150BU
-	Evaporator probe (not shown)	UW0300037-150BK
-	Condenser probe (not shown)	UW0300037-150RD

Cartridge Electrics Box Assembly

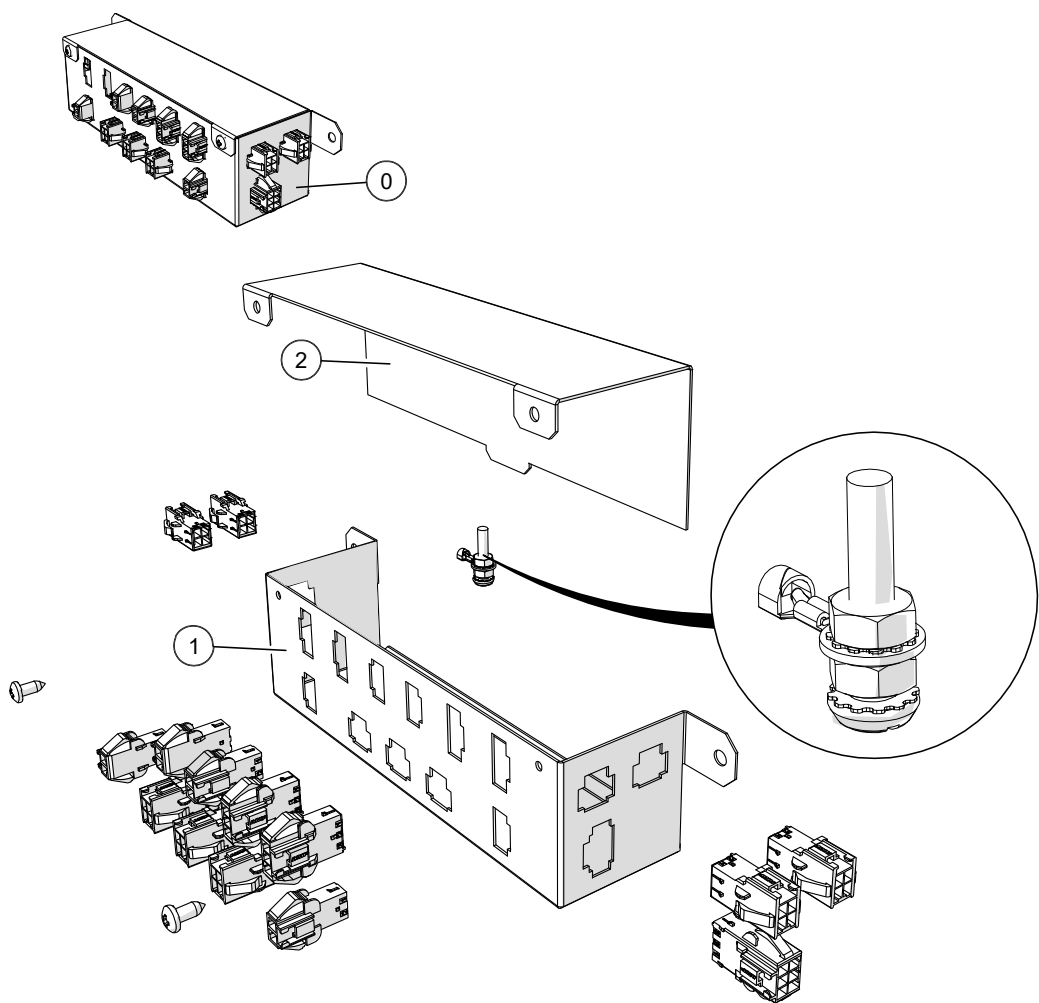


Table 19: Parts – Cartridge electrics box assembly

No.	Description	SKOPE part number
0	Electrics box assembly (including main extension flex)	UA0300043
1	Electrics box base	STY12348
2	Electrics box lid	STY12349
-	Main extension flex (not shown)	UW0100087

8 Maintenance

Cleaning

Before any maintenance, unplug the cabinet from the mains power supply.

Cabinet (all cabinets) The owner should periodically wipe the inside and outside of the cabinet with a damp cloth, taking care to keep moisture away from electrical parts.

Condenser Coil and Filter (removable cartridge cabinets only) To ensure trouble-free performance, SKOPE strongly recommends the cleaning schedule in Table 20, which will depend on:

- the cabinet's location and environment.
- the condition of the condenser coil.

Table 20: Cleaning schedule

Timeframe	Performed by	Action
At least once a month	Owner	Filter Clean with a vacuum cleaner, and wash with cold water. Condenser coil Brush with a soft brush to remove dust and fluff. If debris can no longer be removed, arrange a service call for comprehensive maintenance and coil clean.
Every 6 months, or as required	Service technician	Filter Clean with a vacuum cleaner and wash with cold water. If necessary, discard the old filter and replace it. Condenser coil Comprehensive maintenance based on the condition of the coil, which may include: <ul style="list-style-type: none"> a nitrogen blow-out. a PH-neutral chemical clean.

The condenser coil and air filter **must** be kept clean for efficient and reliable operation. Do **not** use hard or sharp tools to clean the coil as these may cause damage.

WARNING

Unplug the cabinet from the mains power supply before cleaning the condenser coil or filter.

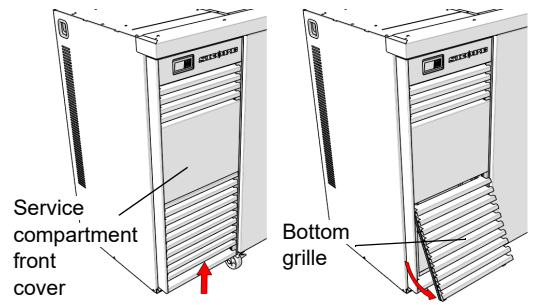
Condenser Filter The condenser filter is located in front of the condenser coil, which is in front of the refrigeration cartridge, behind the bottom grille on the service compartment front cover.

The filter is disposable and should be replaced when it shows signs of wear. Do not apply hot water, blow dry, or place in a dishwasher.

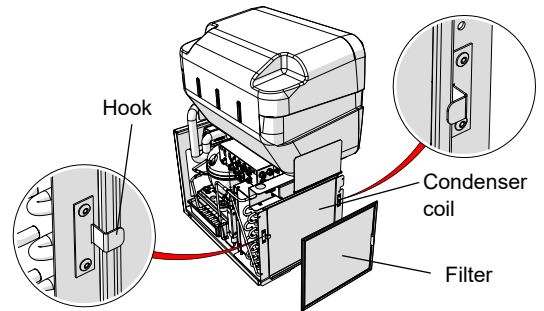
Procedure 34: To clean the filter (integral cabinets only)

1. Disconnect the cabinet from the mains power supply (see page 15).

2. Lift the bottom grille up and out of the service compartment front cover to gain access to the filter, which is magnetic.



3. To remove the filter, unhook it from the sides of the condenser coil, and pull it off.



4. Clean the filter with a vacuum cleaner, wash with cold water and shake the excess water off before refitting.

- Do not apply hot water, blow dry, or place in a dishwasher.
- If necessary, discard and refit a new filter.

5. To refit the filter:

- Insert it up into the service compartment front cover.
- Place it on the front of the condenser coil, ensuring it is in behind the hooks on the side of the condenser coil.

6. Refit the grille to the service front compartment cover.

Condenser Coil The condenser coil is located at the front of the refrigeration cartridge, behind the bottom grille on the cartridge cover. Take care of the condenser coil fins when cleaning.

Procedure 35: To clean the condenser coil (integral cabinets only)

1. Disconnect the cabinet from the mains power supply (see page 15).

2. Lift the bottom grille up and out of the service compartment front cover.

3. Remove the condenser filter (see Procedure 34).

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

5. Replace the condenser filter (see Procedure 34).

6. Refit the grille to the service compartment front cover.

9 Troubleshooting

Electronic Controller

Alarms signal unexpected operational changes in the cabinet. When an alarm is activated, use the electronic controller app to help diagnose the problem, and service as necessary.

Cabinet and Refrigeration Cartridge

For problems with the cabinet and refrigeration cartridge use Table 21.

Table 21: Cabinet and cartridge troubleshooting

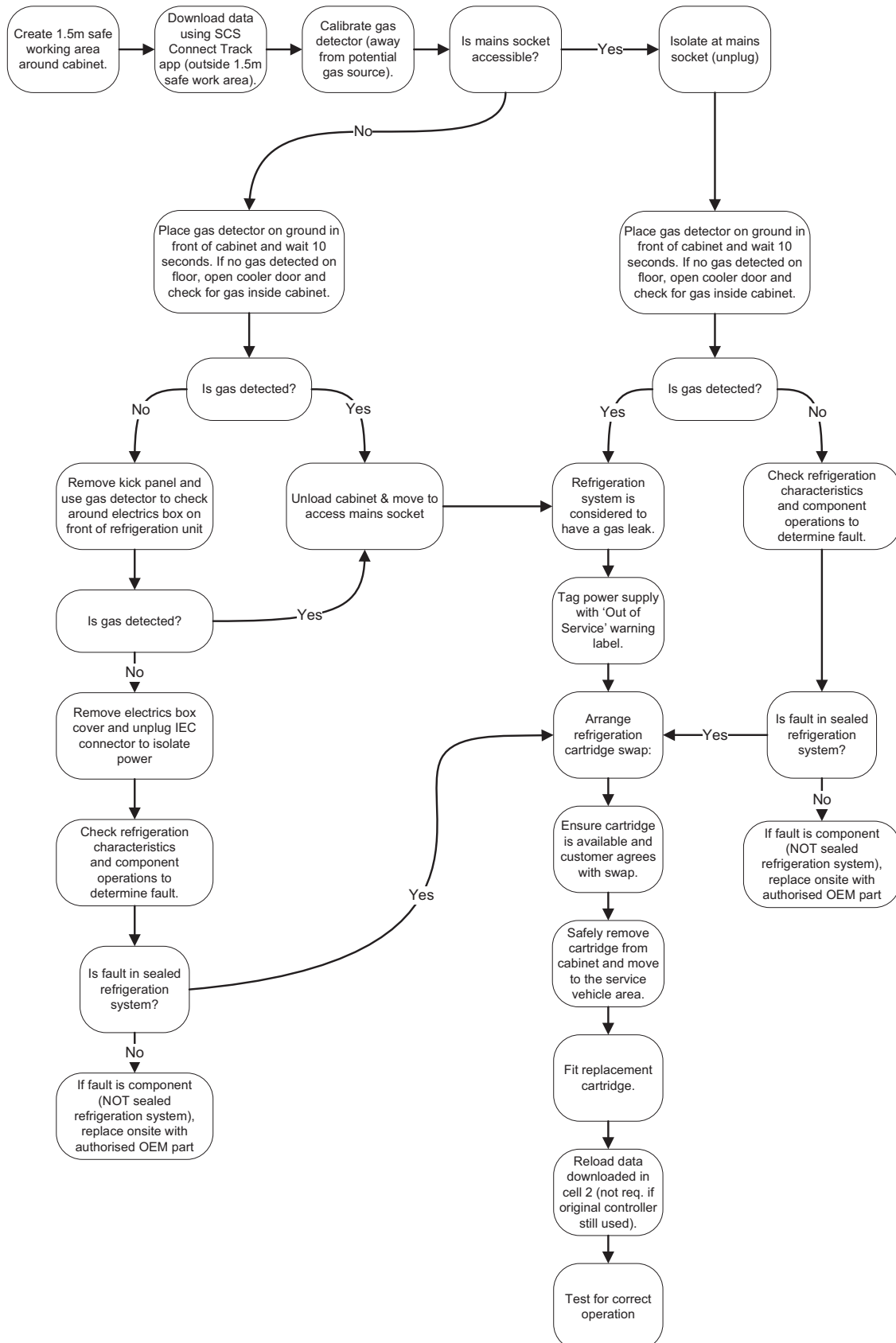
Problem	Possible cause	Recommended action
<ul style="list-style-type: none"> Cabinet not operating No controller display 	<ul style="list-style-type: none"> Loss of power supply 	Check the mains power supply.
	<ul style="list-style-type: none"> Loose plug 	Check that all plugs are connected correctly.
<ul style="list-style-type: none"> Cabinet not operating as usual 	<ul style="list-style-type: none"> Incorrect parameters 	AoFrio: Reload the parameter set.
<ul style="list-style-type: none"> Defrost cycle incorrect length 		CAREL: Reload the parameter set.
<ul style="list-style-type: none"> Fan not working 	<ul style="list-style-type: none"> Loose plug 	Check all plugs are connected correctly.
<ul style="list-style-type: none"> Lights not on 	<ul style="list-style-type: none"> Electronic controller is in Night mode 	<ul style="list-style-type: none"> Switch the light on while keeping the cabinet in Night mode by pressing the light button on the electronic controller faceplate. Change the cabinet into Day mode by pressing and holding the light button on the electronic controller faceplate, or holding the door open for 10 seconds.
	<ul style="list-style-type: none"> Light switched off 	<ul style="list-style-type: none"> Switch the light on via the light button on the electronic controller faceplate, or the app.
	<ul style="list-style-type: none"> Failed LED light 	Replace the light.
	<ul style="list-style-type: none"> Refrigeration system error (indicated by the electronic controller) 	Diagnose and repair. If a system fault is found contact SKOPE for information on how to proceed.
	<ul style="list-style-type: none"> Plug not connected properly 	Check and clean the plugs.
	<ul style="list-style-type: none"> Power supply fault 	Replace the light's power supply.
<ul style="list-style-type: none"> Light component not working 	<ul style="list-style-type: none"> Plug not connected properly 	Check and clean the plug connection.
	<ul style="list-style-type: none"> Faulty light 	Replace the light.
<ul style="list-style-type: none"> Segment of light not working 	<ul style="list-style-type: none"> Faulty light 	Replace the light.
<ul style="list-style-type: none"> Excess noise vibration 	<ul style="list-style-type: none"> Refrigeration pipes transferring vibration into the cartridge 	Re-align the pipes to ensure they are not touching the evaporator tub bottom surface, or condenser coil assembly.
<ul style="list-style-type: none"> Excess compressor noise 	<ul style="list-style-type: none"> Damaged mountings 	Check the mountings to ensure there is no damage to the rubber, or the washers, nuts or screws.
<ul style="list-style-type: none"> Compressor not operating 	<ul style="list-style-type: none"> Compressor electrics 	<ul style="list-style-type: none"> Check all plug connections and ensure that the compressor electrics are operating correctly. Make sure the compressor is supplied with consistent voltage over 220 volts. Ensure the voltage does not drop at start-up. If the voltage does drop, ensure the cartridge has a direct power supply (not from a multi-box or extension cord).
	<ul style="list-style-type: none"> Failed compressor 	Replace the compressor.

Table 21: Cabinet and cartridge troubleshooting (continued)

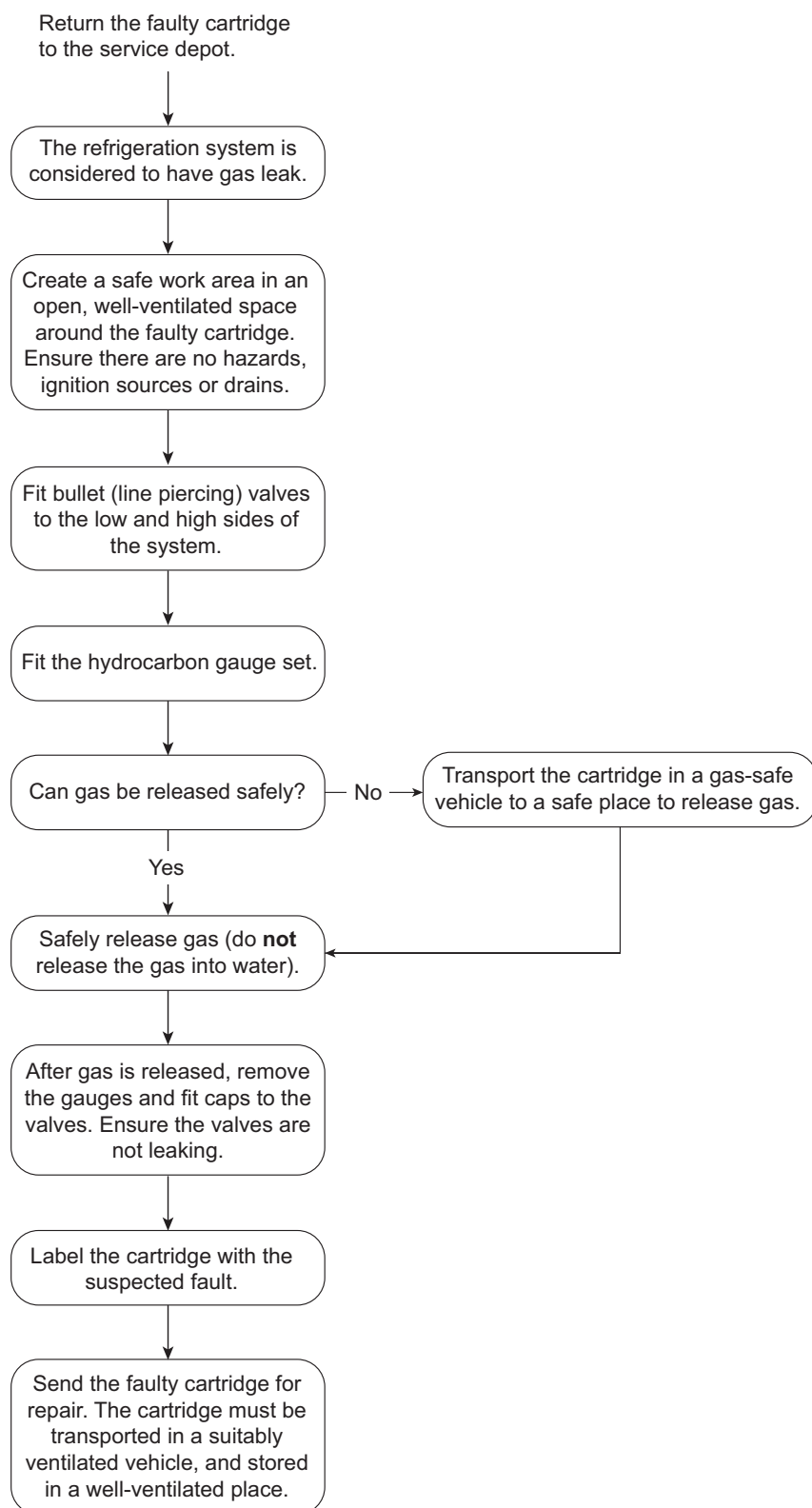
Problem	Possible cause	Recommended action
• Frozen evaporator coil	• Evaporator probe fault	Replace the evaporator probe.
	• Setpoint is too cold	Check and raise the setpoint.
	• Electronic controller fault	Replace the controller.
	• Short of refrigerant	Perform refrigeration system diagnostics and service as required.
• Failed thermal fuse	• Failed evaporator probe	• Replace the evaporator probe.
	• Electronic controller fault	• Replace the electronic controller.
	• Element or fuse not in the correct position	• Position the element or fuse correctly.
	• Refrigeration system failure	• Contact SKOPE for information on how to proceed.
• Ice build-up inside the evaporator tub	• Leaking cartridge seal	Check that the evaporator tub seals are fully clamped. Micro-gaps will allow ice build-up in the cabinet.
• Power consumption is higher than expected	• Excessive door opening	Limit door openings.
	• Cartridge is operating too hot	• Clean the condenser. • Ensure the cabinet has good ventilation around the refrigeration cartridge. • Ensure the cabinet is within the maximum operating temperature.
	• Product is too cold	Raise the setpoint.
• Product is too warm	• Door not closing properly	• Check and clean the door gasket. • Ensure the cabinet is on a level surface.
	• Excessive door opening	Limit door openings.
	• Electronic controller is in Night mode	Change the cabinet into Day mode by pressing and holding the light button on the electronic controller faceplate, or holding the door open for ten seconds.
	• Refrigeration system error (no active fault alarm)	Check the SCS Connect Field app statistics to see if and when the controller signalled a fault or alarm.
	• Cartridge is operating too hot	• Ensure the cabinet has good ventilation around the refrigeration cartridge.
	• Excessive refrigeration heat load	• Ensure the cabinet is within the maximum operating conditions.
	• Setpoint is too high	Lower the setpoint.
	• The cabinet is recently loaded	Allow the product time to cool down.
	• The cabinet is overstocked	• Remove some product. • Do not allow product to hang over the shelves.
• Moisture build up on cabinet exterior	• Frequent door opening	Limit door openings.
	• Door not closing properly	• Check and clean the door gasket. • Ensure the cabinet is on a level surface.
	• High humidity	Check the ambient operating temperature and reposition the cabinet if necessary.
• Cabinet door does not close properly	• Cabinet is on an uneven surface	Level the cabinet.
	• Door is obstructed	Check the shelves and product.
	• Door gasket is dirty	Check and clean the door gasket.
• Warm cabinet temperatures • Compressor operating for long periods (more than 1 hour)	• Blocked condenser coil	Clean the condenser coil.
	• Poor ventilation around the refrigeration cartridge	• Ensure the cabinet has good ventilation around the refrigeration cartridge. • Ensure the cabinet is within the maximum operating temperature.

On-site Work Procedure

If a customer reports a “not cooling” fault, and it has been established that the cabinet is not cooling, follow the procedure below when making the service visit.



On-site work procedure (continued)



SKOPE Contacts

SKOPE Industries Limited

ABN: 73 374 418 306

AU: 1800 121 535

NZ: 0800 947 5673

skope@skope.com

www.skope.com