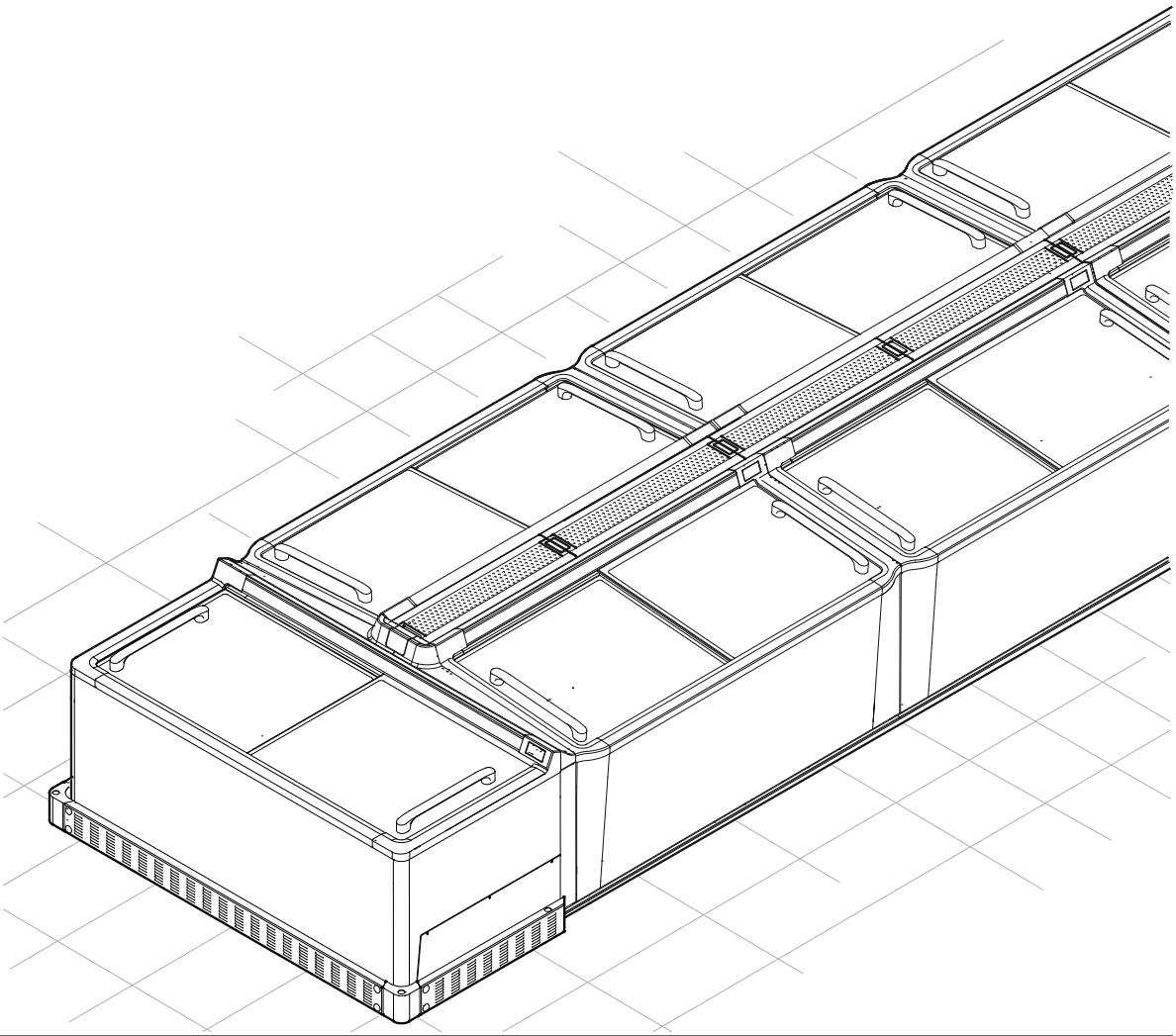
Assembly instructions

EN

ST 11/SGT 11
ST 13/SGT 13
STE 11



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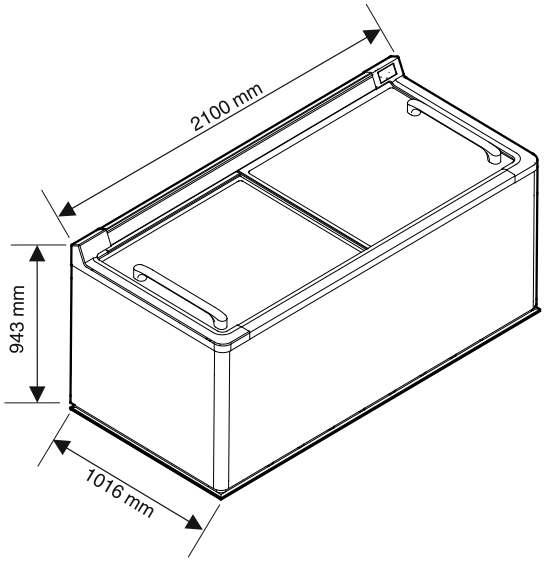
Safety instructions and warnings

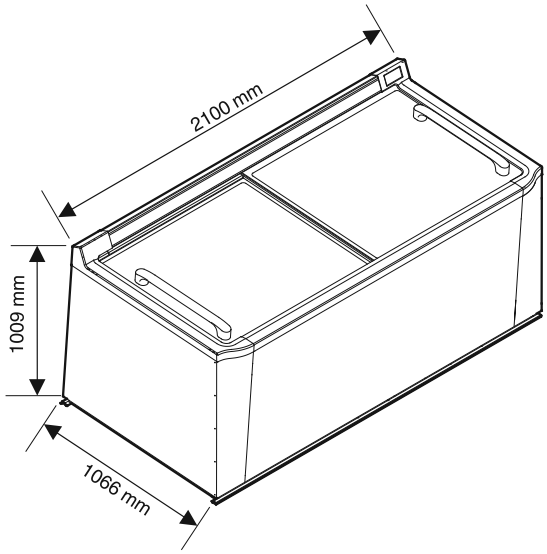
- If there is obvious transport damage on the appliance after it has been unpacked, contact the supplier. Do not start the appliance.
- Do not allow naked flames or ignition sources to enter the appliance. When transporting and cleaning the appliance, ensure that the refrigerant circuit is not damaged. In the event of damage, make sure that there are no ignition sources nearby and keep the room well ventilated.
- Do not place objects on the appliance and do not place heavy loads on the sliding glass lids. The lids could be damaged.

Appliance dimensions

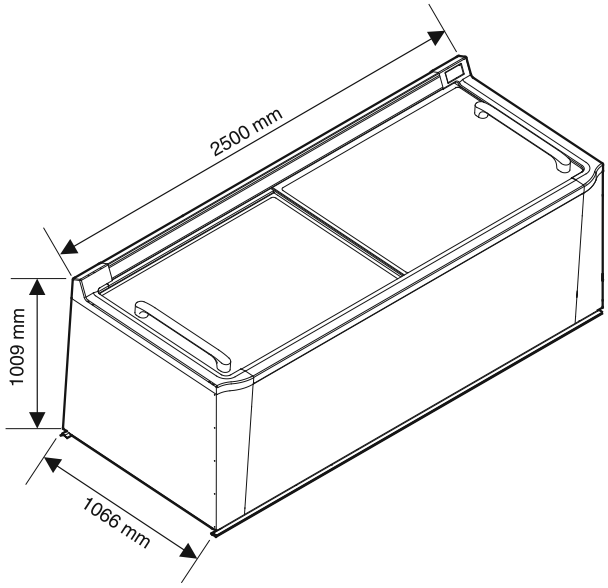
STE 11



ST 11/SGT 11

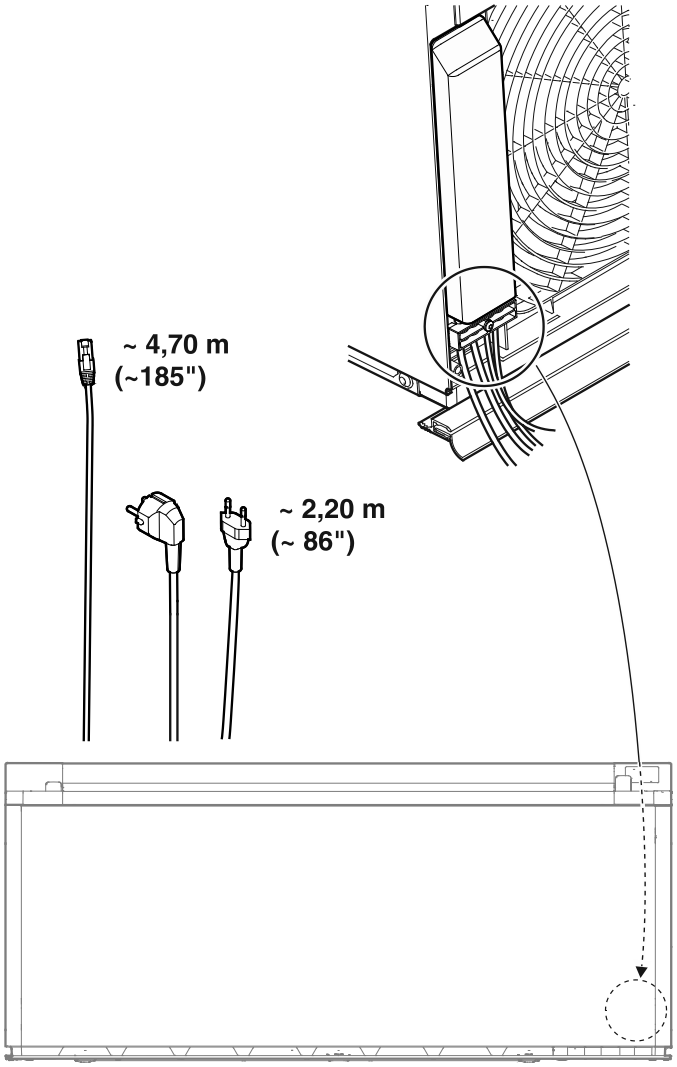


ST 13/SGT 13



Cable lengths

Free cable lengths from strain relief device outlet.



Requirements for assembly

The assembly must comply with the applicable regulations, standards, directives and laws where they apply to the subject of the contract.

Work on the electrical system (electrical connection, cable duct or sockets) may only be carried out by a qualified electrician.

Note

To avoid the assembly work being delayed or even stopped, the installation of the appliances should be carefully planned in advance. It must be ensured that all the requirements are satisfied.

Requirements for the place of installation

Ensure that the place of installation for assembling the appliances is suitable and properly prepared.

- Any existing old appliances must be removed and disposed of in an environmentally friendly manner.
- The place of installation must be free of dirt and moisture.
- The evenness of the floor surface must comply with the usual limit values for evenness deviations set out in DIN 18202.
- The ambient temperature must correspond to the climate rating. The climate rating applicable to your appliance is shown in the operating instructions.
- Any display unit above the appliance must be straight and perpendicular, and must not contain any goods.
- Any positioning rails must be installed to meet the plinth foot spacings of the appliances.
- If a collision guard or positioning rails (accessories) are installed, approval must be obtained from a qualified body to drill holes in the floor. It must be ensured that no cables or pipes (e.g. underfloor heating) in the floor are damaged.

Ventilation

Ensure that the following cross-sections for ventilating the appliances are maintained in the supply air area on the rear of the appliance:

- 1.8m: > 550cm^2
- 2.1m: > 600cm^2
- 2.5m: > 700cm^2

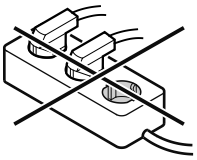
If ram protection is installed, the same cross sections must be ensured for the exhaust air.

In combination with surface-mounted appliances with downward-directed exhaust air (heat), appropriate partitioning must be provided against this.

Requirements for the electrical connection

- We recommend that separate circuits are installed for the lighting and chest refrigeration units. The sockets must be clearly distinguishable.
- Two sockets must be prepared for each appliance for these two circuits. The sockets must be permanently fixed and clearly labelled.
- Each appliance must be protected by its own fuse.
- A separate fuse must be provided for the lighting

⚠ IMPORTANT
Do not connect the appliance using an extension cable or extension socket.



Requirements for a remote data transmission connection

- A connection from the appliance blocks to the gateway location must be established on site using suitable sockets and cables (CAT5 or higher) with a bus topology.
- The appliances are networked using one or more coupling modules depending on the system environment, see "Bus connection", page 4.

Bus connection

Up to 120 appliances can be networked and integrated into the in-house system using one or more coupling modules.

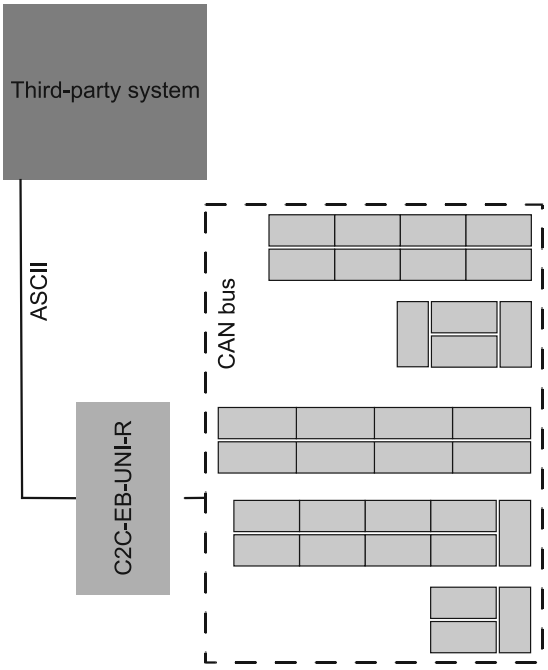
Note

The alarm priority with CAN connectivity is limited as standard to a maximum of 2 when the appliance is delivered. This means that the forwarding of the alarm is restricted when the shop is closed. The setting can be changed if necessary by the gateway manufacturer. The list of alarm scenarios is included in the service documentation.

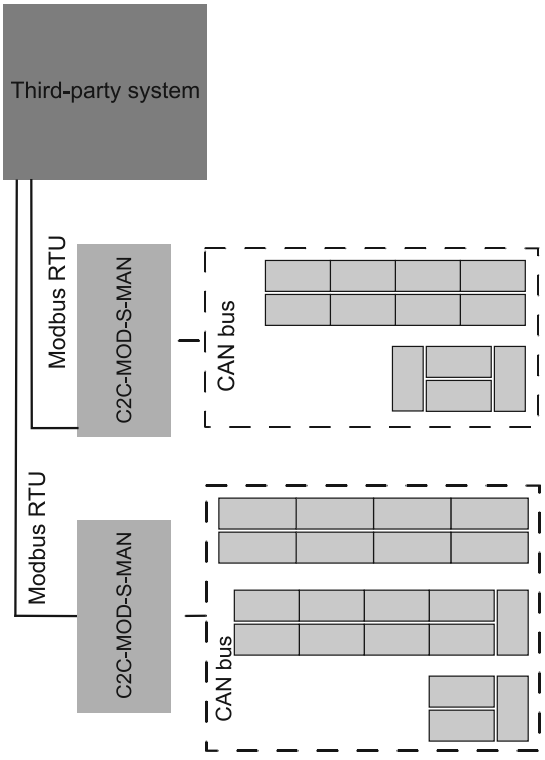
A coupling module is required for transmitting the CAN bus protocol.

Depending on the system environment and the number of appliances, we recommend that you use the following coupling modules (made by Wurm):

– C2C-EB-UNI-R
  ASCII protocol
  1 coupling module for an arbitrary number of appliances



– C2C-MOD-S-MAN
  RS485 standard interface (Modbus RTU) slave
  with 1 coupling module for up to 20 appliances

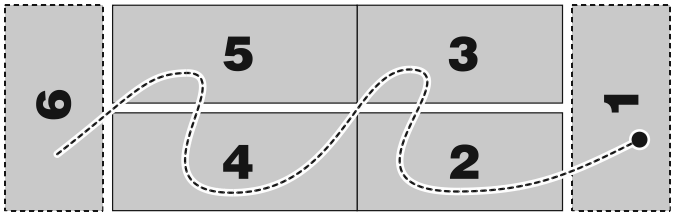


Each appliance has two CAN bus ports for networking the appliances, see "Fitting the cables", page 10.

Addressing

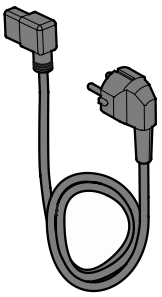
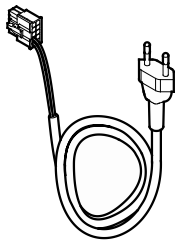
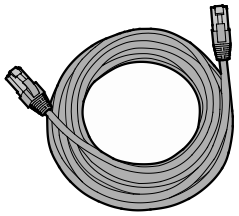
Free addresses from the in-house system must be used to address the bus with one- to three-figure numbers (1-999) being allocated for this purpose.

The addresses are entered individually on each appliance, see "Assigning addresses to the appliances", page 19.

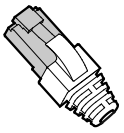


Scope of delivery

Standard (per appliance)

Quantity	Description
1	Appliance
1	Power connection cable (2.50 m) 
1	Light cable for manual control (2.50 m) 
1	Network cable (5 m) 
1	Ice scraper
1	Service type plate
1	Operating instructions

Accessories (depending on configuration)

Quantity	Description
*	RFID chip
*	Terminating resistor 
*	Service interface extension (2 m)
*	Protection strip
*	Shaped foam tape

*) depending on configuration

Accessories (optional)

Positioning rail

Quantity	Description
*	Positioning rail (1.75 m)

*) depending on configuration

Single-piece block end plate

Quantity	Description
*	Block end plate
10**	Screws
2**	Protection strip corner pieces

*) depending on configuration

**) per plate

Split block end plate

Quantity*	Description
1	Block end plate, left
1	Block end plate, right
12**	Screws
2**	Protection strip corner pieces

*) depending on configuration

**) per set

End-of-aisle appliance connection kit

Quantity*	Description
2	Side pieces
1	Connection piece, right
1	Connection piece, left
1	Cover
9	Assembly bolts
1	Positioning bracket
2	Protection strip corner pieces

*) per set/end-of-aisle appliance

Cover

Quantity*	Description
2**	Perforated metal plate
4**	Profile strips
4**	Cover pieces

*) depending on configuration

**) per appliance

End-of-aisle appliance collision guard

Quantity*	Description
1	Front piece
1	Longitudinal side, right
1	Longitudinal side, left
2	Corner pieces
8	Cheese-head screws
12	Protective stoppers
4	Anchor bolts

*) per set/end-of-aisle appliance

Block end plate collision guard

Quantity*	Description
1	Front piece
1	Corner piece, right
1	Corner piece, left
4	Cheese-head screws
8	Protective stoppers
4	Anchor bolts

*) per set

Product plate holder (for longitudinal appliances)

Quantity*	Description
6	Retaining parts (angled)
6	Wing nuts

*) per appliance

Product plate holder (for end-of-aisle appliances)

Quantity*	Description
3	Retaining parts (straight)
3	Wing nuts

*) per end-of-aisle appliance

Plug set for alarm output

Quantity	Description
1	10-pin plug
6	Crimp contacts

Transport and unpacking

The appliance is supplied fully assembled standing on a pallet.

Check the appliance for transport damage before and while unpacking it. Report any damage (loose parts, dents, scratches, visible fluid leaks, etc.) without delay.

Remove the packaging and check that the delivery is complete.

Ensure that the appliance is not damaged while it is being transported and unpacked.

⚠ WARNING
Danger of suffocation due to packing material and plastic film!
Do not allow children to play with packaging material.
Dispose of the packaging material in compliance with current regulations.

Moving the appliances to the place of installation

Wear safety shoes!

Wear gloves!

Move the appliances to the place of installation on the pallets using suitable equipment.

Important

Ensure that the appliances are not damaged while they are being transported and unpacked.

Position the appliances in a line in the required configuration. If an end-of-aisle appliance is included in the configuration, start with this.
If the appliances are to be installed in a block, arrange them in parallel.

Lifting the appliances off the pallet

At least two people are required for this.

Lift the appliances off the pallets using suitable equipment and carefully lower them into position.

Leave enough space to the display unit above the appliances (if there is one) and between them so that subsequent work can be carried out with plenty of space. Do not push the appliances together until later.

Possible configurations

Note

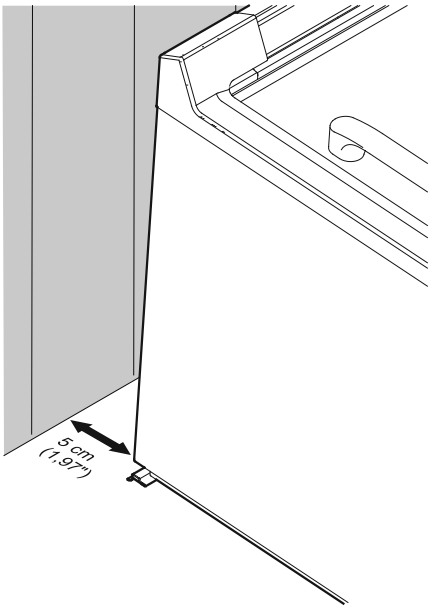
The "Requirements for the place of installation", page 4 and the "Requirements for the electrical connection", page 4, must be complied with for all configurations.
If the appliances are networked, the "Requirements for a remote data transmission connection", page 4 must also be complied with.

Installing an individual appliance

Every model can be installed individually.

1. **"Fitting the cables", page 10**
2. **Positioning the appliance**

   Position the appliance at a distance measured on the floor of at least 5 cm (1.97") from the rear limit surface (e.g. the wall).



Important

The air circulation must not be hindered.

3. **"Connecting appliances", page 14**
4. **"Fitting the protection strips", page 17**
5. **"Commissioning the appliances", page 20**

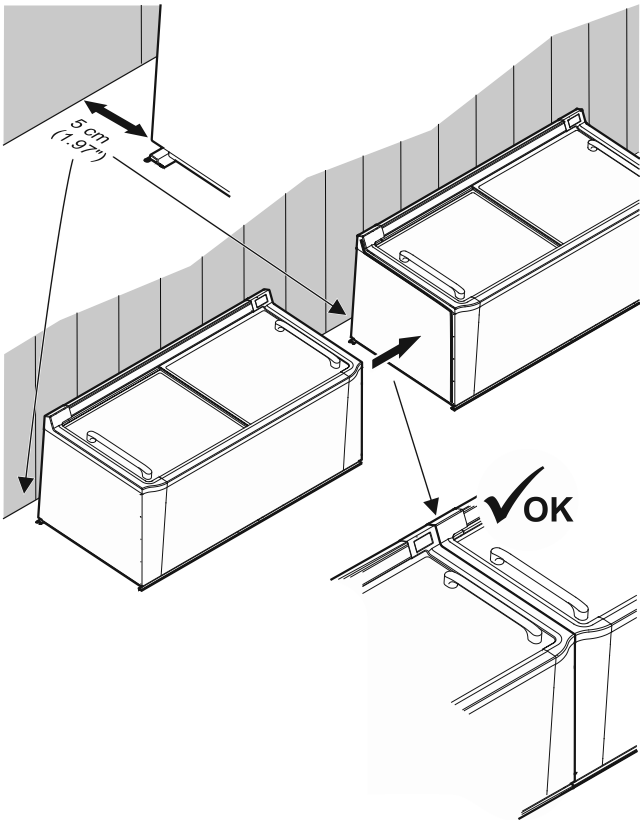
Installing appliances in a row

1. **"Fitting the cables", page 10**
2. **"Affixing shaped foam tape", page 10**
3. **Positioning the appliances**

   Position the appliances side by side at a distance measured on the floor of at least 5 cm (1.97") from the rear limit surface (e.g. the wall) and push them together without leaving a gap between them.

Important

When pushing the appliances, it is vital that you ensure that no cables are jammed or damaged.



Important

The air circulation must not be hindered.

4. **"Connecting appliances", page 14**
5. **"Fitting the protection strips", page 17**
6. **"Assigning addresses to the appliances", page 19**
7. **"Commissioning the appliances", page 20**

Installing the appliances in a block or in island form

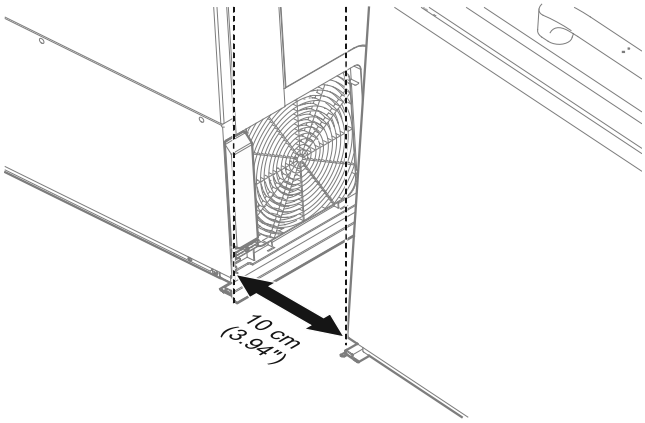
1. **"Fitting the cables", page 10**
2. **"Affixing shaped foam tape", page 10**
3. **Positioning the appliances**

Important

When pushing the appliances, it is vital that you ensure that no cables are jammed or damaged.

A) Without positioning rails

Place the appliances in the row in a straight line. Arrange the opposite row parallel to the first one.
The distance between the rows must be at least 10 cm (3.94") (measured at the bottom appliance edges).



Important

The air circulation must not be hindered.

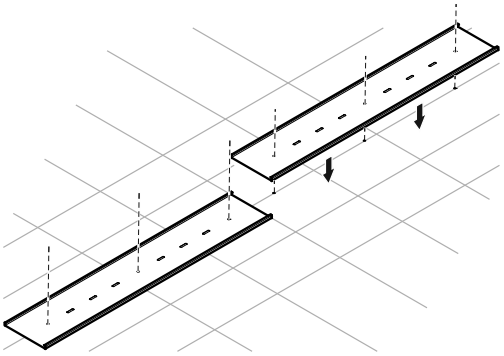
B) With positioning rails

Install the positioning rails in a straight line the length of the block. The start and end may at most be flush with the first or last appliance.

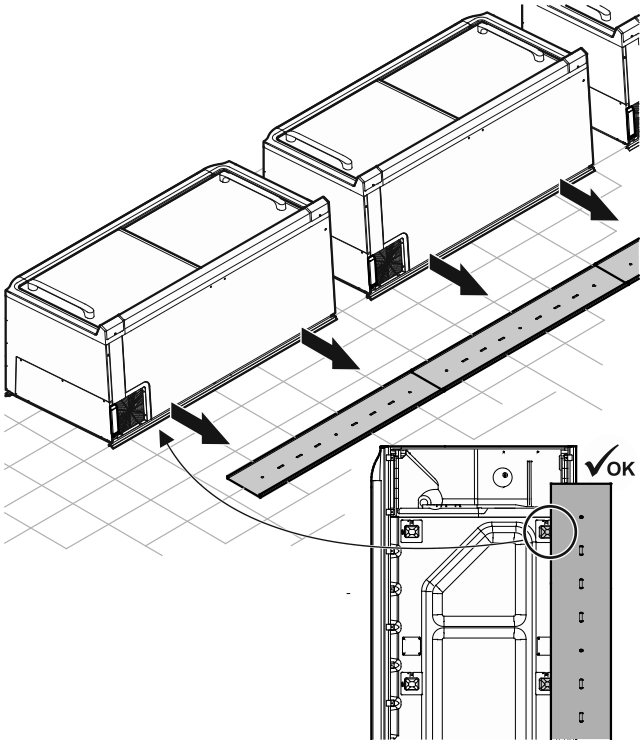
Important

Approval must be obtained from a qualified body to drill holes in the floor. It must be ensured that no cables or pipes (e.g. underfloor heating) in the floor are damaged. The fastening material (screws, plugs and adhesive tape) is not supplied and must be selected to suit the site conditions.

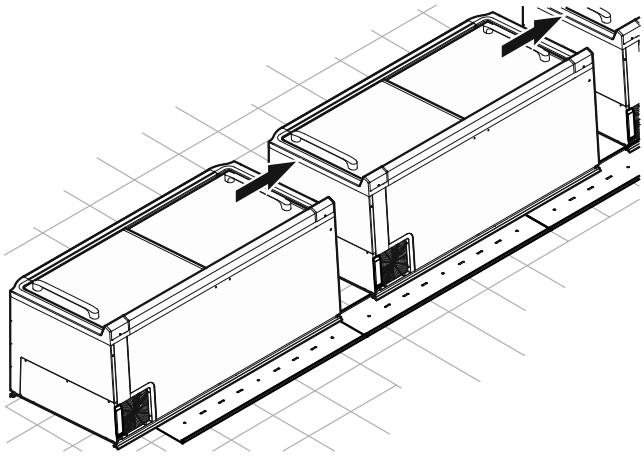
Fix the positioning rails to the floor.



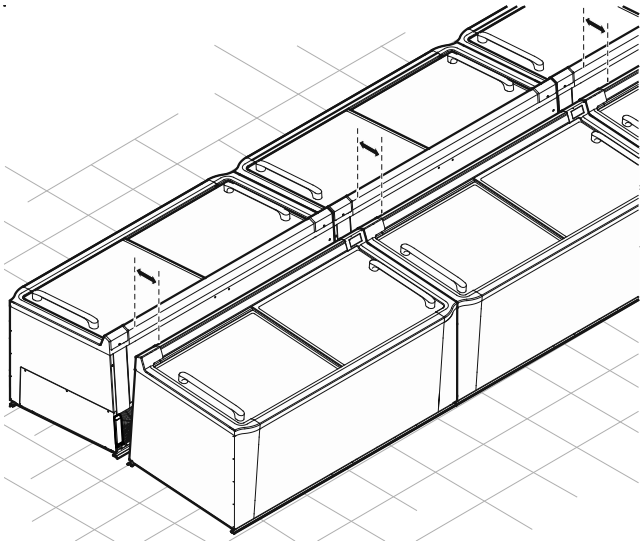
Position the appliances so that the rear feet touch the positioning rails.



Push the appliances together with no gaps between them.



Install the opposite row in the same way ensuring that the appliances are parallel to each other.



4. **"Connecting appliances", page 14**
5. **Completing the end of the block:**
   "End-of-aisle appliance connection kit", page 14

   or

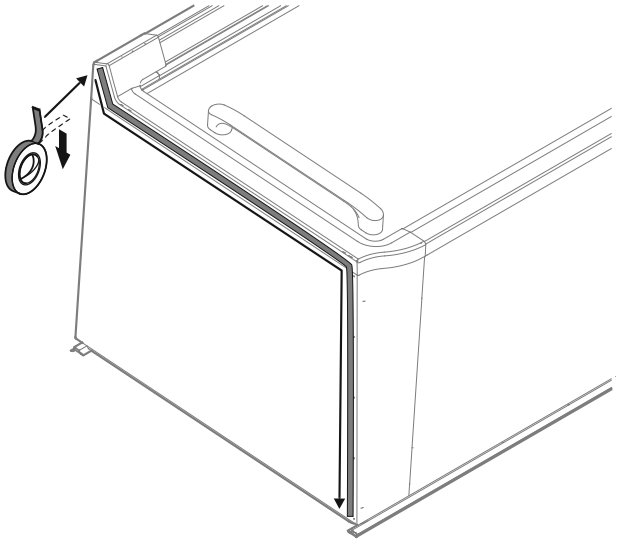
   "Block completion with block end plates", page 16
6. **"Fitting the protection strips", page 17**
7. **"Fitting the cover", page 18**
8. **"Assigning addresses to the appliances", page 19**
9. **"Commissioning the appliances", page 20**

Affixing shaped foam tape

Affix the shaped foam tape to the top and front sides of the appliances to keep the impact areas of appliances in rows or blocks free of dirt. This allows the appliances to be placed next to each other without gaps in between and also compensates for minor unevenness.

Note

Do not affix shaped foam tape to the outer side panels of the first and last appliance in the row.



Installation and connection

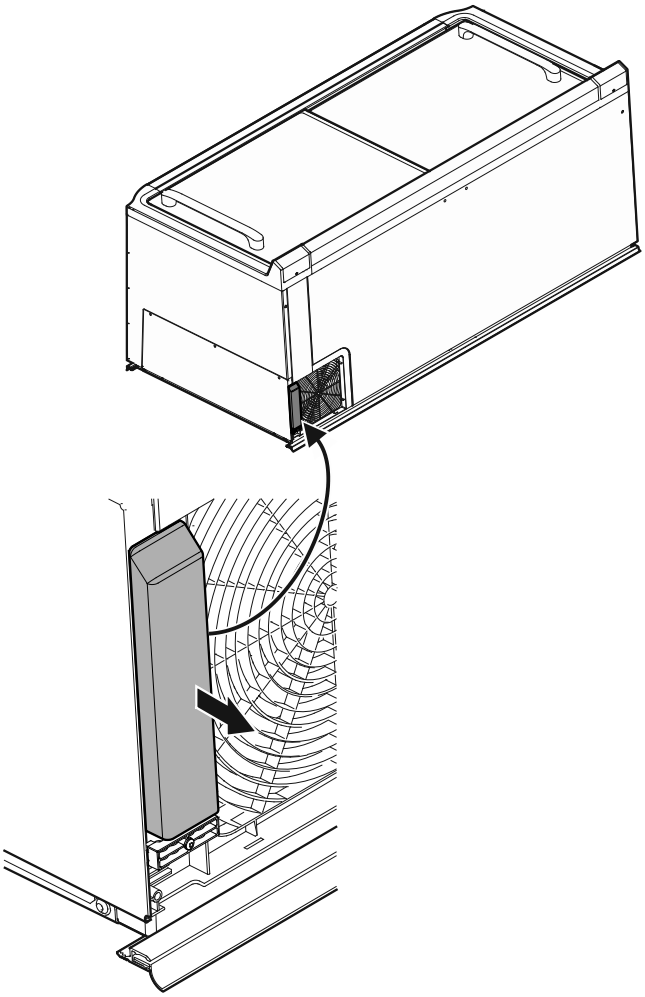
Fitting the cables

The cable connections are on the rear of the appliance under a cover.

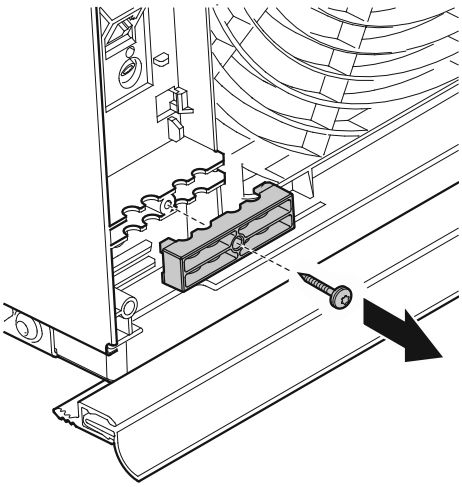
Important

The cables must be routed so that each appliance, including those in rows or blocks, can be pulled out individually without any problems for repair or service purposes.
Cables must not be jammed or damaged by this. Use any available cable suspension points.

1. **Remove cover.**



2. **Undo the screw and remove it together with the strain relief device.**



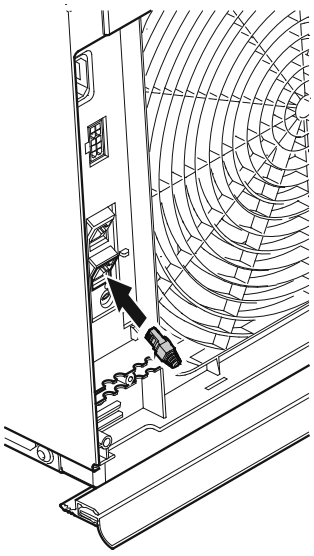
3. **Connect the network cable**

Note

The ports (input/output) may be freely selected. The connectors must engage with an audible click.

First appliance

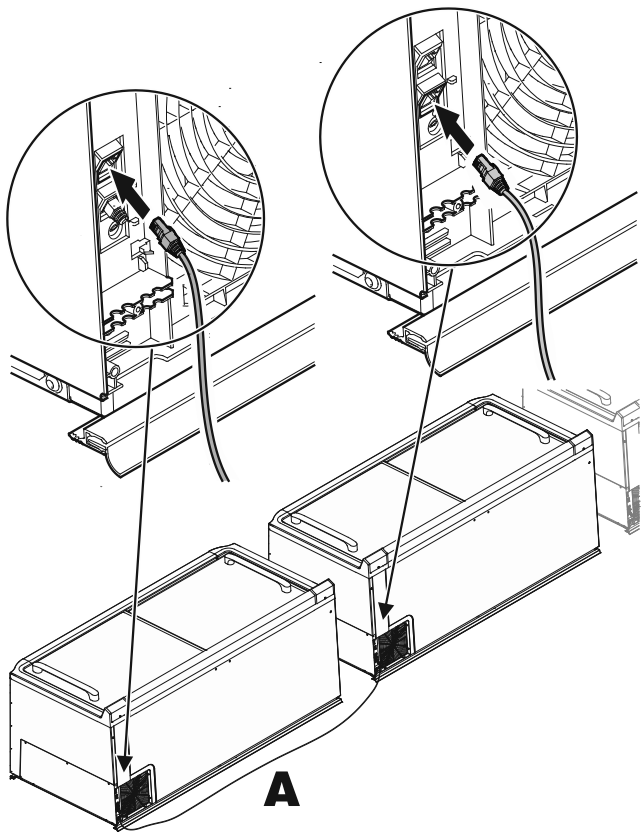
– Connect the terminating resistor.



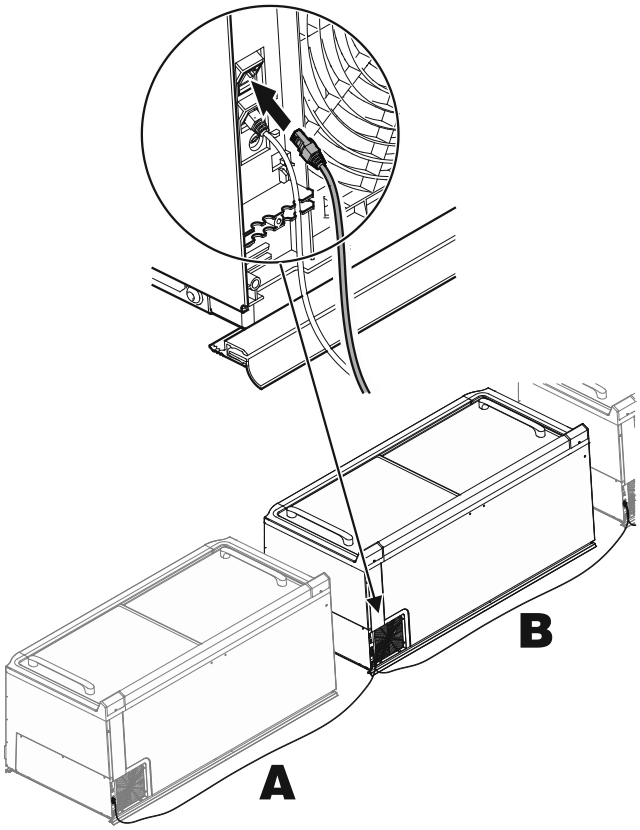
Additional appliances

– Connect one plug of the network cable (A).

– Connect the other plug of the network cable (A) to the next appliance.



– To connect additional appliances, connect the plug of another network cable (B) to the second appliance and then connect it to the next appliance. Continue until all the appliances are connected.



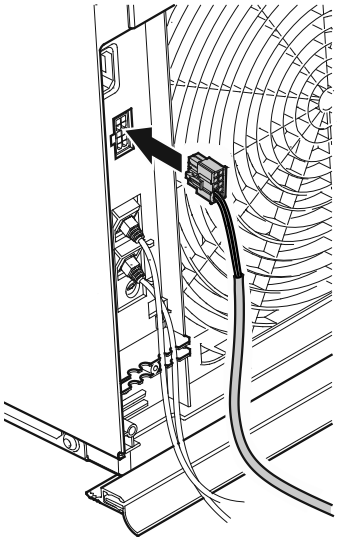
Note

The empty port on the last appliance in a configuration is used for connection to the coupling module and then to the in-house LAN.
Both bus ports must therefore be occupied on every appliance.

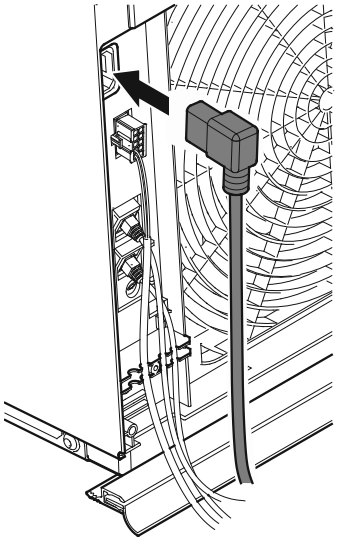
4. **Connect the light cable plug.**
See also "External alarm (floating alarm output)", page 13.

Note

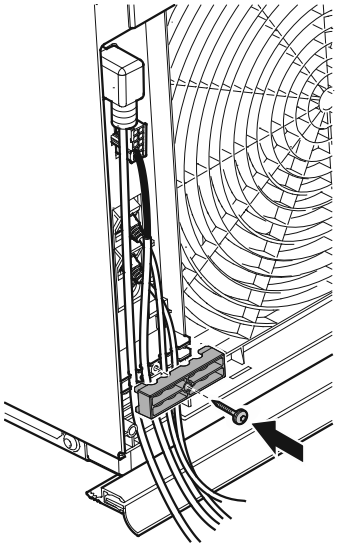
This plug does not need to be connected if the lighting is controlled via the network.



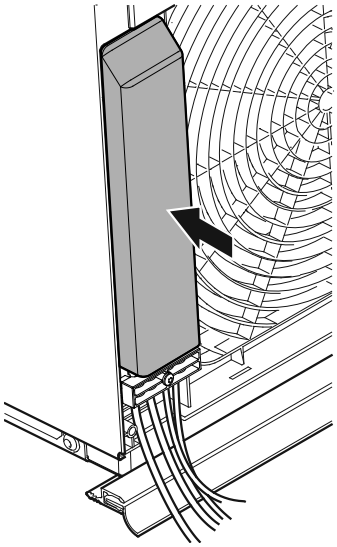
5. **Connect the power connection cable plug.**



6. **Fit the strain relief device , placing the cables in it. Insert screw.**



7. **Fit the cover.**



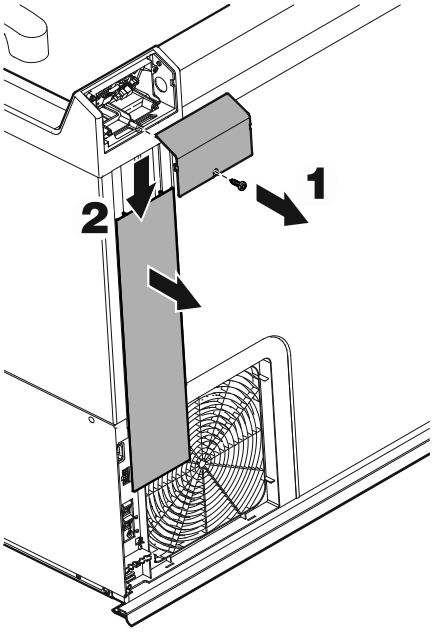
Fitting the service interface extension

The service interface is required to connect the test tool and for service work. It is on the rear of the appliances. To provide easier access, an extension can be fitted to a defined appliance (with easy access, e.g. the first appliance in the row).

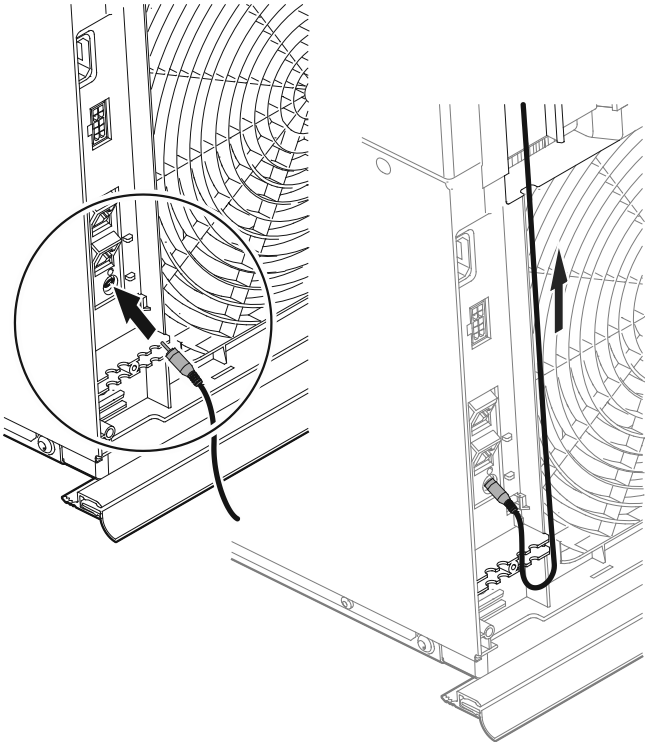
Note

We recommend that the appliance with the extension is marked or documented to speed things up when service work is required.

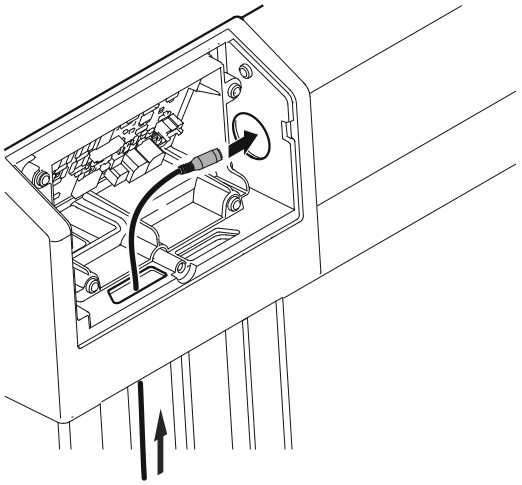
1. **Undo the screw and take off the operating panel cover.**
2. **Slide the cable duct cover downwards and remove it.**



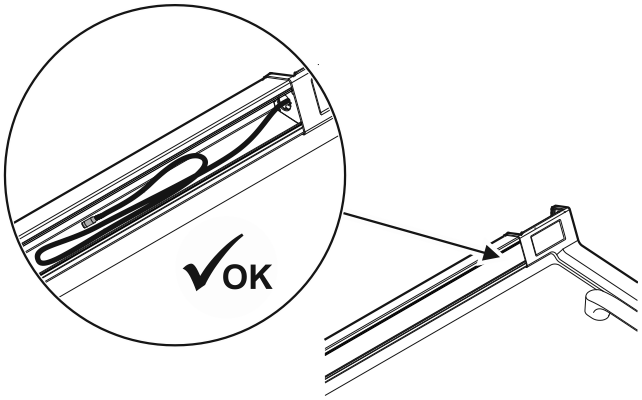
3. **Connect the pawl plug, thread the cable through the strain relief device and then route it upwards through the left-hand cable duct.**



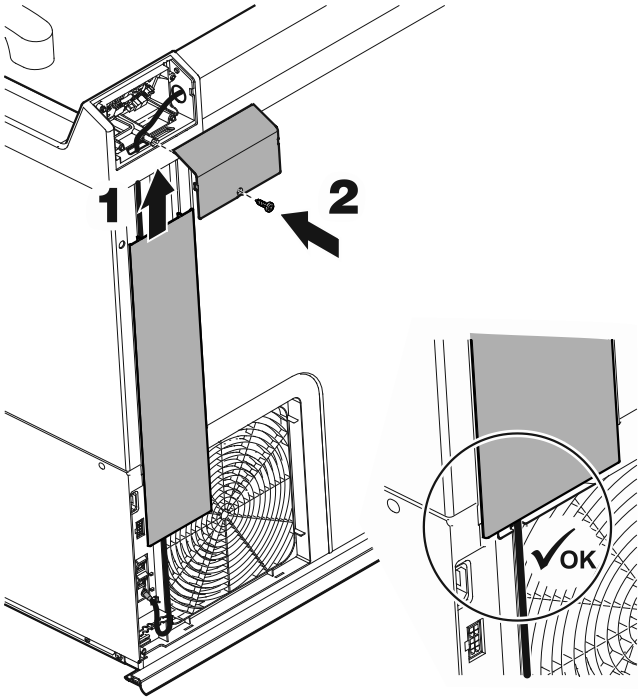
4. **Route the service interface through the opening from below into the operating panel housing and then through the right-hand housing opening.**



5. **Push in the remainder of the cable and place it behind the price label strip.**



6. **Fit the cable duct cover ensuring that the cable is in the guide below the cover.**
7. **Fit the operating panel cover and secure it with the screw.**



External alarm (floating alarm output)

It is possible to connect the appliance to an external alarm device.
Crimp contacts can be added to the light cable for this purpose.

Note

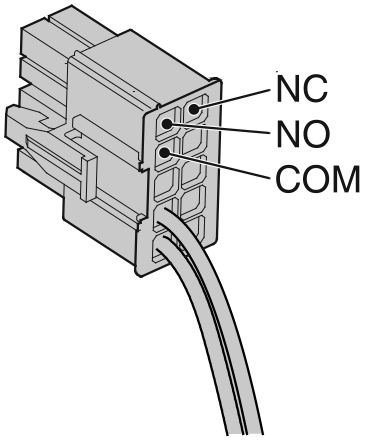
If there is no light cable (e.g. if the lighting is controlled via the network), a plug with crimp contacts is available separately, see "Accessories (optional)", page 6.

The contacts (NC, NO and COM) can be used to connect the appliance to an optical or acoustic alarm device.

The connector is designed for a maximum of 230 V AC/0 A or 24 V DC/5 A from a SELV (safety extra-low voltage) source (minimum current 150 mA).

Important

When supplying mains voltage to the floating alarm contact, the technical safety requirements of standard EN 60335 will not be satisfied.



1	NO	**6**	NC
2	COM	**7**	free
3	free	**8**	free
4	Light IN (bn)	**9**	DIGITAL IN 230 VAC
5	Light IN (bu)	**10**	DIGITAL IN (neutral)

NC operating light

Connection for a control lamp to indicate that the appliance is in normal mode.

COM external power supply unit

Maximum 230 V AC/10 A or 24 V DC/5 A
Minimum current 150 mA

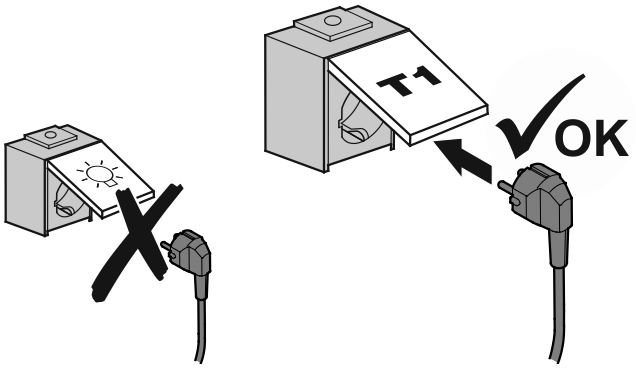
NO alarm output

Connection for a visual warning light or an acoustic alarm signal.

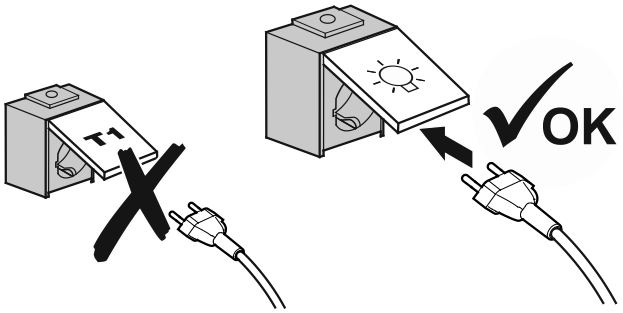
Connecting appliances

If separate circuits are used for lighting and cooling, the relevant sockets must be clearly labelled.

1. **Plug the mains plug of the power connection cable into the appropriate socket.**



2. **Plug the mains plug of the light cable into the appropriate socket.**

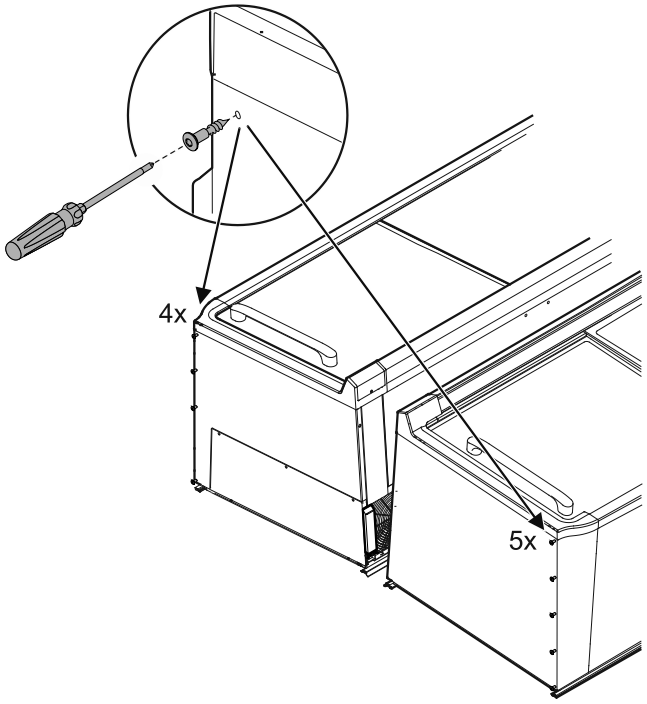


⚠ WARNING
If the mains plug of an appliance is accidentally placed into a lighting socket, when the circuit for the lighting is switched off (e.g. at night), the cooling function will no longer work and the food inside the appliance will be spoiled.

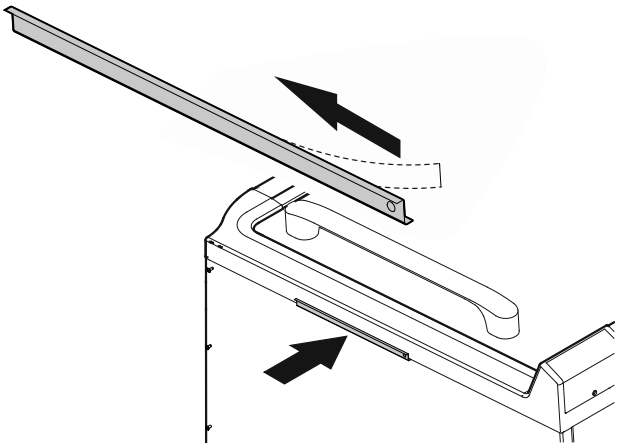
End-of-aisle appliance connection kit

To achieve an attractive connection of the end-of-aisle appliance to the block of appliances, fit the parts of the "End-of-aisle appliance connection kit" which is available as an accessory.

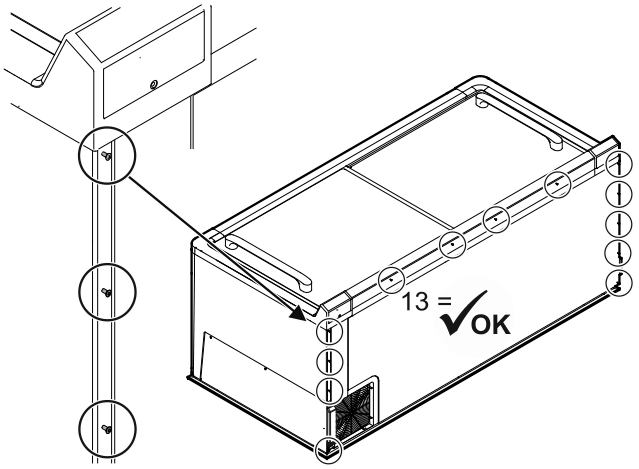
1. **Screw 9 assembly bolts into the block end appliances.**



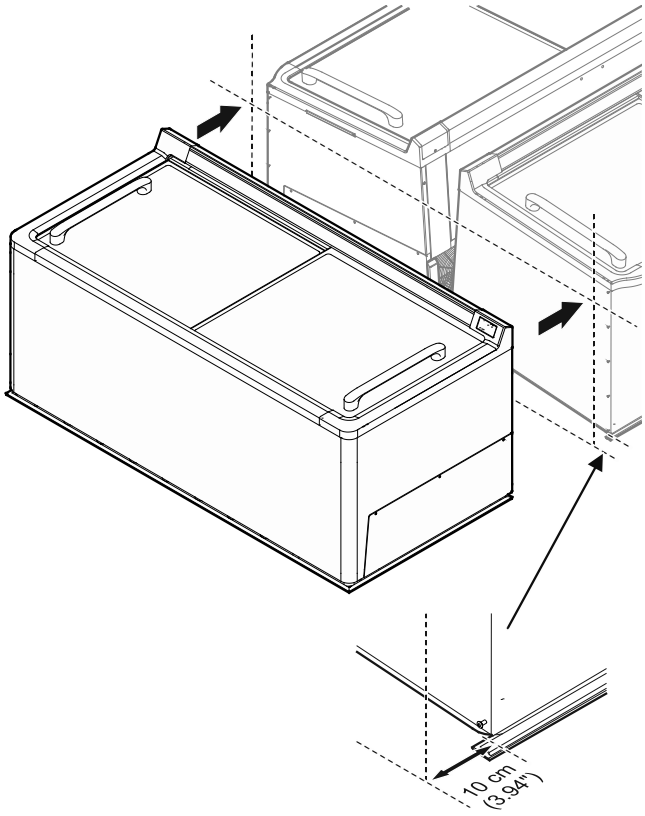
2. **Remove the backing film and affix the positioning brackets on the left-hand block end appliance as shown.**



3. **Check: 13 assembly bolts are pre-assembled on the rear of the end-of-aisle appliance.**

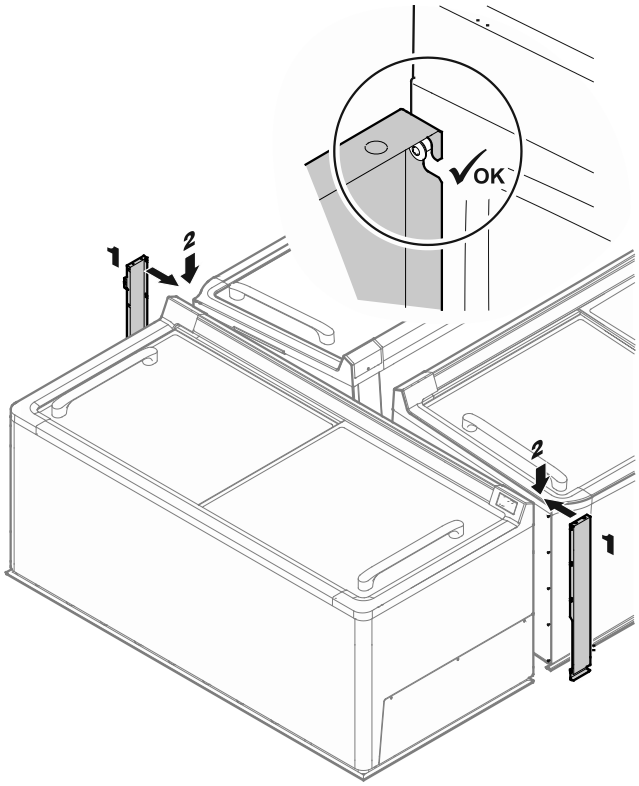


4. **Fit the protection strip to the rear of the end-of-aisle appliance, see "Fitting the protection strips", page 17.**
5. **If necessary, fit product plate holders (available as accessories), see "Product plate holders for end-of-aisle appliances", page 21.**
6. **Push the end-of-aisle appliance up to 10 cm (3.94") against the block end appliances.**

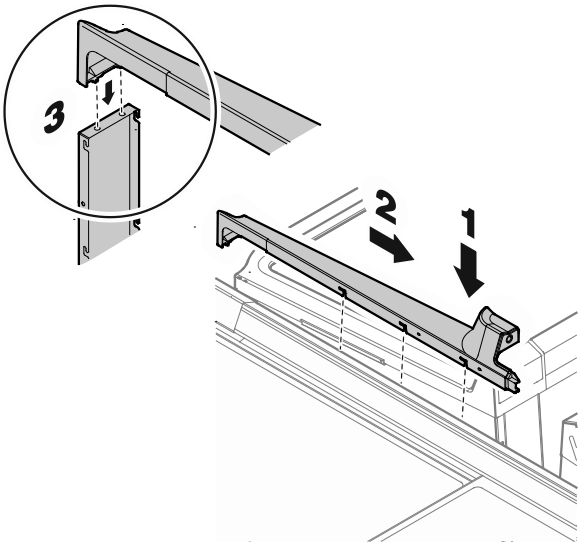


7. **Fit the end-of-aisle appliance connection kit.**

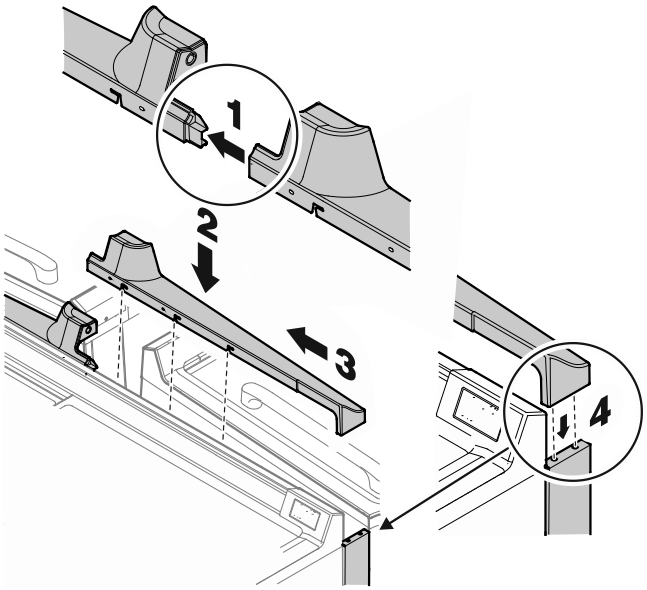
   Attach the side pieces to the assembly bolts on the block end appliances and on the end-of-aisle appliance, then press them downwards.



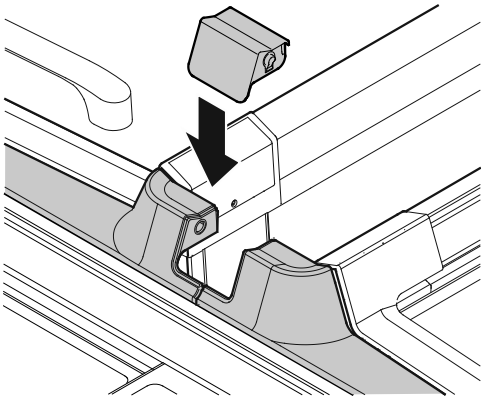
Insert the left-hand connection piece and attach it to the assembly bolts, slide it to the right and push the pins into the side pieces.



Insert the right-hand connection piece and connect it to the left-hand connection piece, then attach it to the assembly bolts, slide it to the left and push the pins into the side pieces.



Fit the cover.



Block completion with block end plates

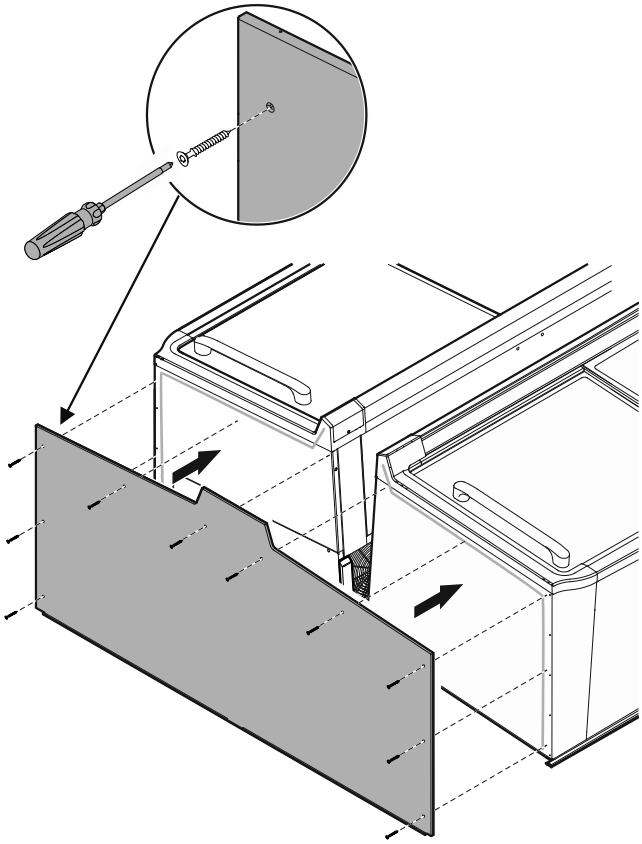
– Affix shaped foam tape to the block end appliances, see "Affixing shaped foam tape", page 10.

– Check the alignment and spacing:
Hold the block end plate to the block end and align it with the edges of the appliances. Move the appliances if necessary.

Single-piece block end plate

If there is a display unit above the appliance, no posts may project over the end of the block.

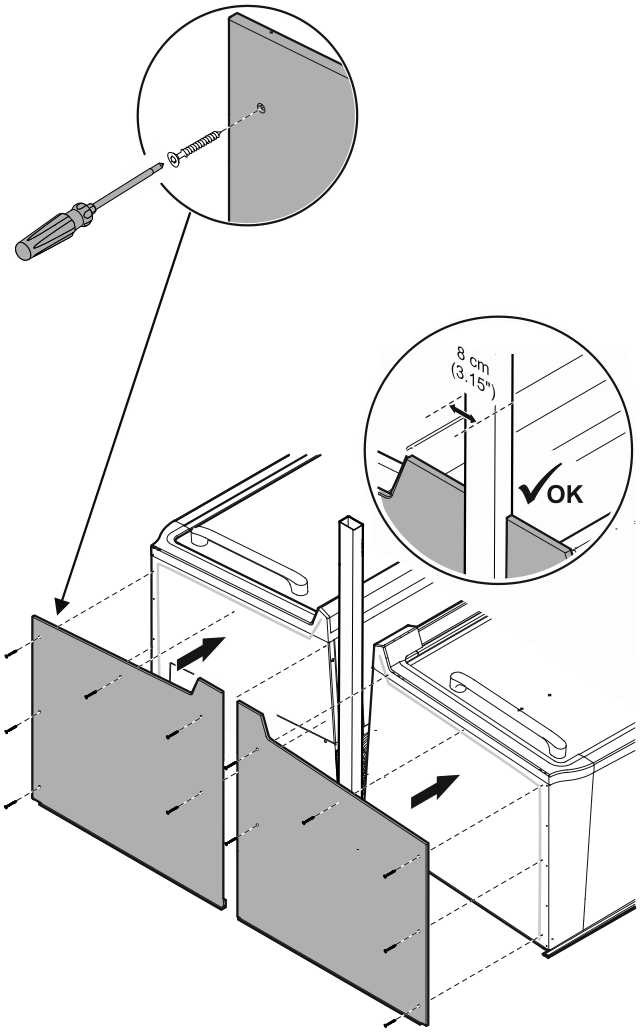
1. Secure the block end plate with 10 screws.



Split block end plates

The block end plates can be placed flush with the cable ducts (for power supply from above) or posts for a display unit above the appliances measuring 8 cm (3.15") in width.
If the posts are wider, the block end plates must be cut to size before being fitted.

1. Secure the left and right block end plates with 6 screws each.

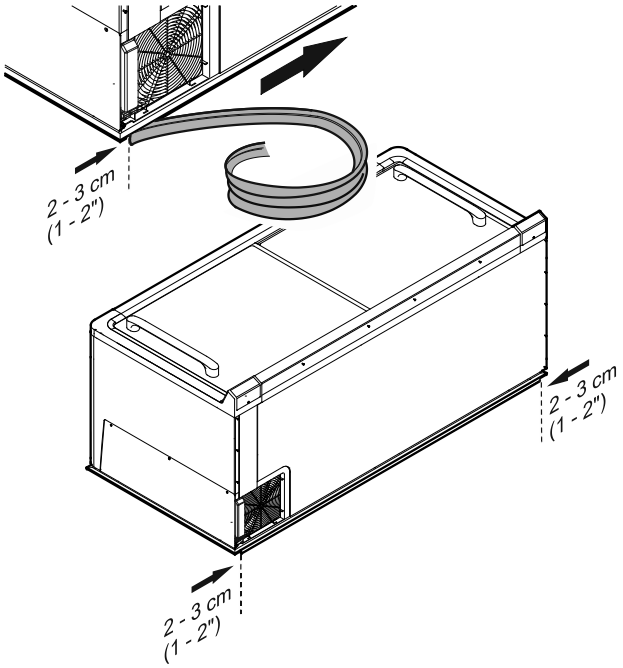


Fitting the protection strips

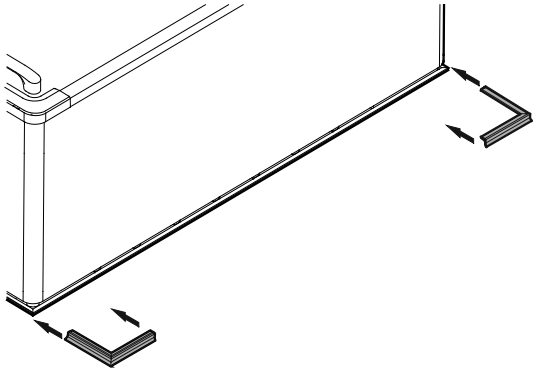
Individual appliances

End-of-aisle appliance (STE 11)

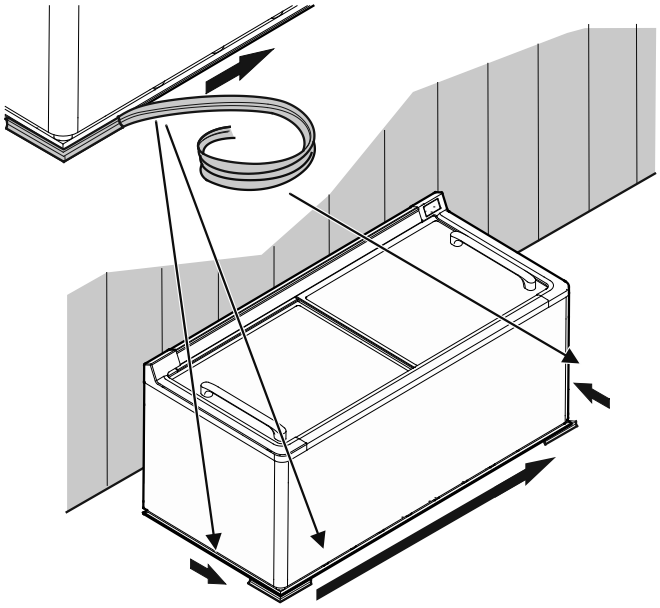
– Press the protection strip into the profile strip on the rear of the end-of-aisle appliance and insert it along its length, sliding it inward around 2 - 3 cm at the edges.



– Fit the protection strip corner pieces to the front of the appliance.

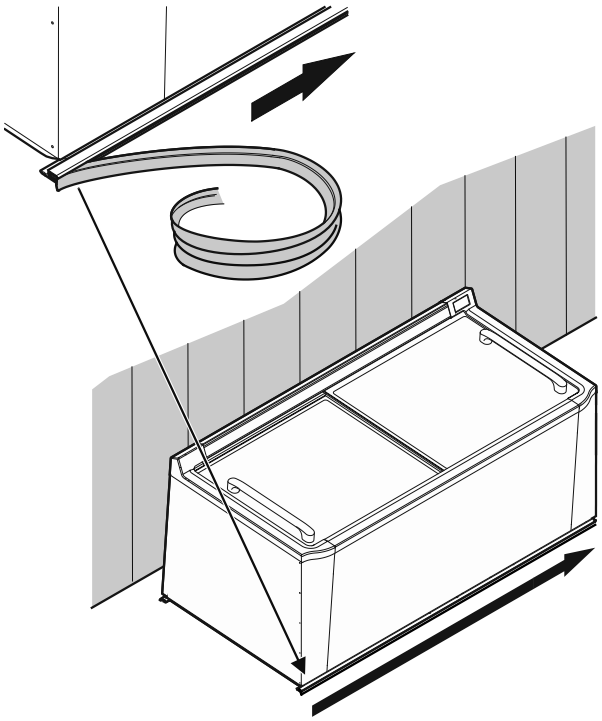


– Press in and insert the protection strip into the profile strips on the sides and front.



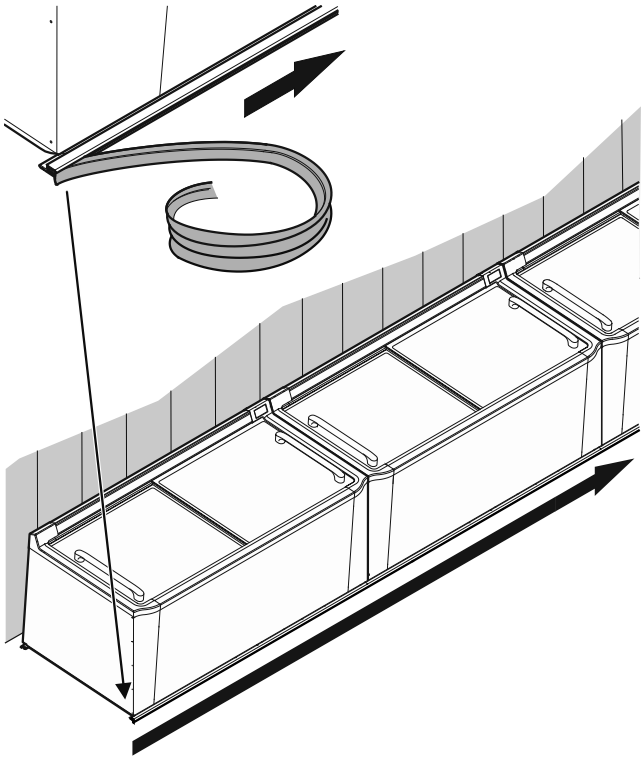
Longitudinal appliances (ST 11/SGT 11, ST 13/SGT 13)

– Press the protection strip into the profile strip on the front of the appliance and insert it along its whole length.



Row configuration

– Press the protection strip into the profile strip on the front of the first appliance and insert it along the whole length of the row.



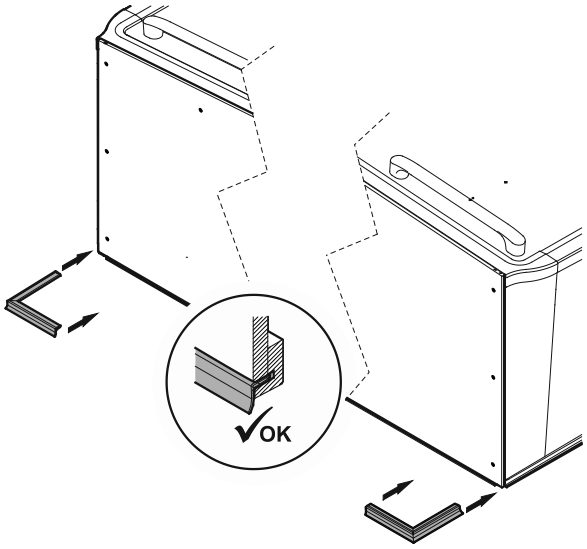
Block configuration

1. **Fitting the protection strip corner pieces**

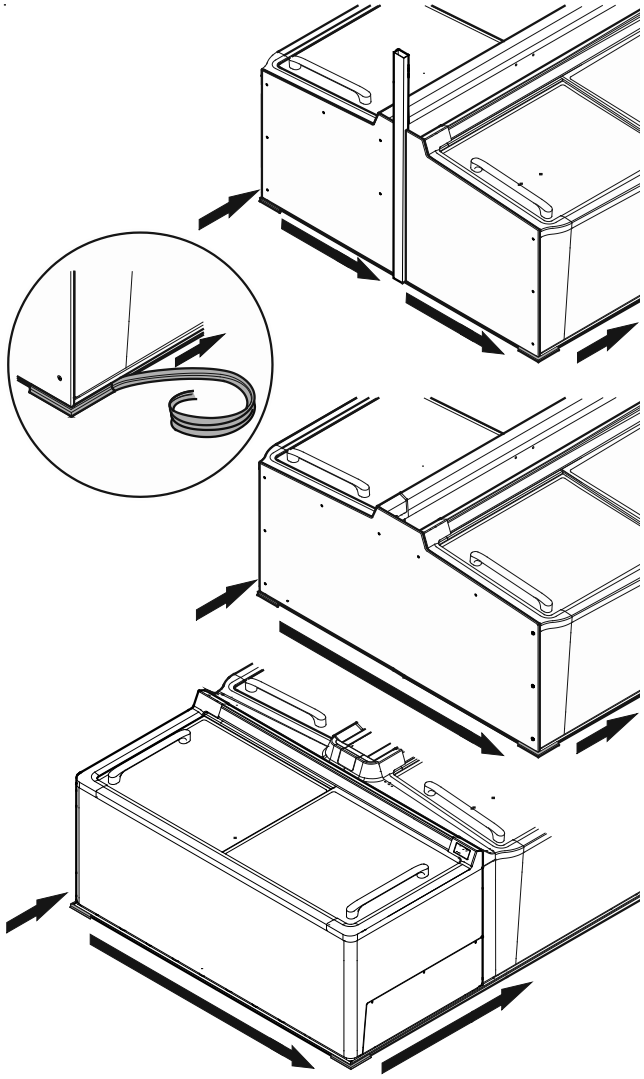
   A) Fitting the protection strip corner pieces on the end-of-aisle appliance

   See "Fitting the protection strips", page 17

   B) Fitting the protection strip corner pieces on the block ends



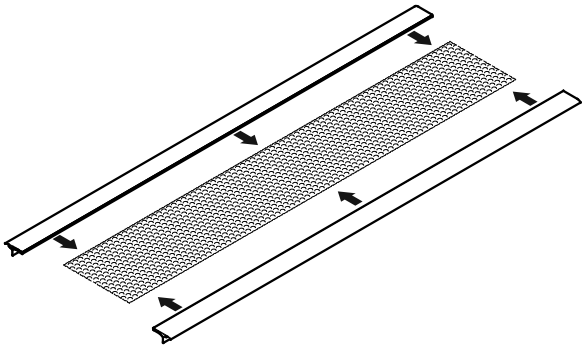
2. **Fitting the protection strip around the block**
   – Press the protection strip into the profile strips on the block end plates and the fronts of the appliances and insert it all around the block of appliances.



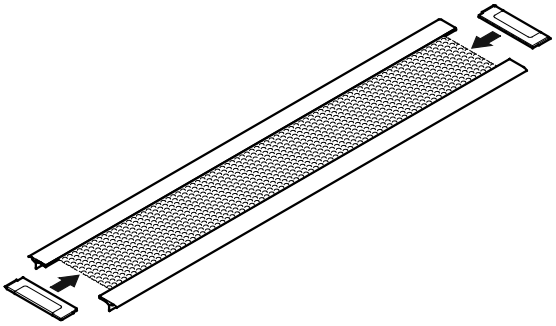
Fitting the cover

Assembling the cover

1. **Fit the profile strips to the longitudinal sides of the perforated metal plate.**



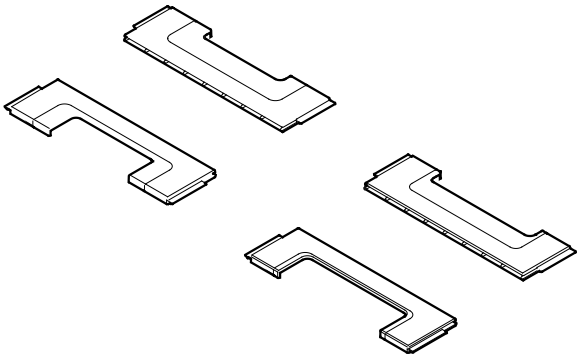
2. **Fit the cover pieces to the narrow sides of the perforated metal plate.**



Note

The cover pieces have a different cut-out pattern to match the posts for configurations with a display unit above the appliances.

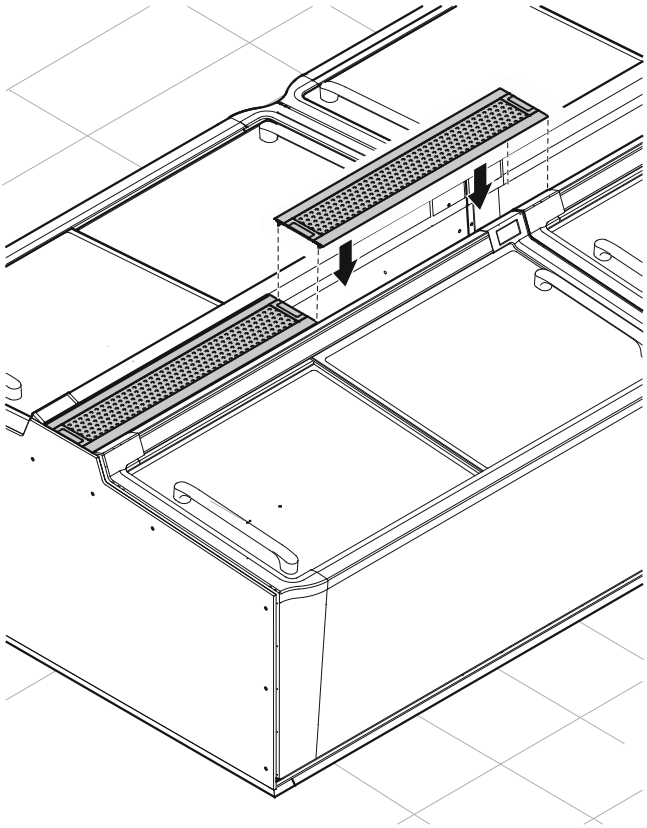
Examples of cover pieces with cut-outs:



Inserting the covers

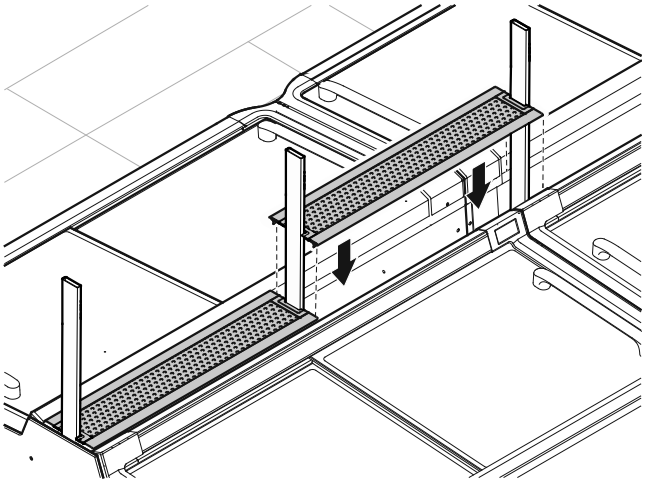
A) Configuration without a display unit above the appliances

Fit the covers in sequence.



B) Configuration with a display unit above the appliances

Fit the covers in sequence ensuring that the cut-outs match.



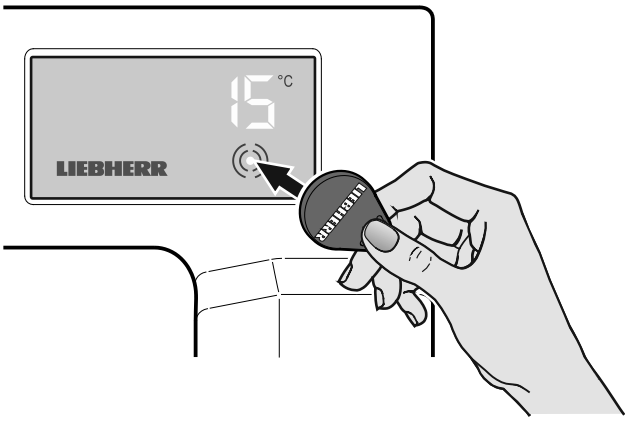
Note

Gaps which may be created at the block ends between the covers and the end-of-aisle appliances or the block end plates can be closed using a cover cut to the appropriate length.

Assigning addresses to the appliances

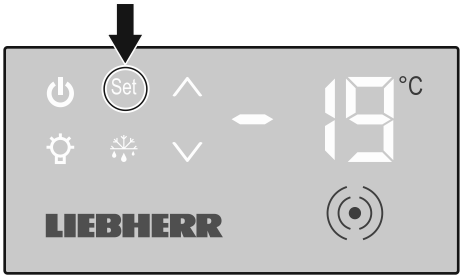
Enter the address (see "Addressing", page 5) on each appliance individually.

– Touch the activation point on the display with the RFID chip.



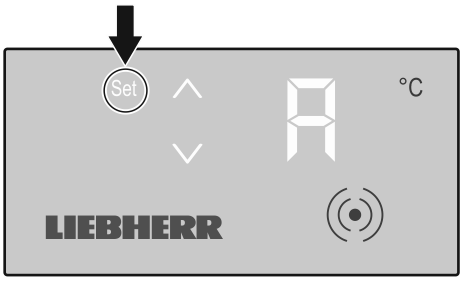
The **control menu will appear**:

– Press Set for approx. 5 seconds.



Menu A for entering the address will appear:

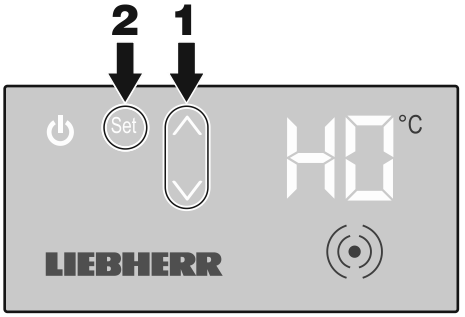
– Press Set briefly.



Menu H for entering the hundreds figure will appear; the relevant number will flash:

– Select the required value using ∧ ∨.

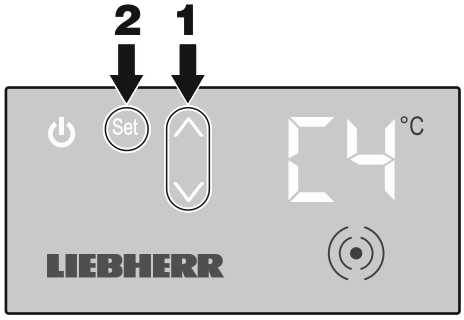
– Press Set briefly to confirm.



Menu C for entering the tens figure will appear; the relevant number will flash:

– Select the required value using ∧ ∨.

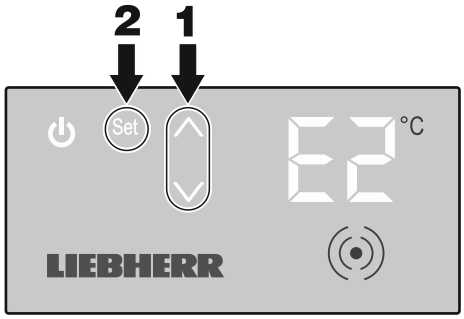
– Press Set briefly to confirm.



Menu E for entering the units figure will appear; the relevant number will flash:

– Select the required value using ∧ ∨.

– Press Set briefly to confirm.



The idle screen will appear:

Note

We recommend that the address of each appliance is noted or documented (e.g. an adhesive label on the rear of the appliance) to speed things up for service work.

Commissioning the appliances

Checks

– Test the lighting connections (if the circuits are separate): Remove the light fuses – all the appliances must be unlit. If this is not the case, the plugs on the appliances which are lit have been inserted in the wrong sockets, see "Connecting appliances", page 14.

– Check the appliance for correct functioning and correct temperature setting:
Test the various appliances to ensure that they function perfectly.
If any defects which cannot be rectified are found, please notify our customer service department.

– Check the addresses:
Check the settings of the appliances using the test tool.

Note

Remove the dirt caused by the installation, following the information in the section entitled "Cleaning" in the operating instructions.

This completes the installation work.

See the operating instructions of the relevant appliance for further information about operation.

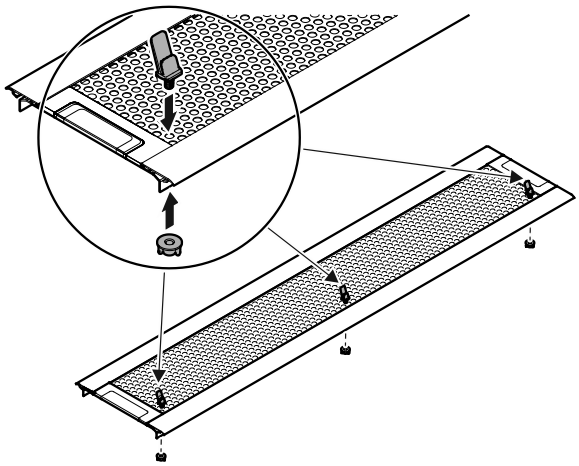
Fitting various accessories

Fitting product plate holders

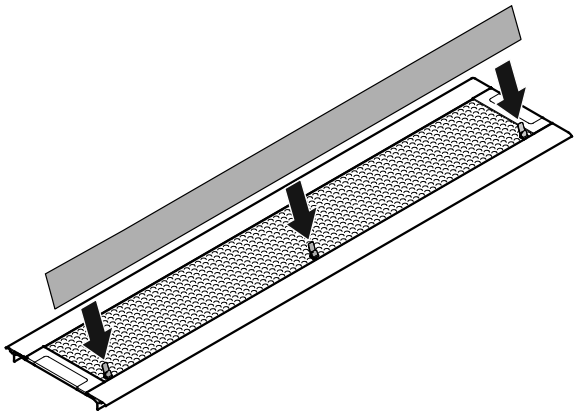
Product plate holders for longitudinal appliances

There are two product plates for each appliance. Each product plate must be held by 3 product plate holders to make them more stable.

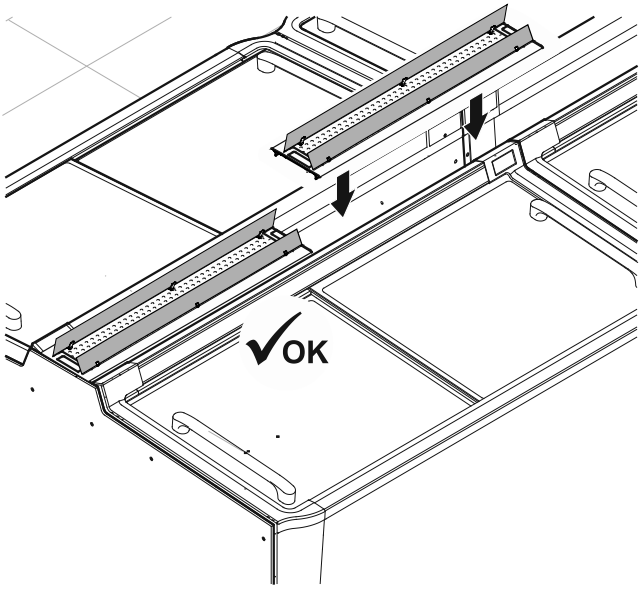
1. **Place 3 holders (angled) into the cover plate as shown and secure them with the wing nuts.**



2. **Place the product plates in the holders.**



3. **Also fit product plate holders on the opposite side if necessary.**
4. **Insert the covers.**

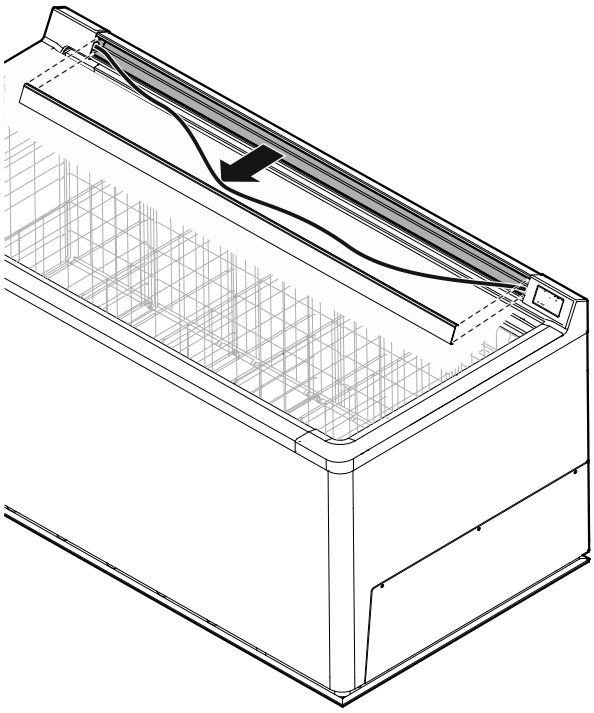


Product plate holders for end-of-aisle appliances

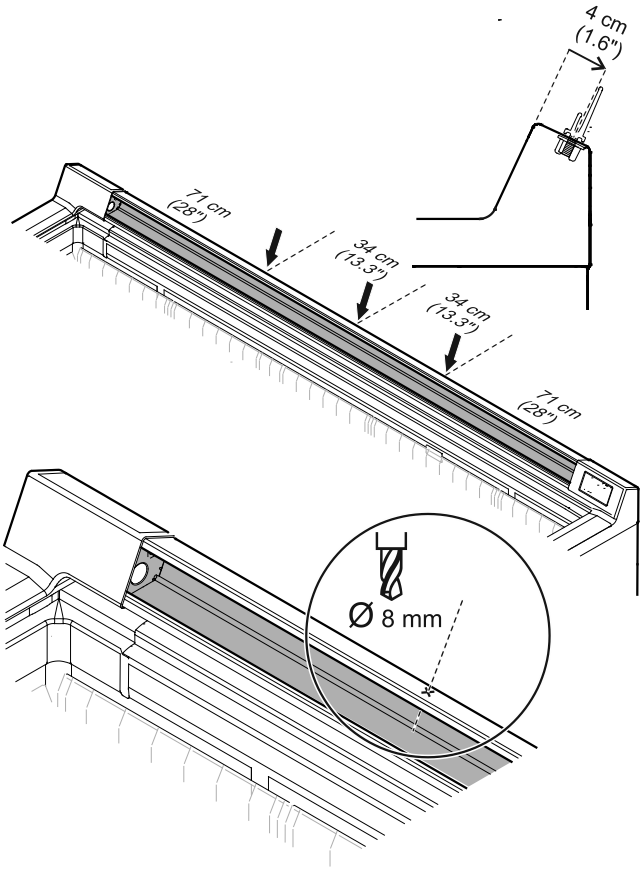
Pull out the mains plug before installation.

Remove the sliding glass lids before installation to prevent damage.

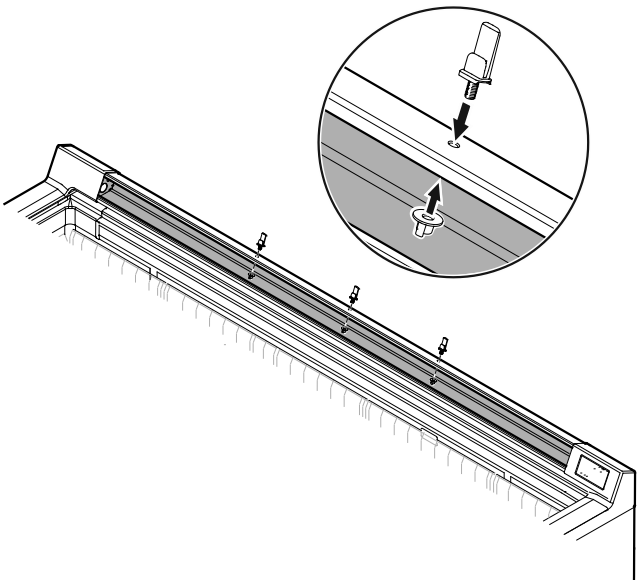
1. **Remove the price label strip, lay out the cable.**



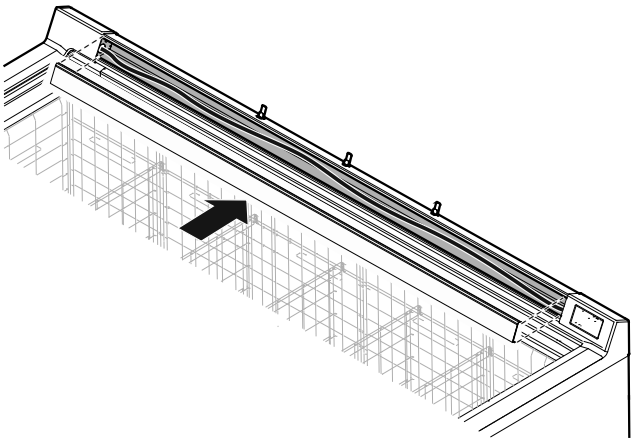
2. **Mark 3 evenly spaced holes 4 cm (1.6") from the edge and drill the holes with a diameter of 8 mm.**



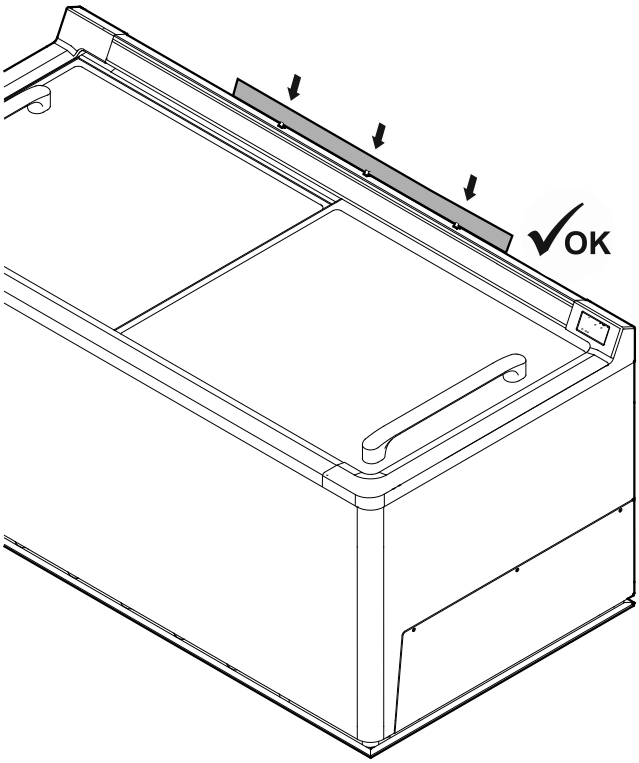
3. **Place the retaining parts in the boreholes and secure them with the wing nuts.**



4. **Place the cable back in the cable duct and refit the price label strip.**



5. **Place the product plate in the holders.**



Fitting the collision guard

Important

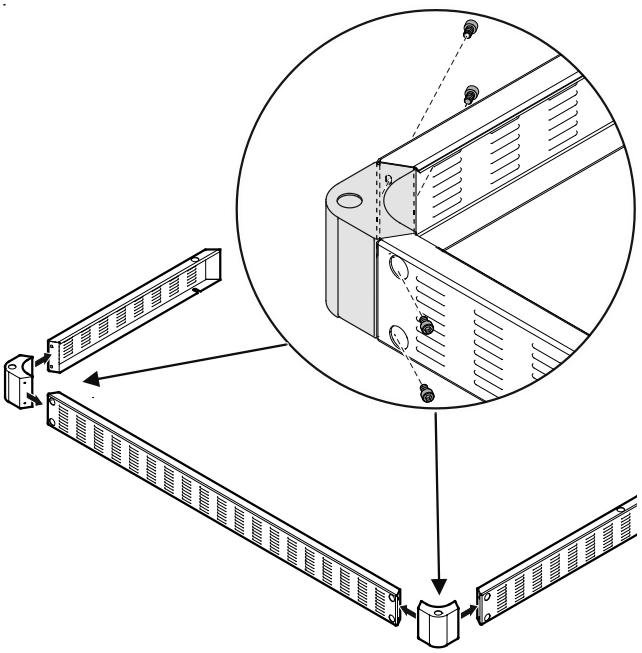
To insert the anchor bolts in the floor, approval must be obtained from a qualified body to drill holes in the floor. It must be ensured that no cables or pipes (e.g. underfloor heating) in the floor are damaged.

Important

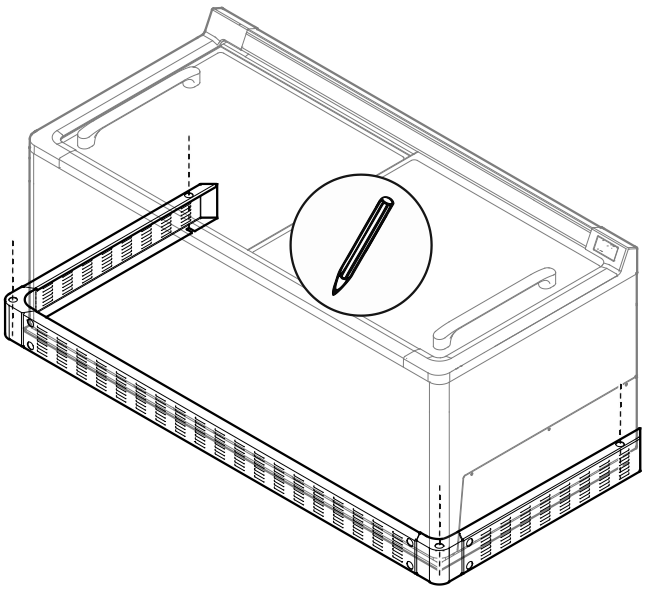
The air outlet must not be blocked by the collision guard. A **ventilation cross-section of at least 500 cm²** is required in this zone.

Block completion with end-of-aisle appliance

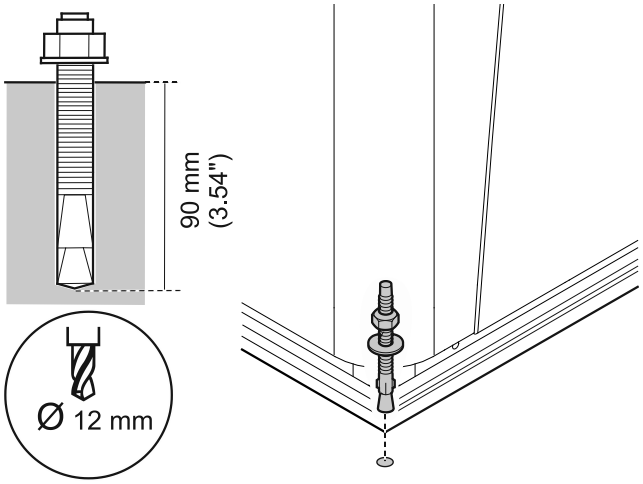
1. **Screw the corner pieces to the front piece and side pieces.**



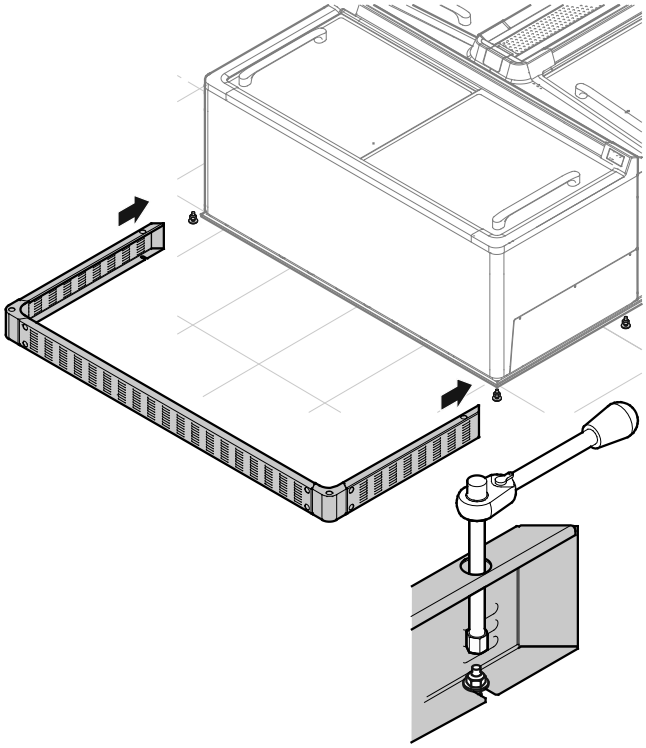
2. **Mark the position of the anchor bolts on the floor.**



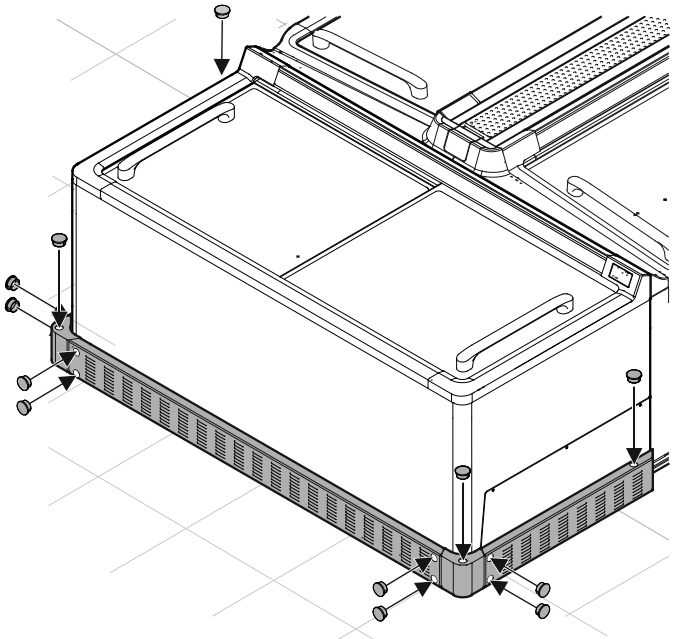
3. **Drill the holes and fit the anchor bolts.**



4. **Hook the assembled parts to the anchor bolts and tighten the nuts.**

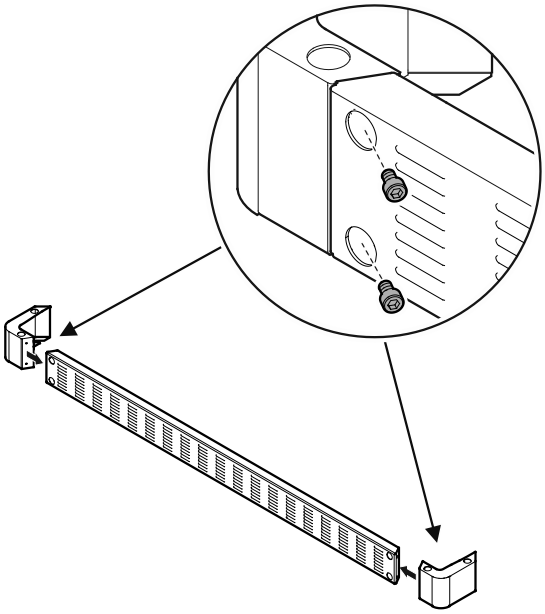


5. **Fit the protective stoppers.**

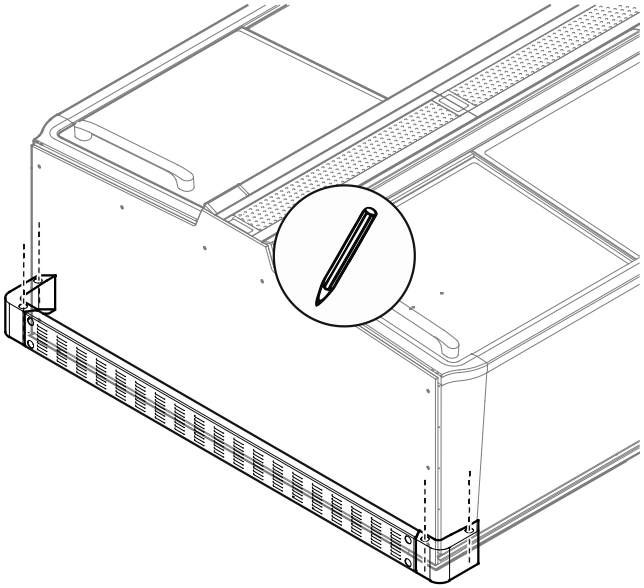


Block completion with a block end plate

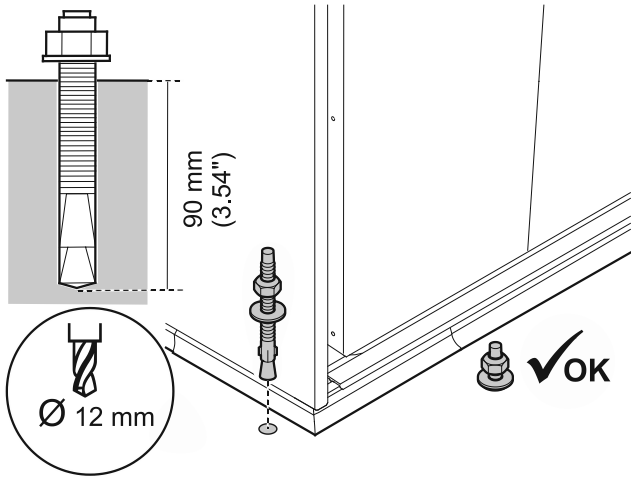
1. **Screw the corner pieces to the front piece.**



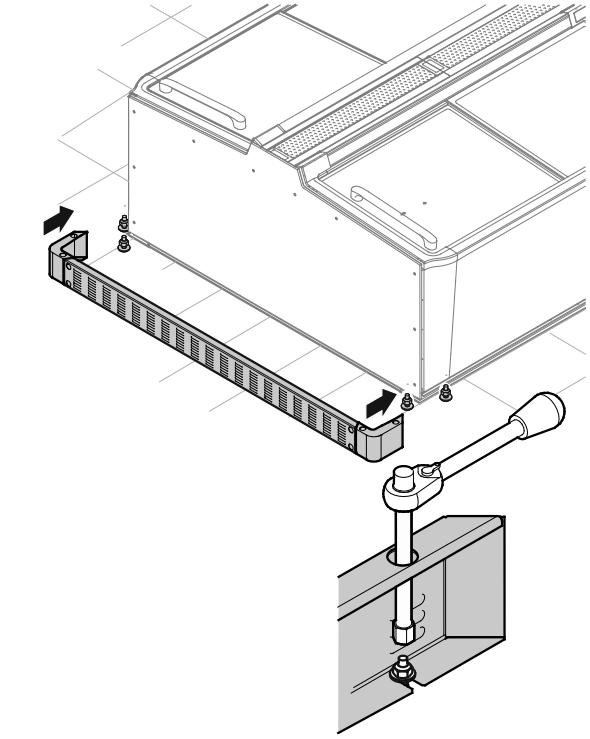
2. **Mark the position of the anchor bolts on the floor.**



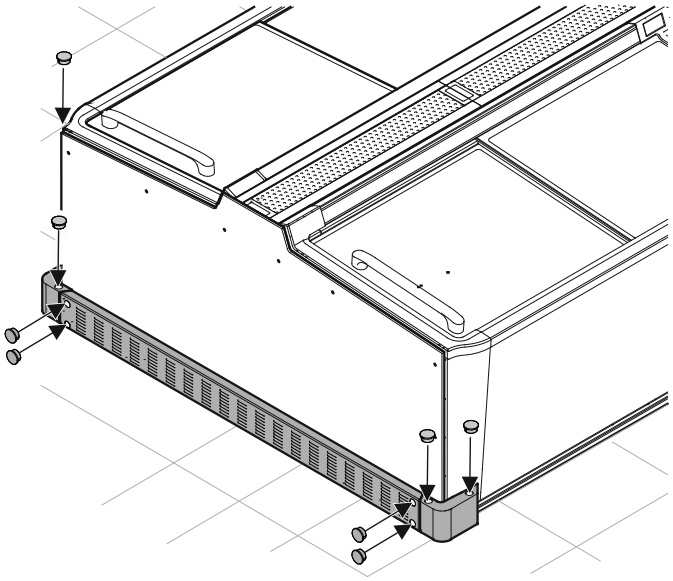
3. **Drill the holes and fit the anchor bolts.**



4. **Hook the assembled parts into the anchor bolts and tighten the nuts.**



5. **Fit the protective stoppers.**



Technical data

	Longitudinal appliance				End-of-aisle appliance
	2.50 m		2.10 m		2.10 m
Operating mode	Freezing	Switch-over	Freezing	Switch-over	Freezing
Description	SGT 1322	ST 1322	SGT 1122	ST 1122	STE 1122
Overall electrical data (including LED lighting)					
Rated voltage Frequency	220-240 V 50 Hz	220-240 V 50 Hz	220-240 V 50 Hz	220-240 V 50 Hz	220-240 V 50 Hz
Rated power consumption	800 W	800 W	800 W	800 W	800 W
Rated current	4.5 A	4.5 A	4.5 A	4.5 A	4.5 A
Compressor system inverter (frequency converter)	Yes	Yes	Yes	Yes	Yes
Fuse on each appliance	RCBO 10 to 16 A Characteristic B, C	RCBO 10 to 16 A Characteristic B, C	RCBO 10 to 16 A Characteristic B, C	RCBO 10 to 16 A Characteristic B, C	RCBO 10 to 16 A Characteristic B, C
Length of mains cable	2.50 m	2.50 m	2.50 m	2.50 m	2.50 m
Interface	CAN bus	CAN bus	CAN bus	CAN bus	CAN bus
Electrical data for LED lighting					
Rated power consumption	48 W	48 W	40 W	40 W	40 W
Rated current	4 A	4 A	3.4 A	3.4 A	3.4 A

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