Appliance Documentation

GKv 5710 / 5760
GKv 6410 / 6460

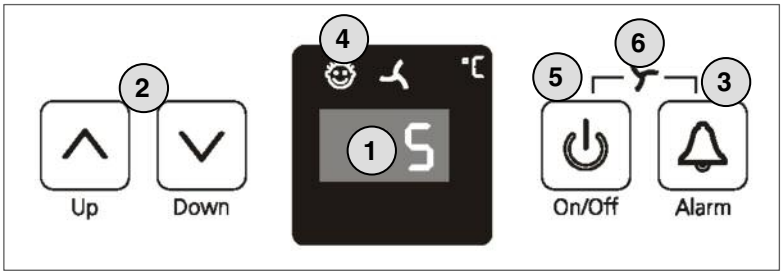
Refrigerator for the catering business, ventilated

GKv 6460

GKv 5710

Contents

1.0 Operating and control elements



Refrigerator compartment

1 : Temperature display
2 : Temperature setting buttons
3 : Alarm OFF button
4 : Child proofing display
5 : ON/OFF button
6 : Fan switch (if activated, the symbol next to the child's face lights up)

2.0 Functions at a glance

Control:	Electronic control system
Temperature display:	Actual value
Temperature range:	+1°C to +15°C
Temperature alarm:	Visual and audible
Door alarm:	Audible
Floating alarm contact:	Not present
HACCP:	Not present
Fan:	Present
Defrosting:	Automatic
Interior light:	Not present
Service menu:	Present
Compressor:	Standard
Solenoid valve-refrigeration circuit:	Not present
Door closing mechanism:	Present

3.0 Description of the appliance

The GKv 5710/5760 and GKv 6410/6460 models are refrigerators for the catering business, with **freely suspended** rear wall evaporator.
The appliances have a fan in the interior, which increases the cooling action of the appliance and achieves more even temperatures.
The temperature control is effected by an air sensor and evaporator sensor.

3.1 Sensor positions, schematic diagram

Fig. 3.1 / 1: GKv 57..

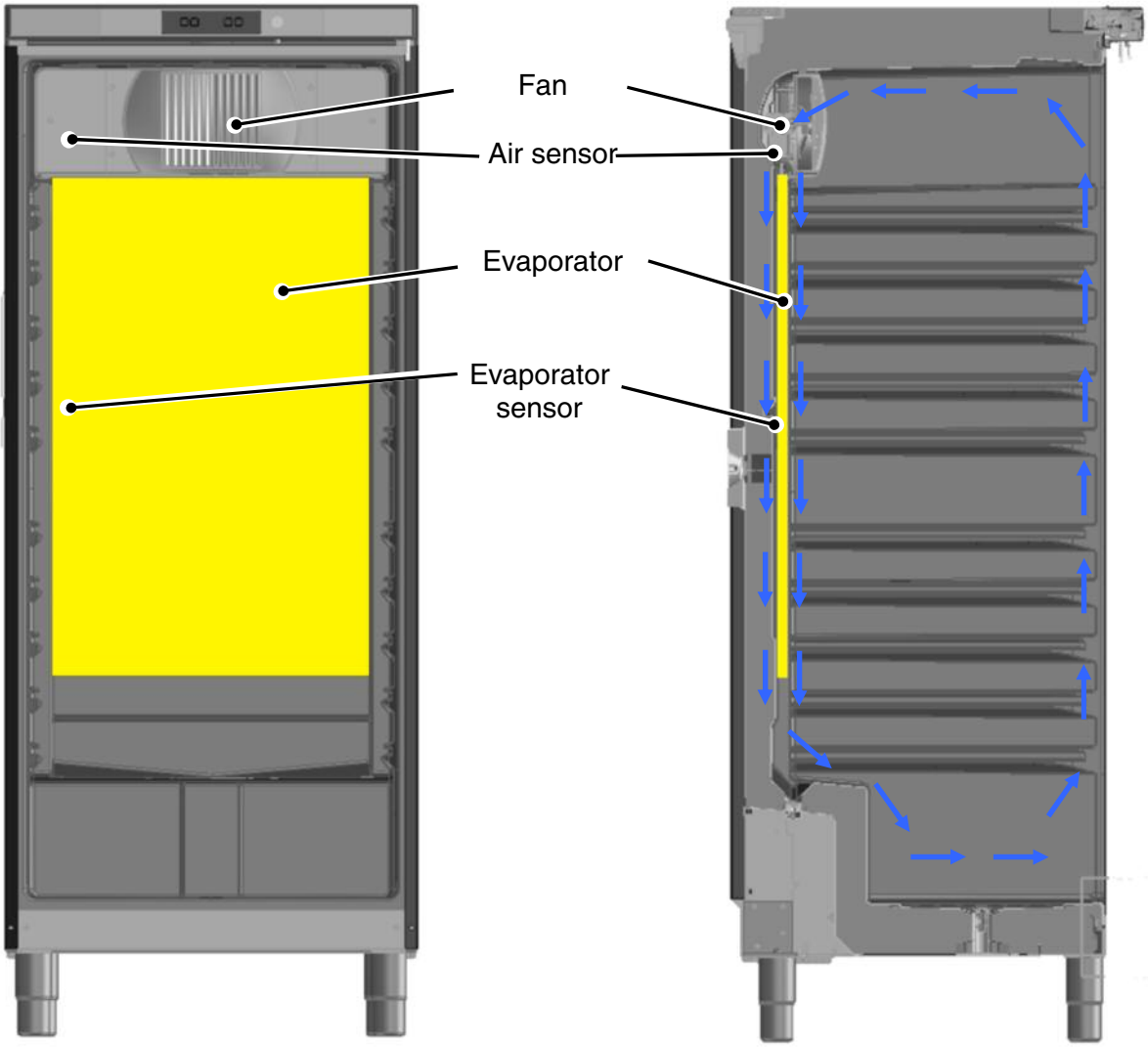


Fig. 3.1 / 2: GKv 57..

4.0 Main components and their functions

4.1 Electrical components and functions

Electronic control system		
Type:	Series 6 electronic control system:	
Components:	Integral PCB	
Setting range:	+1°C to +15°C	
Display range:	+1°C to +47°C	
Functions		
Ventilation:	**Ventilation ON:**	Fan in continuous operation
	Ventilation OFF:	Fan in parallel with compressor
	Note: - When the door is open, the fan is always switched off - During initial operation the fan does not run before the evaporator is cooler than +8°C.	
Temperature alarm:	When:	Display value longer than 20 minutes 4K warmer than set value.
	Audible:	4 beeps (suppressed during initial operation).
	Visual:	Flashing temperature display.
	To avoid unnecessary warnings (e.g. door opening), the temperature has to be above the alarm value for at least 20 minutes = alarm delay. (e.g. set value: +5°C , display for 20 minutes at +9°C → alarm).	
Door alarm:	When:	Door open longer than 3 minutes.
	Audible:	3 beeps.
Child proofing:	The function is activated via the customer menu (see 7.1).	
	When the child proofing is activated, the ON/OFF button and the temperature setting buttons are inactive. The remaining functions can be used.	
Defrosting:	Automatic during standstill phase of the compressor.	
Sensor		
Evaporator sensor:	Position:	In sensor pocket on back of evaporator.
	Function:	- Switches the compressor ON - Switches the fan ON with a delay when the appliance is put into operation
Air sensor:	Position:	On the left next to the fan, behind the cover.
	Function:	- Switches the compressor OFF. - Generates the display value
Switch		
Door switch:	Position:	In front panel.
	Type:	Reed PCB
	Contact type:	Make contact
	Function:	Activation via magnet in the door, magnet is non-replaceable.
	Switching signal when:	
	door closed:	fan ON
	door open:	fan OFF
		door alarm ON

Loads			
Fan:	Position:	At the centre back of the ceiling of the compartment liner.	
	Function:	Provides even temperatures and increases the cooling action (see also *Ventilation* function)	
	During initial operation the fan does not start before the evaporator is cooler than +8°C.		
Compressor:	Function:	**ON:**	Evaporator sensor switch-on value.
		OFF:	Air sensor switch-off value.
		Special features:	On-delay time (8 mins.) must have elapsed.
	Type:	Standard	

4.2 Refrigeration components

Compressor:	Standard	
Evaporator:	Design:	Rear wall evaporator.
	Type of installation:	Suspended freely.
	Injection point:	Top left
	Flow sequence:	Down on the right-hand side and up again on the left-hand side
Condenser:	Design:	Wire-on-tube condenser
	Type of installation:	Suspended freely at the rear

4.3 Other features

4.3.1 Door closing mechanisms

At an opening angle between 0 and 90°, the hinge bush slides over the oblique curve of the hinge bolt so that the door closes automatically. At an opening angle larger than 90°, the door stays open.

Fig. 4.3.1/ 1 Opening angle > 90°

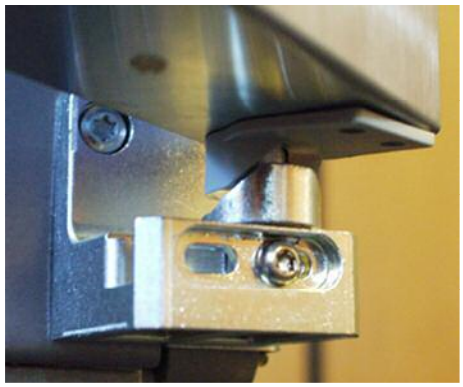


Fig. 4.3.1/ 2 Opening angle < 90°

Fig. 4.3.1/ 3 Opening angle = 0°

4.3.2 Pressure compensating valve

The pressure compensating valve is situated behind the fan cover in the rear wall.

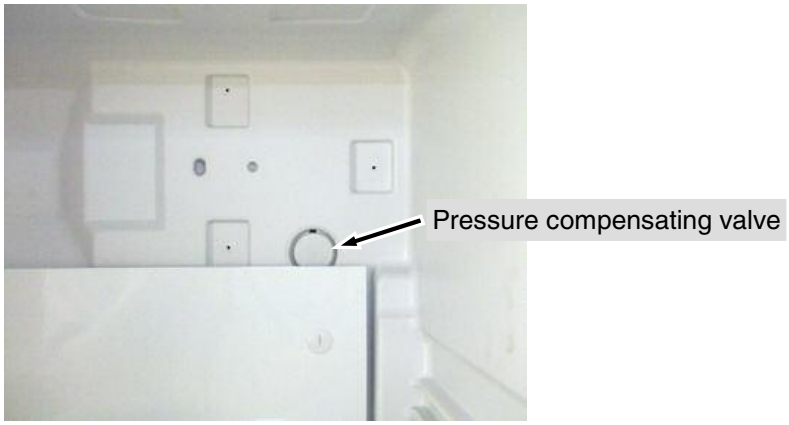


Fig. 4.3.2 / 1

4.3.3 Water drain

The water drain has a ¾" thread on the underside to allow hose connection, if required.

Fig. 4.3.3 / 1

4.3.4 Adjustable feet

The adjustable feet are screwed on from underneath with an Allen screw. A reinforcing bracket is screwed into place for each of the two rear adjustable feet to increase their stability.

Fig. 4.3.4/ 1 Adjustable foot

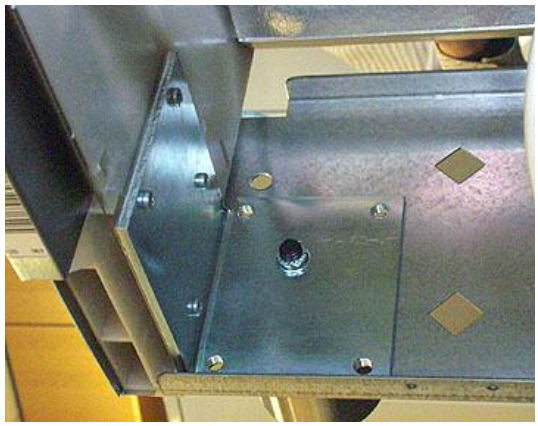


Fig. 4.3.4/ 2 Reinforcement for rear adjustable foot

5.0 Assembly instructions / replacement of parts

5.1 Electronic control system

Covers: Unclip covers on the underside of the front housing.

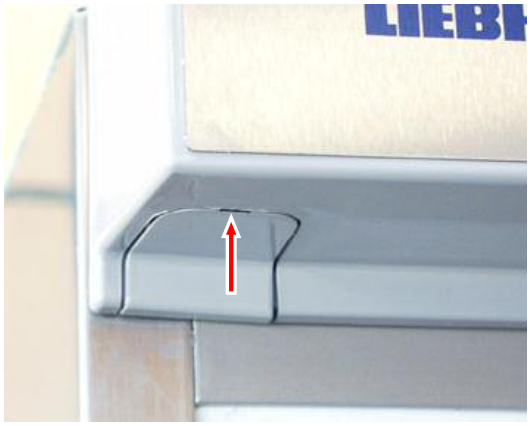


Fig. 5.1/ 1

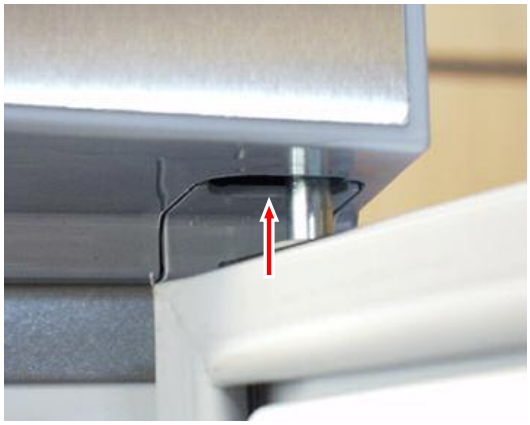


Fig. 5.1./ 2

Bolt: Undo screw and remove bolt.

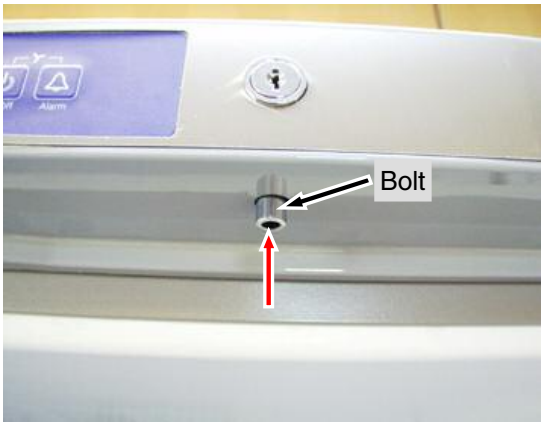


Fig. 5.1 / 3

PCB carrier:
- Draw front housing forwards and lift it up.
- Remove PCB edge connector and unclip PCB carrier from the front housing.

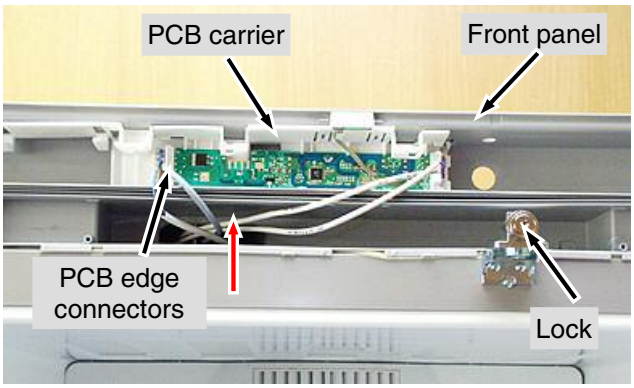


Fig. 5.1/ 4

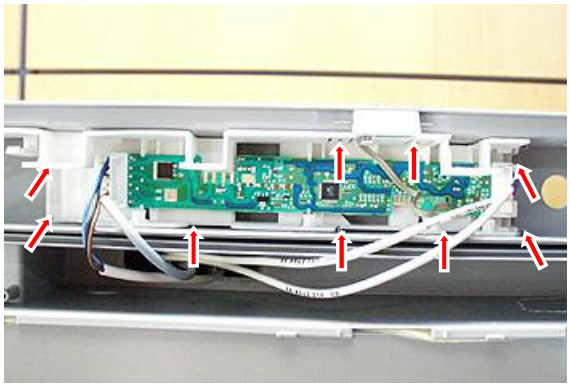


Fig. 5.1./ 5

PCB: Release marked locks and remove PCB from the PCB carrier.

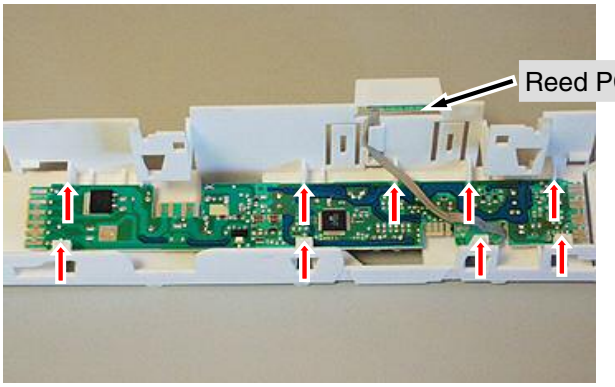


Fig. 5.1 / 6

5.2 Fan

Fan cover:
- Remove stoppers and undo the fastening screws.
- Tilt the cover forwards and lay it on one of the wire grids.

-
Release fan holder, remove vanes and detach fan motor

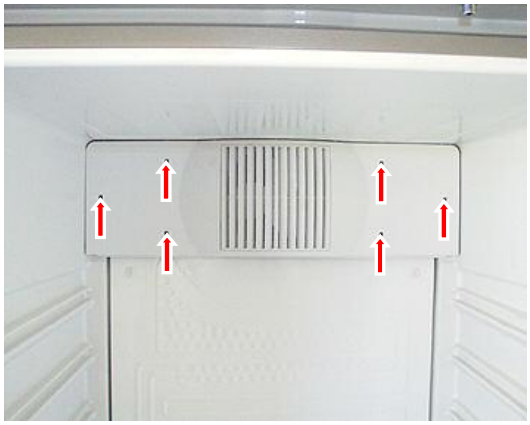


Fig. 5.2/ 1 Fan cover

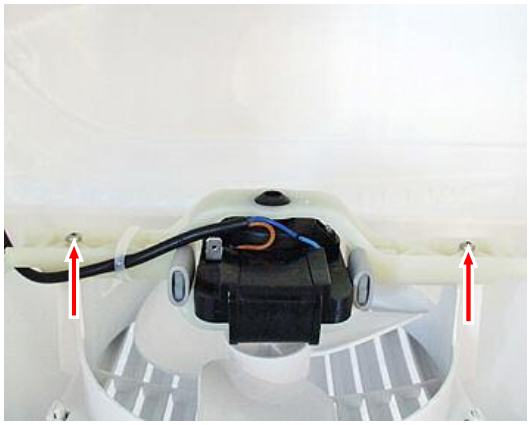


Fig. 5.2/ 2 Fan holder

Connector:
- Detach strain relief at the rear of the appliance and draw the cable together with the connector out of the duct

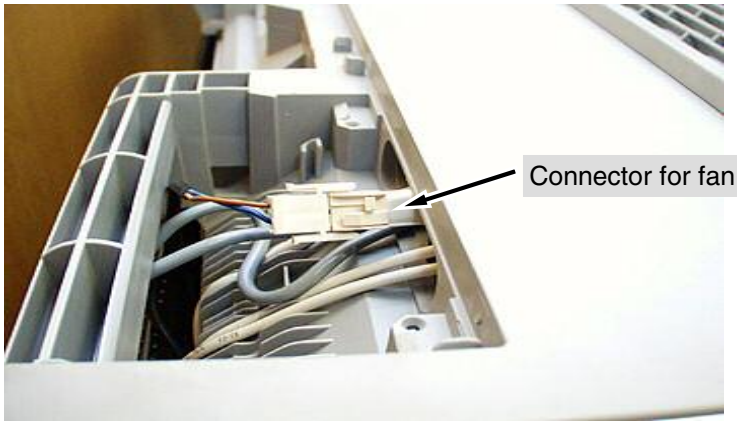


Fig. 5.2 / 3

5.3 Air sensor

Air sensor:

- Remove fan cover
- Remove sensor from the holder and extricate it through the rear wall.

Fig. 5.3 / 1

5.4 Evaporator sensor

Evaporator sensor:

- Remove fan cover.
- Undo bayonet screws and carefully swivel the evaporator to the left.
- Pull sensor out of the pocket and extricate it through the rear wall.

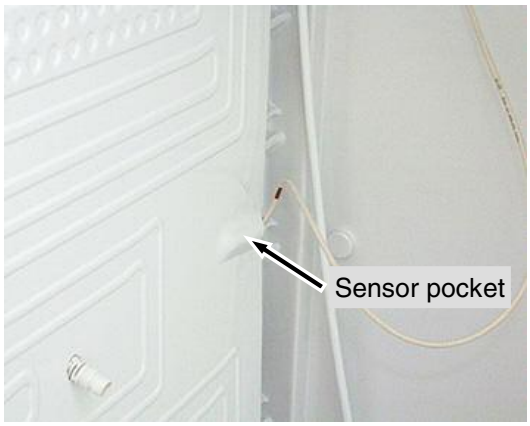


Fig. 5.4 / 1

6.0 Technical data

6.1 Refrigerator compartment

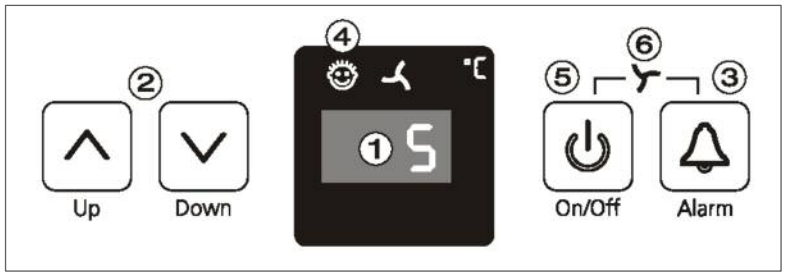
Fan:

Wattage: 14 watts
Voltage: 230 volts
Speed: 1800 rpm Direction of rotation: right (viewing direction: onto shaft)

Sensor values:

Temperature °C	Resistance value kOhm
+35	3.1
+30	3.8
+25	4.7
+20	5.9
+15	7.3
+10	9.3
+5	11.9
0	15.3
-5	19.8
-10	25.9
-15	34.1
-20	45.3
-25	60.8
-30	82.3
-35	112.8

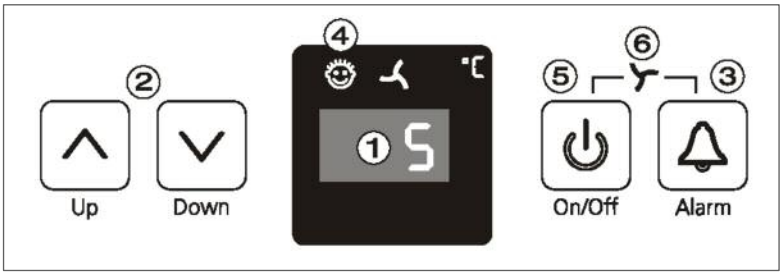
7.0 Customer menu



Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Hold down "Alarm" button for 3 seconds	c	Activation customer menu
2a	c	Press "Alarm" Changeover between c and h with "Up"	c0	Child proofing deactivated
2a	c0	Press "up"	c1	Activate child proofing
2a	c1	Press first "Alarm", then „On/Off“	Actual value	Child proofing ON
2b	c	Press "Alarm"	c1	child proofing activated
2b	c1	Press "down"	c0	Deactivate Child proofing
2b	c0	Press first "Alarm", then „On/Off”	Actual value	Child proofing OFF
3	c	Press "up"	h	**Choosing display brightness**
3	h	Press „Alarm“	h1 to h5	**Adjust Display brightness**
3	h1 to h5	Select stage of brightness wanted with "Up" and confirm with "Alarm"	h	**Display brightness saved**
3	h	Press “On/Off”	Actual value	**Display brightness adjusted**

8.0 Service menu

The service menu may be used only by customer service technicians.



8.1 Demo mode

Until february 2009:

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Hold down "Alarm" and press "On/Off" at the same time	d1 or d0 flashes	Service menu activation
Demo mode (Demo mode can be deactivated only via service menu, not by OFF/ON.)				
2a	**d1**	Press "Alarm"	Set value	**Demo mode ON**
2b	**d0**	Press "Alarm"	Actual value	**Demo mode OFF**
Operation is switched to the mode wanted, demo mode or normal, as soon as "Alarm" has been actuated.				

From march 2009:

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Press "Alarm" and "ON/OFF" simultaneously for 3 seconds	„L“ flashes	Service menu activation
Activation of Demo mode (Demo mode can be deactivated only via service menu, not by OFF/ON.)				
2a	„L“ flashes	Press „Up“	„d“ flashes	Demo mode menu
3a	„d“ flashes	Press „Alarm“	„d0“ (only 0 flashes)	Demo mode menu
4a	„d0“ (only 0 flashes)	Press „Up“	„d1“ (only 1 flashes)	Demo mode menu
5a	„d1“(only 1 flashes)	Press „Alarm“	Set value	**Demo mode ON**
Deactivation of Demo mode				
2b	„L“ flashes	Press „Up“	„d“ flashes	Demo mode-Menü
3b	„d“ flashes	Press „Alarm“	„d1“ (only 1 flashes)	Demo mode-Menü
4b	„d1“ (only 1 flashes)	Press „Down“	„d0“ (only 0 flashes)	Demo mode-Menü
5b	„d0“(only 0 flashes)	Press „Alarm“	Current actual value	**Demo mode OFF**

8.2 Service mode

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Hold down "Alarm" and press "On/Off" at the same time	d1 flashes	Service menu activation
Service mode-- Test display LED, buttons, door contact, potentiometer --				
1	d1	Press "Up" until "L" flashes.	L	Service mode selected
2	L	Press Alarm	rd	Service mode activated
3	rd	Door open and closed	All button LEDs and display segments shine	Door contact, LEDs
4	All button LEDs and display segments shine	Press all the buttons	Brief beep – LO lights up	Buttons
After step 4 actuation of the last button, L0 flashes				
Service mode -- testing electric loads--				
5	L0	No operation	L0	All OFF
7	LO	Press „Up“	L2	**Compressor ON**
8	L2	Press „Up“	L7	**Fan ON**
Return to step 5 is brought about by pressing the "Up" button again.				
End		Press "On/Off"“		

8.3 Sensor menu

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Hold down "Alarm" and press "On/Off" at the same time	d1 flashes	Service menu activation
Demo mode (Demo mode can be deactivated only via service menu, not by OFF/ON.)				
1	d1	Press "Up" until "F" flashes.	E	Sensor selection
2a	**E**	Press "Alarm" and select sensor with "Up"	E1 and E2 in alternation with the respective temperature	Sensor
2b	**E9**	Open/close door	Displays door status 1 open, 0 closed	Reed contact
As soon as "Alarm" is pressed, you reach the higher-level menu (d1, L, F).				

9.0 Table of error codes

Error code	Defective component	Emergency operation
F1	Air sensor	Compressor: 20 min. ON, 15 min. OFF Fan: Depending on setting
F2	Evaporator sensor	Compressor: 20 min. ON, 15 min. OFF Fan: Depending on setting