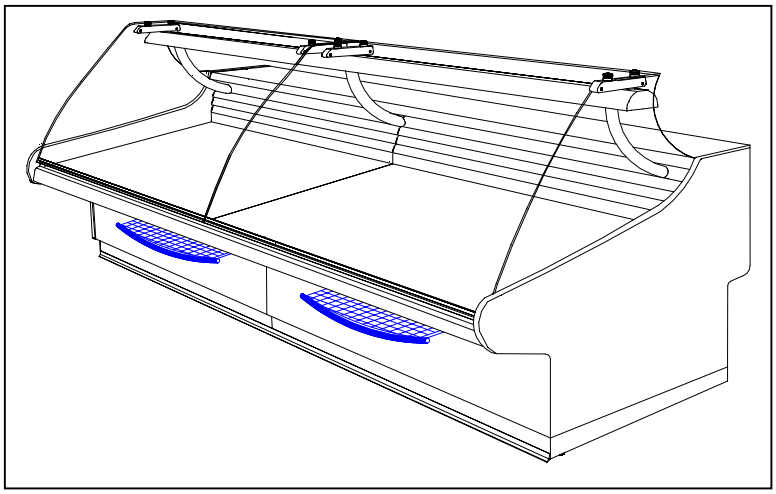
smeva



Vision

INSTALLATION AND SERVICE MANUAL

versie 01-1999

(GB) IMPRINT

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CONTENTS

WARNINGS!

PLEASE READ THIS MANUAL BEFORE STARTING THE INSTALLATION..

- Check that all components have been delivered and inspect for damage.
- Check all packages and make sure there are no components in them before disposing of them.
- Fastening material such as connecting plates, screws, cement and the like is supplied in a separate box.
- Provide the necessary tools (see also the relevant chapters for further details).
- Before starting the installation, check that all lines and cables are properly and safely shut off (electricity, water, etc.).
- By law, service and maintenance of the refrigeration system must be performed by a qualified engineer and must comply with the standards and laws applicable in the country in question.
- Coils are supplied under nitrogen pressure. Make sure the nitrogen pressure has been relieved before the pipes are opened (see warning label).
- Follow the instructions indicated and displayed (manuals, stickers, etc.).

SERVICE PERSONNEL SHOULD READ THIS MANUAL BEFORE USING THE MARCHANDISER.

- If the panes are used:

  - Panes should always be lifted in the centre, otherwise they may warp and/or the adjoining pane(s) or gable end(s) may be damaged.
  - Guide the panes to their limit positions.
  - Do not force the panes beyond their limit positions.
  - Do not allow them to drop closed or open.

Remember that panes are breakable and must be handled with due care!!!!

- Warn your customers not to lean on or against the glass.

- Do not allow children to be placed on or stand on the bag ledge or bumper. This puts pressure on the panes and may cause them to break.

- WHEN CLEANING THE MERCHANDISER DO NOT OPEN AND LEAVE OPEN ALL PANES AT ONCE!

  This places far too much pressure on the cover construction and may cause it to warp, which in turn may result in the panes breaking!
  Only open every second pane!!!!

- Cleaning:
  BEFORE CLEANING, ALWAYS TURN THE COOLING SYSTEM'S ON/OFF SWITCH ON THE CONTROL PANEL TO THE "OFF" POSITION!!!!

  - Do not spray onto the fans! (Behind the inlet grille)
  - Do not spray onto the control panels!
  - Do not spray onto the lighting track!
  - Do not spray onto lower cooling section machinery!
  - Do not spray into service compartments!

The most important points to watch out for when the merchandiser is being cleaned are also displayed on a warning sticker. This sticker is located on the serving side of the merchandiser. An example of the sticker is shown below.

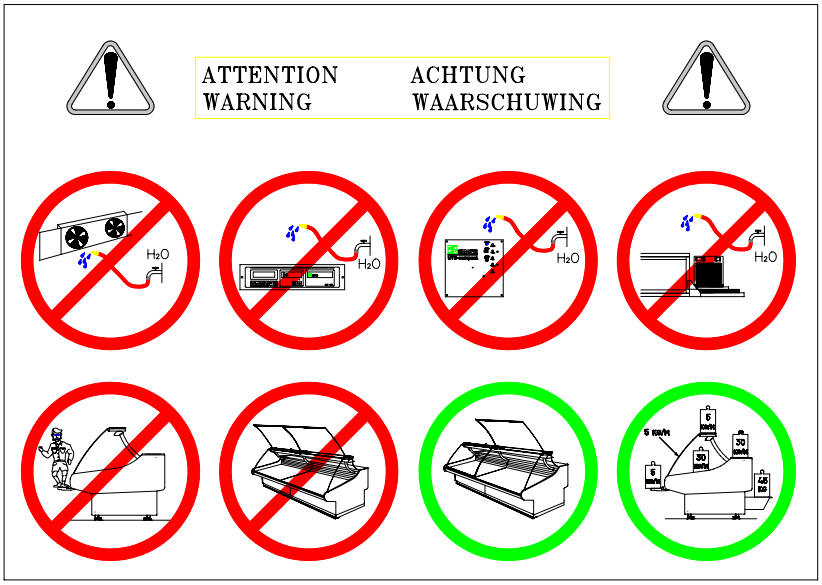


Figure 1

- Connections:

  All merchandiser connections, such as for electricity, water supply and drainage and cooling pipes must be connected by qualified staff.
  This is required by various laws.
  The system must also be put into operation by qualified staff.

As the manager you are legally obliged to ensure that the (STEK) logbook is completed.

- Stickers: The stickers attached to the merchandiser must not be removed.These are stickers for:

  - Identifying the merchandiser (manufacturer/serial numbers, etc.)
  - Warning stickers
  - Stickers referring to the statutory standards (STEK regulations, compression pressures/refrigerant type, etc.)
  - Stickers with mounting instructions
  - CD marking stickers
  - Stickers in the form of machine plates (see chapter on Product Identification)

The units meet the latest standards, requirements and guidelines:

- statutory (STEK) regulations
- EC machinery guidelines

N.B. In conformance with the European guidelines (STEK regulations), the built-in coils are compressed with nitrogen and supplied under some nitrogen overpressure.

1 UNLOADING THE MERCHANDISER SECTIONS

The merchandiser is delivered on supporting beams in maximum lengths of 600 cm. Longer lengths are split into two or more sections, depending on the length of the merchandiser in question. One or more fastening operations will have to be carried out during installation, depending on the layout, angles and the overall length of the merchandiser. The merchandiser is delivered on wooden beams (see figure 2) so that it can be moved more easily and conveniently and so as to prevent any damage from being done.

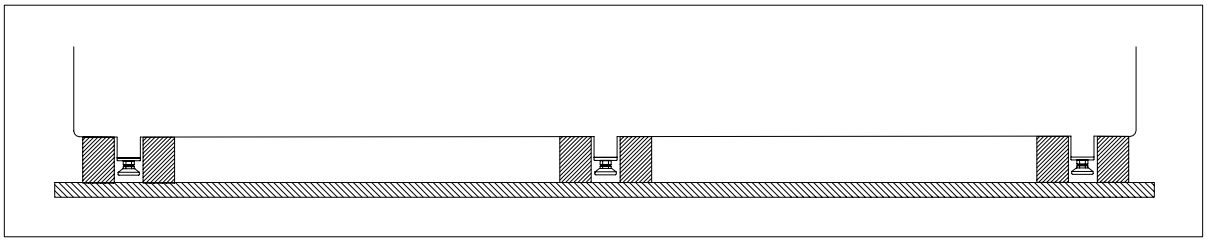


Figure 2

1.1 Unloading

The merchandiser is unloaded from the lorry by means of a fork-lift truck or, if none is available, a high-lift truck in combination with the lorry's unloading flap. Note: the fork-lift truck and the high-lift truck must of course be capable of bearing the weight of the merchandiser sections (check the maximum lifting weight!).

Note: When unloading, be aware of others' and your own safety. Place marking signs on the road (warning triangle, warning signs, etc.) or arrange for someone to warn other road users.

Rollers or trolleys are placed under the wooden beams and the merchandiser and/or merchandiser sections are carried on them to approximately the place where they are needed (see figure 3).

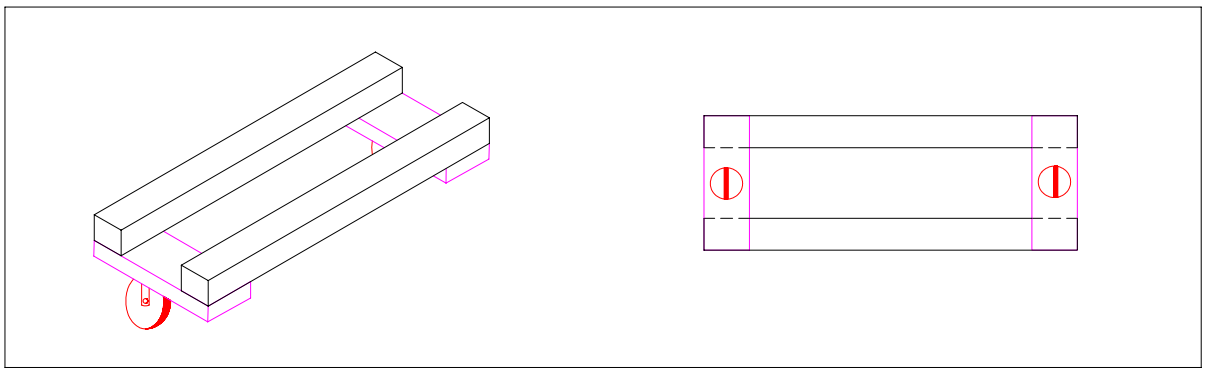


Figure 3

These trolleys are easily put in place and then removed using the following tools:

- a rack-and-pinion jack (see figure 4).

The rack-and-pinion jack is used for raising the merchandiser so that the trolleys can be placed under it. The rack-and-pinion jack, in combination with the trolleys, is particularly suitable for use in confined spaces where there is not enough room for a fork-lift truck or pallet truck..

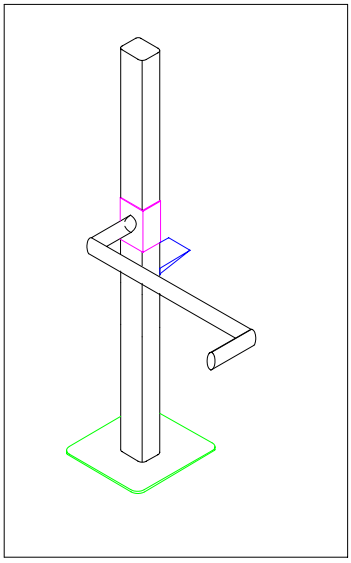


Figure 4

- a bracket (see figure 5).

The bracket is slid into two steel tubes which are mounted below the merchandiser. With this bracket the merchandiser can easily be raised, for example using the rack-and-pinion jack, without damaging the merchandiser.

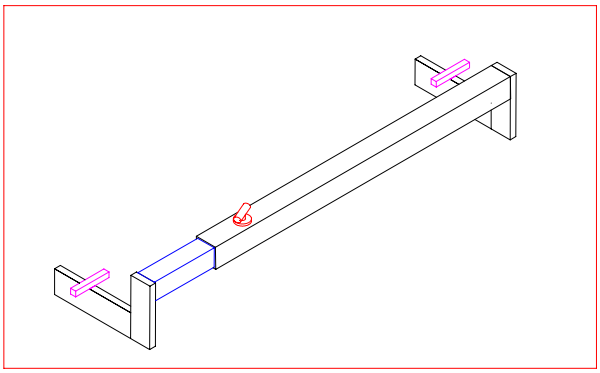


Figure 5

When the merchandiser is at approximately the place where it is needed, remove the trolleys or the rollers one by one from under the merchandiser (for example by means of the rack-and-pinion jack). Then remove the wooden beams.
After the beams have been removed the merchandiser is supported on adjusting legs. The merchandiser is then placed in its final position and levelled using the extendible adjusting legs, this affects the height of the worktop. Do not set the counter unnecessarily high, but take into account the course of the floor before starting the setting operation.

1.2 Levelling

The next step is to level each section and then fasten it to the previous merchandiser section (see chapter entitled "Connecting the merchandiser"). Make sure that the merchandiser remains in the correct position with regard to the back wall and any cove lighting.

Once several merchandiser sections have been fastened, check that they are all still level and in line. The merchandiser sections can move as a result of the fastening and adjusting operations, particularly in the case of angle sections, **so check**.

WARNING:

If the merchandiser has to be moved after the supporting beams are removed, all lock nuts on the adjusting legs must be tightened.

When the merchandiser is in its final position and has been levelled, all lock nuts on the adjusting legs must be secured. This is necessary to ensure stability.

Levelling is **only** possible at the following places on the merchandiser:

1. For the longitudinal direction of the merchandiser:
    - on the longitudinal bars of the support frame (see figure 6).

2. For the transverse direction of the merchandiser:
    - on the longitudinal bars of the support frame (see figure 6).

A) Levelling in the longitudinal direction
B) Levelling in the transverse direction

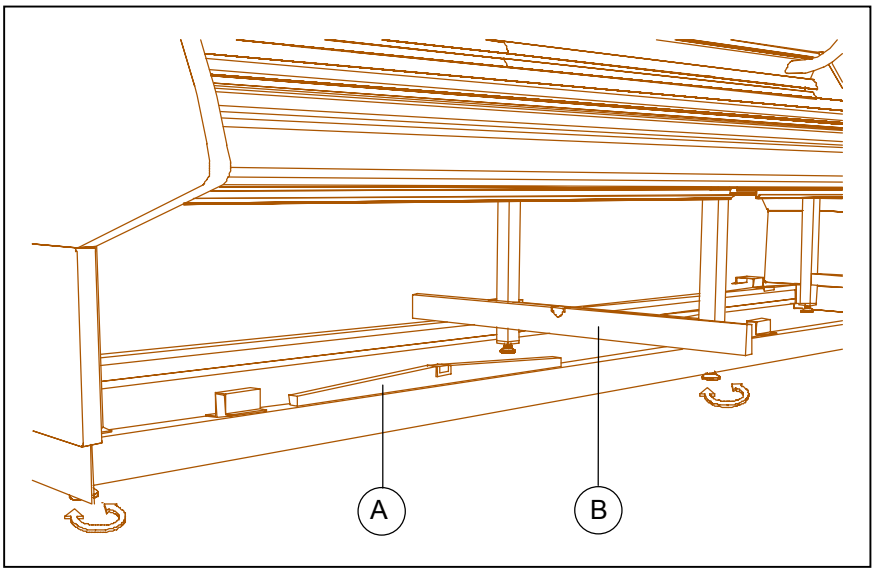


Figure 6

2 CONNECTING THE MERCHANDISER SECTIONS

2.1 Furniture-related connection of the merchandiser sections

With the first merchandiser section in position, degrease and apply primer to the ends of both the shell and the step decks of the two merchandiser sections. Then apply cement to one section (transparant silicon cement for the shell and grey assembly cement for the step decks).

2.2 Cementing instructions for connecting the Vision

The procedure for connecting the following components of the Vision is described below:

- gable end-shell assembly
- shell-shell assembly

2.2.1 Gable end-shell assembly

1. Using a solvent, clean the surface of the shell (A) and the gable end (B) to be cemented (see figure 7). Allow the solvent to evaporate for 30 minutes!!

2. Apply crêpe tape (D) 1 mm outside the radius of the plate (press firmly!). See figure 7.

A) Shell
B) Gable end
C) Cold plate
D) Crêpe tape
E) Finishing strip
F) Screw
G) Cement

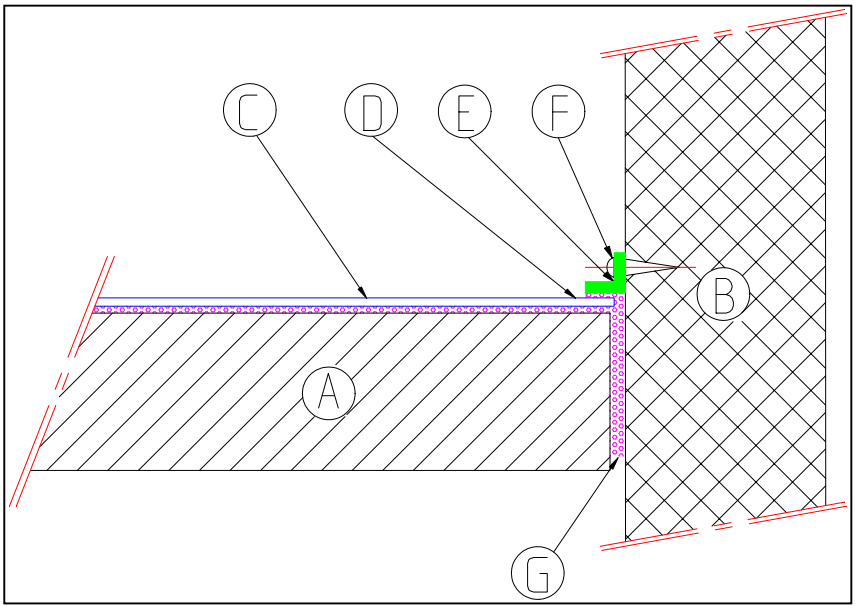


Figure 7

3. Apply primer (Puraflex 5008) to the sides to be cemented, see figure 7, shell edge (A), gable end (B) and the finishing strip for connecting the Vision gable end (E). Allow the primer to dry for 20 minutes.

4. Seal the joint with grey assembly cement (0073834) and fit the angle strip as shown in figure 8 (point C) and figure 7 (point G). Remove excess cement with a rubber skimmer.

When applying the cement, pay particular attention to the following points:

- apply it in a continuous line to the top of the joint
- vertical lines are then applied at intervals of approx. 5 cm. The bottom of these lines is left open!

This method of cementing on the ends of the merchandiser sections is necessary to prevent inclusions of air from developing, which may cause leakage after the fastening operation, see figure 8 (point D).

A) Cold plate
B) Shell
C) Cement
D) Inclusions of air

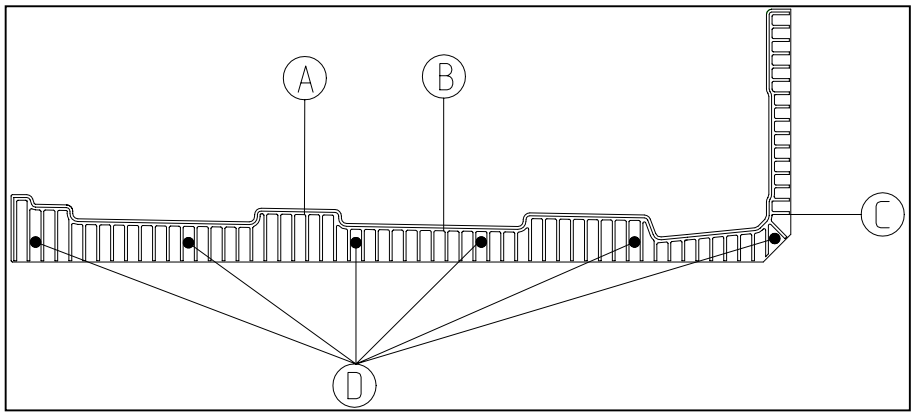


Figure 8

5. Carefully remove crêpe tape after cementing.

2.2.2 Shell-shell assembly

1. Apply crêpe tape (see figure 9, point F) 1 mm outside the radius of the shell and strip (press firmly!).
2. Apply primer (Puraflex 5008) to the sides to be cemented (shell joint and strip). Allow the primer to dry for 30 minutes.

A) Shell
B) Trestle
C) Stainless steel step deck
D) Connecting plate
E) Cement
F) Crêpe tape

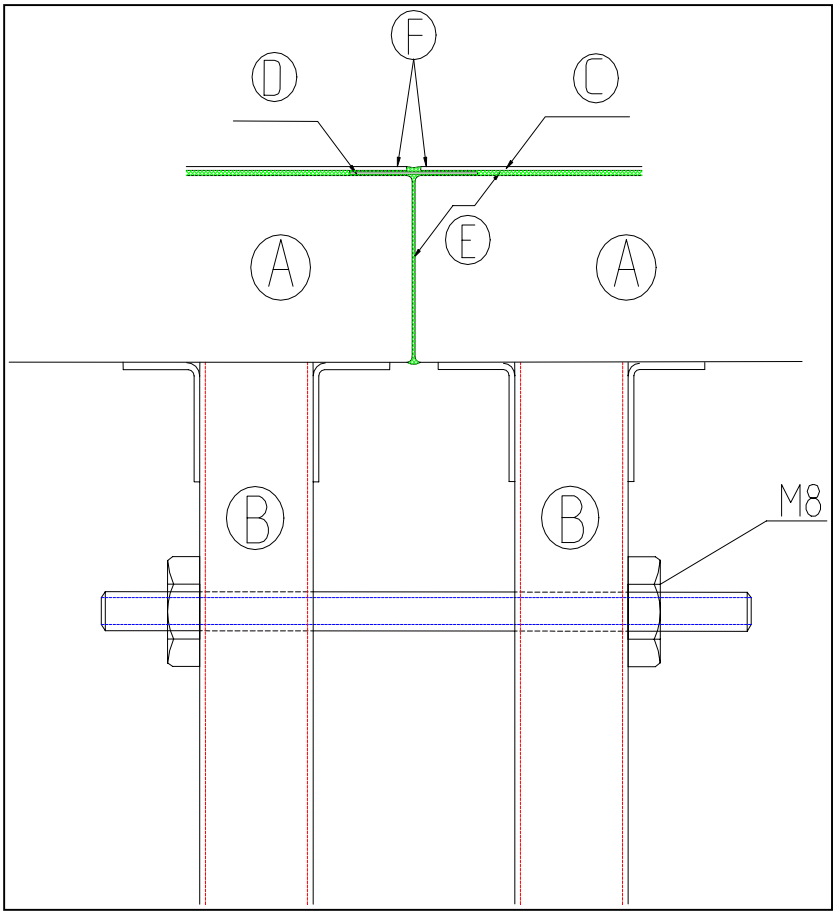


Figure 9

3. Apply grey assembly cement (0073834) to shell and strip as shown in figure 9 and figure 10. Remove excess cement with rubber skimmer.

When applying the cement pay particular attention to the following points:

- apply it in a line to the top of the joint, see figure 10
- vertical lines are then applied at intervals of approx. 5 cm. The bottom of these lines is left open, see figure 10!

A) Cold plate
B) Shell
C) Cement

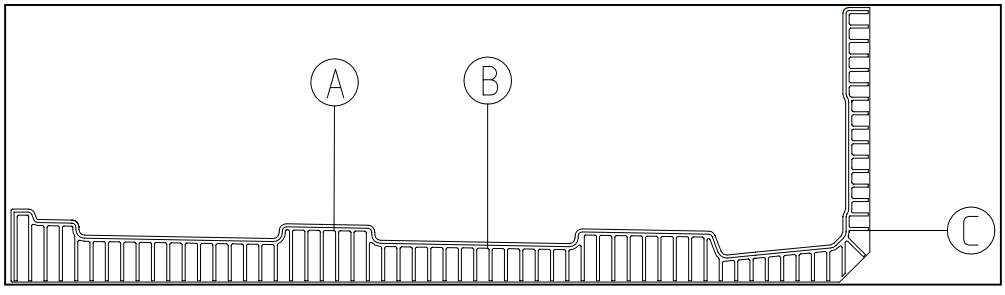


Figure 10

This method of cementing on the ends of the merchandiser sections is necessary to prevent inclusions of air from developing, which may cause leakage during the fastening operation.

4. Carefully remove crêpe tape after cementing and skimming.

2.2.3 Connection

Now position the next merchandiser section to be connected as close as possible to, though not touching, the previous merchandiser section and provisionally adjust it.

Then slide the second merchandiser section up against the first section and press them together. Insert the joining bolts in the holes provided for them and tighten the nuts, see figure 11 and figure 12. The merchandiser sections must not be pulled together by means of the joining bolts, as this could warp the trestles. The fastening operation can be simplified by pulling the merchandiser sections together using gluing clamps. When doing this, take care not to damage the sections.

A) Joining bolt
B) Nut

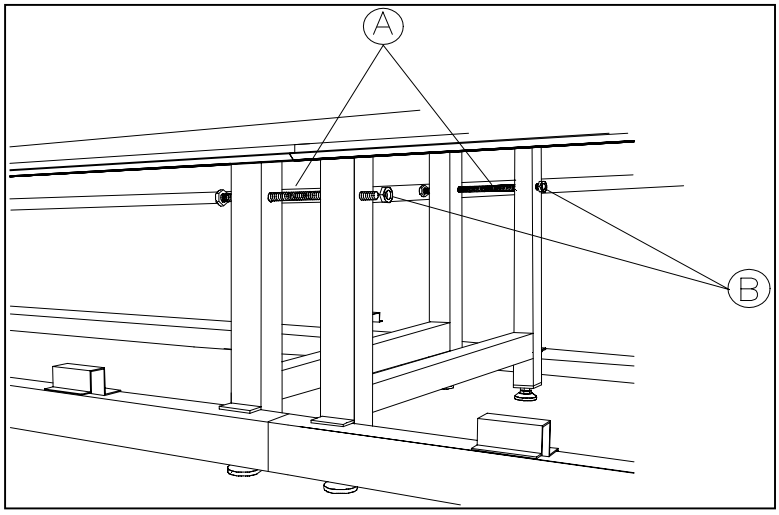


Figure 11

The connection method used for the joining bolts shown in figure 11 also applies to the two joining bolts, see figure 12.

A) Fastening ports
B) Sanitation connection

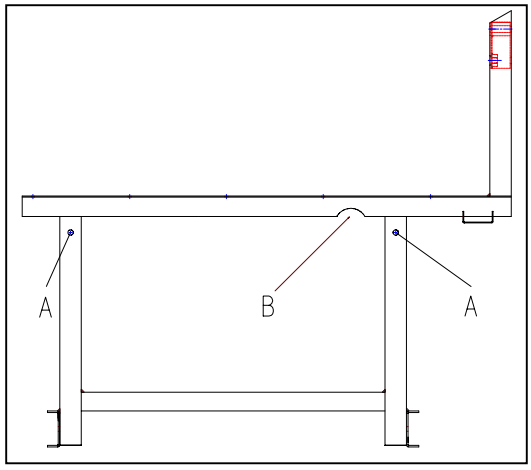


Figure 12

2.3 Refrigeration connection of the merchandiser sections

Every merchandiser section up to a maximum of 5 metres has its own expansion valve. The length of 5 metres applies to R404A. For R134a a maximum of 3 metres per expansion valve is applied.

The cooling pipes belonging to the various merchandiser sections valve are coupled together in the merchandiser support frame.

The cooling pipes belonging to the merchandiser sections (i.e. the fluid and suction pipes) are coupled together at the front or rear of the merchandiser, behind the decorative panels. These pipes are fitted with a filler nipple and a warning sticker (in 4 languages) and the pipes are under nitrogen pressure.

Note: When cutting through the pipe, **first** relieve the nitrogen pressure by means of the filler nipple provided. The pressure demonstrates that the system is gas-tight. In the case of a multiplex unit, both valves must first be electrically energised.

2.4 Electrical connection of the merchandiser sections

The electrical connections are made by means of cables with pre-fitted connectors, see figure 13. These are located near the connection joints behind the decorative panels at the front and/or rear of the merchandiser, depending on the particular version.

These connectors only fit together in one way, so it impossible to make the connections incorrectly.

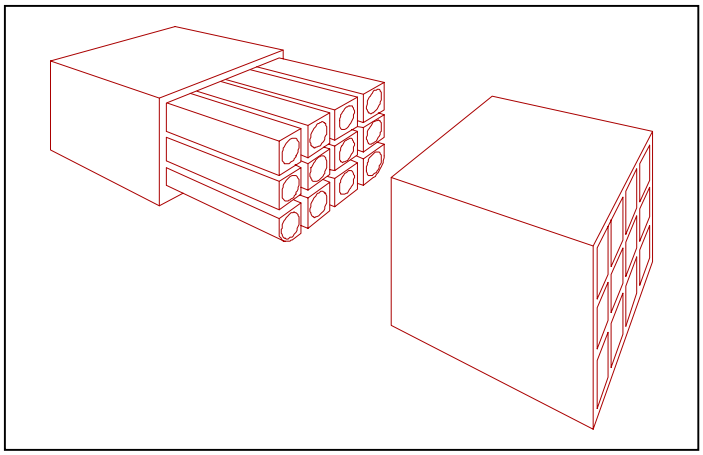


Figure 13

2.5 Connection of the sanitation facilities

The water drainage pipes are connected by means of hose couplings. The drainage tube is located at the rear of the merchandiser, see figure 12, point B.

The relevant hose is fastened by means of two hose clips to the two drainage pipe sections to be connected. In the case of angle sections this may be done in the angle of the section in question, see figure 14.

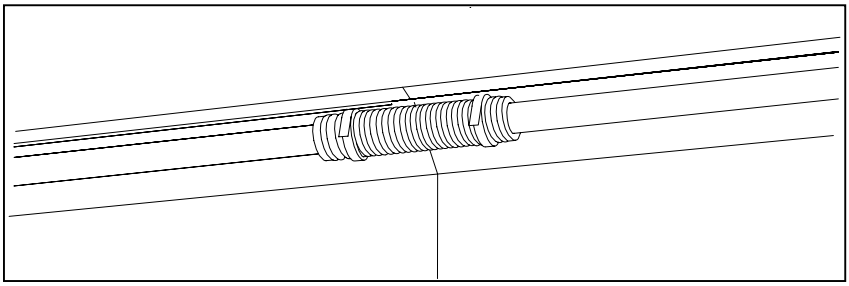


Figure 14

The water supply for the second humidifier (if fitted) is through a 6-mm nylon water hose. The hose is rolled up. In the first section it has to be unrolled and mounted in the connector of the second humidifier.

2.6 Connection of the light shades

Use the connection plate provided, see figure 15.

A) Connection plate
B) M6 nut
C) Sliding bolt

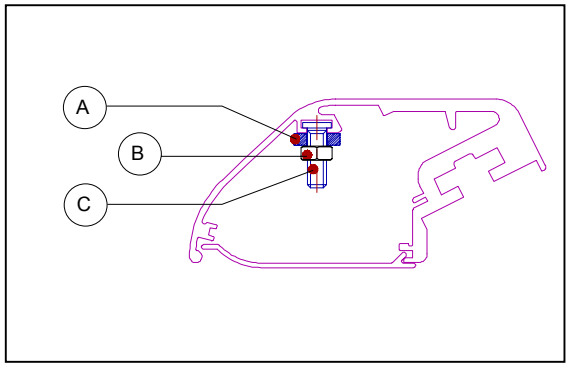


Figure 15

2.7 Connection of the bag ledge and/or bumper

Use the connection plates and/or coupling pipes provided, see figure 16.

A) Bumper
B) PVC pipe
C) Bumper bracket
D) Bag ledge
E) Lock nut + washer
F) Hammerhead bolt
G) Connection plate

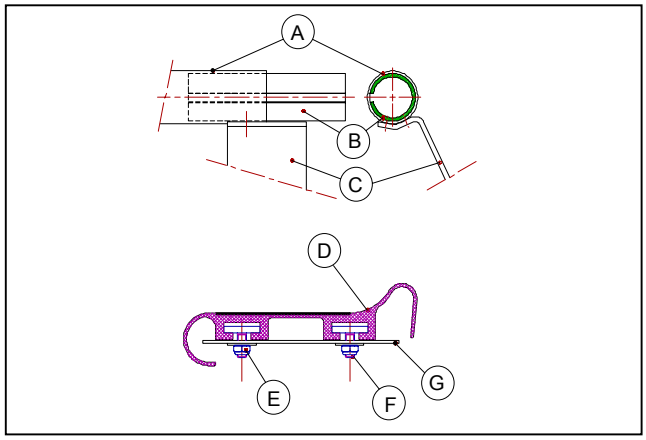


Figure 16

2.8 Connection of the work surface

Use the connection plate or the joining bolts provided, see figure 17.

A) Connection plate
B) Joining bolt

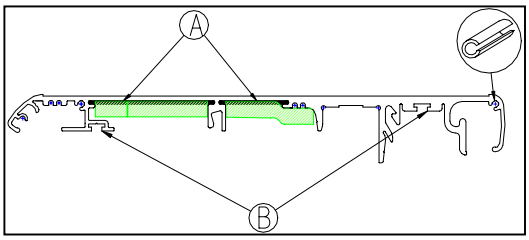


Figure 17

3 SERVICE COMPARTMENTS

Every merchandiser has at least one service compartment 100 cm in length.
It is located as standard on the right of the merchandiser (when viewed from the serving side)

and is covered by a decorative panel.
In a number of instances, particularly with longer merchandisers and combinations, more than one service compartment may be required. In this case we refer to main and secondary service compartments.

Main service compartments

The main service compartment houses all the merchandiser's standard connections. These are:
- Connection point for cooling pipes (figure 19, point C);
- Connection point for electricity (see figure 19 and figure 20, point E);
- Connection points for water supply and drainage (see figure 19; point A is drainage);
- Refrigeration system control equipment (expansion valve(s), solenoid valve(s), suction pressure regulator (see figure 19, point B);
- Main switch box (see figure 19 and figure 20, point D);
- Humidifier (optional).

Secondary service compartment

The secondary service compartment(s) can accommodate all the above parts for subsequent sections of the merchandiser. In this case the switch box is designed as a secondary switch box.
Access to the service compartments is gained by removing the decorative panel (see figure 18).

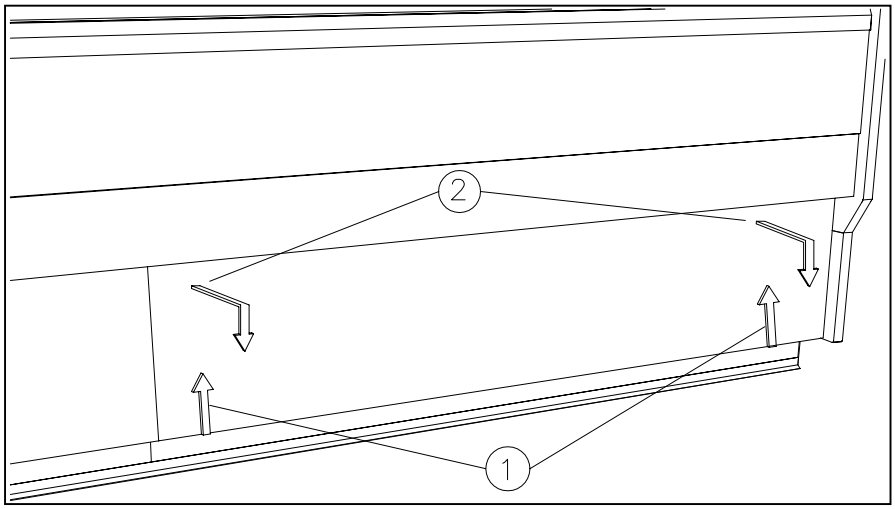


Figure 18

First lift the panel (1) and then pull it towards you (2).

Once the decorative panel has been removed, the various parts in the service compartment are easily accessible (see figure 19 and figure 20).

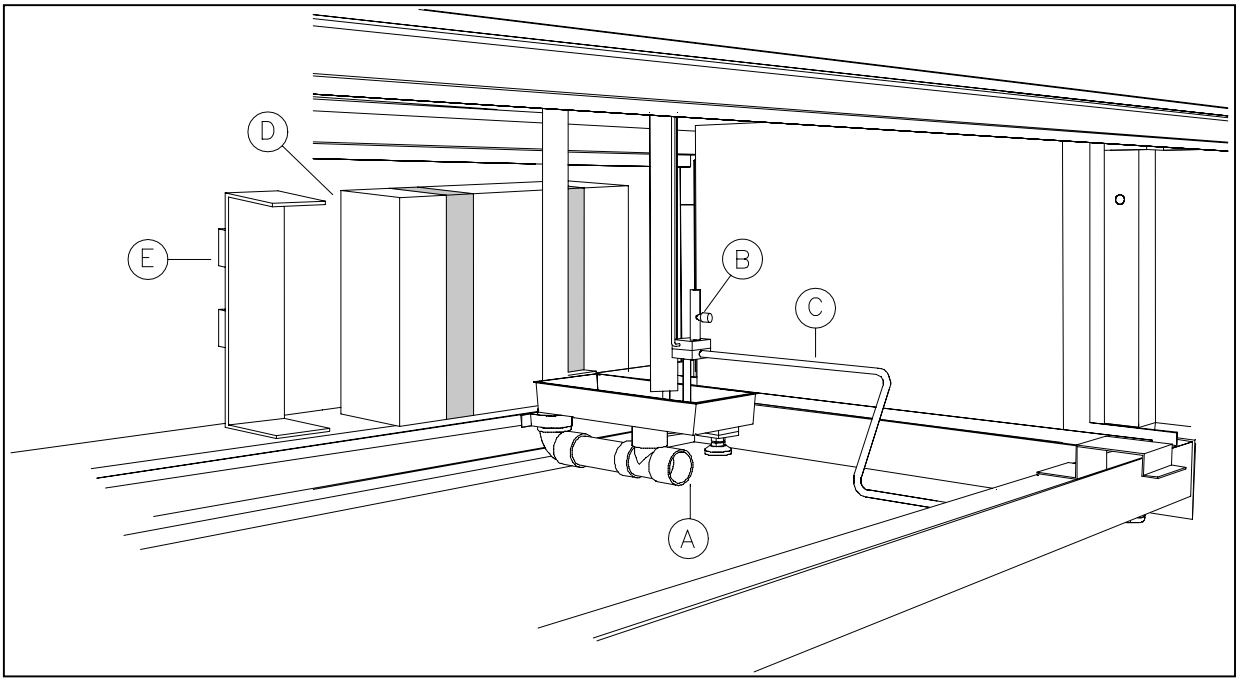


Figure 19

D) Switch box
E) Junction boxes

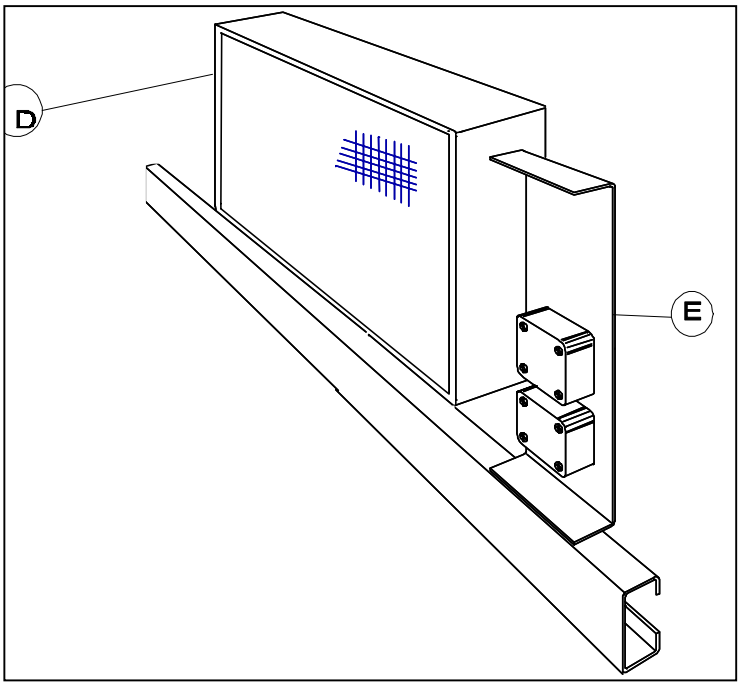


Figure 20

4 SANITATION FACILITIES

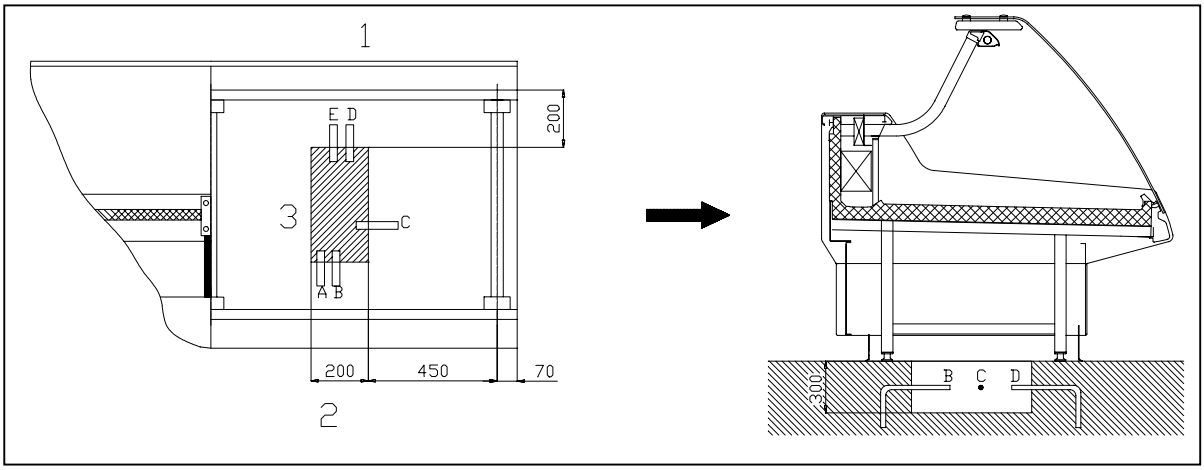


Figure 21

1) Front
2) Serving side
3) Service compartment

A) Water drain
B) Electricity supply
C) Cooling pipe
D) Cooling pipe

The floor recess for the grey section is at least 300 mm deep.

The humidifier, drain, drip tray, etc. all have to be connected to the lowest drainage pipe. This drainage pipe cannot be fitted on a gradient due to the lack of space.

A siphon cannot be used for the drainage because of the risk of blockage and poor run-through. A flexible hose is provided with the merchandiser. This hose is used as a siphon. The hose is wound round to form a circle and inserted between the drainage pipes, see figure 22.

A) Drain from merchandiser
B) Drain
C) Flexible hose
D) Sealing ring

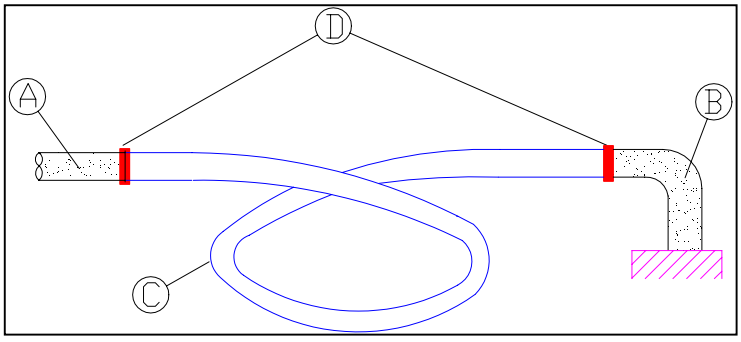


Figure 22

5 ELECTRICITY

The electricity components required are operated from the switch box(es) in the merchandiser or merchandiser sections.

These switch boxes are always located in the main and/or secondary service compartments.

The power supply and the control current cables should be connected in accordance with the instructions shown on the junction box (in the form of stickers) and according to the details given on the circuit diagrams (see Appendices to this manual). The circuit diagrams are in the switch box.

The junction boxes (see figure 23) are always located in the merchandiser's service compartments.

D) Switch box
E) Junction boxes

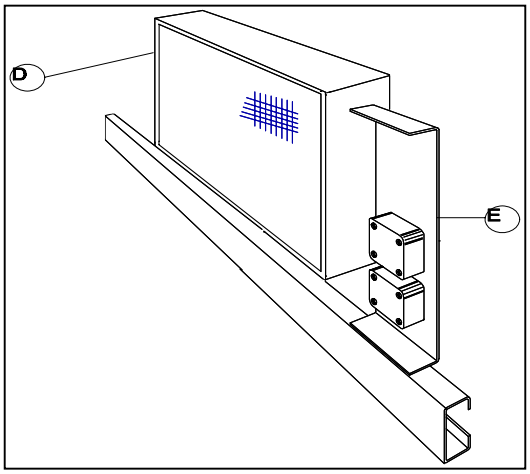


Figure 23

5.1 Connection of peripheral equipment

1) Peripheral equipment
2) Lead
3) Decorative plastic cover
4) Wall socket on decorative plastic cover
5) Wall socket behind decorative plastic cover
6) Spring mechanism

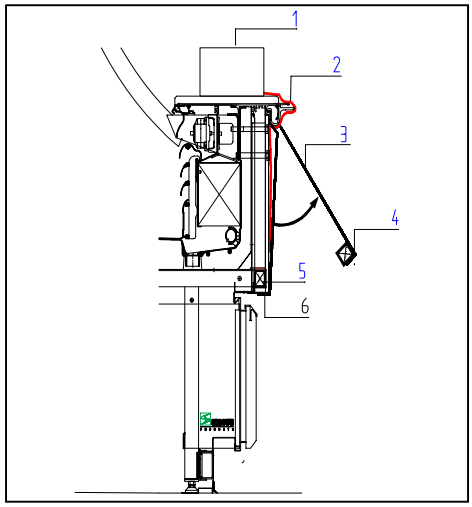


Figure 24

There are two possibilities for connecting peripheral equipment (cash registers, scales, etc.):

1. Near every straight pane a wall socket is fitted as standard behind the decorative plastic cover (see figure 24, point 5). This allows the lead to the peripheral equipment to be stowed neatly out of sight behind the decorative plastic cover. If the peripheral equipment is to remain connected for a relatively long period (as with a cash register), this is a convenient solution that eliminates loose leads at the back of the merchandiser.

2. Optionally, a wall socket can also be fitted on the decorative plastic cover, see figure 24, point 4 and figure 25, point A. The lead from the peripheral equipment then runs along the back wall of the merchandiser to the wall socket. If different equipment is regularly connected to the wall socket, your are advised to fit a wall socket on the decorative plastic cover.

a) Decorative plastic cover
b) Button
c) Wall socket

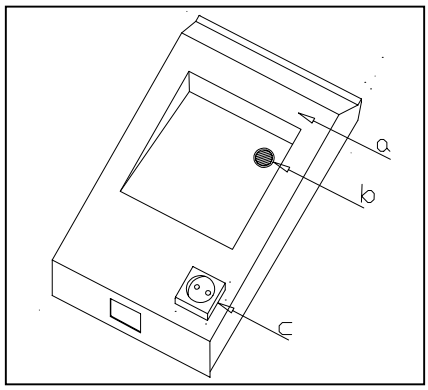


Figure 25

- Optionally, watertight buttons for a number machine may also be fitted on the decorative plastic covers (see figure 25, point B). This watertight button is also available as a pushbutton switch for the foot lighting.

The suspension system for the decorative plastic cover:

Underneath the work surface there is a recess which provides the suspension for the decorative plastic cover. The decorative plastic cover is attached by holding it at an angle of approx. 45 degrees, then sliding it upwards and gently easing it back against the back wall of the merchandiser. At the bottom there is a spring mechanism into which the decorative plastic cover is clicked. By pressing this spring in again and performing the operations in reverse order the decorative plastic cover can be removed from the merchandiser. See also figure 24.

6 KICKPLATES

Once the merchandiser has been connected and levelled, the stop profiles (A) are placed underneath the adjusting legs (see figure 26) by lifting the merchandiser slightly (for example by means of a wooden beam).

After the cement has been applied the kickplates are fastened to the transverse bars of the support frame by way of the stop profiles using the black screws provided.

Make sure that the kickplates are pressed down as far as possible before securing them.

A) Floor profile

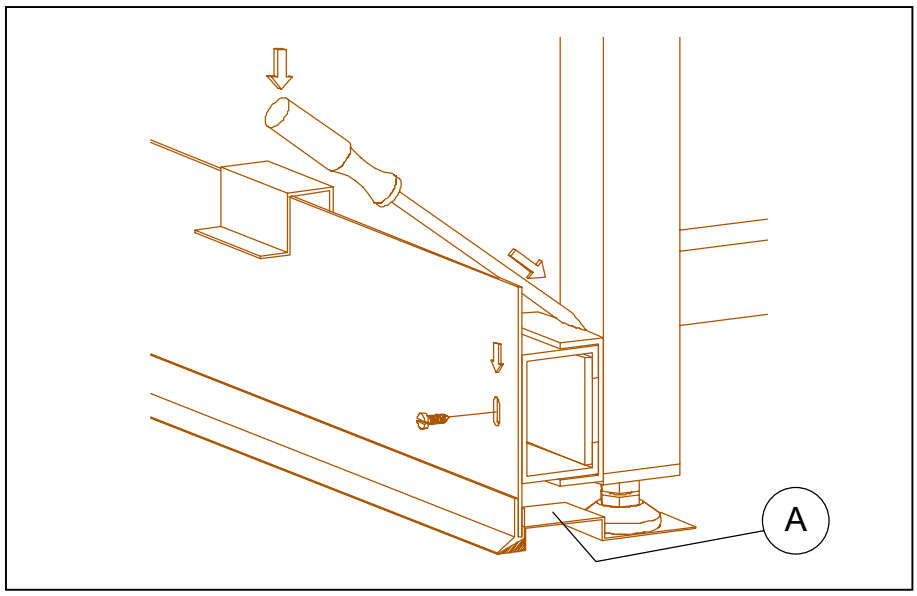


Figure 26

If the floor is uneven or if it is a tiled floor with large joints it is recommended that the kickplate should also be cemented. This prevents any dampness from getting underneath the merchandiser. For this it is important that the floor and the profiles should first be made grease-free and treated with primer before silicone sealant is applied. The excess sealant should then be removed (by means of Kleef en Dicht joint cleaner, available from ***SMEVA PRODUCTS*** *After Sales*).

7 ADJUSTING THE PANES

Once the merchandiser has been adjusted and finished, it may be necessary to improve the pane positions with regard to one another.

To do this, proceed as follows for the various versions:

7.1 Hinge-up glass

A separate system has been developed for adjusting hinge-up panes.
The cover support is fastened to the support frame by two bolts, see figure 27. These are two different bolts; the top bolt remains tight, the bottom one is an adjusting bolt.

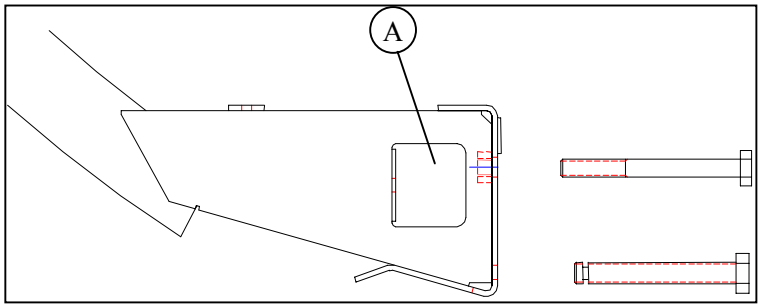


Figure 27

Turning the bottom bolt clockwise/anticlockwise moves the cover support with it and the pane can be adjusted, see figure 28.

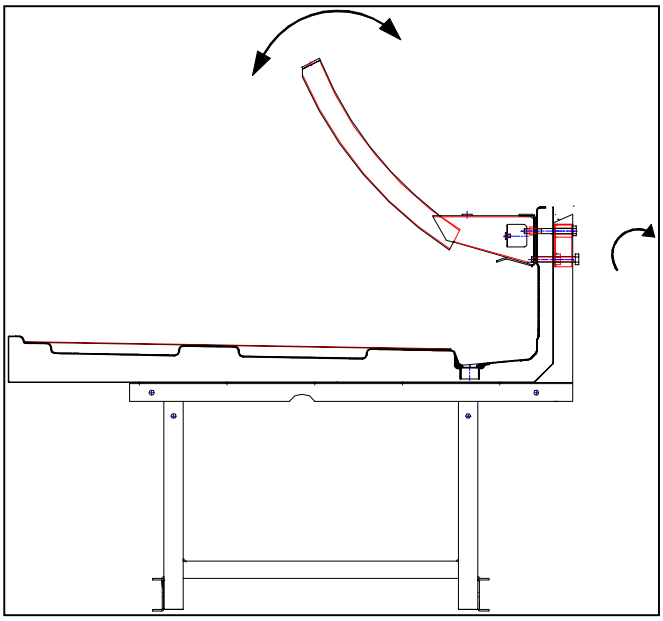


Figure 28

The opening in the cover support, see figure 27, point A, is there to ensure that air is uniformly distributed over the entire coil and that no separate chambers develop.
Make sure that these openings are not covered, since this would impede the flow of air.

Hinge-down pans and the low front pane cannot be adjusted!

7.2 Adjustment of the gable-end panes

The gable-end panes in the merchandiser are fastened to the gable end in two special holders with adjusting screws, see figure 29 (A). The top of the gable-end glass is fastened to the light shade by means of a screw.

A) Adjusting screws

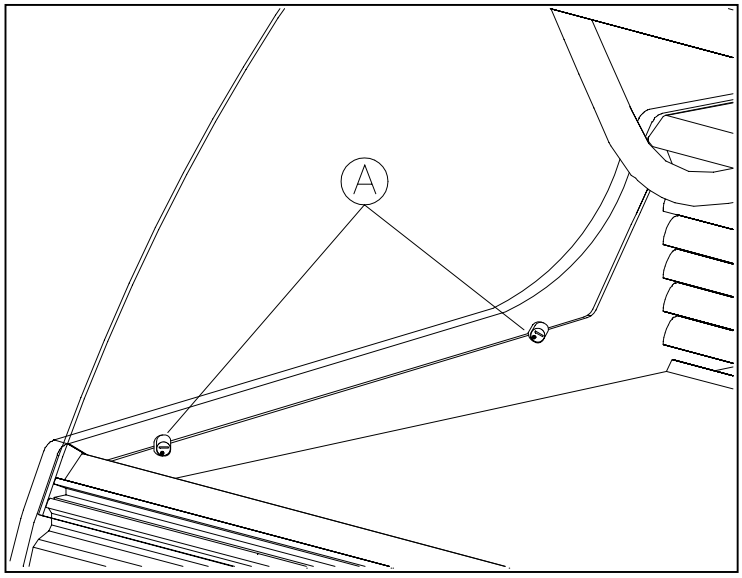


Figure 29

The adjusting screws can be turned using a large screwdriver or a coin, enabling the gable-end glass to be adjusted (about 5-8 mm). Bear in mind that if a light shade support is adjusted (using the adjusting screw) the gable-end glass will probably have to be adjusted as well.

7.3 Permissible loads on the hinge-up and hinge-down panes

Hinge-up glass may be loaded to a maximum of 20 kg per metre (200 N), uniformly distributed.

N.B. Exceeding this permissible load could result in glass breakage!

Hinge-down glass must **not** be loaded. **This means that it is not permitted to place products and/or attributes on the glass.**

7.4 Function and replacement of the gas springs

The hinge-up panes are fitted with gas springs, so that they can be 'set' in the open and closed position.

This gas spring construction has only two positions: completely closed or completely open. **Intermediate pane positions are no longer permitted by law**.

The gas springs can be replaced as follows (see figure 30):

A) pin

1) locking ring

2) gas spring

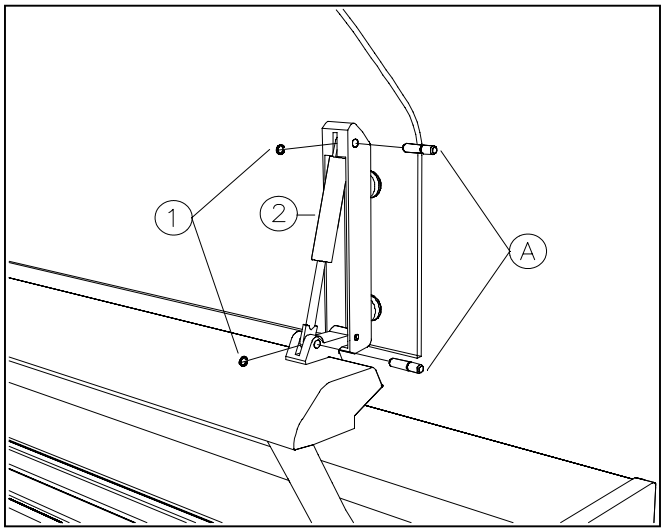


Figure 30

1. Place the pane in question in the highest position and make sure it has sufficient support (with assistance from a second person).
2. Remove the locking rings (1) of the pins (A).
3. Remove the gas spring (2) by opening the pane a little further.
4. Take the gas spring (2) out of the housing.
5. If a gas spring is defective, replace **both gas springs** in that pane. This is because the non-defective gas spring will have been subjected to additional load and there is a chance that it will also become defective in the near future.

The gas springs can be fitted again by performing the above operations in reverse order.

Make sure that the pane has sufficient support during the removal and fitting operations.

N.B. Support the glass in the centre of the grip rim!

If you are being assisted by a colleague, make sure that he or she supports the pane in the centre and keeps track of what you are doing!

8 THE MERCHANDISER'S REFRIGERATION SYSTEM

The Vision's refrigeration system can be divided into various aspects. These aspects are dealt with below.

8.1 Air circulation

Air is drawn out of the interior of the unit and through the outlet grille (A) by the fans (B). It is led through the coil and the cooled air leaves the coil at the leakage channel (D). The cooled air is passed to the display area via the inlet grille (F). See figure 31.

The inlet grille (F) is constructed in such a way that, if any products are blocking it, the air automatically enters through the air duct (E), one vane higher.
Air circulation is thus assured.

A) Outlet grille
B) Fans
C) Coil
D) Leakage channel
E) Air duct
F) Inlet grille
G) Cold plate
H) Cold plate

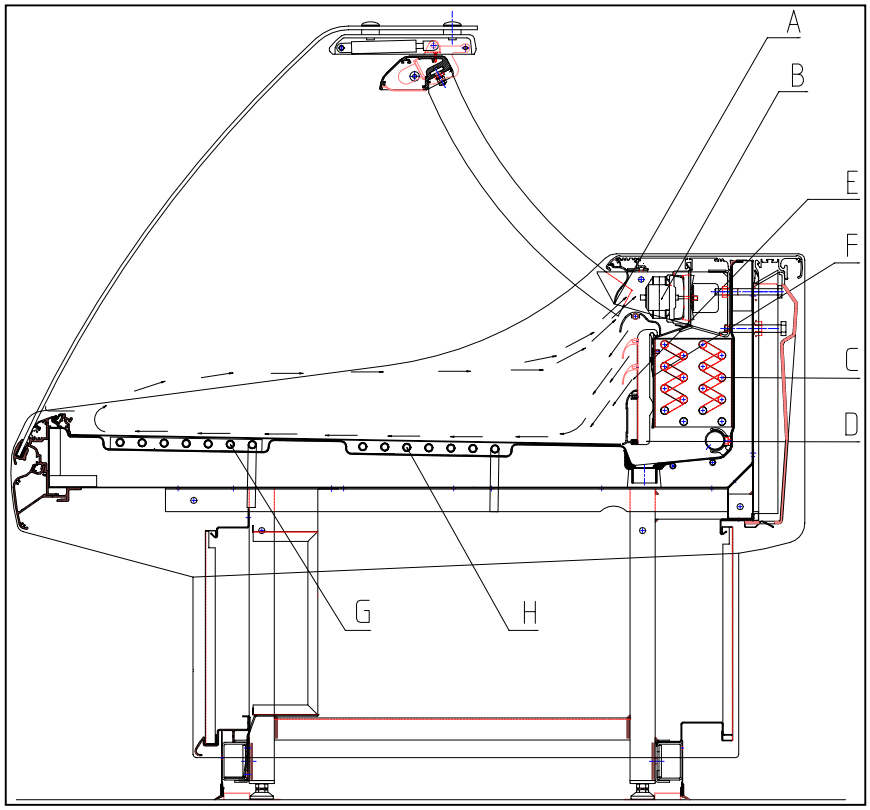
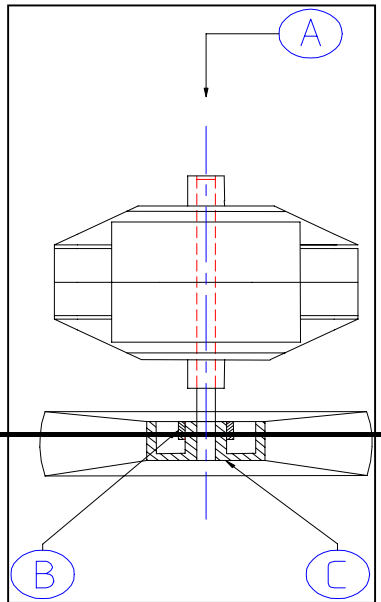


Figure 31

Depending on the products in front of the inlet grille, the cooled air will exit at **various levels**.
The cooled air will then find its way across the display plate and to the front of the merchandiser. In doing so it will slowly heat up. This warmer air at the front of the display plate will rise and return to the outlet grille (A).

The fan blades are mounted on the motor shaft in such a way that they have the lowest possible output (blade angle). This applies only to the service and display merchandiser. **Note the mounting of the fan blade,** see figure 32!!



A) When positioning the blade, support the motor shaft on your side
B) Locking ring
C) Note the position of the fan blade!! The closed side should be on your side!!

Figure 32

8.2 Refrigeration

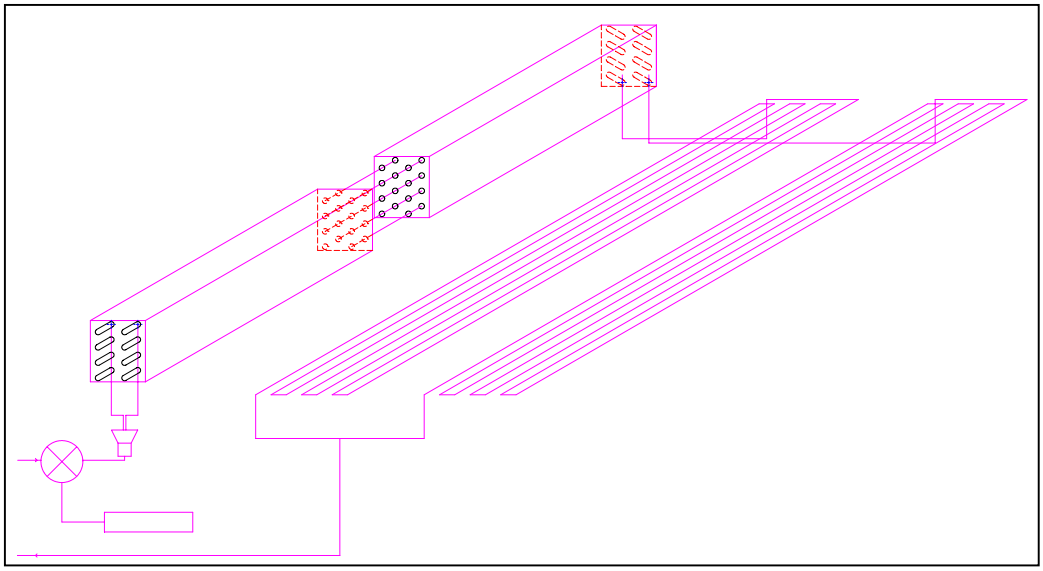


Figure 33

As explained in 7.1, "Air circulation", the back wall houses a coil. This coil (point C in figure 31), in combination with the cold plates (points G and H), will provide the refrigeration, see figure 33.

Refrigerant is fed to the 16-tube (4x4 6-mm vane) coil at 2 points in the proportion of 7:7 (2 tubes are not used) and is connected by means of 2 tubes to a maximum of 5 metres per expansion valve (this will vary according to the merchandiser configuration).

The two outlet lines then go to the cold plates, both 7-tube.

The cold plates are also connected by means of 2 tubes and the two lines that emerge last converge. The bulb of the expansion valve is fitted on this common suction line, as is the pressure equalisation line of the expansion valve.

WARNING: The above applies to R404A. For other Freon types different configurations may be applicable.

8.3 Temperatures

The following cross-section shows the temperatures that can be achieved under test conditions, with standard factory settings, see figure 34.

Test conditions (as per European standard NEN-EN 441):

T in room 25°C
RH in room 60%
V air cross current 0.2 m/sec.

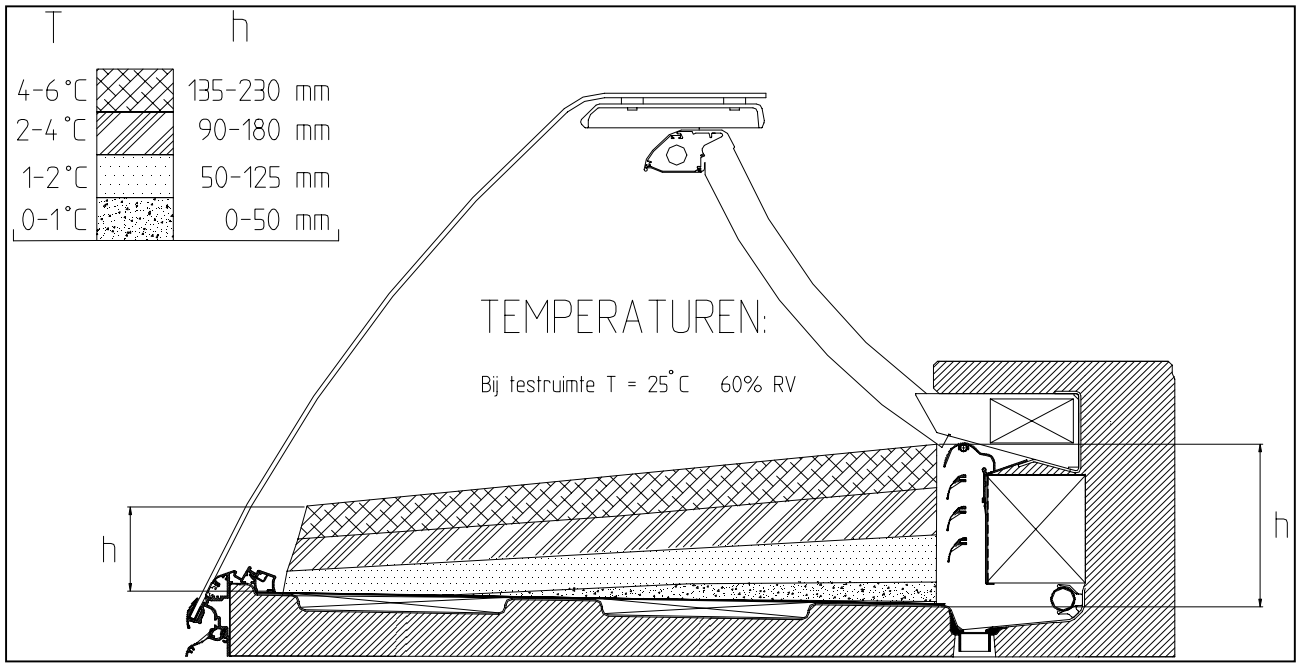


Figure 34

On the gable-end glass there is a red line, known as the load line. This line shows the temperature range as per the M1 precondition. Up to this height, a core temperature of 5°C may be attained.

8.4 Control

An SCU 515 panel is fitted as standard for the temperature control and, if applicable, humidity control. This allows one temperature section to be controlled.

If 2 or 3 temperature sections are required, an SCU 535 panel is fitted.

Standard settings:

- Set point : -3°C
- Differential : 2K
- Final defrost temperature : 6°C

• Defrost times (factory setting)	: starting time	00.00	time: 30 min.
		03.00	180 min.
		09.00	15 min.
		12.00	30 min.
		15.00	15 min.
		18.00	30 min.

Night-time increase **: 2 K**

The night-time increase control is automatically switched on when the lighting is switched off, while the cooling function remains active!

Fan speed control **: 160 VAC**

To enable the most favourable climate possible to be created (RH/temperature/dehydration), the speed of the fans is controlled.
If the control system requires cold air, all fans operate on 230 VAC. If on the other hand the control system does not require cold air, the fans run at a reduced voltage of 160 VAC, resulting in a lower speed and hence a lower volume flow.

The speed regulator(s) is (are) located in the main and/or secondary switch box.

The speed regulators can be adjusted if necessary by means of the potentiometer at the front of the regulator.
I.D. Under normal conditions the regulator factory settings should not need to be changed.

9 SENSOR CABLES IN THE MERCHANDISER

All sensor cables are marked on both sides. The text on the markers corresponds to the text on the panels and in the circuit diagrams (see figure 35).

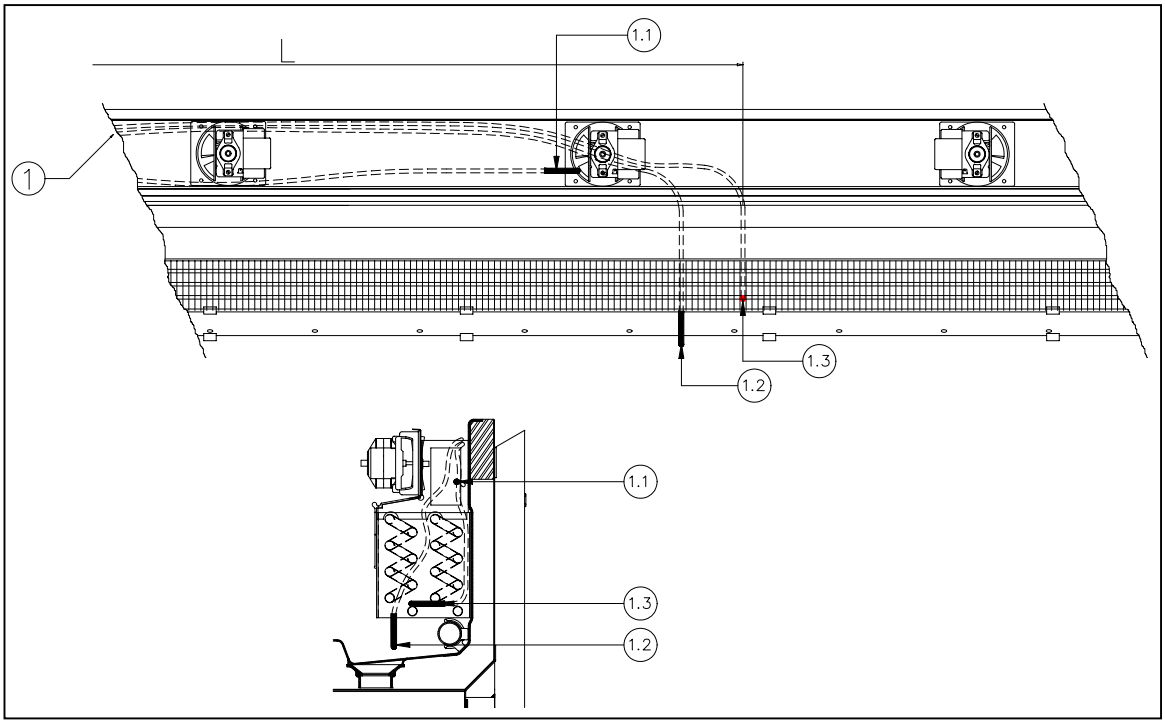


Figure 35 1) Injection L = min. 750 mm/max. 1250 mm

The sensors are numbered as follows: 1.1, 1.2 and 1.3, see figure 35. Where an SCU 535 panel for two or three temperature zones is used, the sensors are numbered as follows: 1.1, 1.2, 1.3, 2.1, 2.2, etc. The sensors have the following functions:

1.1 = this sensor measures the intake temperature for the evaporator coil (in section 1)
1.2 = this sensor measures the outlet temperature under the evaporator coil (in section 1)
1.3 = this sensor measures the defrost cessation temperature or the current evaporator coil temperature (in section 1)

The sensor cables pass above the evaporator coil and are 4 metres long.

10 ACCESSORIES FOR THE MERCHANDISER

The merchandiser can be equipped with numerous accessories, which are listed below.

10.1 Small general accessories

These accessories enhance the merchandiser's ease of operation and functionality. The following products are available as small accessories:

- Bumper in chrome or stainless steel version;
- Bag ledge in longitudinal version or in tray version, with glass or other insert;
- Nose profile for inserts instead of curved aluminium nose;
- Foot lighting;
- Paper holders;
- Salad pan holders for 2 sizes;
- Scale tray;
- Cash register/cutting board;
- Gable-end mirror glass;
- Double window frames;
- Partition (movable) between two temperature sections;
- Insulated, fixed partition between two temperature sections;
- Work plates with "hakorite" (HPME) work surface;
- Number machine operation by means of buttons located on the decorative plastic cover;
- Knife holder;
- Counter strip;
- Digital temperature display on customer side;
- Communications module for communications between PC and merchandiser control unit (SCU 515/535);
- Thermometer fitted with solar cells for temperature display.

10.2 Merchandiser-specific accessories

These are fitted during manufacture of the merchandiser. In some cases it is also possible to fit them at a later date.

The most important of these are:

10.2.1 Lower cooling section with own refrigerating machine

The merchandiser's lower cooling section is a fully independently operating cooling unit.

- Each unit may consist of 2 or 3 drawers or flap doors and has its own refrigerating machine, which means it can operate independently.

- The lower cooling section's on and off operation is via the central control panel (SCU 515 or SCU 535). If an extra display plate is installed a separate switch is fitted in addition to the SCU. See the separate service manual for details of how to operate this.

- The refrigerating machine is fitted with its own thermostat and defrost clock (figure 36).

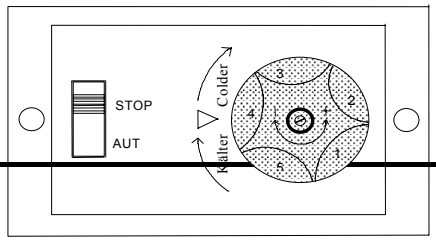


Figure 36

- The evaporating temperature is set at -9°C as standard, enabling a temperature of 0/+2°C to be attained in the lower cooling section. The evaporating temperature can be set by means of the built-in thermostat (figure 37, point A), which is located in the compartment near the generator set.

The procedure for adjusting the temperature is as follows:

The temperature can be altered to a certain extent by means of the black dial.

- Turn the dial clockwise (towards KÄLTER/COLDER) to set a lower temperature.
- Turn the dial anticlockwise to set a higher temperature.

- The coil defrost function is controlled by the defrost clock This clock is located in the service compartment on the right-hand side of the lower cooling section when viewed from the serving side.

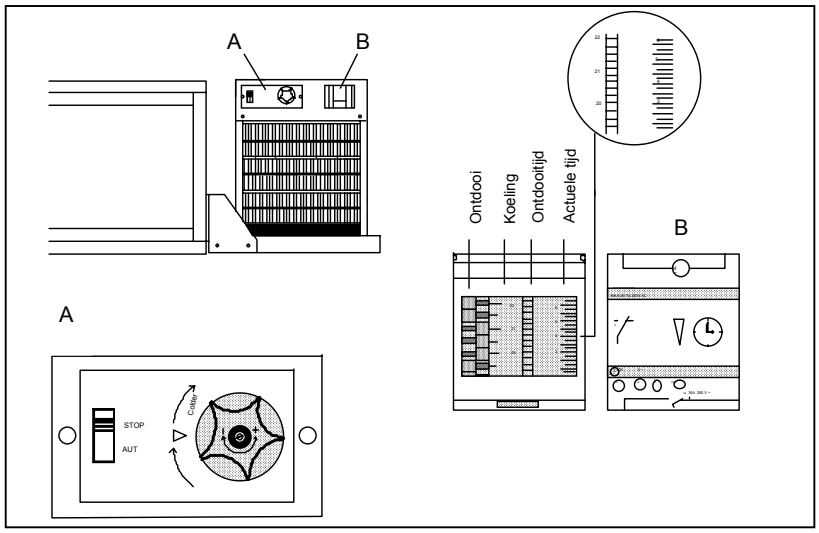


Figure 37

- The timer (figure 37, point B) is fitted with a back-up system. With this system a spring is triggered in the event of power outage. The spring ensures that the clock continues to run for up to 3 hours. If the power outage lasts for longer than 3 hours, the clock will have to be reset.

  The desired defrost times must first be entered.

If you lift up the flap you will see a column of yellow figures (on the left) and a column of white figures (on the right).

- The white figures stand for the clock that shows the current time. The graduations are in quarters of an hour.
- The yellow figures are for setting the defrost times.
- A 24-hour day can be set in 30-minute graduations (minimum). Each yellow button stands

for one half-hour.

- On the far right a grey strip can be seen by means of which the defrost time and the correct time can be set/read.
- The required defrost periods can be set by sliding the yellow buttons from left to right. After this setting has been performed the current time must be set by turning the ribbed dial down.
- The phase contact (screw 2 on the clock) and the idle position (screw 3 on the clock) must be connected.

10.2.2 Lower cooling section connected to a central installation

- The design is still as described in 10.2.1, i.e. with drawers or flap doors, but in this version without its own refrigerating machine.
- On/off operation is via the SCU 515/SCU 535 panel unless an extra display plate is used.
- The necessary solenoid valves, thermostat, expansion valves and defrost clock are fitted in the factory (for control see section 10.2.1).

Furniture-related design

The lower cooling section is provided with plastic trays that can be taken out. The frame is also removable: to do this, pull the drawer out to its full extent and lift slightly; it can now be taken off the runner (see figure 38). Remember to remove the plastic tray first. When the drawers and the trays have been taken out, the lower cooling section coils are accessible.

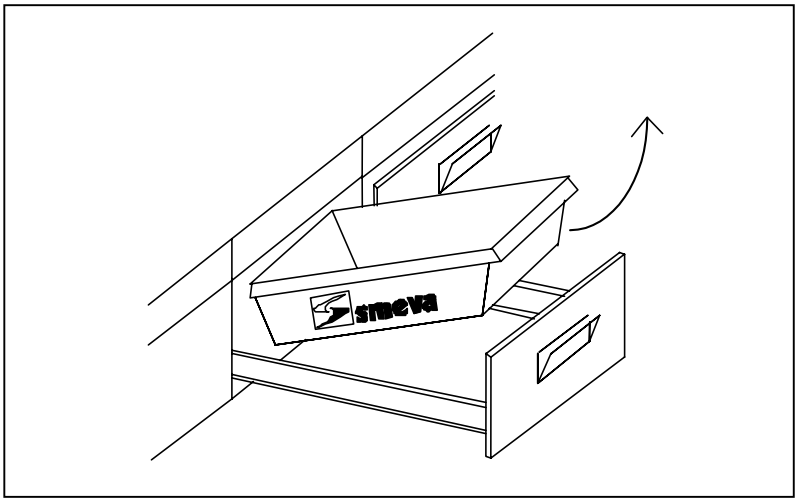


Figure 38

In the version with flap doors access to the compartment is gained by taking out the trays.

10.2.3 Open tray(s)

These are fitted during manufacture. Open trays are available in 150 and 200-cm lengths. These open trays can also be installed at a later date, though only if the compartments available have the correct dimensions.

10.2.4 Nose ventilation

Since very low temperatures are attained in the counter, condensation may in some cases form on the glass panes. This may happen during relatively warm, humid weather, but also in, for example, a relatively small store, where there is a chance of warm, humid air reaching the store from, say, the workshop/butcher's section.
To prevent the panes from steaming up in such cases, nose ventilation may be fitted to the Vision. The nose ventilation units are constructed as cassettes under the counter and blow the air from the bottom over the counter glass (see figure 39).
The nose fans are switched on and off using the button for the glass heater on the SCU control unit. Existing counters can also be fitted with these ventilation units.

A) Nose ventilation unit

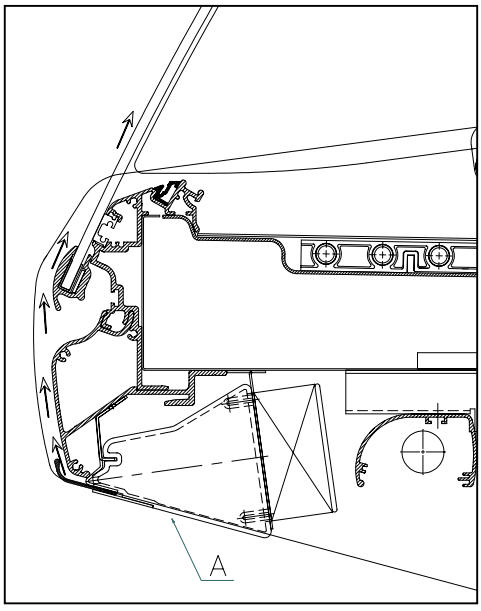


Figure 39

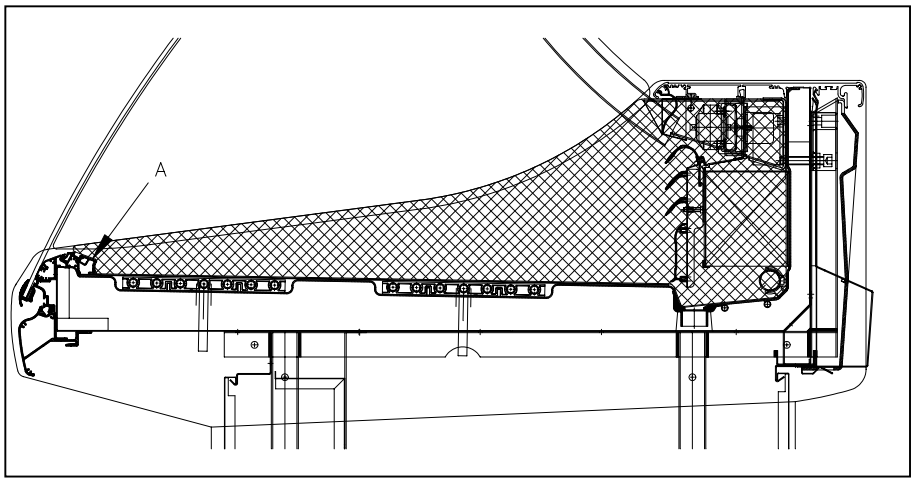
10.2.5 Removable or insulated partition

If several different types of product are to be displayed in a counter, they must be kept separate. This may be done by means of a removable acrylic partition or an insulated PVC foam partition. The choice depends on the following criteria:

- If the temperature difference between two counter sections does not exceed 4°C, a removable acrylic partition is sufficient;
- If the temperature difference between two counter sections exceeds 4°C, an insulated partition should be used;
- A partition in combination with a fish section should always be insulated because of odour transfer from the fish section.

10.2.6 Unfinished unit

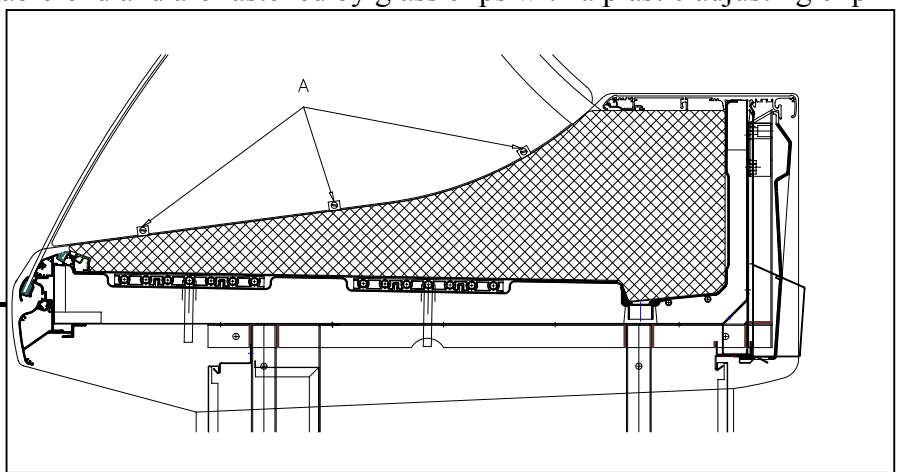
The Vision can be supplied unfinished, so that the counter can be fitted out by an interior decorator in line with the customer's requirements. If the counter is supplied without standard gable-ends, for instance if it is to be fitted against another unit or so that gable-ends made of a poor insulator (stone) can be mounted, special insert gable-ends have to be used so as to prevent the formation of condensation. These insert gable-ends can also be used as fixed partitions. They have to be cemented onto the coldplate and run from the nose profile to the rear of the shell (see figure 40).



A) Extension profile

Figure 40

If the insulated insert gable-ends are used, special gable-end panes must also be used. These panes are placed on the gable-end and are fastened by glass clips with a plastic adjusting clip mounted on the insert gable-end (see figure 41). The panes can be fixed by means of a plastic screw.



A) Glass clip

Figure 41

11 PRODUCT IDENTIFICATION

To provide you with rapid assistance in the event of questions or defects, the service compartment in the merchandiser contains a sticker giving the most important data relating to the unit (see figure 42). Should information be required concerning a particular component or if a component is defective, copy the information shown on this sticker and pass it on to your installation engineer; this will ensure rapid rectification of the problem.

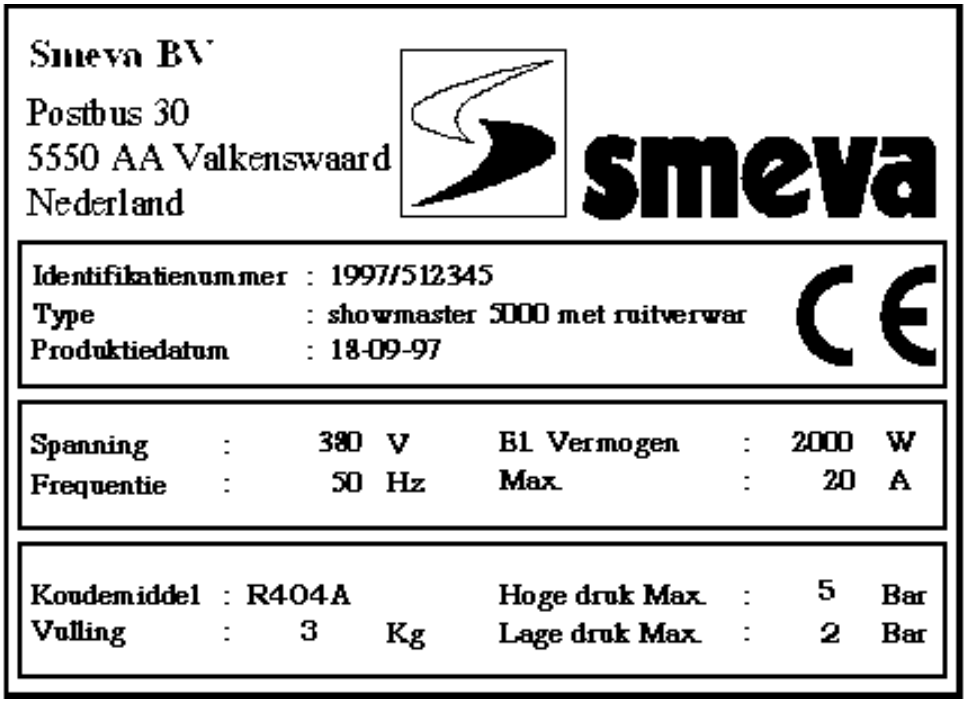


Figure 42

12 TECHNICAL SPECIFICATIONS

Furniture-related specifications:

- curved glass	: * hinge-up - tempered glass * hinge-down - non-tempered glass
- straight glass	: non-tempered glass
- light frame	: technical silver anodised aluminium
- work surface	: technical silver anodised aluminium
- coil	: black coated version
- coil coating	: aluminium windows/plate
- central structure/display surface	: sandwich shell (interior: plastic; exterior: aluminium) with a polished stainless steel display plate (stainless steel grade> 304; 1.2-mm thick).
- support frame	: painted steel and galvanised profiles with adjusting legs
- end/intermediate gable ends	: PVC rigid foam, sprayed in colour
- support frame decorative plates	: painted steel
- cover supports	: stainless steel
- outlet grille	: technical silver anodised aluminium
- fan plate	: stainless steel plate

Electrical specifications:

- lighting	: standard Philips 79
- control	: SCU 515 control panel for 1 temperature section or SCU 535 control panel for 2-3 temperature sections
- connections	: as per circuit diagrams. The junction boxes display the necessary stickers corresponding to the circuit diagrams

(in the switch box).

Standard settings:
- set point at -3°C
- differential 2K
- final defrost temperature 6°C

Defrost times: (standard)

- Starting time:	00.00	Time: 30 min.
	03.00	180 min.
	09.00	15 min.
	12.00	30 min.
	15.00	15 min.
	18.00	30 min.

Night-time increase: - 2 K
Fan speed control: - 160 VAC
Cooling capacity: - 350 Watt/metre as per NEN-NE 441 (-10°C/ +25°C at 60% RH)