



Operating Instructions

Versafreeze Chest Freezers

VF 20040 C, VF 55040 C, VF 75040 C,

VF 20085 C, VF 55085 C, VF 75085 C



LAUDA-GFL Versafreeze chest freezers for the long-term storage of organic substances, for example, operate silently and with exceptional reliability. Insulation consisting of vacuum insulation panels and polyurethane foam is the key to their economical energy consumption.

The refrigeration compartment is made entirely of stainless steel.

The refrigeration system incorporates fully hermetic, air-cooled high-performance compressors and is maintenance-free.

Chest freezer models VF 20040 C, VF 55040 C and VF 75040 C can be set to temperatures as low as -40°C .

Chest freezer models VF 20085 C, VF 55085 C and VF 75085 C can be set to temperatures from -50°C to -86°C .

The devices are optimized for operation at the respective maximum target temperature.

Before installing the appliance, please check the content of the delivery for completeness and integrity.

If you discover damage or have any complaints, please get in touch with your supplier or contact us directly.

LAUDA DR. R. WOBSE R GMBH & CO. KG
Schulze-Delitzsch-Str. 4+5
30938 Burgwedel - Deutschland
Telefon: +49 (0)5139 9958 0
Fax: +49 (0)5139 9958 21
E-Mail: info@lauda.de
Internet: <https://www.lauda.de>

Translation of the original operating instructions
Q4DT-E_13-015-EN-02, 24.02.2023
© 2023 LAUDA DR. R. WOBSE R GMBH & CO. KG

Table of contents

Operating Instructions	1
1 Using the chest freezers.....	7
1.1 Intended use	7
1.2 Improper use.....	7
2 Warranty	7
3 Before starting up	8
4 Location of the chest freezer	8
5 Operating voltage and electrical connection.....	9
6 Commissioning.....	9
6.1 Operating and display elements on the touch screen unit.....	10
6.2 Switching the appliance on and off	12
6.3 Selecting a user profile	12
6.4 Managing access rights for user profiles (login and user profile display)	12
6.4.1 <i>Switching the appliance on and off.....</i>	13
6.5 Language selection.....	14
6.6 Refrigeration compartment temperature set point	14
6.7 Changing the password.....	15
7 Function description	16
7.1 Function of the data logger, history	16
7.2 Data transfer via USB	17
7.3 Internet connection	17
7.3.1 <i>Entering e-mail addresses for forwarding alarms</i>	17
7.3.2 <i>Email configuration.....</i>	18
7.3.3 <i>Alarm management</i>	18
7.4 Water cooling equipment option	19
7.4.1 <i>Adjusting the cooling water flow regulator.....</i>	20
8 Alarm limit values	21
8.1 Setting a limit value for the cover alarm delay	21
8.2 Overtemperature limit value	21
8.3 Low temperature limit value	21
8.4 USr User level	21
8.5 Alarm and potential-free contact.....	22
8.6 Resetting an alarm	22
8.7 Probe monitoring.....	22
8.8 Overtemperature or low temperature alarm	22
8.9 Mains power failure	22
8.10 Battery fault alarm (internal battery)	22
9 Care and maintenance.....	23
9.1 Defrosting	23
9.2 Technical support	23
10 Disposing of old appliances.....	23
11 Technical data	24

12	Circuit diagram.....	26
13	Auxiliary equipment	36
13.1	Data logger for monitoring and recording refrigeration compartment temperature	36
13.2	Storage system.....	36
13.2.1	<i>Inserts</i>	36
13.2.2	<i>Boxes</i>	37
13.2.3	<i>Grids</i>	37
14	Notes	38
15	Ordering spare parts / LAUDA Service.....	39
16	Product Returns and Clearance Declaration.....	40
17	EC Declaration of Conformity and certificates	41

1 Using the chest freezers

1.1 Intended use

LAUDA Versafreeze chest freezers can be set to temperatures between 0°C and -86°C, depending on the version. The chest freezers are intended for the long-term storage of organic substances, for example. The devices are optimized for operation at the respective maximum target temperature, at which they also achieve their optimum temperature stability (over time). The more the set target temperature deviates from the optimal operating temperature, the greater the temperature stability.



It is essential to read the information in these operating instructions. This is the only way to ensure the fault-free functioning of the chest freezer. Only persons familiar with these operating instructions are permitted to install and operate the appliances.



Caution:

Due to the low temperatures in the refrigeration compartment, suitable protective gloves must always be worn when storing and retrieving refrigerated goods. Arms must also be covered.

1.2 Improper use

LAUDA Versafreeze chest freezers are not suitable for the long-term storage of food and beverages, or similar products. The storage of highly flammable and/or explosive substances is forbidden. The devices are optimized for operation at the respective maximum target temperature, at which they also achieve their optimum temperature stability (over time). The more the set target temperature deviates from the optimal operating temperature, the greater the temperature stability. As a result, the devices are only suitable for material testing purposes to a limited extent.

The chest freezer must not be installed or operated in laboratory areas with aggressive or corrosive ambient conditions. Aggressive media such as hydrochloric acid may not be heated or evaporated in the immediate vicinity or inside the appliance itself. The chest freezer must not be operated in hazardous areas.

LAUDA chest freezers used in laboratories are not classified as medical devices. They are not subject to national or international medical device law and must be used accordingly.

2 Warranty

All laboratory equipment and accessories from LAUDA DR. R. WOBSEER GMBH & CO. KG are subject to warranty claims, including repairs, installation and spare parts. In order to identify faulty appliances, we need the type designation and the serial number from the type plate located on the top left of the right side wall of the chest freezer and possibly a copy of the invoice.

3 Before starting up

The information in these operating instructions must be read and observed without fail. This is the only way to ensure the fault-free functioning of the freezer appliance. Safety instructions are identified by the following warning symbols.



Read and observe the operating instructions



Caution!
Flammable refrigerant
(hydrocarbons)



Warning indicating cold surfaces



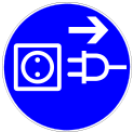
Warning of dangerous electrical voltage



General safety warning



Warning indicating crushing of hands



The appliance must be completely disconnected (all poles) from the power supply before commencing maintenance and repair work (pull out the mains plug).

The warranty does not cover the free repair of malfunctions resulting from improper installation and handling.



Only trained and qualified personnel are permitted to perform service and repair work on refrigeration equipment. In the event of repair work, the refrigerant quantity must not exceed the initial fill quantity. See the type plate for quantity information and material specifications.

Before soldering work is carried out on the refrigeration system, the refrigerant must be drained completely and the system blown through with dry nitrogen. Only trained and qualified personnel are permitted to dispose of refrigerant and removed components.



Caution: flammable refrigerant (hydrocarbons)

Due to the nature and quantity of the refrigerants used, naked flames are prohibited within a radius of 1 m of the appliance.

Removed components bearing this marking must be disposed of separately.

4 Location of the chest freezer

Always install the appliance on a solid, flat, horizontal indoor surface. The installation room must be at least 24 m³ in size. Alternatively, the installation room must be ventilated. Freezer appliances must be positioned at a minimum of 150 mm away from other appliances or walls so that the aspirated cooling air can circulate freely. The condenser at the back of the appliance must not be obstructed or blocked.

The ambient temperature must not exceed +28 °C as this would reduce the cooling capacity of the appliance and increase the temperature in the refrigeration compartment. Effective ventilation in the installation room is usually sufficient to lower the temperature.

The appliance is not intended for use in areas with an explosion hazard, such as during anesthesia using flammable gases or vapors. Please refer to the technical data for information on the appliance protection level.

Before the appliance is moved to its place of installation, the electrical system (**see point 5 of these instructions**) and, if necessary, the alarm system (**see point 8.5**) must be connected. Ensure that the connection cable is not damaged when the freezer appliance is moved.



Caution! Due to the nature and quantity of the refrigerants used, naked flames are prohibited within a radius of 1 m of the appliance.

5 Operating voltage and electrical connection

A marked equipotential bonding connection is located at the back of the chest freezer. Local regulations may stipulate the need to connect the appliance to a grounding network for equipotential bonding. Please check before commissioning the appliance.

Off



The operating voltage and the mains frequency on the type plate (right side wall, top left) must match the power supply specifications.

The main switch on the refrigeration system must be switched off (position 0). Once these conditions have been met, establish the electrical connection.

On



The refrigeration system may only be operated on a correctly installed power connection with a protective earth conductor (PE) that complies with local regulations.

It must be possible to disconnect all poles of the power supply from the power network (e.g. via an earthed socket or switch).

6 Commissioning



Caution:

due to the low temperatures in the refrigeration compartment, suitable protective gloves must always be worn when storing and retrieving refrigerated goods. Arms must also be covered.



Caution:

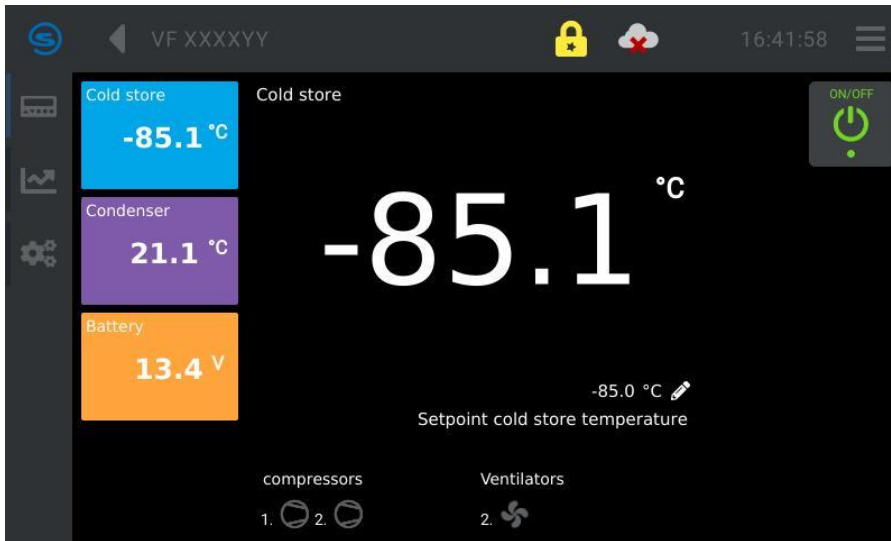
Do not leave the chest freezer keys near the appliance or within the reach of children.

Do not store acids or alkaline solutions that can erode the materials, hazardous substances that emit harmful vapors, or highly flammable and/or explosive substances inside the appliance (DGUV Information 213-850).



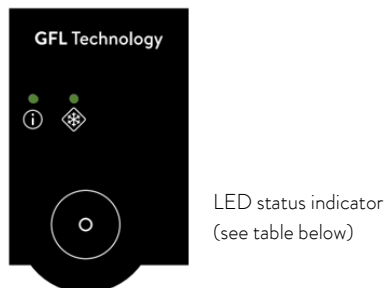
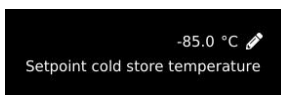
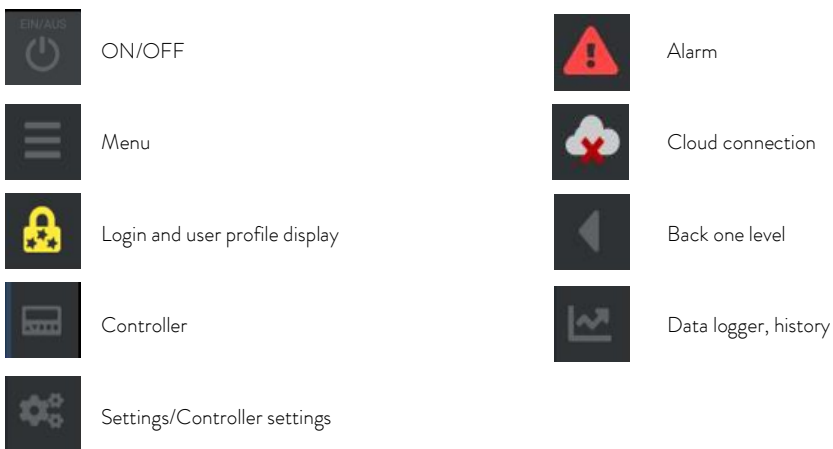
Read and observe the operating instructions.

6.1 Operating and display elements on the touch screen unit



The three large colored symbols on the left of the display indicate the ACTUAL temperature at the most important points on the appliance: the refrigeration compartment (blue field) and condenser (purple field), while the orange field shows the voltage of the internal battery.


The bottom line on the display indicates whether the appliance is a single-stage or dual-stage device. Rotating symbols indicate that the compressors or internal fan on the condenser are operating. The other symbols have the following meaning:




Normal refrigeration LED 1 and auxiliary device LED 2

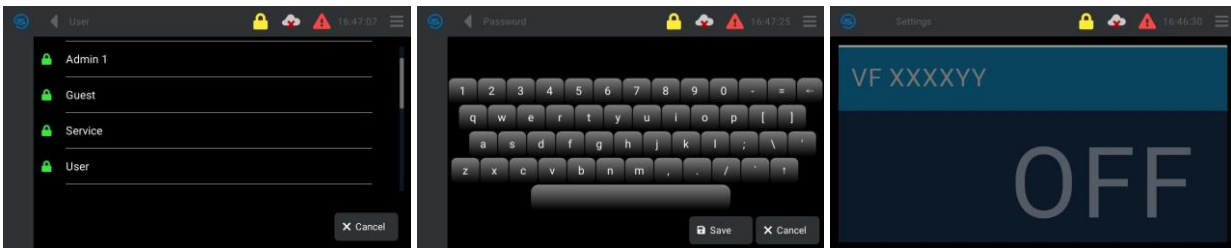
Status No.	LED 1 i symbol	Description
1	green	Active and no fault during normal refrigeration.
2	red	All other cases, including: Connection failure Collective fault Standby
Status No.	LED 2 Snowflake symbol	Description
1	green	Active and no fault in the auxiliary device.
2	yellow	Refrigeration compartment temperature is too high. Safety cooling (auxiliary device) is on standby. Solenoid valve will be activated "soon" and no fault in the auxiliary device. "Soon" means: Refrigeration compartment temperature is within the hysteresis range around the resulting set point (between lower and upper switching point) and solenoid valve is not active.
3	yellow, flashing	Solenoid valve active (coolant (CO ₂ or LN ₂) is injected), no fault in the auxiliary device. Coolant is only injected when the door is closed.
4	off	No auxiliary device connected.
5	red	All other cases, including: Collective fault Standby

6.2 Switching the appliance on and off

The appliance can only be switched on and off from the user profile "User"  (see points 6.3 and 6.4 in the operating instructions). Switch on the appliance by setting the main switch (see point 5 of the operating instructions) to position "I". Approx. 5 seconds after the control element has booted up, the overtemperature Tmax 1 alarm appears on the display and the alarm signal sounds. Acknowledge the alarm on the display.

6.3 Selecting a user profile

To select a user profile such as User (point 6.4 of the operating instructions), tap the "Login" symbol  and user profile display. Tap the desired user profile to select it, enter the relevant password for the selected profile (point 6.4. of the operating instructions) and press save to exit the screen.



6.4 Managing access rights for user profiles (login and user profile display)



Admin 1

All settings required to integrate the freezer into the operator's IT landscape, for example, can be configured under the user ID Admin1. The default password is "Admin 1".



Guest

The freezer appliance is started under the user ID "Guest". All relevant operational data can be accessed on this level. It is not possible to switch the appliance on and off or modify settings on this level. The default password is "Guest".



User

Users logged in to the "User" profile can configure settings such as those for switching the appliance on and off as well as the refrigeration compartment temperature set point and the alarm delay for the door. The default password is "User".



Service


Under the "Service" user ID, the operator/user can modify more advanced settings than those on the "User" level, including changing parameters or set point temperature limits and transferring data via USB. The default password is "Service".

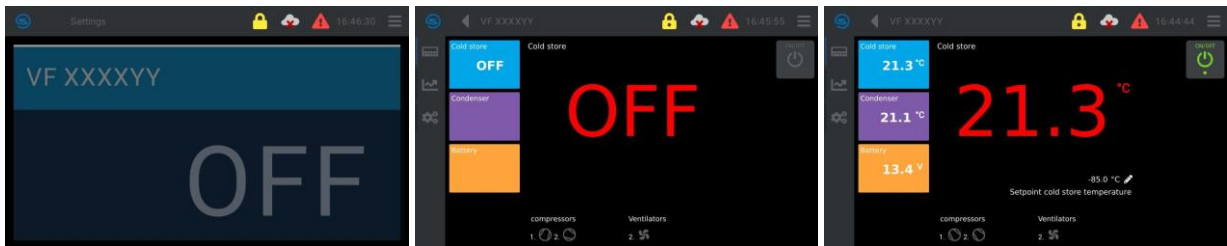
ADMIN


All data and settings that were preset by the manufacturer of the freezer appliance, such as the permitted or possible set point limits for the refrigeration compartment temperature, are stored under the "ADMIN" user profile.

The operator cannot modify the settings in this profile.

6.4.1 Switching the appliance on and off

Once the user profile has been changed, the display switches to the start screen. Touch VF XXXYY on the display to switch to the controller view. Press the ON/OFF  symbol on the touch screen unit. The temperature and "collective alarm" appear on the display. Acknowledge the alarm.



To switch off the appliance, first press the ON/OFF symbol  on the touch screen unit and then set the main switch to position 0.



Caution:

To switch off the chest freezer for longer periods, press the ON/OFF symbol on the touch screen unit until OFF appears on the display and then set the main switch to position 0.

If the alarm contact of the alarm system (see point 7 of the operating instructions) is connected to an in-house fault monitoring system, an alarm is triggered when the cabinet is switched off.

Inform the office responsible for monitoring faults well in advance that you intend to switch off the chest freezer.



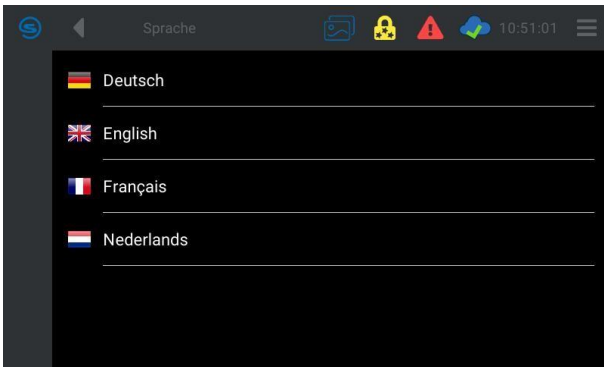
Caution:


If the appliance is only switched off at the main switch, the "power failure" alarm triggers and the appliance records the temperature inside the cabinet for approx. 35 hours, powered by the internal battery.

6.5 Language selection

The only languages currently available are German and English
Proceed as follows:

Menu
Settings
Language

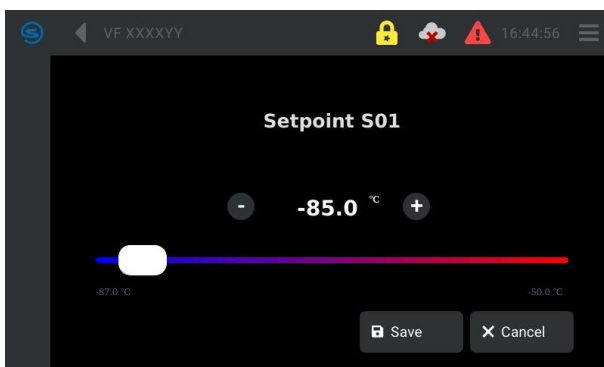


After selecting the language, press  the switch below the additional LED display. Touch VF XXXYY on the display to switch to the controller view.

6.6 Refrigeration compartment temperature set point



Once the refrigeration device has been switched on at the main switch and at the touch screen unit (see above), the display shows the current temperature in the refrigeration compartment. The temperature controller switches on the compressors to start the cooling process so that the refrigeration compartment temperature display remains red until the set point temperature is reached. When the set point is reached, the display color changes to white. If a fault occurs on the appliance, the display changes back to red.



The refrigeration compartment temperature set point can be modified by tapping the symbol for the refrigeration compartment temperature set point. Select the required temperature in the refrigeration compartment by sliding the cursor or pressing the "-" or "+" symbol, and then press the save button to store the refrigeration compartment temperature set point.

6.7 Changing the password

Only the passwords for a specific user profile and all subordinate levels can be changed from the relevant user profile.

An Admin1 can change all passwords, a User can only change the passwords for a subordinate Guest.

The number of stars in the yellow padlock at the top of the screen indicates which user profile is currently active.

The Admin1 padlock contains three stars, Service two stars, User one star, and Guest no stars.

Tap the menu symbol to change the password for a user profile.

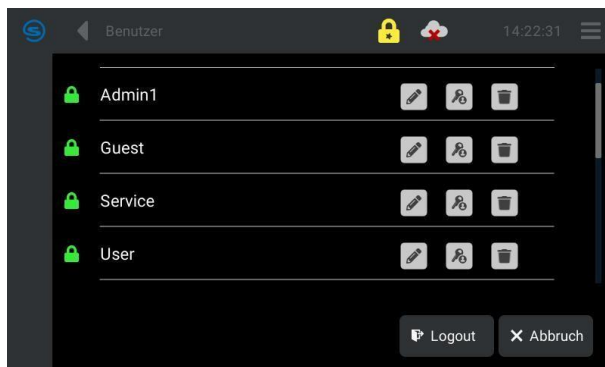
Menu

User management

User

Then tap user management and select the relevant user. Tap the input symbol , enter the "old password" and save.

The display changes to "Password". Enter and save the new password, then touch the symbol for one level back twice to display the controller view.




7 Function description

LAUDA Versafreeze chest freezer models VF 20040 C, VF 55040 C and VF 75040 C are equipped with a high-performance compressor and operate within a variable temperature range of -0°C to -40°C . Models VF 20085 C, VF 55085 C and VF 75085 C are equipped with two high-performance compressors and operate at a temperature range between -50°C and -86°C . The air-cooled condenser at the back of the appliance releases heat extracted from the refrigeration compartment into the room. The temperature controller maintains a constant temperature in line with the preset value. The current temperature in the refrigeration compartment is shown on the controller display.

The devices are optimized for operation at the respective maximum target temperature, at which they also achieve their optimum temperature stability (over time). The more the set target temperature deviates from the optimal operating temperature, the greater the temperature stability.

7.1 Function of the data logger, history

The data logger starts automatically and records the temperature in the refrigeration compartment, the condenser temperature, and the internal battery voltage every 120 seconds. Different views, e.g. days or hours, can be selected by tapping the "Data logger, history" symbol.

To view past events, tap the  symbol to open a window for setting the start and end dates. Now choose the desired start and end dates, tap to select, then press OK to confirm. Tap an hour or day to return to the current display.

The data logger is equipped with a 1 GB industrial SD card and can therefore record data for 2 years before the memory is full. When the memory is full, the oldest data is overwritten first so that only the most recent data is retained.

We recommend exporting the data, e.g. every six months, depending on its importance, or performing more regular backups (see Data transfer via USB).

Selection of displayed control curves:

Briefly tapping the symbols An1, A2F, or ba1 shows the designation of the symbols on the left of the display.

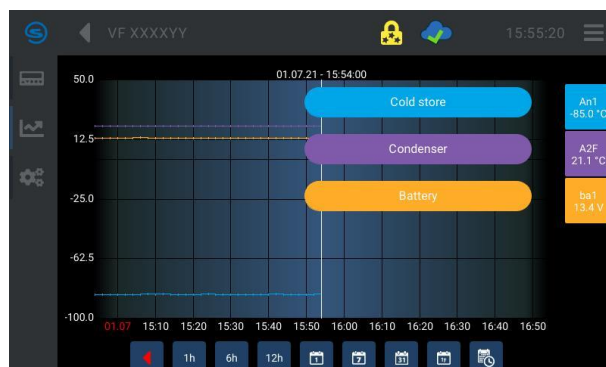
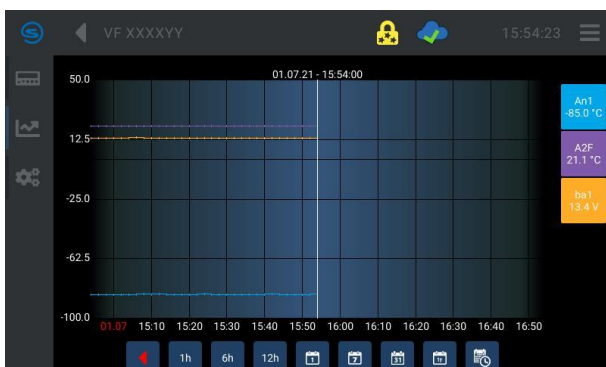
All three control curves are selected by default. In order to display only one control curve, the other control curves must be deactivated. To deactivate a control curve, press the corresponding symbol and hold for approx. 3 seconds.

The symbol turns white and the control curve disappears. To activate the control curve, press the deactivated white symbol and hold for approx. 3 seconds until it reverts back to its original color.

Blue (An1) = Refrigeration compartment (compartment temperature)

Purple (A2F) = Condenser (condenser temperature)

Orange (ba1) = Battery (internal battery voltage)



7.2 Data transfer via USB

In order to carry out a data transfer, the Service or Admin1 user profile must be selected.

Proceed as follows:

Select Menu

Select USB

Select Export history

Insert USB stick. Once the USB stick has been recognized, tap the save symbol.

After transferring the data, save and remove the USB stick

7.3 Internet connection

The touch control unit can also send alarms by e-mail. Different e-mail addresses and an e-mail server can be configured for this purpose.

7.3.1 Entering e-mail addresses for forwarding alarms

In order to configure e-mail addresses, the Admin 1 user profile must be selected. E-mail configuration is used to forward alarms via e-mail.

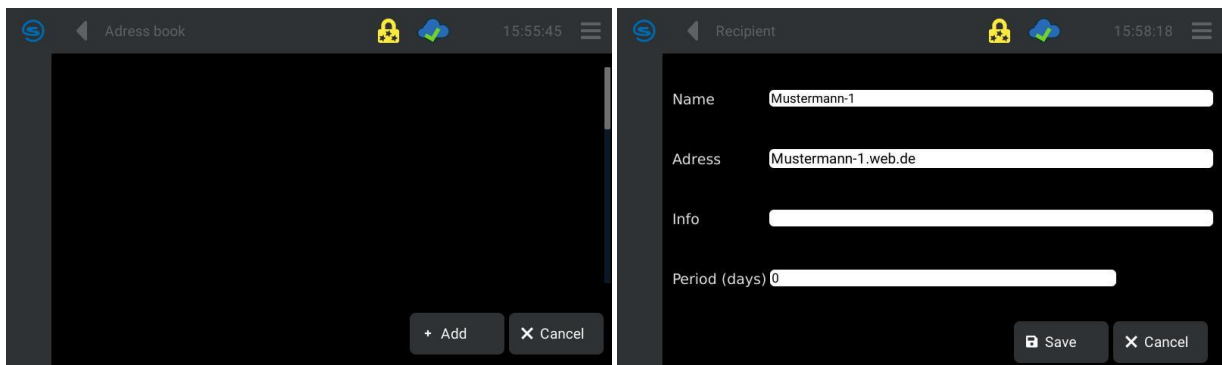
Pressing the

Menu

Email configuration

Address book

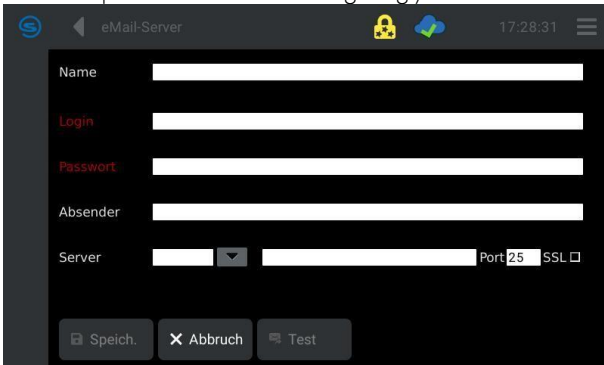
buttons opens the address book Clicking the "Add" symbol opens the recipient window, where you can enter the name and e-mail address of the individuals who should receive e-mail notification of an alarm. Click Save to add the recipient.



7.3.2 Email configuration

Pressing the
Menu
Email configuration
Email server

buttons opens a window for configuring your email server settings. Save your entries before exiting.



7.3.3 Alarm management

Since all alarms indicating a possible fault may impact the proper operation of the appliance, we always recommend selecting Alarm 1 or Alarm 2 rather than the Warning setting.

Pressing the
Menu
Alarm management
Alarm 1

buttons opens the alarm management settings. Tapping the "Add" button opens the Controller window.


Select the checkbox next to VFXXXXYY in this window and then save. The New configuration window then opens,

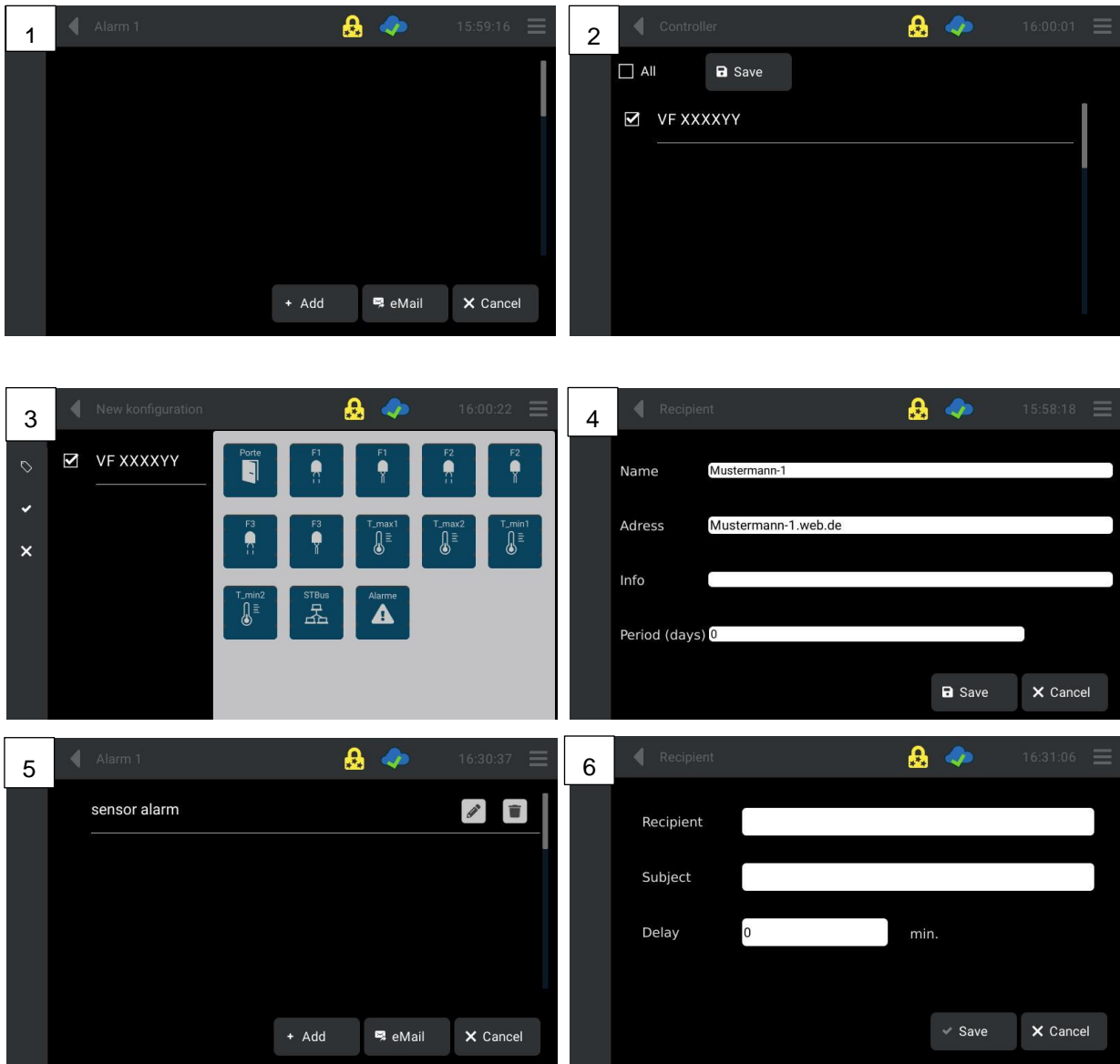
where you can select different alarms or tap the  symbol to select all alarms. To give the configuration a name,

tap the  symbol, enter the name, and save. A window with the name you assigned then opens.

Tapping the "E-mail" button opens the Recipient window. Tap the white button next to the name in this window.

A selection window containing the previously entered e-mail addresses opens. Select the required e-mail address and save.

Press the  symbol to return to the screen view.



7.4 Water cooling equipment option

Installation of a heat exchanger (water refrigerant) instead of a condenser. The heat exchanger significantly reduces the heat emitted by the device into the surrounding air, while expanding the permissible working temperature range. The temperature is pressure-controlled by the freezer appliance. Suitable for connection to a recooling system or water supply (external thread connection for pressure hose ½ " with union nut). Other connection types on request.

Not suitable for the models VF 200xx C.

Inlet water pressure min. 0.2 bar, max. 10 bar.

Inlet water temperature min. 4 °C, max. approx. 25 °C.

7.4.1 Adjusting the cooling water flow regulator

The cooling water flow regulator only needs to be adjusted if the on-site cooling water is significantly warmer or colder than the set value used during the test run. This set value can be found on the label on the cover of the cooling water flow regulator. If the temperature deviates by 10 °C or more, we recommend adjusting the cooling water flow in small increments (approx. 0.1 on the scale). The temperature difference between the cooling water inlet and outlet temperature should be 15 – 20 K. To adjust the cooling water flow regulator, open the cover of the cooling water flow regulator at the back of the appliance.



Figure 1
Unscrew the knurled screw



Figure 2
Open the cover of the cooling water flow regulator



Figure 3
Turn the adjustment wheel towards the 1 on the scale to increase the cooling water flow; turn it towards the 5 on the scale to reduce the quantity of cooling water.

8 Alarm limit values

8.1 Setting a limit value for the cover alarm delay

Tap the Menu symbol on the touch screen unit. In the parameter level, scroll down to the USr user level, tap parameter A6, set the required limit value, and save. A timer starts when the cover is opened. If the timer exceeds the preset delay time, the door alarm is triggered.

8.2 Overtemperature limit value

Tap the Menu symbol on the touch screen unit. In the parameter level, scroll down to the USr user level, tap parameter A13, set the required limit value, and save. If the refrigeration compartment temperature exceeds the upper preset limit value, the overtemperature alarm triggers.

8.3 Low temperature limit value

Tap the Menu symbol on the touch screen unit. In the parameter level, scroll down to the USr user level, tap parameter A15, set the required limit value, and save. If the refrigeration compartment temperature falls below the lower preset limit value, the low temperature alarm triggers.

8.4 USr User level

A 6	= Alarm delay (door open)	Factory setting	60 sec.
A 13	= Lower limit 1 (abs/rel)	Factory setting	-4.0 K
A 15	= Upper limit 1 (abs/rel)	Factory setting	4.0 K
C 11	= Refrigeration compartment temperature set point		The value is stored on the device card
C 25	= Hysteresis sensor F1	Factory setting	The value is stored on the device card
H 11	= Offset correction sensor F1	Factory setting	The value is stored on the device card

The device card is located behind the right side cover of the machine compartment of the VF 200.. C and below the upper cover of the machine compartment of the VF 550.. C and VF 750.. C.

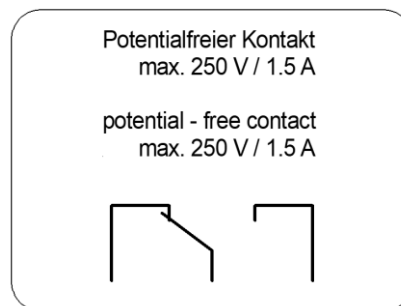
8.5 Alarm and potential-free contact

When a malfunction occurs, an alarm is triggered. Each alarm is issued in the form of an acoustic alarm signal and a visual alarm display.

All triggered alarms are stored in the controller.

When an acoustic alarm signal is issued, the potential-free alarm contact simultaneously connects to the in-house fault monitoring system.

The connection is located in the control cabinet behind the detachable lower right side panel and marked with a sticker. The maximum contact load is 230 V/1.5 A.



8.6 Resetting an alarm

When a malfunction occurs, an alarm is triggered. Each alarm is issued acoustically in the form of an alarm signal and displayed visually in an alarm window. Pressing the acknowledgment symbol in the alarm window switches off the acoustic alarm. The alarm screen closes and a red alarm symbol appears at the top of the touch screen unit.

The alarm symbol disappears automatically once the cause of the alarm has been rectified.

8.7 Probe monitoring

The temperature probe on the controller is monitored continuously for short circuits and disruptions. If a fault occurs, corresponding information appears on the display in plain text. At the same time, an acoustic warning signal sounds (1 second on – 1 second off) and the potential-free alarm contact is switched over. If a probe is faulty, the emergency program starts. The chest freezer cools for 30 minutes (compressors operate) and then pauses for 10 minutes. Then the process is repeated. Note: while the emergency program is running, the temperature may deviate from the preset refrigeration compartment temperature.

8.8 Overtemperature or low temperature alarm

If the refrigeration compartment temperature exceeds the preset upper or lower temperature limit (as described in section 7.1), corresponding information appears in plain text on the display and an acoustic alarm sounds (1 second on – 1 second off). The potential-free contact is switched over.

8.9 Mains power failure

In the event of a mains power failure, an acoustic warning signal sounds (1 second on – 1 second off) and the potential-free alarm contact is switched over. The permanently integrated battery keeps the display and data logger (for data recording) functioning for approx. 35 hours in the event of a power failure.

8.10 Battery fault alarm (internal battery)

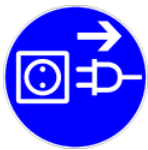
If the internal battery develops a fault, corresponding information is shown in plain text on the display, alternating with the current temperature. An acoustic alarm sounds (1 second on – 1 second off). The potential-free contact is switched over. Statutory provisions must always be observed when disposing of a faulty battery.

9 Care and maintenance

LAUDA Versafreeze laboratory freezer appliances are manufactured and engineered using the best materials. Powder-coated surfaces can be cleaned with mild cleaning agents, if necessary. We recommend applying talcum powder to the gaskets on the door and refrigeration compartment every now and then. In order to keep the cooling capacity constant, the condenser fins on the back of the appliance must be kept free of dust using a hand brush or vacuum cleaner.



Make sure that liquid cannot come into contact with the cable connections or electrical equipment.
Risk of electric shock!



Disconnect the appliance from the mains power supply before starting any repair or cleaning work.
Be sure to read the information under point 5 of these operating instructions in relation to this.

9.1 Defrosting

The refrigeration compartment must be defrosted if large volumes of ice begin to accumulate. Do not attempt to knock or scrape off the ice with a sharp object as this may damage the appliance. Leave the ice to thaw naturally.

Placing heating devices inside the refrigeration compartment is not permitted, because it may cause technical defects.

Switch off the appliance as described in section 6.2 and disconnect the mains plug from the socket. Open the outer and inner doors and leave the ice to thaw. Remove the melt water regularly to prevent it from overflowing into the machine compartment. Then dry and clean the refrigeration compartment.

The appliance may only be reconnected to the power supply and switched on (section 6.2) when the refrigeration compartment is ice-free and dry.

9.2 Technical support

You can call our customer service at any time for technical support relating to LAUDA freezer appliances.

Phone : +49 (0) 9343 / 503-350

Fax : +49 (0)9343 503-283

Email : service@lauda.de

Maintenance, repairs and modifications must be carried out by a qualified electrician (section 2 (3) DGUV Regulation 3) according to the General Rules of Technology (section 2 (2) DGUV Regulation 3). Only original spare parts may be used. Request that the person performing the work provides written confirmation of the type and scope of the work carried out (company, date, signature).

10 Disposing of old appliances

As stipulated in legal guidelines, LAUDA assumes responsibility for the environmentally responsible return and disposal of all old appliances manufactured by our company on or after 1995 and delivered to us free of charge.

Any old appliances received will be sent for recycling. Before sending any appliances, the owner must submit a legally binding declaration that the appliance is free of harmful contamination and hazardous substances resulting from its use.

LAUDA laboratory equipment is intended exclusively for commercial use and must not be disposed of via public disposal facilities.

EAR registration number WEEE-ID.NO.DE 67770231

11 Technical data

External dimensions (W x D x H in mm)	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	960 mm x 790 mm x 1130 mm 1670 mm x 910 mm x 1056 mm 2102 mm x 910 mm x 1056 mm
External dimensions B (W x D x H in mm) Smallest external dimension after removing the lock and the lid hinge, the cable connection and the screw fittings of the safety cooling	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	960 mm x 745 mm x 1030 mm 1670 mm x 820 mm x 1056 mm 2102 mm x 820 mm x 1056 mm
Interior dimensions and usable volume (W x D x H in mm)	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	790 mm x 520 mm x 500 mm 205 liters 1180 mm x 620 mm x 760 mm 556 liters 1600 mm x 620 mm x 760 mm 754 liters
Weight	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	188 kg / 210 kg 260 kg / 280 kg 310 kg / 332 kg
Minimum load carrying capacity of the floor at the device location	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	approx. 98 N/cm ² / 109 N/cm ² approx. 136 N/cm ² / 146 N/cm ² approx. 162 N/cm ² / 174 N/cm ²
Temperature control		Single-board controller
Temperature range	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	0 °C to -40 °C / -50 °C to -86 °C
Temperature stability (over time)	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	+/- 1.5 °C at -40 °C/-86 °C
Temperature setting and temperature display		Touch display
Electrical connection		230 V / +/- 10 % / 50 Hz
Mains fuse in building		16 A
Electrical connection		220 V / +/- 10 % / 60 Hz
Mains fuse in building		16 A
Electrical connection		115 V +/- 10 % / 60 Hz
Mains fuse in building		16 A
Mains fuse in building for	VF 55085 C	30 A
Mains fuse in building for	VF 75085 C	30 A
Mains connection		Safety plug
humidity		max 75 % r. H., no condensation
geographic altitude above sea level		2000 meters
Protection level/protection class		IP20

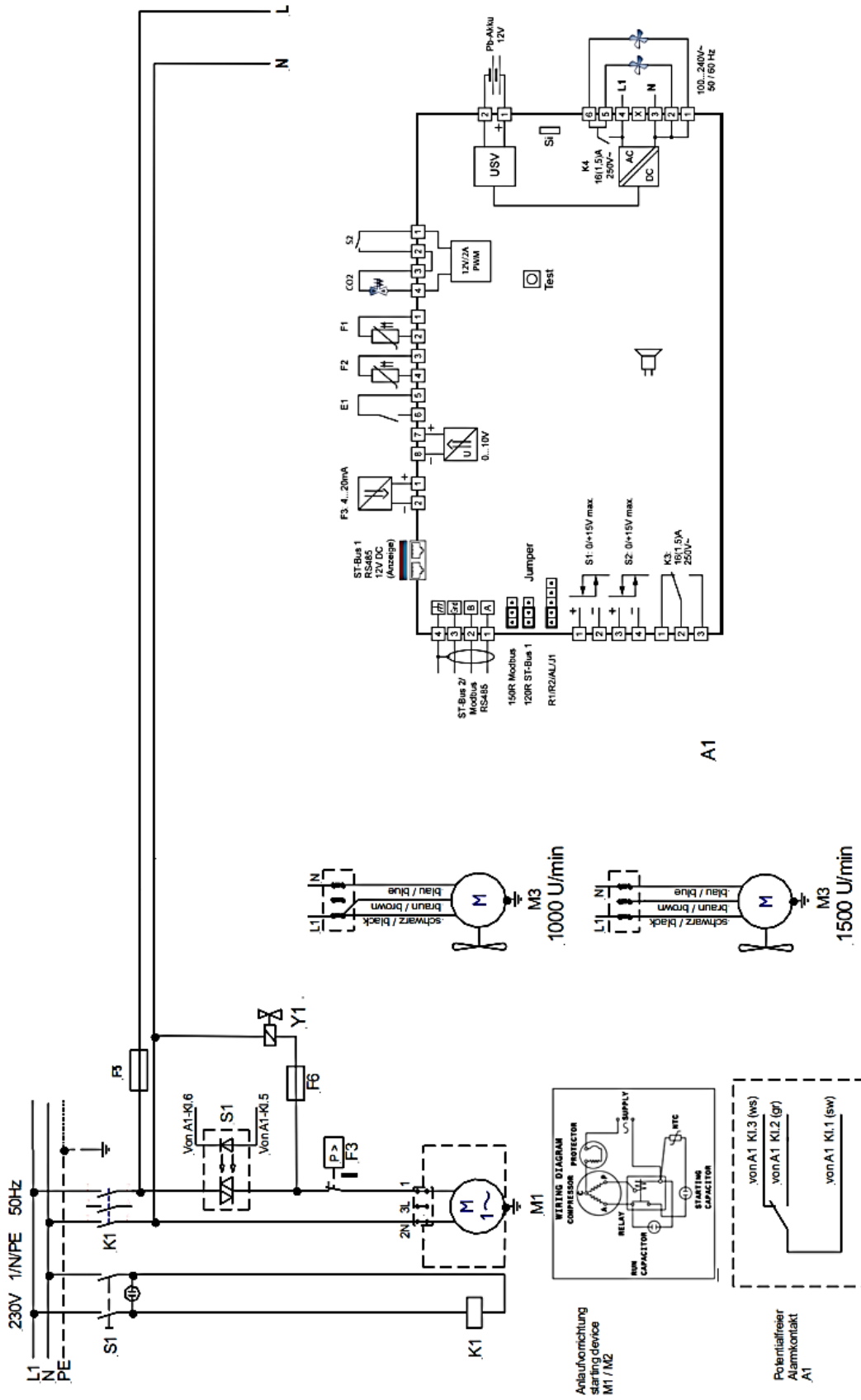
Power consumption 230 V / 50 Hz	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	0.5 kW / 1.0 kW 1.2 kW / 2.0 kW 1.2 kW / 2.0 kW
Power consumption 115 V / 60 Hz	VF 20040 C / 85 C VF 55040 C / 85 C VF 75040 C / 85 C	0,7 kW / 1,3 kW 1,3 kW / 2,2 kW 1,3 kW / 2,2 kW
Refrigerant charge, 1st stage		
Air cooling	VF 20040 C VF 55040 C VF 75040 C VF 20085 C VF 55085 C VF 75085 C	R1270 - 145 g R1270 - 145 g R1270 - 145 g R290 - 145 g R290 - 145 g R290 - 145 g
Water cooling (optional)	VF 55040 C VF 75040 C VF 20085 C VF 55085 C VF 75085 C	R1270 - 135 g R1270 - 135 g R290 - 135 g R290 - 135 g R290 - 135 g
Refrigerant quantity, 2nd stage	VF 20085 C VF 55085 C VF 75085 C	R170 - 68 g R170 - 72 g R170 - 84 g
Ambient conditions		Only used inside buildings
		Not in areas with an explosion hazard
Ambient temperature		16 °C - 28 °C

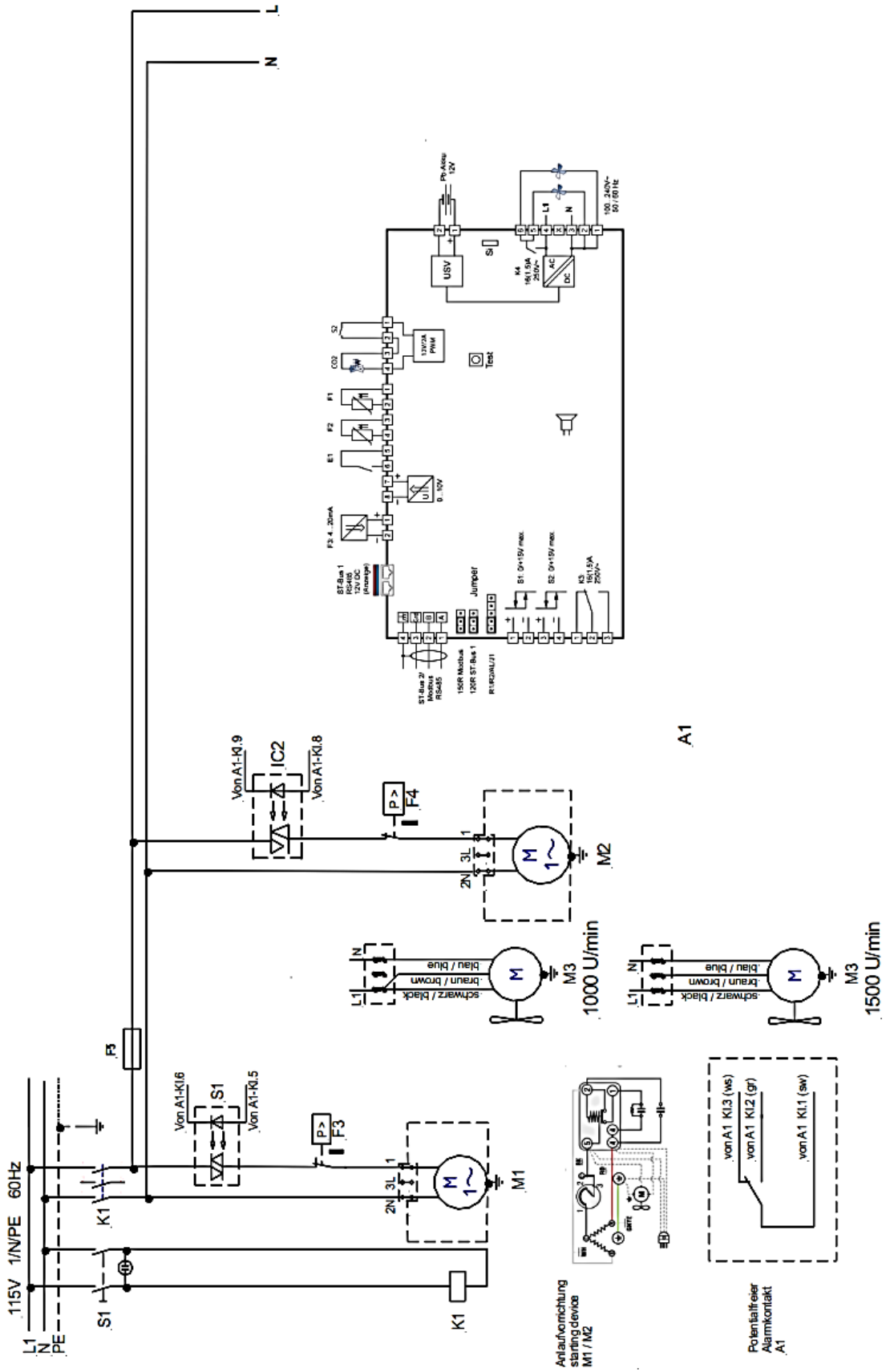
12 Circuit diagram

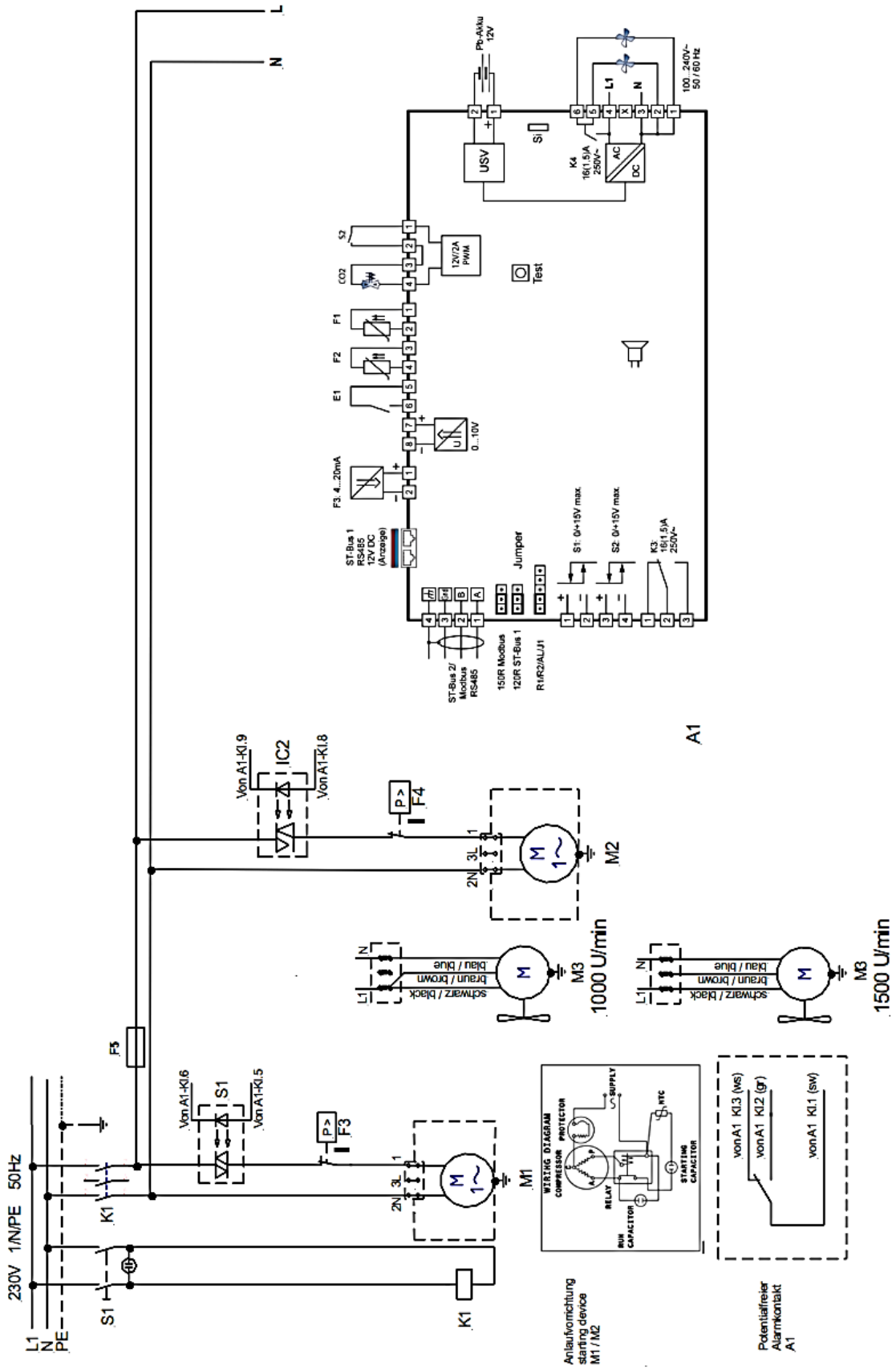
A1	Single-board cryostat
A2	Touch screen unit
F3	Over pressure switch, 1st stage
F4	Over pressure switch, 2nd stage
F5	Microfuse 1.6 A T
F6	Microfuse 1.6 A T
S1	Mains switch
K1	Main contactor
K2	Potential-free contact
M1	Compressor, 1st stage
M2	Compressor, 2nd stage
M3	Fan motor, 1,000 rpm or 1,500 rpm

	Single-board cryostat A1
F1	Temperature probe PT100 for refrigeration compartment
F2	Temperature probe PT100 for condenser
E1	Door switch/cover switch
S2	Switch CO ₂ /LN ₂
S1	Solid state relay, 1st Stage 0/+15V max.
S2	Solid state relay, 2nd Stage 0/+15V max.
K3	Potential-free contact

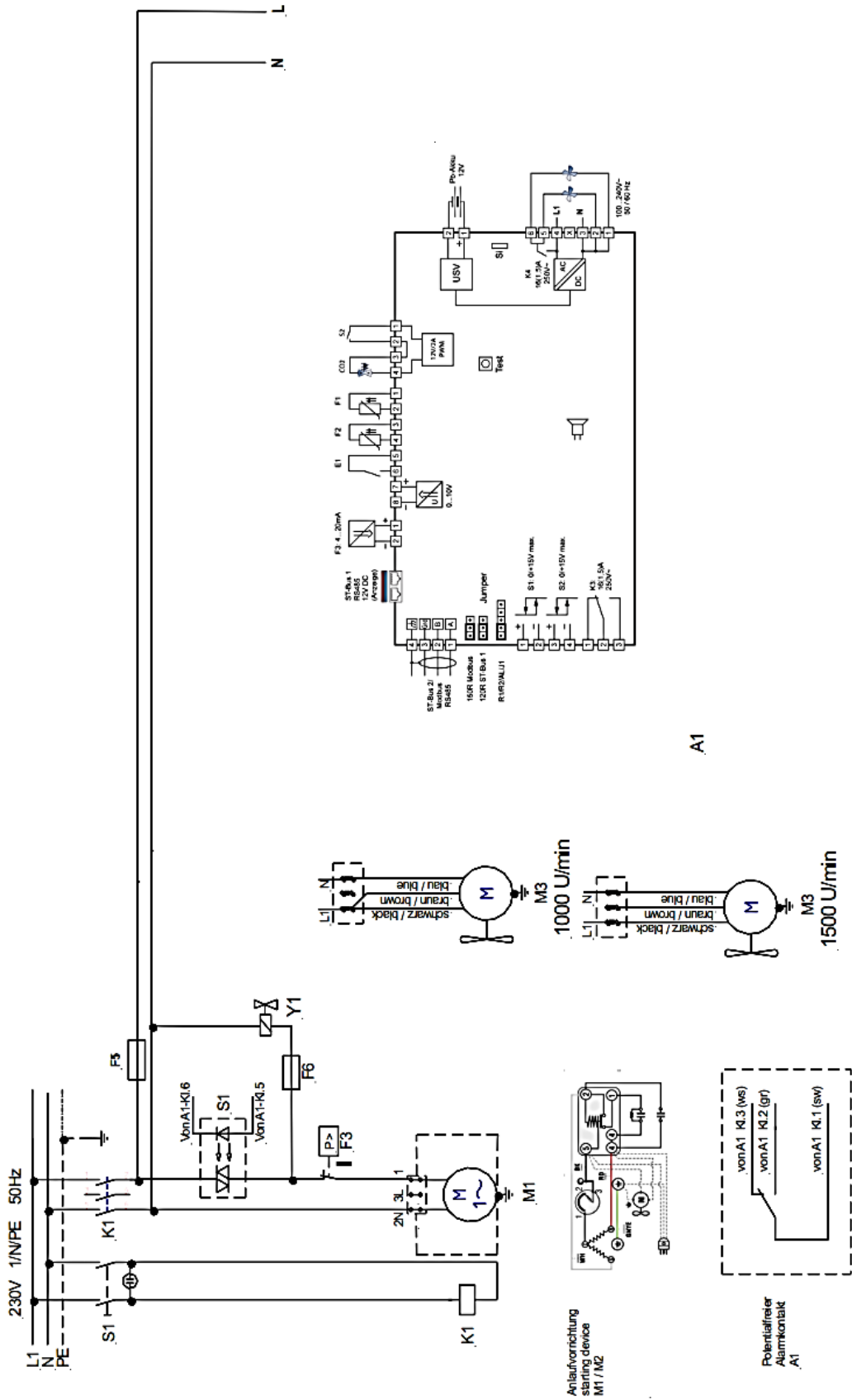
VF 20040 C, 230V_50Hz



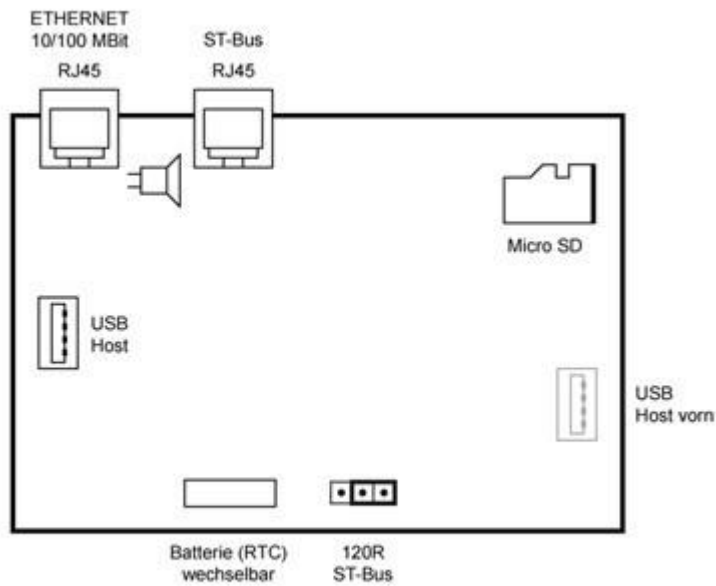




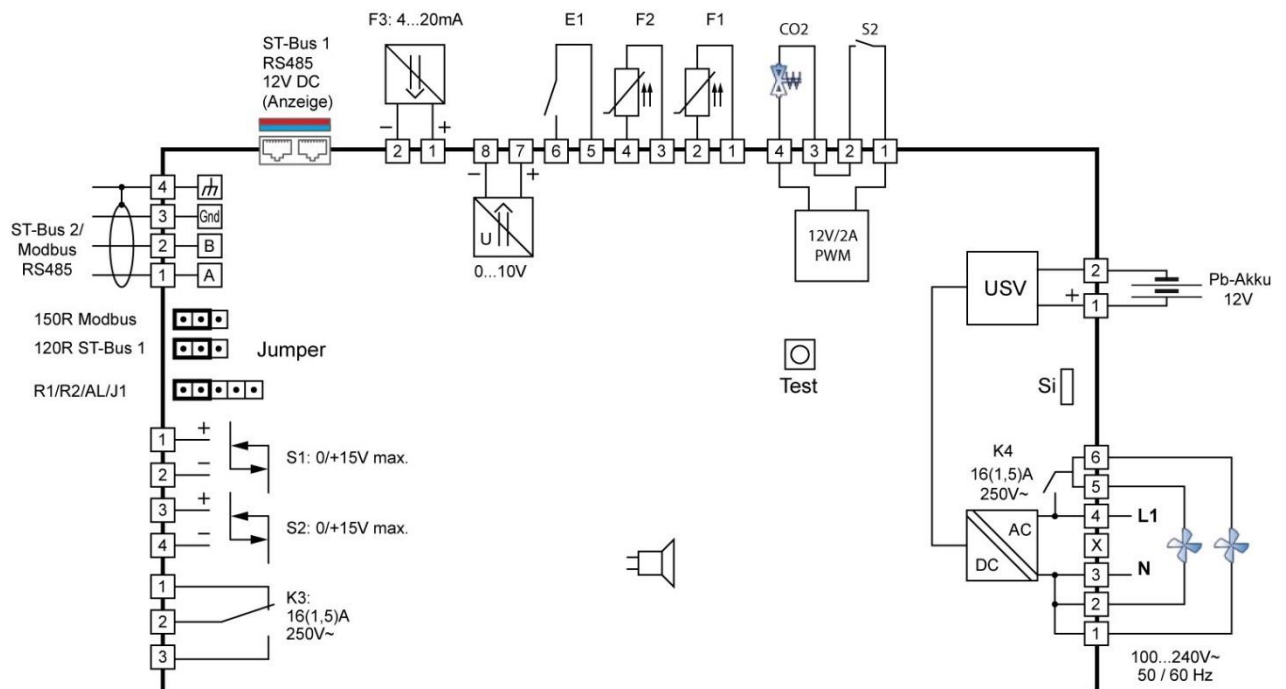
VF 55040 C_VF75040 C, 230V_50Hz



Touch screen unit



Single-board cryostat A1



13 Auxiliary equipment

13.1 Data logger for monitoring and recording refrigeration compartment temperature

The data logger for the external monitoring and recording of refrigeration compartment temperatures is fitted with a PT1000 temperature probe with 3 m long PTFE insulated cable that is introduced into the refrigeration compartment via a feed-through integrated in the appliance or preferably a separate feed-through (optional).

The data logger has an adjustable limit value monitor with an acoustic alarm, and has sufficient memory for up to 60,000 measured values with recording intervals ranging from 1 second to 24 hours (adjustable).

The data can be exported directly to a PC via the supplied USB cable. Windows software (German, English, French) for configuring the data logger is included in the delivery.

Order no. A001383 Data logger
Incl. PT1000 temperature probe, bracket, software for configuring the data logger, and a USB cable for transferring data to a PC.

Accessories for data logger A001383

Order no. A001384 Temperature control
Aluminum block for installing the temperature probe in the refrigeration compartment. It delays the response time of the probe following changes in temperature.

Order no. A000147 Calibration
Calibration of data logger A001383 for a customer-specific temperature value; with certificate.

13.2 Storage system

13.2.1 Inserts

Device type	Usable volume in liters	Contents	Order no. for 1 box	Number of inserts per device	Order no. for 1 insert	Number of boxes/plates per insert	Number of boxes/plates per device
VF 20040 C VF 20085 C	205 l	Box 50 mm	A001386	15	A001393	9	135
		Box 75 mm	A001387	15	A001394	6	90
		Box 130 mm	A001388	15	A001395	3	45
		DeepWell/test plates		25	A001399	24	600
VF 55040 C VF 55085 C	565 l	Box 50 mm	A001386	32	A001396	13	416
		Box 75 mm	A001387	32	A001397	9	288
		Box 130 mm	A001388	32	A001398	5	160
		DeepWell/test plates		48	A001400	37	1776
VF 75040 C VF 75085 C	754 l	Box 50 mm	A001386	44	A001396	13	572
		Box 75 mm	A001387	44	A001397	9	396
		Box 130 mm	A001388	44	A001398	5	220
		DeepWell/test plates		68	A001400	37	2516

13.2.2 Boxes

Kryo Box, 136 x 136 x 50 mm, white	cardboard, water-repellent	Order no.: A001386
Kryo Box, 136 x 136 x 75 mm, white	cardboard, water-repellent	A001387
Kryo Box, 136 x 136 x 130 mm, white	cardboard, water-repellent	A001388

13.2.3 Grids

Storage grid for 100 glasses Ø 12.5 mm, 25 mm tall	for boxes 136 x 136 mm	Order no.: A001389
Storage grid for 64 glasses Ø 15 mm, 25 mm tall	for boxes 136 x 136 mm	A001390
Storage grid for 49 glasses Ø 17 mm, 40 mm tall	for boxes 136 x 136 mm	A001391
Storage grid for 16 glasses Ø 31 mm, 65 mm tall	for boxes 136 x 136 mm	A001392



15 Ordering spare parts / LAUDA Service

When ordering spare parts, please state the serial number (type plate) to avoid queries and wrong deliveries.

Your partner for maintenance and competent service support:

LAUDA Service
Telefon: +49 (0)9343 503-350
Fax: +49 (0)9343 503-283
E-Mail service@lauda.de

We are always at your disposal for questions and suggestions!

LAUDA DR. R. WOBSE GMBH & CO. KG
Laudaplatz 1
97922 Lauda-Königshofen
Deutschland
Telefon: +49 (0)9343 503-0
Fax: +49 (0)9343 503-222
E-Mail info@lauda.de
Internet : <http://www.lauda.de/>

16 Product Returns and Clearance Declaration



Product Returns and Clearance Declaration

Product Returns

Would you like to return a LAUDA product you have purchased to LAUDA? For the return of goods, e.g. for repair or due to a complaint, you will need the approval of LAUDA in the form of a *Return Material Authorization (RMA)* or *processing number*. You can obtain the RMA number from our customer service department at +49 (0) 9343 503 350 or by email service@lauda.de.

Return address

LAUDA DR. R. WOBSE GMBH & CO. KG

Laudaplatz 1

97922 Lauda-Königshofen

Deutschland/Germany

Clearly label your shipment with the RMA number. Please also enclose this fully completed declaration.

RMA number	Product serial number
Customer/operator	Contact name
Contact email	Contact telephone
Zip code	Place
Street & house number	
Additional explanations	

Clearance Declaration

The customer/operator hereby confirms that the product returned under the above-mentioned RMA number has been carefully emptied and cleaned, that any connections have been sealed to the farthest possible extent, and that there are no explosive, flammable, environmentally hazardous, biohazardous, toxic, radioactive or other hazardous substances in or on the product.

Place, date	Name in block letters	Signature

EC DECLARATION OF CONFORMITY

Manufacturer: LAUDA DR. R. WOBSEY GMBH & CO. KG
Schulze-Delitzsch-Straße 4+5, 30938 Burgwedel, Germany

This declaration of conformity is issued under the sole responsibility of the manufacturer

We hereby declare under our sole responsibility that the machines described below

Product Line: Versafreeze **Serial number:** from 190_____

Types: VF 15040, VF 60040, VF 70040
VF 15085, VF 60085, VF 70085
VF 20040 C, VF 55040 C, VF 75040 C
VF 20085 C, VF 55085 C, VF 75085 C

comply with all relevant provisions of the EC Directives listed below due to their design and type of construction in the version brought on the market by us:

Machinery-Directive 2006/42/EG
EMC Directive 2014/30/EU
RoHS- Directive 2011/65/EU In connection with (EU) 2015/863

The protective objectives of the Machinery Directive with regard to electrical safety are complied with in accordance With Annex I Paragraph 1.5.1 in conformity with the Low Voltage Directive 2014/35/EU.

Applied standards:

- EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019
- EN 61010-2-011:2017
- EN 61326-1:2013

Authorized representative for the composition of the technical documentation:

Andreas Voigt, Manager Assembly Cryogenic Appliances, LAUDA Burgwedel

Burgwedel, 17.02.2022



Dr. Alexander Dinger, Head of Quality Management

The certificate is only valid for devices with cTÜVus certification marks on the rating label.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證書 ◆ CERTIFICADO ◆ CERTIFICAT				
	CERTIFICATE			
	No. U8 019054 0013 Rev. 00			
	Holder of Certificate:	LAUDA DR. R. WOBSEY GMBH & CO. KG Laudaplatz 1 97922 Lauda-Königshofen GERMANY		
	Certification Mark:	 C US		
	Product:	Laboratory Equipment (Chest freezer)		
	<p>This product was voluntarily tested to the relevant safety requirements referenced on this certificate. It can be marked with the certification mark above. The mark must not be altered in any way. This product certification system operated by TÜV SÜD America Inc. most closely resembles system 3 as defined in ISO/IEC 17067. Certification is based on the TÜV SÜD "Testing and Certification Regulations". TÜV SÜD America Inc. is an OSHA recognized NRTL for USA and a Standards Council of Canada ISO/IEC 17065 accredited Certification body for Canada.</p>			
	Test report no.:	713213423-00		
	Date,	2023-02-15		
		 (Thorsten Siemon)		



CERTIFICATE

No. U8 019054 0013 Rev. 00

Model(s):
VF20040C
VF20085C
VF55040C
VF55085C
VF75040C
VF75085C

Tested according to:
 UL 61010-1:2012/R:2019-07
 CSA C22.2 No. 61010-1:2012/A1:2018-11
 CSA C22.2 No. 61010-2-011:2019

Also evaluated to the following standards:
 UL 61010-2-011:2021

Parameters:

VF20040C	230 V / 50 Hz 115 V/ 60 Hz	0.6 kW 0.7 kW
VF20085C	230 V / 50 Hz 115 V/ 60 Hz	1.2 kW 1.3 kW
VF55040C	230 V / 50 Hz 115 V/ 60 Hz	1.2 kW 1.3 kW
VF55085C	230 V / 50 Hz 115 V/ 60 Hz	2.0 kW 2.2 kW
VF75040C	230 V / 50 Hz 115 V/ 60 Hz	1.2 kW 1.3 kW
VF75085C	230 V / 50 Hz 115 V/ 60 Hz	2.0 kW 2.3 kW

LAUDA DR. R. WOBSE GMBH & CO. KG
Schulze-Delitzsch-Straße 4+5 • 30938 Burgwedel • Deutschland
Tel.: +49 (0) 5139 9958-0 • Fax +49 (0) 5139 9958-21
E-Mail: info@lauda.de • Internet: <https://www.lauda.de>