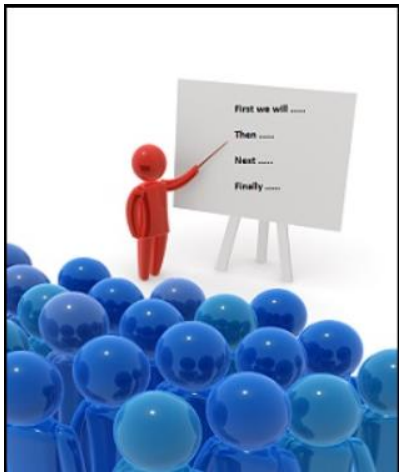
Vestfrost Solutions

Service and Maintenance Presentation: VLS 064A
RF AC

VESTFROST SOLUTIONS

Topics

- Overview of VLS 064A RF AC
- Get to know your VLS 064A RF AC
- General required maintenance
- Vital components
- Warning
- Required basic Tools
- Replacement of components
- Adjustment of lid
- Trouble shooting
- On site Checklist



Overview of VLS 064A RF AC

Vaccine Chest Refrigerator

WHO PQS Approved Codes:

- E003/070

Technical specifications:

- +43°C hot zone
- Grade A
- Compressor Secop NLE9 KTK
- Refrigerant R600a refrigerant
- Galvanized, pre-painted cabinet
- Aluminium, inner cabinet
- Insulation cyclopentane
- Automatic temperature control
- Lock and key
- Gross volume 75 L
- Vaccine storage cap. 52.5L
- Water-pack freezing cap. 1.6kg/24h
- Water-pack storage cap. 6 X 0,6L
- Energy consumption 0.63 kWh/24h
- Hold overtime 45h

Upgraded version VLS 064A RF AC

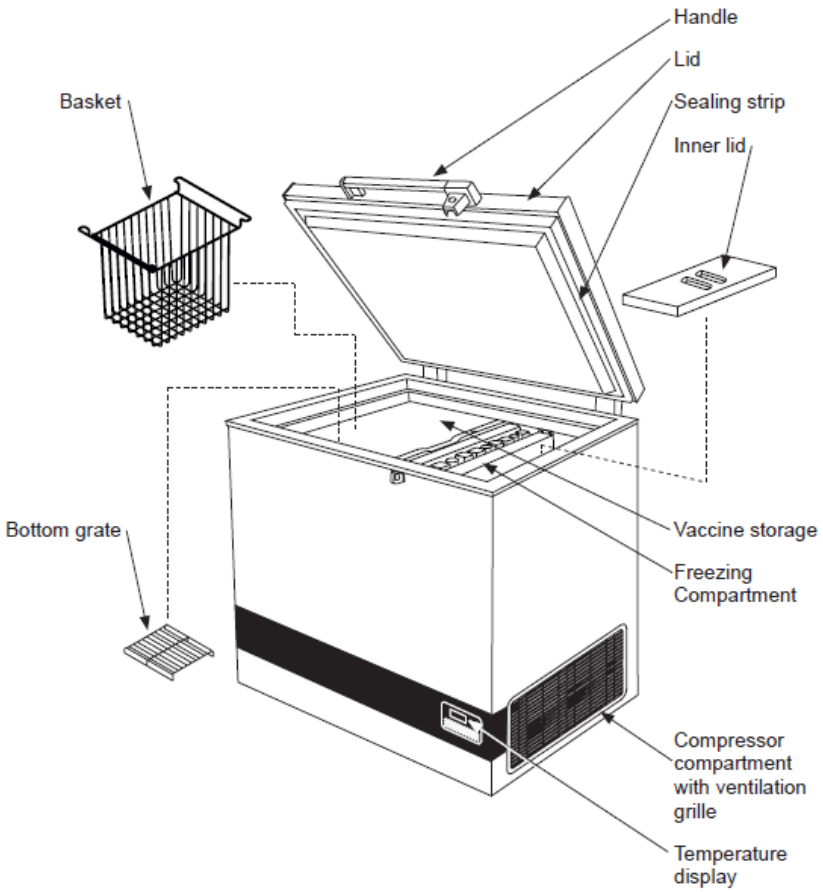
New junction box

1. To ease any adjustments of controller set-points

2. To ease maintenance/service of electrical components

3. To create a far higher protection of the electrical components

Get to know your VLS 064A RF AC



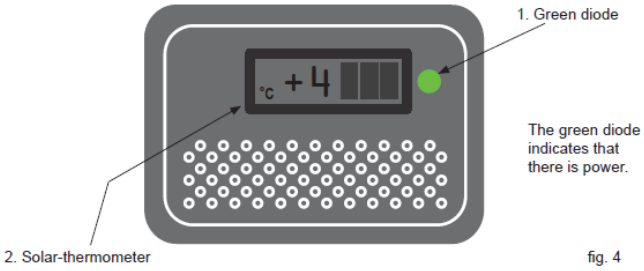
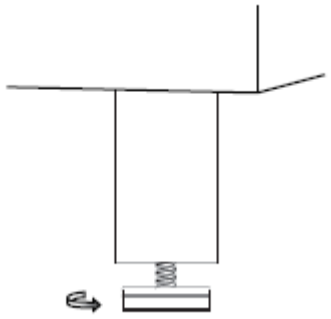


fig. 4



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Get to know your VLS 064A RF AC

General required maintenance

Daily Check:
Monitor Temperature
Internal lid is placed properly
Lid fits and lock tight to cabinet
Lid gasket not faulty
Condensation build up in vaccine compartment

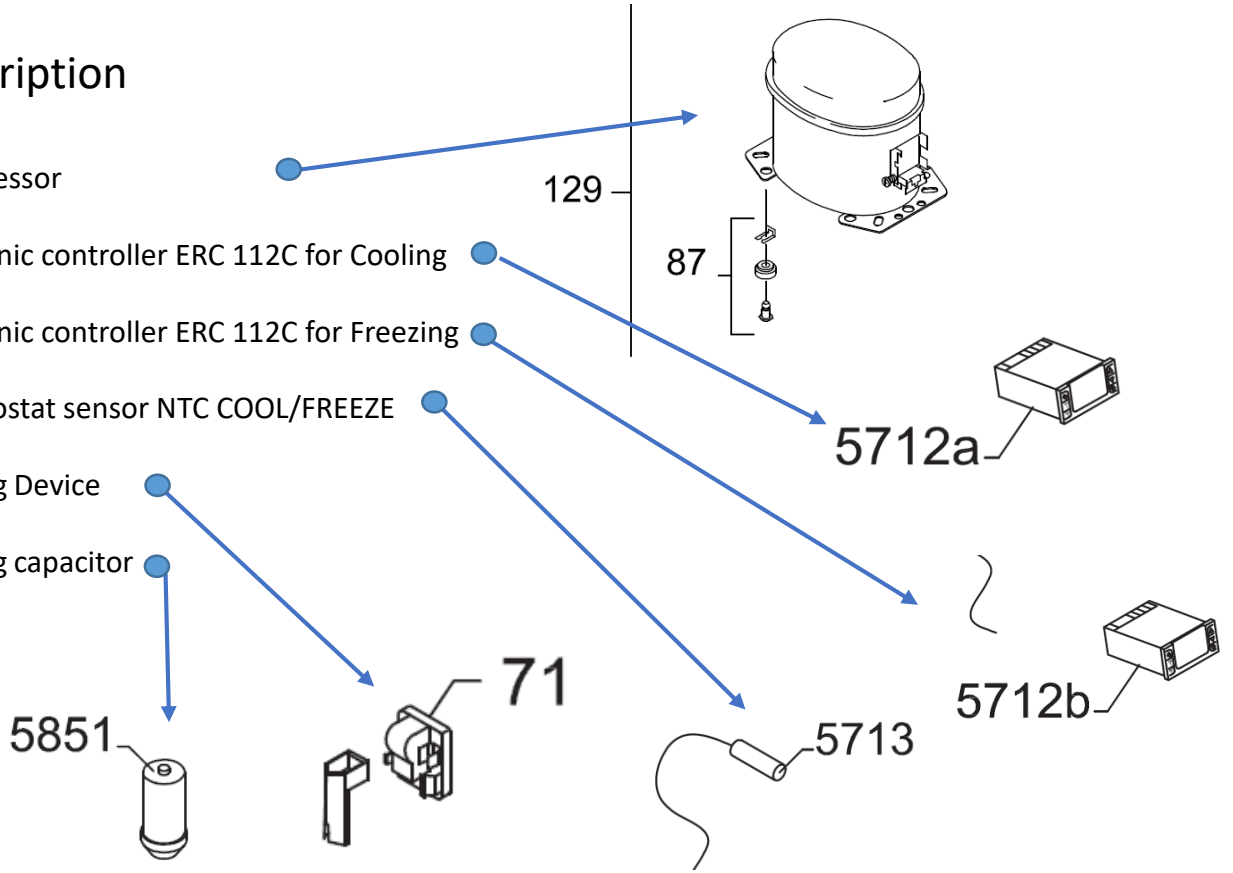
Monthly:
Clean grille for compressor compartment
Clean vaccine compartment with mild detergent/water

6 Month:
Clean outside/inside + lid. of appliance

Yearly:
Check electrical connections and components

Vital Components

Position	Item no	Description
129	8-036038255	Compressor
5712a	7095229	Electronic controller ERC 112C for Cooling
5712b	7095209	Electronic controller ERC 112C for Freezing
5713	7020960	Thermostat sensor NTC COOL/FREEZE
5810/71	6520360	Starting Device
5850	520229	Starting capacitor



Warning!

Before any repair job be aware of following!

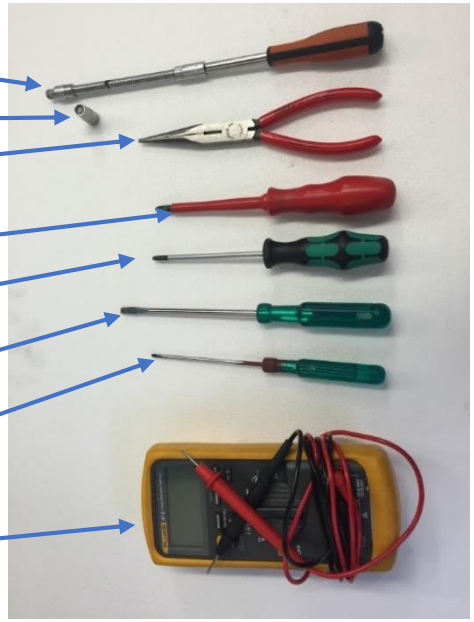
WARNING:
Before servicing or cleaning the appliance, disconnect it from power source.

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

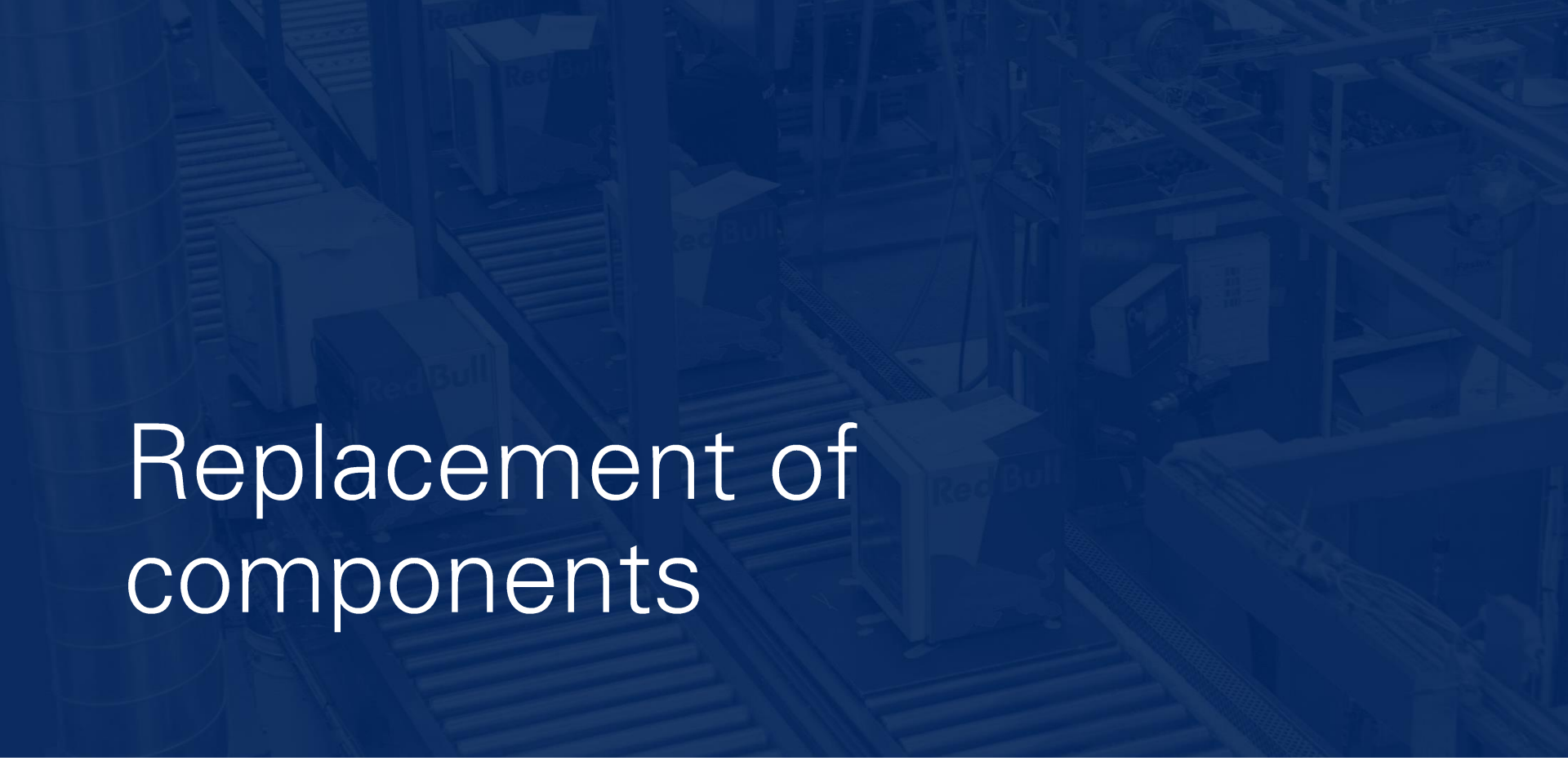
(R600a)

Required Basic Tools

1. Flexible socket wrench
2. Socket wrench - size 5,5+7+12mm
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



<u>Proposed additional service kit/items</u>
Sealing kit
Tar tape
Extra self-tapping screws



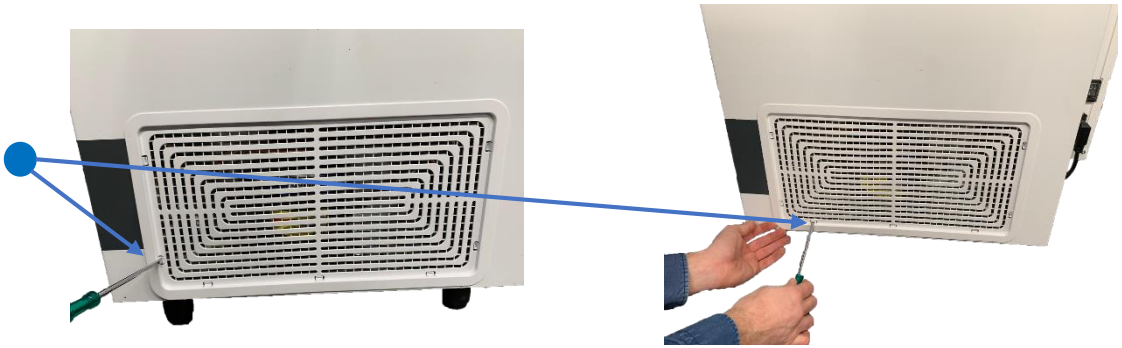
Replacement of components

1. Motor Compartment
2. Thermostat Replacement
3. Thermostat Adjustment VLS
4. Relay Replacement
5. Wiring Diagram
6. Starting Device Replacement
7. Thermostat sensor
8. Run Capasitor Replacement
9. Thermometer replacement

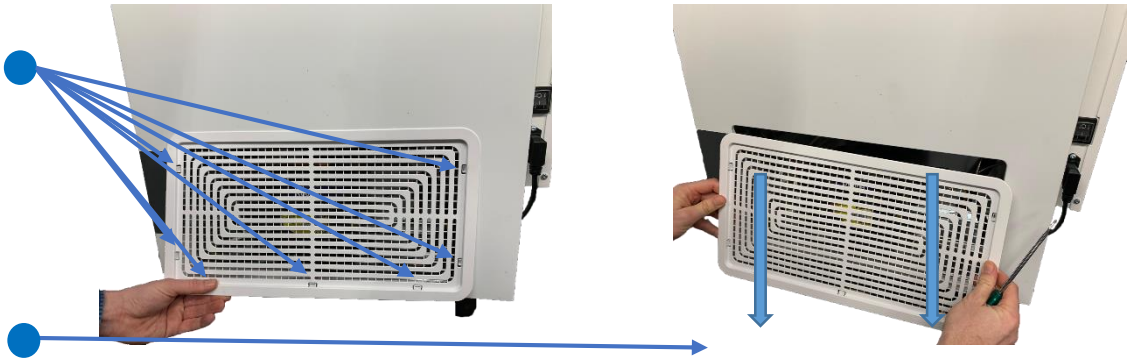
Motor Compartment

How to get acces to the motor compartment.

- Use a screwdriver to unlock all 7 clamps



- Unluck all 7 clamps
- Gently pull the compressor grille



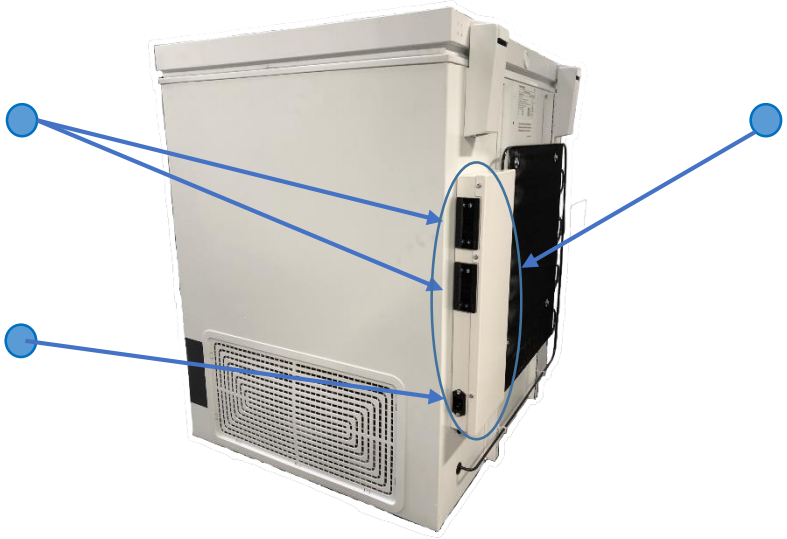
Motor Compartment

The compressor compartment
of VLS 064A RF AC

Thermostat Replacement

2 x Danfoss controllers
One for refrigerator compartment one for freezer compartment.

Appliance socket for power coard



Electric junctionbox

Placed at the rear of VLS 064A RF AC

Danfoss controller:

Front with display and adjustments buttons

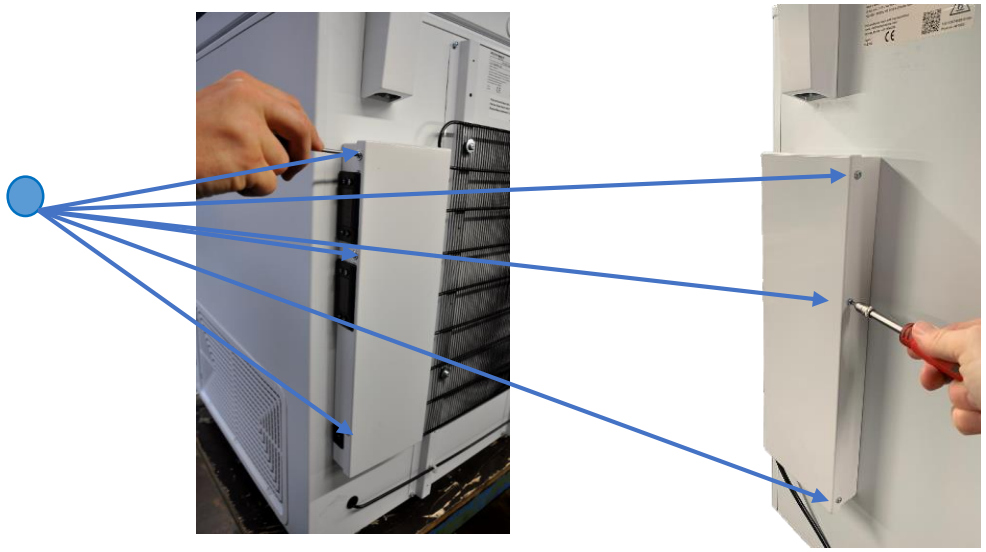
Back with electrical sockets

Top view

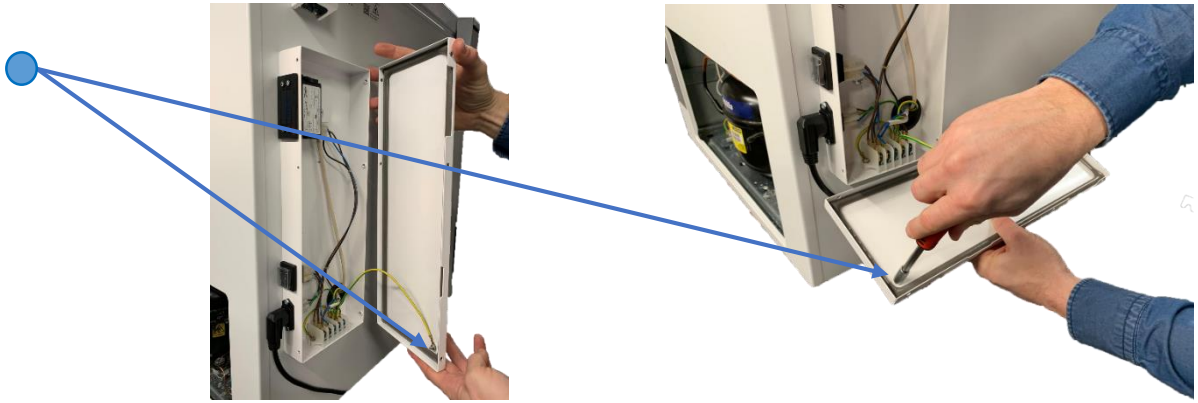
Thermostat Replacement

Access to electrical components

1: Dismount 6 x Torx 20 screws and unmount the junction box lid

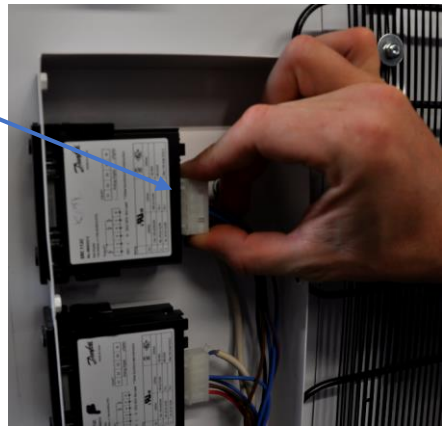


2: Remove grounding cable from junction box by unscrewing bolt with a wrench 6mm

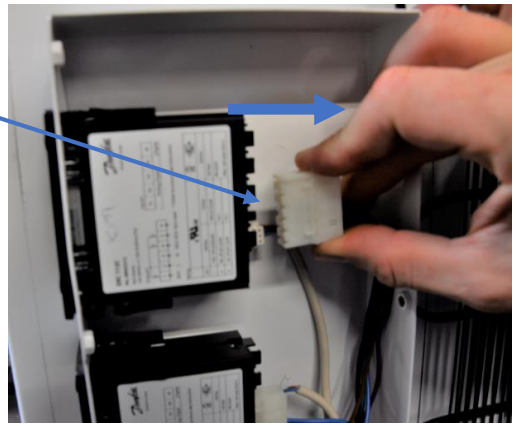


Thermostat Replacement

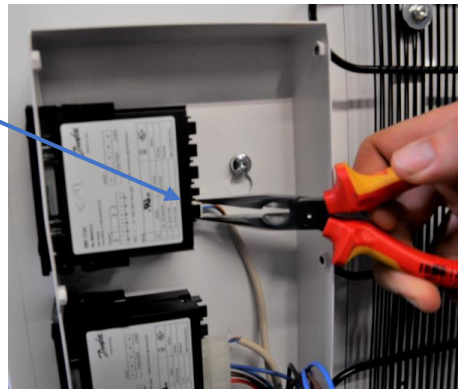
3: Remove power wires



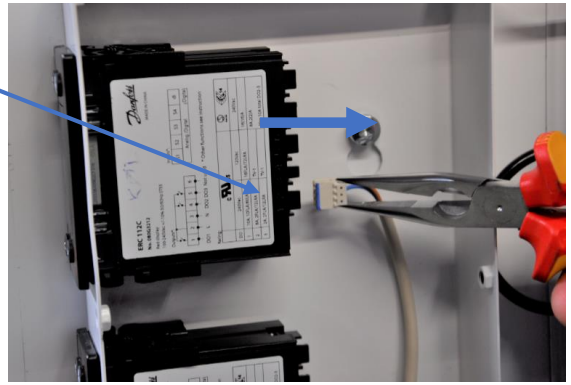
4: Pull the power wire plug from the socket



5: Remove sensor wires



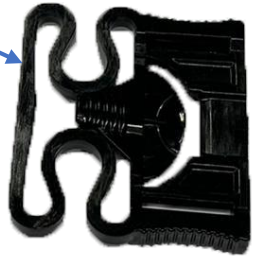
6: Pull out sensor wire from the socket



Thermostat Replacement

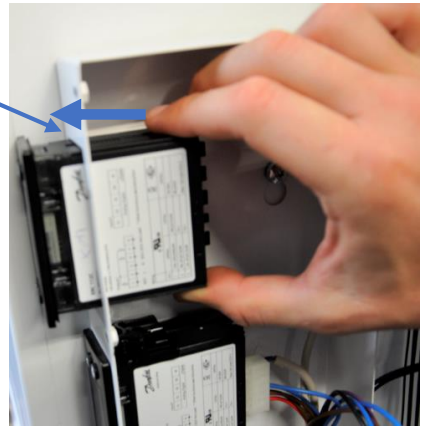
7: Remove 2 fixing clamps from thermostat body

Fixing clamp



8: Slide the fixing clamps backwards

9: Push out the thermostat



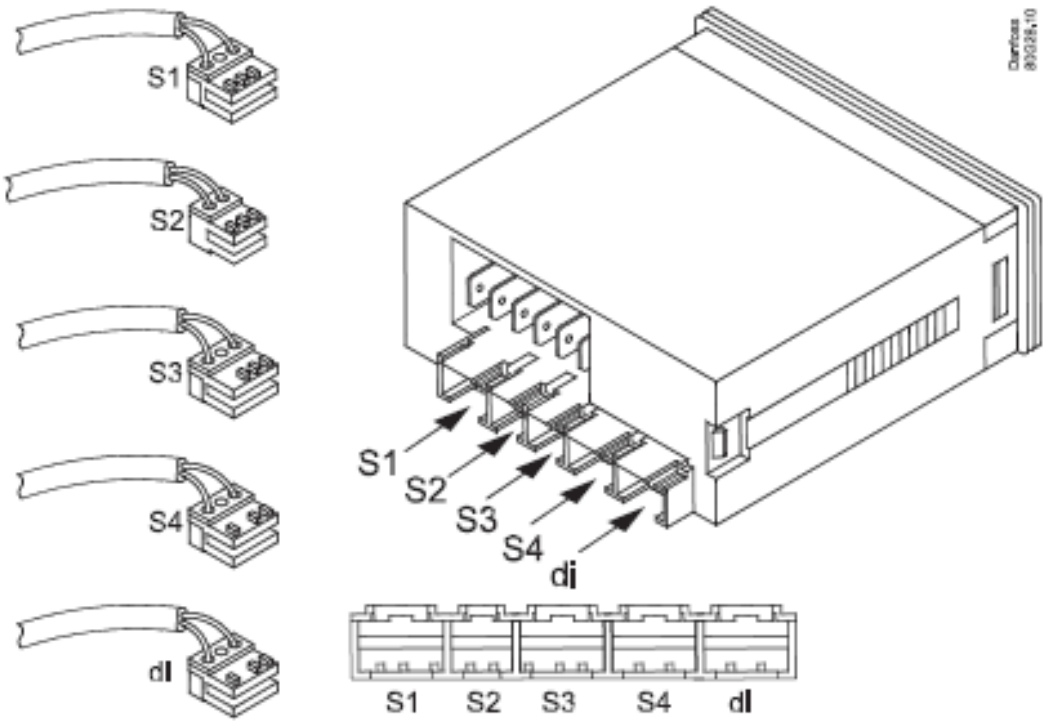
Thermostat Replacement

10: Put the thermostat back in place

11: Use your finger to press and slide the upper clamp back in place to secure fixture of the thermostat

12: Use your finger to press and slide the upper clamp back in place to secure fixture of the thermostat

Thermostat Replacement



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Thermostat Adjustment

Thermostats are default factory set at:
Refrigerator: 3.7°C
Freezer: -7.0°C

Steps:

1. Press < > "up/down" and hold 5 seconds to access the menu.
2. Press on/off button ⏻ x 2 times till you see numbers flashing
3. Push either < for adjusting lower or > for adjusting higher
4. To save press on/off button ⏻ x 1 time then freezing symbol ❄ 1 time

Importent!
Incorrect parameter settings can lead to unsatisfactory cooling, risking damage to stored vaccines.

If adjustment is required ONLY to be performed by trained technicians.

Adjust the controller max. 1°C at a time.
After adjustment monitor appliance carefully for min. 24 hours

Refrigerator adjustment Video

Freezer adjustment Video

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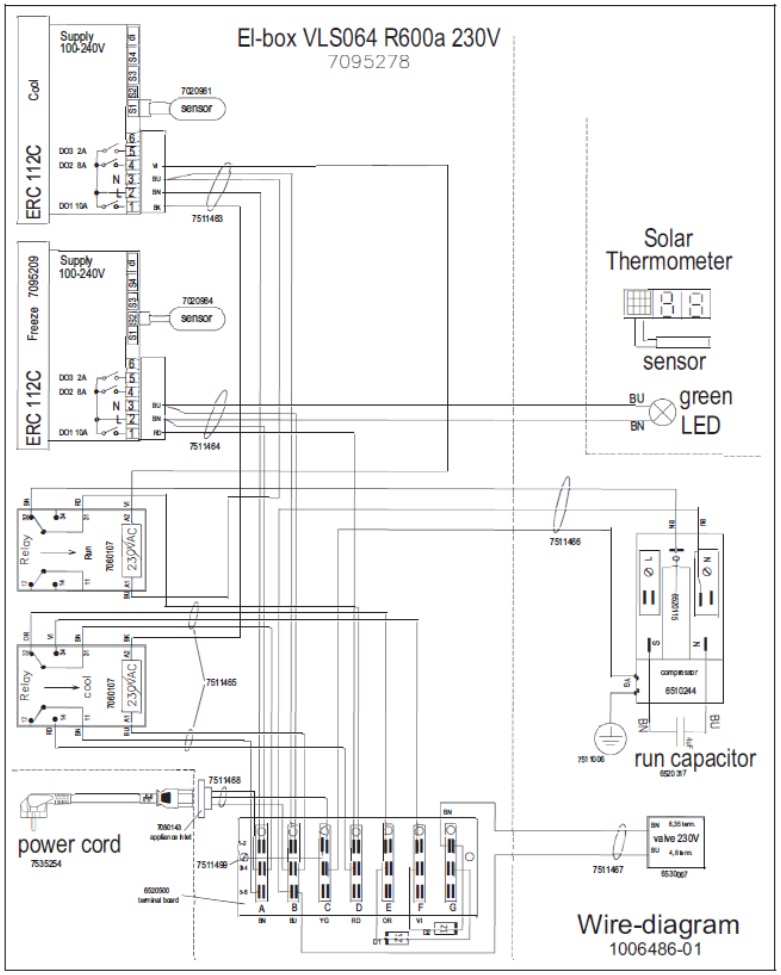
Relay Replacement

The two relays are placed inside the junction box

Wiring Diagram



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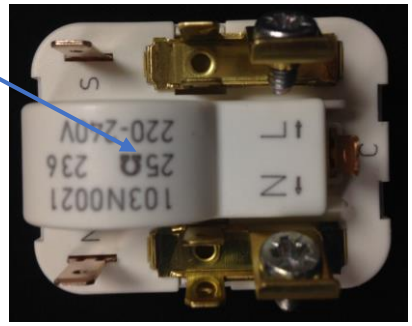
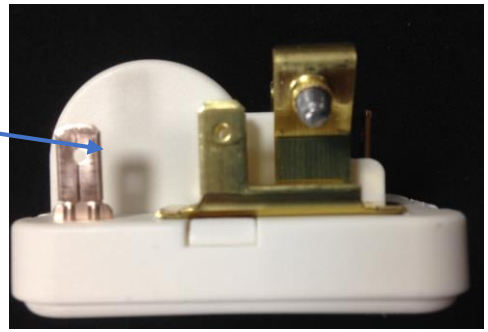
Starting Device Replacement

Front with terminals



Back with connection plug

Side view



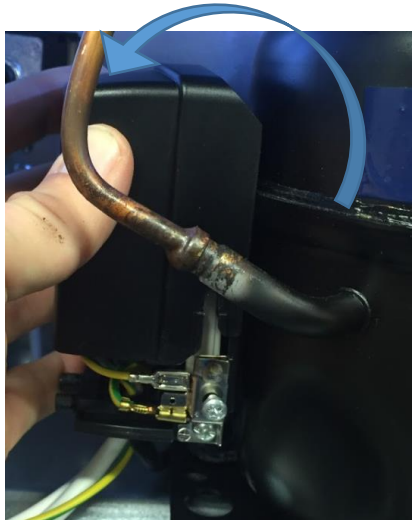
The starting device is mounted on the left side of the compressor

Starting Device Replacement

1: Dismount the cover for starting device by loosen the phillips screw

2: Push the plastic cover up

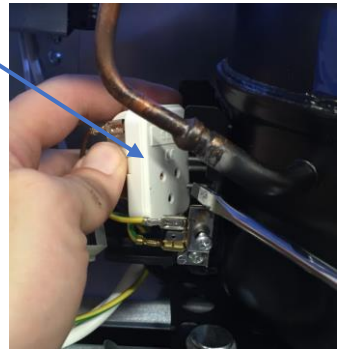
3: Pull the cover back to loosen



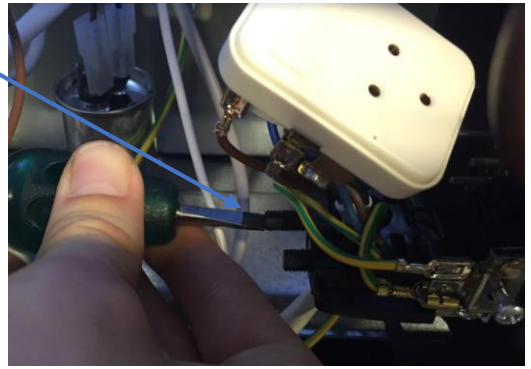
4: Use a screw driver and gently remowe the starter from the socket of compressor

Starting Device Replacement

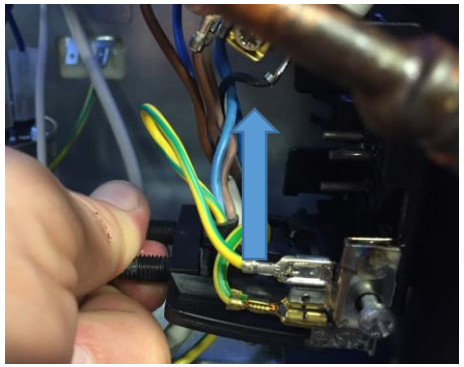
5: Starting device loose from socket



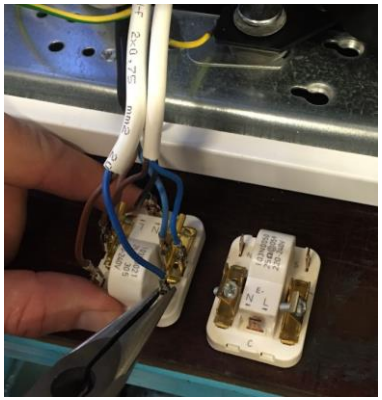
6: Use a small screwdriver or a wrench size 6 – to unmount the wire fastener



7: Push the plastic bracket up

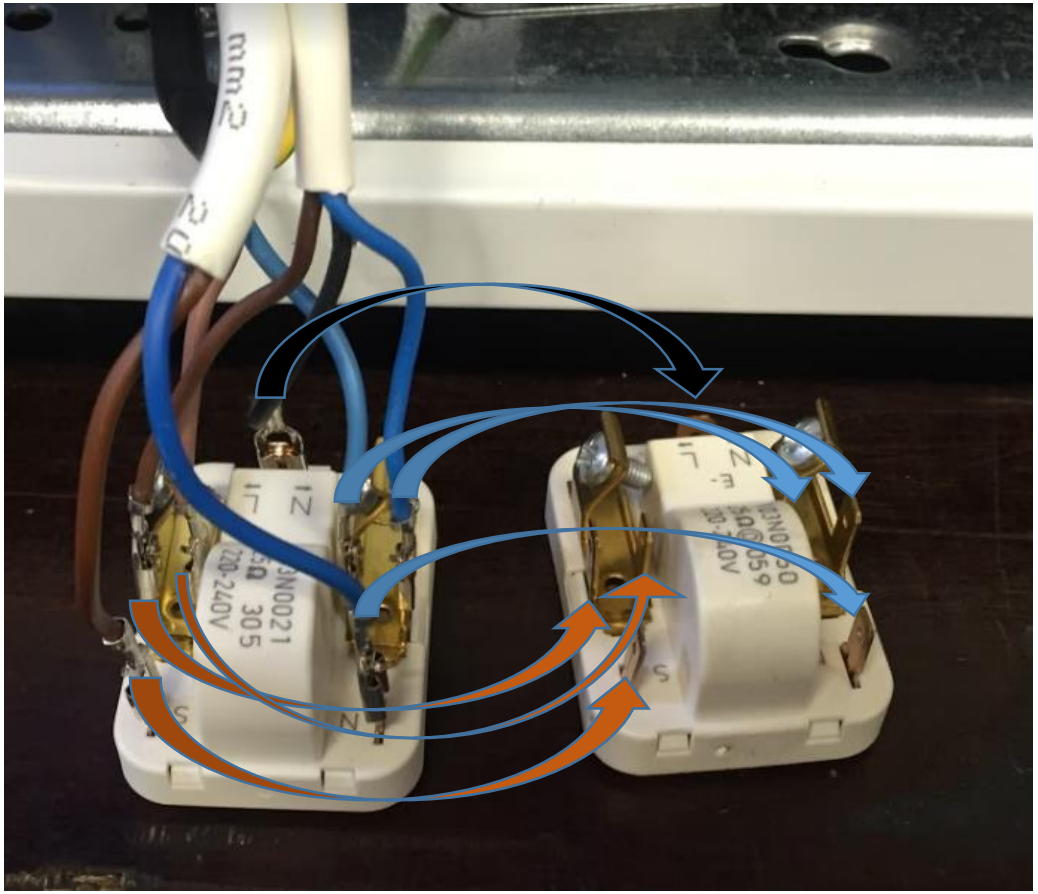


8: Use a nose plier to unmount the wire sockets from starting device



Starting Device Replacement

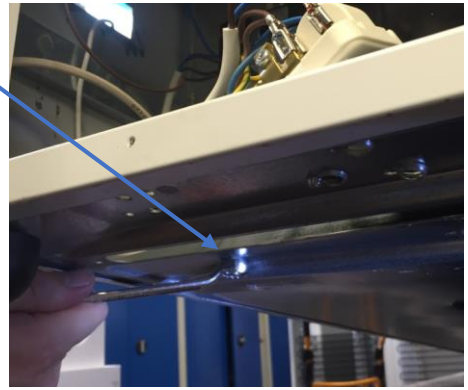
6: Exchange the wires 1/1 from the old starting device to the new one



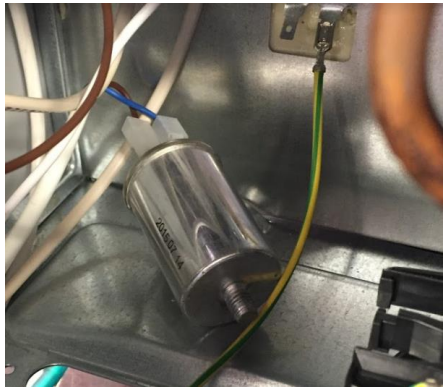
Run Capasitor Replacement

The run capasitor is placed in the left side of the compressor compartment on the bottom frame

1: Loosen the bolt that secures the capasitor from the bottom of appliance by using a wrench or a socket wrench M13

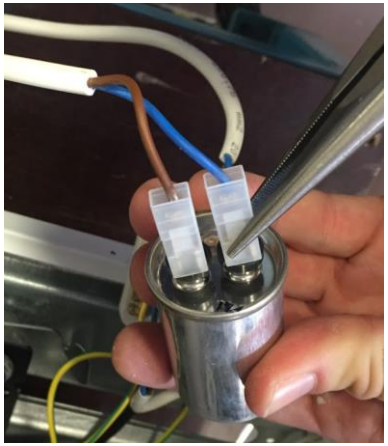


2: The run capasitor is loose



Run Capacitor Replacement

2: Unmount the 2 wires by using a nose plier.



3: Exchange the wires 1/1 from the old capasitor to the new one

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Adjustment of lid

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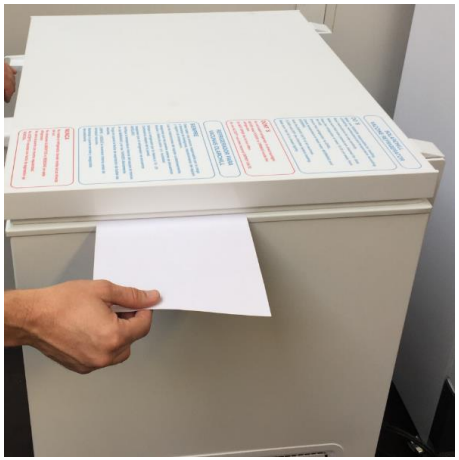
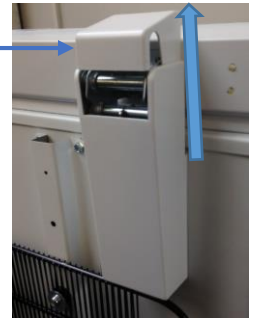
Adjustment of lid

Perform paper test to check that lid gasket fits properly to the cabinet



1: Hinge cover

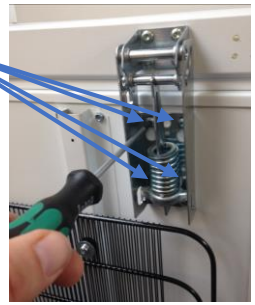
2: Remove upper hinge cover



3: Open side of lower hinge cover to remove

4: Pull lower hinge cover backwards

5: Use T 15 screwdriver to losen 4 screws



6: Gently tap the hinge up or down using a rubber hammer to adjust position of the lid

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

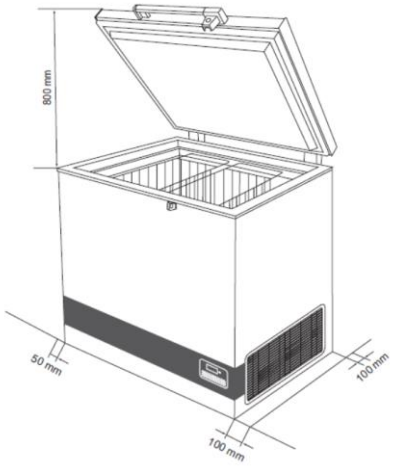
4: Dismount starting device ECU
5: Dismount old compressor
6: Insert new compressor
7: Install starting device ECU

8: Solder
A. Suction and pressure tube
B. Capillary tube
C. Dry filter

Filling of new refrigerant
8: Drain refrigeration system by vacuum suction
9: Fill 50g of R600a refrigerant on the system

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. - 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 temperature in the room in which the appliance is installed is too high.	Ensure unhindered air circulation. Ensure that the lid is closed properly. Shield the appliance against direct sun light and ensure more ventilation to the room.
No temperature is displayed	The thermometer is broken. There is not enough light for the solar sensor.	Change the thermometer. Turn on the light.



On-site Checklist

Service technician to check

- ❑ Is the green diode in the control panel on (Power check)
- ❑ Is the internal temperature inside the acceptable range of +2° to +8°
- ❑ Is the vaccine compartment clean and without condensation (water)
- ❑ Is the Compressor is 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
- ❑ Is there condensation on electric parts (water condensation)?
- ❑ Over all condition of the cabinet –internal and external: any corrosion, rusting, cracks?
- ❑ Inspection of the refrigeration line (the condenser, evaporator, the whole refrigeration circuit/line)

Technical Support

If contacting Vestfrost Solutions technical support please supply below information:

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

Rating plate

Serial no

Model

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