

HB80/110

Serene Glass Door Chiller



HB80/110
Serene Single Door Vertical Chiller
Service Manual

MAN6820
Rev. 2.1 Feb. 2020

© 2007 SKOPE Industries Limited. All rights reserved.

SKOPE Industries Limited reserve the right to alter specifications without notice.

SKOPE® is a registered trademark of SKOPE Industries Limited.

SKOPE INDUSTRIES LIMITED

Head Office
PO Box 1091, Christchurch
New Zealand
Freephone: 0800 947 5673
Fax: (03) 983 3896
E-mail: enquiry@skope.co.nz
Website: www.skope.co.nz

Trademark Infringement

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

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

Notice of the above contractual obligations passes to:

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

CONTENTS

1 Specifications	
Cabinet	5
Refrigeration Unit	5
Electrical	5
2 Replacement Procedures	
Cabinet	6
Interior Light	6
Electrical	6
Refrigeration System.	7
Evaporator	7
Condenser	7
3 Maintenance	
Cleaning	8
4 Wiring	
HB80/110 Cabinet and Refrigeration System	9
5 Spare Parts	
HB80 Cabinet and Refrigeration System	10
HB110 Cabinet and Refrigeration System.	12
6 Troubleshooting	
Diagnostic Table	14

1 Specifications

HB80/110 with Fluorescent Light

Cabinet

<i>Dimensions</i>	<i>HB80</i>	<i>HB110</i>
Height:	780mm	980mm
Width:	500mm	500mm
Depth:	560mm	560mm
Depth with open door:	1035mm	1035mm
Floor area:	0.28m ²	0.28m ²
Internal volume:	80 litres	110 litres
Total weight:	38 kg	45 kg
Cabinet temp. range	1°C to 4°C in 32°C ambient	
Door	Right hand hinged (non-reversible) with triple glazed safety glass.	
Shelves	2 x white plastic coated wire	3 x white plastic coated wire
Shelf dimensions	405mm wide x 360mm deep	

Refrigeration Unit

	<i>HB80</i>	<i>HB110</i>
Bottom mounted split refrigeration system		
Compressor:	ZEL OF605	ZEL OF789
Controls:	Adjustable thermostat	Adjustable thermostat
Nominal capacity:	76 Watts	110 Watts
Refrigerant:	R134a	R134a
Charge:	65 grams	70 grams

Electrical

	<i>HB80</i>	<i>HB110</i>
Supply:	230-240 Volts a.c. 50 Hz, single phase power supply	
Power input:	165 Watts	165 Watts
Total run Amps:	1.10 Amps	1.30 Amps
Power cord:	1.5m 3-core flexible supply cord with 3-pin 10A plug	
Interior light:	1 x 5 Watt / 865 OSRAM DULUX S fluorescent tube (switched)	

HB80 with LED Lights

Cabinet

<i>Dimensions</i>	<i>HB80</i>
Height:	780mm
Width:	500mm
Depth:	560mm
Depth with open door:	1035mm
Floor area:	0.28m ²
Internal volume:	80 litres
Total weight:	38 kg
Cabinet temp. range	1°C to 4°C in 32°C ambient
Door	Right hand hinged (non-reversible) with triple glazed safety glass.
Shelves	2 x white plastic coated wire
Shelf dimensions	405mm wide x 360mm deep

Refrigeration Unit

	<i>HB80</i>
Bottom mounted split refrigeration system	
Compressor:	ZEL OF605
Controls:	Adjustable thermostat
Nominal capacity:	76 Watts
Refrigerant:	R134a
Charge:	65 grams

Electrical

	<i>HB80</i>
Supply:	230-240 Volts a.c. 50 Hz, single phase power supply
Power input:	165 Watts
Total run Amps:	1.10 Amps
Power cord:	1.5m 3-core flexible supply cord with 3-pin 10A plug
Interior light:	4 x vertical LED lights (total 4W)

2 Replacement Procedures

Cabinet

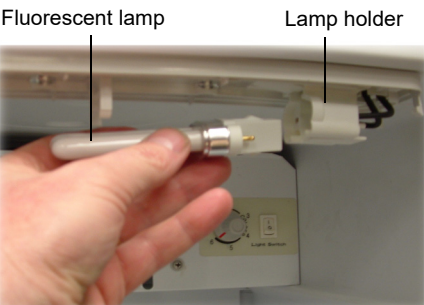
Interior Light The chiller is lit by fluorescent tube lighting or by LED strip lighting. See the table below for lighting details.

Model:	HB80	HB110
Fluorescent tube lighting	1 x 5 Watt / 865 OSRAM DULUX S fluorescent tube (switched)	
LED strip lighting	4 x vertical LED lights (total 4W)	n.a.

To replace a fluorescent lamp

1. Isolate the chiller from the power supply.
2. Remove the light cover by carefully bending out the side clips.

3. Pull the fluorescent lamp out of the lamp holder.



4. Replace with a maximum 5 Watt fluorescent lamp.

5. Carefully align the side clips on the light cover and fit back into place.

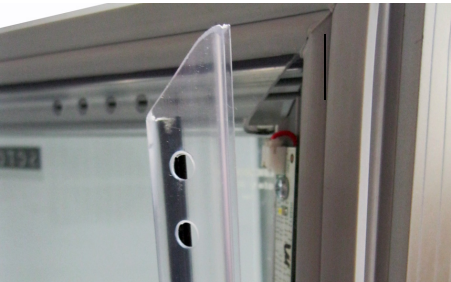


6. Reconnect the cabinet to the power supply.

To replace an LED strip

1. Isolate the chiller from the power supply.

2. Unclip the light cover from the inside of the door frame.



Continued over page

3. Unplug and unscrew the faulty LED light strip.



4. Plug in and fit the replacement LED strip.
5. Refit the light cover to the inside of the door frame.
6. Reconnect the cabinet to the power supply.

Electrical

The cabinet light ballast and refrigeration unit electrics can be accessed from the rear of the cabinet (see Figure 1 & 3 below) by removing the refrigeration compartment grille. Remove the relay cover to access the electrical connections and compressor electrics (see Figure 2 below).

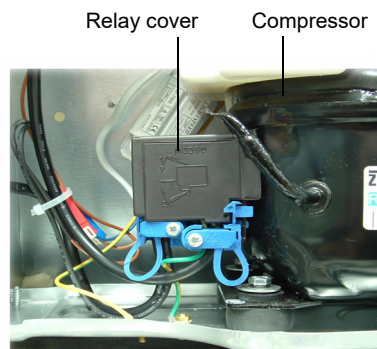


Figure 1: Compressor electrics

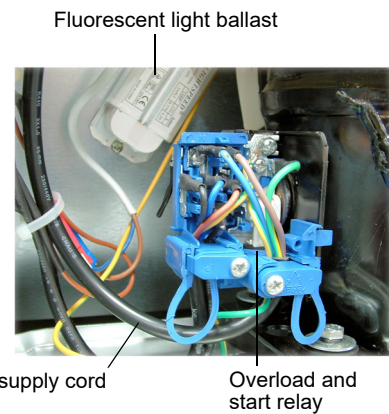


Figure 2: Fluorescent ballast & compressor electrics (with relay)

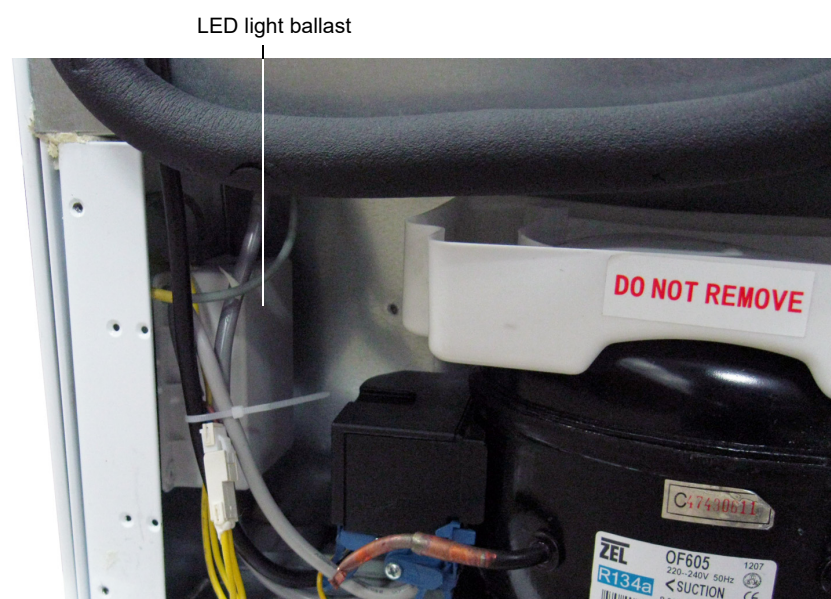


Figure 3: LED ballast

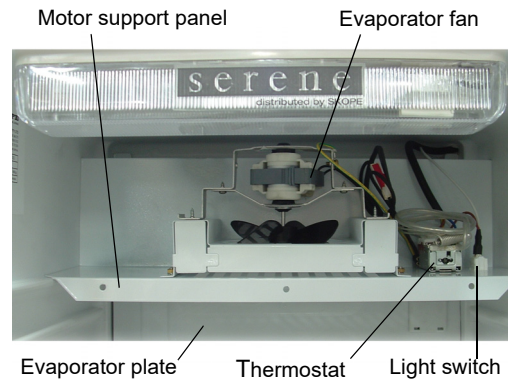
Refrigeration System

Evaporator The evaporator plate is attached to the inside back wall of the cabinet. The evaporator fan, along with the thermostat and cabinet light switch, is located inside the cabinet behind the motor support panel.

To access the evaporator fan, thermostat and light switch

1. Isolate the chiller from the power supply.
2. Remove the five screws holding the motor support panel.

3. Swing the motor support panel down to access components.



Condenser The condenser coil is attached to the rear of the cabinet. The condenser coil should be brushed regularly to remove any dust build up.

The compressor is located at the bottom of the cabinet (see Figure 3 below) and is accessed by removing the refrigeration compartment grille from the rear of the cabinet. The plastic condensate tray lifts off the compressor for cleaning purposes.

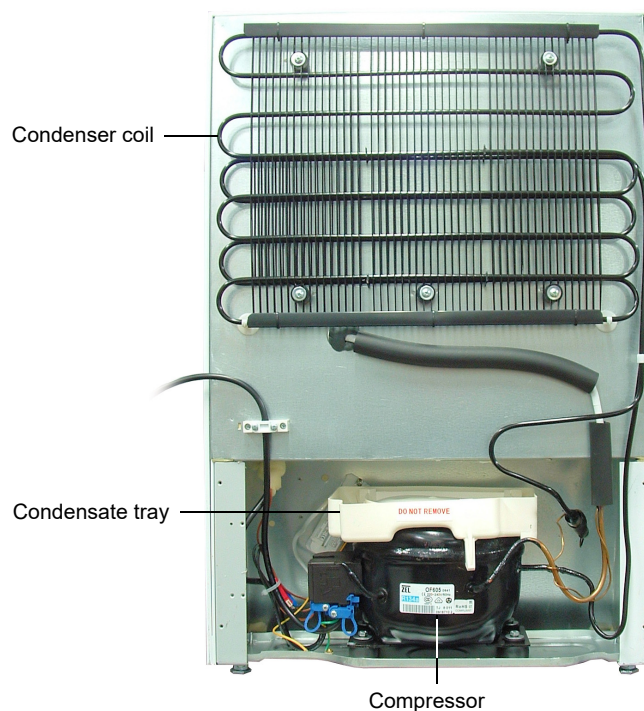


Figure 3: Condenser Coil and Compressor (HB80 pictured)

3 Maintenance

Cleaning

Many commercially available cleaning products contain solvents that may attack the plastic components of this product and cause them to crack. It is important to use only warm water and a small amount of detergent when cleaning this cooler. Do not use abrasive or corrosive cleaners or boiling water.

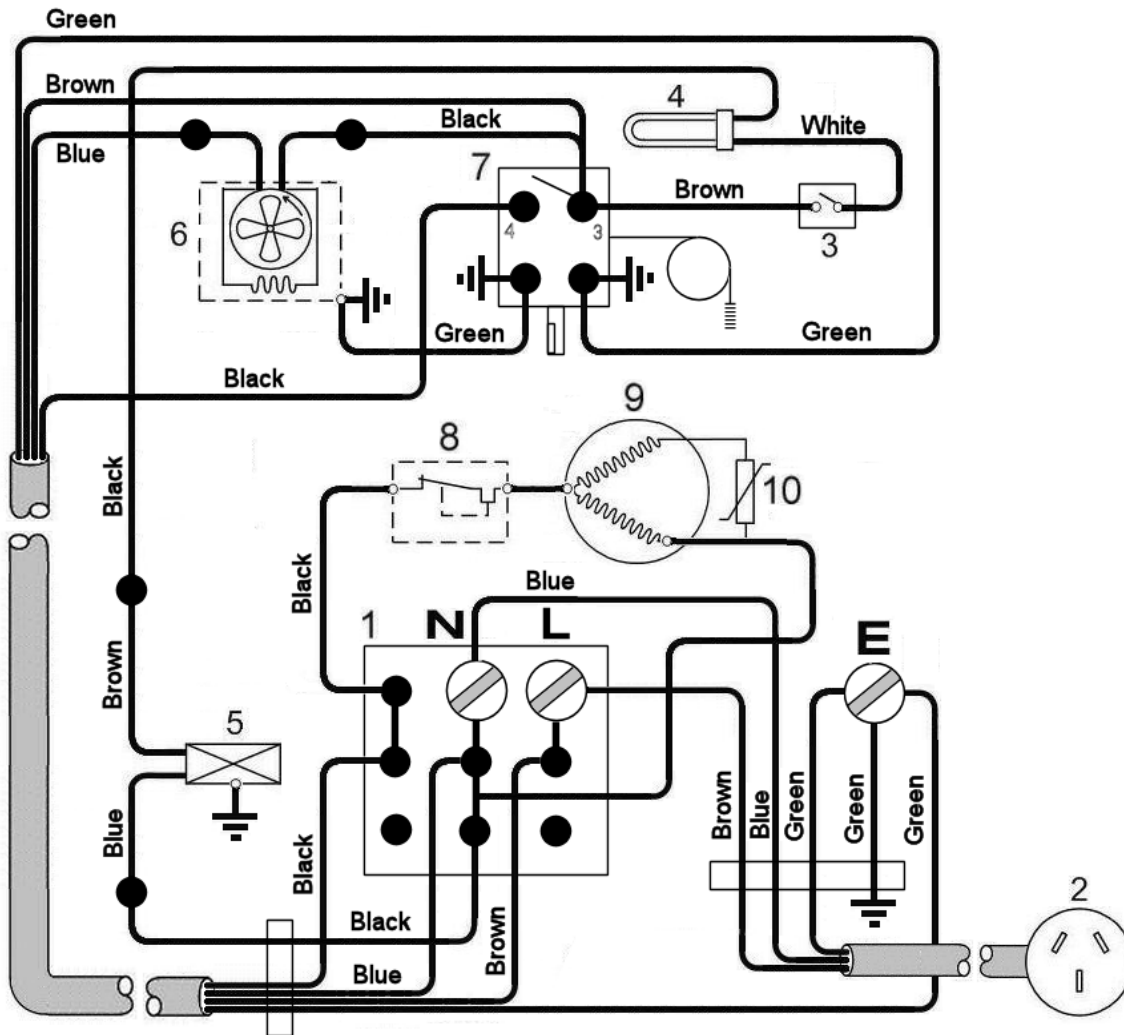
- Isolate the chiller from the power supply before cleaning.
- When necessary, wipe both the interior and exterior of the cabinet with a damp cloth. Do **NOT** flush the cabinet with water.
- Clean the door gasket once every three months.
- The condenser coil (located on the back of the cabinet) should be brushed regularly to remove any dust build up.



Figure 4: Condenser Coil
(HB80 pictured)

4 Wiring

HB80/110 Fluorescent Light



LEGEND

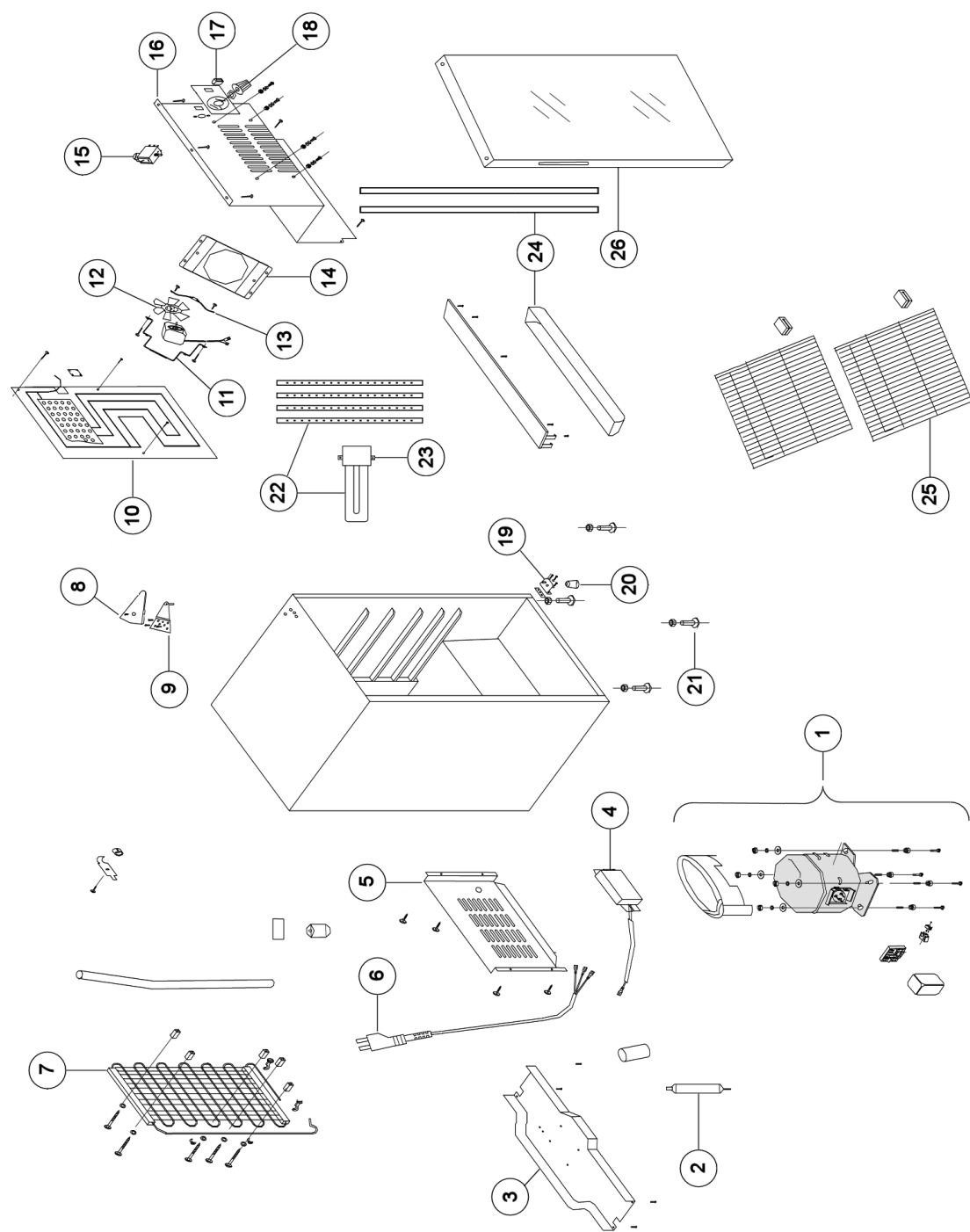
1	Mains terminal block	6	Evaporator fan
2	Mains supply cord and plug	7	Thermostat
3	Light switch	8	Compressor overload
4	5 Watt fluorescent lamp	9	Compressor
5	Magnetic ballast	10	PTC relay

HB80 LED Lights

LEGEND

5 Spare Parts

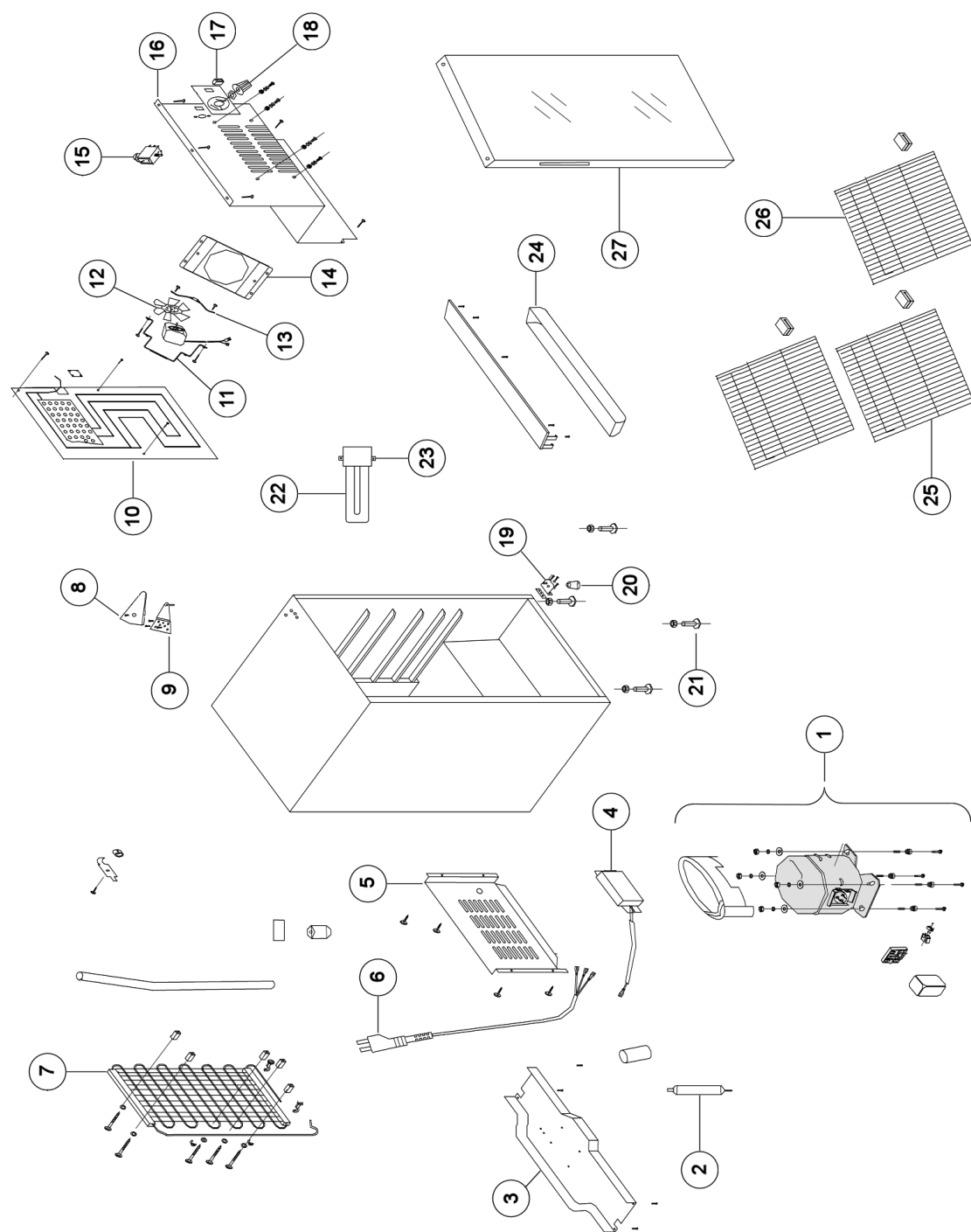
HB80 Cabinet and Refrigeration System



Parts — HB80 Cabinet and Refrigeration System

Item	Description	SKOPE Part No.	Customer Part Number
1	Compressor (with condensate tray and electrics)	HB0074090531	
	Compressor (ZEL OF605)	HB0074090531-1	
	Overload protector	HB0074090531	
	Start relay	HB0074090531	
	Relay cover	HB0074090531-4	
	Condensate Tray	HB0074090531-5	
2	Drier	HB0074180003	
3	Compressor bottom plate	HB0071190014	
4	Fluorescent ballast (fluorescent lit cabinet)	HB0075070014	
	LED ballast (LED lit cabinet)	HB0071800044	
5	Compartment grille	HB0070103996A	
6	Power cord	HB0075180110	
7	Back condenser	HB0070700624	
8	Top hinge cover	HB0070200978	
9	Top hinge	HB0070103327	
10	Evaporator plate	HB0070700532	
11	Fan motor support 1	HB0060105039	
12	Fan motor	HB0075030004A	
13	Fan motor support 2	HB0070104842	
14	Fan motor support	HB0070104801	
15	Thermostat (K50-Q4020-000)	HB0074090874	
16	Evaporator cover	HB0070104800	
17	Light switch (fluorescent lit cabinet only)	HB0074090076	
18	Thermostat knob	HB0072040122	
19	Bottom hinge	HB0070803172A	
20	Adjustable foot	HB0070601231	
21	Foot bolt	HB0077050043	
22	5 Watt fluorescent lamp (fluorescent lit cabinet)	HB0074000032	
	1 Watt LED strip (LED lit cabinet)	HB0071800053	
23	Lamp holder	HB0074000078	
24	Light cover (fluorescent lit cabinet)	HB0070200919	
25	Shelf	HB0070103503	
26	Glass door (fluorescent lit cabinet)	HB0070803653	
	Glass door (LED lit cabinet)	HB0070811256	
27	Door lock set	HB0070103412	

HB110 Cabinet and Refrigeration System



Parts — HB110 Cabinet and Refrigeration System

Item	Description	SKOPE Part No.	Customer Part Number
1	Compressor	HB0070701279	
	Compressor electrics	HB0074090531	
2	Drier	HB0060703262	
3	Compressor bottom plate	HB0071190014	
4	Fluorescent ballast	HB0074000079	
5	Compartment grille	HB0070103996A	
6	Power cord	HB0060611040	
7	Back condenser	HB0070700518	
8	Top hinge cover	HB0070202740	
9	Top hinge	HB0070103327	
10	Evaporator plate	HB0074010059	
11	Fan motor support 1	HB0060105039	
12	Fan motor	HB0075030004A	
13	Fan motor support 2	HB0070104842	
14	Fan motor support	HB0070104801	
15	Thermostat (K50-Q4020-000)	HB0074090874	
16	Evaporator cover	HB0072060019	
17	Light switch	HB0074090076	
18	Thermostat knob	HB0072040122	
19	Bottom hinge	HB0070803172A	
20	Adjustable foot	HB0070601231	
21	Foot bolt	HB0070102036	
22	5 Watt fluorescent lamp	HB0074000032	
23	Lamp holder	HB0074000078	
24	Light cover	HB0070200919	
25	Upper shelf	HB0070103503	
26	Lower shelf	HB0070103503A	
27	Glass door	HB0070811257A	

6 Troubleshooting

Diagnostic Table

Complaint	Possible Cause	Repair
1. Cabinet not operating	<ul style="list-style-type: none"> • Loss of power supply 	<ul style="list-style-type: none"> • Check power supply
2. Cabinet light not operating	<ul style="list-style-type: none"> • Loss of power supply • Failed fluorescent or LED lamp 	<ul style="list-style-type: none"> • Check power supply • Check lights and ballasts
3. Compressor will not start	<ul style="list-style-type: none"> • Loss of power supply • Overload protector tripped • The temperature controller knob is in the off ('0') position. 	<ul style="list-style-type: none"> • Check power supply • Replace overload • Adjust temperature controller.
4. Compressor starts too frequent, with operation time too long	<ul style="list-style-type: none"> • Short of refrigerant • Over-charge of refrigerant • Temperature controller not reading temperature correctly • Faulty temperature controller • Dirty condenser coil • Cabinet overloaded with product • Ambient temperature too high • Drying filter is blocked 	<ul style="list-style-type: none"> • Fix leak and add charge • Remove refrigerant to correct charge • Check air temperature with thermometer. Adjust offset if required • Replace controller • Clean condenser coil. • Reduce product loading • Ensure maximum operating conditions are 40°C at 75% RH • Replace filter
5. Compressor runs without stopping and temperature inside cabinet is too low	<ul style="list-style-type: none"> • The temperature controller is set too cold • Faulty temperature controller • The temperature sensing probe of the controller is incorrectly positioned 	<ul style="list-style-type: none"> • Adjust temperature controller to a warmer setting • Replace temperature controller • Reposition temperature controller probe.
6. Compressor starts and runs, but short cycles on overload protector	<ul style="list-style-type: none"> • Supply voltage too high • Compressor too hot • Faulty overload protector • Faulty starting relay • Short circuit in compressor 	<ul style="list-style-type: none"> • Check voltage • Check refrigerant charge and unit ventilation • Replace overload • Replace starting relay • Replace compressor

SKOPE Contacts

SKOPE Industries Limited

NEW ZEALAND CONTACT

Head Office
PO Box 1091, Christchurch
New Zealand
Freephone: 0800 947 5673
Fax: (03) 983 3896
E-mail: enquiry@skope.co.nz
Website: www.skope.co.nz

AUSTRALIAN CONTACT

A.B.N. 73 374 418 306
PO Box 7543, Baulkham Hills B.C.
NSW 2153, Australia
Freephone: 1800 121 535
Fax: 1800 121 533
E-mail: enquiry@skope.com.au
Website: www.skope.com.au