Operating and servicenual

Compact 210/410

765041365

Contents:

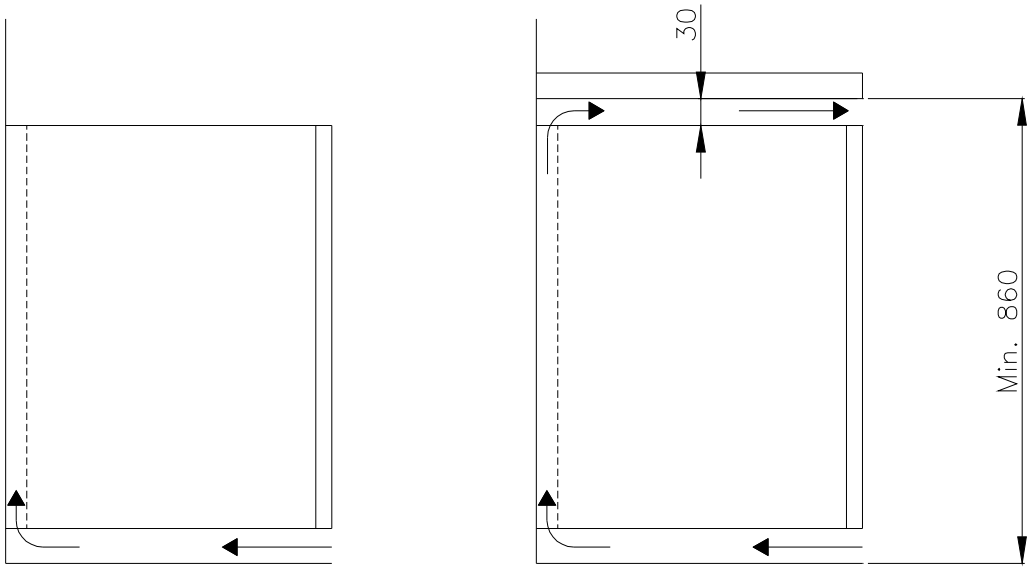
Installation

To ensure reliable operation, make sure the following is observed:

The cabinet must be located in a dry and ventilated room.

The cabinet is designed to operate in ambient temperatures between +16°C and +35°C.
Avoid location in direct sunlight or near any heat sources, i.e. an oven.

The cabinet can be installed freestanding against a wall or Compact 210 can be built under a worktop.
The cabinet must have sufficient ventilation and free air circulation beneath, above and behind the cabinet. There must be a minimum clearance of 30 mm above the cabinet.



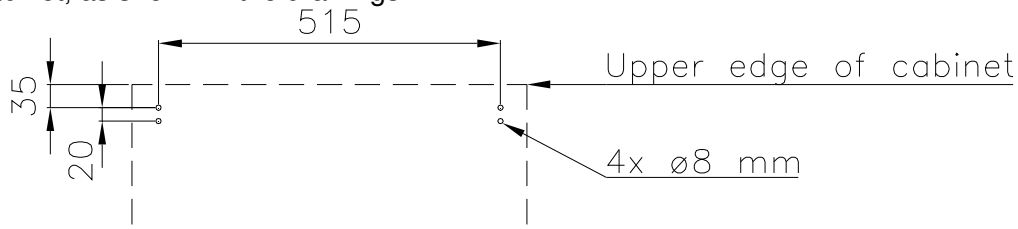
For versions with legs, use the screws on the legs to make sure that the cabinet stands level and upright.

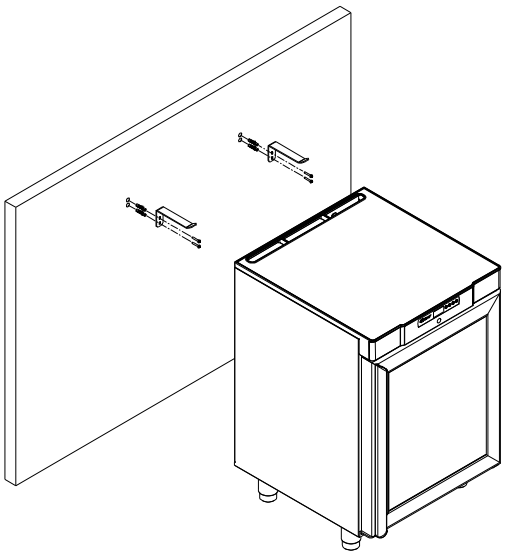
If the cabinet has been transported in horizontal position, it must stand upright af least 2 hours before it is started to allow the oil from the compressor to run back.

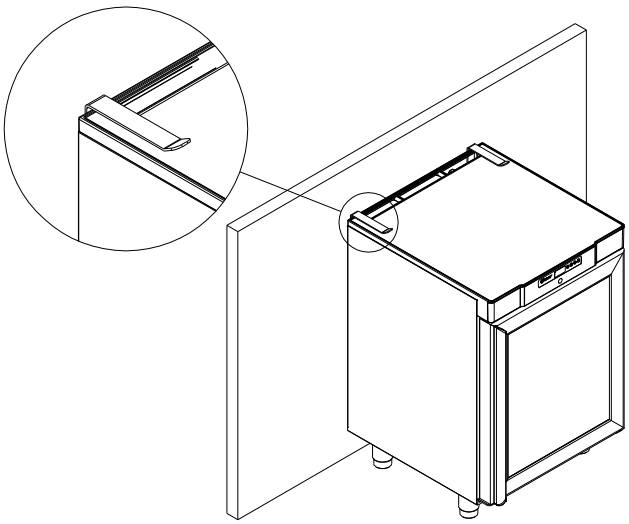
The cabinet must not be located in a chloride/acid-containing environment (swimming-bath etc.) due to risk of corrosion.

Important! Applies to cabinets with glass door:

Anti-topple brackets **must** be installed to avoid the cabinet toppling over when opening the door. The brackets which are delivered with the cabinet must be fastened to the wall behind the cabinet, as shown in the drawings.





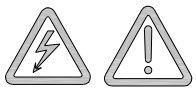


Connecting the cabinet

Read the text below thoroughly before electrical connection.

The cabinet is intended for connection to alternating current. The connection voltage (V) and frequency (Hz) are shown on the name plate in the cabinet .

Power connection is made by a three pin plug to a wall socket.



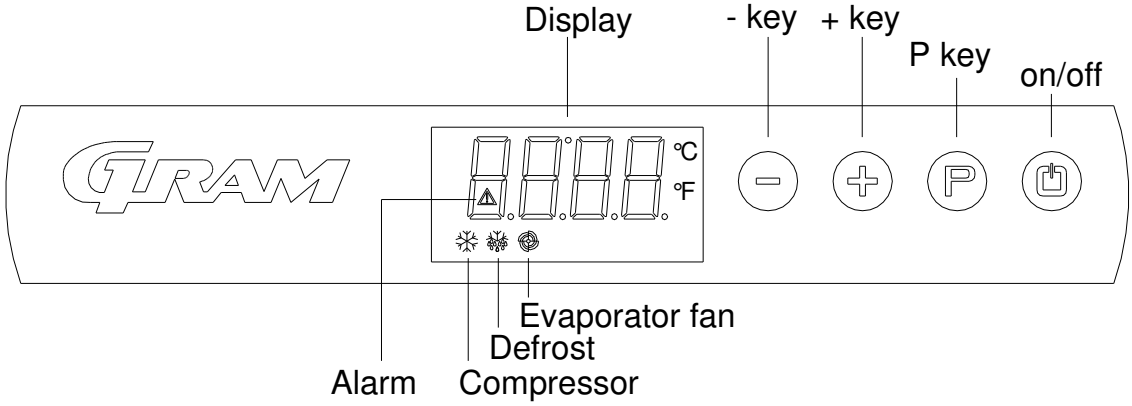
Do not use the cabinet before all shieldings have been mounted to prevent access to live or rotating machine parts.

Do not use the cabinet, if the wire has been damaged. In this case the cabinet must be examined by a service electrician from Gram Commercial or an authorised refrigeration company with knowledge of Gram's products.

The cabinet must not be used outdoor. All earthing requirements stipulated by the local electricity authorities must be observed. The cabinet plug and wall socket should then give correct earthing. If necessary, contact an electrician.

Starting up

Display:



Connect the cabinet to main power.

To turn on the cabinet, push  for 2 seconds.

The display shows the actual cabinet temperature, and indicates that power is connected.

The cabinet is turned off likewise, by pushing  for 2 seconds.

Servicing:
Make sure the appliance is switched off at the mains before service is performed on electrical parts.

Control lights

The following control lights are located at the display:

Compressor. This LED is on while the compressor is running. Flashes during temperature setting.

Defrosting. This LED is turned on during defrosting cycle.

Evaporator fan. This LED is turned on while the evaporator fan is running.

Alarm. This LED is turned on if an alarm occurs. See chapter on temperature alarm and errors.

Temperature setting

The temperature is set as follows:

Push the P button, the compressor lamp flashes.

Push + or − to set the temperature.

Push P again to save the set value. The compressor lamp is turned off, unless the compressor is running.
Alternatively, do not operate any buttons for 15 seconds, the controller switches back to temperature display, and the set value is saved automatically.

If there is a power failure, the controller will remember the settings. When the power returns, the cabinet will start up again.

Temperature alarm

The controller is equipped with a temperature alarm, which constantly monitors the cabinet temperature. The ⚠ lamp lights, if an alarm has occurred.

The following alarms can be displayed:

AL low temperature alarm
AH high temperature alarm
Id open door alarm

Displaying alarm values:

Push the ⊖ button, and keep pushed for 1 second. Push ⊕ or ⊖ until ”LS” is displayed. Now, push Ⓟ and one of the alarm codes above is displayed. Use the ⊕ or ⊖ button to select the wanted value. Push Ⓟ again, and the alarm values are displayed.

Example – alarm AH:

8.0 the temperature alarm value is 8.0°C
dur alarm duration
h01 the alarm lasted for 1 hour ....(continues)
n15 …. and 15 minutes
AH selected alarm value

Each value is diplayed alternately for approx. 1 second.

To exit the alarm menu, push ⏻ and the selected alarm is displayed (in this example ”AH”). Push ⏻ again, and the current cabinet temperature is displayed.

Deleting alarms:

Push ⊖, and keep pushed for 1 second. Push ⊕ or ⊖ until ”rLS” is displayed. Now push Ⓟ. Then push ⊕ or ⊖ within 15 seconds and set ”149”. Push Ⓟ again, and the display fashes ”- - - -” for 4 seconds. The alarms are now deleted, the ⚠-LED is turned off, and the controller returns to temperature display.

Error codes

Pr1 If error Pr1 is displayed, it means that the temperature sensor is defect.
Request service assistance.
In the meantime, the cabinet will aim to maintain the set temperature.

Pr2 If error Pr2 is displayed, there are problems with the evaporator sensor. The sensor should be replaced as soon as possible. Request service assistance.

Defrosting

K/KG 210/410:

Defrosting is automatically performed 4 times every 24 hours, by circulating the air inside the cabinet during compressor standstill periods. The defrost LED lights to indicate the defrosting cycle is running.

F/FG 210/410:

Defrosting is automatically performed 4 times every 24 hours, by a heating element mounted at the evaporator.

Manual defrosting:

If the cabinet is operating under severe load (frequent door opening and frequent replenishment), manual defrosting can become necessary.

Manual defrosting is performed as follows:

Push for 4 seconds, and defrosting is started. The defrost LED lights to indicate the defrosting cycle is running.

Do not use sharp or pointed objects to accelerate the defrosting process.

Keylock

The keys can be locked and in this way secured against unauthorized use of the appliance.

To lock the keys:

Press  and  at the same time for 1 second, ”Loc” is shown to indicate the keys are locked.

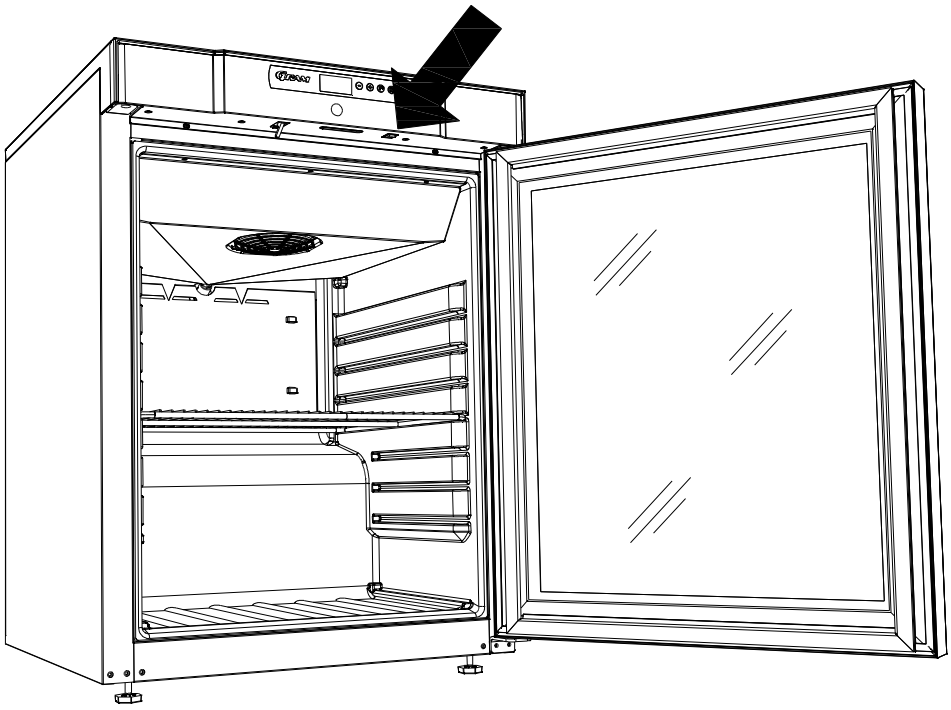
To unlock the keys:

Press  and  at the same time for 1 second, ”UnL” is shown to indicate the keys are unlocked.

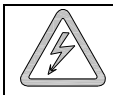
Illumination

Applies only to models with glass door.

The light can be switched on or off by the switch underneath the control panel.



Cleaning

 **Before cleaning, switch off the cabinet at the mains.**

The cabinet should be kept clean using a mild soap solution. Do not use cleaning detergents that may cause scratches.

When regular cleaning is carried out, be sure to wipe clean the rubber door gasket to ensure any sticky substances are removed which would otherwise damage the gasket.

The condenser on the back of the cabinet must be regularly cleaned as well. This is best done with a vacuum cleaner and a brush.

The condenser fan air outlet above the compressor must be free of leaves, paper etc. to ensure normal operation of the cabinet.

Cleansing agents containing chlorine or compounds of chlorine as well as other corrosive means, **must not be used**, as they might cause corrosion to the stainless panels of the cabinet and the evaporator system.

Do not flush water directly on the cabinet or inside the cabinet as this may cause short-circuits in the electrical system.

Service parameters

The service parameters are set in the following way:

Keep  and  pressed, the display shows "**PA**".

Push  , "**0**" is displayed. The value "**0**" is set by pushing  or  until "**-19**" is displayed (password for parameter setting).

Next, push  , "**PA**" is displayed again.

Keep  and  pressed, the display shows the first parameter "**SP**".

Use the  and  keys to select the various parameters. Push  to display the set value, changing the values are don by pushing  and  . Save the settings by pushing  .

To exit the parameter setting, push  and  for more than 4 seconds, or do not operate for 60 seconds.

Restoring default settings

To reset the controller to factory default settings:

Keep  and  pressed, the display shows "**PA**".

Push  , "**0**" is displayed. The value "**0**" is set by pushing  or  until "**149**" (password for reset to default settings).

Next, push  , "**PA**" is displayed again.

Keep  and  pressed "**def**" is displayed

After pushing  "**0**" is displayed.

The value "**0**" is changed by pushing  or  to "**1**", next, push  again.
The display will show "**dEF**" flashing for 4 seconds. The current temperature is displayed, and default settings are now restored.

Configuration parameters

Setpoint						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
SP	r1	r2	°C / °F (1)	5.0	-18.0	Setpoint room temp., see r0

Sensor input						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
CA1	-25.0	25.0	°C / °F (1)	0.0	0.0	Offset room sensor
CA2	-25.0	25.0	°C / °F (1)	0.0	0.0	Offset evaporator sensor
P1	0	1	---	0	0	Decimalpoint 1=yes
P2	0	1	---	0	0	Temp.unit: 0=°C, 1=°F (2)
P3	0	2	---	0	1	Evaporator sensor config.: 0=not connected 1=defrost/evaporator fan 2=defrost
P8	0	250	ds	5	5	Delay of temp. display

Operation						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
r0	0.1	15.0	°C / °F (1)	2.0	2.0	Hysteresis
r1	-99	r2	°C / °F (1)	2.0	-25	Min. setpoint temperature
r2	r1	99	°C / °F (1)	12.0	-5.0	Max. setpoint temperature
r3	0	1	---	0	0	Locking of setpoint calibration, 1=yes
r4	0.0	99.0	°C / °F (1)	0.0	0.0	Temperature increase during Energy saving (see I10)
r5	0.0	99.0	°C / °F (1)	0.0	0.0	Temperature decrease during overcooling (see r6)
r6	0	240	min	30	30	Duration of overcooling function

Compressor protection						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
C0	0	240	min	2	2	Compressor delay after power interruption
C1	0	240	min	5	5	Min. time between 2 compressor starts
C2	0	240	min	3	3	Min. time between compressor stop and new start
C3	0	240	sec	180	180	Min. compressor running time
C4	0	240	min	10	10	Duration, compressor stop on room sensor error
C5	0	240	min	10	10	Duration, compressor operation on room sensor error

Defrosting						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
d0	0	99	hrs	6	6	Defrosting interval if d8=0, 1 or 2 (0=no defrosting)
d1	0	2	---	2	0	Defrost type 0=electrical 1=hotgas 2=air
d2	-99	99	°C / °F (1)	2.0	2.0	Temperature limit for defrosting
d3	0	99	min	30	30	if P3=0; P3=2: defr. duration if P3=1: max. defr. duration
d4	0	1	---	0	0	Defrosting on start up 1=yes
d5	0	99	min	0	0	if d4=0: min. time between start up and defrost. if d4=1: time delay for start up defrosting.
d6	0	1	---	1	1	Temperature display during defrosting: 0=room temperature 1=setpoint + r0, if room temperature is less than setpoint + r0; setpoint if room temperature is higher than setpoint + r0.
d7	0	15	min	0	2	drip time
d8	0	3	---	0	0	Activation method for defrosting: 0=start acc. to d0 from start up 1=start acc. to compressor running time d0 2=start when evaporator temp. is less than d9 for time d0 3=Temperature, if: <u>Condition 1:</u> difference room temp. - evaporator temp. exceeds d10 for time d12 (see also d13), or <u>Condition 2:</u> Evaporator temp. is less than d9 for time d14.
d9	-99	99	°C / °F (1)	0	0	Temperature limit for defrosting when d8=2, or d8=3 and condition 2 fulfilled.

PAR	Min	Max	Unit	K 210/410	F210/410	Description
d10	0.0	99.0	°C / °F (1)	15	15	Temperature limit for defrosting when d8=3 and condition 1 is fulfilled.
d11	0	1	---	0	0	Disabling the defrost alarm: 1=yes
d12	0	99	min	30	30	Time limit for d8=3 and condition 2 fulfilled, 0=deactivated
d13	1	240	min	1	1	Minimum time between 2 defrosts for d8=3 and condition 1 fulfilled.
d14	0	240	min	30	30	Defrost time for d8=3 and condition 2 fulfilled, 0=deactivated
d15	0	99	min	0	0	Minimum compressor running time before defrost

Temperature alarm						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
A0	0	1	---	0	0	Sensor type for min. temperature alarm "AL" 0=room sensor 1=evaporator sensor
A1	-99	99	°C / °F (1)	-10	-10	min. temperature alarm value "AL"
A2	0	2	---	1	1	Alarm type for "AL": 0=deactivated 1=relative to setpoint 2=absolute
A4	-99	99	°C / °F (1)	10	10	max. temperature alarm value "AH"
A5	0	2	---	1	1	Alarm type for "AH": 0=deactivated 1=relative to setpoint 2=absolute
A6	0	240	min	120	120	Time delay "AH" after start up
A7	0	240	min	60	60	Alarm delay "AH" and "AL"
A8	0	240	min	15	15	Time delay "AH" after evaporator fan start
A9	0	240	min	15	15	Time delay "AH" after door switch deactivation
A11	0.1	15.0	°C / °F (1)	2	2	Difference - parameters "A1" and "A4"

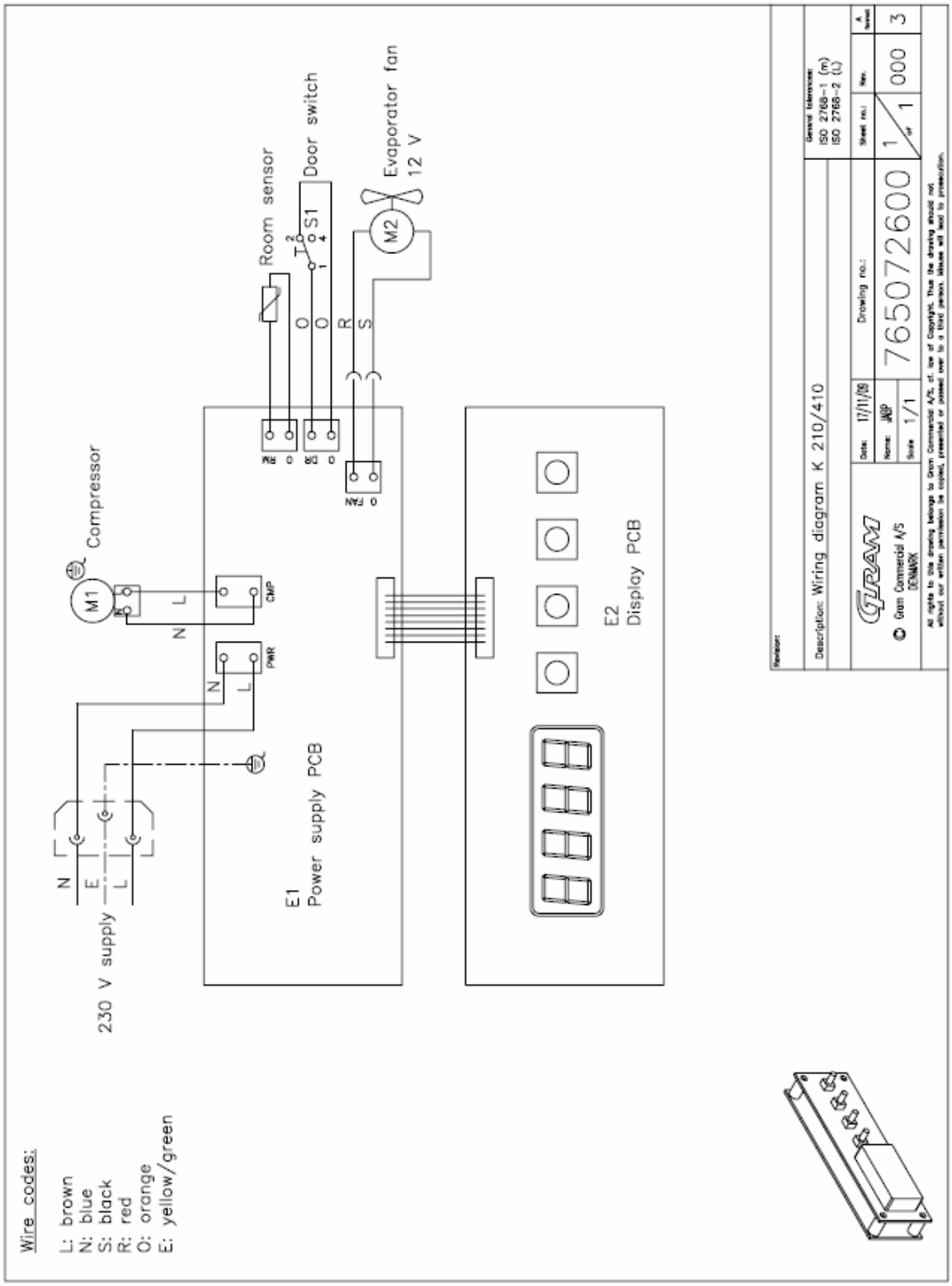
Evaporator fan						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
F0	0	4	---	1	1	Function: 0=off 1=on 2=parallel with compressor 3=dependent on F1 4=disabled, when compressor is off - dependent of F1 when the compressor is running.
F1	-99	99	°C / °F (1)	-1	-1	Max. evaporator temp. - stopping of evaporator fan
F2	0	2	---	1	0	Function during defrost: 0=disabled 1=enabled 2=dependent on F0
F3	0	15	min	2	2	Max. duration of fan deactivation
F7	-99	99	°C / °F (1)	0.0	0.0	Re-entry temperature evaporator fan
F8	0.1	15.0	°C / °F (1)	2.0	2.0	F1 difference
F9	0	240	sek	0	0	Time delay for evaporator fan cut-out after compressor stop
F13	0	240	min	5	5	Evaporator fan stop on energy saving
F14	0	240	min	1	1	Evaporator fan running time om energy saving

Digital inputs						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
I0	0	5	---	2	2	Door switch function: 1=compressor and evaporator fan 2=evaporator fan 3...5=reserved
I1	0	1	---	0	0	Door switch type 0=n.o. 1=n.c.
I2	-1	120	min	10	10	Door alarm time delay -1=deactivated
I3	-1	120	min	-1	-1	Duration door switch function I0 from activation -1=until deactivation
I4	0	1	---	0	0	Save door alarm 1=yes
I10	0	999	min	20	20	Time delay energy saving after door closing

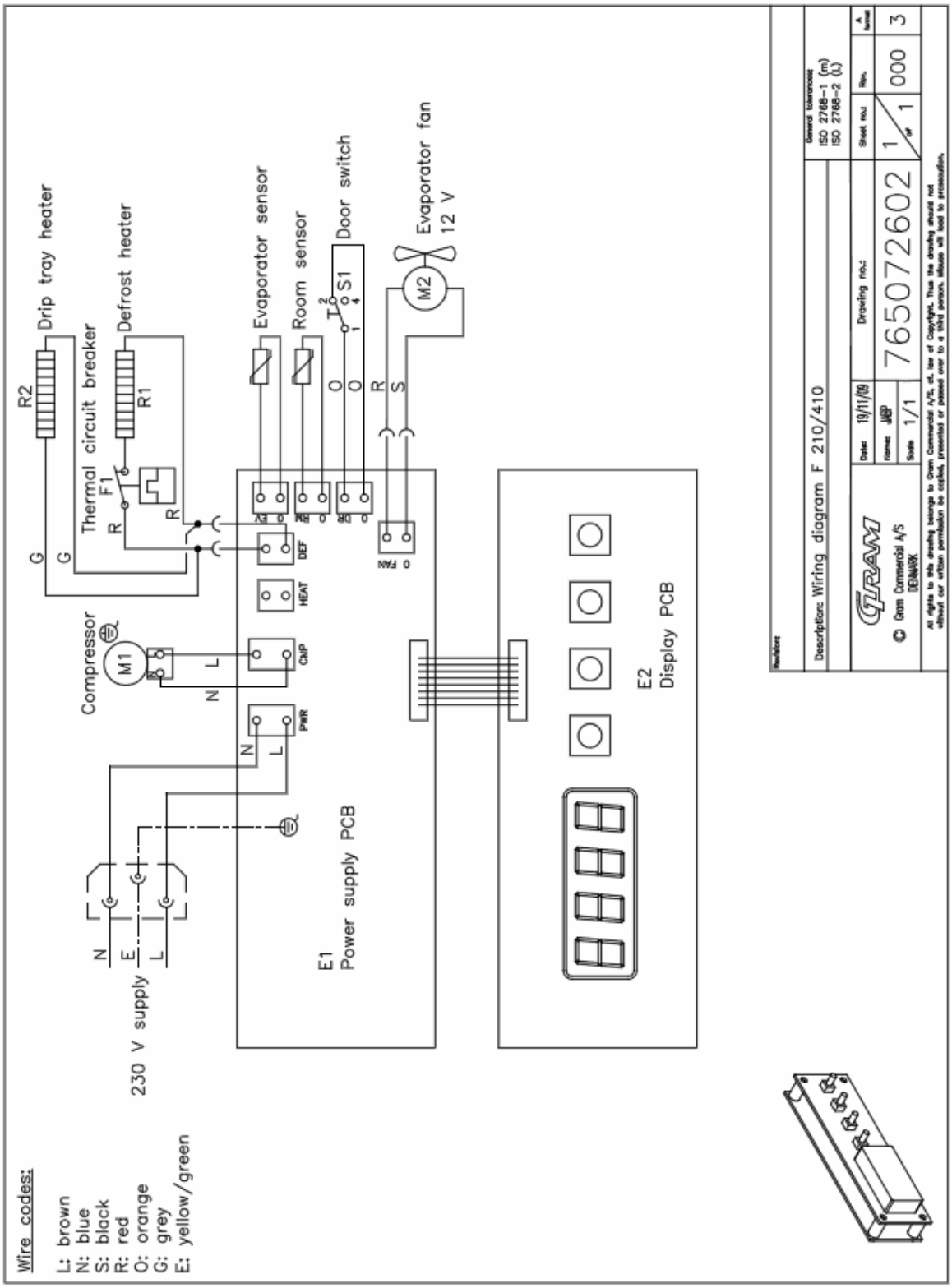
Serial network						
PAR	**Min**	**Max**	**Unit**	**K 210/410**	**F210/410**	**Description**
La	1	247	---	247	247	Address (not used)
Lb	0	3	---	2	2	Baudrate (not used)
LP	0	2	---	2	2	Parity (not used)

(1) Unit of measurement is dependent on P2.
(2) temperature parameters must be properly set when changing P2.

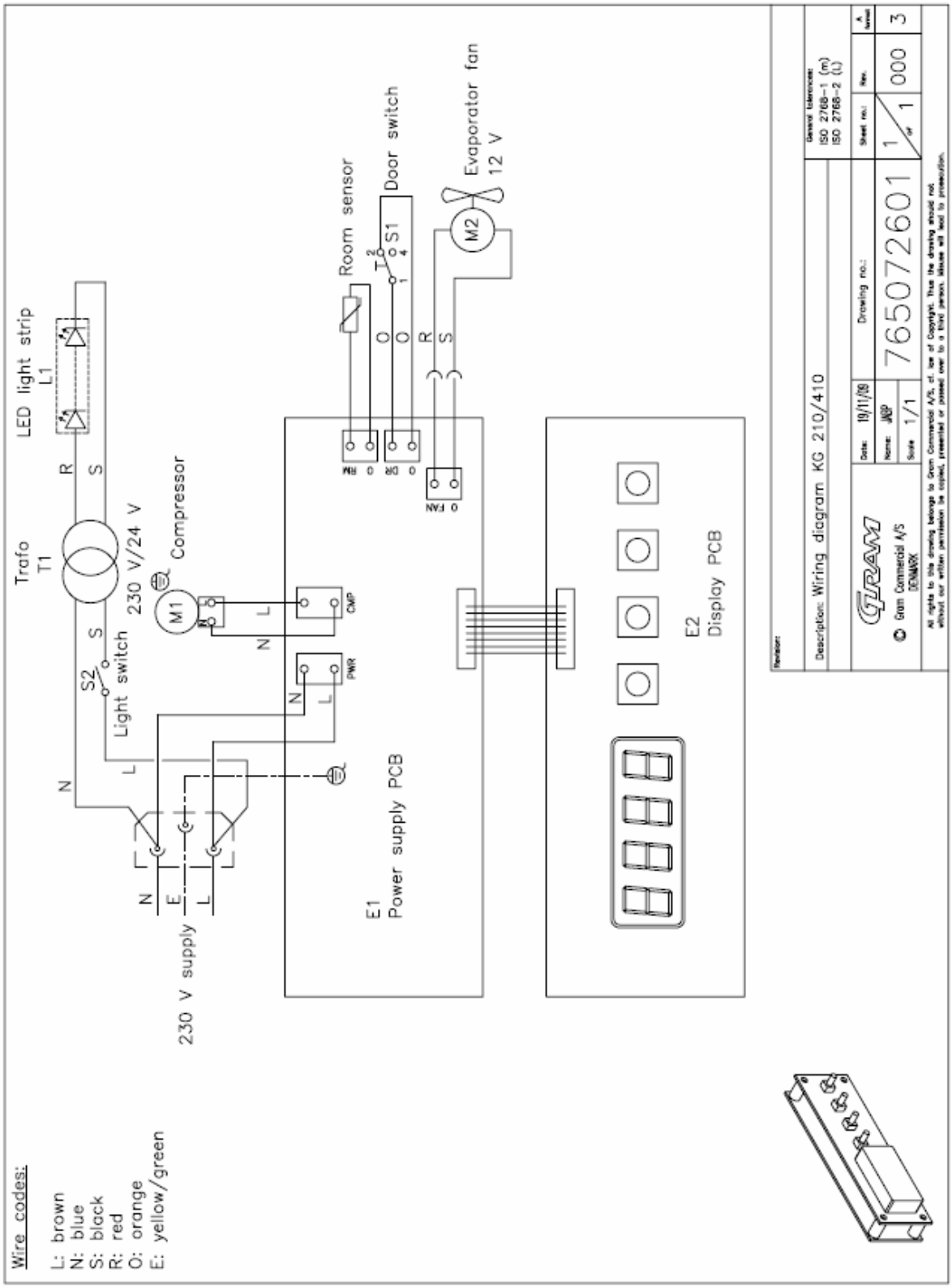
Wiring diagram K 210/410



Wiring diagram F 210/410



Wiring diagram KG 210/410

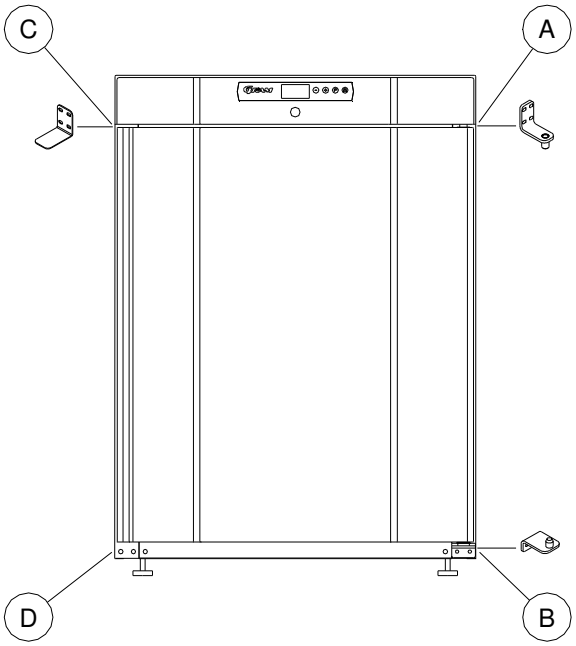


Reversing the door

The door can be changed from righthand-hinged to lefthand-hinged, or vice versa.

To do so, proceed as follows:

Models with solid door:

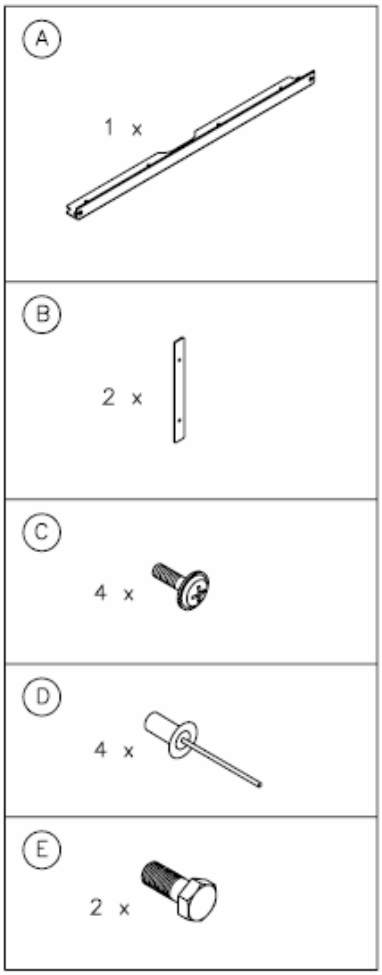


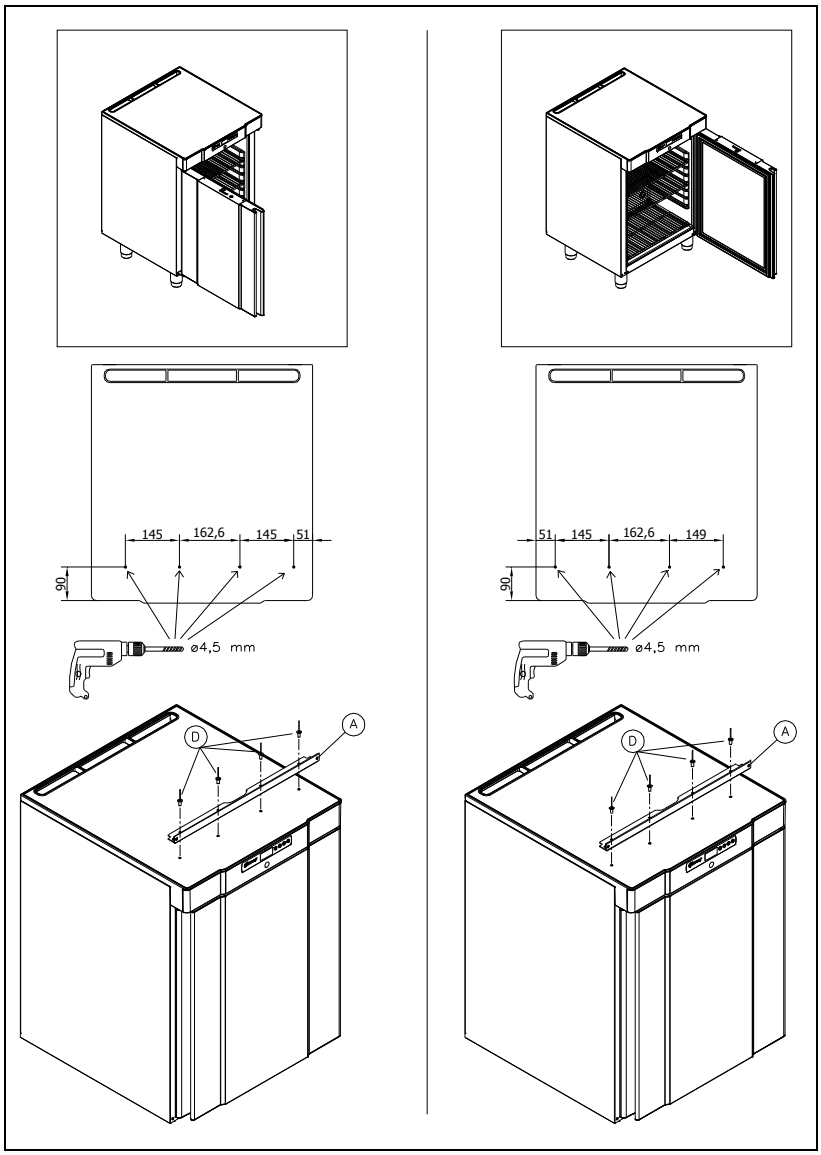
1. Switch off the power at the mains socket.
2. Dismantle the two screws that hold the control panel at front and back, pull the panel a little forward, and then tilt it upwards.
3. Dismantle the hinge at pos. A, and lift off the door.
4. Dismantle the hinge at pos. B, and mount it at pos. D.
5. Turn the door 180°, and fix it at the hinge pos. D.
6. Mount the hinge from pos. A in pos. C, and move bracket from pos. C to pos. A.
7. Fasten the control panel again. Apply power to the cabinet again.

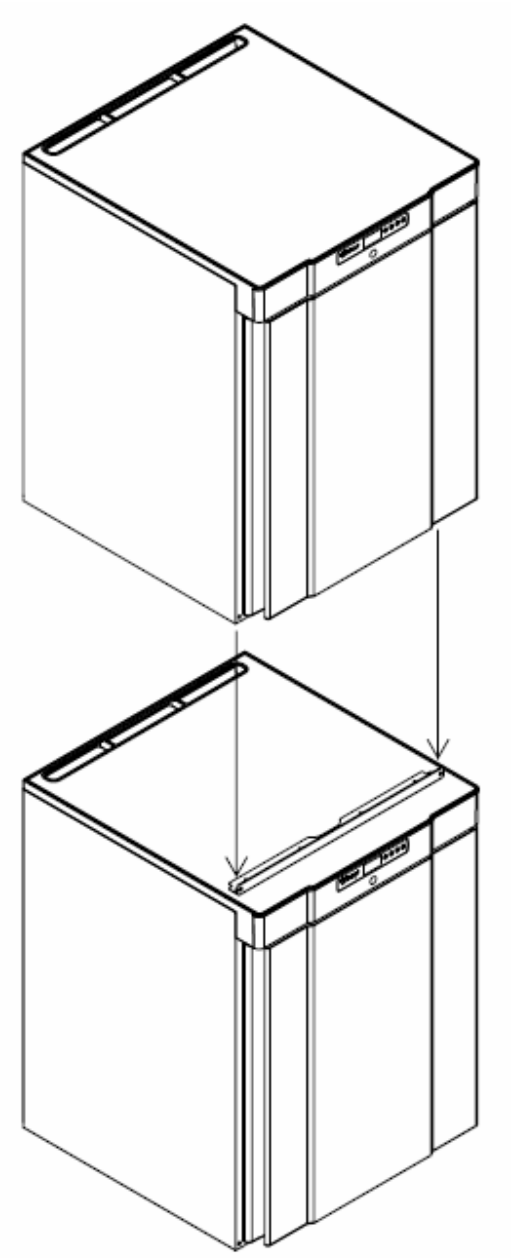
Models with glass door:

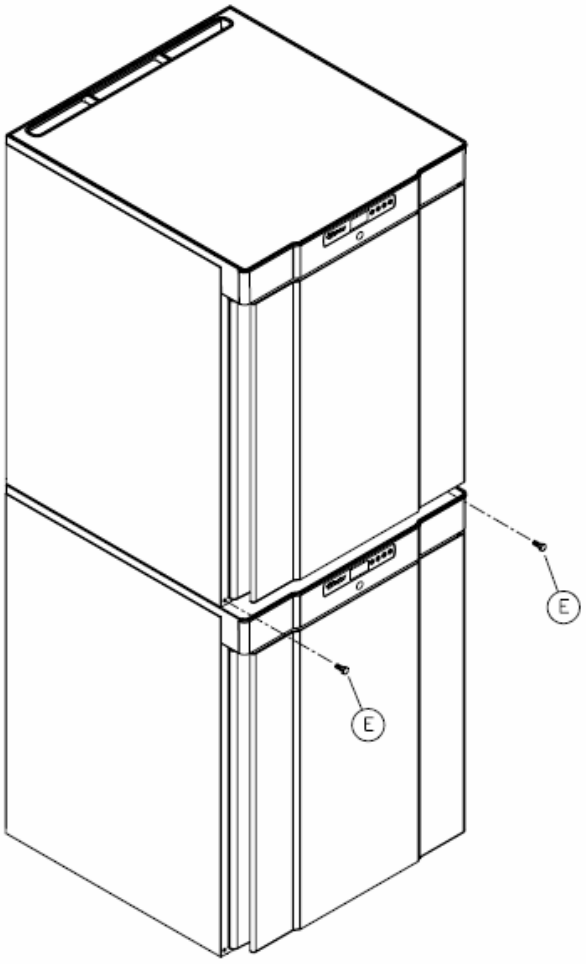
The door should can not be reversed.

Stacking of Compact 210





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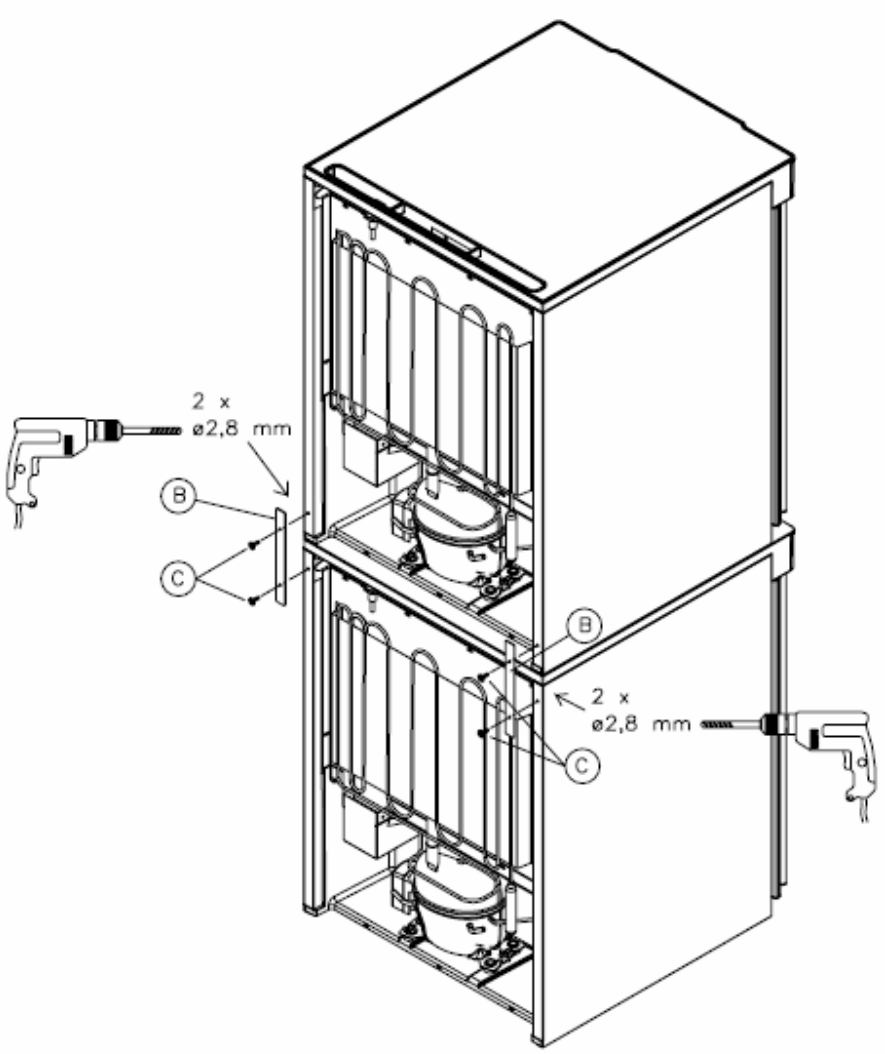
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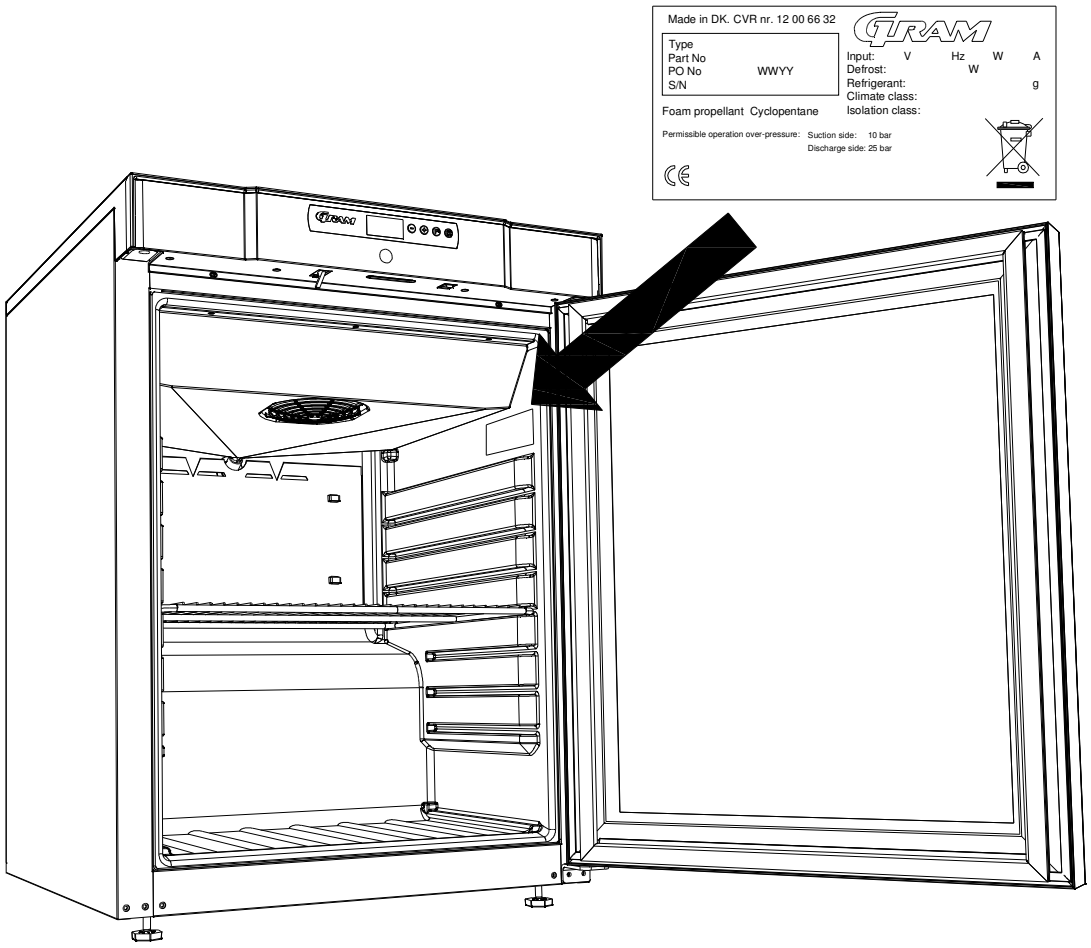
Ordering spare parts / technical support

When contacting us please tell us the name and serial number (S/N) / (WWYY) of the cabinet.
This information is stated on the name plate, see illustration below.



Disposal

The below only concerns the United Kingdom.

Disposal of an old cabinet is only available when we are delivering a new one at the same time. Cabinets must be fully defrosted and emptied prior to collection.

Gram recognises that our products for the catering market are considered as WEEE when they become obsolete. To ensure that Gram's responsibilities are handled correctly and environmentally friendly, we are signed up the largest Business to Business compliance scheme in the UK – B2B Compliance
http://www.b2bcompliance.org.uk

B2B Compliance will on our behalf deal with all areas of our responsibilities when collecting and disposing of equipment which fall under the UK WEEE regulations.
B2B Compliance can be contacted on telephone number 01691 676124.