Service Manual - Low Temperatur
VTS254 VTS256 VTS 258

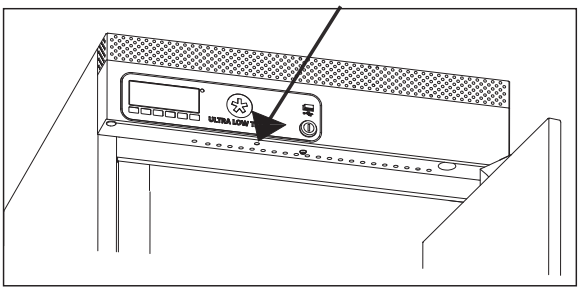
Contents

Battery backup system 2
Operation and function - Display 3
Installing a remote alam 13
Replacement of door 15
Replacement of door gasket..... 16
Replacement of door handle. 19
Replacement of wheels. 20
Replacement of closing bush 21
Replacement of LED light..... 22
Replacement of fan. 24
Replacement of Display..... 26
Replacement of door hinge 28
Replacement of controller..... 28
Recharching refrigerant VTS 254 29
Recharching refrigerant VTS 256 30
Recharching refrigerant VTS 258 31
List of parameters VTS 254..... 32
List of parameters VTS 256..... 36
List of parameters VTS 258..... 36
Plate with electrical parts..... 38
Electrial Diagram.. 39

Battery backup system

How to switch on the battery backup system:

1. Open the door
2. Use a pen to switch on the battery backup system in the hole
3. When turned on the switch it will have a yellow light



NOTE!
The battery backup system does not supply the cooling system with power to run.

When starting up the appliance for the first time it is necessary to switch on the battery backup system.

NOTE!
The battery for backup should be changed every third year to secure 50 hours of back up. Please put this change in the maintenance schedule for every third year.

Battery backup system

Some models are equipped with a battery backup system. The system supplies the controller and keyboard with power at power failure. This makes it possible to supervise the temperatures in the unit during the power failure.
The battery backup system makes it possible to supervise the temperatures for 50 hours. After a power failure and at the first start up the battery needs to be recharged. To regain the full capacity the battery will be reloading for 10 days

Operation and function - Display

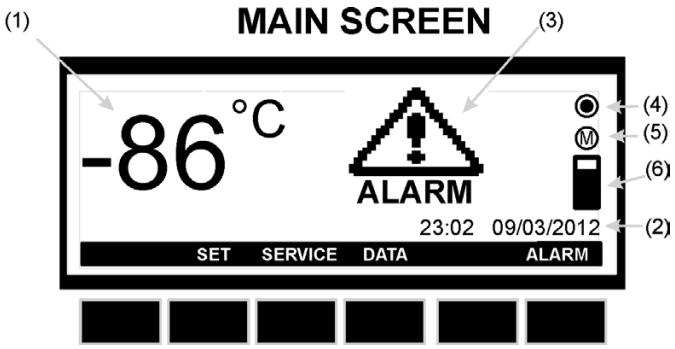
Start up:

When the appliance is connected to the power supply, the keyboard will automatically start up.

The start up view on the keyboard will show the different software installed on the controller of the appliance.

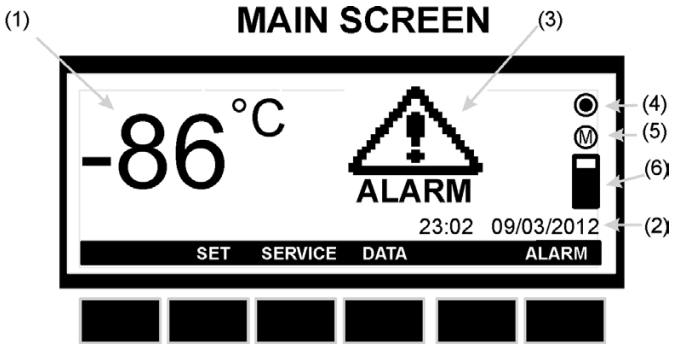
Press enter to return from the start up view.

Operation – main view:



(1) The temperature in the appliance (measured by the **TR3** probe)
(2) Time and date
(3) **ALARM** icon. Flashing by alarm. On when there has been an alarm, but the alarm is no longer active.
(4) Logging icon. Of if no logging. On when logging
(5) Memory icon. On when the memory is 90% full. Flashing when the memory is full, and the controller is deleting the oldest logging data.
(6) Memory bar. Shows the status of the memory.

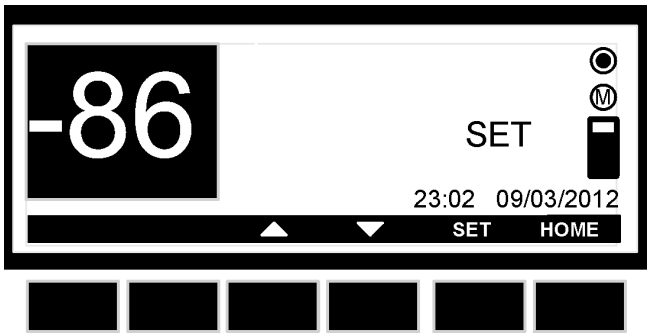
Keys – main view:



SET:	Enter the Set Point menu of the temperature
SERVICE:	Enter the Service menu
DATA:	Enter the Data Logging menu
ALARM:	Enter the Alarm menu

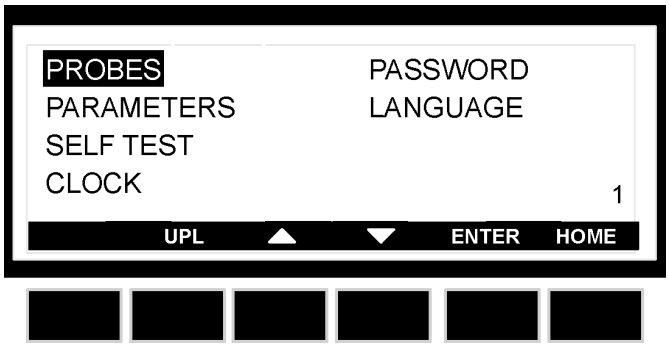
How to see and modify the temperature Set Point:

1. Push and immediately release the **SET** key: the display will show the Set Point value.
2. To modify the value push the **SET** key, the Set Point start flashing.
3. Use the **UP and DOWN** keys to modify the value.
4. To memorize the new Set Point value push the **SET** key again or wait 30sec.



Service menu:

From the main view push the **SERVICE** key and the SERVICE menu is entered.
See below picture:



PROBES: Enter the probes, to see the measured temperatures. 1-4 probes is availa ble depending on model.

PARAMETERS: Enter the setting of the parameters. Please note that changes made to the parameters should only be made of a technician. The code to enter the Pr2 parameters is standard set to 12.
See list of parameters in page 26-29

SELF TEST: Enter the Self Test program of the controller.

CLOCK: Enter clock menu, where it is possible to change date and time.

PASSWORD: Enter the password menu, where it is possible to change the password.

LANGUAGE: Enter the language menu, where it is possible to change language.

How to change parameter:

See the parameter list at page 26-29

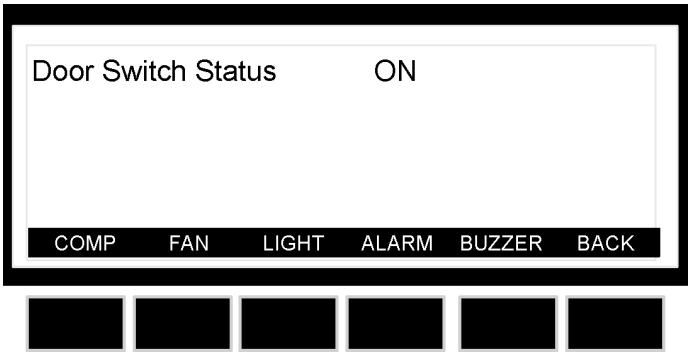
1. Enter the **SERVICE** menu
2. Select **PARAMETERS** sub-menu
3. Push the **ENTER** key
4. Select **Pr1** or **Pr2** sub-menu. (Pr2 require a code to enter. The code is standard set to 12).
   By **Pr2:**
   A: Push the **SET** key
   B: Set the password/code by means of the **UP** and **DOWN** keys
   C: Push the **SET** key
   D: Push the **ENTER** key
5. The parameter is divided into groups. Select the group using the **UP** and **DOWN** keys
6. Select the group by pushing the **ENTER** key
7. Select the parameter using the **UP** and **DOWN** keys.
8. When located on the value of the parameter push the **SET** key
9. Set the parameter by means of the **UP** and **DOWN** keys
10. Push the **SET** key, to confirm and pass to the next parameter

How to use the Self Test:

1. Enter the **SERVICE** menu
2. Select **SELF TEST** sub-menu
3. Push the **ENTER** key,
4. If PASSWORD is required, insert the password,
5. OTHERWISE the SELF TEST menu is entered directly.
6. Push the **START** key
7. Then push the keys to activate the correspondent loads:

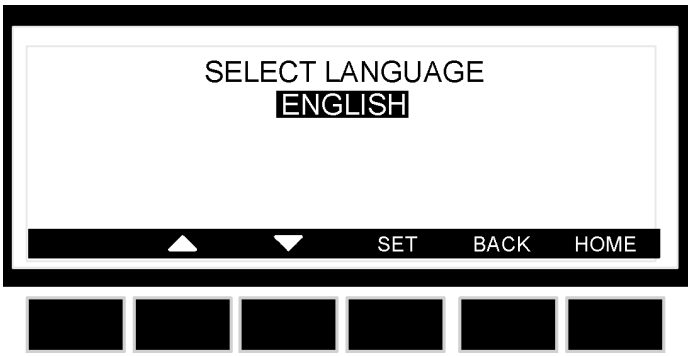
a. Compressor
b. Light
c. Fan
d. Alarm
e. Buzzer

8. The display shows the status of the digital input (**ON** or **OFF)**
9. Wait 30s or push the **BACK** key to come back to the previous screen.



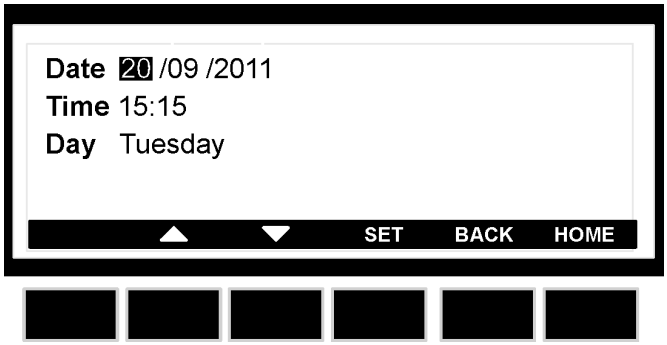
How to change language:

1. Enter the **SERVICE** menu
2. Select **LANGUAGE** sub-menu
3. Push the **ENTER** key and the **LANGUAGE** menu is entered.
4. Push the **SET** key and then use the **UP** and **DOWN** keys to select the language and then the **SET** key to confirm it.



How to set time and date:

1. Enter the **SERVICE** menu
2. Select **CLOCK** sub-menu
3. Push the **ENTER** key.
4. Set the day by means of the **UP** and **DOWN** keys.
5. Push the **SET** key, to confirm and pass to the setting of time.
6. Use the same procedure as for the date.
7. Then confirm the selection by means of the **SET** key.



Data menu:

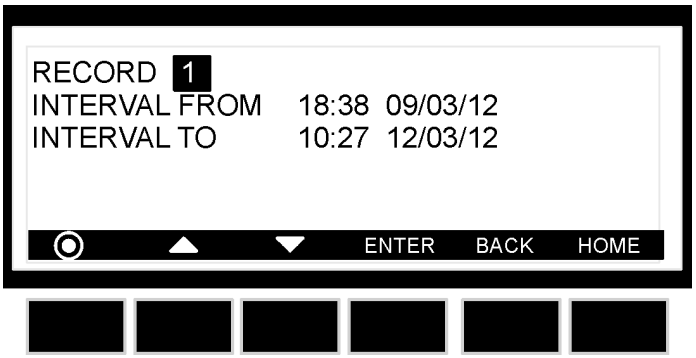
From the main view push the **DATA** key and the **DATA** menu is entered.
See below picture:

LOG: Enter the data logged by the controller.
EXPORT: Export the data to an USB pen drive delivered with the appliance.
GRAPH: Enter the graph showing the temperature logged the last 24h (with a logging interval of 15min.)

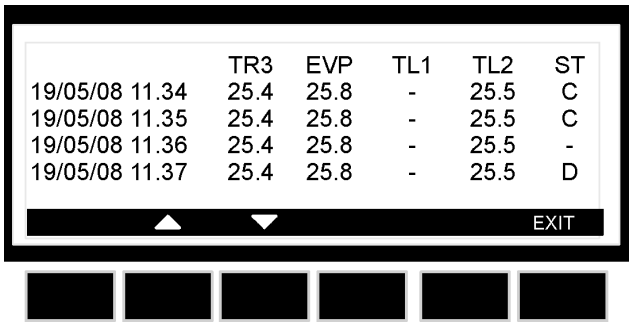
How to enter the log:

1. Enter the **DATA** menu
2. Select **LOG** sub-menu
3. Push the **ENTER** key and the LOG menu is entered.
4. By **UP and DOWN** keys chose the data interval to display
5. Push the **ENTER** key to display the selected data.

NOTE: THE ⊙ KEY: IS USED TO STOP AND START LOGGING



Logged data will have this layout:



Where TR3, EVP, TL1, TL2 = Value of probes.
With probe failure or absence:" - " symbol is displayed. Please note that 1-4 probes are available depending on model.

ST: status of the controller/load

- - = operating, without any load activated;
- D = defrost running (if automatic defrost is available)
- C = compressor working

How to export data:

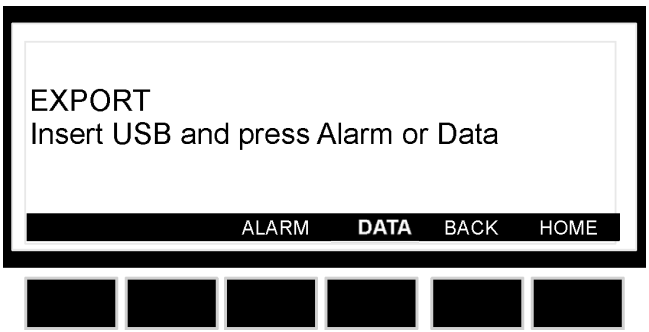
1. Enter the **EXPORT** menu
2. Insert the USB pen drive supplied by **Vestfrost.**
3. Select **ALARM** or **DATA**, the controller starts sending data to the pen drive, when the export is finished the message: **EXPORT - Copy completed** is displayed.

The exported data will be exported as a CSV-file (Comma Separated Values). This file can be used in ex. Excel for making graphs.

IMPORTANT: during the download don't remove the USB pen drive: this action could damage the data files and USB pen drive itself.

WARNING: leave the USB pen inserted only for the time necessary to export data then remove.

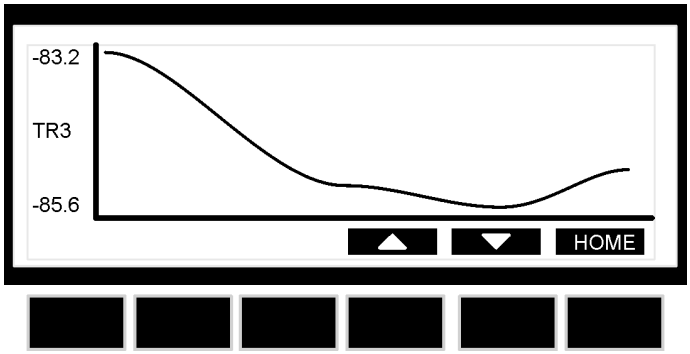
WARNING: if a not compatible USB pen drive is used it can cause a reset of the controller



How to enter the Graph:

1. Enter the **DATA** menu
2. Select **GRAPH** sub-menu
3. Push the **ENTER** key and the **GRAPH** menu is entered.
4. By **UP** and **DOWN** keys chose the probe that has to be displayed.
5. Push the **HOME** key to get back to the main view.

NOTE: A graph is erased when the controller is switched off.



Alarm menu:

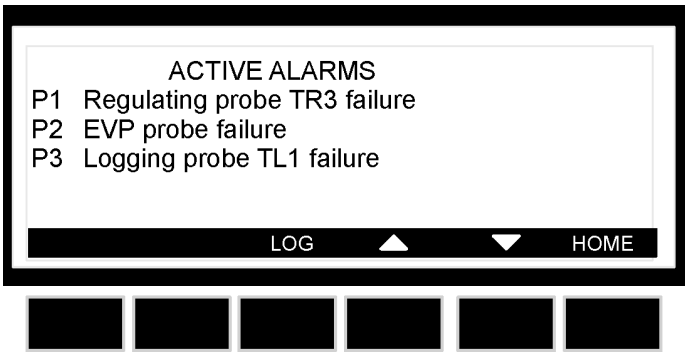
If the alarm icon is **flashing** on the main display, an alarm is occurring.
If the alarm icon is **displayed but not flashing** on the main display, an alarm is occurred and recovered.

Once the alarm signal is detected the buzzer can be silenced by pressing any key.

Active alarms:

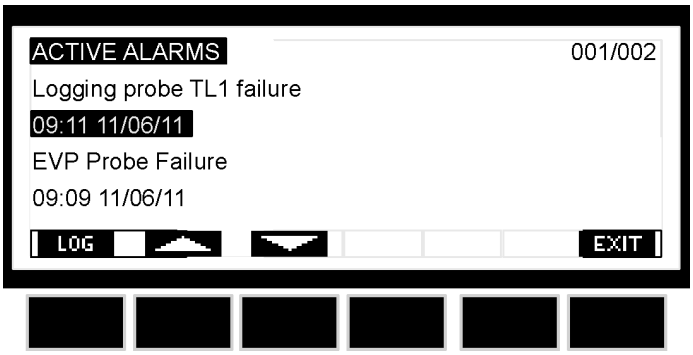
1. Push the **ALARM** key to enter the alarm menu.

2. The alarm menu displays the active alarm with the following layout:
   a. **First column** **=** alarm code
   b. **Second column** = alarm description

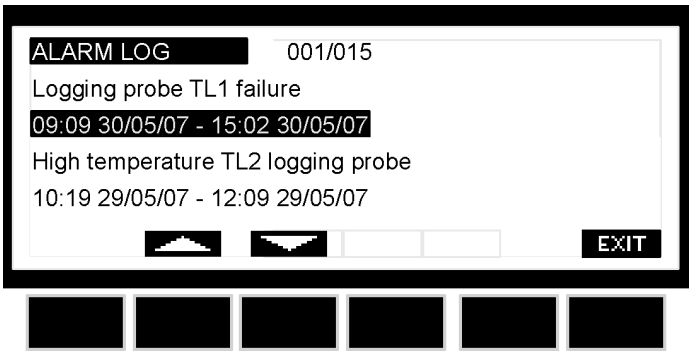


3. Push the **LOG button** to enter the **ACTIVE ALARM LOG.**
   This menu contains all the information concerning the active alarms. In the first line, it is displayed how many alarms are happening.

4. It's possible to move through the alarms by the **UP** and **DOWN** keys.



5. Push the **LOG** button to enter the **ALARM LOG.** This menu contains all the memorized alarms. For each alarm the starting time and date and the finish time and date are recorded.



Alarms:

“P1”	Regulating probe TR3 failure	Alarm output ON; Compressor output according to parameters **Con** and **CoF**
“P2”	EVP Probe Failure	Alarm output ON; Other outputs unchanged
“P3”	Logging probe TL1 failure	Alarm output ON; Other outputs unchanged
“P4”	Logging probe TL2 failure	Alarm output ON; Other outputs unchanged
“HA1”	TR3 High Alarm	Alarm output ON; Other outputs unchanged
“LA1”	TR3 Low Alarm	Alarm output ON; Other outputs unchanged
”HA3”	High temperature alarm probe TL1	Alarm output ON; Other outputs unchanged
”LA3”	Low temperature alarm probe TL1	Alarm output ON; Other outputs unchanged
”HA4”	High temperature alarm probe TL2	Alarm output ON; Other outputs unchanged
”LA4”	Low temperature alarm probe TL2	Alarm output ON; Other outputs unchanged
“dA”	Door Open Alarm	Compressor and fans depend on **“rrd”**
“EA”	External Alarm	Output unchanged.
“CA”	Serious Alarm	All outputs OFF.
	”Real Time Clock Error”.	Please set the date and time. See page 7

Alarms at start up

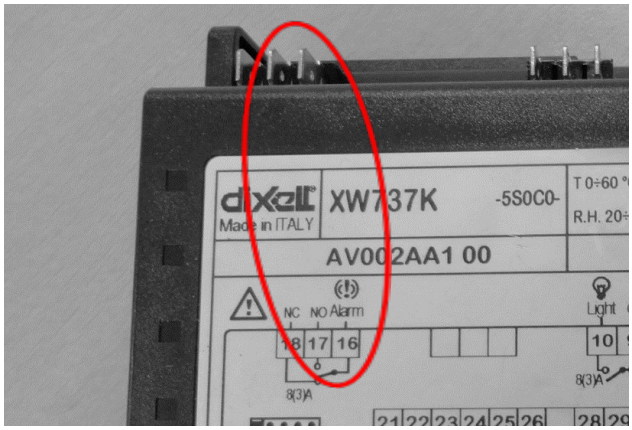
When the unit is started up the first time the alarm will sound/show until the unit has reached the upper temperature alarm limit. This can take several hours.
It is possible to mute the alarm in 30 minutes. See below explanation.

Muting the alarm

When an alarm occurs any button on the display can be pushed to mute the alarm for 30 minutes. The alarm will still be visible at the display and the red LED will continue to flash.

Installing a remote alarm

1. The unit has to be turned off.
2. Open the door.
3. Unscrew the locking pawl.

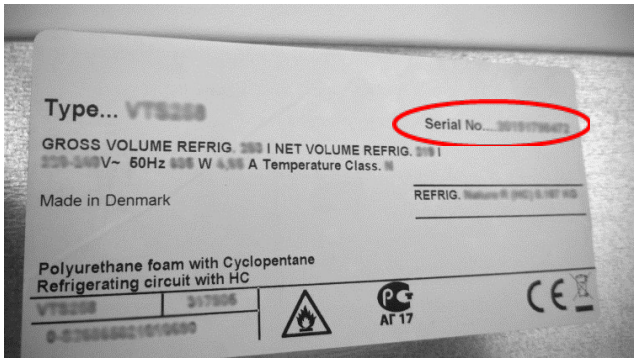


4. Install the wires for the remote alarm. Using pin 16 and 17.
5. Install the remote alarm.

NOTE:

- The pin 16 and 17 contact is normally open.
- The relay at the controller is voltage free. The remote alarm should have its own power supply.

Some models might need changes in the parameter for the remote alarm to work:



6. Locate the rating label on the back of the unit.
7. Locate the serial number on the rating plate.

8. If the serial number is **LOWER** than 20150300000 then continue with **point 10**

9. If the serial number is **HIGHER** than 20150300000 then the installation of the remote alarm is finished. Then turn on the unit.

Changing parameters for remote alarm:

10. Press the menu “SERVICE”.

11. Select “PARAMETERS” by pressing forward with the arrow keys and confirm with "ENTER".

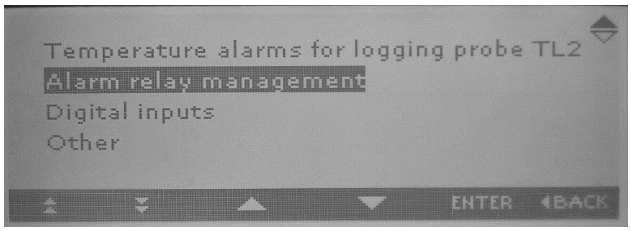
12. Press “Pr2”

13. Press “SET”

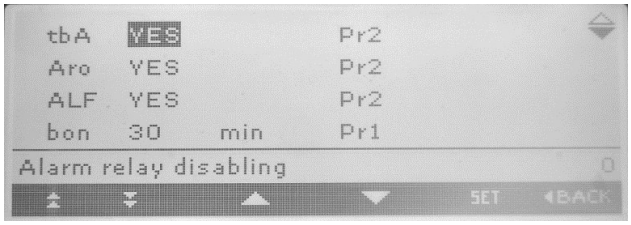
14. Set the code to 12 with the arrow keys

15. Press “SET”

16. Press “ENTER”



17. Select ”Alarm relay management” by pressing forward with the arrow keys and confirm with”ENTER”.

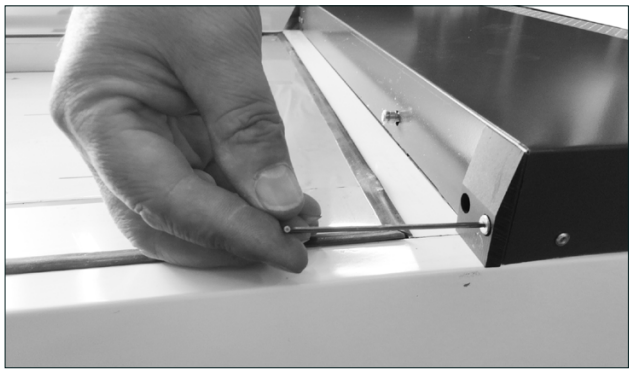


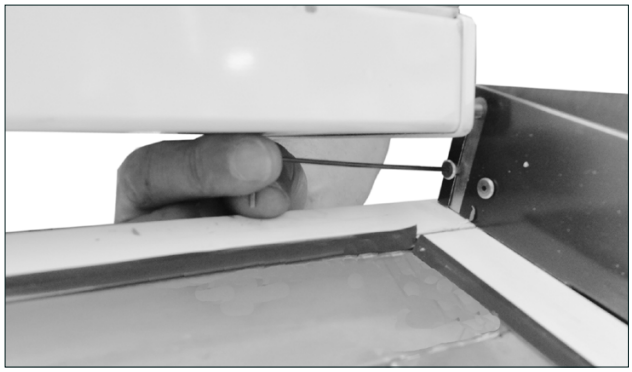
18. The “tbA” parameter has to be changed for “NO”. This is done by pressing "SET" and then change the parameter with the arrow keys. Confirm the change by pressing "SET".

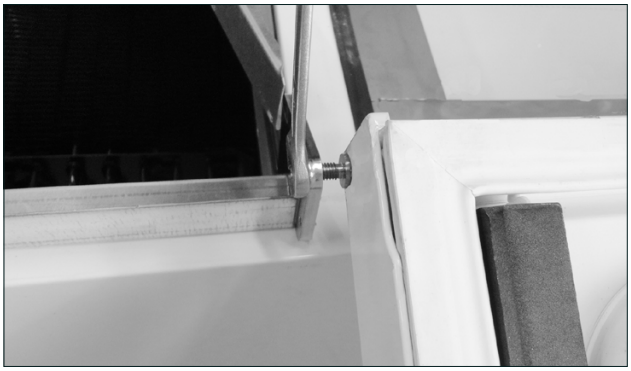
19. Press "BACK" and then "HOME" to return to the starting menu.

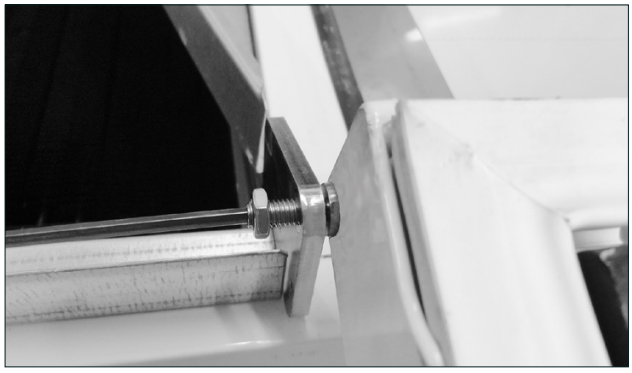
20. Turn on the unit.

Replacement of door









1. The unit has to be turned off and empty.
2. Place the unit gently on the back.
3. Note the distance between the top of the door and the hinge in the top and the bottom of the door and the hinge in the bottom. You will need these dimensions when mounting the new door.
4. Open the door, and secure that the door will be supported horizontally in the open position.
5. Remove the screw in the lower panel in the left side.
6. Remove the screw in the lower panel in the right side.
7. Remove the lower panel.
8. Loosen the nut below the hinge.
9. Unscrew (down wards) the hinge screw until the door is free of the hinge in the top.
10. Take of the door.
11. Mount the new door in the reverse order. Place the door with the same distance to the top and bottom as the dimension notes in point 3.
12. **NOTE:** The door has to be adjusted to secure a firmly closing of the door (locking by twisting the handle).
13. **NOTE:** When the unit is raised vertically, it may not be turned on in at least 30 min.

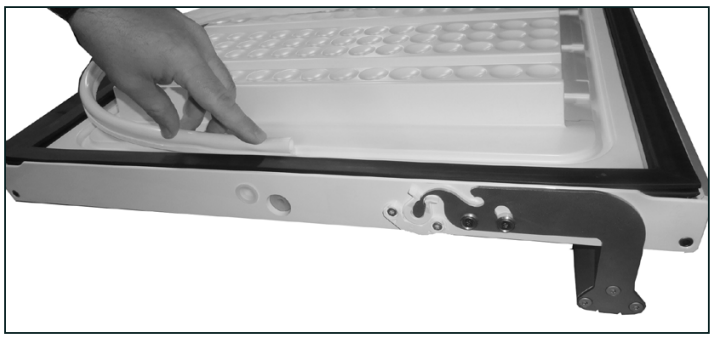
Replacement of door gasket

1. Turn of the freezer
2. Remove frostbuildding and ice
3. Remove the internal gasket
4. Wipe the inside of the door and the unit, to remove all water and moist
5. Clean the gasket mounting area with alcohol

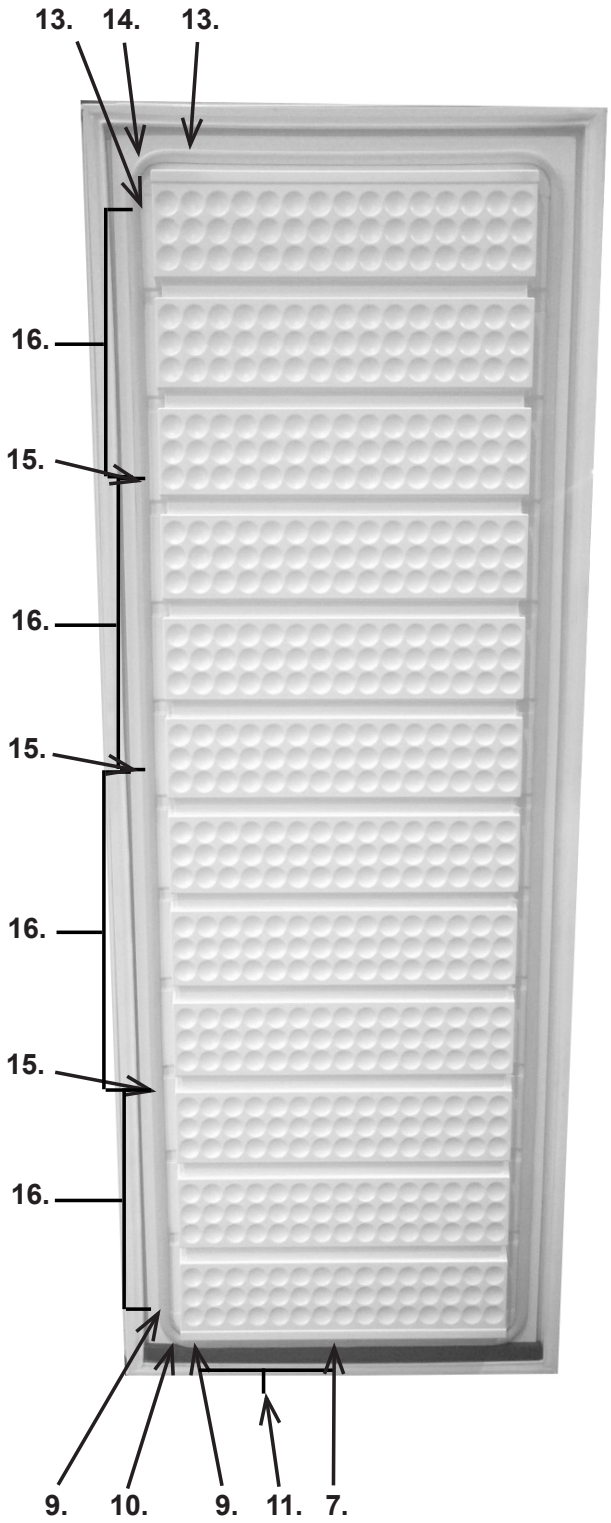
6. Clean the gasket with alcohol

Before mounting the new gasket the door and gasket must be cleaned an alcohol moistened cloth. This is very important to ensure the gasket to stay fixed in the door innerliner.

It is very important to mount the gasket the right way. This to avoid the gasket to fall out durin use. Follow the instruction carefully! :



7. Press the gasket into the door.
   Start from door bottom center



8. Let the gasket follow the notch to the corner.

9. Press the gasket into the notch before and after the corner. Do not pull or stretch the gasket

10. Press the gasket into the notch in the entire corner

11. Press the gasket into the notch in the bottom

12. Let the gasket follow the notch to the next corner

13. Press the gasket into the notch before and after the corner. Do not pull or stretch the gasket

14. Press the gasket into the notch in the entire corner

15. Press the gasket into the notch 3 placed on the side. The gasket must be equally distributed on the side

16. Press the rest of the gasket into the notch on the side

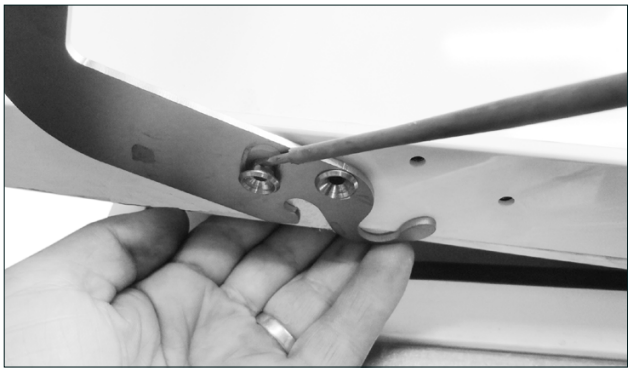
17. Repeat point 12 to 16 for the rest of the door

18. Press the gasket into the rest of the notch in the bottom

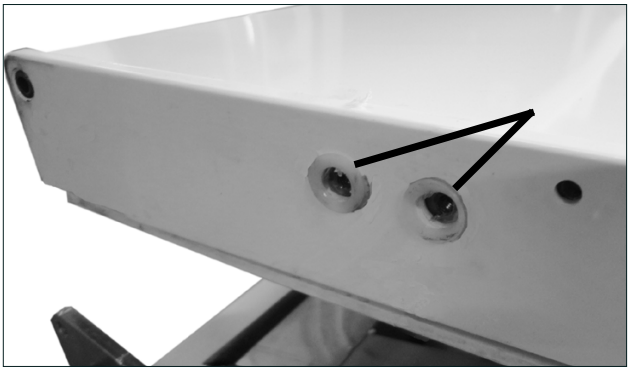
19. Cut the gasket clean off for a perfect joint

Replacement of door handle

1. The unit has to be turned off and empty.
2. Place the unit gently on the back
3. Unscrew all screws connected to the door. Both in the top and the bottom of the door.



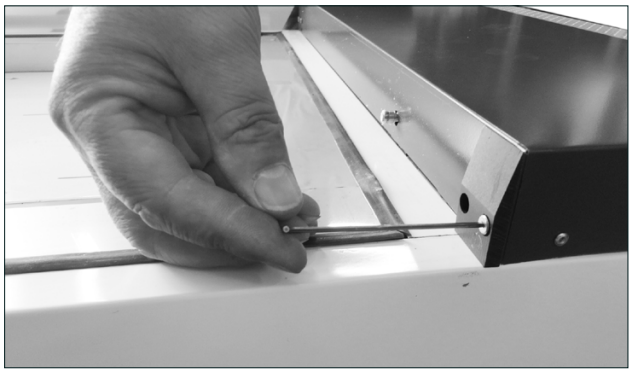
4. Dismount the bushes of metal.
5. Remove the handle.



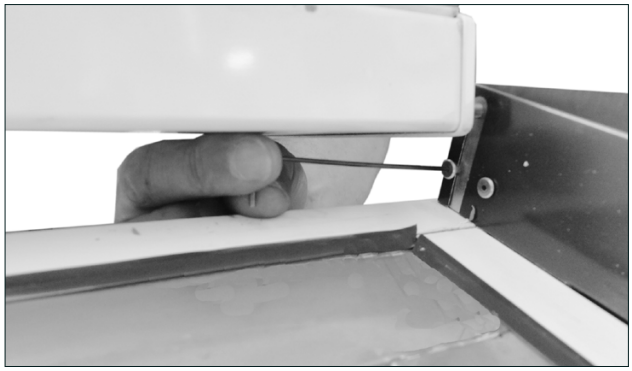
6. The bushes of plastic in the may not be removed.

7. Mount the new handle in reverse order.
8. When mounting the screws in the handle LOCTITE shall be used to prevent the handle from loosening.
9. **NOTE:** When the unit is raised vertically, it may not be turned on in at least 30 min

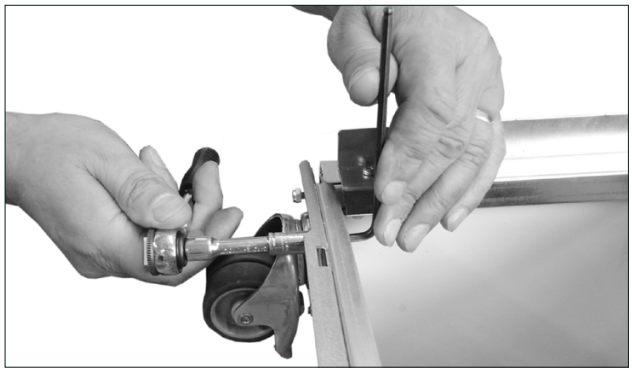
Replacement of wheels



1. The unit has to be turned off and empty.
2. Place the unit gently on the back.
3. Open the door, and secure that the door will be supported in the open position.
4. Remove the screw in the lower panel in the left side.

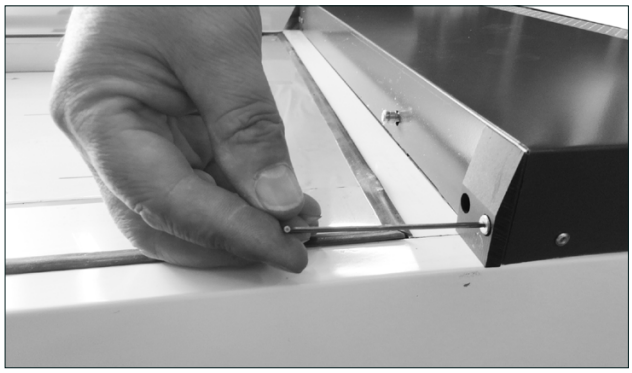


5. Remove the screw in the lower panel in the right side.
6. Remove the lower panel.

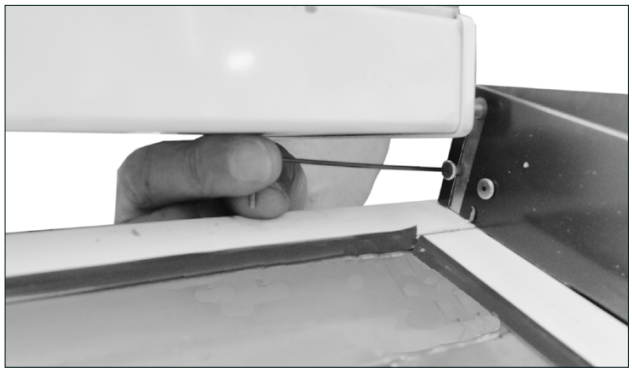


7. Remove the bolt that goes through the wheel.
8. Remove the 3 nuts that fixates the wheel.
9. Remove the wheel.
10. Mount the new wheel in reverse order.
11. **NOTE:** When the unit is raised vertically, it may not be turned on in at least 30 min

Replacement of closing bush (for closing)



1. The unit has to be turned off and empty.
2. Place the unit gently on the back.
3. Open the door, and secure that the door will be supported in the open position.
4. Remove the screw in the lower panel in the left side

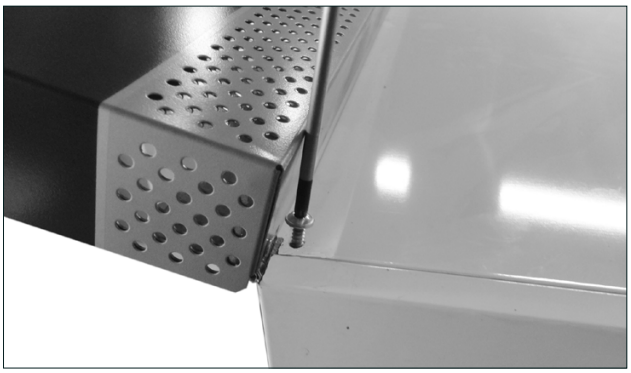


5. Remove the screw in the lower panel in the right side.
6. Remove the lower panel.

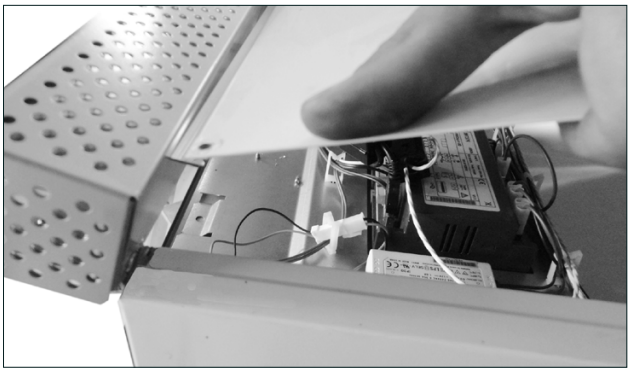
7. Remove the nut below the hinge at the closing bush.
8. Remove the bush.
9. Mount the new bush in reverse order.
10. **NOTE:** When the unit is raised vertically, it may not be turned on in at least 30 min.

Replacement of LED light

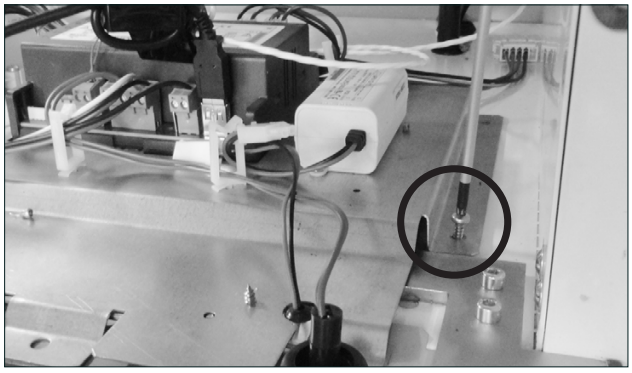
1. The unit has to be turned off.
2. Open the door.
3. Unscrew the locking pawl.



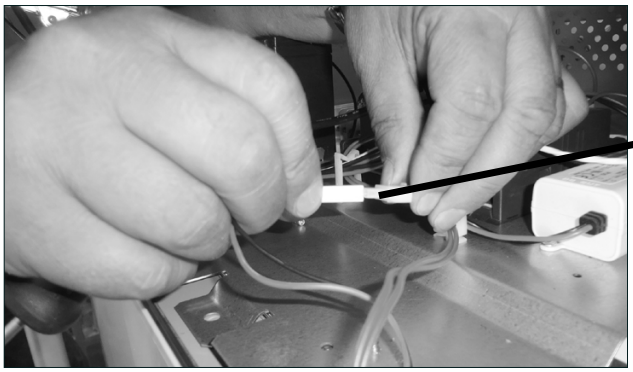
4. Unscrew the to screws securing the top panel



5. Open the panel.

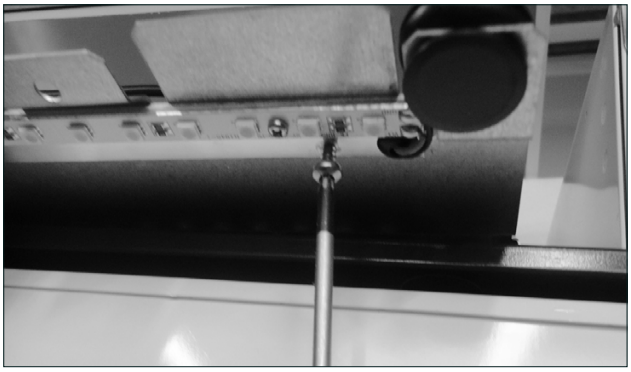


6. Unscrew the 4 screws fixing the plate with the electrical parts.



7. Dismount the plug for the LED light.

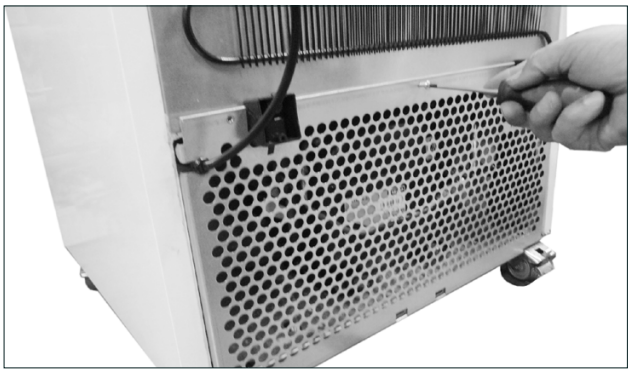
8. Take the plate with electrical parts out of the cabinet.
9. Drill out the rivets that fixates the LED light.



10. Mount the new LED light with three 4,2mm thread making screws.

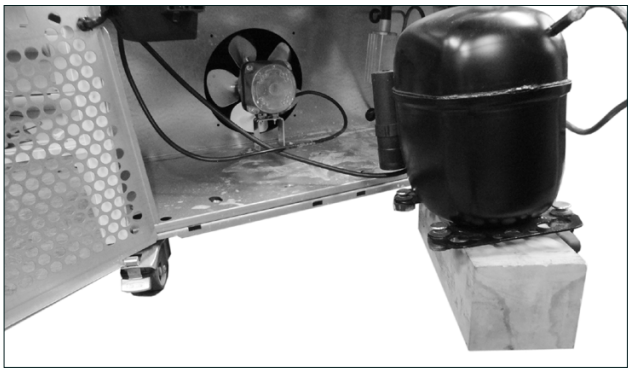
11. Mount the plate with electrical parts and the top panel in reverse order.

Replacement of fan



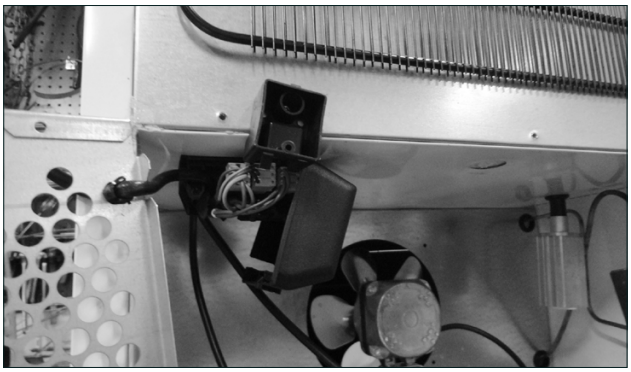
1. Dismount the 3 screws that fixates the cover.

2. Dismount the compressor.

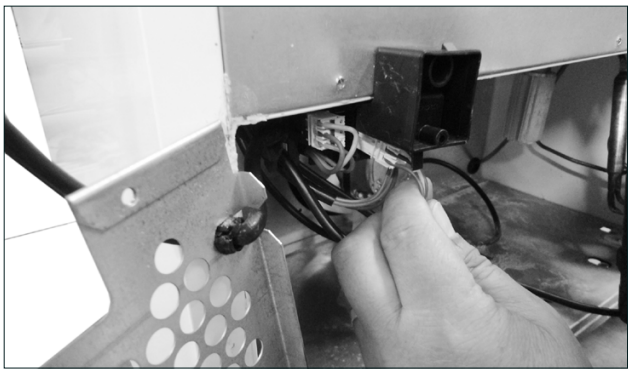


3. The compressor is gently moved out of the compartment. To spare the tubing please place it in the same height as it was using a wooden brick or similar.

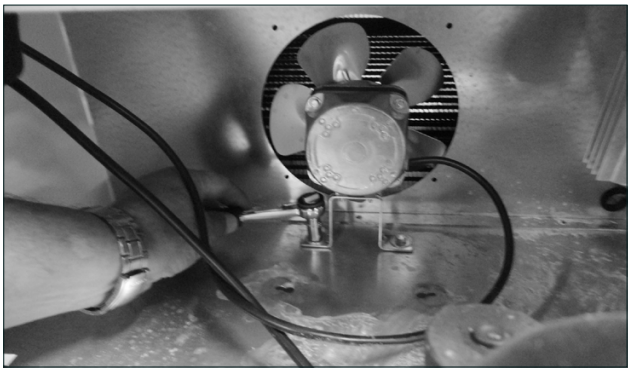
4. **NOTE:** Be careful not to brake the tubes.



5. Dismount the cover of the electrical box.



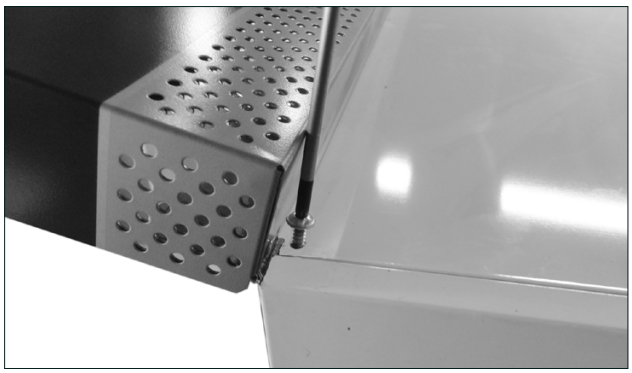
6. Pull out the plug for the fan.



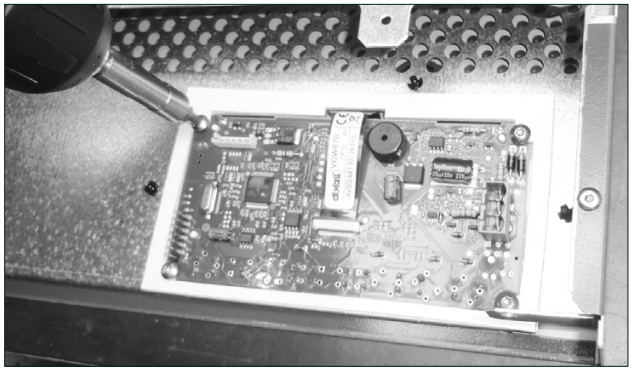
7. Dismount the fan.
8. Mount the new fan in reverse order.

Replacement of Display

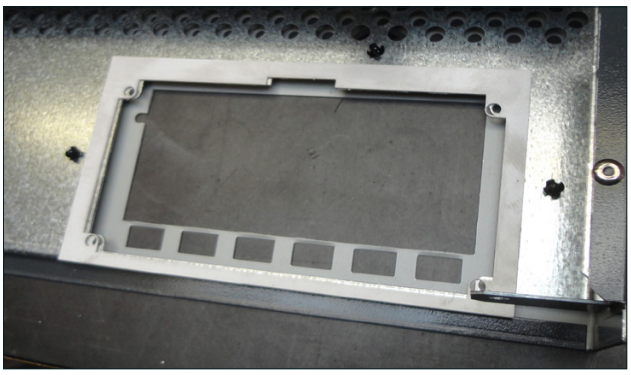
1. The unit has to be turned off.
2. Open the door.
3. Unscrew the locking pawl.



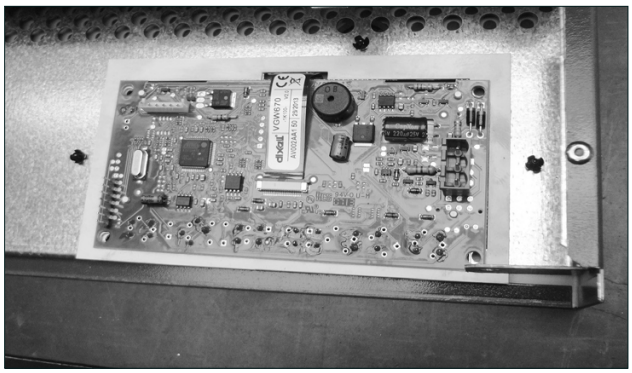
4. Unscrew the to screws securing the top panel
5. Open the panel.



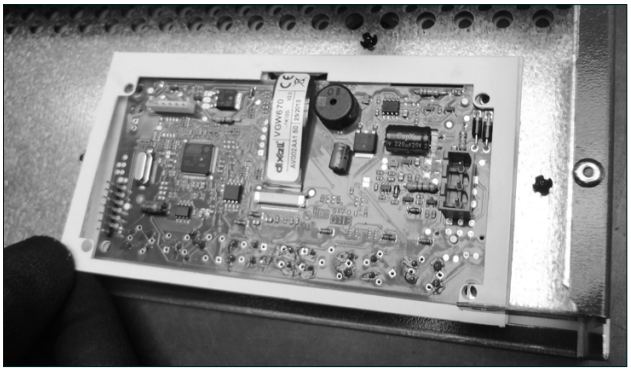
6. Dismount the plug on the print board of the display.
7. Unscrew the 4 screws in the corners of the print board.
8. Take off the print board and the two plastic parts on each side of the print board.



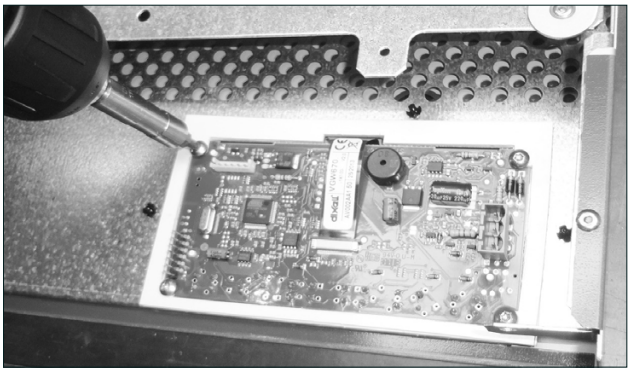
9. First put on one of the plastic parts.



10. Then put on the new print board.



11. The second plastic part is placed on the print board.

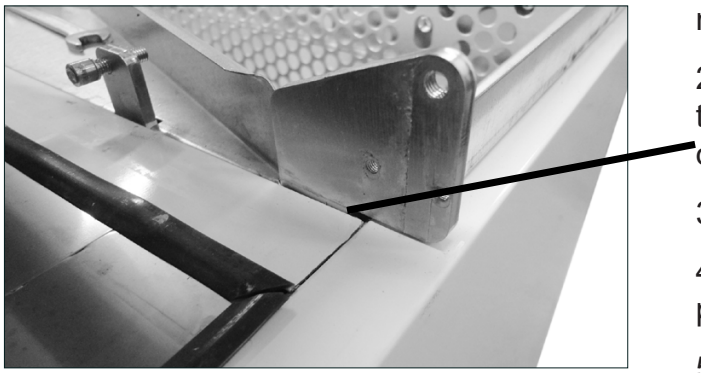


12. Put in the screws in each corner.

13. Make sure that all 6 buttons are placed correctly on the front of the toppanel by pushing each button (click).

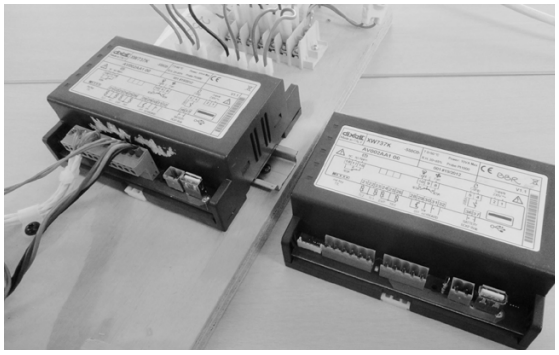
14. Close the top panel and place the screws and the locking pawl.

Replacement of door hinge

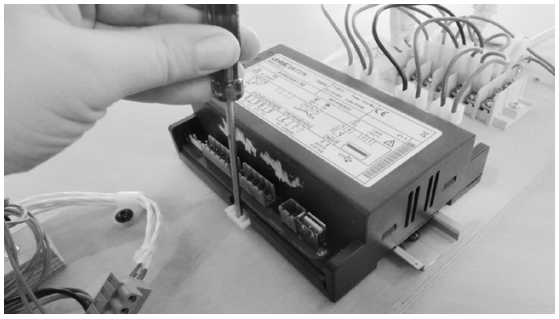


1. Dismount the door according to ”Replacement of door” page 13
2. Note the distance between the hinge and the front of the cabinet. You will need these dimensions when mounting the new hinge.
3. Dismount the hinge.
4. Mount the new hinge according to the placement you noted in point 2.
5. Mount the door according to ”Replacement of door” page 13

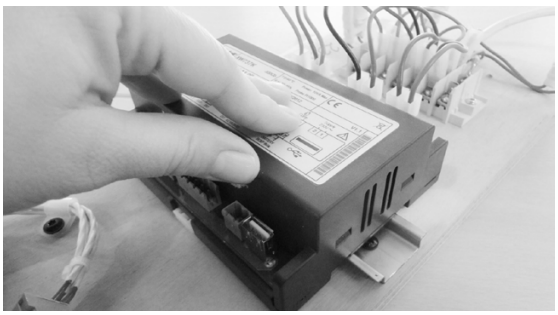
Replacement of controller



1. Place the new controller beside the old controller.
2. Move all the plugs from the old controller to the new controller.



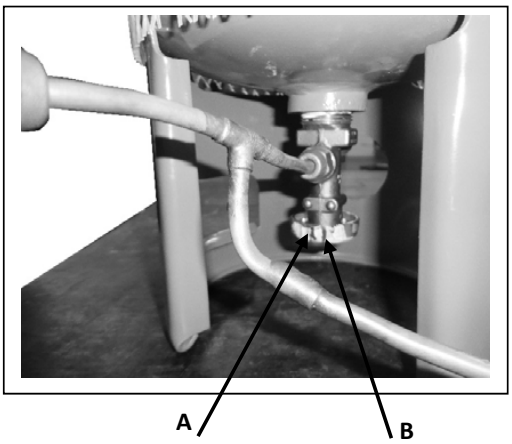
3. Use a screwdriver to pull out the locking of the controller (both sides)
4. Remove the old controller



5. Put the new controller in place, and push down to fasten the controller (click).

VTS 254

Recharching refrigerant from a service bottle



The recharging shall take place in a room where the ambient temperature is between 20 and 25 C.

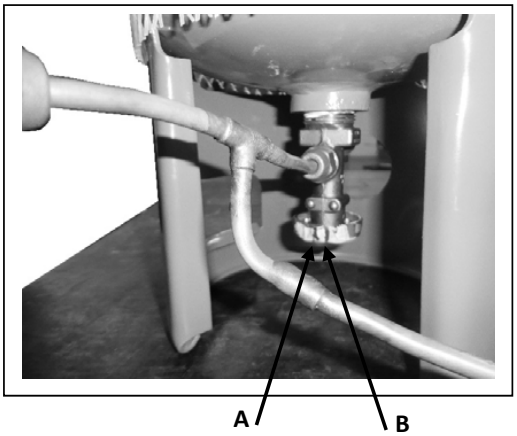
1. The service bottle shall have ambient temperature, i.e. between 20 and 25°C.
2. The service bottle is turn upside down as shown in the picture.
3. If you have the possibility to measure the weight of the bottle before you start recharching, it is useful to determine when the charge is sufficiently.
4. The system of the VTS254 shall be evacuated thoroughly.
5. Connect the bottle to the system.
6. The valve shall only be opened a little (please see the 2 blue lines (A and B) on the walve wheel on the picture. At line **A**, the valve is closed and then just turn it to line **B**.
7. Let the valve be opened for 5 minutes, then open it fully and after ½ a minute closed it again.
8. Start the compressor and let it run for 10 minutes.
9. Check that the bottle, especially the valve on the bottle has ambient temperature. If the temperature is too cold after 10 minutes, then stop the compressor.
10. When the valve has reached the ambient temperature, then start the compressor and let it run for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
11. Stop the compressor. Waite until the valve on the bottle again has the ambient temperature.
12. Repeat 10 again. I.e Start the compressor for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
13. Now the system normally is recharged. If you have the possibility to weigh the bottle, then the charge is ok if you have charged minimum 140 gram into the system.
14. If you have charged less than 140 gram then repeat 10 once more.

Notice. If you start the compressor at point 8 with the valve open then you can ruin the compressor.

Change the supplied dry filter when changing the refrigerant!

VTS 256

Recharching refrigerant from a service bottle



The recharging shall take place in a room where the ambient temperature is between 20 and 25 C.

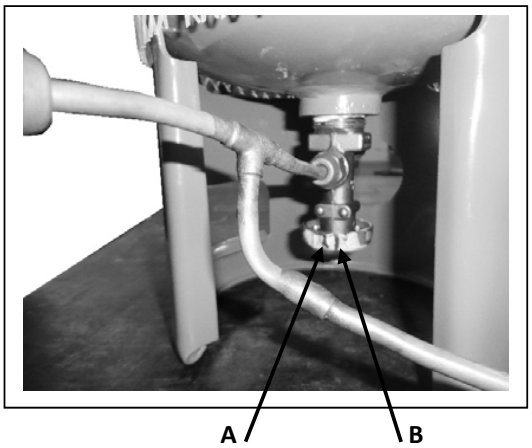
1. The service bottle shall have ambient temperature, i.e. between 20 and 25°C.
2. The service bottle is turned upside down as shown in the picture.
3. If you have the possibility to measure the weight of the bottle before you start recharching, it is useful to determine when the charge is sufficiently.
4. The system of the VTS256 shall be evacuated thoroughly.
5. Connect the bottle to the system.
6. The valve shall only be opened a little (please see the 2 blue lines (A and B) on the walve wheel on the picture. At line **A**, the valve is closed and then just turn it to line **B**.
7. Let the valve be opened for 5 minutes, then open it fully and after ½ a minute closed it again.
8. Start the compressor and let it run for 10 minutes.
9. Check that the bottle, especially the valve on the bottle has ambient temperature. If the temperature is too cold after 10 minutes, then stop the compressor.
10. When the valve has reached the ambient temperature, then start the compressor and let it run for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
11. Stop the compressor. Waite until the valve on the bottle again has the ambient temperature.
12. Repeat 10 again. I.e Start the compressor for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
13. Now the system normally is recharged. If you have the possibility to weigh the bottle, then the charge is ok if you have charged minimum 164 gram into the system.
14. If you have charged less than 164 gram then repeat 10 once more.

Notice. If you start the compressor at point 8 with the valve open, then you can ruin the compressor.

Change the supplied dry filter when changing the refrigerant!

VTS 258

Recharching refrigerant from a service bottle



The recharging shall take place in a room where the ambient temperature is between 20 and 25 C.

1. The service bottle shall have ambient temperature, i.e. between 20 and 25°C.
2. The service bottle is turned upside down as shown in the picture.
3. If you have the possibility to measure the weight of the bottle before you start recharching, it is useful to determine when the charge is sufficiently.
4. The system of the VTS258 shall be evacuated thoroughly.
5. Connect the bottle to the system.
6. The valve shall only be opened a little (please see the 2 blue lines (A and B) on the walve wheel on the picture. At line **A**, the valve is closed and then just turn it to line **B**.
7. Let the valve be opened for 5 minutes, then open it fully and after ½ a minute closed it again.
8. Start the compressor and let it run for 10 minutes.
9. Check that the bottle, especially the valve on the bottle has ambient temperature. If the temperature is too cold after 10 minutes, then stop the compressor.
10. When the valve has reached the ambient temperature, then start the compressor and let it run for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
11. Stop the compressor. Waite until the valve on the bottle again has the ambient temperature.
12. Repeat 10 again. I.e Start the compressor for 1-2 minutes. Then open the valve slowly up to full open and then close it slowly again.
13. Now the system normally is recharged. If you have the possibility to weigh the bottle, then the charge is ok if you have charged minimum 172 gram into the system.
14. If you have charged less than 172 gram then repeat 10 once more.

Notice. If you start the compressor at point 8 with the valve open then you can ruin the compressor.

Change the supplied dry filter when changing the refrigerant!

List of parameters VTS254:

Group	Parameter	Description	Original	Vis. Level	Min.	Maxi.	Unit
Clock and recording setting	itP	Recording interval	5	Pr1	1	255	min
Clock and recording setting	rC1	First probe recording enable	YES	Pr2			
Clock and recording setting	rC2	Second probe recording	NO	Pr2			
Clock and recording setting	rC3	Third probe recording enable	NO	Pr2			
Clock and recording setting	rC4	Fourth probe recording enable	YES	Pr1			
Clock and recording setting	rCb	Start recording SET key enabling	YES	Pr1			
Clock and recording setting	EU	Date format	EU	Pr1			
Clock and recording setting	rSd	Data erase	NO	Pr2			
Clock and recording setting	rSA	Alarms erase	NO	Pr2			
Regulation	Set	Set point	-45	Pr1	-50	-8	°C
Regulation	Hy	Differential	1	Pr2	1	26	°C
Regulation	LS	Minimum set point limit	-50	Pr2	-100	-45	°C
Regulation	US	Maximum set point limit	-8	Pr2	-45	150	°C
Probe inputs	ot	Regulation probe calibration (term. 1-2)	-2	Pr2	-12	12	°C
Probe inputs	P2P	Evaporator probe presence (term. 2-3)	NO	Pr2			
Probe inputs	oE	Evaporator probe calibration	0	Pr2	-12	12	°C
Probe inputs	P3P	Third probe presence (term. 4-5)	NO	Pr2			
Probe inputs	o3	Third probe calibration	0	Pr2	-12	12	°C
Probe inputs	P4P	Fourth probe presence (term. 5-6)	NO	Pr2			
Probe inputs	O4	Fourth probe calibration	0	Pr2	-12	12	°C
Probe inputs	odS	Outputs activation delay at start up	0	Pr2	0	255	min
Probe inputs	AC	Anti-short cycle delay	5	Pr2	0	30	min
Probe inputs	Con	Compressor ON time with faulty probe	10	Pr2	0	255	min
Probe inputs	COF	Compressor OFF time with faulty probe	20	Pr2	0	255	min
Dispaly	CF	Temperature measurement unit	°C	Pr1			
Dispaly	rES	Resolution (for °C)	in	Pr1			
Dispaly	rEd	Remote display	P1	Pr2			
Dispaly	dLy	Display delay	0.00	Pr2			min
Defrost	dtE	Defrost termination temperature	4	Pr2	-100	150	°C
Defrost	IdF	Interval between defrosts	1	Pr2	1	120	hour
Defrost	MdF	(Maximum) duration of defrost	0	Pr2	0	255	min
Defrost	dFd	Display during defrost	rt	Pr2			
Defrost	dAd	Defrost display time out	0	Pr2	0	255	min
Fans	Fnc	Fan operating mode	O-y	Pr2			

Fans	Fnd	Fan delay after defrost	0	Pr2	0	255	min
Fans	FSt	Fan stop temperature	0	Pr2	-100	150	°C
Fans	Fon	Fan ON time	0	Pr2	0	15	min
Fans	FoF	Fan OFF time	0	Pr2	0	15	min
Temperature alarms for regulation probe P1	A1C	Temperature alarm configuration	rE	Pr2			
Temperature alarms for regulation probe P1	A1U	High temperature alarm for P1	10	Pr2	0	50	°C
Temperature alarms for regulation probe P1	A1L	Low temperature alarm for P1	10	Pr2	0	50	°C
Temperature alarms for regulation probe P1	A1H	Differential for temperature alarm recovery	1	Pr2	1	26	°C
Temperature alarms for regulation probe P1	A1d	Temperature alarm delay	0	Pr2	0	255	min
Temperature alarms for regulation probe P1	d1o	Delay of temperature alarm at start-up	0.00	Pr2			hour
Temperature alarms for logging probe P3	A3U	High temperature alarm for P3	-75	Pr2	-100	150	°C
Temperature alarms for logging probe P3	A3L	Low temperature alarm for P3	-100	Pr2	-100	-75	°C
Temperature alarms for logging probe P3	A3H	Differential for temperature alarm 3 recovery	1	Pr2	1	26	°C
Temperature alarms for logging probe P3	A3d	Temperature alarm 3 delay	0	Pr2	0	255	min
Temperature alarms for logging probe P3	d3o	Delay of temperature alarm 3 at start-up	0.30	Pr2			hour
Temperature alarms for logging probe P4	A4U	High temperature alarm for P4	-75	Pr2	-100	150	°C
Temperature alarms for logging probe P4	A4L	Low temperature alarm for P4	-100	Pr2	-100	-75	°C
Temperature alarms for logging probe P4	A4H	Differential for temperature alarm 4 recovery	1	Pr2	1	26	°C
Temperature alarms for logging probe P4	A4d	Temperature alarm 4 delay	0	Pr2	0	255	min
Temperature alarms for logging probe P4	d4o	Delay of temperature alarm 4 at start-up	0.30	Pr2			hour
Alarm relay management	tbA	Alarm relay disabling	NO	Pr2			
Alarm relay management	Aro	Alarm relay activation with power failure	YES	Pr2			
Alarm relay management	ALF	Alarm relay activation for all the alarms	YES	Pr2			
Alarm relay management	bon	Time of buzzer restart after muting, in case of alarm duration	30	Pr1	0	30	min
Alarm relay management	AoP	Alarm relay polarity	CL	Pr2			
Digital inputs	i1P	Digital input polarity	oP	Pr2			
Digital inputs	i1F	Digital input configuration	dor	Pr2			
Digital inputs	did	with i1F= EAL or i1F = bAL digital input alarm delay (13-14)	1	Pr2	0	255	min
Digital inputs	odc	Compressor and fan status when open door	Fan	Pr2			
Digital inputs	rrd	Outputs restart after doA alarm	NO	Pr2			
Digital inputs	HES	Temperature increase during the Energy Saving cycle	0	Pr2	-30	30	°C
Other	Adr	Serrial address	1	Pr1	1	247	
Other	PbC	Type of probe	Pt1	Pr2			
Other	dP2	Evaporator probe display	0	Pr1			°C
Other	rEL	Release software		Pr1			

List of parameters VTS256:

Group	Parameter	Description	Original	Vis. Level	Min.	Max.	Unit
Clock and recording settingg	itP	Recording interval	5	Pr1	1	255	min
Clock and recording settingg	rC1	First probe recording enable	YES	Pr2			
Clock and recording settingg	rC2	Second probe recording	NO	Pr2			
Clock and recording settingg	rC3	Third probe recording enable	NO	Pr2			
Clock and recording settingg	rC4	Fourth probe recording enable	YES	Pr1			
Clock and recording settingg	rCb	Start recording SET key enabling	YES	Pr1			
Clock and recording settingg	EU	Date format	EU	Pr1			
Clock and recording settingg	rSd	Data erase	NO	Pr2			
Clock and recording settingg	rSA	Alarms erase	NO	Pr2			
Regulation	Set	Set point	-61	Pr1	-70	-30	°C
Regulation	Hy	Differential	1	Pr2	1	26	°C
Regulation	LS	Minimum set point limit	-70	Pr2	-100	-61	°C
Regulation	US	Maximum set point limit	-30	Pr2	-61	150	°C
Probe inputs	ot	Regulation probe calibration (term. 1-2)	-2	Pr2	-12	12	°C
Probe inputs	P2P	Evaporator probe presence (term. 2-3)	NO	Pr2			
Probe inputs	oE	Evaporator probe calibration	0	Pr2	-12	12	°C
Probe inputs	P3P	Third probe presence (term. 4-5)	NO	Pr2			
Probe inputs	o3	Third probe calibration	0	Pr2	-12	12	°C
Probe inputs	P4P	Fourth probe presence (term. 5-6)	NO	Pr2			
Probe inputs	O4	Fourth probe calibration	0	Pr2	-12	12	°C
Probe inputs	odS	Outputs activation delay at start up	0	Pr2	0	255	min
Probe inputs	AC	Anti-short cycle delay	5	Pr2	0	30	min
Probe inputs	Con	Compressor ON time with faulty probe	60	Pr2	0	255	min
Probe inputs	COF	Compressor OFF time with faulty probe	5	Pr2	0	255	min
Dispaly	CF	Temperature measurement unit	°C	Pr1			
Dispaly	rES	Resolution (for °C)	in	Pr1			
Dispaly	rEd	Remote display	P1	Pr2			
Dispaly	dLy	Display delay	0.00	Pr2			min
Defrost	dtE	Defrost termination temperature	4	Pr2	-100	150	°C
Defrost	IdF	Interval between defrosts	1	Pr2	1	120	hour
Defrost	MdF	(Maximum) duration of defrost	0	Pr2	0	255	min
Defrost	dFd	Display during defrost	rt	Pr2			
Defrost	dAd	Defrost display time out	0	Pr2	0	255	min
Fans	Fnc	Fan operating mode	O-y	Pr2			

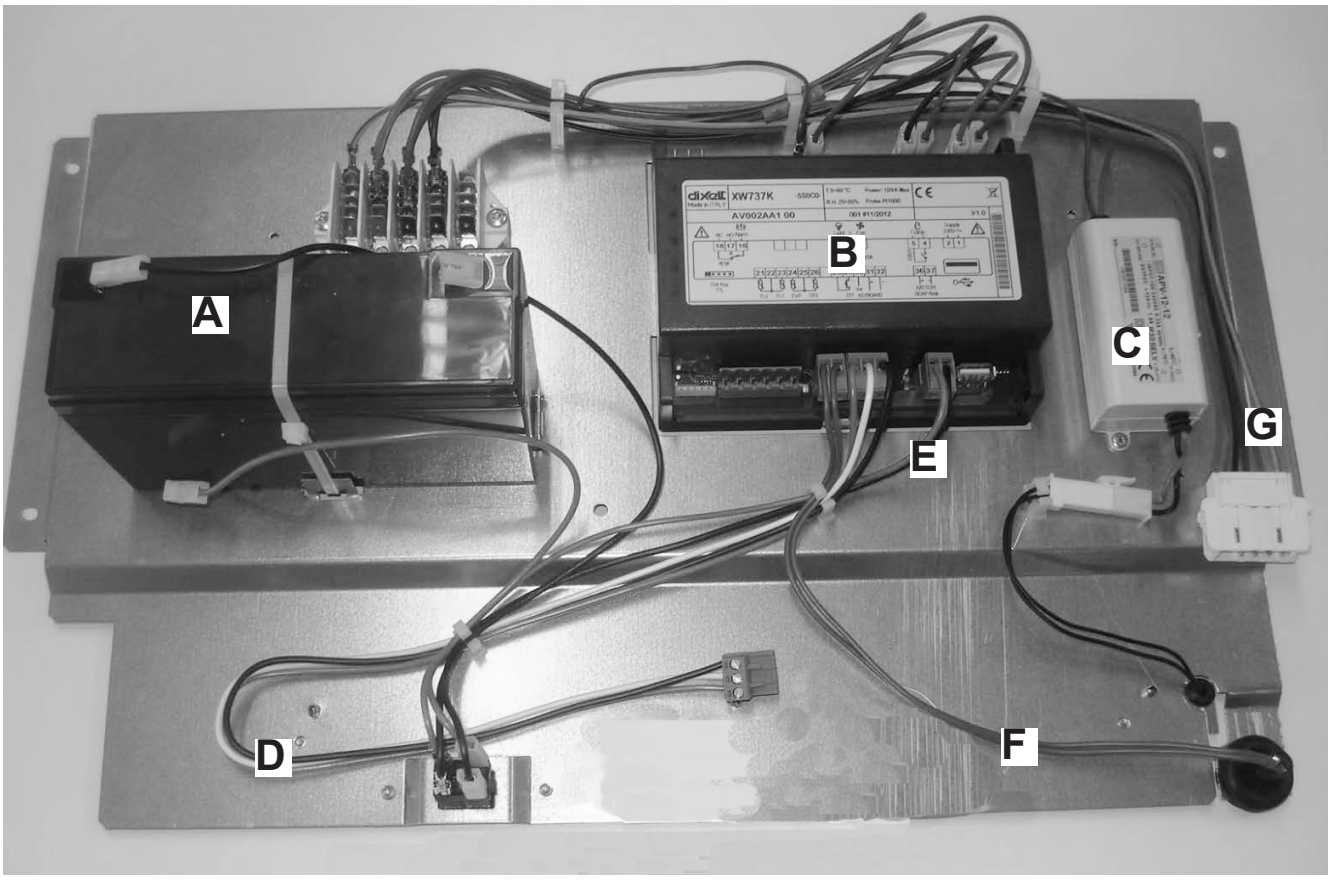
Fans	Fnd	Fan delay after defrost	0	Pr2	0	255	min
Fans	FSt	Fan stop temperature	0	Pr2	-100	150	°C
Fans	Fon	Fan ON time	0	Pr2	0	15	min
Fans	FoF	Fan OFF time	0	Pr2	0	15	min
Temperature alarms for regulation Probe P1	A1C	Temperature alarm configuration	rE	Pr2			
Temperature alarms for regulation Probe P1	A1U	High temperature alarm for P1	25	Pr2	0	50	°C
Temperature alarms for regulation Probe P1	A1L	Low temperature alarm for P1	20	Pr2	0	50	°C
Temperature alarms for regulation Probe P1	A1H	Differential for temperature alarm recovery	1	Pr2	1	26	°C
Temperature alarms for regulation Probe P1	A1d	Temperature alarm delay	0	Pr2	0	255	min
Temperature alarms for regulation Probe P1	d1o	Delay of temperature alarm at start-up	0.00	Pr2			hour
Temperature alarms for logging Probe P3	A3U	High temperature alarm for P3	-75	Pr2	-100	150	°C
Temperature alarms for logging Probe P3	A3L	Low temperature alarm for P3	-100	Pr2	-100	-75	°C
Temperature alarms for logging Probe P3	A3H	Differential for temperature alarm 3 recovery	1	Pr2	1	26	°C
Temperature alarms for logging Probe P3	A3d	Temperature alarm 3 delay	0	Pr2	0	255	min
Temperature alarms for logging Probe P3	d3o	Delay of temperature alarm 3 at start-up	0.30	Pr2			hour
Temperature alarms for logging Probe P4	A4U	High temperature alarm for P4	-75	Pr2	-100	150	°C
Temperature alarms for logging Probe P4	A4L	Low temperature alarm for P4	-100	Pr2	-100	-75	°C
Temperature alarms for logging Probe P4	A4H	Differential for temperature alarm 4 recovery	1	Pr2	1	26	°C
Temperature alarms for logging Probe P4	A4d	Temperature alarm 4 delay	0	Pr2	0	255	min
Temperature alarms for logging Probe P4	d4o	Delay of temperature alarm 4 at start-up	0.30	Pr2			hour
Alarm relay management	tbA	Alarm relay disabling	NO	Pr2			
Alarm relay management	Aro	Alarm relay activation with power failure	YES	Pr2			
Alarm relay management	ALF	Alarm relay activation for all the alarms	YES	Pr2			
Alarm relay management	bon	Time of buzzer restart after muting, in case of alarm duration	30	Pr1	0	30	min
Alarm relay management	AoP	Alarm relay polarity	CL	Pr2			
Digital inputs	i1P	Digital input polarity	oP	Pr2			
Digital inputs	i1F	Digital input configuration	dor	Pr2			
Digital inputs	did	with i1F= EAL or i1F = bAL digital input alarm delay (13-14)	1	Pr2	0	255	min
Digital inputs	odc	Compressor and fan status when open door	no	Pr2			
Digital inputs	rrd	Outputs restart after doA alarm	NO	Pr2			
Digital inputs	HES	Temperature increase during the Energy Saving cycle	0	Pr2	-30	30	°C
Other	Adr	Serrial address	1	Pr1	1	247	
Other	PbC	Type of probe	Pt1	Pr2			
Other	dP1	Thermostat probe display	0	Pr2			°C

List of parameters VTS258:

Group	Parameter	Description	Original	Vis. Level	Min.	Maxi.	Unit
Clock and recording setting	itP	Recording interval	5	Pr1	1	255	min
Clock and recording setting	rC1	First probe recording enable	YES	Pr2			
Clock and recording setting	rC2	Second probe recording	NO	Pr2			
Clock and recording setting	rC3	Third probe recording enable	NO	Pr2			
Clock and recording setting	rC4	Fourth probe recording enable	YES	Pr1			
Clock and recording setting	rCb	Start recording SET key enabling	YES	Pr1			
Clock and recording setting	EU	Date format	EU	Pr1			
Clock and recording setting	rSd	Data erase	NO	Pr2			
Clock and recording setting	rSA	Alarms erase	NO	Pr2			
Regulation	Set	Set point	-87	Pr1	-95	-55	°C
Regulation	Hy	Differential	1	Pr2	1	26	°C
Regulation	LS	Minimum set point limit	-95	Pr2	-100	-87	°C
Regulation	US	Maximum set point limit	-55	Pr2	-87	150	°C
Probe inputs	ot	Regulation probe calibration (term. 1-2)	-1	Pr2	-12	12	°C
Probe inputs	P2P	Evaporator probe presence (term. 2-3)	NO	Pr2			
Probe inputs	oE	Evaporator probe calibration	0	Pr2	-12	12	°C
Probe inputs	P3P	Third probe presence (term. 4-5)	NO	Pr2			
Probe inputs	o3	Third probe calibration	0	Pr2	-12	12	°C
Probe inputs	P4P	Fourth probe presence (term. 5-6)	NO	Pr2			
Probe inputs	O4	Fourth probe calibration	0	Pr2	-12	12	°C
Probe inputs	odS	Outputs activation delay at start up	0	Pr2	0	255	min
Probe inputs	AC	Anti-short cycle delay	5	Pr2	0	30	min
Probe inputs	Con	Compressor ON time with faulty probe	60	Pr2	0	255	min
Probe inputs	COF	Compressor OFF time with faulty probe	5	Pr2	0	255	min
Display	CF	Temperature measurement unit	°C	Pr1			
Display	rES	Resolution (for °C)	in	Pr1			
Display	rEd	Remote display	P1	Pr2			
Display	dLy	Display delay	0.00	Pr2			min
Defrost	dtE	Defrost termination temperature	4	Pr2	-100	150	°C
Defrost	IdF	Interval between defrosts	1	Pr2	1	120	hour
Defrost	MdF	(Maximum) duration of defrost	0	Pr2	0	255	min
Defrost	dFd	Display during defrost	rt	Pr2			
Defrost	dAd	Defrost display time out	0	Pr2	0	255	min

Fans	Fnc	Fan operating mode	O-y	Pr2			
Fans	Fnd	Fan delay after defrost	0	Pr2	0	255	min
Fans	FSt	Fan stop temperature	0	Pr2	-100	150	°C
Fans	Fon	Fan ON time	0	Pr2	0	15	min
Fans	FoF	Fan OFF time	0	Pr2	0	15	min
Temperature alarms for regulation probe P1	A1C	Temperature alarm configuration	Ab	Pr2			
Temperature alarms for regulation probe P1	A1U	High temperature alarm for P1	-60	Pr2	-100	150	°C
Temperature alarms for regulation probe P1	A1L	Low temperature alarm for P1	-100	Pr2	-100	-60	°C
Temperature alarms for regulation probe P1	A1H	Differential for temperature alarm recovery	1	Pr2	1	26	°C
Temperature alarms for regulation probe P1	A1d	Temperature alarm delay	0	Pr2	0	255	min
Temperature alarms for regulation probe P1	d1o	Delay of temperature alarm at start-up	0.00	Pr2			hour
Temperature alarms for logging probe P3	A3U	High temperature alarm for P3	-75	Pr2	-100	150	°C
Temperature alarms for logging probe P3	A3L	Low temperature alarm for P3	-100	Pr2	-100	-75	°C
Temperature alarms for logging probe P3	A3H	Differential for temperature alarm 3 recovery	1	Pr2	1	26	°C
Temperature alarms for logging probe P3	A3d	Temperature alarm 3 delay	0	Pr2	0	255	min
Temperature alarms for logging probe P3	d3o	Delay of temperature alarm 3 at start-up	0.30	Pr2			hour
Temperature alarms for logging probe P4	A4U	High temperature alarm for P4	-75	Pr2	-100	150	°C
Temperature alarms for logging probe P4	A4L	Low temperature alarm for P4	-100	Pr2	-100	-75	°C
Temperature alarms for logging probe P4	A4H	Differential for temperature alarm 4 recovery	1	Pr2	1	26	°C
Temperature alarms for logging probe P4	A4d	Temperature alarm 4 delay	0	Pr2	0	255	min
Temperature alarms for logging probe P4	d4o	Delay of temperature alarm 4 at start-up	0.30	Pr2			hour
Alarm relay management	tbA	Alarm relay disabling	NO	Pr2			
Alarm relay management	Aro	Alarm relay activation with power failure	YES	Pr2			
Alarm relay management	ALF	Alarm relay activation for all the alarms	YES	Pr2			
Alarm relay management	bon	Time of buzzer restart after muting, in case of alarm duration	30	Pr1	0	30	min
Alarm relay management	AoP	Alarm relay polarity	CL	Pr2			
Digital inputs	i1P	Digital input polarity	oP	Pr2			
Digital inputs	i1F	Digital input configuration	dor	Pr2			
Digital inputs	did	with i1F= EAL or i1F = bAL digital input alarm delay (13-14)	1	Pr2	0	255	min
Digital inputs	odc	Compressor and fan status when open door	no	Pr2			
Digital inputs	rrd	Outputs restart after doA alarm	NO	Pr2			
Digital inputs	HES	Temperature increase during the Energy Saving cycle	0	Pr2	-30	30	°C
Other	Adr	Serrial address	1	Pr1	1	247	
Other	PbC	Type of probe	Pt1	Pr2			
Other	dP1	Thermostat probe display	0	Pr2			°C
Other	rEL	Release software		Pr1			

Plate with electrical parts:



A: Battery

B: Controller

C: Transformer

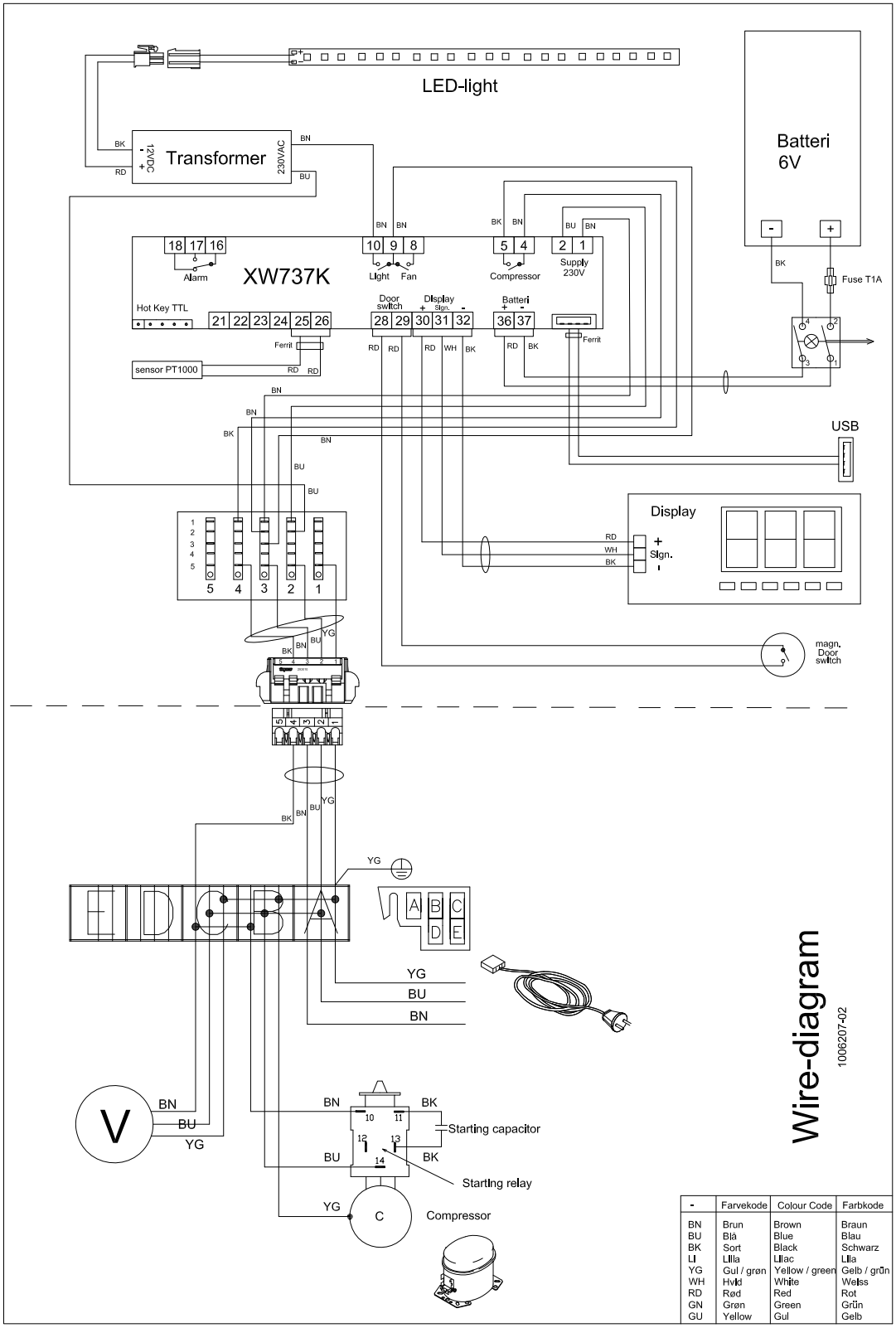
D: Wire to the display

E: Wire for battery and switch.

F: Magnetic door contact.

G: Wire for plug/main supply

Electrical diagram:



-	Farvekode	Colour Code	Farbkode
BN	Brun	Brown	Braun
BU	Blå	Blue	Blau
BK	Sort	Black	Schwarz
LI	Lilla	Lilac	Lilla
YG	Gul / grøn	Yellow / green	Gelb / grün
WH	Hvid	White	Weiss
RD	Rød	Red	Rot
GN	Grøn	Green	Grün
GU	Yellow	Gul	Gelb

8195007 rev 05