VESTFROST SOLUTIONS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Vestfrost Solutions is working towards reaching the UN - Global Sustainable Development Goals by 2030.

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all.
In order to implement Goal no 12 ”Responsible Consumption and Production”, this manual has been printed on recycled paper.

Technical manual VLS 024 / 054A / 094A / 154A SDD

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WARNING

As the appliance contains flammable refrigerant, as stated on nameplate, it is essential to ensure that the refrigerant pipes are not damaged.

The quantity and type of the refrigerant used in your appliance is indicated on the rating plate.

Standard EN378 specifies that the room in which you install your appliance must have a volume of 1m³ per 8 g of hydrocarbon refrigerant used in the appliances. This is to avoid the formation of flammable gas/air mixtures in the room where the appliance is located in the event of a leak in the refrigerant circuit.

WARNING:
Keep ventilation openings in the appliance or in built-in structures must be kept clear.

WARNING:
Do not use other mechanical devices or means to accelerate the defrosting process or to remove rime other than those recommended by the manufacturer.

WARNING:
Do not damage the refrigerant system.

WARNING:
The appliance may not be exposed to rain.

WARNING:
This appliance may be used by children over the age of 8 years old and by persons with reduced physical, sensory or mental capabilities or by persons with a lack of experience or knowledge if they are supervised or are instructed by a person responsible for their safety how to use the appliance safely and have understood the associated hazards.

WARNING:
Children must not play with, on, or around the appliance.

WARNING:
Children must not clean the appliance or carry out general maintenance unless they are at least 8 years old and are being supervised.

WARNING:
Always, keep the keys in a separate place and out of reach of children.

WARNING:
Before servicing or cleaning the appliance, switch off circuit breaker.

WARNING:
Danger risk of fire or explosion. Flammable refrigerant used, as stated on nameplate. To be repaired only by trained personnel.

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

WARNING:
When positioning the appliance, ensure the power cord is not trapped or damaged.

WARNING:
When positioning the appliance, ensure the supply cord is not trapped or damaged.

WARNING:
Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.

WARNING:
Appliance use flammable insulation blowing gas.
For information about safe disposal, please contact your local disposal service.
See section for Disposal.

GB

Contents

Periodic preventive maintenance checks

Daily Check:
Monitor Temperature
Internal lid is placed properly
Lid fits and lock tight to cabinet
Lid gasket not faulty.

Weekly maintenance: Remove any water at the bottom of the refrigerator with a cloth. Wipe of water droplets on the inside wall.

Monthly maintenance::
Clean grille for compressor compartment.
Clean the refrigerator with lukewarm water and mild detergent.

6 Month maintenance:
Clean condenser coils.

Yearly maintenance:

Check electrical connections and components.

Maintenance of the solar panels

Weekly maintenance:
The solar panels are to be cleaned for dust once each week – or as required. Cleaning must be carried out with water using a soft cloth or wash rag.

Monthly maintenance:

Avoid shading.

It should be regularly monitored that shades do not come up such as new towering trees, as this will decrease the amount of energy produced by the system.

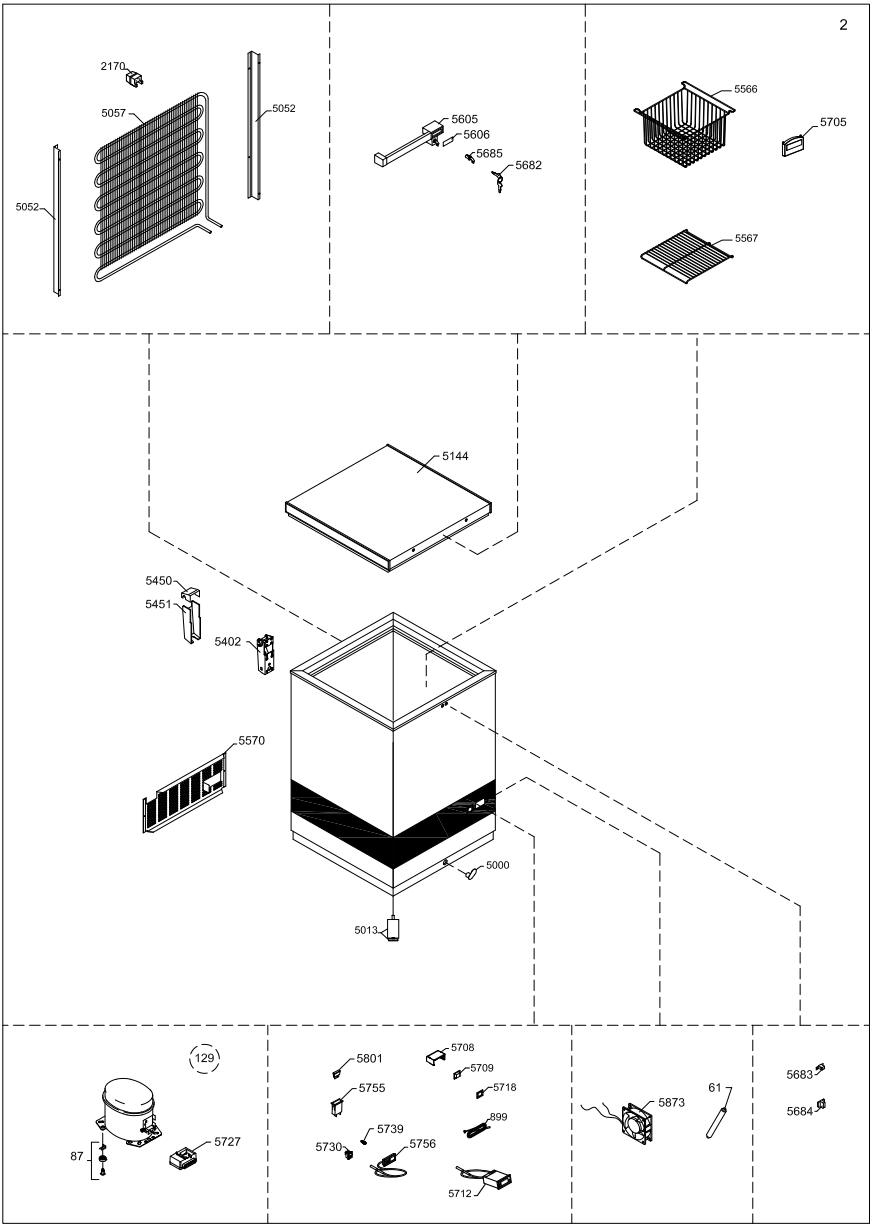
Yearly maintenance:
Electric connections and components are to be checked and cleaned at least once a year or more often if required. Because of risk of fire, it is necessary to remove dust and dirt.
Checking that PV panels are clean, free of fractures, scratches, corrosion, moisture penetration and browning.
Cabling should be checked to ensure it is secure.
Checking the mounting hardware to ensure it is in good condition and ensuring the earth connection is continuous
Checking of junction boxes to ensure there is no water accumulation and that the integrity of lid seals, connections and clamping devices is intact.
Checking of junction boxes to ensure there is no water accumulation and that the integrity of lid seals, connections and clamping devices is intact.

All bolts and nuts are to be re-tightened 2 weeks after installation, and then once a year.

GB

Complete spare part list VLS 024 SDD

Position	Item number	Item name
0061	0-6538001	Filter drier,
0087	0-6038175	Base plate fittings, complete
0129	8-036510223	Compressor - BD35K 101Z0211 10-45V - ECU
0899	7020956	Sensor
2170	0-A9301260103	Distance piece
5000	3010049	Drain plug
5013	3040400	Adjustable foot
5052	2042052-01	Mounting plate for condenser VLS024
5057	6010436	WOT condenser
5144	5000917024	Lid foamed without handle/hinges
5402	1510059	Hinge
5450	3011135-01	Top part for hinge cover
5451	3010032-01	Bottom part for hinge cover
5566	3510054	Basket VLS024/HFK024
5567	3510056	Bottom grating VLS024/HFK024
5570	2042044	Motor screen
5605	304090501	Handle with lock (push and turn)
5606	8090342-94	Inlay for handle,
5682	1510238	Nikel-plated Key
5683	2040145	Catch for handle
5684	3010265-01	Cover for catch
5685	600098801	Lock with keys,(push and turn)
5705	7020406	Temperature monitoring device Fridge-Tag 2E
5708	7020196	Cover for Dixell controller
5709	7060104	Frame for cover rocker switch bezel
5712	702090013	Thermostat XR20CX incl. sensor
5718	7060105	Rocker Switch Cover
5727	6520845	Electronics for BD35K compressor
5730	7020245	"on-off" switch
5739	7010139	Status indicator
5755	7060062	Fuse holder
5756	7020382-03	Thermometer, solar
5801	8470156	Fuse 15A
5873	7090403	Fan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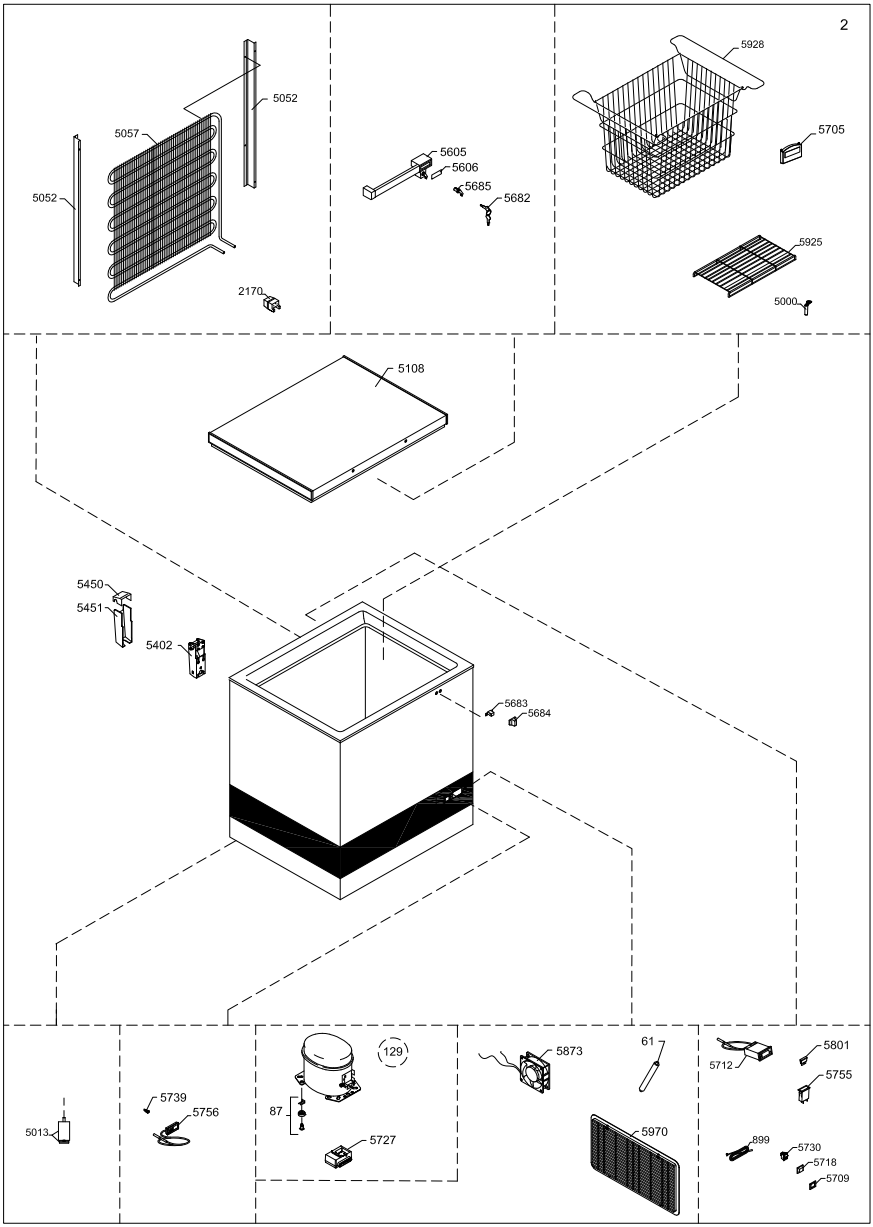
Complete spare part list VLS 054A SDD

Position	Item number	Item name
0061	0-6538001	Filter drier,
0087	0-6038175	Base plate fittings, complete
0129	8-036510223	Compressor - BD35K 101Z0211 10-45V
0899	7020311	Thermostat sensor
2170	0-A9301260103	Distance piece
5000	3010049	Drain plug
5013	3040400	Adjustable foot
5052	2041300	Fittings for condenser
5108	5000917054	Lid foamed without handle/hinges
5402	1510135	Hinge with spring
5450	3011135-01	Top part for hinge cover
5451	3010032-01	Bottom part for hinge cover
5605	304090501	Handle with lock (push and turn)
5606	8090342-94	Inlay for handle,
5682	1510238	Nikel-plated Key
5683	2040145	Catch for handle
5684	3010265-01	Cover for catch
5685	600098801	Lock with keys,(push and turn)
5705	7020406	Temperature monitoring device
5709	7060104	Frame for cover rocker switch bezel
5712	702090013	Thermostat XR20CX incl. sensor
5718	7060105	Rocker Switch Cover
5727	6520845	Electronics for BD35K compressor
5730	7020245	"on-off" switch
5739	7010139	Status indicator
5755	7060062	Fuse holder
5756	7020392-03	Thermometer, solar
5801	8470156	Fuse 15A
5873	7090099	Fan 2 x receptacle
5926	3510032	Bottom grating
5928	3510029	Basket
5970	3010308-01	Motor screen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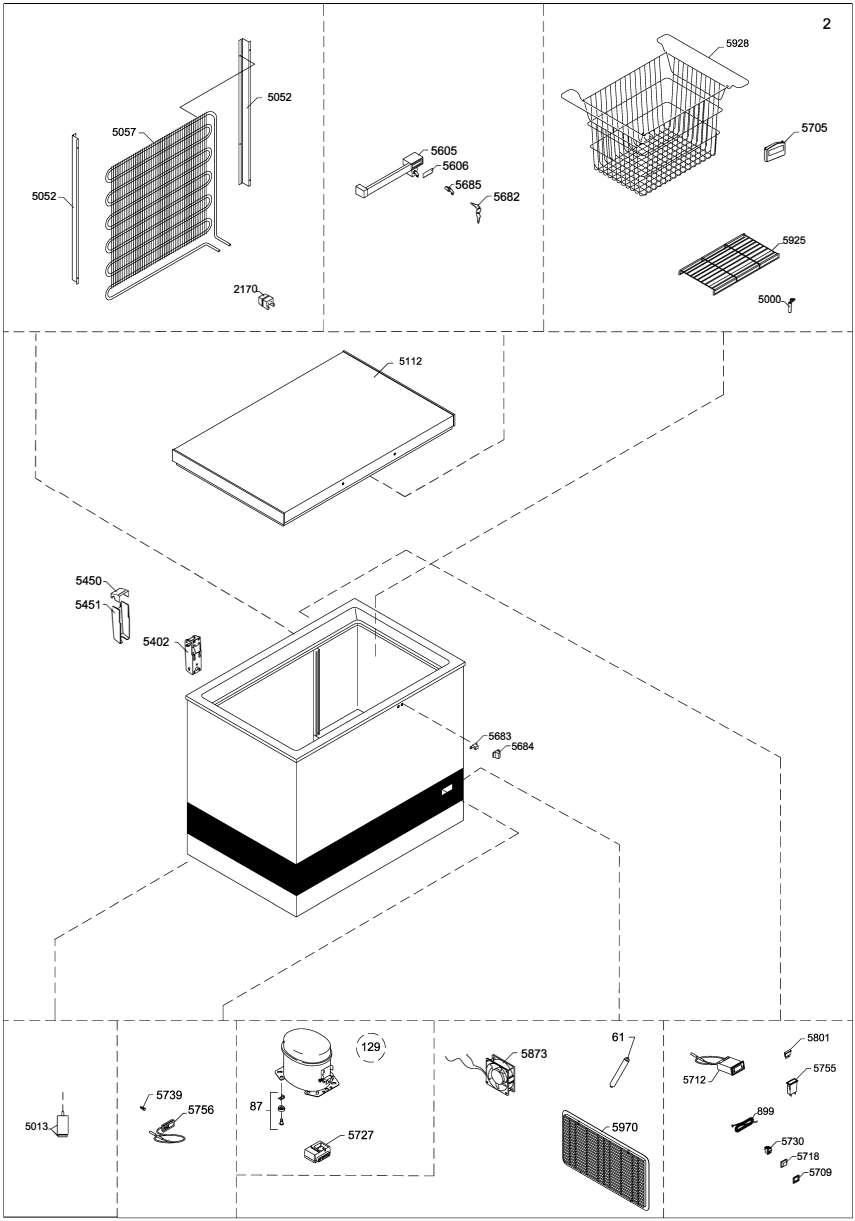
Complete spare part list VLS 094A SDD

Position	Item number	Item name
0061	0-6538001	Filter drier,
0087	0-6038175	Base plate fittings, complete
0129	8-036510223	Compressor - BD35K 101Z0211 10-45V
0899	7020311	Thermostat sensor
2170	0-A9301260103	Distance piece
5000	3010049	Drain plug
5013	3040400	Adjustable foot
5052	2041300	Fittings for condenser
5112	5000917084	Lid foamed without handle/hinges
5402	1510136	Hinge with spring
5450	3011135-01	Top part for hinge cover
5451	3010032-01	Bottom part for hinge cover
5605	304090501	Handle with lock (push and turn)
5606	8090342-94	Inlay for handle,
5682	1510046	Key, set - 2pc.
5683	2040145	Catch for handle
5684	3010265-01	Cover for catch
5685	600098801	Lock with keys,(push and turn)
5705	7020406	Temperature monitoring device
5709	7060104	Frame for cover rocker switch bezel
5712	702090013	Thermostat XR20CX incl. sensor
5718	7060105	Rocker Switch Cover
5727	6520845	Electronics for BD35K compressor
5730	7020245	"on-off" switch
5739	7010139	Status indicator
5755	7060062	Fuse holder
5756	7020392-03	Thermometer, solar
5801	8470156	Fuse 15A
5873	7090099	Fan 2 x receptacle
5925	3510031	Bottom grating
5928	3510036	Basket
5970	3010308-01	Motor screen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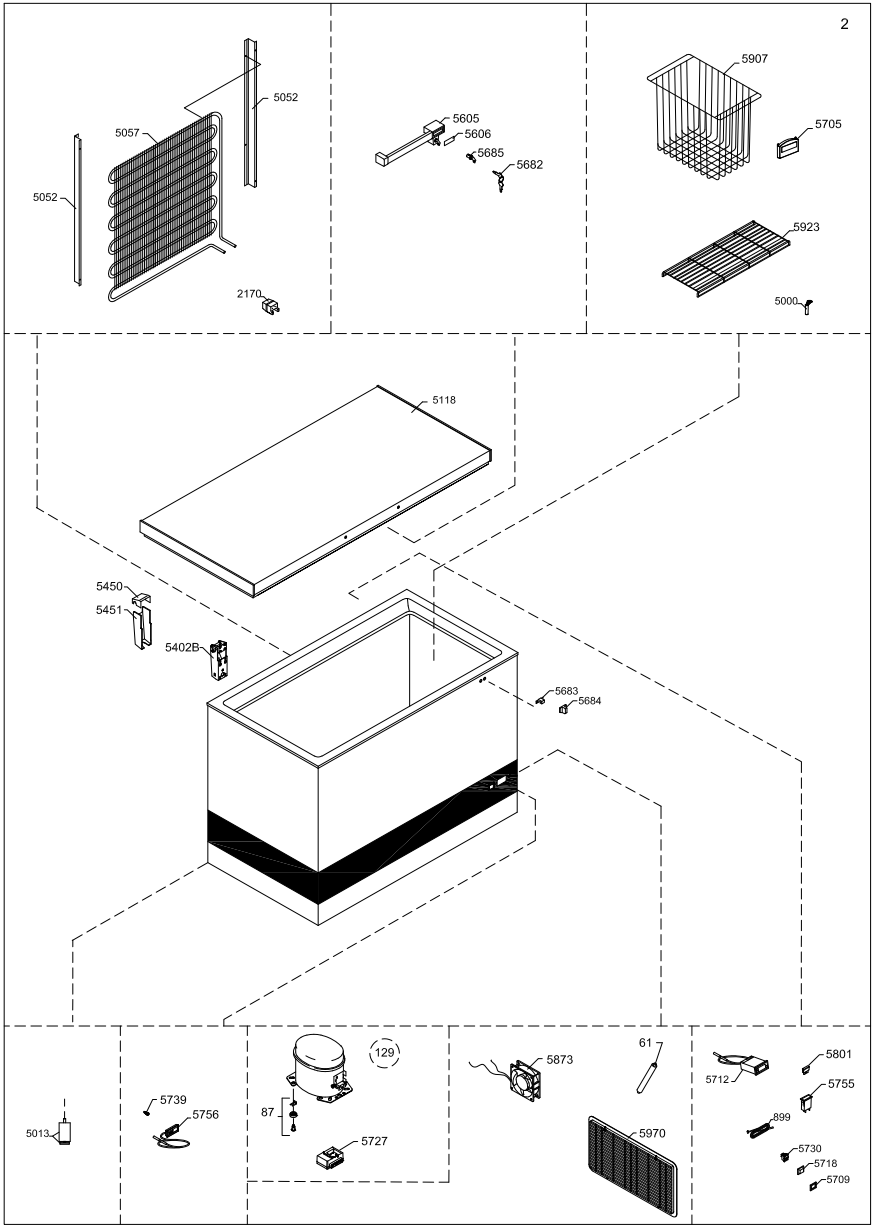
Complete spare part list VLS 154A SDD

Position	Item number	Item name
0061	0-6538001	Filter drier,
0087	0-6038175	Base plate fittings, complete
0129	8-036510223	Compressor - BD35K 101Z0211 10-45V
0899	7020311	Thermostat sensor
2170	0-A9301260103	Distance piece
5000	3010049	Drain plug
5013	3040400	Adjustable foot
5052	2041300	Fittings for condenser
5057	6010184	WOT condenser
5118	5000911154	Lid foamed without handle/hinges
5402	1510136	Hinge with spring
5450	3011135-01	Top part for hinge cover
5451	3010032-01	Bottom part for hinge cover
5605	304090501	Handle with lock (push and turn)
5606	8090342-94	Inlay for handle,
5682	1510238	Nikel-plated Key
5683	2040145	Catch for handle
5684	3010265-01	Cover for catch
5685	600098801	Lock with keys,(push and turn)
5705	7020406	Temperature monitoring device
5709	7060104	Frame for cover rocker switch bezel
5712	702090013	Thermostat XR20CX incl. sensor
5718	7060105	Rocker Switch Cover
5727	6520845	Electronics for BD35K compressor
5730	7020245	"on-off" switch
5739	7010139	Status indicator
5755	7060062	Fuse holder
5756	7020392-03	Thermometer, solar
5801	8470156	Fuse 15A
5873	7090099	Fan 2 x receptacle
5907	3510015	Basket 236 mm
5923	3510028	Bottom grating
5970	3010308-01	Motor screen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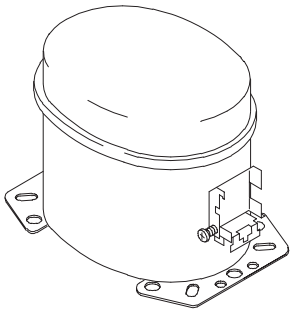
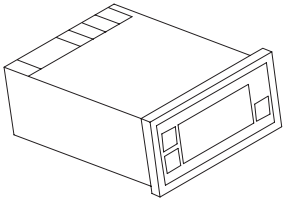
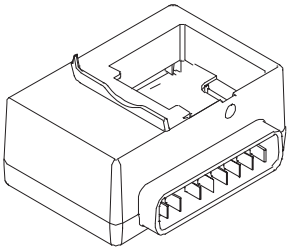
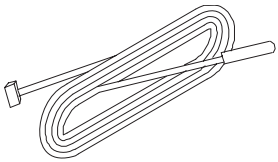
Vital components

Position	Item no	Description	
0129	8-036510223	Compressor	
5212	702090013	Thermostat	
5727	6520845	Starting Device ECU	
0899	7020956	Thermostat sensor	

Health and safety guidance – Warning!

Before any repair job be aware of following!

WARNING:
Before servicing or cleaning the appliance, disconnect it from power source.

WARNING:
Danger risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained personnel.

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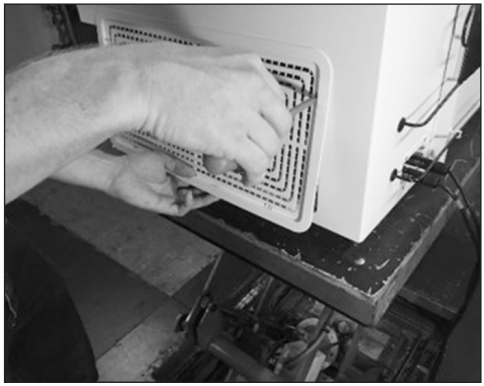
Required basic tools

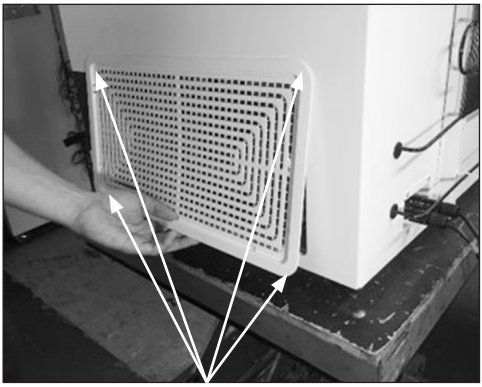
1. Flexible socket wrench
2 Socket wrench - size 7mm
3. Nose plier
4. Phillips screwdriver
5. Torx screwdriver - size t10+t20
6. Screwdriver - size 1,0x6,0
7. Screwdriver – size 0,6x3,5
8. Multimeter

Motor compartment

How to get access to the motor compartment.



Use a screwdriver to remove grille.



Unlock all 4 clamps and pull the compressor grille downwards.

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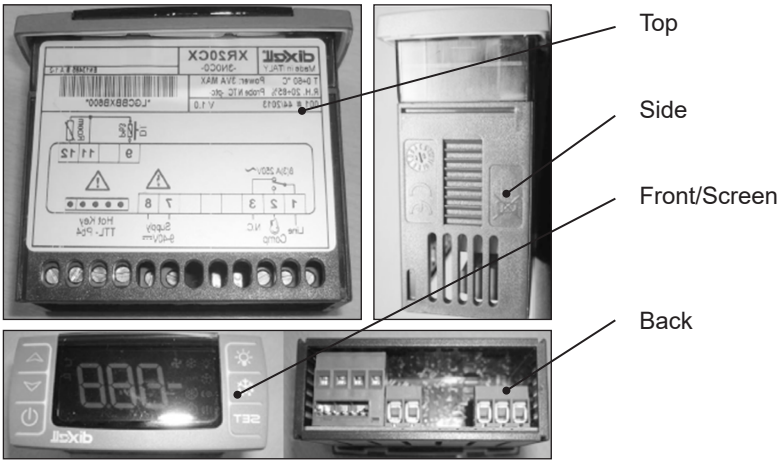
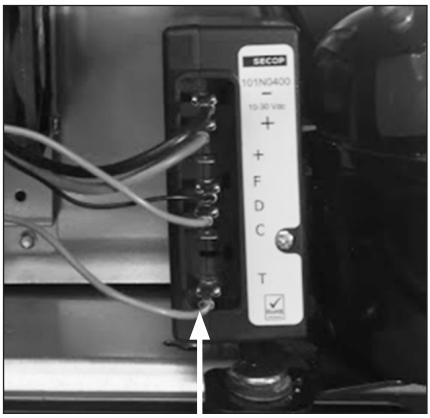
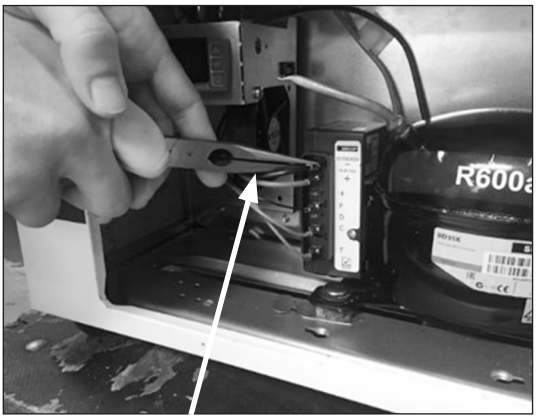
Thermostat replacement

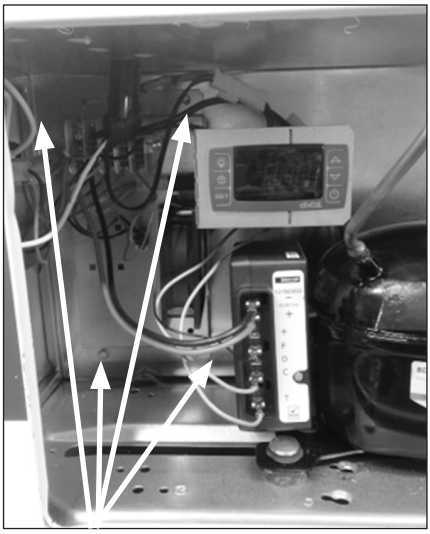
The thermostat is placed to the left in the compressor compartment, fixed to the terminal bracket.

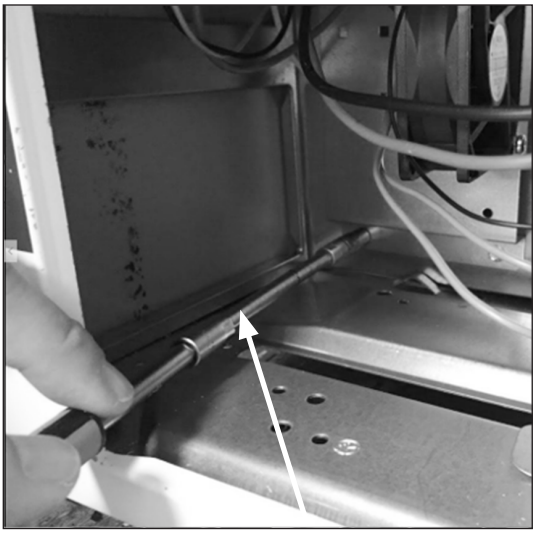




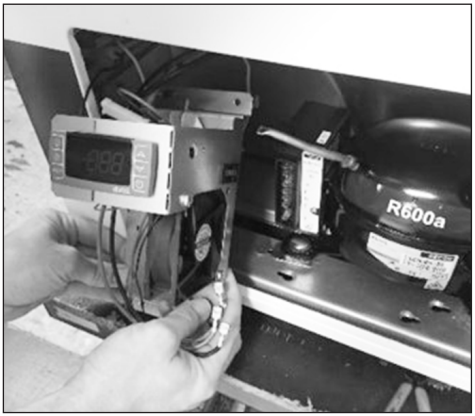


1. Dismount the 5 wires from ECU. Use a nose plier to grab the wire socket and pull gently.

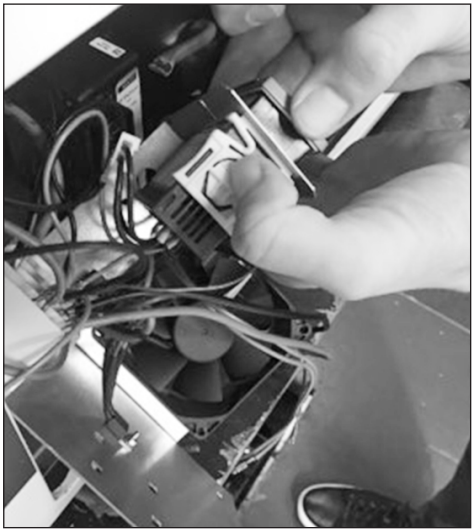




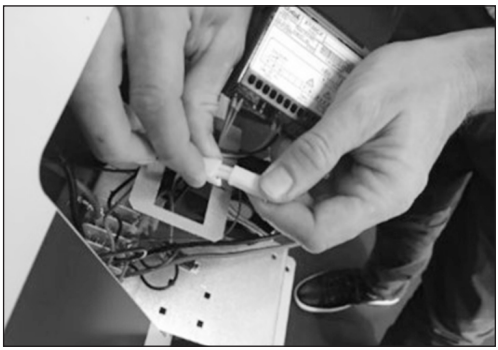
2. Loosen 4 screws for thermostat / fan bracket. Use the flexible socket wrench size 7 mm.



3. Gently pull out the thermostat bracket, by tilting out from bottom.

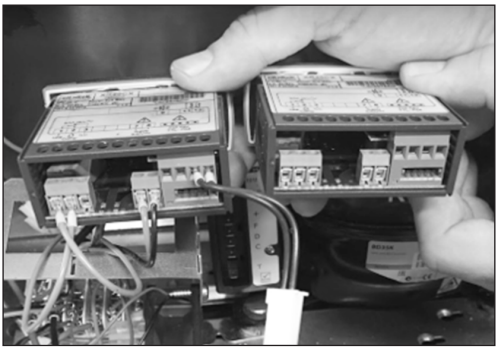


4. Push clip on left and right side and pull out thermostat.



5. Unplug connector for temperature probe.

6. Use a small screwdriver to loosen the cable lugs from thermostat socket.



7. Exchange the wires 1/1 from the old thermostat to the new.

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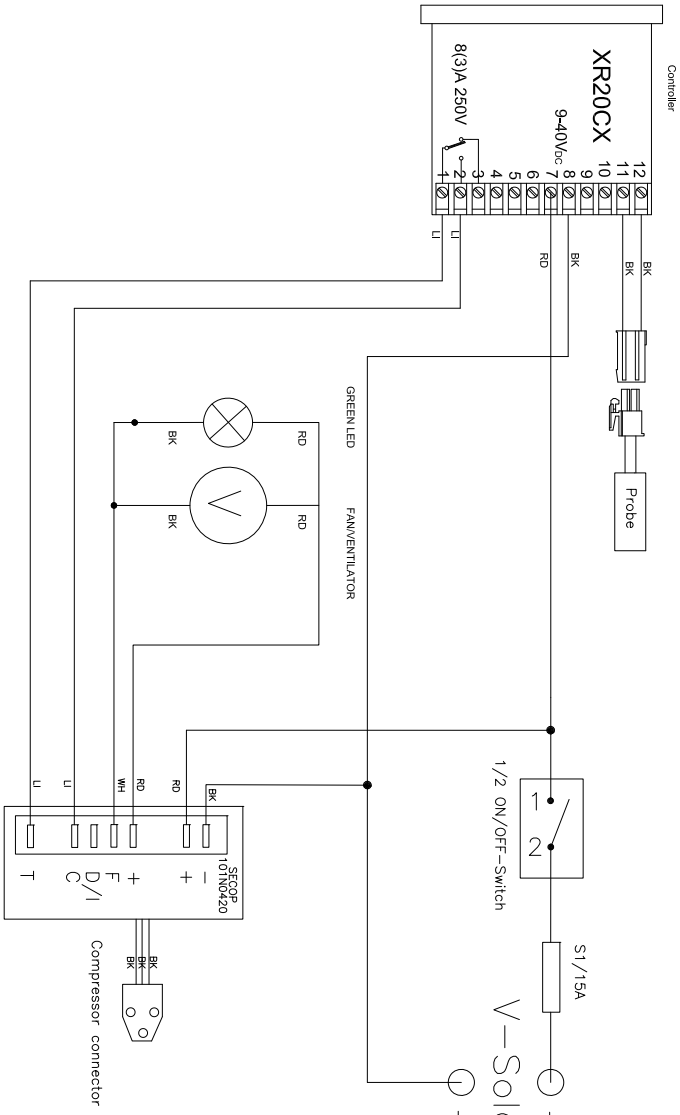
Thermostat, Wire diagram



Thermostat programming

Front panel commands

SET	To display target set point. In programming mode it selects a parameter or confirm an operation.
❄	(DEF) To start a manual defrost
▲	(UP) To see the max stored temperature. In programming mode it browses parameters or increases the displayed value.
▼	(DOWN) To see the min stored temperature. In programming mode it browses the parameters or decreases the displayed value.
⏻	To switch the instrument off, if onF = oFF
☀	Not enabled
▲ + ▼	To lock and unlock the keyboard
SET + ▼	To enter in programming mode
SET + ▲	To return to the room temperature display.

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Main functions

How to see the set point

1. Push and immediately release the **SET** button. The display will show the set point value.
2. Push and immediately release the **SET** button or wait for 5 seconds to display the probe value again.

How to change the set point

1. Keep **SET** button pressed more than 2 seconds to change the set point value.
2. The value of the set point will be displayed and the **"°C"** or "**°F**" LED starts blinking.
3. To change the set point value push the **UP** or **DOWN** buttons.
4. To memorize the new set point value push the **SET** button again or wait for 10 sec.

How to change a value

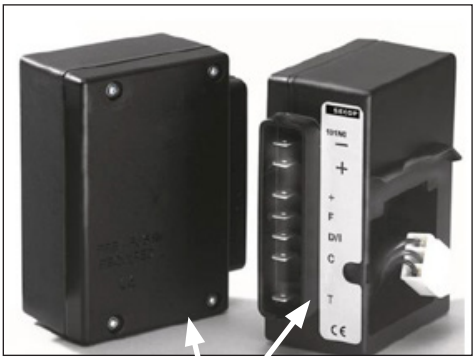
To change the parameter´s value operate as follows:

1. Enter the programming mode by pushing **SET + DOWN** for 3 sec. The **"°C"** or "**°F**" LED start blinking.
2. Select the required parameter. Press the "SET" key to display its value
3. Use **UP** or **DOWN** to change its value.
4. Press **SET** to store the new value and move to the following parameter.

To exit: Press **SET + UP** or wait for 15 sec without pressing a key.

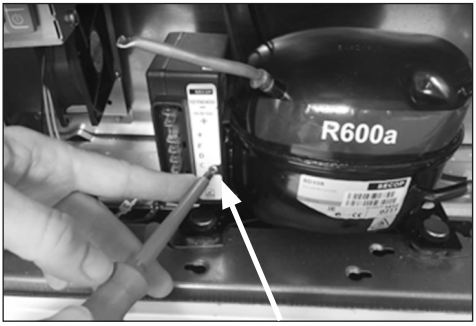
NOTE: Factory default set point for VLS 024/054/094/154 SDD = 3 °C

Starting device ECU replacement



Starting device: Back, Front with terminal board.

The starting device is mounted to the left side of the compressor.



1. Loosen the Phillips screw a couple of turns.

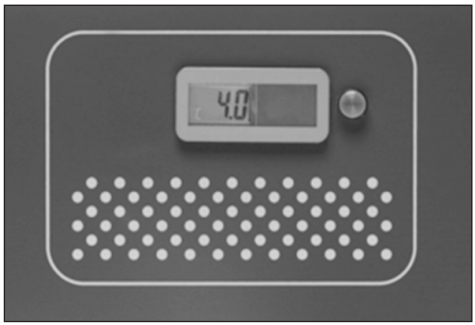
2. Place a screwdriver in the small vent in the plastic cover.

3. Unclick plastic cover/starting device from compressor bracket.

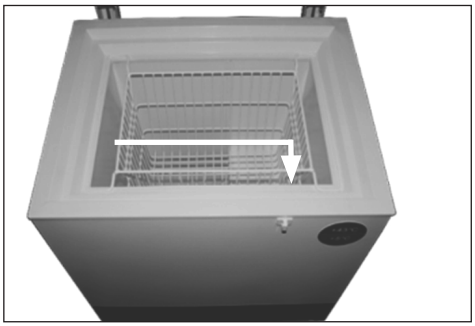
4. Use a screwdriver to disconnect the socket from compressor.

Thermometer replacement

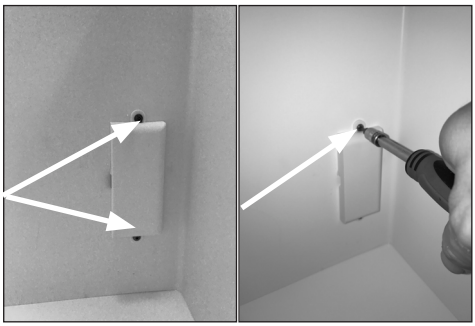
The thermometer is placed in at the front of the appliance.



Thermometer display.



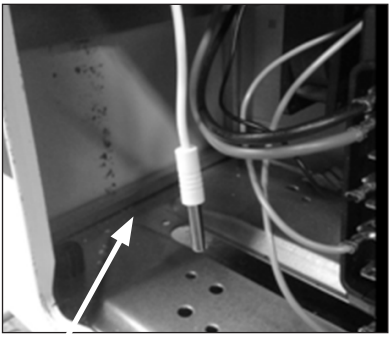
The thermometer sensor is placed inside the compartment of the appliance.



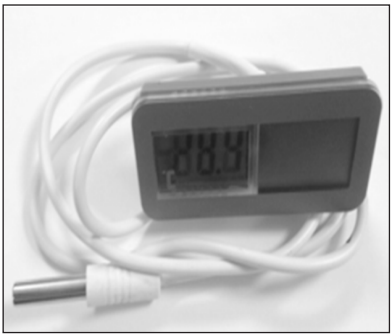
1: Dismount the temperature sensor cover by loosen the 2 x torx screws – size 10.

2. Remove the wire sealing and the sensor from the cover.

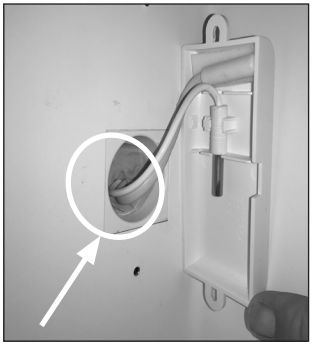
3. Remove black sealing tar-kit and gently pull the white wire until the probe is visible.



4. Temperature sensor.



5. Thermometer comes with wire and sensor.

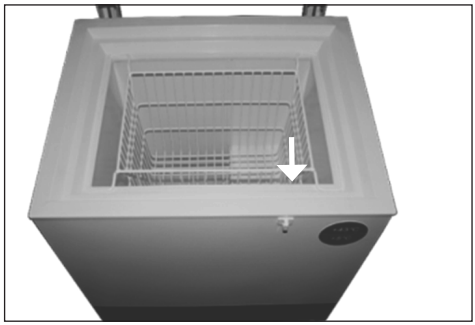


6. **IMPORTANT!** When re-mounting the new thermometer make sure the wire sealing plug is placed properly.

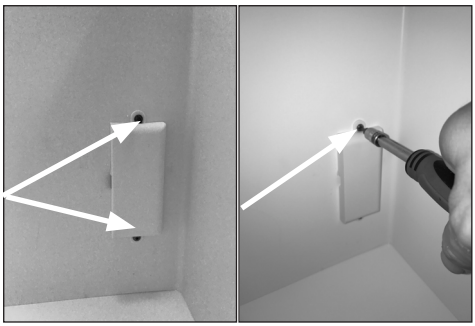
Tar kit

7. **IMPORTANT!**
When re-mounting the new thermometer remember to properly seal the wire feed through.

Thermostat sensor replacement



The thermostat sensor is placed inside the compartment of the appliance.



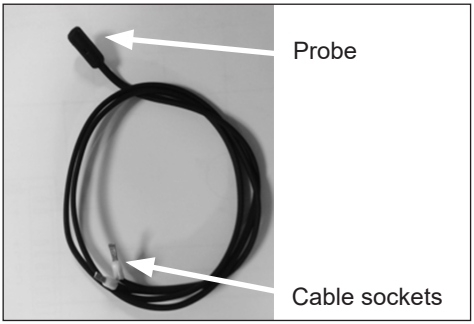
1: Dismount the sensor cover by loosen the 2 x torx screws – size 10.

2. Remove the wire sealing and the sensor from the cover.

3. Unplug the probe connector from thermostat.

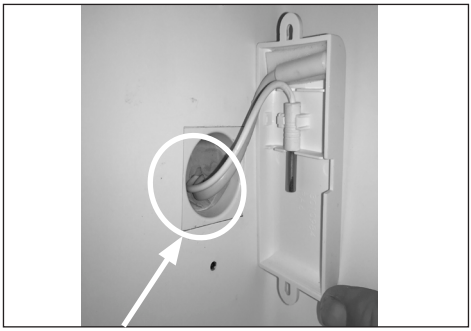
4. Remove black sealing tar-kit and gently pull the black wire until the probe is visible.

5. Thermostat temperature sensor.



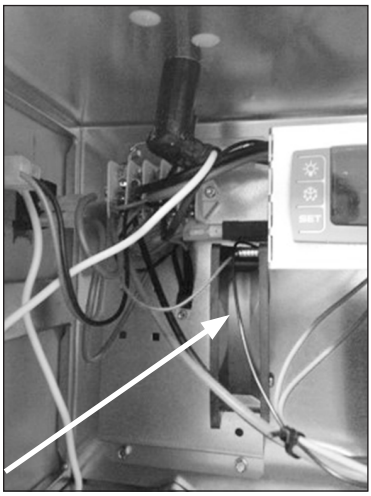
6. The thermostat sensor comes with probe, wire and cable socket.

7. **IMPORTANT!** When re-mounting the new thermometer remember to properly seal the wire feed through.



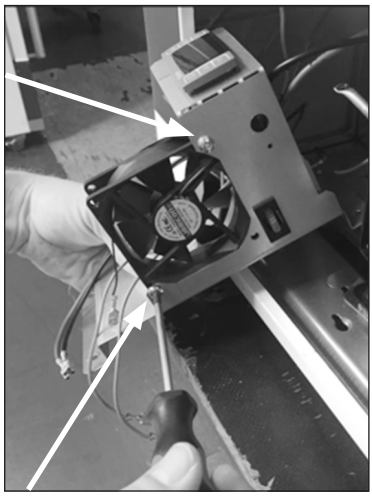
8. **IMPORTANT!** When re-mounting the new thermometer make sure the wire sealing plug is placed properly.

Fan replacement

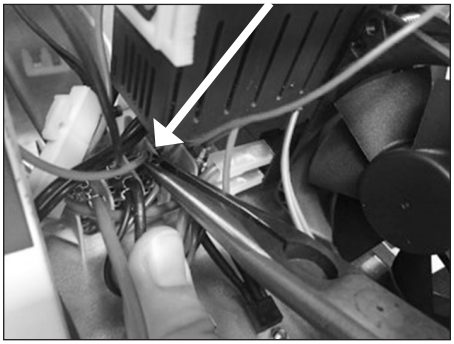


The fan is placed in the motor compartment on the fan/thermostat bracket.

1. Dismount the fan/thermostat bracket as described in section ”thermostat replacement”.



2. Loosen the 2 screws with a torx 20.

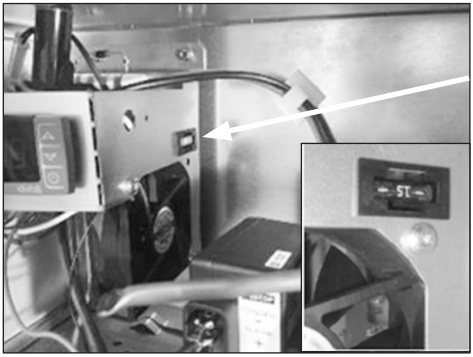


3. Unplug the thin red wire from the fan on the terminal board using a nose plier and the thin black wire on the ECU from the socket marked F (Fan).

4. Unplug the thin the thin black wire on the ECU from the socket marked F (Fan).

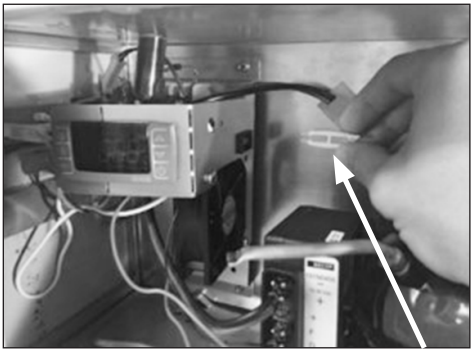
GB

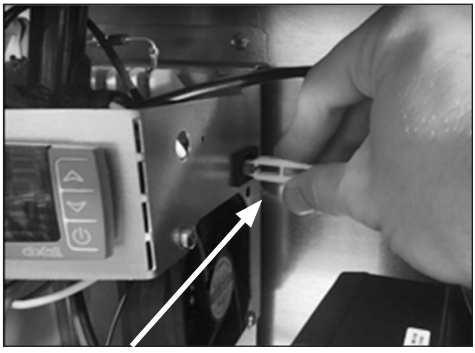
Fuse replacement



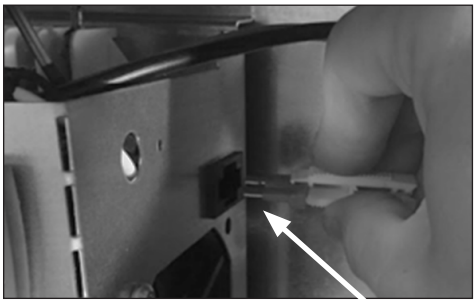
If the fuse is burned. It need to be replaced. The fuse is placed in the compressor compartment at the terminal box.

Use the small fuse- tool supplied together with spare fuses in the small plastic bag together with appliance.





Pinch the tool to the fuse



Pull the tool and fuse

Compressor replacement

Procedure of compressor switch.

1: **WARNING!** Drain coolant R600a from refrigeration system by vacuum suction.

2: **IMPORTANT!** Blow refrigeration system with NO/Nitrogen

3: Cut

A: Suction and pressure tube

B: Capillary tube

C: Dry filter

4: Dismount starting device ECU

5: Dismount old compressor

6: Insert new compressor

7: Solder

A. Suction and pressure tube

B. Capillary tube

C. Dry filter

8: Install starting device ECU

IMPORTANT! When solder copper tubes to iron tubes use silver tin

Filling of new refrigerant

9: Drain refrigeration system by vacuum suction

10: Check type sticker for required amount of R600a to fill on refrigerant system

GB

On-site checklist

- Is the green diode in the control panel on (Power check)
- Temperature records (manual records, FT2 data)
- Is the internal temperature inside the acceptable range of +2° to +8°
- Is the vaccine compartment clean and without condensation (water)
- Is the Compressor running
- Is baskets used and in place
- Is the appliance placed according to instruction in the manual.
- Does the lid close tight to cabinet and is the lid gasket in good condition
- Is the grille for compressor compartment clean
- Is the condenser coils on the backside clean
- Is all electrical components working properly
- Over all condition of the cabinet –internal and external: any corrosion, rusting, cracks
- PV Panels clean and mounted according instructions
- PV Panel installation/condition
- Check if any risk of shading on the PV Panels
- Condition of the cables from the panel to the compressor including the lightening protection

Trouble shooting

Fault	Possible cause	Remedy
Compressor is not running.	Be patient, it is most likely that the compressor will start within a few minutes.	If this is not the case, check the following: - Check that power is connected and that the wire from the solar panel to the appliance is intact. - Check the fuse and replace it if necessary. - If the above is OK, call technical supervisor.
Compressor is running, and the temperature is too high.	The ventilation grille is blocked. The lid is not closed properly. The fan in the compressor compartment is blocked or defective. The temperature in the room in which the appliance is installed is too high.	Ensure unhindered air circulation. Ensure that the lid is closed properly. Check that the fan is running, if not it should be replaced. Shield the appliance against direct sun light and ensure more ventilation to the room.
Temperature in VLS SDD is too low.	To low set point on digital controller.	Turn to page 23/24 in terms of getting details on how to adjust thermostat setpoint.
No temperature is displayed.	There is not enough light for the solar sensor.	Turn on the light.
No light in green diode during day time.	Switch is turned OFF Fuse is burned Diode is defect	Turn on the switch. Replace the fuse. Replace diode.

GB

Diagnostic

Trouble shooting VLS SDD

YES

Controller display on?

YES

NO

Switch on front panel turned on?

No cooling during daytime or high temp inside cabinet

Compressor running? (Place hand on compressor)

NO

Switch on

NO

YES

Refrigerant charge lost. Search for leak, repair and recharge

NO

Discharge tube hot?

Cooling system seems to work.
Check the lid is sealing tight to the top frame

YES

YES

Change compressor ECU

Voltage >17V on compressor

NO

Check wire connection on terminal board

YES

R=0 on wires to C and T

YES

NO

"*" in display

Wire connection on back of controller OK?

Replace controller

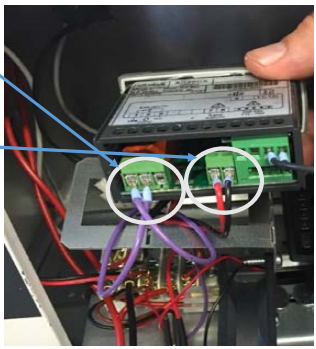
Fix wires

NO

Check SP and Hy (SP=3 Hy=0.1)

YES

Replace controller



YES

Power wires to controller are ok ?

Fix wires

Voltage >17V on compressor

NO

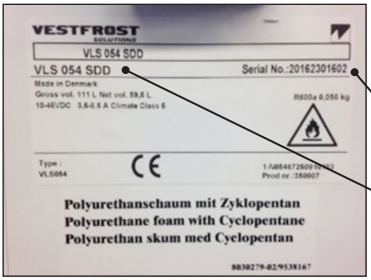
Check power wires to from PV panels

GB

Technical support

When contacting Vestfrost Solutions technical support please supply below information:

1. Model
2. Serial number
3. What is the issue



Serial no.

Model

Rating plate

Contact:

Vestfrost Solutions
Tel. +45 75142250

cce-service@vestfrostsolutions.com

Or visit our service-center webpage:

http://www.vestfrostsolutions.com/service-center/

Recycling procedures

Information for Users on Collection and Disposal Old Equipment and used Batteries

This symbol on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2012/19/EU and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.