

Appliance Documentation

FKUv 16.. Index 20 to 21R

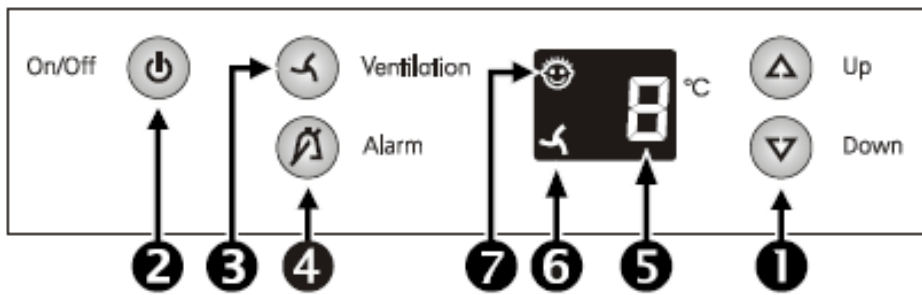
Drinks refrigerator, suitable for installation underneath worktop, ventilated



Contents

1.0	Operating and control elements	3
2.0	Functions at a glance.....	3
3.0	Description of the appliance	4
3.1	Sensor position, schematic diagram	4
4.0	Main components and their functions.....	5
4.1	Electrical components and functions.....	5
4.2	Refrigeration components and functions.....	7
5.0	Assembly instructions / replacement of parts.....	8
5.1	Electronic control system	8
5.2	Air sensor	9
5.3	Evaporator sensor.....	9
5.4	Fan10	
5.5	Interior lighting (in FKUv 16.2).....	10
5.6	Door closing mechanism	11
6.0	Technical data	12
7.0	Service menu	13
7.1	Demo mode.....	13
7.2	Service mode.....	14
7.3	Sensor test (display of temperature) and door contact test.....	15
8.0	Error codes	15

1.0 Operating and control elements



- 1 **Setting buttons** Temperatur **higher/lower**
- 2 **ON/OFF button**
- 3 **Fan button** (Fan in operation permanently or in parallel with compressor)
- 4 **Alarm OFF button** for audible alarm
- 5 **Temperature display**
- 6 **Ventilation activated** (fan runs permanently)
- 7 **Child lock activated**

2.0 Functions at a glance

Control:	Electronic
Temperature display:	Actual value
Temperature range:	+1°C to +15°C
Temperature alarm:	Visual, audible
Door alarm:	Audible
Fan:	Present
Defrosting:	Automatic
Interior light:	Present (only in FKUv 16.2)
Service menu:	Present
Compressor:	Standard
Solenoid valve refrigeration circuit:	Not present

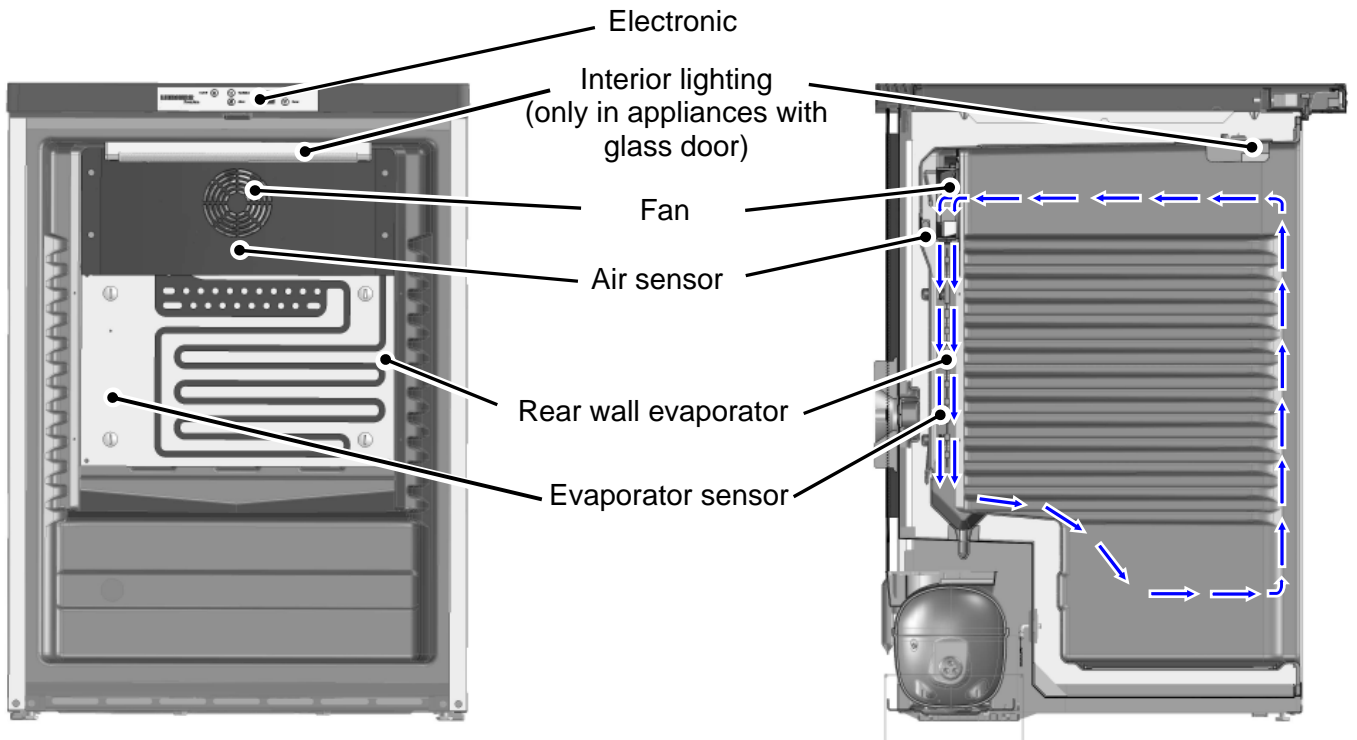
3.0 Description of the appliance

The **FKUv 16..** is a dynamically cooled drinks refrigerator with a freely suspended rear wall evaporator.

The top cannot be removed. Due to the appliance height of 83 cm, the appliance is nevertheless suited for under-worktop use. A closing mechanism is integrated in the door.

The appliance is controlled by a series 6 electronic control system with actual value display. Defrosting takes place automatically.

3.1 Sensor position, schematic diagram



4.0 Main components and their functions

4.1 Electrical components and functions

Electronic control system	
Type:	Series 6 electronic control system
Components:	PCB in the front panel
Setting range:	+1°C to +15°C
Display range:	0°C to 48°C Values outside the range are indicated by a cross bar
Functions	
Temperature alarm:	<p>Alarm value: 4K higher/1K lower than set value.</p> <p>Delay: Alarm delay = Display delay i.e. as soon as the displayed value is above or below the alarm threshold, the alarm is activated.</p> <p>Visual: Flashing temperature display</p> <p>Audible: 4 beeps (suppressed during start-up)</p>
Ventilation:	<p><u>Ventilation activated:</u> Fan runs permanently</p> <p><u>Ventilation deactivated:</u> Fan runs in parallel with compressor</p>
Door alarm:	<p>When: If the door is open for 60 seconds.</p> <p>Audible: 3 beeps.</p>
Defrosting:	<ul style="list-style-type: none"> - During every standstill - In addition, after a cumulative compressor runtime of 12 hours, there is a forced standstill until the evaporator sensor reaches +10°C (but 20 minutes maximum). The fan runs during this time (no matter whether "ventilation" is ON or OFF).
Child lock:	<p><u>Child lock activated:</u></p> <p>"ON/OFF" inactive – the appliance can no longer be switched OFF</p> <p><u>Child lock deactivated:</u></p> <p>All the functions and buttons can be used as normal.</p>
Sensors	
Air sensor:	<p>Position: On the compartment liner, behind the fan cover</p> <p>Function: <ul style="list-style-type: none"> - Switches the compressor OFF. - Generates the display value. </p>
Evaporator sensor:	<p>Position: On the back of the evaporator</p> <p>Function: <ul style="list-style-type: none"> - Switches the compressor ON. - Ends the defrosting phase. </p>

Switches

Door switch: Position: In the middle underneath the worktop.
 Type: Reed contact
 Contact type: Make contact
 Function: **Activation via:**
 magnet on the door, magnet is replaceable.
Switching signal when:
door closed: fan ON
door open: fan OFF
 door alarm ON after 60 seconds

Light switch (in FKUv 16.2): Position: Directly on the light housing.
 Function: Activates the interior lighting. Stays ON even when the door is closed.

Loads

Fan: Position: At the rear, in the centre of the fan cover.
 Function:

Ventilation	Compressor	Door	Fan
ON	ON	CLOSED	ON
ON	OFF	CLOSED	ON
OFF	ON	CLOSED	ON
OFF	OFF	CLOSED	OFF
OFF/ON	OFF/ON	OPEN	OFF

Interior lighting (in FKUv 16.2): Position: On the ceiling of the compartment liner
 Function: Shines permanently as soon as switch is ON.

Compressor: Type: Standard
 Function: **ON:** Evaporator sensor switch-on value.
 Note: On-delay time (8 mins.) must have elapsed.
OFF: Air sensor switch-off value.

4.2 Refrigeration components and functions

Compressor	
Type:	Standard
Evaporator	
Type:	Rear wall evaporator
Type of installation:	Suspended freely
Injection point:	Top
Flow sequence:	From top to bottom

5.0 Assembly instructions / replacement of parts

5.1 Electronic control system

Front panel:

- Using a screwdriver, press up both locating lugs and simultaneously draw the electronic housing out of the worktop.
- Unclip the PCB and detach the connectors (sensor, reed contact).

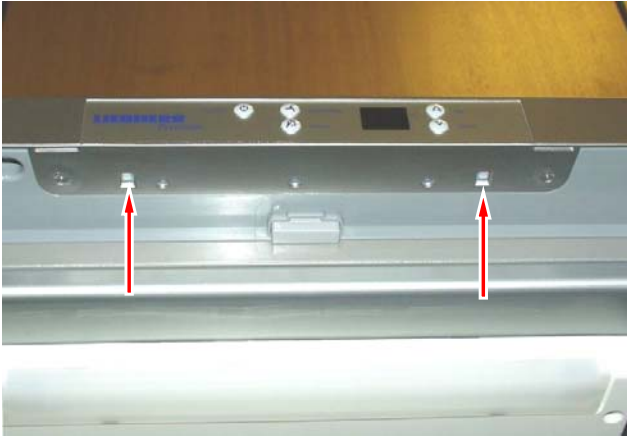


Fig. 5.1/ 1

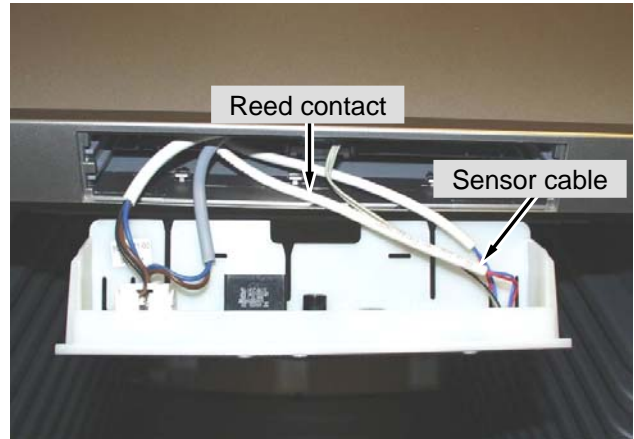


Fig. 5.1/ 2

Reed contact :

- Press together the retaining lugs and pull down the reed contact housing.

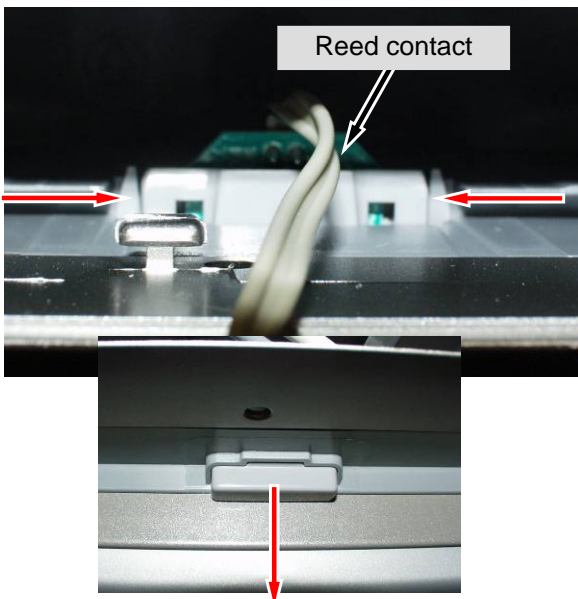


Fig. 5.1/ 3

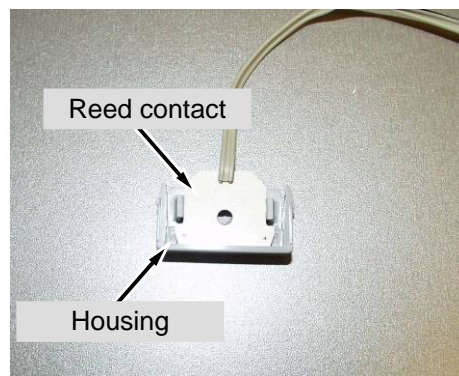


Fig. 5.1/ 4

5.2 Air sensor

Fan cover:

- Remove the stoppers and screws, and fold away the fan cover.
- Pull the sensor out of the holder.
- Draw the sensor through the rear wall and replace it with a universal sensor (original sensor is foamed-in in the worktop)



Fig. 5.2/ 1

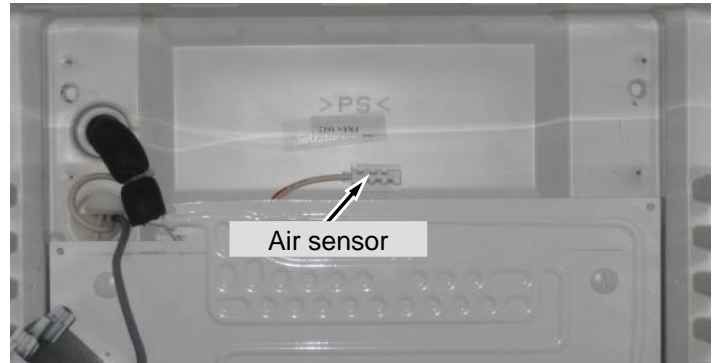


Fig. 5.2/ 2

5.3 Evaporator sensor

Evaporator:

- Undo bayonet screws
- Carefully swing the evaporator upwards or to the left.



Fig. 5.3 / 1



Evaporator sensor:

- Draw the sensor through the rear wall and replace it with a universal sensor. (original sensor cable is foamed-in in the worktop).



Fig. 5.3 / 2

5.4 Fan

- Fan:**
- Remove the stoppers and screws, and fold away the fan cover.
 - Disconnect cable and unclip the fan together with the absorber from the cover.



Fig. 5.4/ 1



Fig. 5.4/ 2

5.5 Interior lighting (in FKUv 16.2)

- Interior lighting:**
- Disconnect cable of the interior lighting at the compressor.
 - Remove both fastening screws and tip down the interior light.
 - Pull cable through foamed-in hose and remove the interior light.



Fig. 5.5/ 1

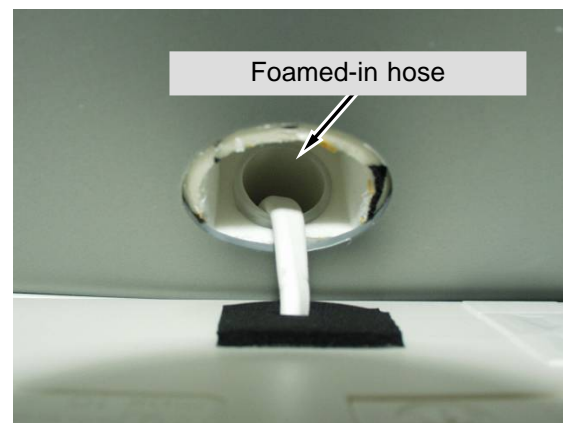


Fig. 5.5/ 2

5.6 Door closing mechanism

- Housing with spring:**
- Changing over the door hinges is described in the operating instructions.
 - The ends of the spring have to be inserted in the housing/turn hinge in such a way that when the door is fitted in the closed state, the turn hinge has to be pre-tensioned by 90° (in the direction of closure).



Fig. 5.6 / 1

6.0 Technical data

Interior lighting (in FKUv 16.2):

Wattage: approx. 8 W
Voltage: 230 V
Socket: Fluorescent tube

Fan:

Wattage: approx. 6 W
Voltage: 230 V
Drehzahl: 2150 rpm
Direction of rotation: clockwise (looking onto the lettering)

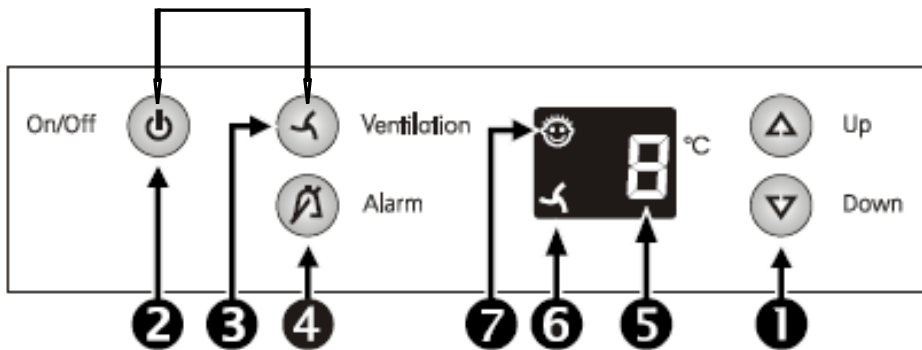
Sensor values:

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 Service menu

The service menu may be used by service technicians only.

Activation of service menu: Press "**Ventilation**" + "**ON/OFF**" simultaneously for about 3 seconds



7.1 Demo mode

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Press "Ventilation" and "ON/OFF" simultaneously for 3 seconds	L	Service menu activation
Activating demo mode (demo mode can be deactivated only using the service menu, not by OFF/ON.)				
2a	L	Press "Up"	d	Demo mode menu
3a	d	Press "Ventilation"	d0	Demo mode menu
4a	d0	Press "Up"	d1	Demo mode menu
5a	d1	Press "Ventilation"	Set value	Demo mode ON
Deactivating demo mode				
2b	L	Press "Up"	d	Demo mode menu
3b	d	Press "Ventilation"	d1	Demo mode menu
4b	d1	Press "Down"	d0	Demo mode menu
5b	d0	Press "Ventilation"	Current actual value	Demo mode OFF

7.2 Service mode

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Press "Ventilation" and "ON/OFF" simultaneously for 3 seconds	L	Service menu activation
Service mode -- test display LED, buttons, door contact, potentiometer --				
2	L	Press "Ventilation"	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	Short beep – L0 shines	Buttons
After step 4, actuation of last button, L0 lights up				
Service mode -- testing electric loads--				
5	L0	All OFF	L0	All OFF
7	L0	Press "Up"	L2	Compressor ON
8	L2	Press "Up"	L7	Fan ON
Return to step 5 by pressing the "Up" button again.				
End		Press ON/OFF		

7.3 Sensor test (display of temperature) and door contact test

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				
1	Actual value	Press "Ventilation" and "ON/OFF" simultaneously for 3 seconds	L	Service menu activation
Demo mode (Demo mode can be deactivated only via service menu, not by OFF/ON.)				
2	L	Press "Up" twice until E flashes	E	Sensor selection
3	E	Press "Ventilation"	E1 in alternation with the respective temperature	Air sensor
4	E1	Press "Up"	E2 in alternation with the respective temperature	Evaporator sensor
5	E2	Press "Up"	E9 in alternation with 0 or 1	Reed contact 0=door closed, 1=door open
The higher-level menu (d, L, E) is reached as soon as "ON/OFF" is pressed.				

8.0 Error codes

Error code	Defective component	Emergency mode
F1	Air sensor	5 minutes ON, 20 minutes OFF
F2	Evaporator sensor	5 minutes ON, 20 minutes OFF