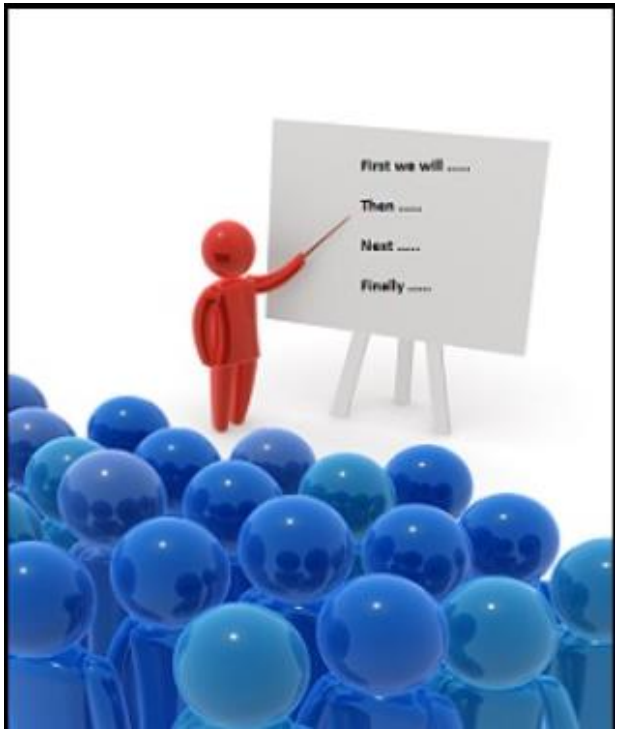
Vestfrost Solutions

Maintenance and Repair Presentation: MF 114/214/314

VESTFROST SOLUTIONS

Topics

1. Overview of MF
2. General required maintenance
3. Vital components
4. Warning
5. Required basic Tools
6. Replacement of components
7. Trouble shooting
8. On site Checklist



Overview of MF 114/214/314

Vaccine/waterpacks freezer:

WHO PQS Approved Codes

- E003/024 - MF 114
- E003/025 - MF 214
- E003/023 - MF 314
- +43°C Hot zone
- ISO 9001, 14001/18001 OHAS

Technical specifications:

- Compressor Secop NLE 9KTK (MF114/214)
- Compressor Secop HXK 12AT (MF314)
- Refrigerant R600a
- Galvanized, pre-painted cabinet
- Inner-lining, pre-painted aluminum
- Insulation cyclopentane
- Automatic temperature control
- Voltage 220-240V 50/60Hz
- Voltage 115V 60Hz (Option)
- Lock and key

General required maintenance

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

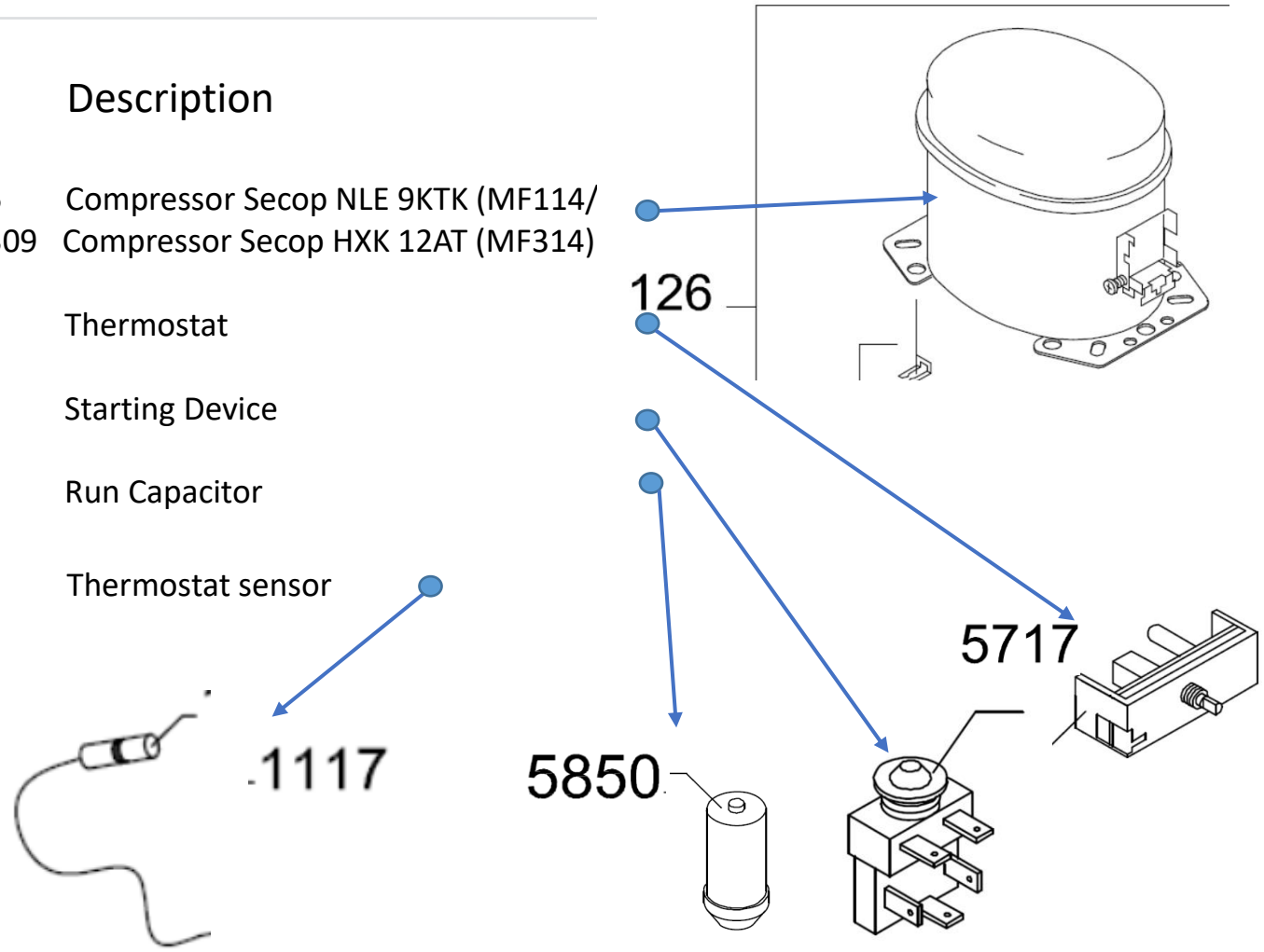
Weekly maintenance:
Check Freezer compartment is clean and without a thick layer of ice (less 0,5cm)
Defrost if needed

Monthly:
Clean grille for compressor compartment
Clean condenser coils

Yearly:
Check electrical connections and components

Vital Components

Position	Item no	Description
126	8-036038255	Compressor Secop NLE 9KTK (MF114/
126	8-03606510309	Compressor Secop HXK 12AT (MF314)
5717	7020239	Thermostat
5818	A921115	Starting Device
5850	6520016	Run Capacitor
1117	7020983	Thermostat sensor



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.

Required Basic Tools

1. Flexible socket wrench - size 7+13mm
2. Nose plier
3. Screwdriver - size 1,0x6,0 + 0,6x3,5
4. Phillips screwdriver
5. Torx screwdriver - size t10+t20
6. Multimeter
7. Clamp meter

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

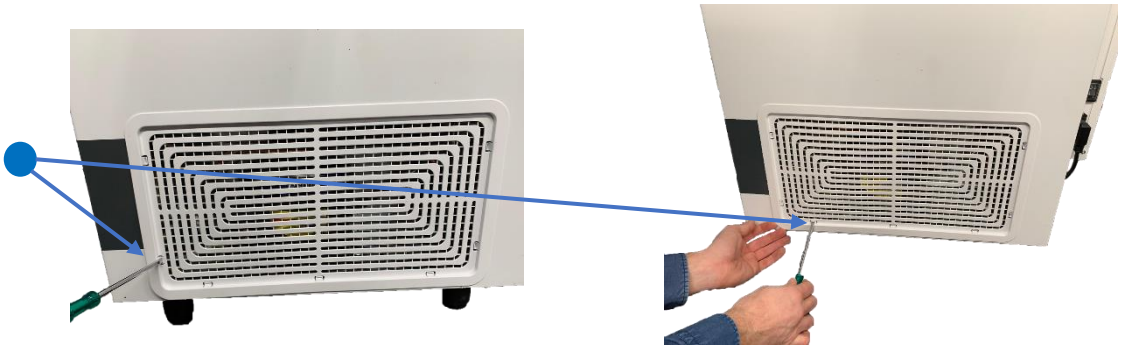
Replacement of components

1. Motor Compartment
2. Thermostat
3. Thermostat sensor
4. Starting Device
5. Thermometer
6. Adjustment of lid

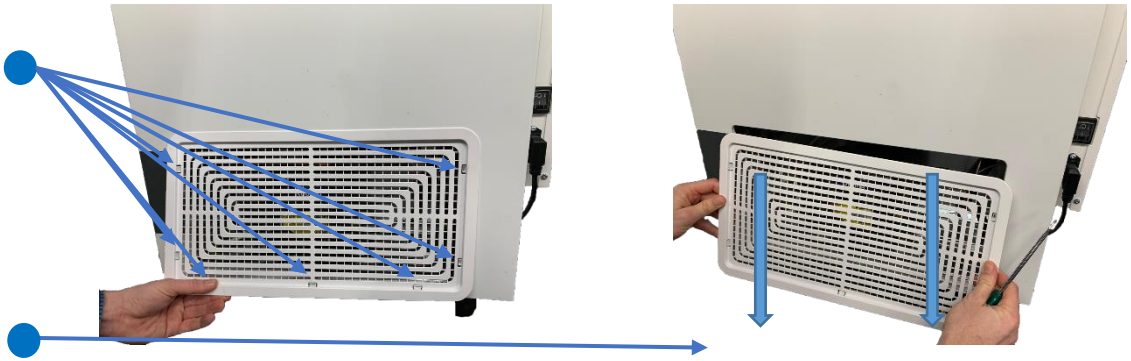
Motor Compartment

How to get acces to the motor compartment.

- Use a screwdriver to unlock all 7 clamps



- Unluck all 7 clamps

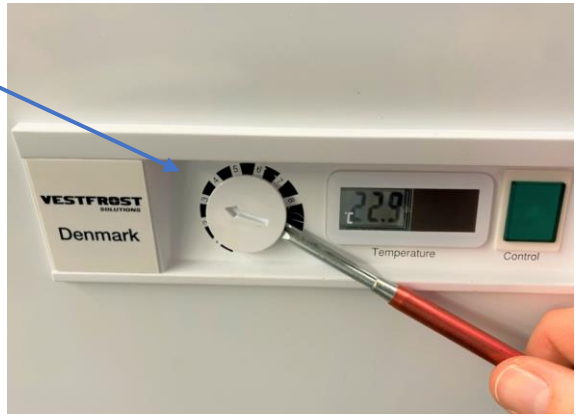


- Gently pull the compressor grille
- Video

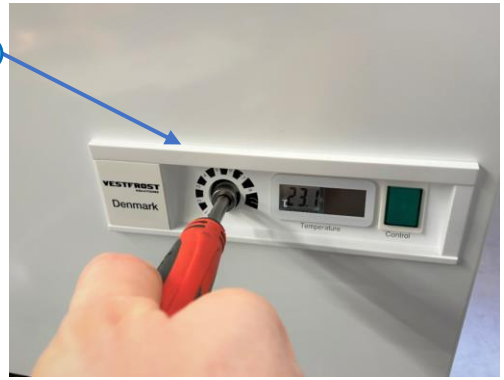
Thermostat Replacement

1: Control board

2: Use a screwdriver to gently remove the plastic cover dial



3: Use a socket wrench
Size 13mm to unscrew the fixing nut



4: The thermostat is placed in the left corner of the compressor compartment on the terminal bracket

Thermostat Replacement

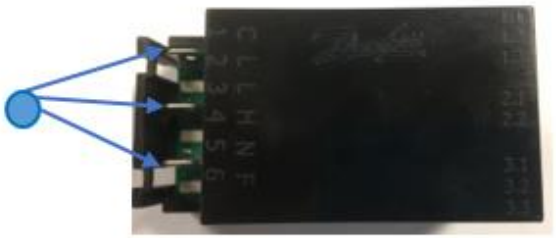
6: The thermostat is to the right of the thermometer

7: Remove the thermostat from the bracket inside the compressor compartment

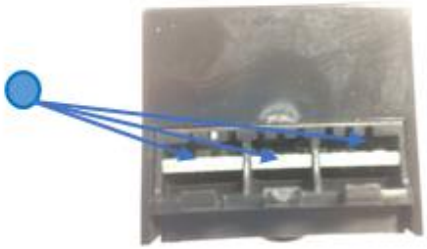
Thermostat Replacement

8: Thermostat – Danfoss ETC1H1 007F1548

Front with wire 3x sockets



Front with 3x wire sockets

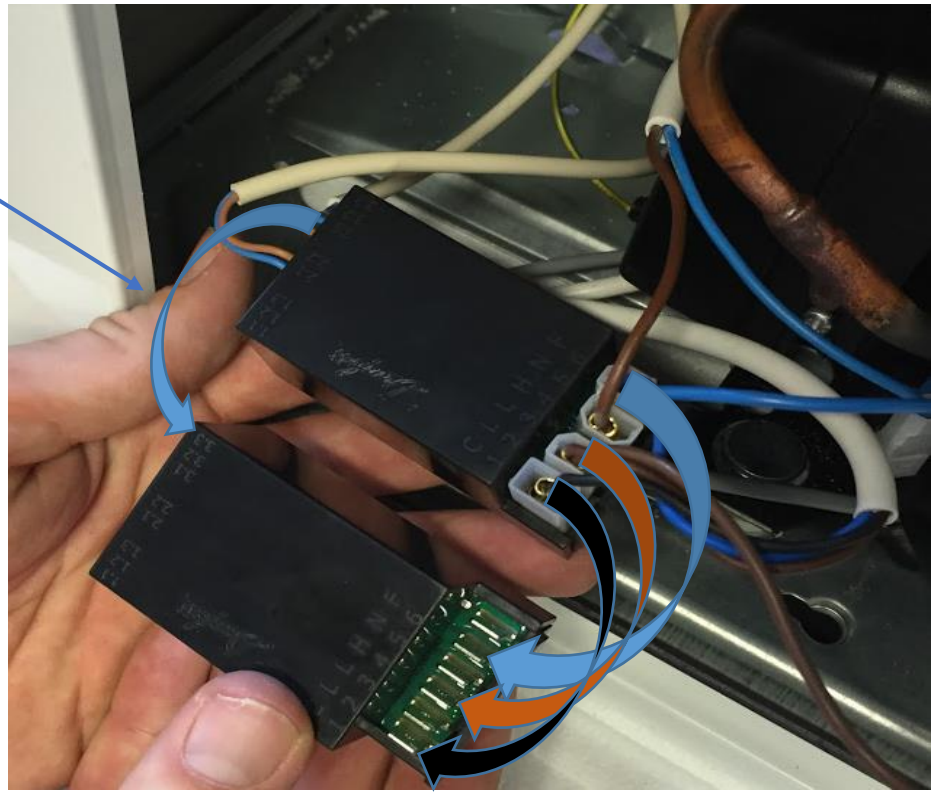


Side view

Back

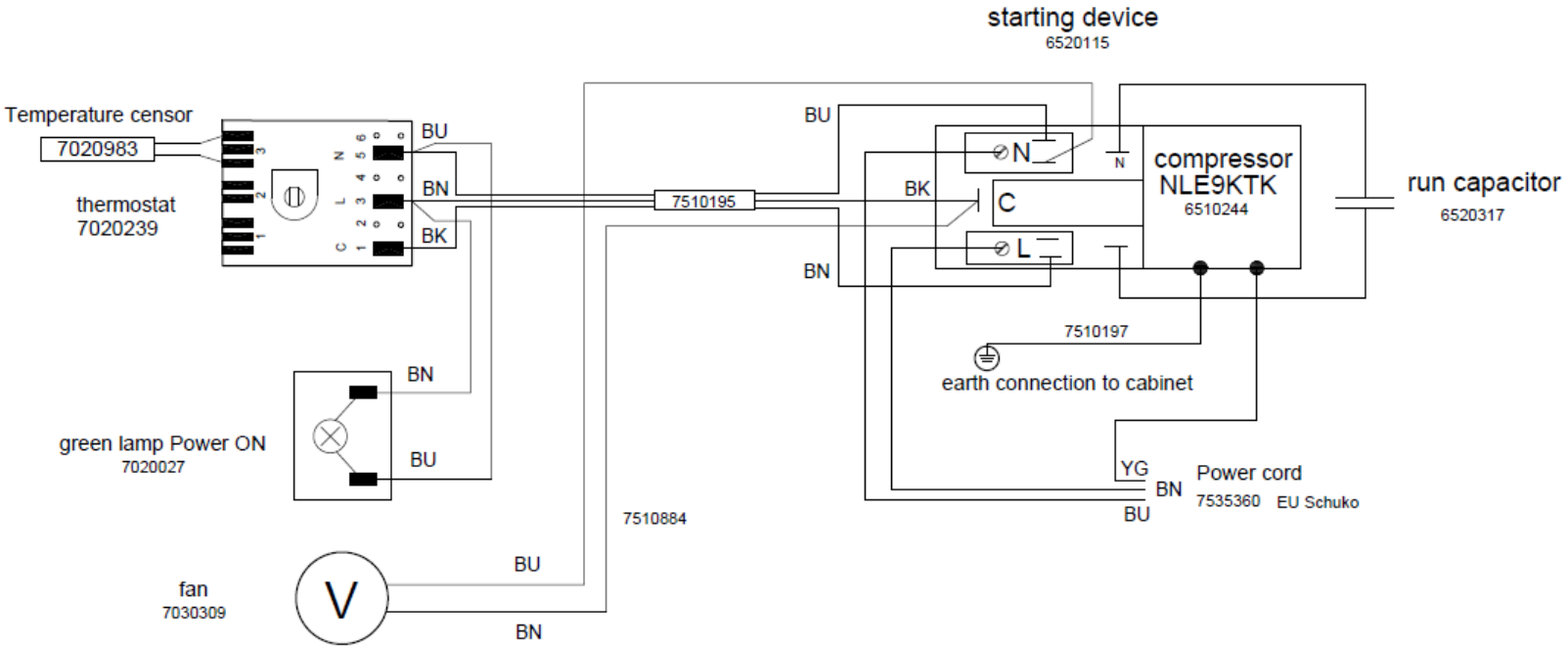
Thermostat Replacement

9: Exchange the cable sockets/wires 1/1 from the old thermostat to the new



Thermostat

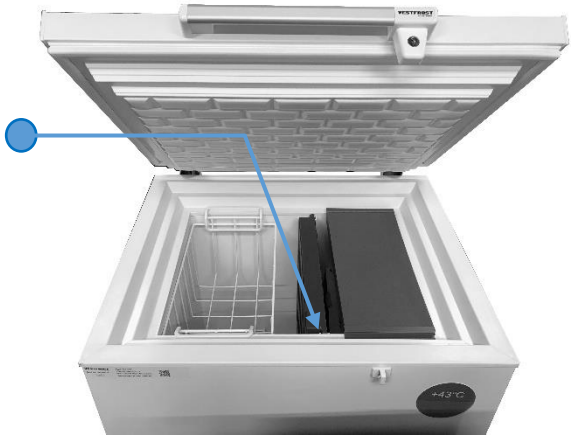
10: Wiring Diagram



VESTFROST SOLUTIONS

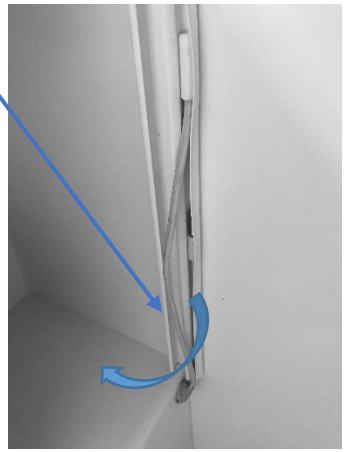
Thermostat sensor replacement

1: The thermometer sensor is placed inside appliance on the front inner-lining

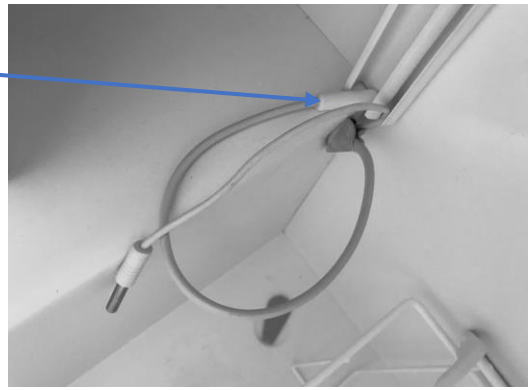


2: Thermostat sensor is fitted into the white cable holder

3: Gently pull the thin white thermostat wire until the probe is visible

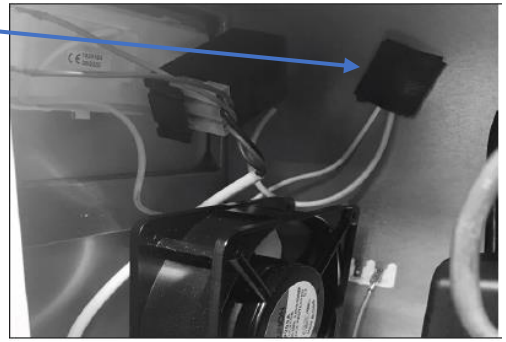


4: Remove the wire sealing and the sensor from the cable holder

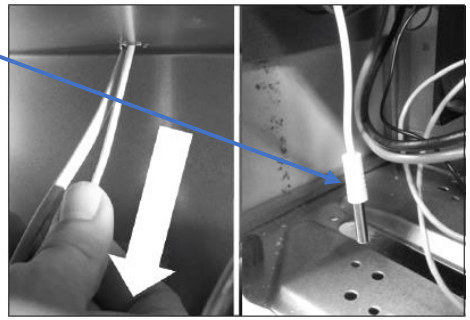


Thermostat sensor replacement

3. In compressor compartment, remove black sealant

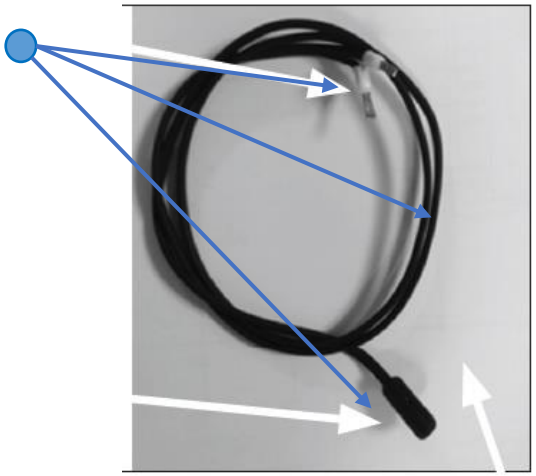


4. Gently pull the White wire until the probe is visible



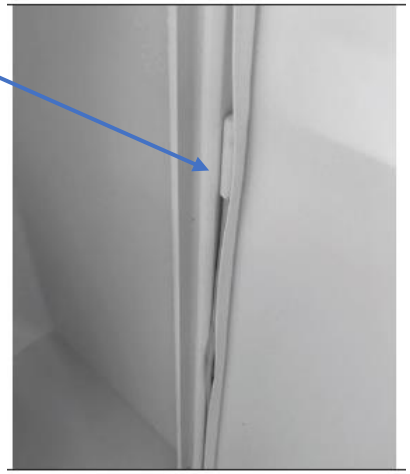
6. Unplug the sensor wire from the thermostat

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

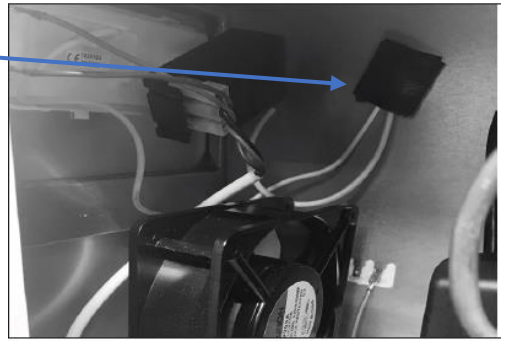


Thermostat sensor replacement

5. **IMPORTANT!**
When re-mounting the new thermometer wire and sensor make sure the wire is placed properly into the



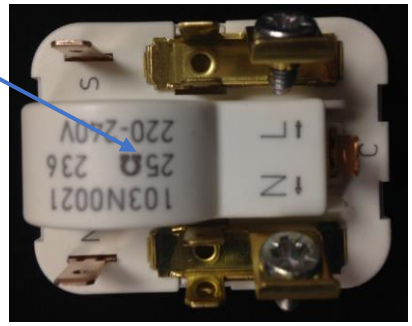
6. **IMPORTANT!**
When re-mounting the new thermostat sensor remember to properly seal the wire feed through



7: **IMPORTANT!**
When re-mounting the new thermometer remember to properly seal the wire feedthrough with Sealing Kit

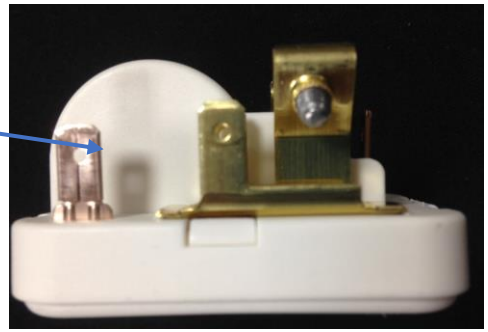
Starting Device Replacement

Front with terminals



Back with connection plug

Side view



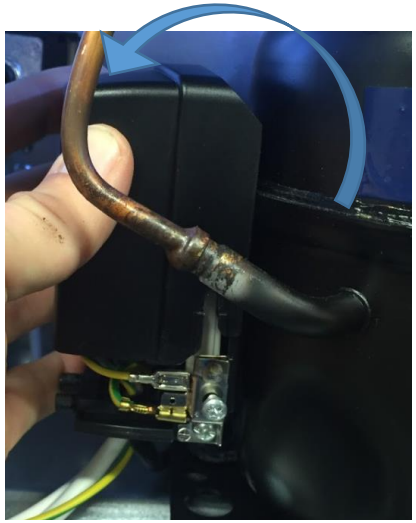
The starting device is mounted on the left side of the compressor room

Starting Device Replacement

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

2: Push the plastic cover up

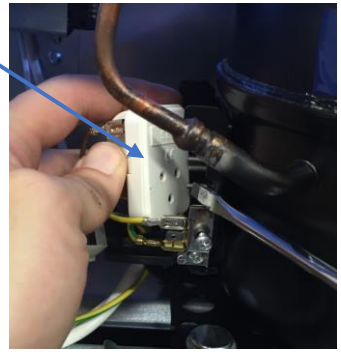
3: Pull the cover back to loosen



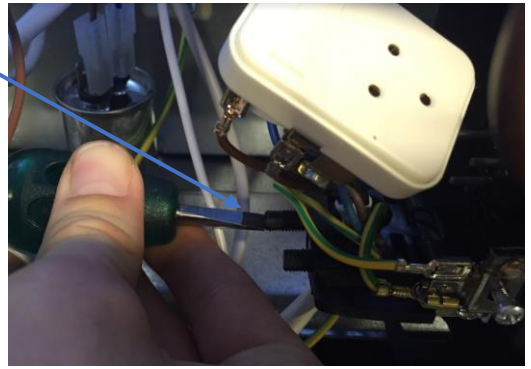
4: Use a screw driver and gently remove the starter from the socket of compressor

Starting Device Replacement

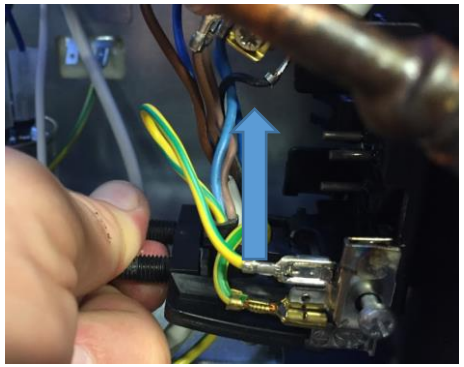
5: Starting device loose from socket



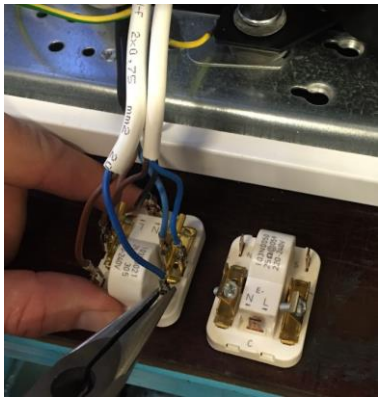
6: Use a small screwdriver or a wrench size 6 – to unmount the wire fastener



7: Push the plastic bracket up

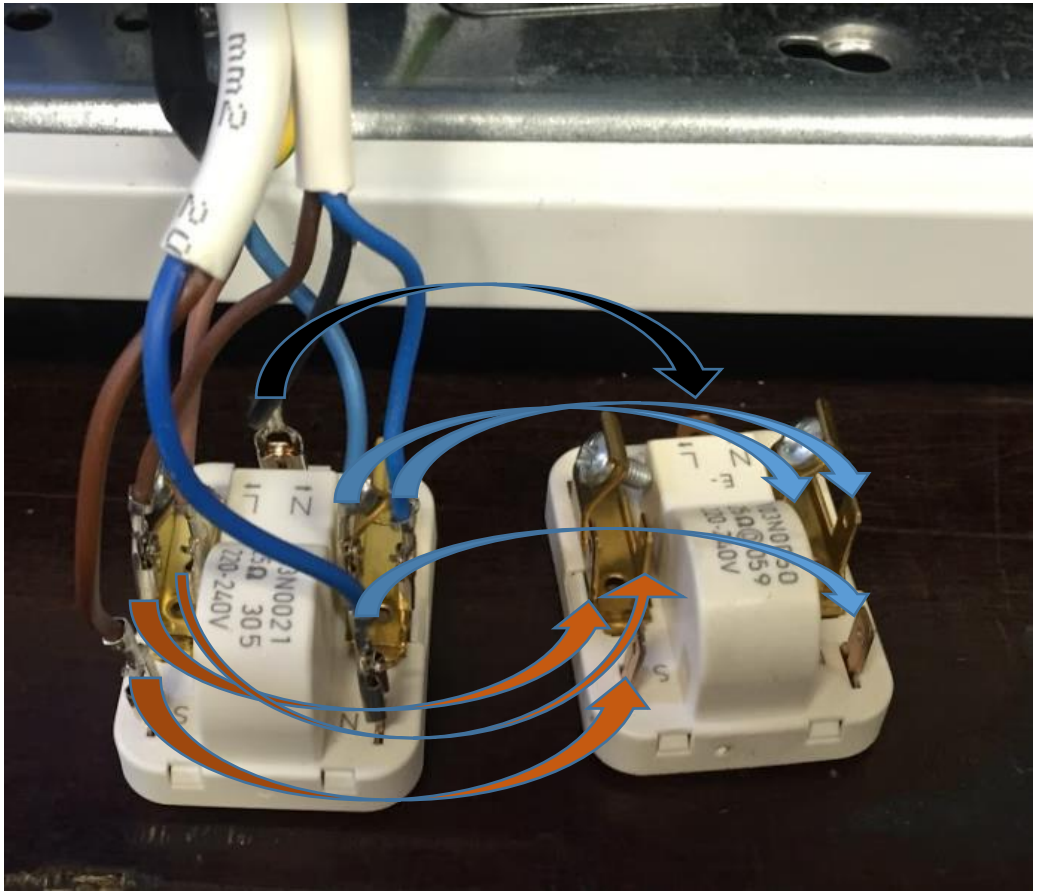


8: Use a nose plier to unmount the wire sockets from starting device



Starting Device Replacement

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

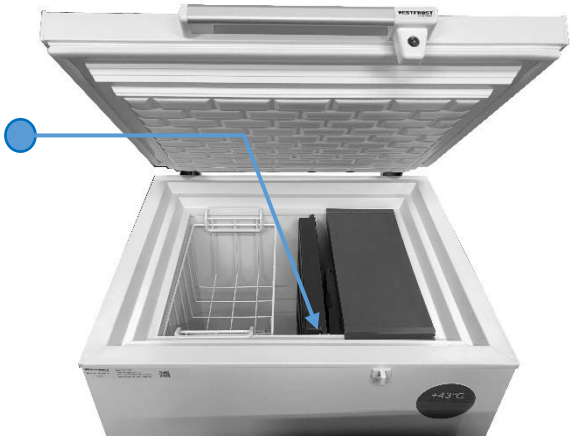


Thermometer replacement

1: The thermometer display is placed at the front of the appliance

2: Thermometer display

3: The thermometer sensor is placed inside appliance on the front inner-lining

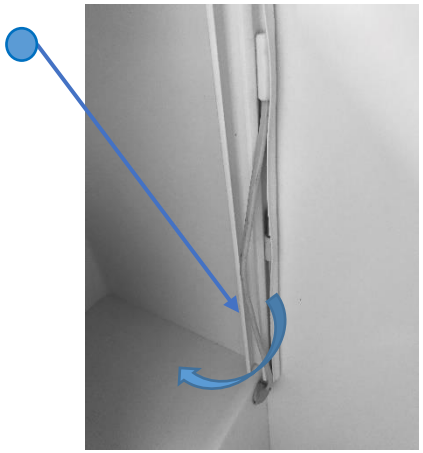


4: Thermometer sensor is fitted into the white cable holder

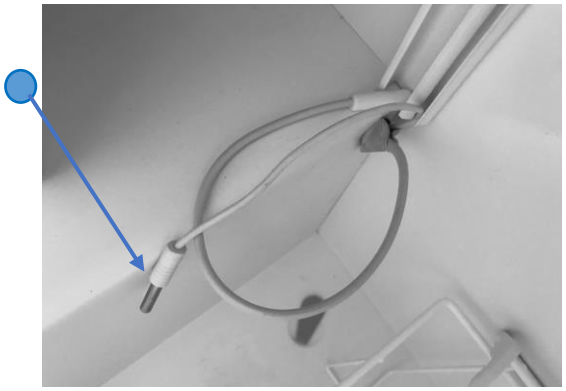
VESTFROST SOLUTIONS

Thermometer replacement

4: Gently pull the thin white thermometer wire until the probe is visible



5: Thermometer sensor is loose from refrigeration compartment



6: Unclick the display from the front cabinet, then gently pull display with wire out

7: **IMPORTANT!** When re-mounting the new thermometer remember to properly seal the wire feedthrough with Sealing Kit

Thermometer replacement

8: Thermometer comes with wire and sensor

9: Installation of thermometer display

10: Push untill display is fixed to cabinet

11: Thermometer display is in place

Adjustment of lid

1:

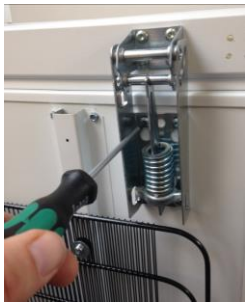
1:

2:

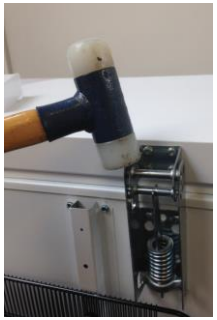
3:

4:

5:



6:



Compressor Replacement

Procedure of compressor change

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

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

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

Compressor Replacement

Video

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 grill 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)

Trouble-shooting

Fault	Possible cause	Remedy
Compressor is not running, and the ice packs are not cold	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.

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

VESTFROST SOLUTIONS

CORPORATE PRESENTATION