

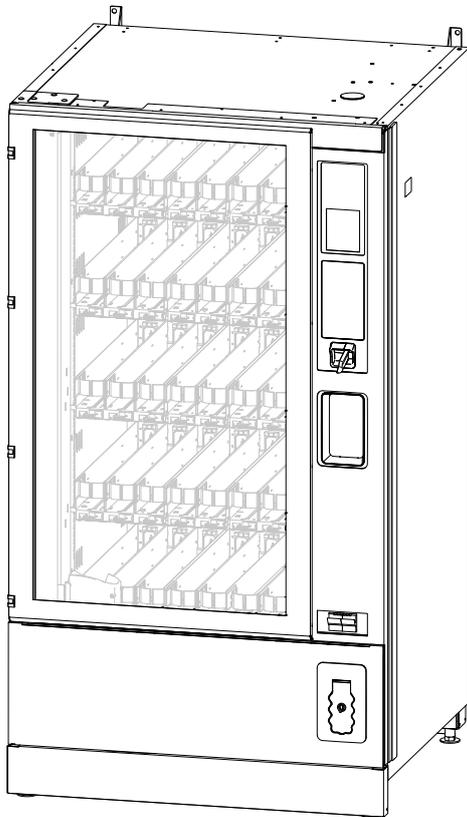


Elevate

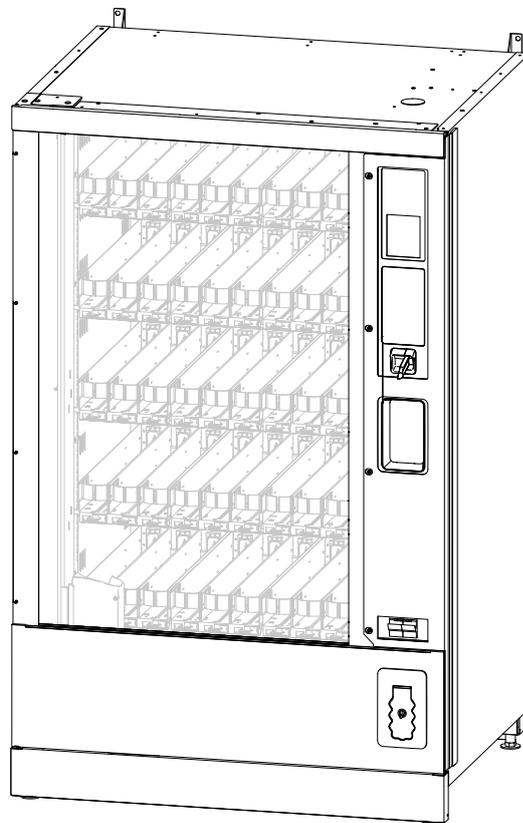
**DIAMOND MANUAL
(2023 onwards)**

Technical handbook

ELEVATE DIAMOND
2023 onwards.



GF SiLine M RP03



GF SiLine L RB03

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1. General

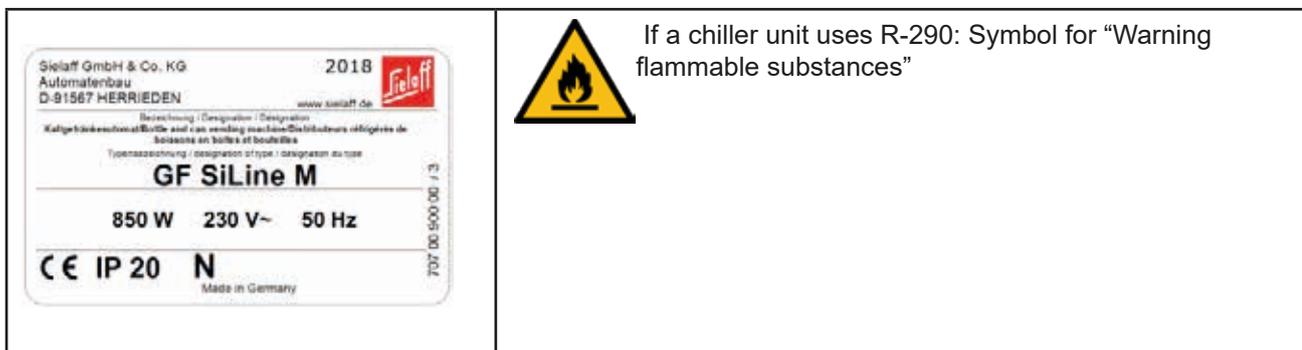
Variants

Please note that these operating instructions cover different machine versions. For this reason some information may not apply to your machine.

This manual covers the following versions:

Model	Part No.	Variant
GF SiLine L RB03 7050000013 RAL kickplate
GF SiLine L RP03 7050000033 RAL kickplate, Public
GF SiLine M RB03 7070000013 RAL kickplate
GF SiLine M RP03 7070000033 RAL kickplate, Public

1.1 Identification



1.2 Intended users

This manual is designed for use by trained personnel and service technicians. It is assumed that target users have received training on the machine.

1.3 Safety Information

Repairs

- The inside of the machine may have sharp edges and corners. Always wear protective gloves when carrying out maintenance work.
- The use of the service key is reserved exclusively for trained service technicians. By inserting the service key, a protection device is de-activated! Risk of injury!
- Use only genuine replacement parts.
- Only products approved by SIELAFF should be used.
- The machine must not be converted or modified in any way. SIELAFF disclaims any liability for any defect claims resulting from the afore-mentioned not being adhered to!

Requirements for maintenance and repairs

- Before carrying out any repairs on the machine the mains plug must always be removed from the mains power supply. The mains plug must be so positioned that it can be monitored during the repair to ensure that no one inadvertently puts it back into the socket.

1.4 Explanation of signs and symbols

This vending machine was manufactured in accordance with state-of-the-art technology standards. Nevertheless, even the most expertly designed machine, cannot be without risks.

In order to ensure the machine operator a sufficient level of safety, additional safety tips are detailed below.

Adequate safety during operation is ensured only when these safety precautions are observed.

Text highlighted below symbolises the following:



Danger

Immediate danger which could result in death or severe injury.



WARNING

Possible dangerous situation which could result in death or severe injury.



CAUTION

Comments that refer to a dangerous situation with the possible consequences of minor injuries.



NOTE

Comments relating to machine damage prevention.



Tip

Care when handling makes it simpler to fit.

The following danger symbols may also be used in certain instances:



WARNING electrical energy! Danger to life!

This symbol warns that electrically live components are installed in this area. Covers marked with these symbols should only be removed by authorised electricians.



Observe handling regulations when dealing with electrostatically sensitive components and modules (ESD)

Behind covers marked with this symbol are parts and components that are susceptible to electrical discharge.

It is imperative that plug connections, electrical leads and component pins are not touched.

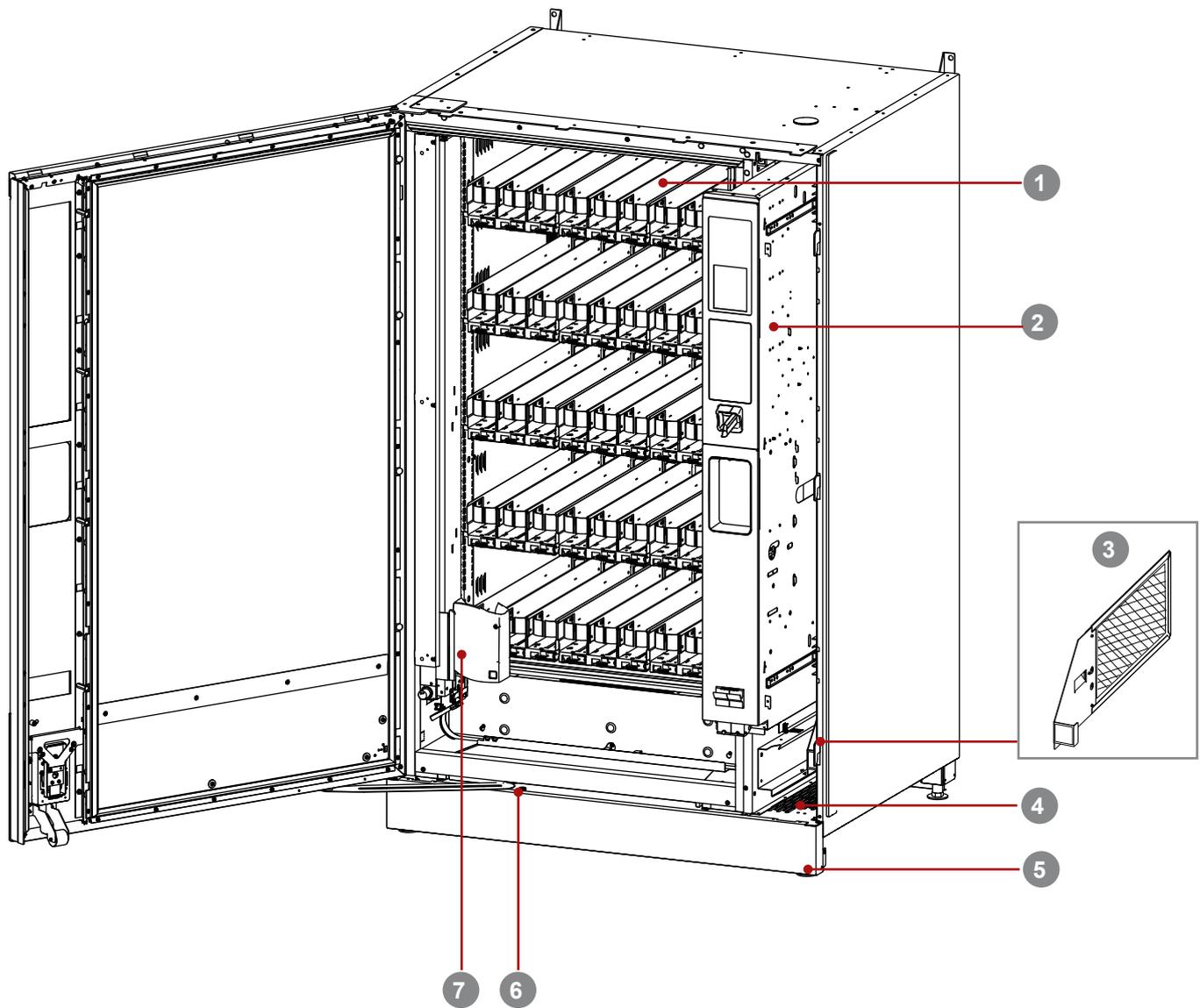
Only specialist personnel with ESD knowledge are authorised to work on the machine!



CAUTION! Danger of crushing!

Crushing risk. Areas marked with this symbol contain moving parts. In normal operation there is a crushing risk in these areas.

2. Machine diagram



- ① Product container
- ② Telescopic sliding door unit
- ③ Removable dust filter
- ④ Air inlet for chiller
- ⑤ Kickplate
- ⑥ Door stop
- ⑦ Product basket on the lift arm

3. Maintenance schedule

To keep unexpected machine down-time to as low a level as possible, we recommend that the following maintenance schedule is adhered to. Depending on the environmental conditions on site it may be necessary to adapt the maintenance intervals.

Every 30,000 vends - or every 12 months

Housing, machine door

OK	Component	Resources	Action/ procedure
	Safe machine position		Check
	Machine exterior	Care and cleaning products	Clean
	Machine door closes properly		Check
	Insulating glass panel	Glass cleaner	Clean
	Coach bolts at top and bottom of machine door	998 90 023 00	Lubricate
	Locking hook	998 90 023 00	Lubricate
	Locking bar	998 90 023 00	Lubricate
	Hinge pin, locking bolts	998 90 023 00	Lubricate
	Lock	According to manufacturer's instructions	Lubricate
	All around door seal		Check clean, maintain if necessary
	Product illumination		Check
	Flap for the division wall: Torsion spring, seal, locking function		Check
	LED functioning		Check
	Folding mechanism, light strip left		Check
	Cable routing top left		Check
	Terminal box (optional) Test key T on the FI-circuit breaker	Test key T on the FI-circuit breaker	Press

Product container

OK	Component	Resources	Action/ procedure
	Legibility of the price/selection labels		Check
	Inside the product container	Rinsing water	Clean
	Product container locking function		Check
	Product pusher	movable with even force	Check
	Slider/slide block engaged		Check
	Position of the belt in the pusher		Check
	Positioning of belt deflexion at rear		Check
	Toothed belt without damage		Check
	Front drive wheel		Check
	Hook-in position of pendulum hook		Check
	Retaining spring	Correctly snapped in; no damage?	Check

Payment system

OK	Component	Resources	Action/ procedure
	Coin mechanism (optional)		According to manufacturer's instructions
	Card reader (optional)		According to manufacturer's instructions
	Banknote reader (optional)		According to manufacturer's instructions

sliding drawer unit

OK	Component	Resources	Action/ procedure
	Coin chutes	Rinsing water	Clean
	Display		Clean
	Coin return tray		Clean
	Coin return motor - working	Refund button [R]	Check
	Product collection unit, internal area		Clean
	Smooth operation of locking slide including spring		Check
	Delivery unit flap	Consistent motorised travel (hand operated)	Check
	Lifting capacity at least 250g	e. g. 0.25l can	Check
	Sliding clutch function	e. g. 0.25l can	Check

Lift System

OK	Component	Resources	Action/ procedure
	Horizontal linear rail, top	998 90 023 00	Clean, lubricate
	Horizontal lower guide rail	998 90 023 00	Clean, lubricate
	Damage to horizontal toothed belt		Check
	Damage to vertical toothed belt		Check
	Deflection rollers belt drives (7x)		Check
	Belt tensions: horizontal drive: measurement point: upper centre; vertical rail far left. 1 N with 15 mm stretch or 20 Hz	Newton meter	Check
	Vertical drive: Measurement point in centre, basket right at the bottom. 1 N with 15 mm stretch or 15 Hz	Newton meter	Check
	Displacement force: Vertical rail left/ right: max. 15 N Basket upwards: max. 9 N Basket downwards: max. 6 N	Newton meter	Check
	Movable lower ribbon cable loop: no kinks / damage ?		Check
	Fork light barrier for height recognition + Y-reference	Brush, air	Clean
	Micro-switch for X reference		Check

Product basket

OK	Component	Resources	Action/ procedure
	Upper part of basket	Rinsing water	Clean
	Product entry	Brush, air, flashing mode at 5 second intervals	Clean, check
	Damage on drive belt		Check
	Damage to gear wheel pendulum		Check
	Pendulum gear wheel assembly	Berulub FR 43; 998 90 064 00	Check, lubricate
	Uniform power transmission when the pendulum is swung to and from		Check
	Damage to pendulum hook		Check
	Bearing for pendulum hook	Microlube GL 261; 998 90 037 01	Check, lubricate
	Gear motor, upper shaft bearing	Microlube GL 261; 998 90 037 01	Check, lubricate

Chiller unit

OK	Component	Resources	Action/ procedure
	Dust filter	Brush, compressed air	Clean
	Compressor	Brush, compressed air	Clean
	Condenser	Brush, compressed air	Clean
	Base plate ventilation slots		Clean
	Connecting gaskets, front, rear + left, on the right side of the housing	Vaseline, rubber treatment	Check, clean, lubricate
	Plugs and connectors		Check
	Fan	Brush, compressed air	Clean

	Gas sensor (no visible damage)		Check
	Gas inlet on gas sensor: Dust, dirt, moisture deposits	Brush, cloth	Clean
	Initiate self test		Check
	Test gas sensor using test gas	Test gas	Check

Final check

OK	Component	Resources	Action/ procedure
	Drive positions for selections 10, 18, 30, 38, 50, 58	X-direction: Toothed wheel for pendulum drive aligned with toothed wheel of product container Y-direction: Pendulum hook catches in the centre of hook-in position on the product container	Check

If required every six months

OK	Component	Resources	Action/ procedure
	Electrical re-testing in accordance with VDE 0701		Carry out

4. Maintenance components

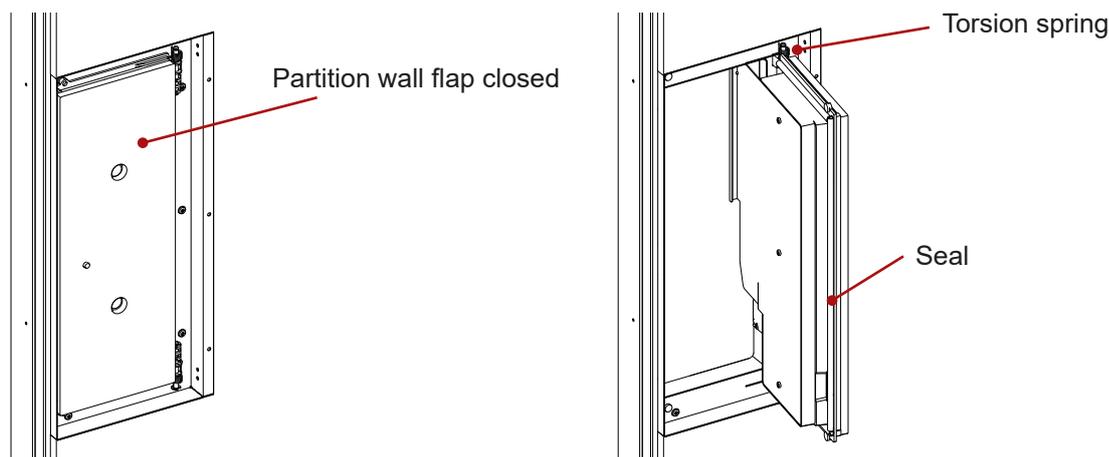
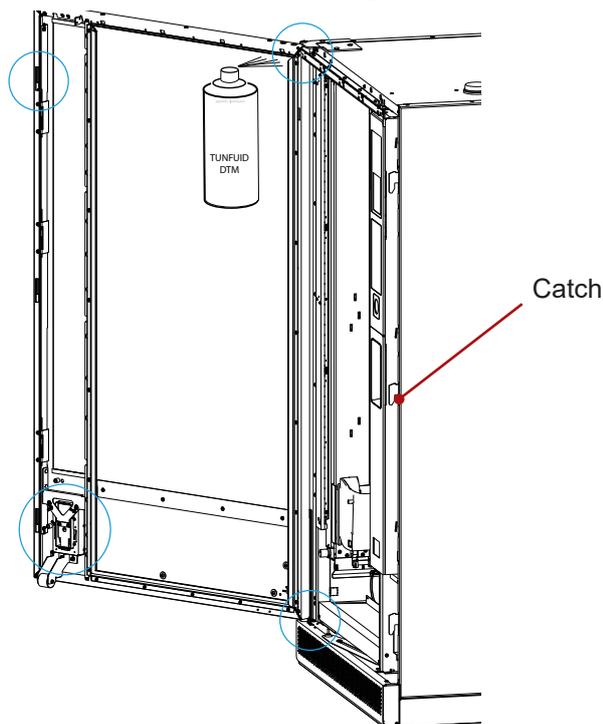
4.1 Housing

Resources

- Lubricant Tunfluid DAB Aerosol, spray can part no. 998 90 023 00

Proceed as follows

- Check that the machine location is safe and secured.
- Check the machine connection cable.
- Check the operation and position of the closed machine door.
- Lubricate the bearing on the machine door to make sure it is intact and lubricate with Tunfluid DAB .
- Lubricate the catch on the contact surfaces.
- Check for correct functioning of bearing, locking bolts and lubricate.
- Check the seal on the door to ensure it is intact and take any necessary action.
- Maintain the door lock as per manufacturer's instructions.
- Check that the insulating glass panel is intact.
- Clean the insulating glass panel inside and out.
- Check that all the individual LEDs for the product illumination are working.



4.2 Instructions for chiller unit

- The machine operator is responsible for ensuring that personnel are skilled and trained, so that the machine can be regularly maintained to comply with site regulations!
- The machine should be installed so that the air inlet and outlet surfaces of the heat exchanger are always kept clear, thus avoiding a short circuit.
- The back of the machine must have clearance of at least 50 mm from the wall to enable the hot air to escape.
- A hot air back-flow must be avoided. This is achieved by fitting suction protection correctly on the back of the machine (exception: promo rear panel).
- In order to ensure that the slatted heat exchanger works properly, the individual slats must not be bent out of shape.



CAUTION! Risk of injury!

Risk of cuts when touching the slats. Wear protective gloves

The chiller unit should be operated in accordance with the operating regulations specified (BetrSichV). It has been leak tested.

- The chiller unit is controlled automatically by a temperature sensor and the machine control board.
- When the chiller unit stops, the fan starts up automatically at set intervals to circulate the air, in order to prevent air stratification.
- The chiller unit is to a large extent maintenance-free.
However, the lint filter and the slats on the evaporator / on the side of the condenser should have any dust removed occasionally using compressed air.

4.3 Removing the chiller unit



NOTE

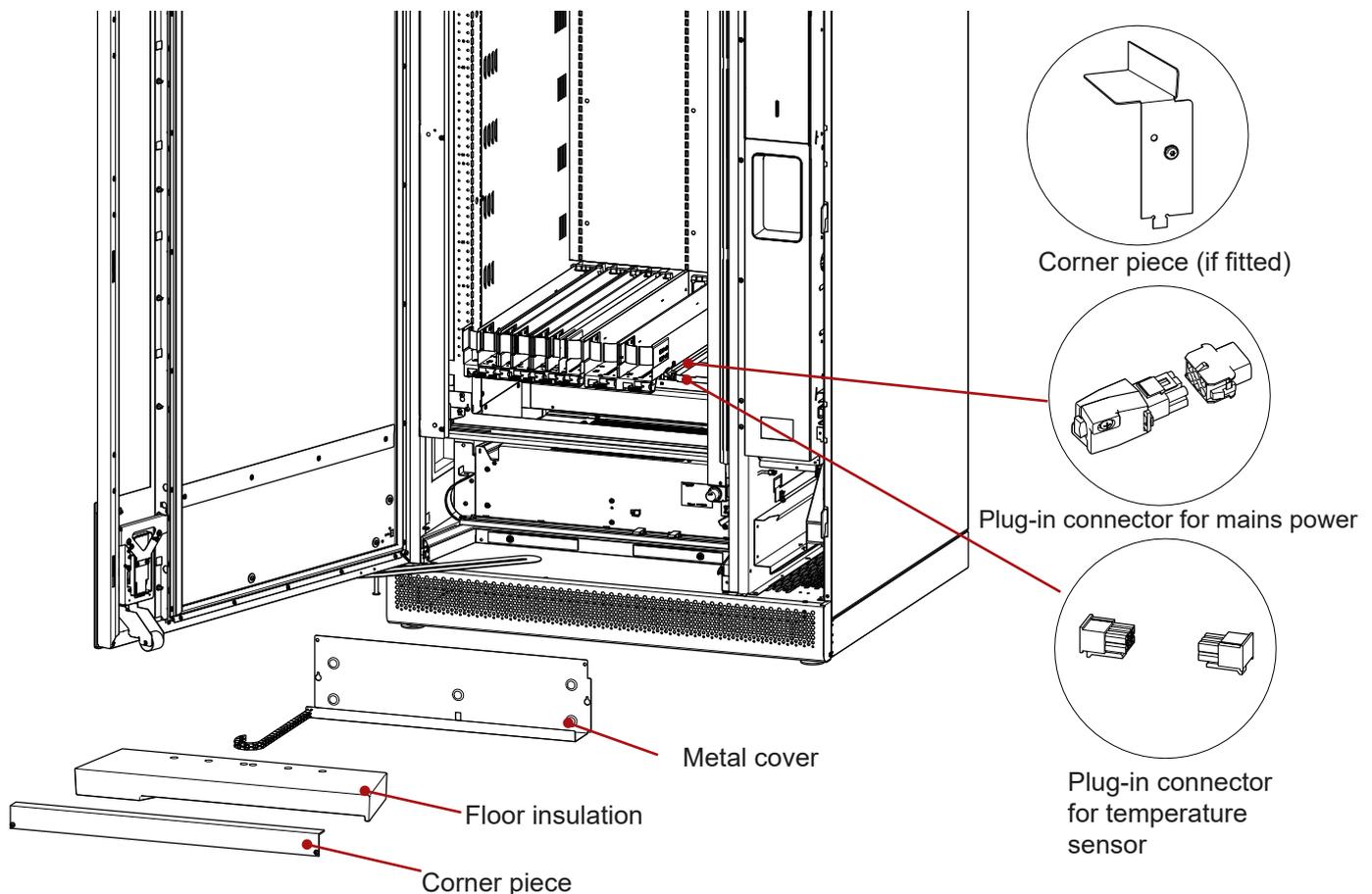
The chiller unit can be damaged if it is tilted over! Only store and transport the chiller unit in its installation position. If the chiller unit has been tilted over, it must be stored in installation position for at least 24 hours before it is switched on again.

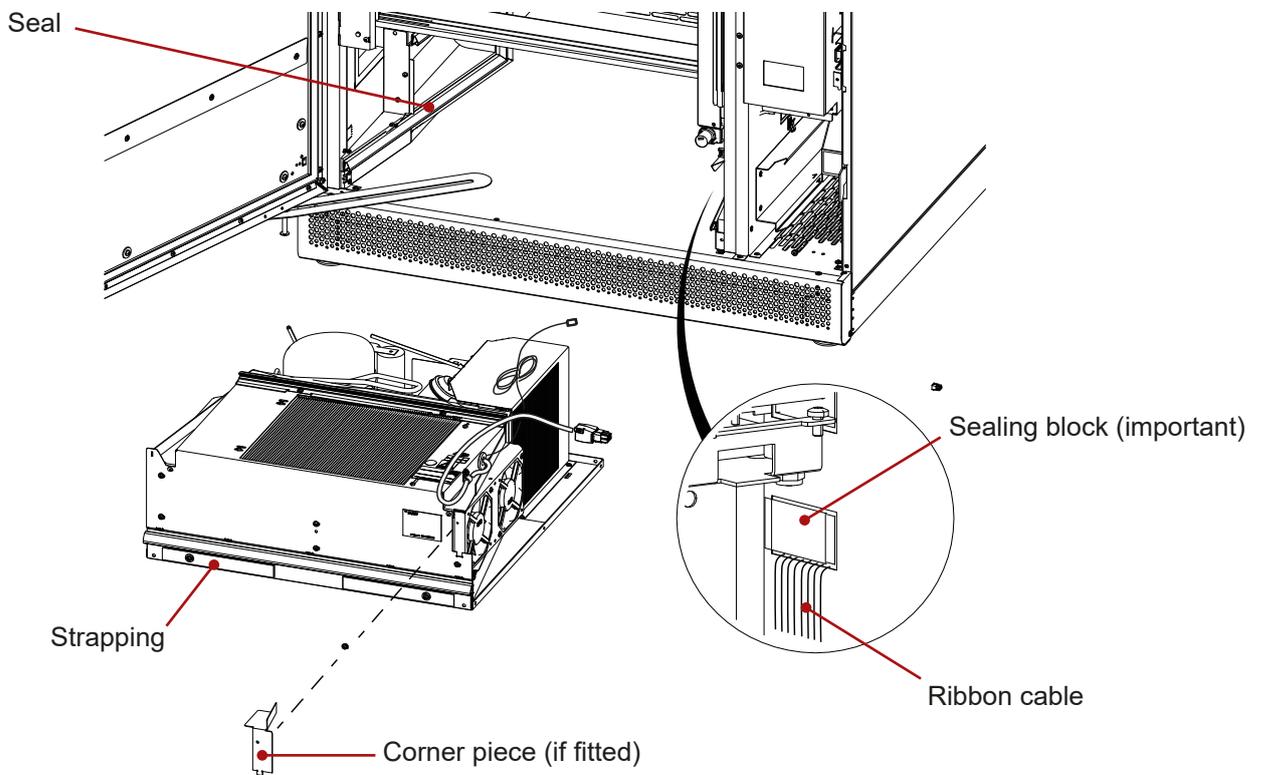
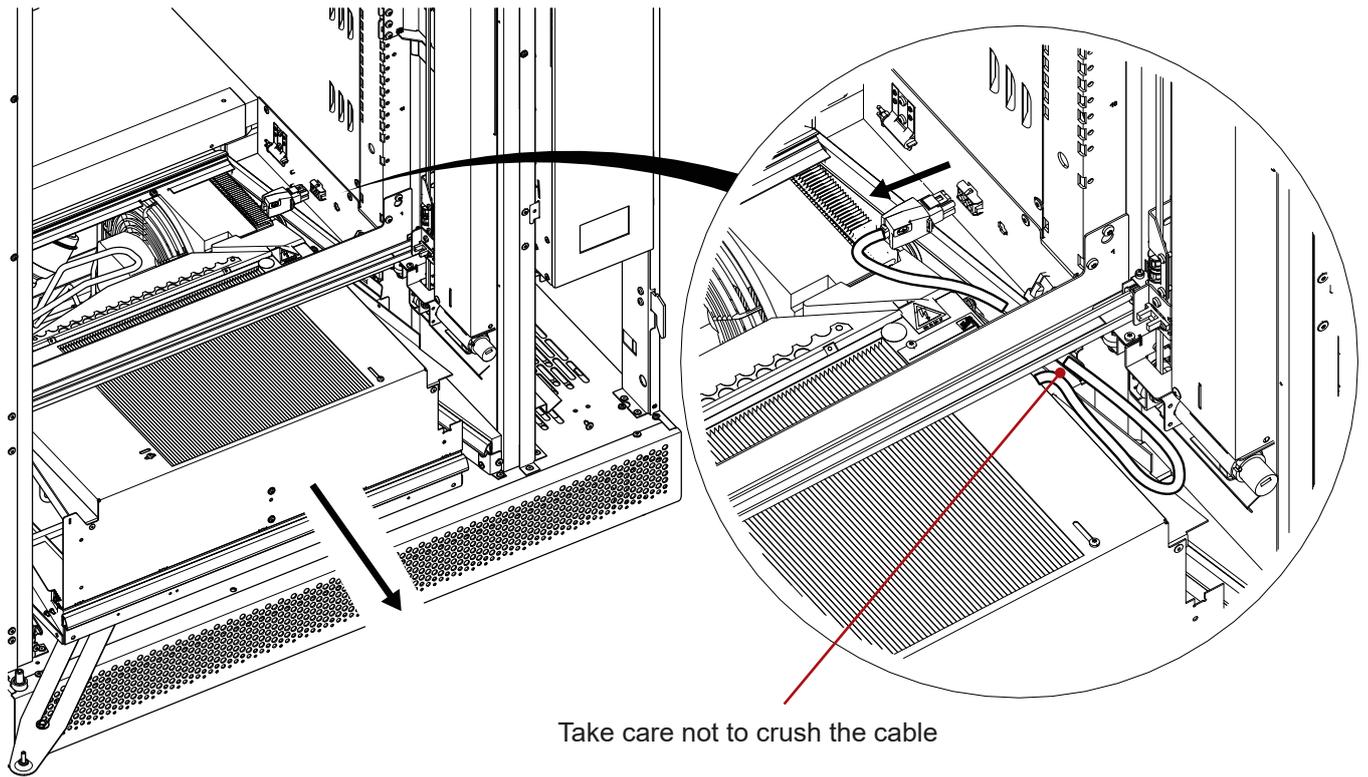
Removing the chiller unit:

1. Remove the mains plug. Open the machine door.
2. Empty and remove the bottom right product container. The plug-in connectors are now accessible.
3. Open the clamping units and remove the ribbon cable.
4. Take out the screws and remove the metal cover.
5. Unscrew the bracket. Remove the floor insulation.
6. Variant M only: remove the screw and take out the elbow joint.
7. Slowly move the lift system to the right and push the product basket into the product delivery bin.
8. Remove the plug-in connectors: the thin cable is for the temperature sensor; the thick cable for the supply voltage.
9. Slowly pull out the chiller module using the strapping. Do not crush the electrical cable!

Install the chiller unit:

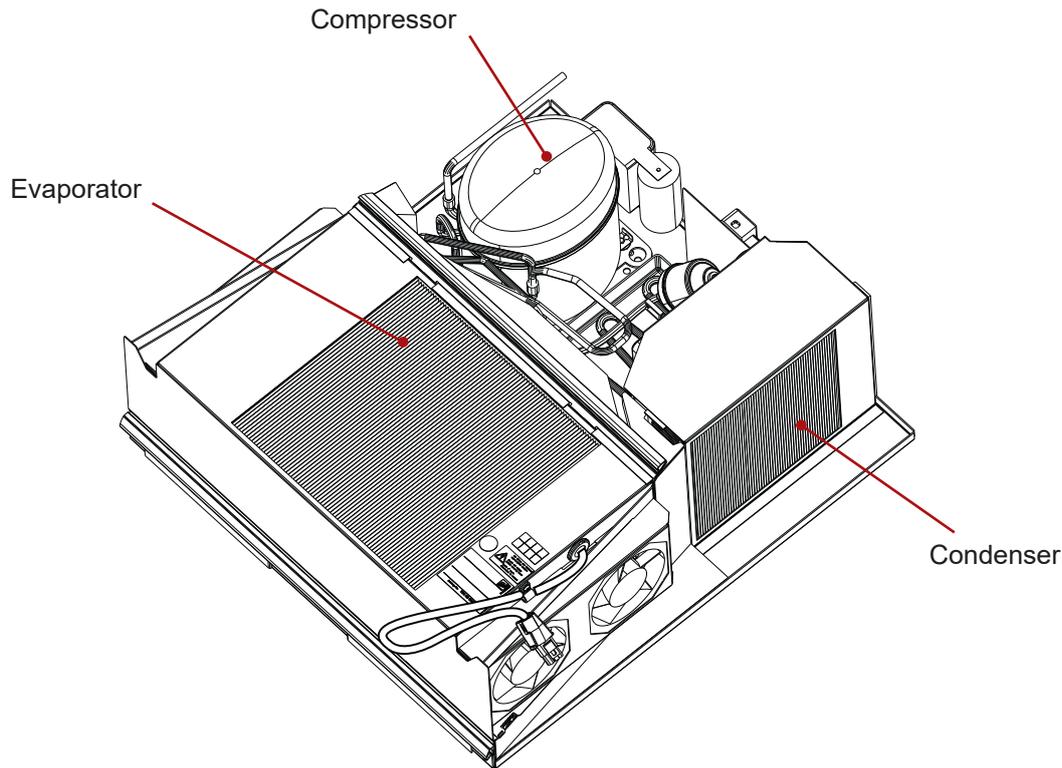
- To re-install follow the instructions above in reverse order.
- Prior to fitting the chiller module, check that the mounting area is free from foreign objects (e. g. screws). The chiller module must be positioned against the whole width of the rear wall.
- Check if the sealing surfaces on the right and left side of the mounting area are intact.





4.4 Cleaning the evaporator and condenser

- Cleaning tasks should only be carried out by trained personnel. If the chiller unit is not cleaned properly damage and break-downs may result.
- Do not use sharp-edged tools.
- Do not use cleaning agents containing abrasives or acids.
- The evaporator and condenser must be cleaned using a vacuum cleaner or compressed air at least every six months. Any dirt residue reduces performance and increases energy costs.
- Areas more prone to dust collection need to be cleaned more regularly.

**Note****Risk of damaging the compressor**

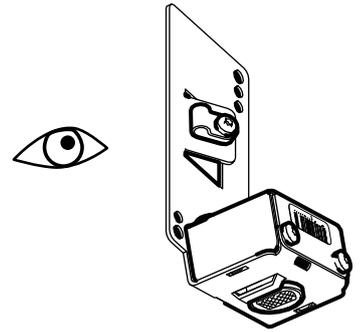
Do not start the compressor more than 5 times per hour!

Do not reduce the 5 minute minimum period of idleness for the compressor!

- Every time the door is closed the machine is ready for vending; the compressor can be heard running and the lighting comes on.
- Each time the service key is inserted a closed door is simulated.

4.5 Check the gas sensor

Check the gas sensor visually for possible damage.



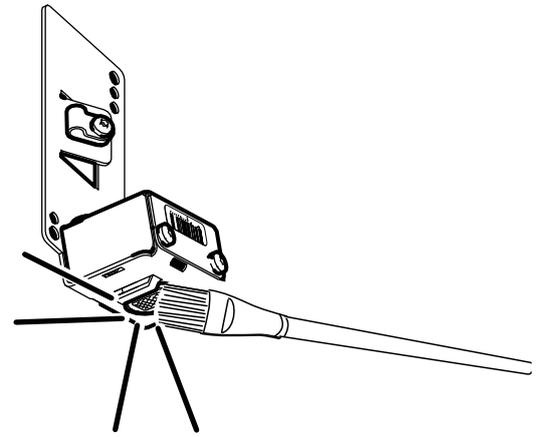
4.6 Clean the gas sensor

Clean the glass inlet only using a brush. The gas inlet must never be obstructed.



NOTE

Never clean the gas sensor with compressed air! Compressed air damages the sensor.

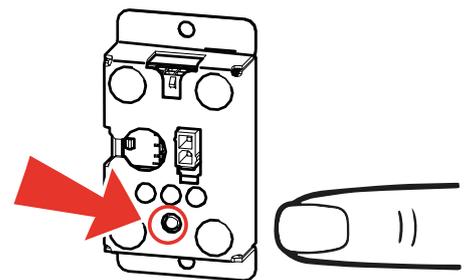


4.7 Initiate self test

To carry out the test the machine must be switched on and operational.

Press the button on the service board for at least 2 seconds. When the button is pressed the machine is disconnected from the mains supply, the yellow LED goes out and a self-test is activated.

- During this test the machine is checked for dual pole mains disconnection via both cut-off relays. If the self-test is successful the green LED lights up. If the red LED is permanently on, repeat the test. If the red LED is still permanently on, the switch-off device must be replaced.
- When the button is released there is still voltage for operating the machine in the power supply and the yellow LED is on. The machine is operational.



4.8 Testing the sensor

Requirements

- The gas sensor must be accessible (gas inlet)
- commercial universal lighter

How to proceed

1. Switch on the machine
 2. Ignite the lighter outside the machine (flameheight 2 cm)
 3. Extinguish the lighter flame, whilst holding down the actuator on the lighter.
 4. Hold the opening of the lighter for approx. 20 seconds in front of the gas inlet opening on the gas sensor.
 5. Put the lighter to one side and wait a few seconds.
- Safety switch-off device disconnects the machine from mains power. Display, machine illumination etc. goes out.
- ✓ Safety switch-off device is working.

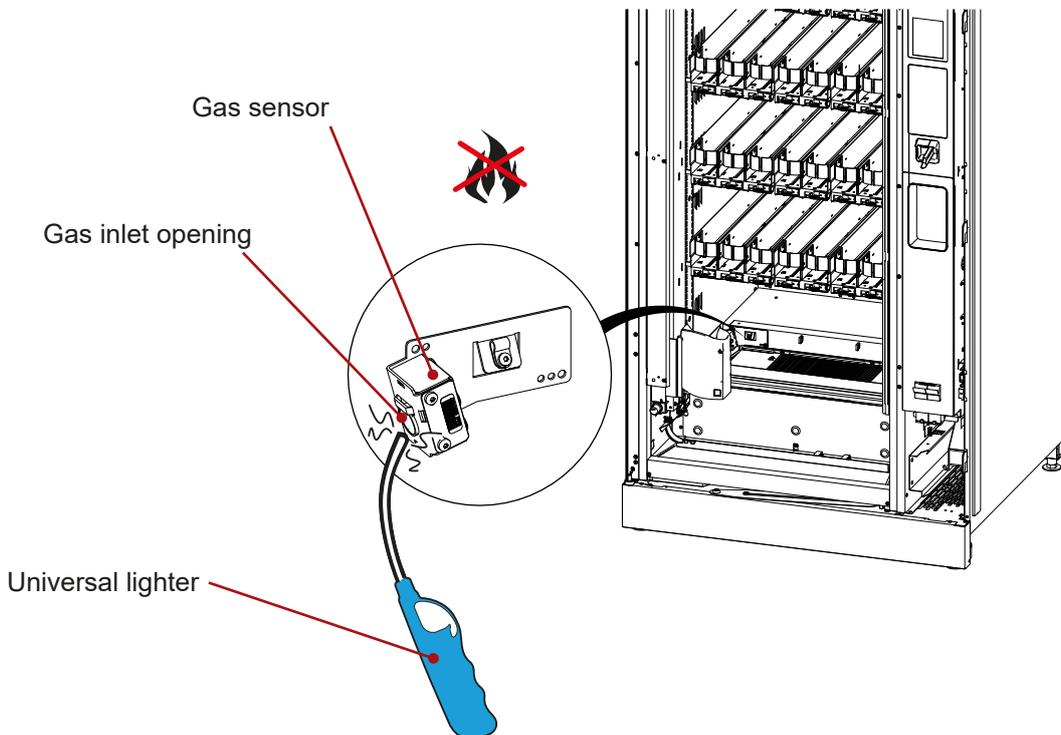
If the machine does not switch off automatically, proceed as follows:

- Check the contents of the lighter as well as the flame height (2 cm). Repeat the sensor test.
- If the test does not work again the gas sensor must be replaced.
The machine must be put out of operation. The switch-off device and chiller unit must be tested.

After testing

It can take several minutes for the gas to escape from the sensor head and for the concentration in the sensor to be below the maximum permitted. The process can be accelerated by adding air to the sensor.

The machine switches back on.



4.9 Changing the gas sensor

Proceed as follows

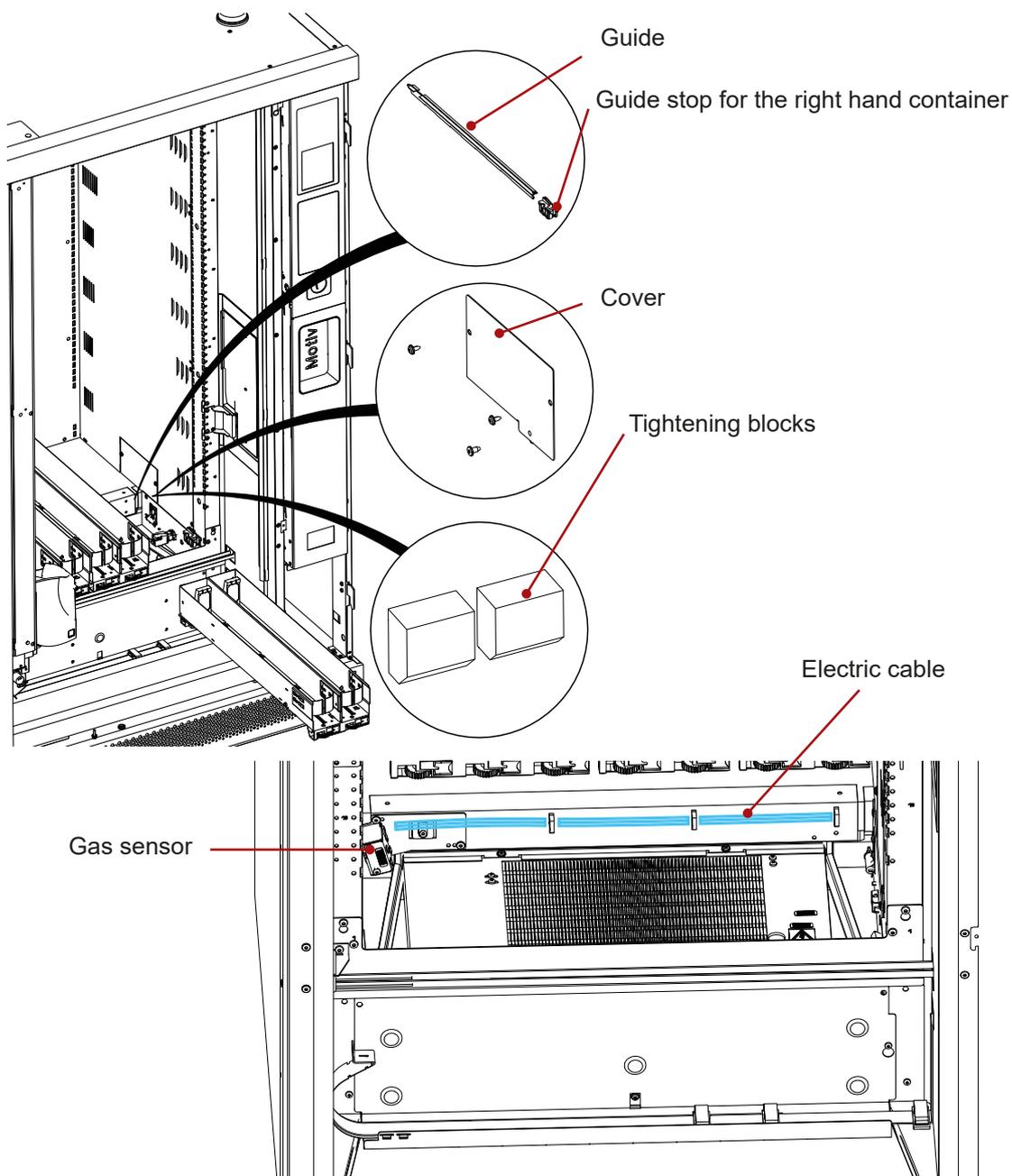
1. Remove the screw on the mounting and unhook the gas sensor (keyhole)
2. Remove container lower right
3. Remove the guide stop for the container on the right hand side
4. Remove the guide for the container on the right hand side
5. Loosen screws
6. Remove the cover
7. Remove the sealing block

✓ The electric cable can be pulled through the dividing wall.

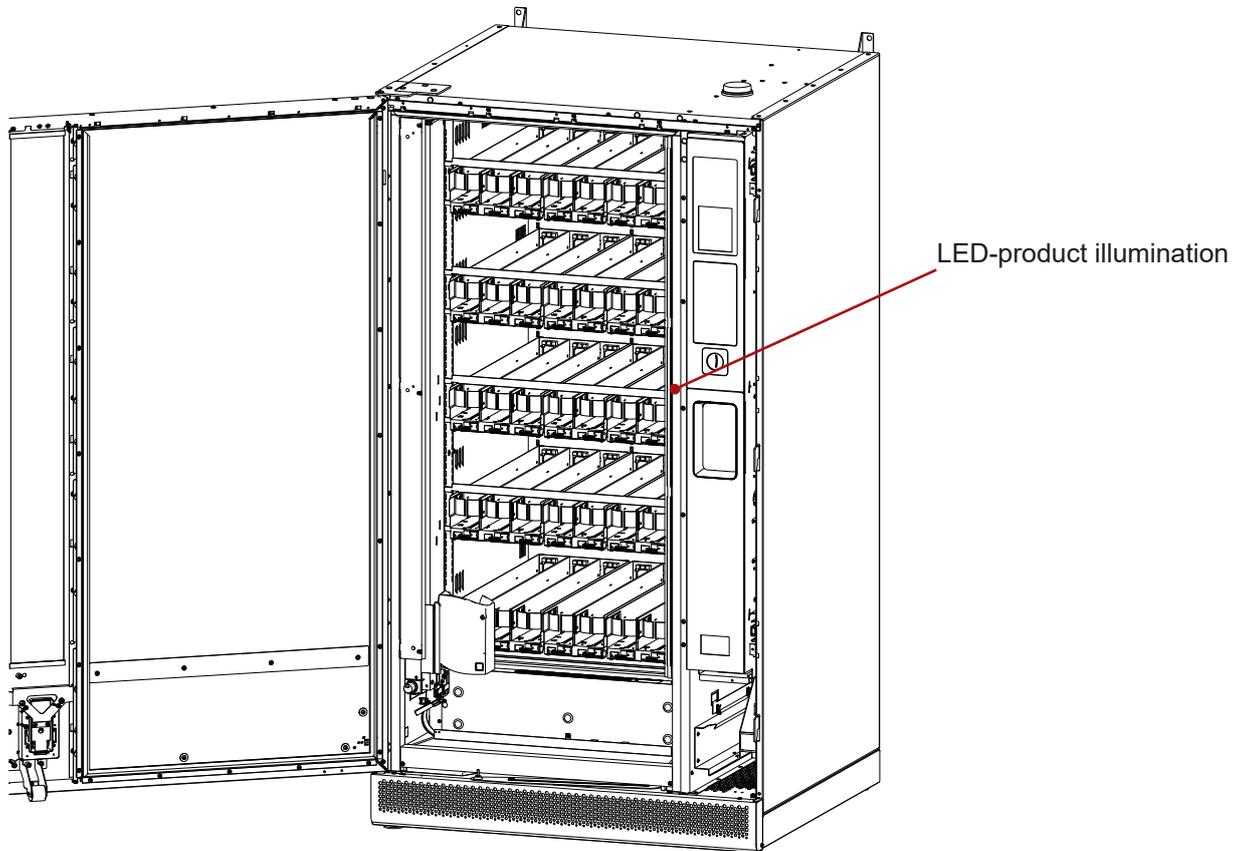
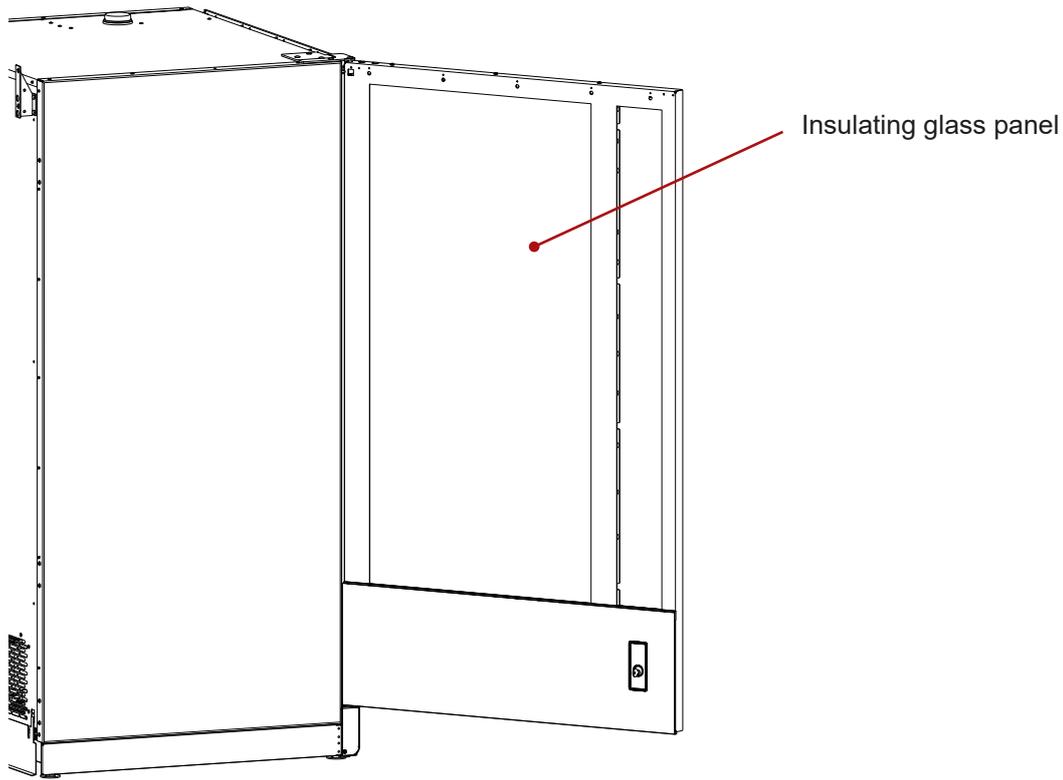
8. Remove the gas sensor with electric cable

✓ **The gas sensor has been removed.**

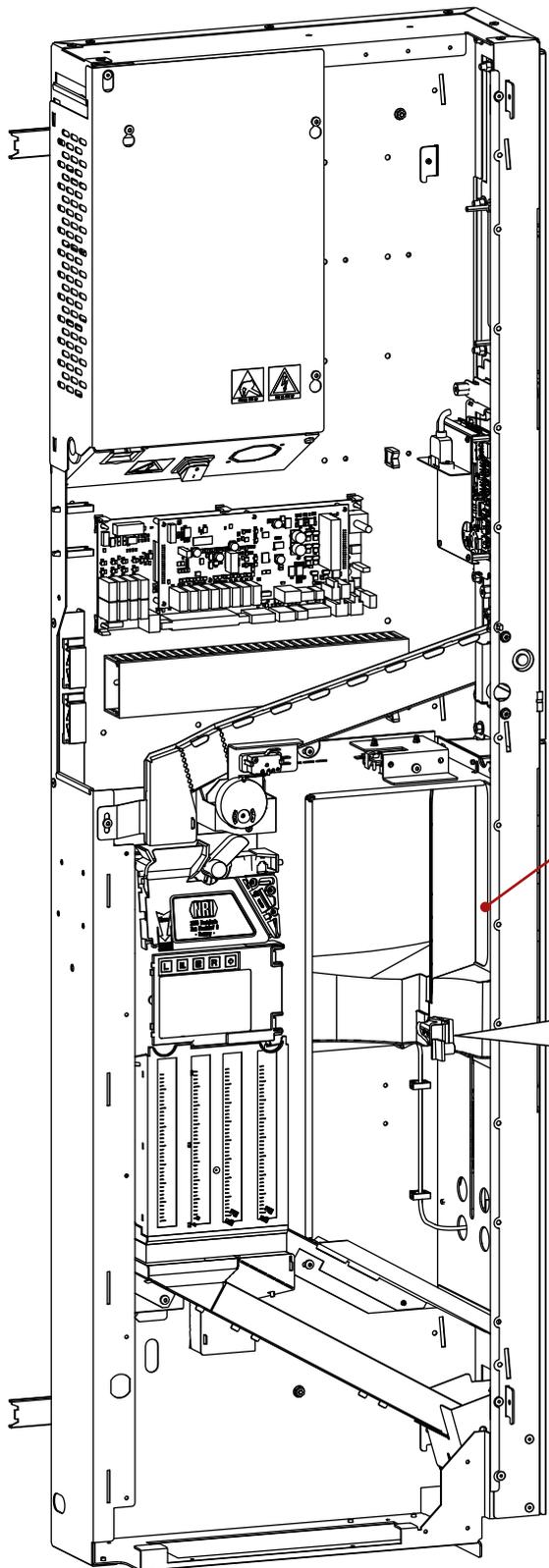
To install a new gas sensor follow the instructions in reverse order.



4.10 Machine door

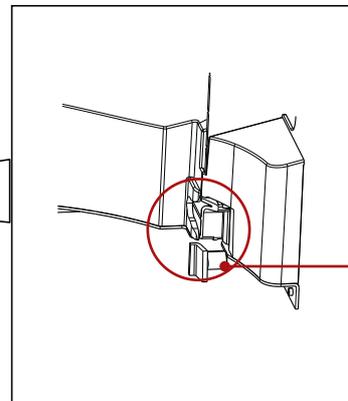


Sliding drawer unit

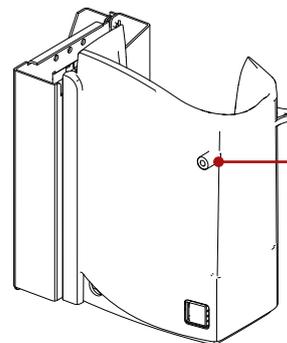


The outlet flap is pushed downwards when the unlocking device is pressed by hand.
 During a sale the unlocking process is activated by pins at the top of the product basket.

Delivery unit flap



Unlocking mechanism

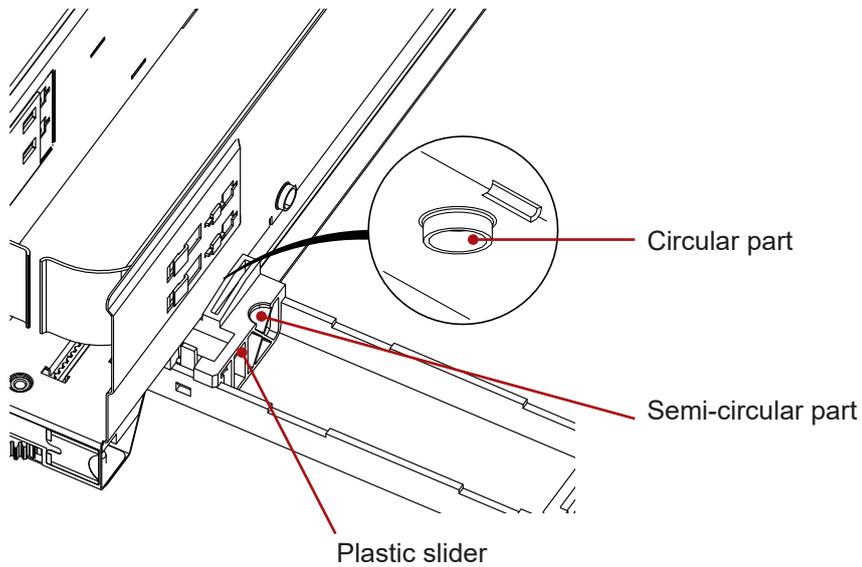


Mounting peg

Compartments

Container lock-in function

- The containers must be correctly clicked in to ensure exact positioning. Only then will the basket travel during operation with the coupling of the gear wheels.
- The circular part on the lower side of the container must click into the semi-circular part on the plastic sliders. A definite click can be heard.



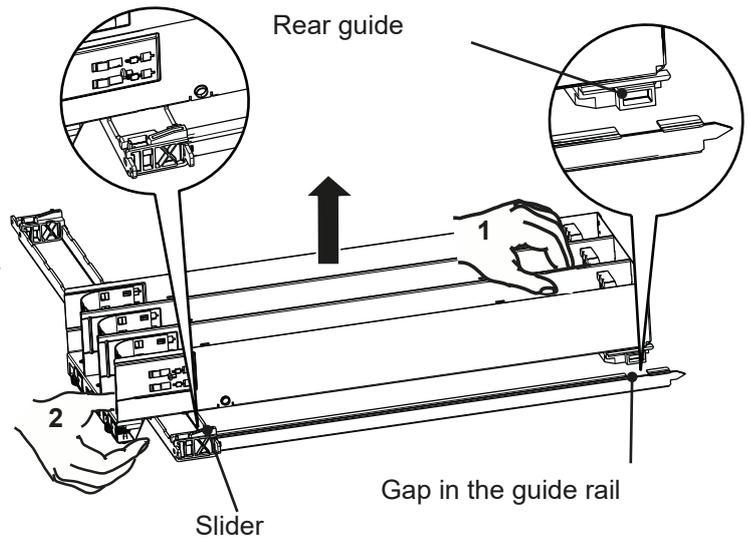
4.11 Removing and inserting the product container

Removing the container

To take out the container, remove all products first.

Using one hand lift the product container slightly at the rear whilst pulling it out at the front with the other hand.

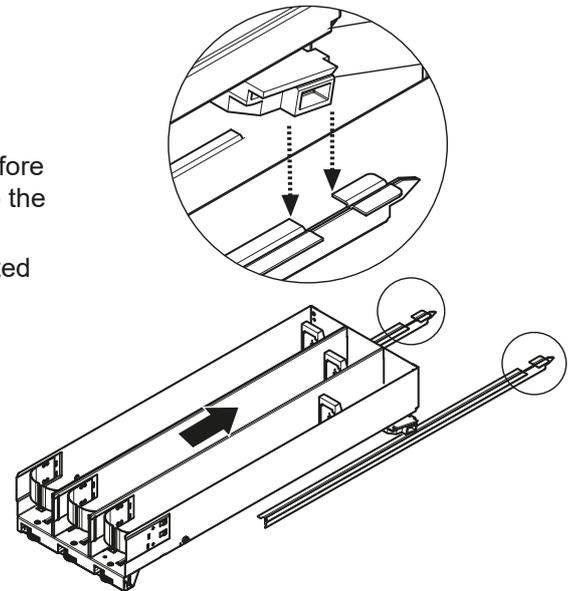
The rear guide must be lifted up through the cut-out in the guide rail.



Inserting the product container

Position the container onto the guide rails and push it in. Shortly before the stop on the rear wall the sliding guide can be heard clicking into the gap in the guide rail.

When it is inserted, the product shelf should be horizontal and located against the rear side.



Tilting the pusher container

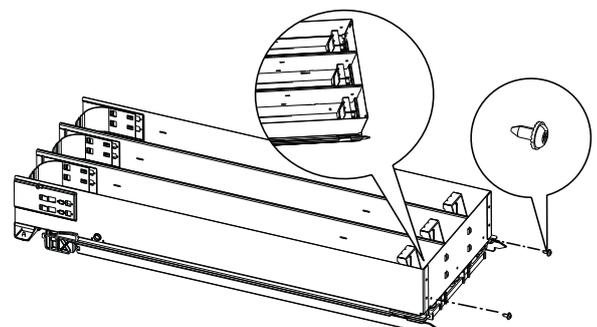
Containers can be tilted. The tilting mechanism on pusher containers is disabled when the machine leaves the factory.

Containers are tilted at the operator's own risk.



Caution!

Products may fall out if the container is tilted!
The tilt mechanism should not be used for glass bottles.



4.12 Exchanging the product container drive

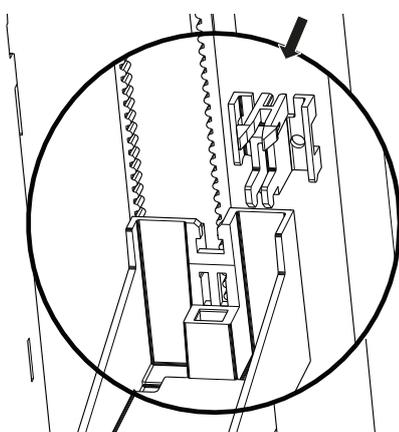
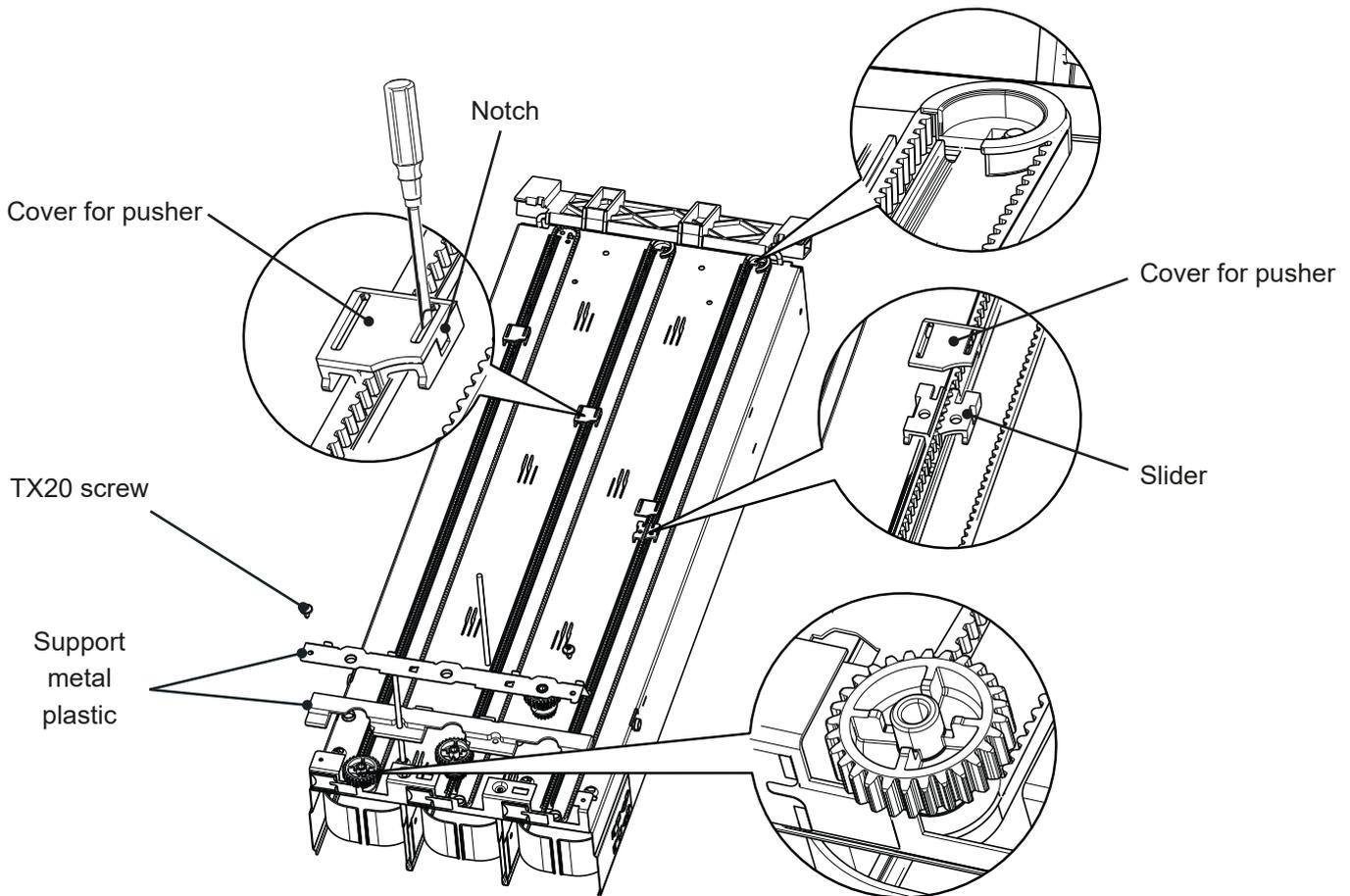
The drive of the compartment is designed in a maintenance-free and easy-to-service way. All components can be exchanged if damaged.

How to proceed

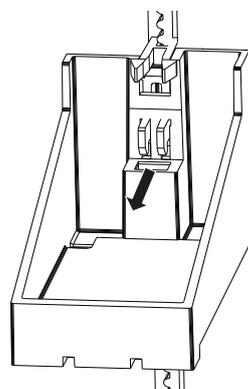
Turn the container over. Remove the two screws using a TX 20 screwdriver. Lift off the metal and plastic supports. Pull out the spindles.

Release the locking catch on the cover and lift off. Unhook the ribbed belt from the slider.

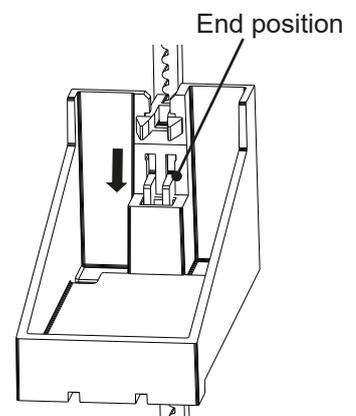
To re-install follow the instructions above in reverse order.



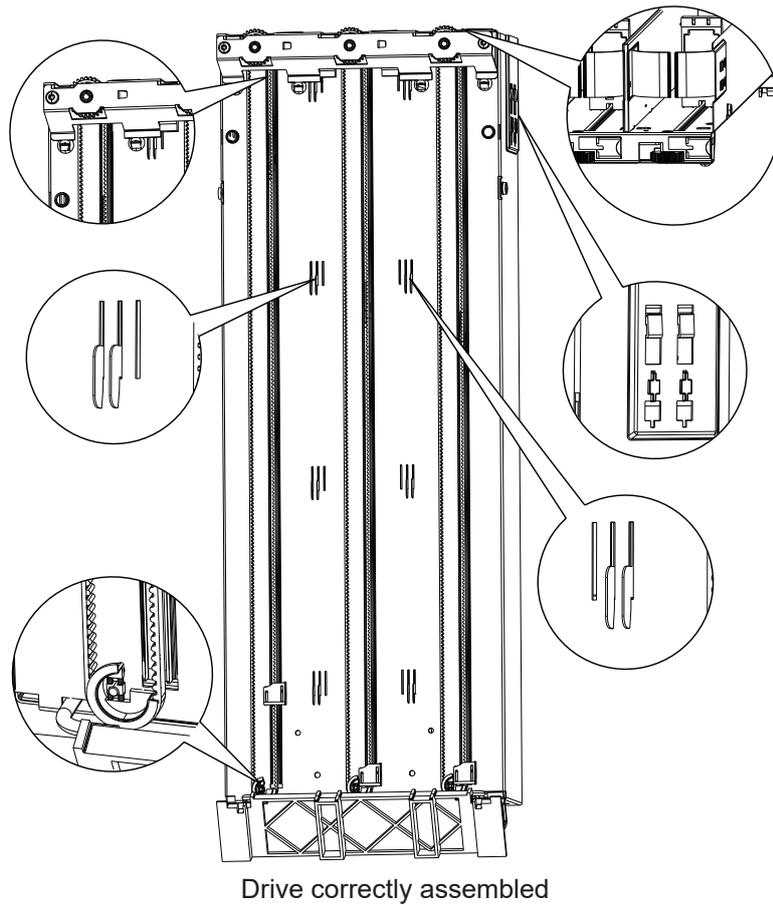
Fit the sliding guide to the base of the product container



Hold the pusher and click in the sliding guide.



Move the sliding guide to end position.



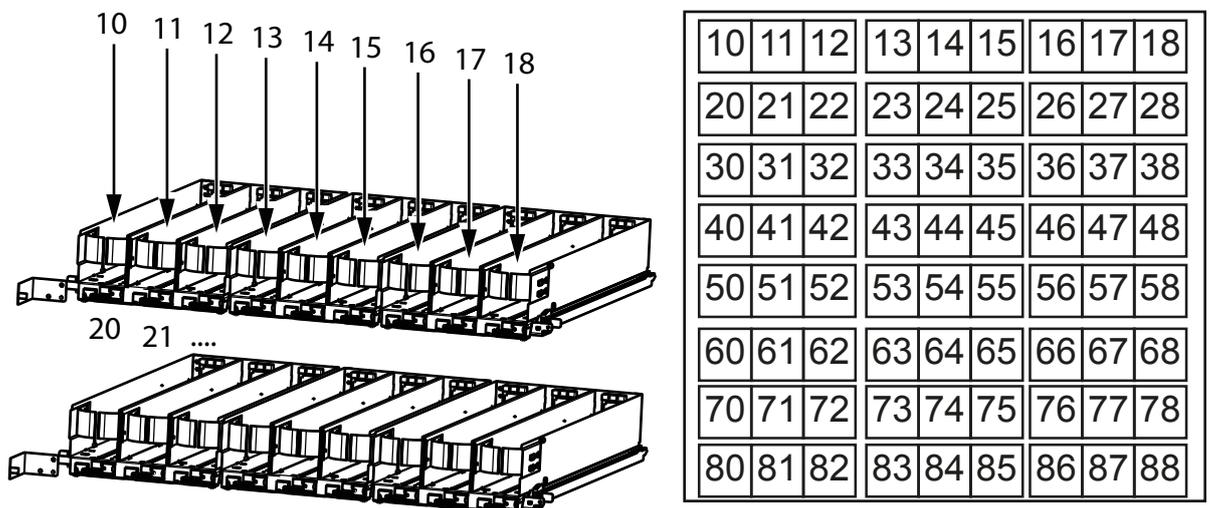
4.13 Container numbering

The containers start with chute number 10 top left and run consecutively to 16 or 18 on the right.

The second row starts at number 20 and ends at 28.

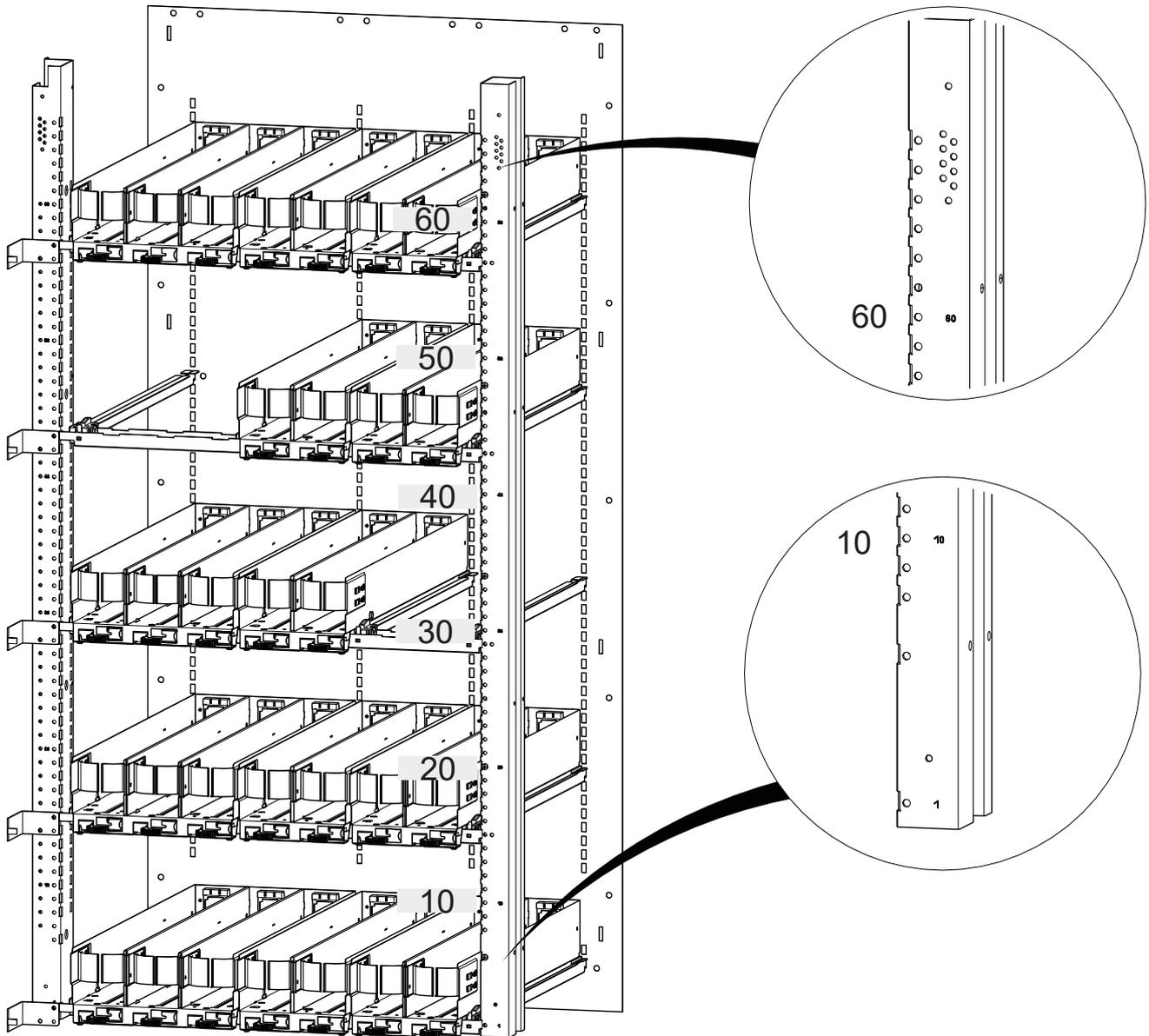
A maximum of eight shelves can be fitted.

If the shelves have been modified, menu M10 AutoConfig must be accessed so that the shelves are automatically identified.



5. Removing the components

5.1 Adjusting the container heights



5.2 Moving the container shelves

The shelves can be installed to suit the product heights.

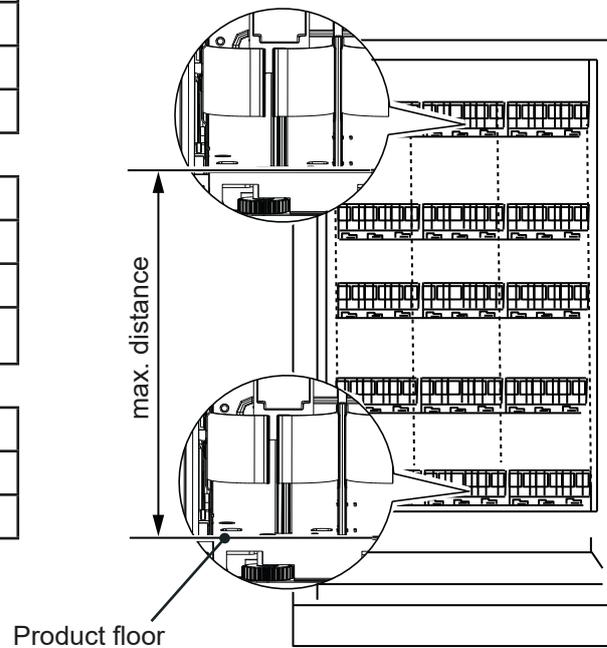
The spacing is 19.35 mm, i.e.the shelf can be moved by this amount.

A reference run must be carried out after the shelves have been relocated. See “6.14 Initiate reference run: [Shelf lookup]“ on page 48.

Product requirements	
Can 0,25l	Ø 53 mm / Height 134 mm
Bottle 0,5l	Ø 66 mm / Height 234 mm
Bottle 0,6l	Ø 72 mm / Height 240 mm

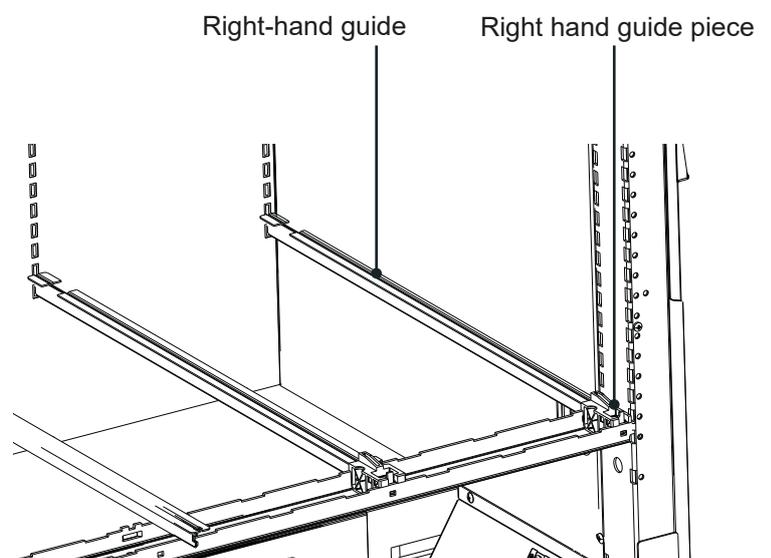
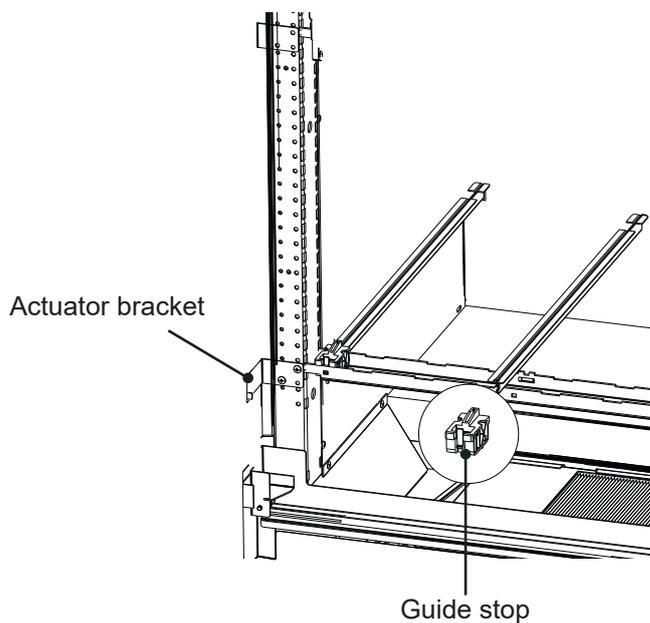
Maximum product heights	
5 shelves	240 mm
8 shelves	123 mm
Transportable through division wall.	270 mm

Distance between product floors	
Minimum distance	154,8 mm
Maximum distance	1161,0 mm



How to proceed

- Empty and remove the containers.
- Unlock the guide blocks and remove the parts. The guide is inserted into the back panel.
- Unscrew the safety brace on the front cross brace and remove the cross brace. Important: also relocate the bracket.



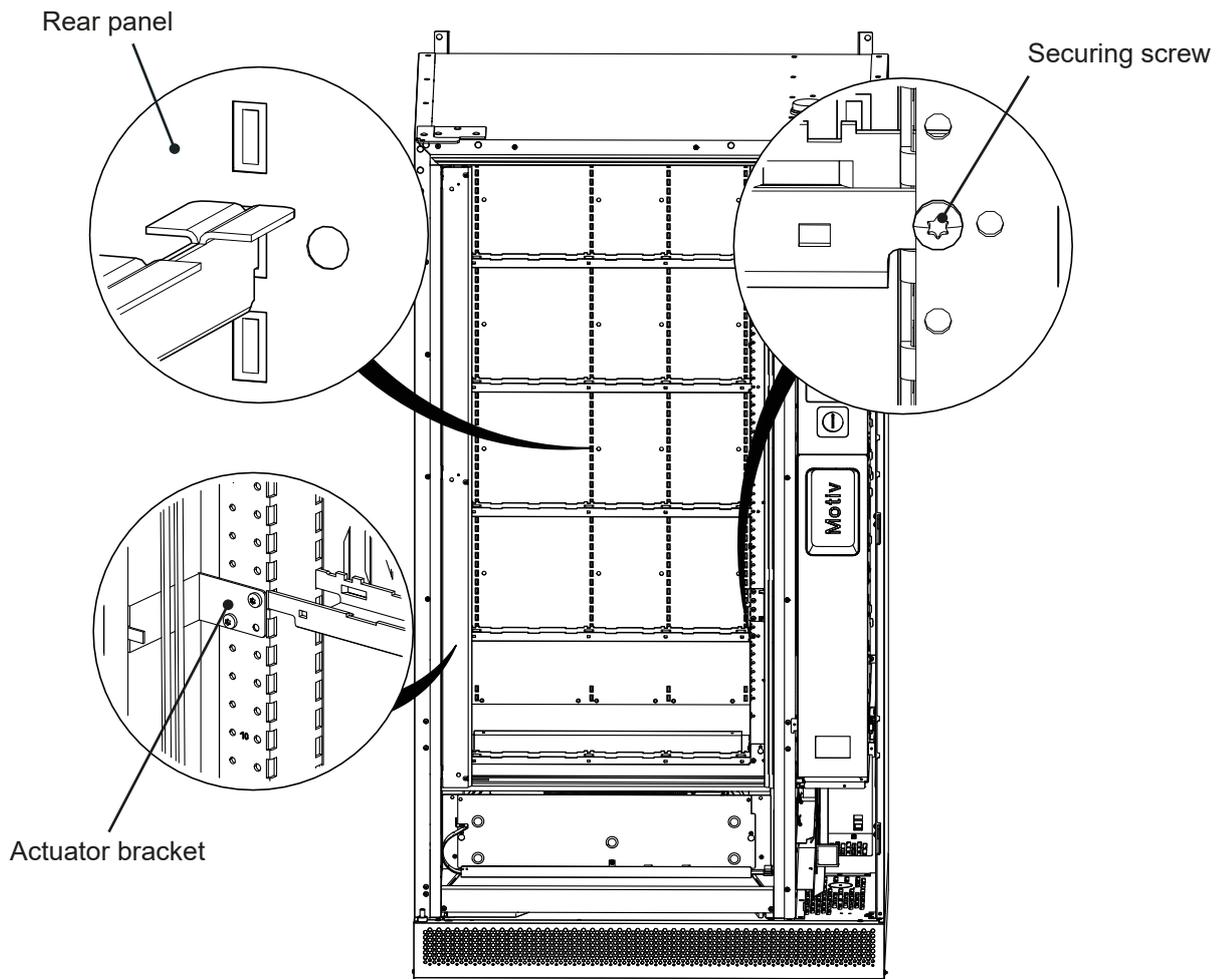
5.3 Install the product shelves

Position the cross brace at the required height. On the right hand side insert a securing screw, on the left hand side secure the actuator bracket using two securing screws.

Insert the guide, top first into the recess provided, finally secure the guide at the front with the guide block.

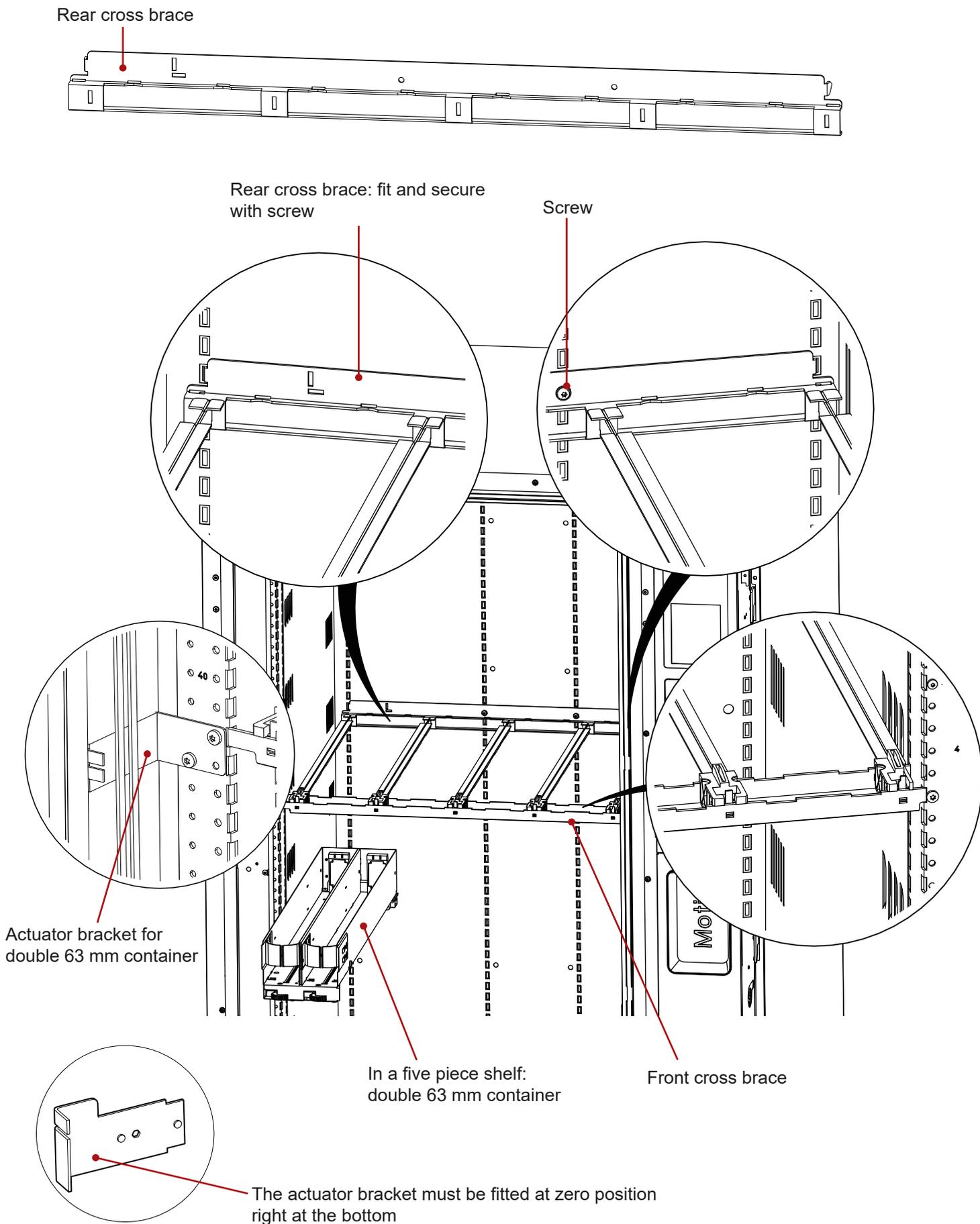
Please note: There is a "right hand guide" with a "right hand guide block" for the right hand side.

Check the guide installation to ensure that all the shelves are fitted horizontally.



5.4 Fit double 63 mm container

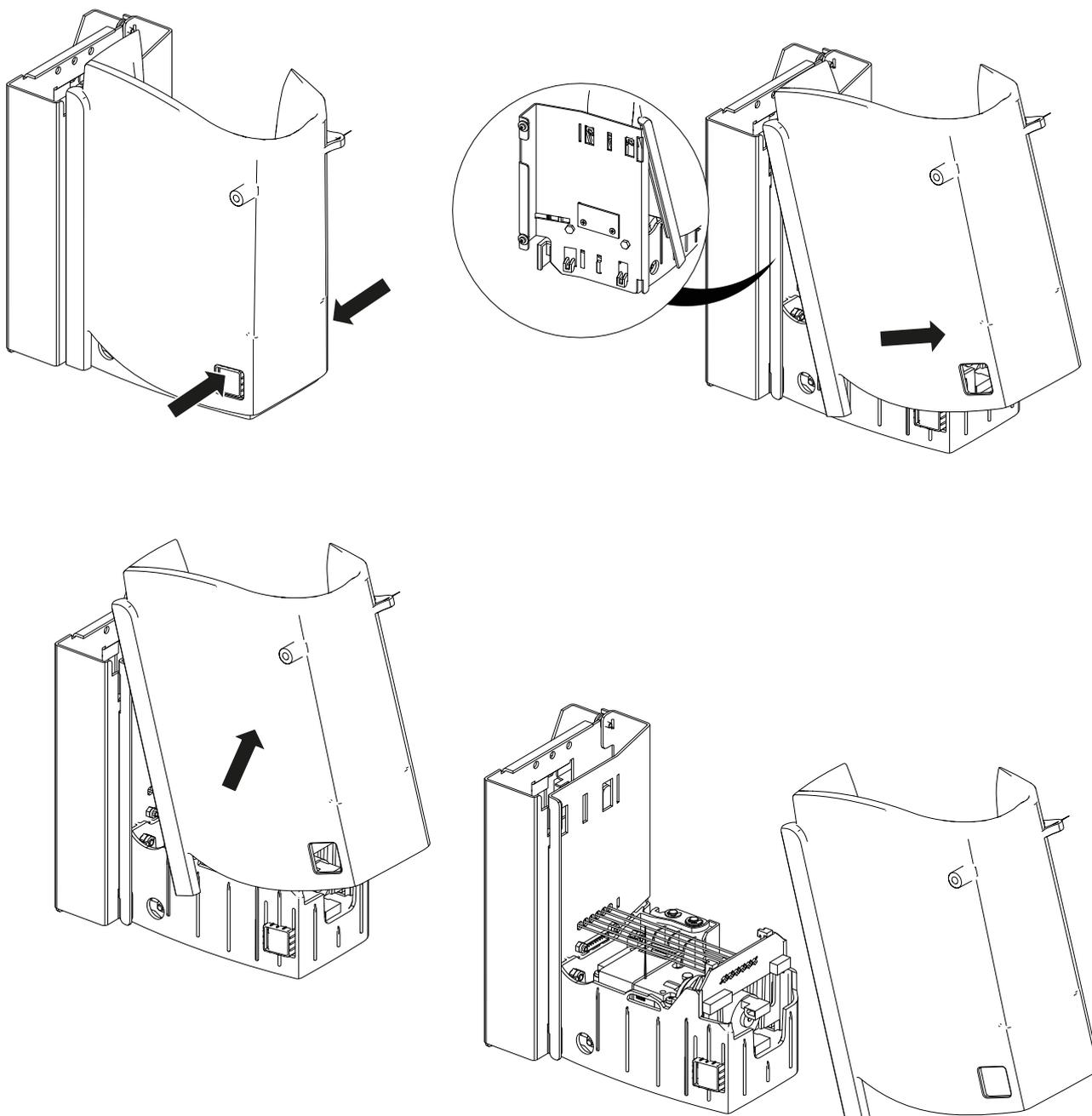
The cross brace is fitted on the back wall and secured with screws.



5.5 Taking out the product basket

1. At the same time press the locking nipples front and back.
2. Tip the basket upwards slightly.
3. At the same time pull the basket downwards and backwards.

To re-install follow the instructions above in reverse order.



5.6 Exchanging the basket holder

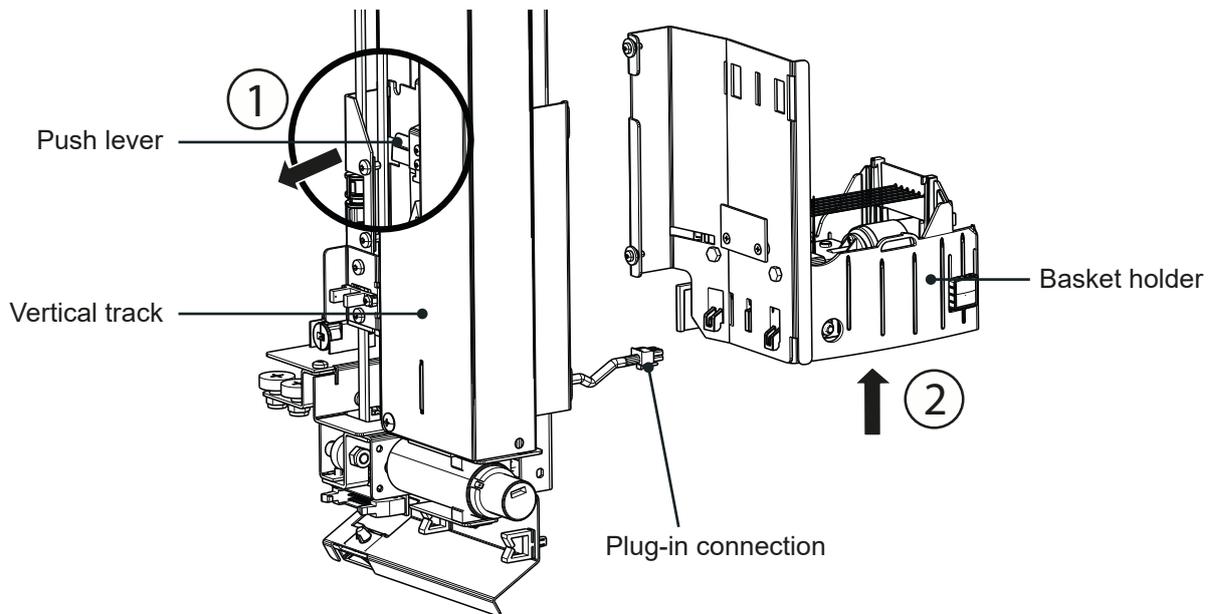
The basket holder can be unhooked and exchanged without using tools.

5.6.1 Removal

Hold the carriage for the vertical rail with your left hand and activate the lever using your index finger (push to the left).

Then separate the basket holder from the bracket with a slight tap underneath on the basket holder.

After unhooking it separate disconnect the electrical cables from the plug connections.

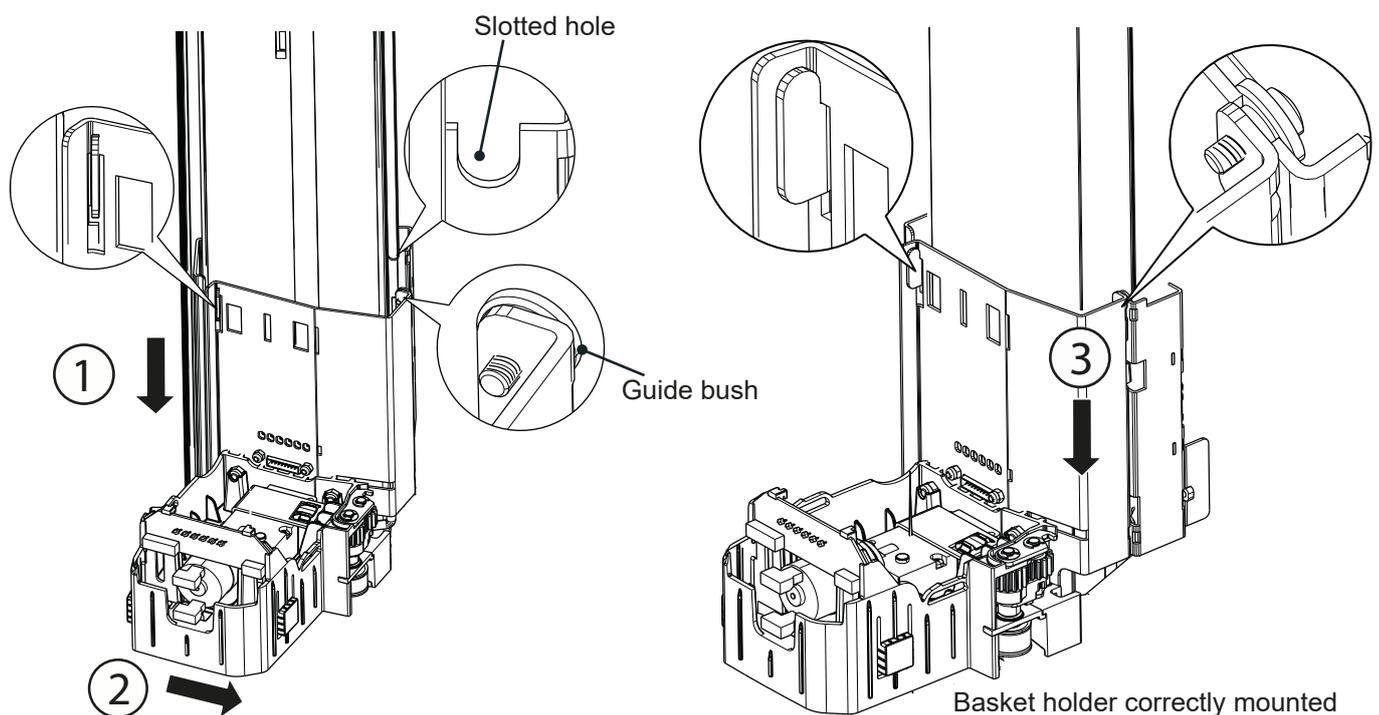


5.6.2 Assembly

Lay the electric cables in the clamping units provided underneath the basket holder and re-connect the plug.

Mount the basket holder and swivel backwards. Place both guide bushes from above into the slotted holes, press the basket holder downwards whilst pressing the lever.

Take care to fit correctly.



6. Build information

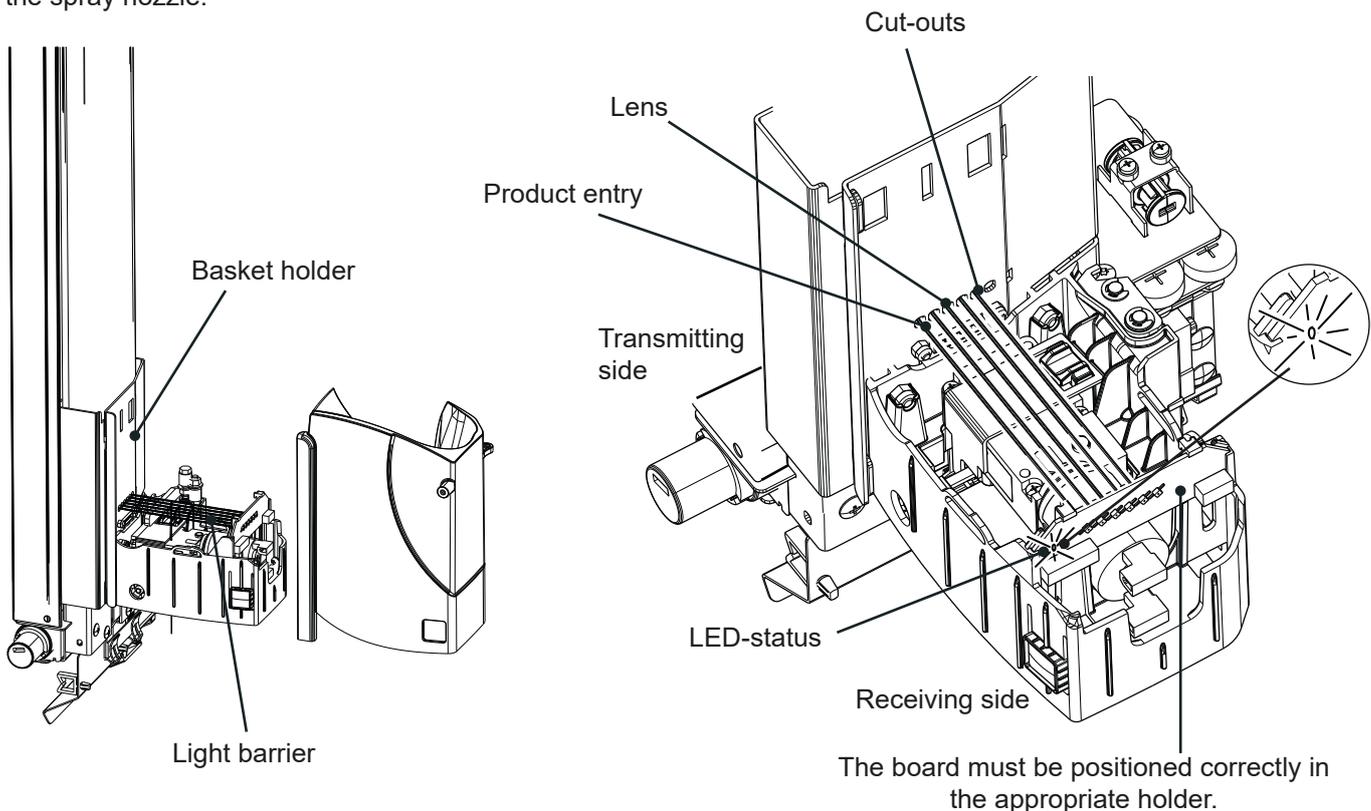
6.1 Product basket light barrier

The light barrier in the product basket must detect the product in the basket. This is done by several rays being arranged in parallel, just one ray breaking is sufficient for product detection.

A status-LED will flash on the receiver board.

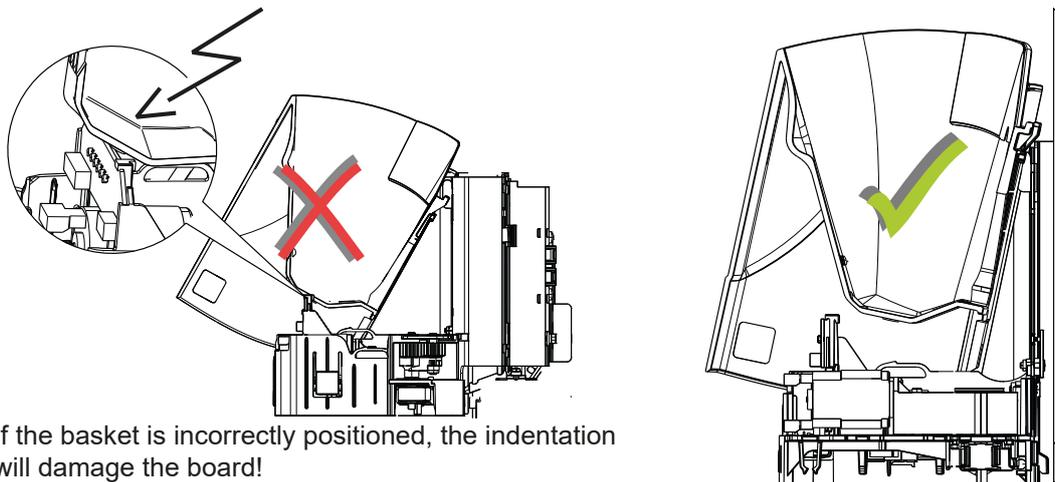
Flashing frequency	Status
Slow (every 5 sec.)	OK
Fast	Light barrier faulty

The cut-outs and the lenses on both boards must be dust-free; remove foreign bodies (e. g. labels) if necessary. Cleaning with compressed air from a spray is sufficient. Caution, sensitive components! Do not get too close with the spray nozzle.



Be careful not to damage the board!

If the product basket is inserted incorrectly the light barrier board may be damaged. For this reason be careful not to damage the board with the indentation in the bottom of the basket!



If the basket is incorrectly positioned, the indentation will damage the board!

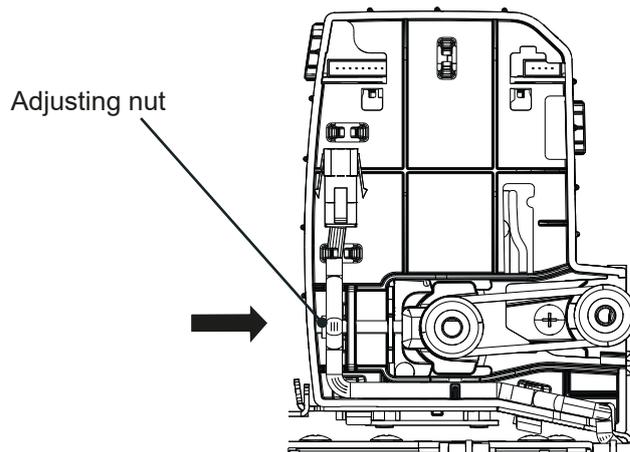
6.3 Product basket belt tension

The toothed belt for the Z-axis drive with the pendulum drive is located on the underside of the basket. In order to adjust the belt tension use a box spanner SW7 (and an adjusting gauge if available).



NOTE!

Do not tighten the belt too much, risk of damage!



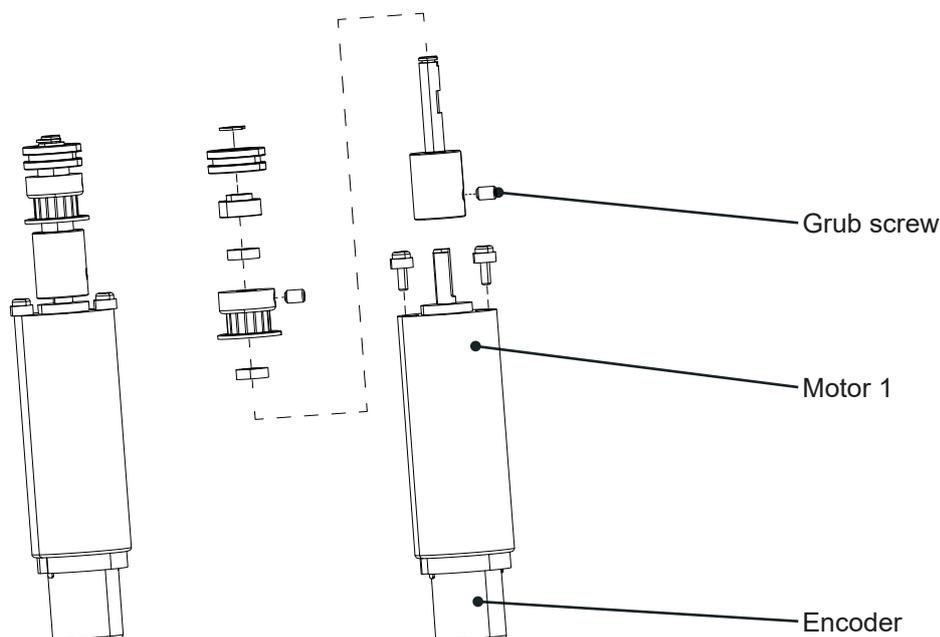
6.2 Motor position

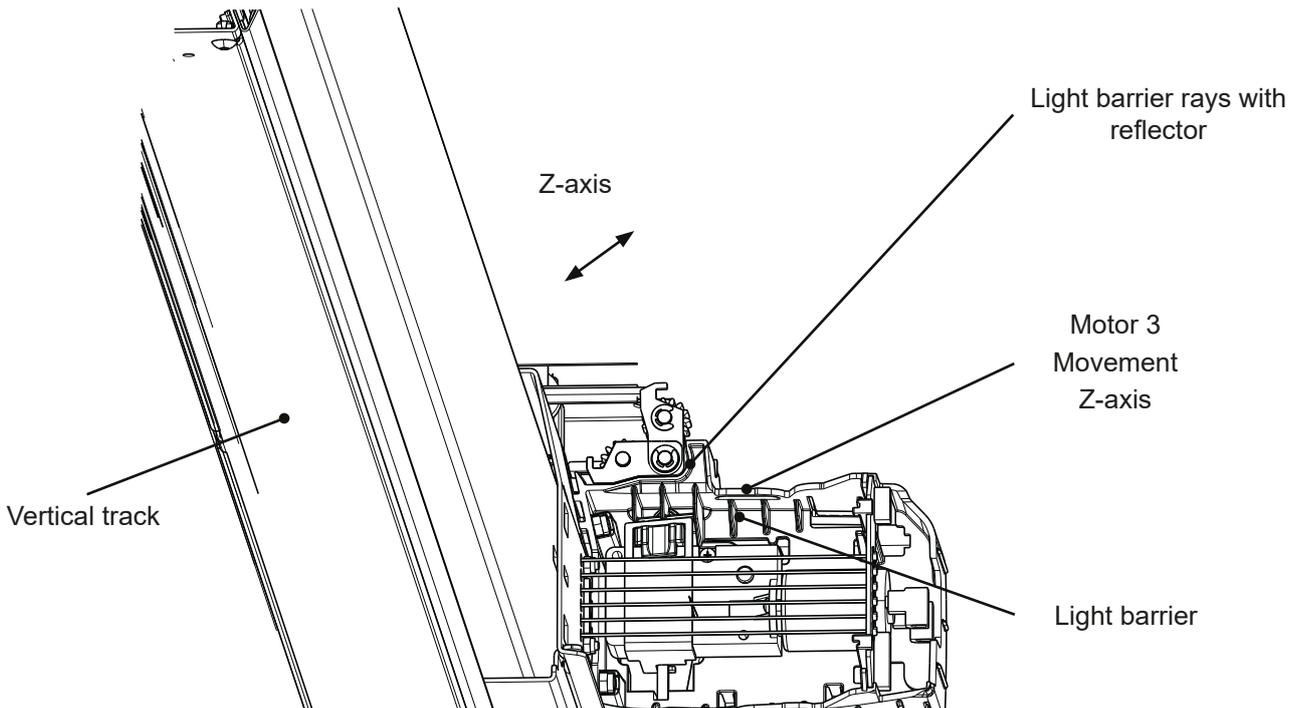
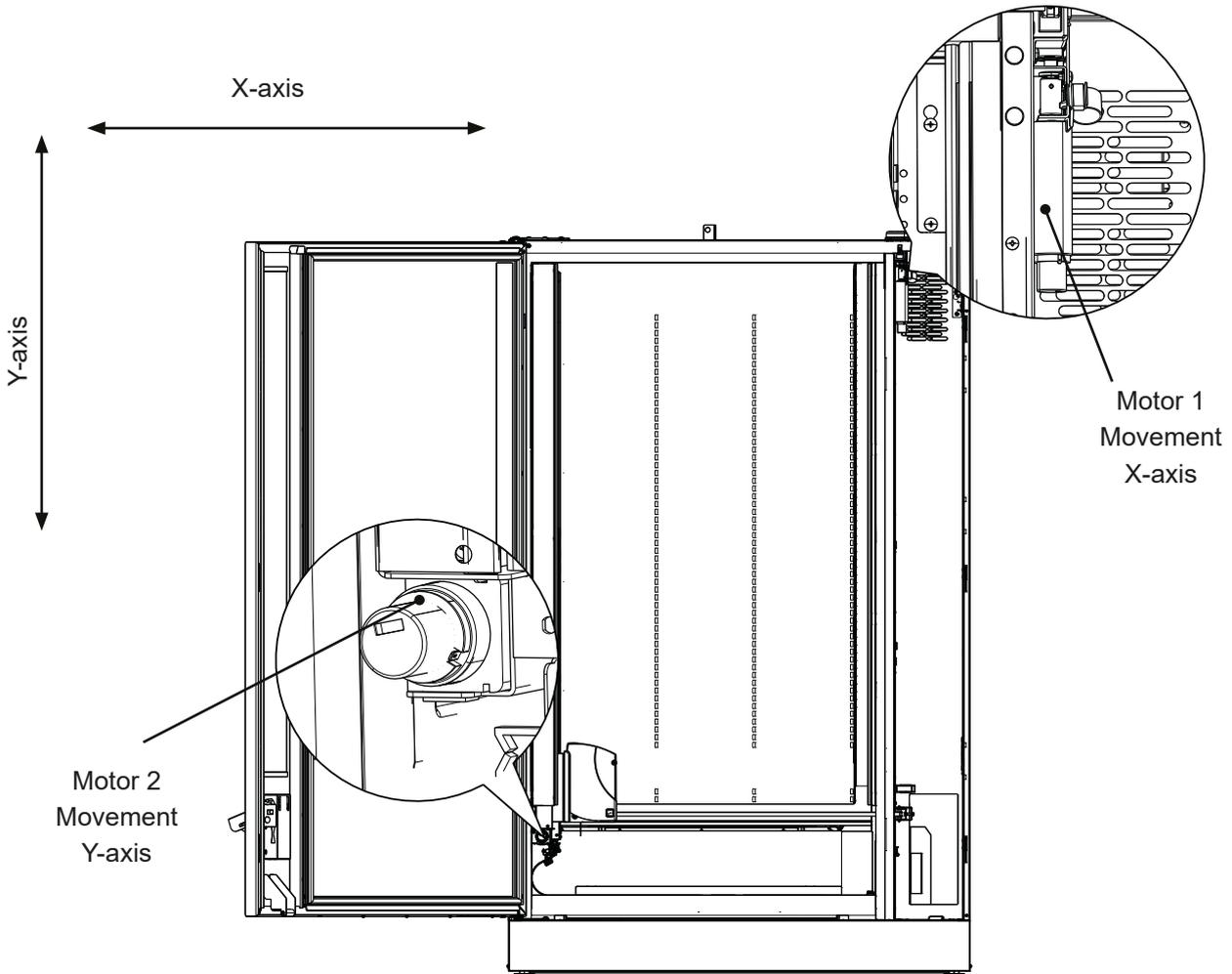
There are 3 electric drive motors in the vending machine.

Motor 1: is located on the right at the top and can be seen once the sliding drawer unit has been pulled out.

Motor 2: is located on the vertical rail outside the product basket.

Motor 3: is located under the product basket.

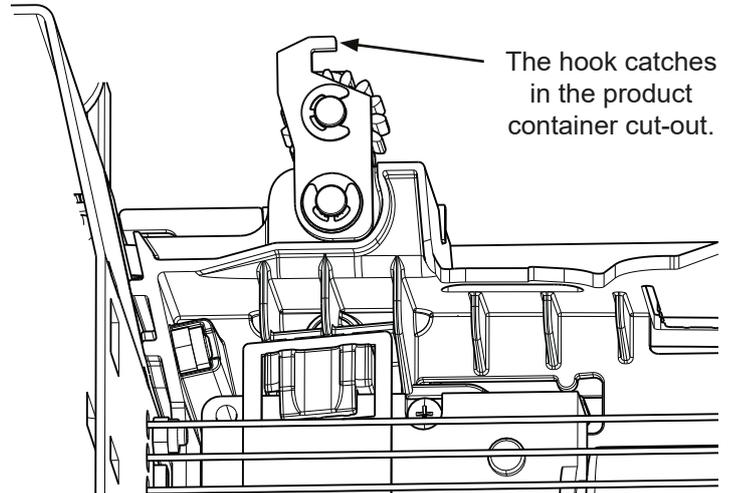
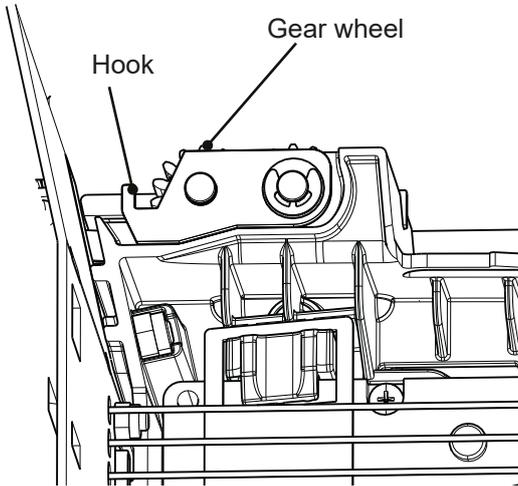




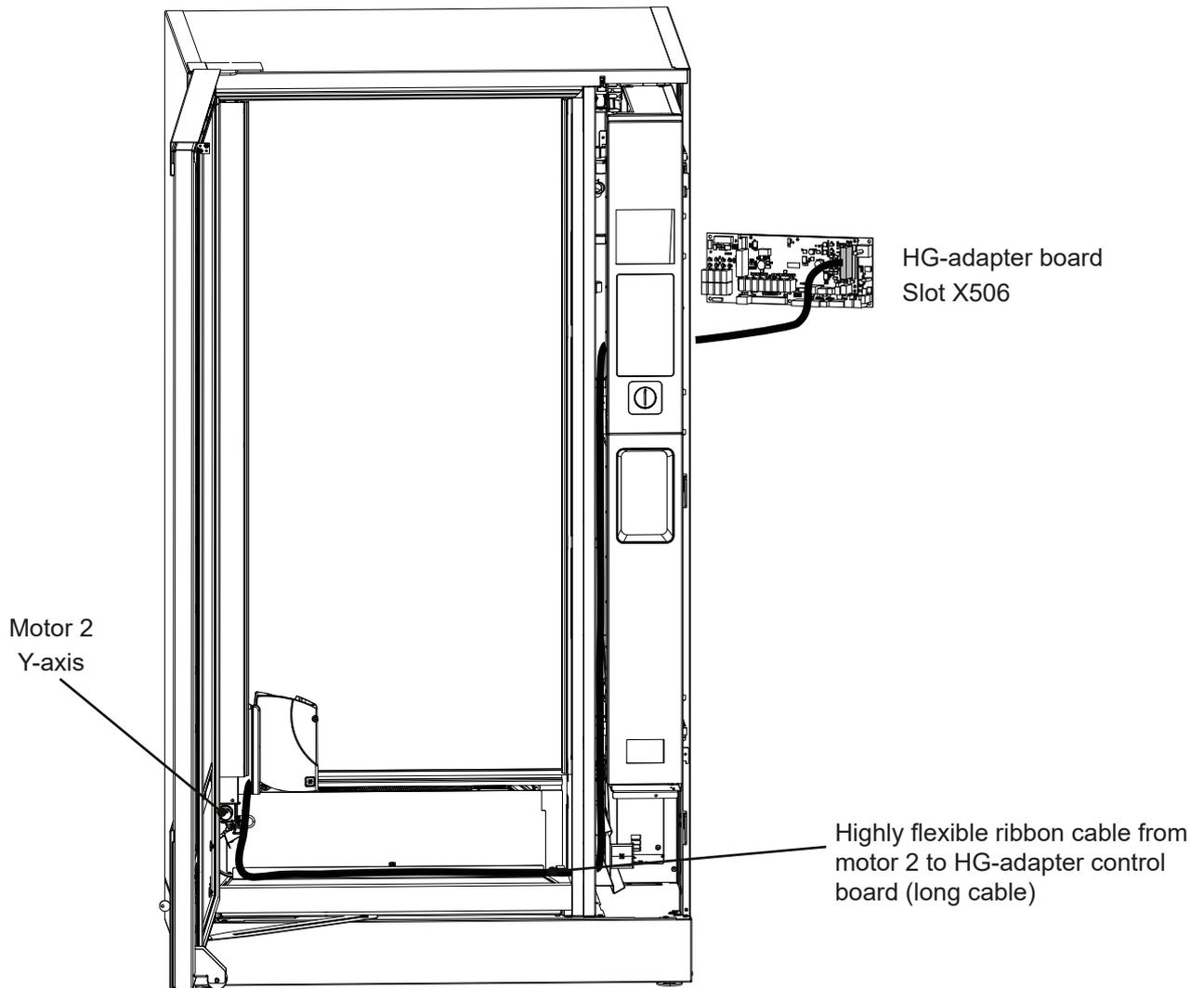
Motor 3
Z-axis
Home position,
Hook engaged

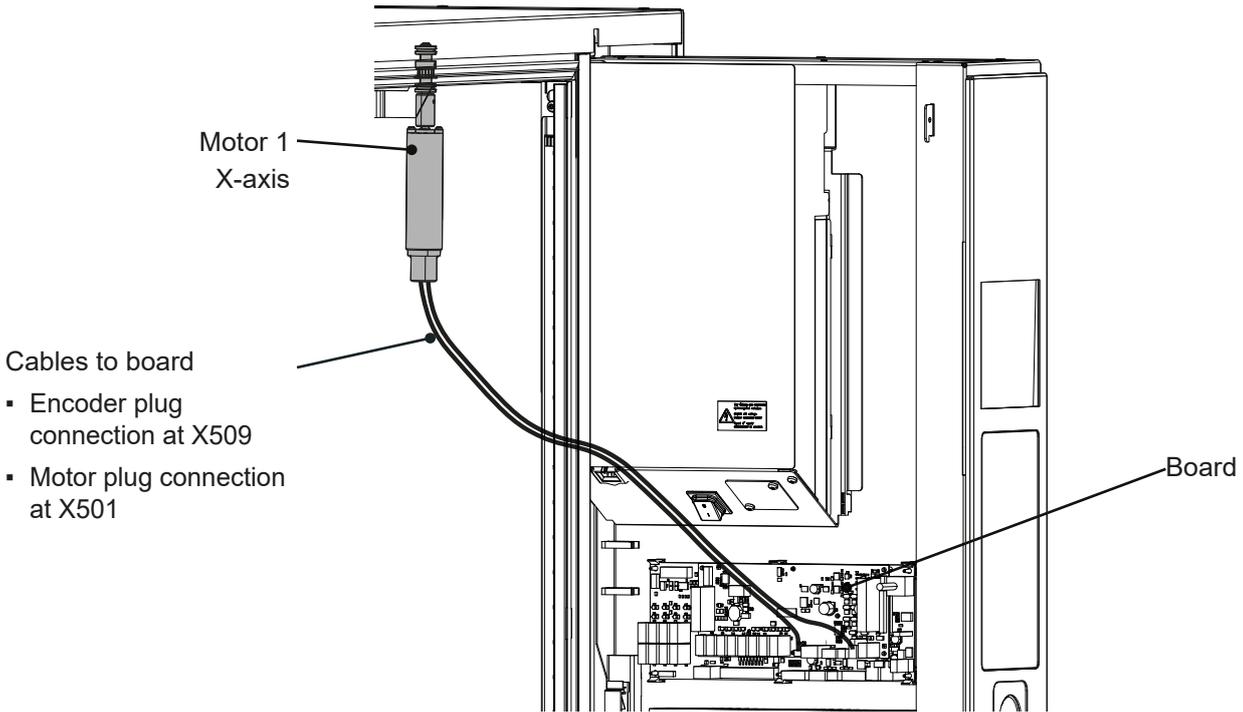
Motor 3
Z-axis
Transportation status,
hook disengaged.

Products in the container are pushed forward when the drive is active



6.4 Electrical wires, cable connections

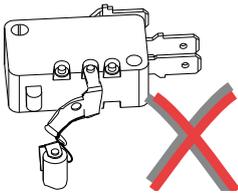
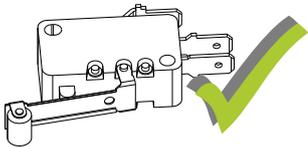




6.5 Switches, buttons, locking mechanisms

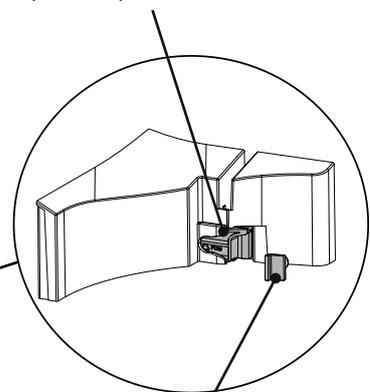
This is where the button for the home position of the X-axis is located.

Actuators



Actuators are available separately as a spare part.

Locking mechanism with button for delivery unit flap (shutter).



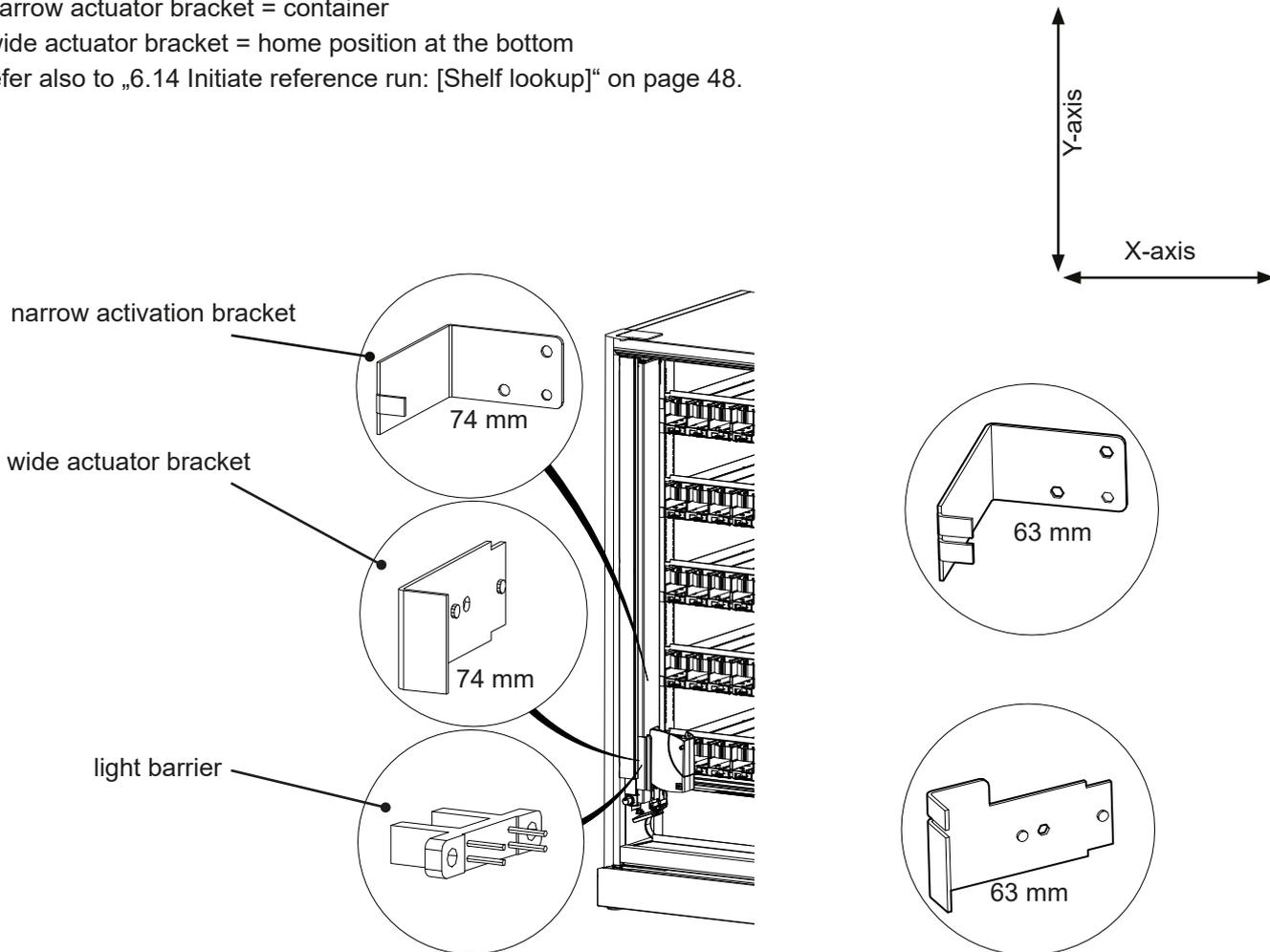
The pin on the product basket unlocks the delivery unit flap.

6.6 Actuator bracket for locating the shelf

The home position of the Y-axis is determined via a light barrier on the product basket:

- narrow actuator bracket = container
- wide actuator bracket = home position at the bottom

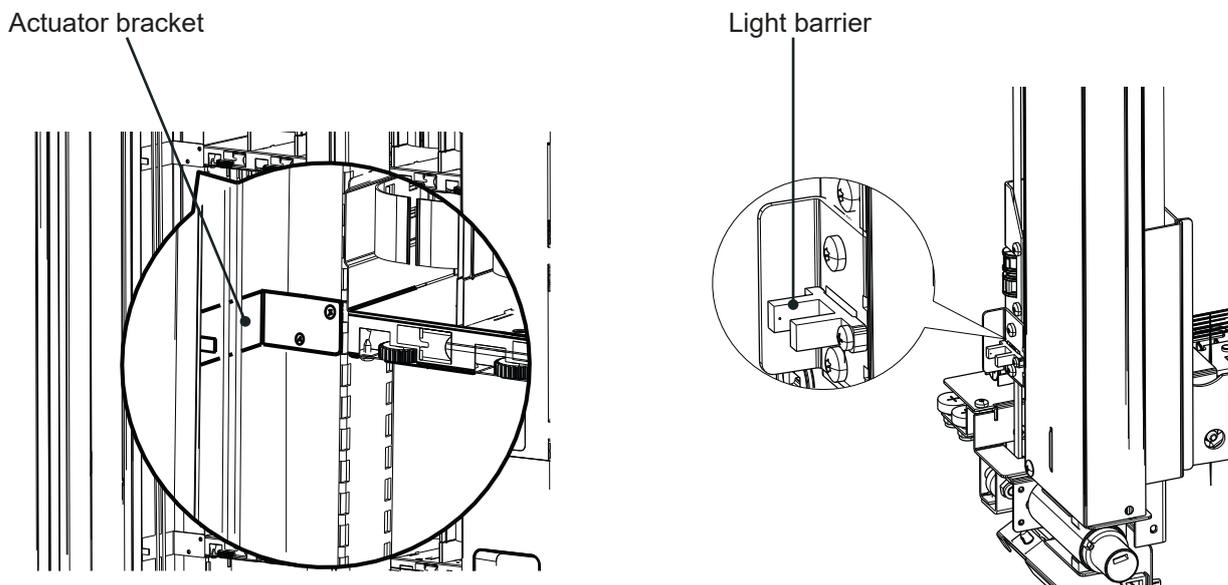
Refer also to „6.14 Initiate reference run: [Shelf lookup]“ on page 48.



Standard: container width 74 mm, 9 product containers on a shelf.

Optional: standard container width 63 mm, 10 product containers on a shelf.

If, due to an oversight, the actuator bracket is omitted when the shelf is converted, this shelf will be ignored!



6.7 Calibrate the pendulum hook/lift calibration

When calibrating the lift 3 positions are automatically accessed and checked via the gear wheel assembly.

As a rule it is necessary to calibrate the lift on new or older machines. New machines are calibrated at the factory. However due to transportation and calibration it may be necessary to re-calibrate the lift.

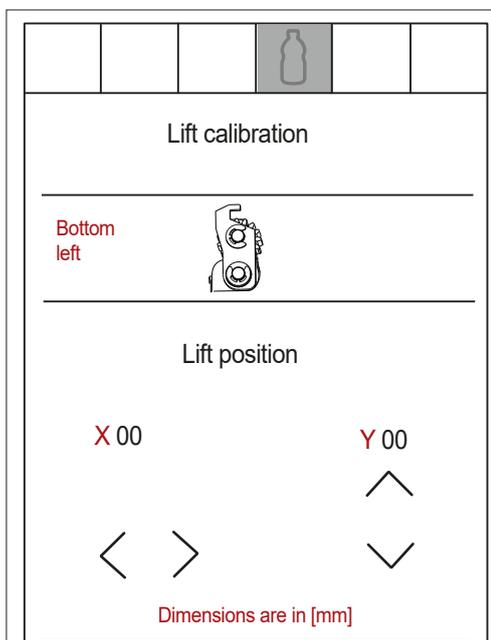
Remove the basket so that you can see that the gear wheel assembly is engaged. See „5.5 Taking out the product basket“ on page 28

Requirements

- Manually push the product pusher on the 3 relevant containers right to the back.
- Service key

How to proceed

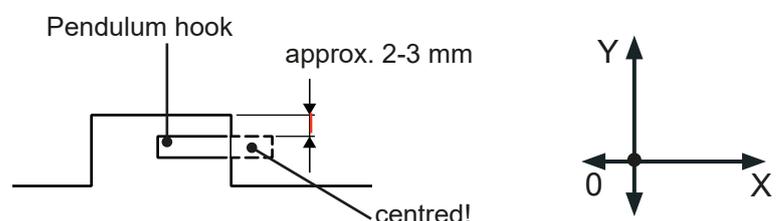
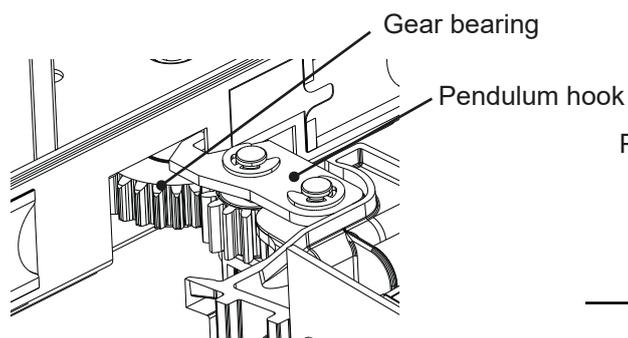
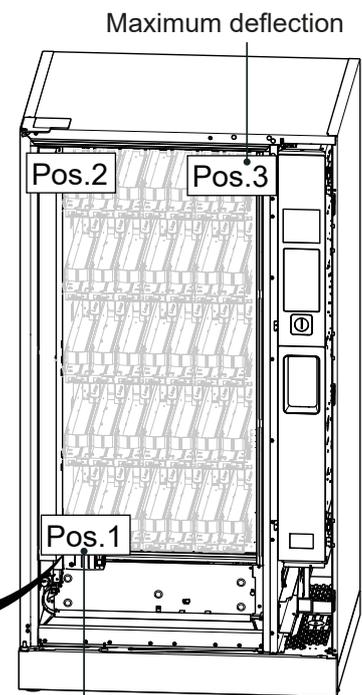
1. Press tab 4 [Products]
 2. Press [Shelf configuration] and then [Lift calibration]
 3. Insert service key
 4. Move away from the lift arm, as it will move suddenly
→ It travels to position 1 and the pendulum hook is hooked in.
 5. Check position in X and Y-Direction and to correct use the up/down arrow and left/right arrows.
 6. Press [Continue]
 - It travels to position 2 and the pendulum hook is hooked in.
 7. Repeat until complete.
 8. Finally re-fit the basket.
- ✓ The lift for collecting products from the containers has been adjusted.



Position 1:
Bottom left

Position 2:
Top left

Position 3:
Top right



6.8 Taking out the sliding door unit

The sliding door unit can be hooked out for repair work. This process does not take very long.

Disconnect the power supply leads to the sliding drawer unit.

Disconnect the two protective earth connectors with ring cable lug.

Pull the sliding door unit out as far as it will go and press the isolating levers at the top and bottom.

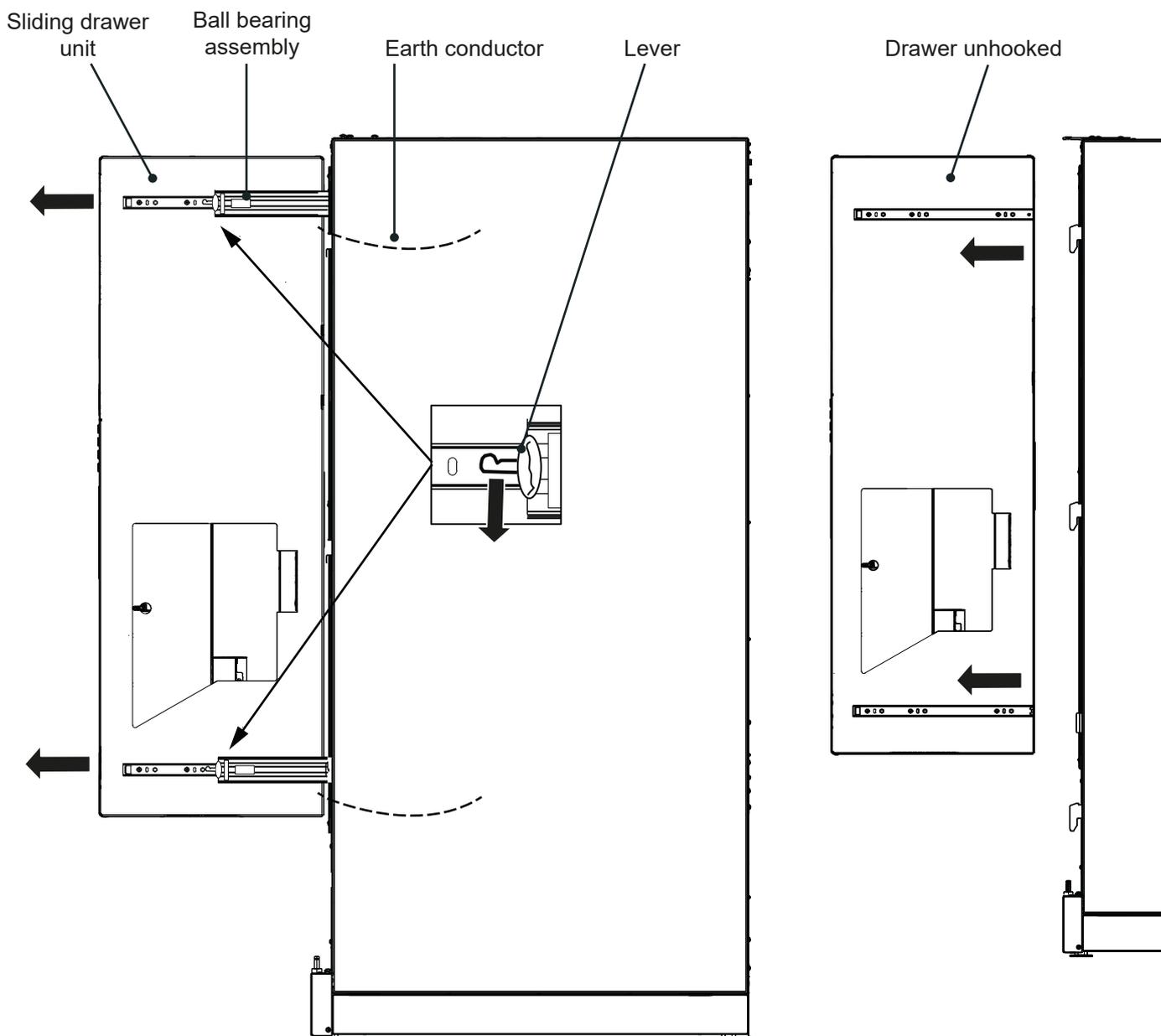
Pull the sliding door unit out so that the runners are disconnected. Hold and secure the sliding door unit sufficiently.

Fitting the sliding door unit:

Pull the ball bearing assembly forwards until it stops.

Insert the sliding door unit with the two mounted rails into the protruding rails and ball bearing assembly.

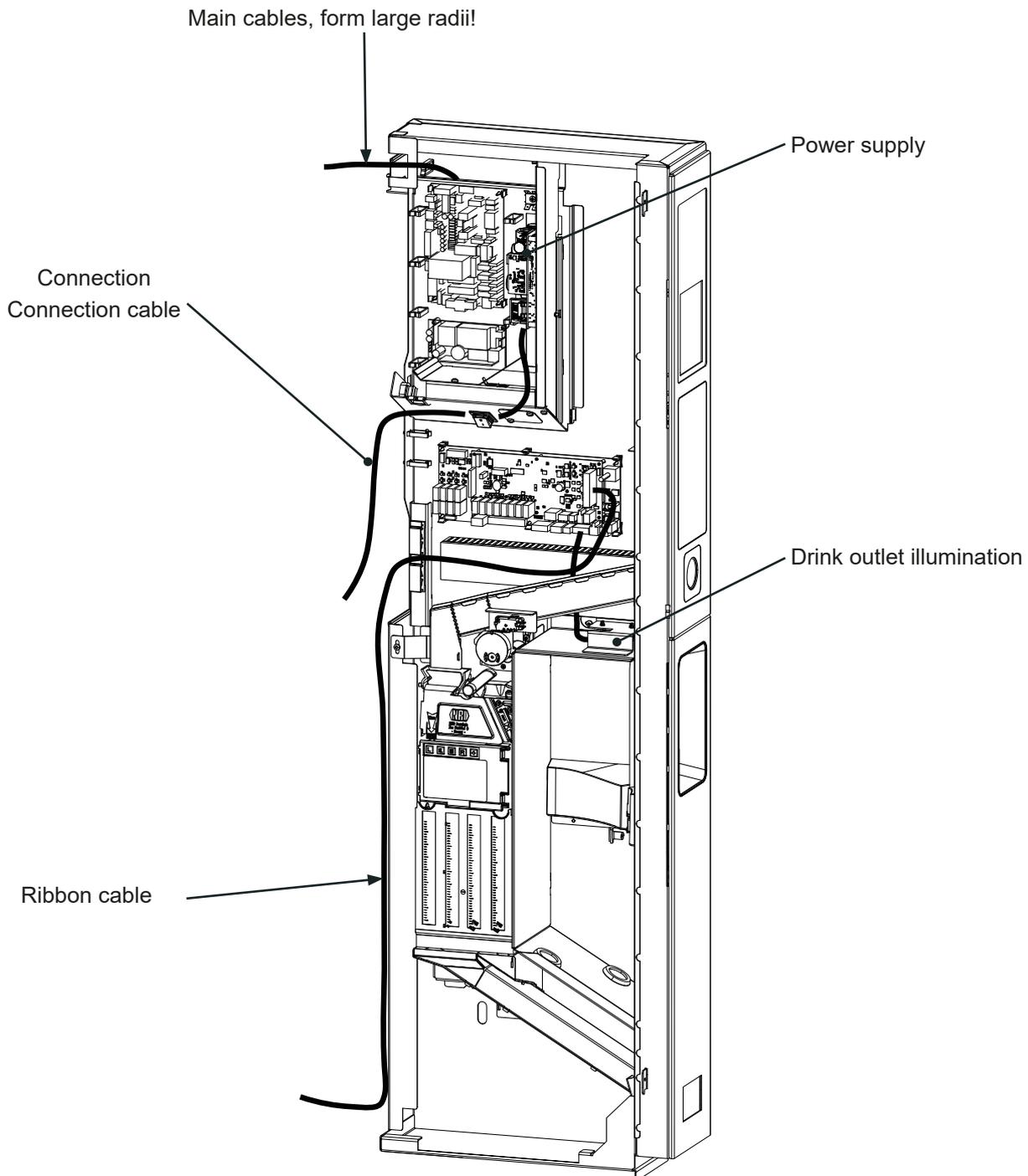
Ensure that the ball bearing assembly cannot slide backwards as the rail must be inserted into it.



6.9 Sliding drawer unit wiring

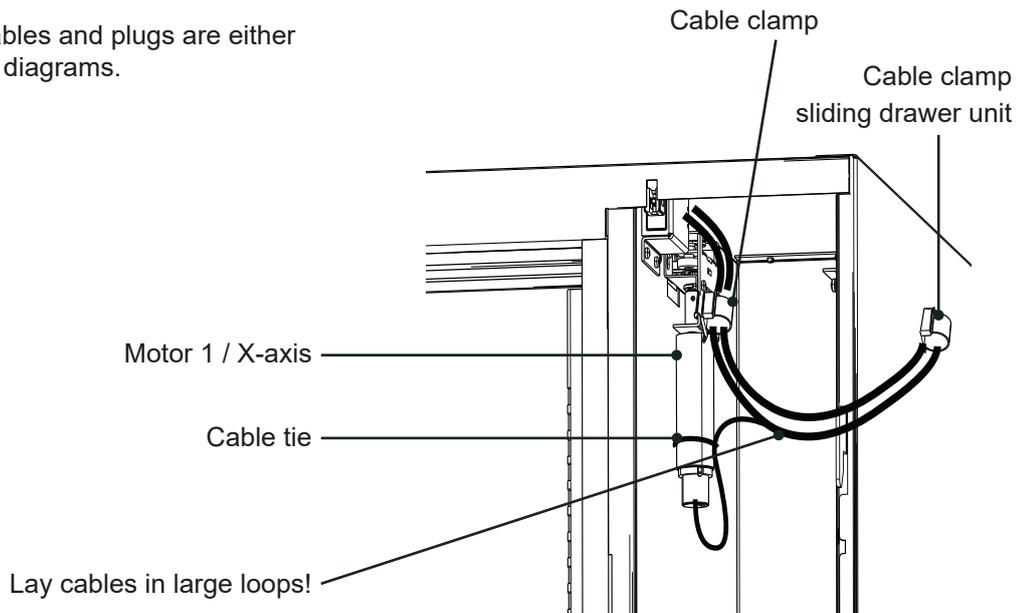
Cables from the machine to the drawer unit must be laid in large loops with strain relief.

Ensure that there are no kinks in the cable when laying and ensure it does not catch and is not subjected to any tension.



6.10 Note on the diagrams

For simplification purposes the cables and plugs are either only indicated or not drawn in the diagrams.



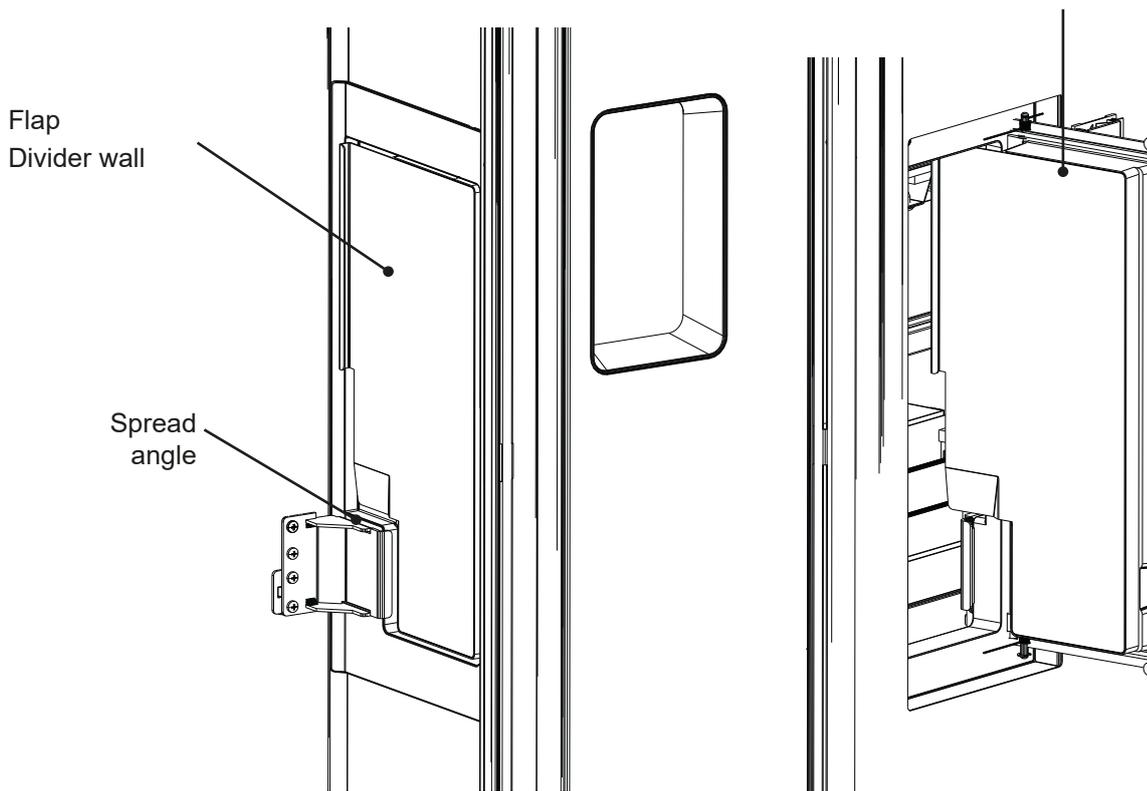
Flap for the division panel

There is a flap between the chilled area and the ambient area.

It is pushed into locking position with two springs on the hinge axis.

If a product in the basket is to be dispensed, the basket simply pushes this flap in the division panel open. When the basket moves away, the flap closes again.

Flap in division panel in open position, product basket not shown in the diagram!



Fitting and removing the flap in the division wall

Disconnect the two circlips on the spindle.

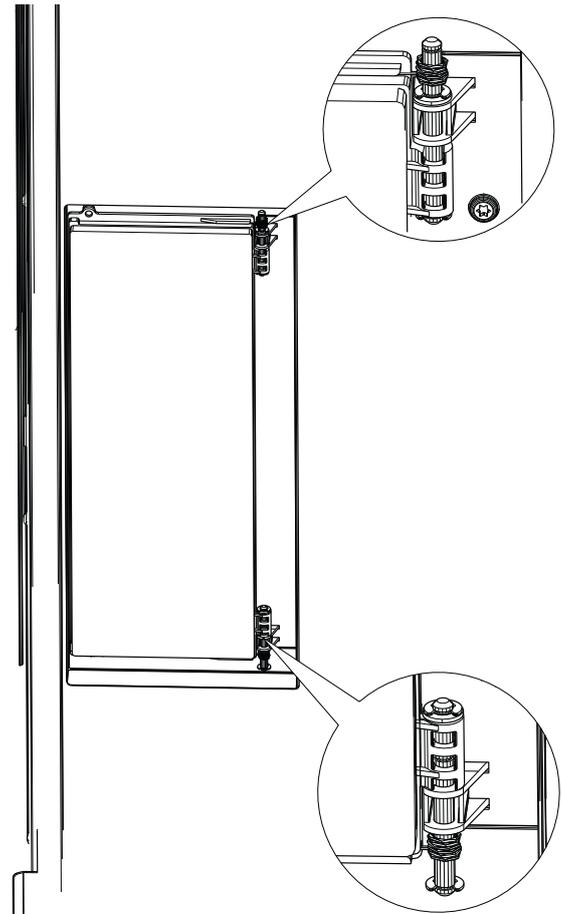
Pull the spindles out.

The flap can now be removed.

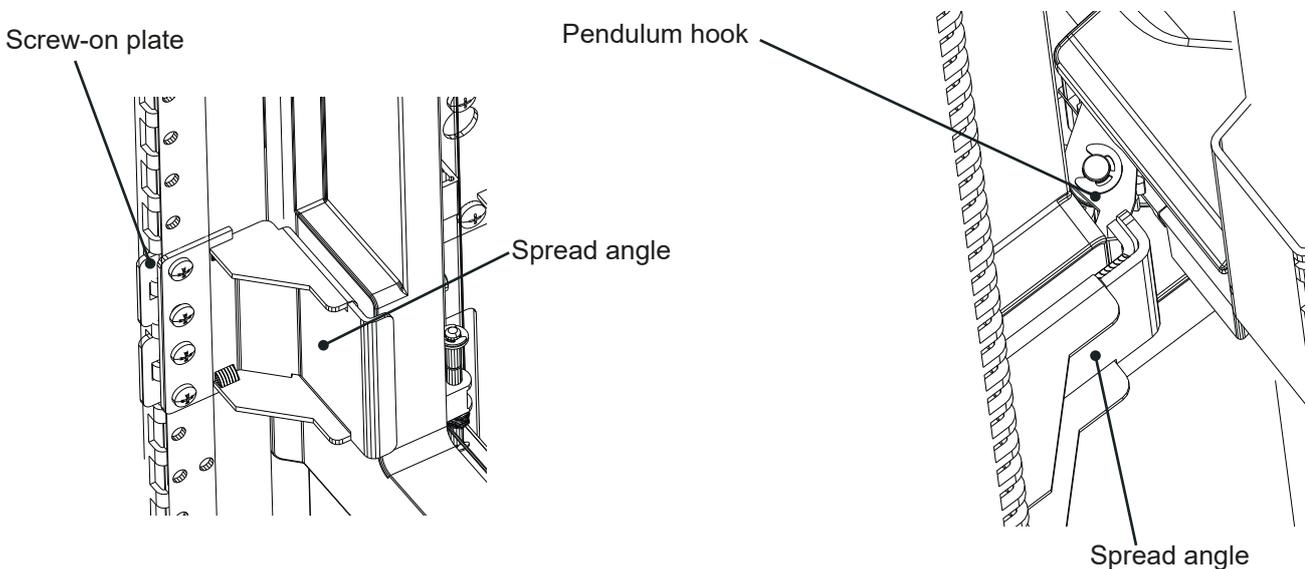
To re-install follow the instructions above in reverse order.

Finally, check the functioning of the flap to avoid unnecessary loss of energy.

The flap must be self-closing!

**6.11 Protecting the basket during product delivery**

When the vertical rail with the product basket is in the delivery unit, the pendulum hook is pulled out thereby blocking the spread angle. This prevents the product basket from being pushed back mechanically (theft protection).



6.12 Machine illumination: LED fitting left/right

The products are illuminated by two energy-saving, long-life LED light fittings.

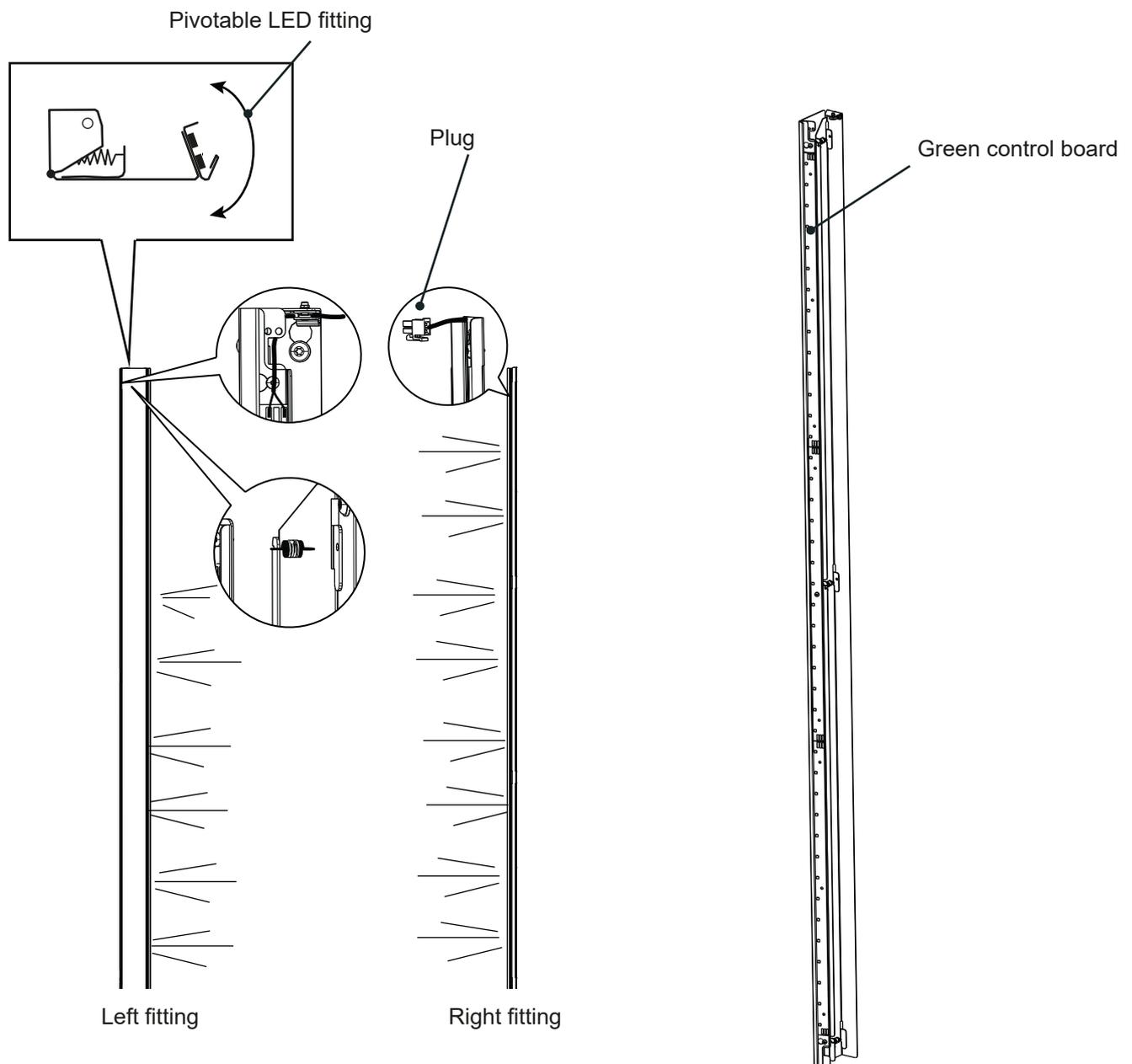
The left fitting folds out when the door is opened. This prevents damage when the left product containers are pulled out.

The right hand fitting is firmly mounted.

The light fittings can be exchanged by loosening the fixing screws. The supply line is connected with a reverse polarity protected plug.



Do not touch the green LED light fitting board! It contains sensitive components.



6.13 Lift system

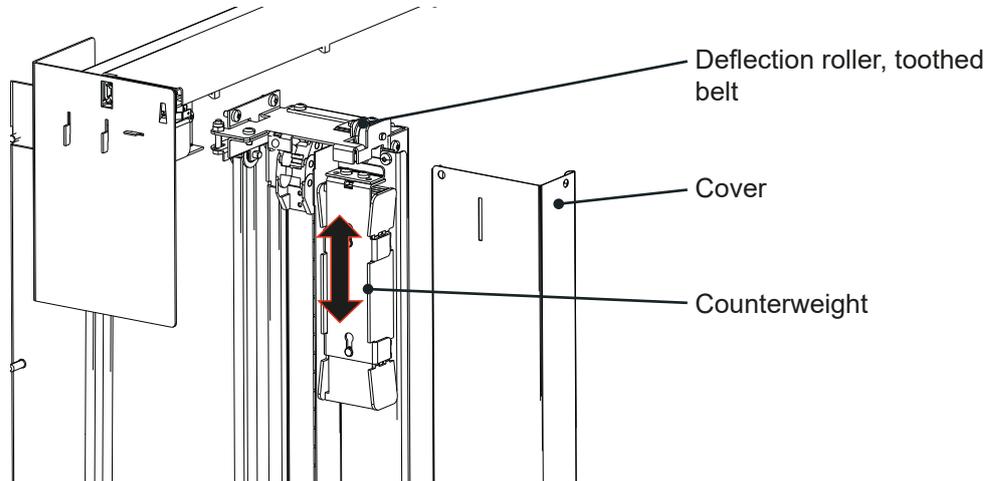
6.13.1 Vertical track counterweight

A counterweight of approx. 0.8 kg is built in to balance the weight of the basket. The two parts are connected via a deflection roller with ball bearing and a toothed belt.

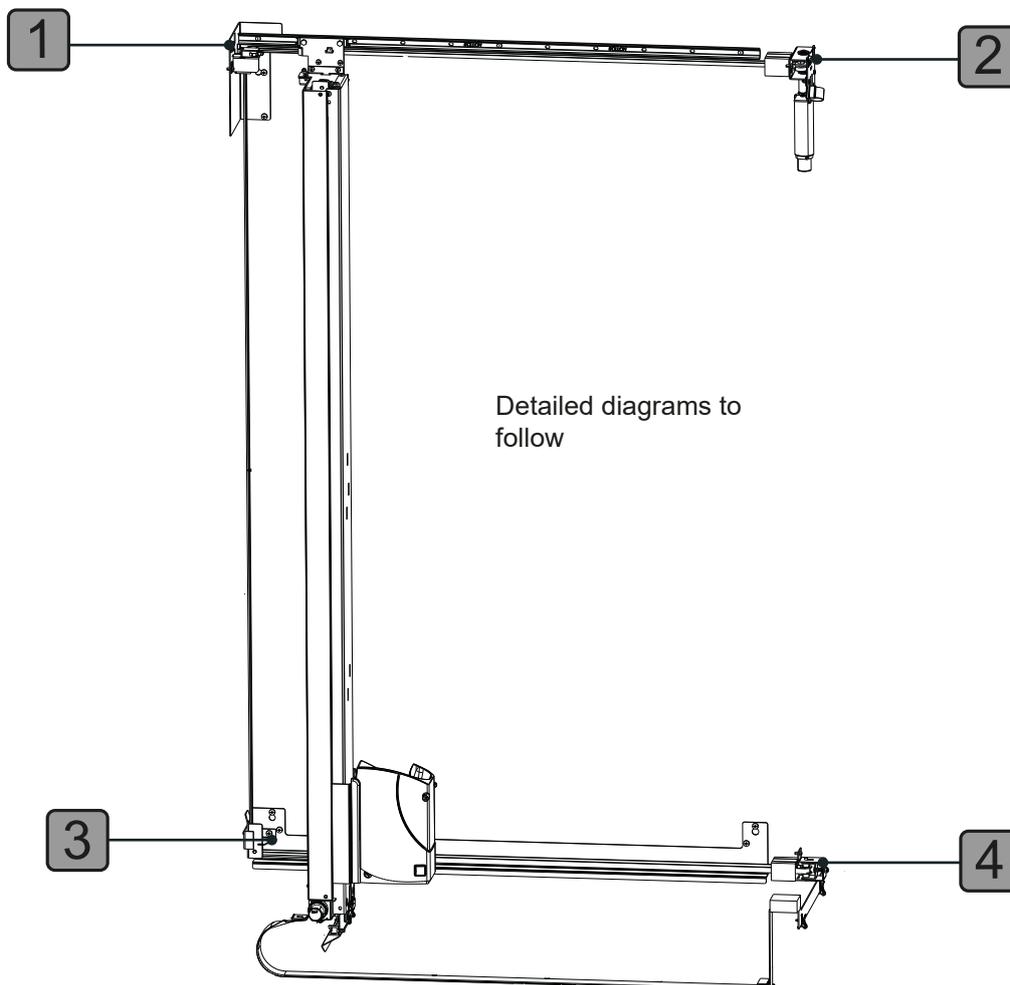
The counterweight is accessible once the cover has been removed.

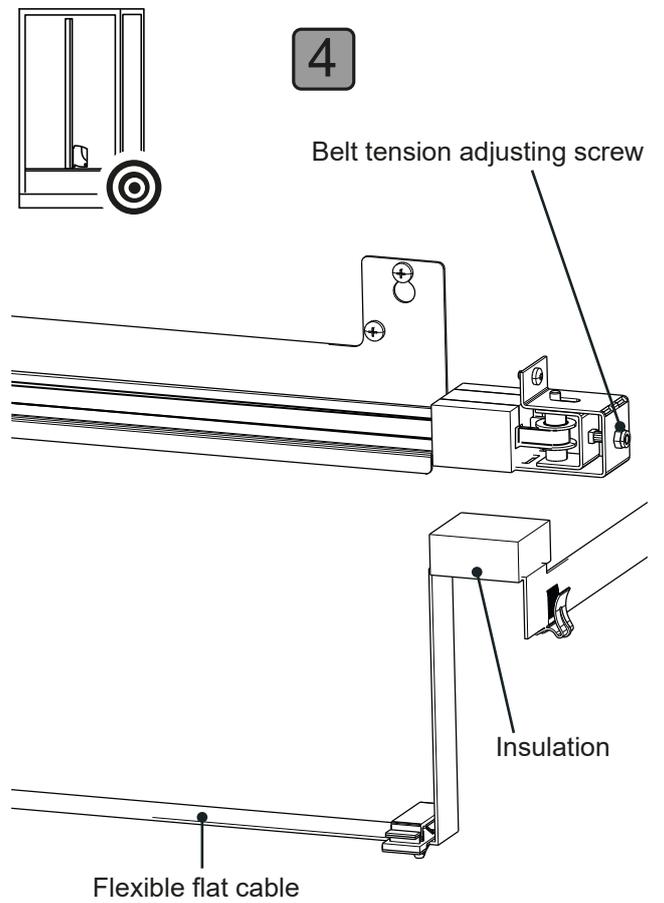
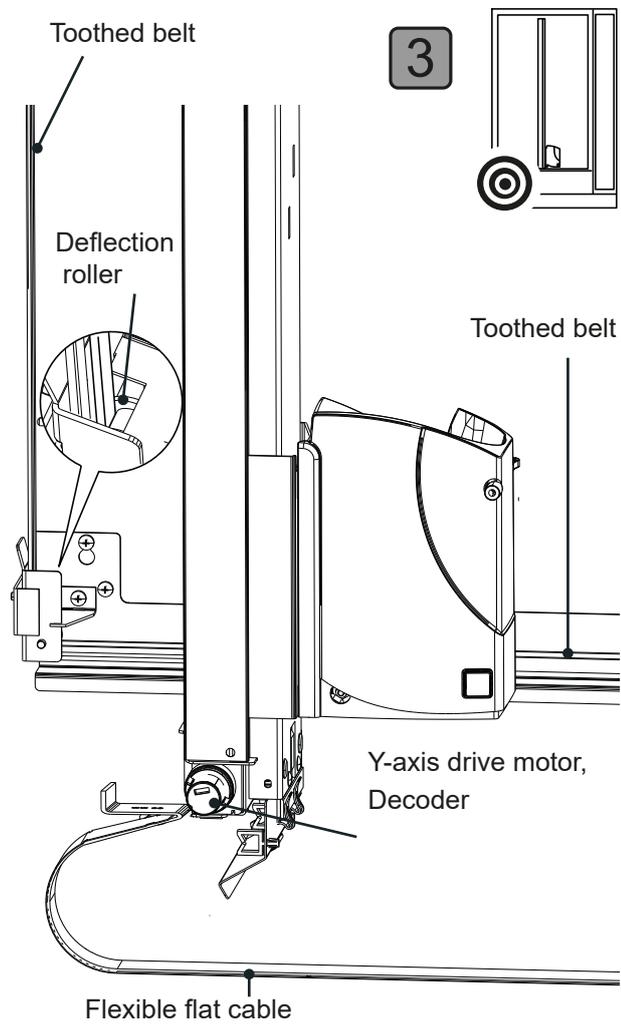
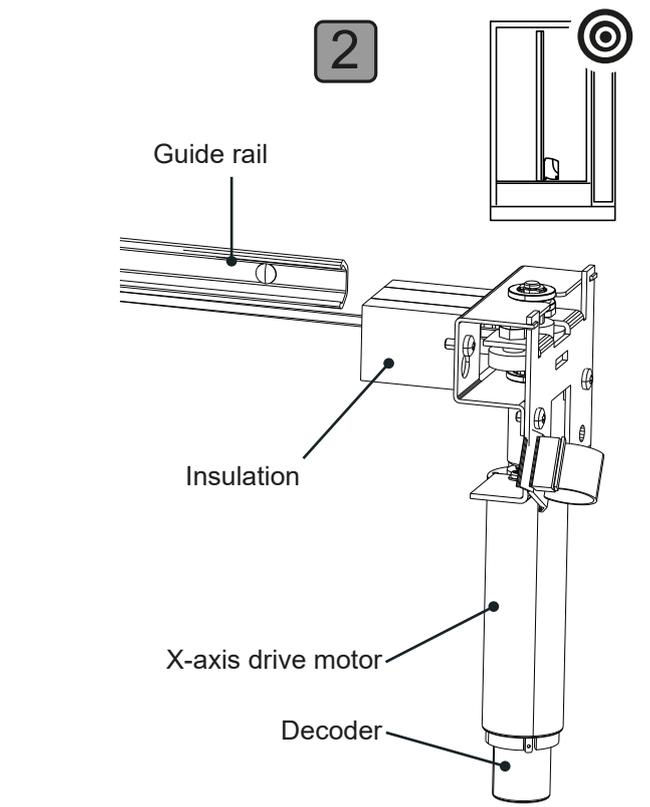
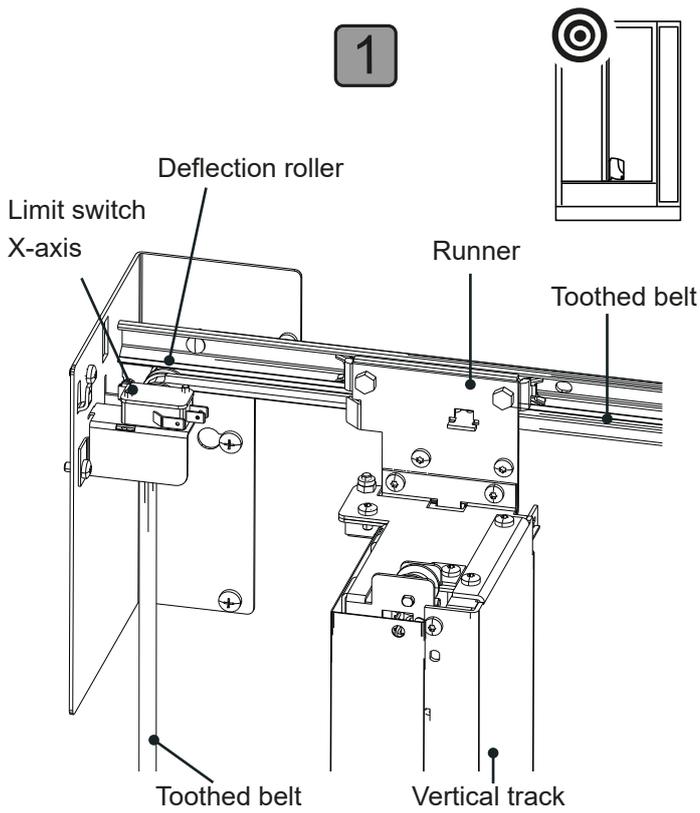
Note:

Counterweight and deflection roller are maintenance-free.



6.13.2 Belt drive, vertical track, lift system set-up





6.13.3 Removing the vertical track

How to proceed

Empty and remove the lower right container.

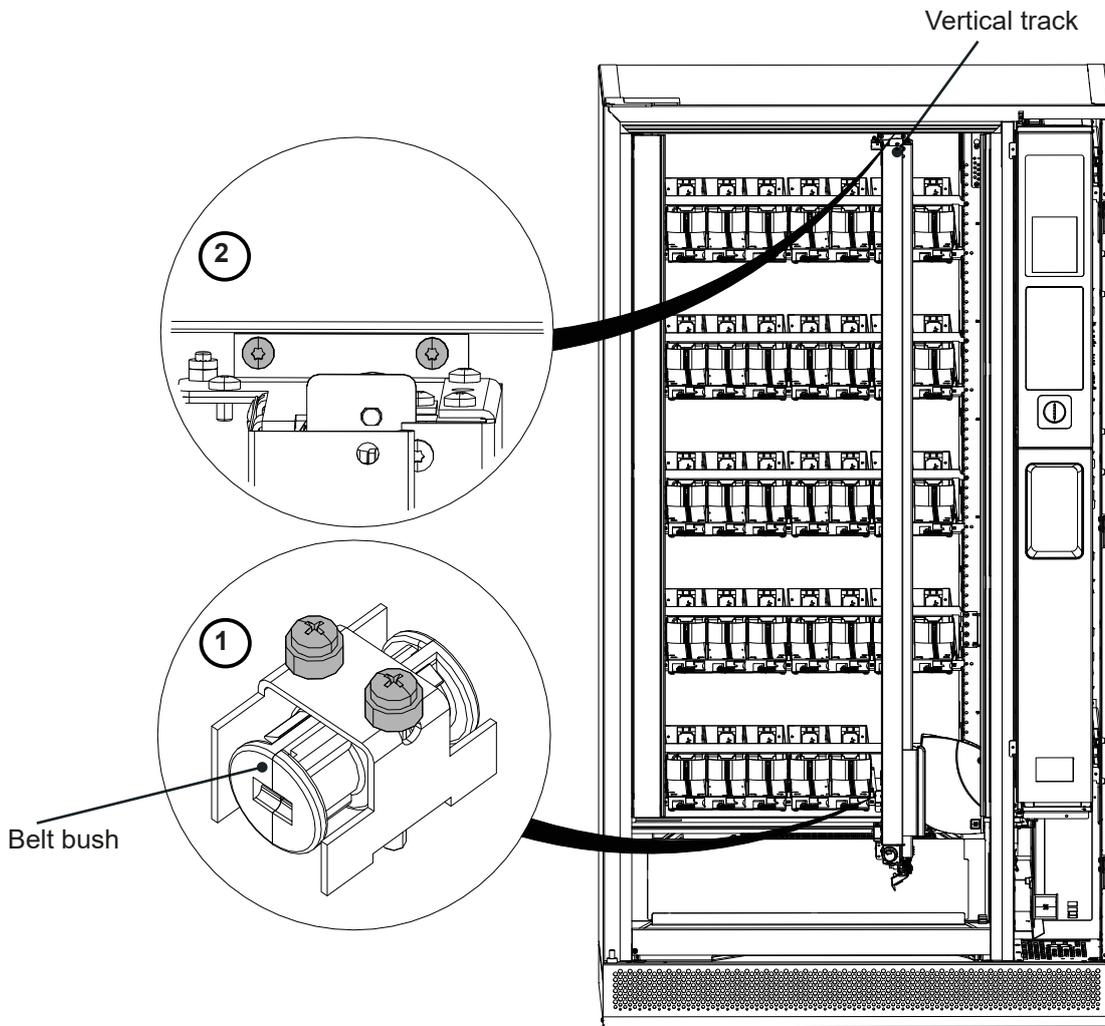
Push the vertical rail to the right.

1. Unscrew the two guide screws on the lower belt bushing completely; the vertical-rail/toothed belt connection is now free.
2. Remove the two fixing screws at the top of the vertical-rail. The vertical rail is now free and can be completely removed.

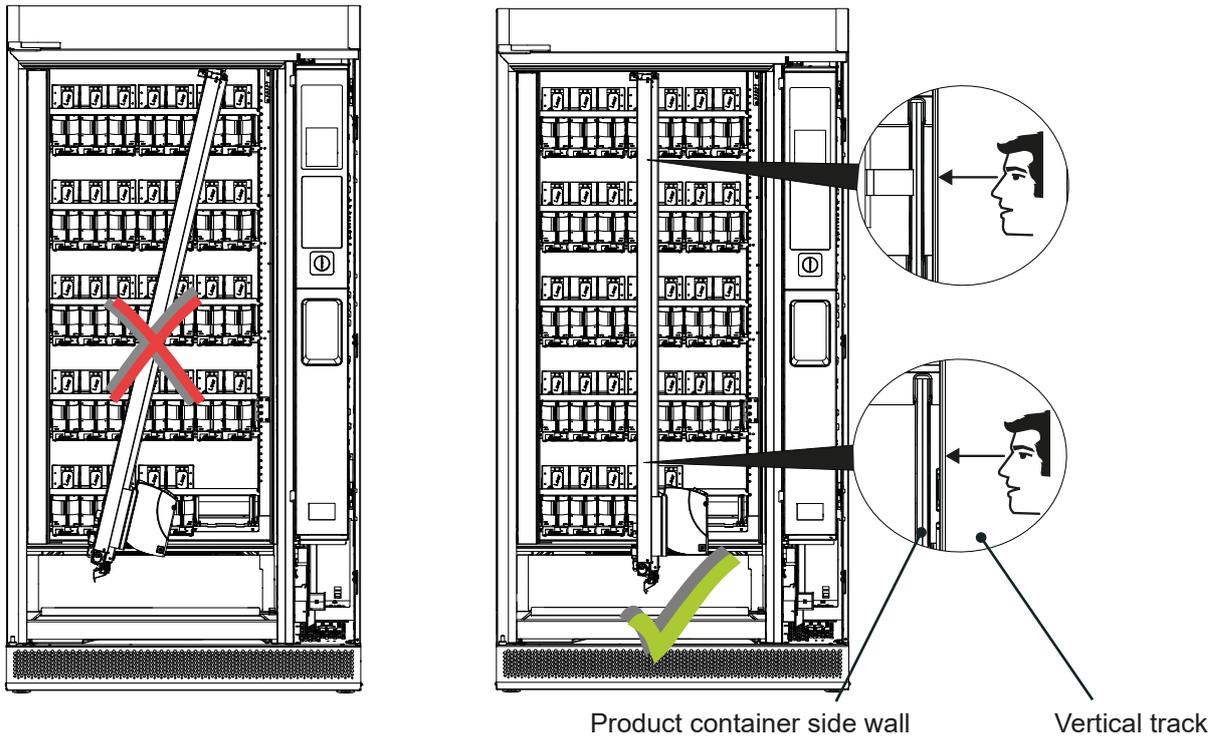
Note when installing

To fit the vertical rail follow the instructions above in reverse order. The lower roller guide must be inserted in the rail from underneath.

After installing push the vertical rail into the centre and check parallelism. For this purpose align top and bottom on the left side of the vertical rail with the product containers. With care and accuracy the alignment can be checked.

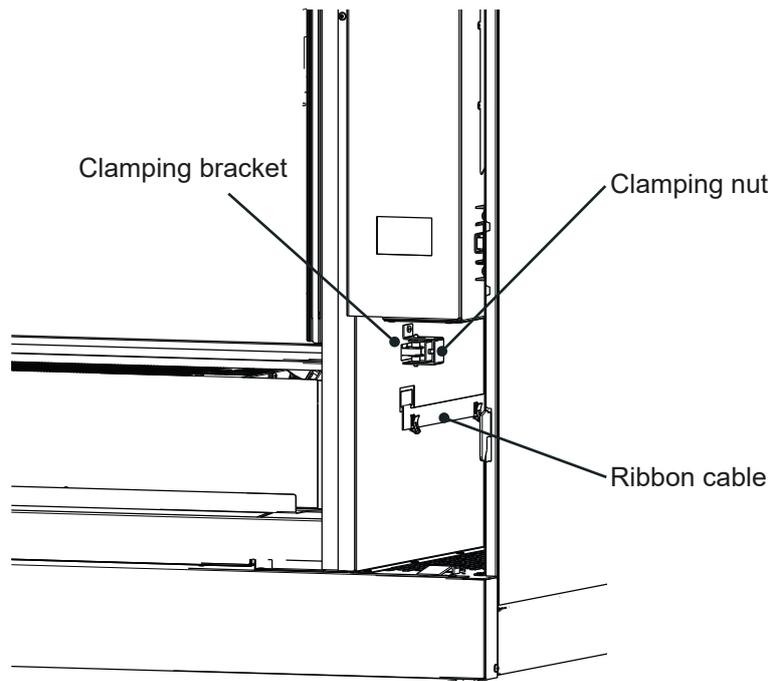


Must be parallel



6.13.4 Setting the belt tension (X-axis)

The belt tension and its parallel alignment is adjusted on the clamping bracket by turning the clamping nut. After adjusting the parallelism must be checked!



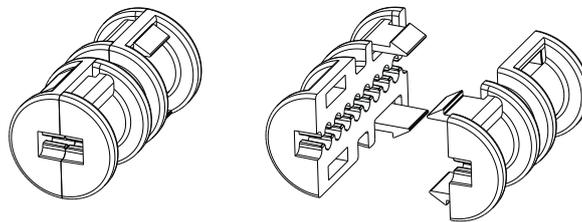
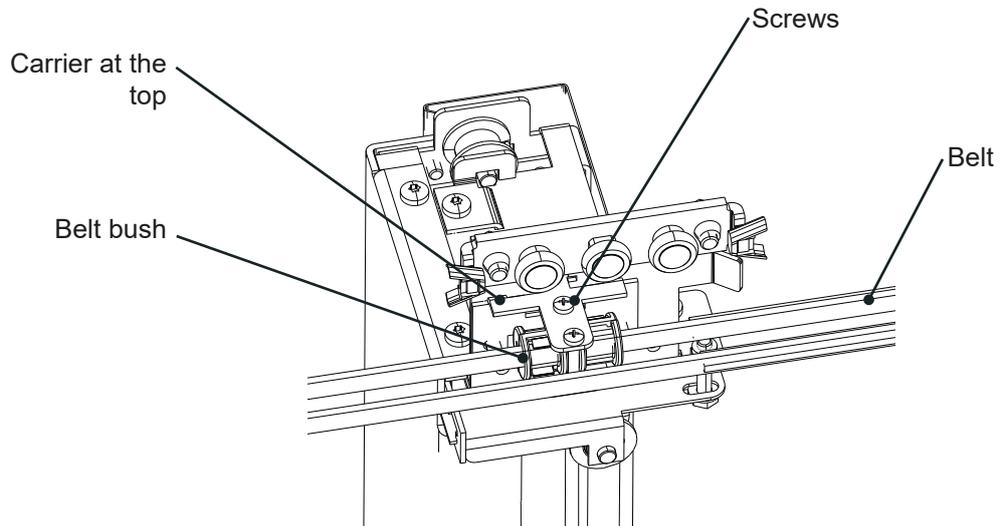
NOTE!

Observe the fitting instructions and the testing information for part no. 704 01 001 00!

6.13.5 Unhooking the runner at the top

The runner together with two inserted screws clamps the belt bushing. The belt bushing itself is moved by the belt.

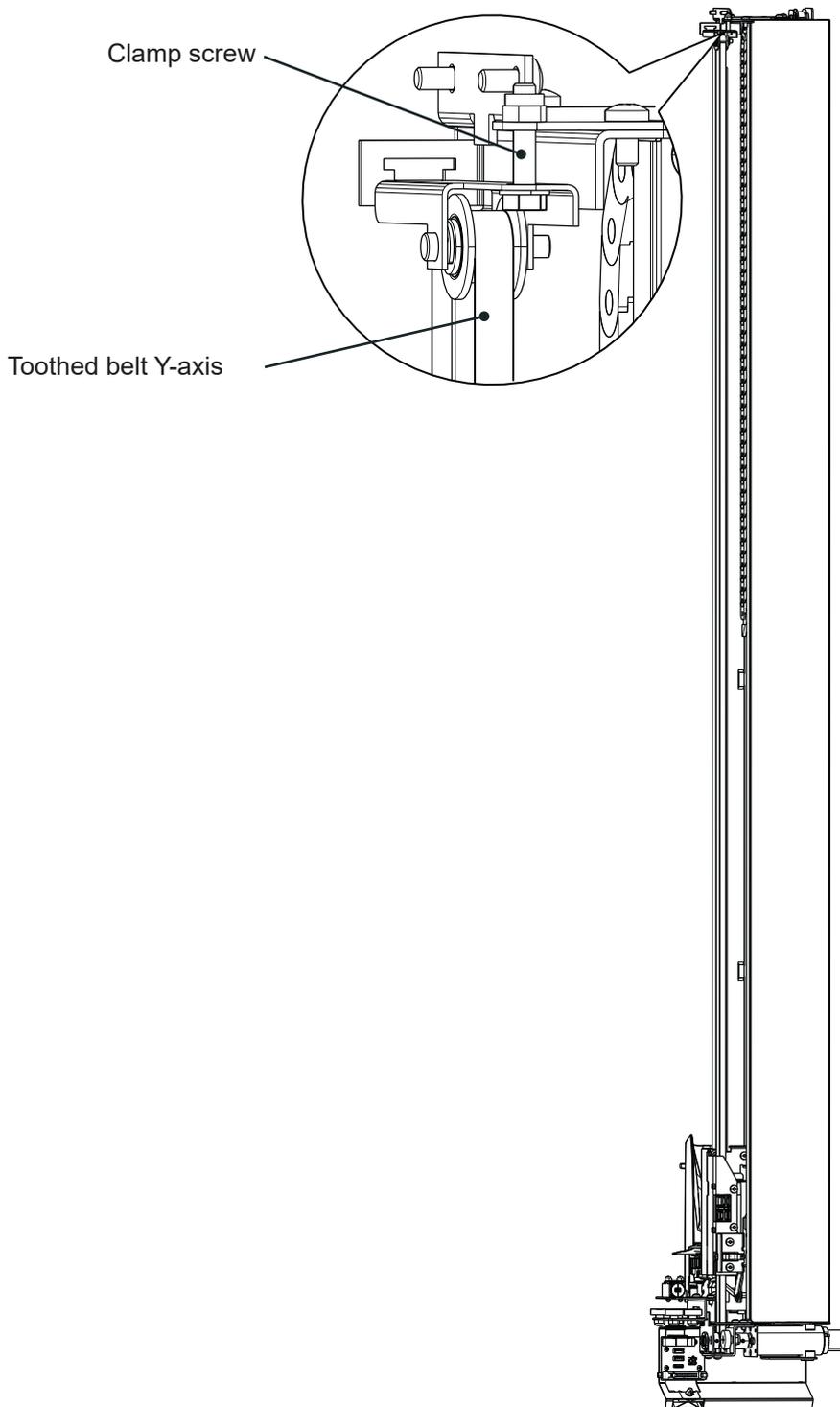
The belt bushing consists of two identical halves that are clipped together.



Open belt bush (clip fastening)

6.13.6 Setting the belt tension (Y-axis)

The belt tension is adjusted by the clamp screw.



NOTE!

Observe the fitting instructions and the testing information for part no. 704 01 230 00

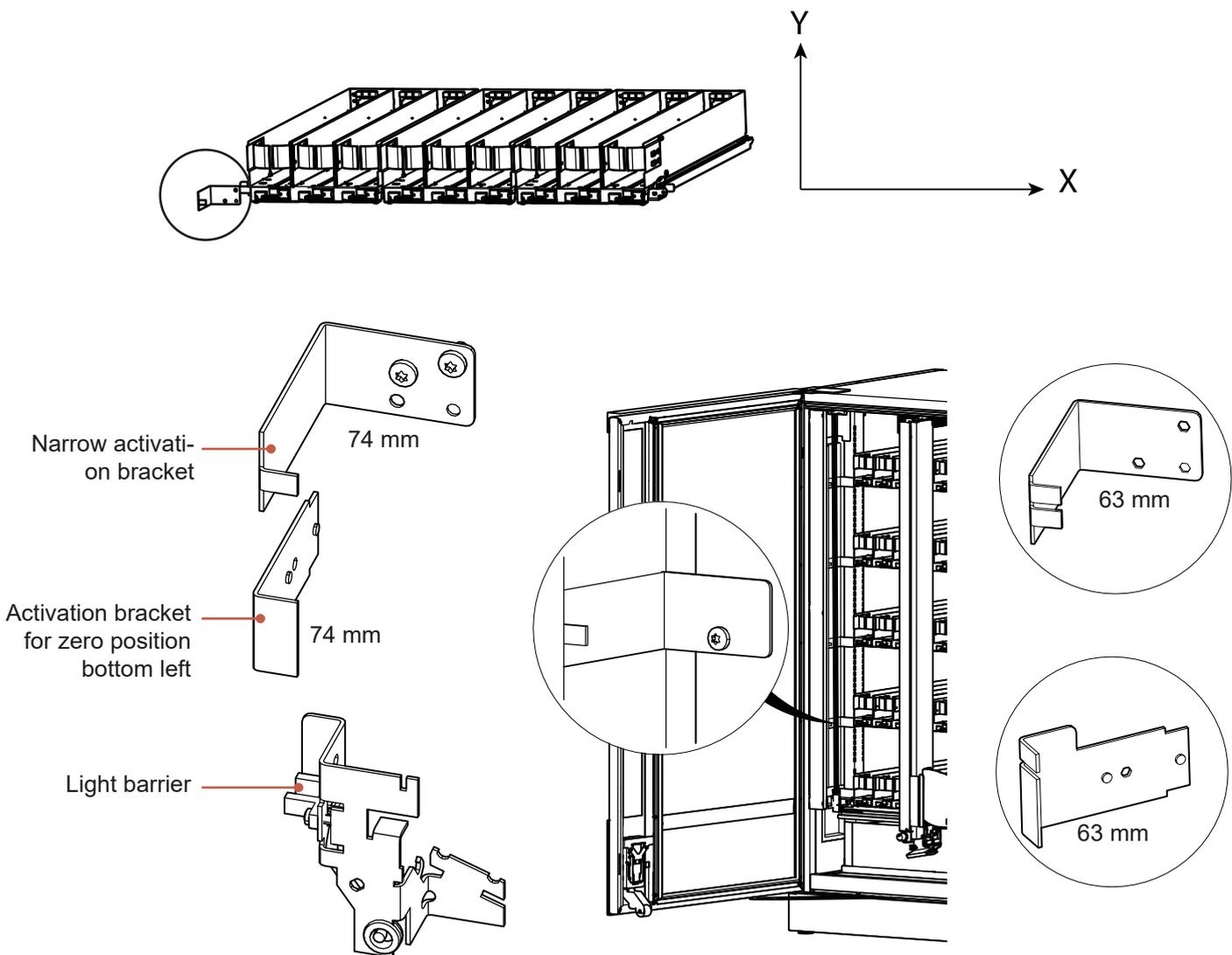
6.14 Initiate reference run: [Shelf lookup]

[Shelf configuration]

The function is in [Products] 

This menu analyses the machine type, number and container fitting height. You should always go into this menu when you have changed the machine layout (e.g. changing the container heights or number of containers on a shelf).

Each product shelf must have an activation bracket (metal bracket) to enable detection during the shelf lookup process. The light barrier runs past the activation brackets and in this way can determine the positions.



7. Error messages

Yellow error messages, red error messages

As soon as the machine door is opened, the display changes from vend mode in the start menu. There is important information in the status window for the filler or service technician:

- Window with red background: machine out of order
- Window with yellow background: machine working, but warnings highlighted

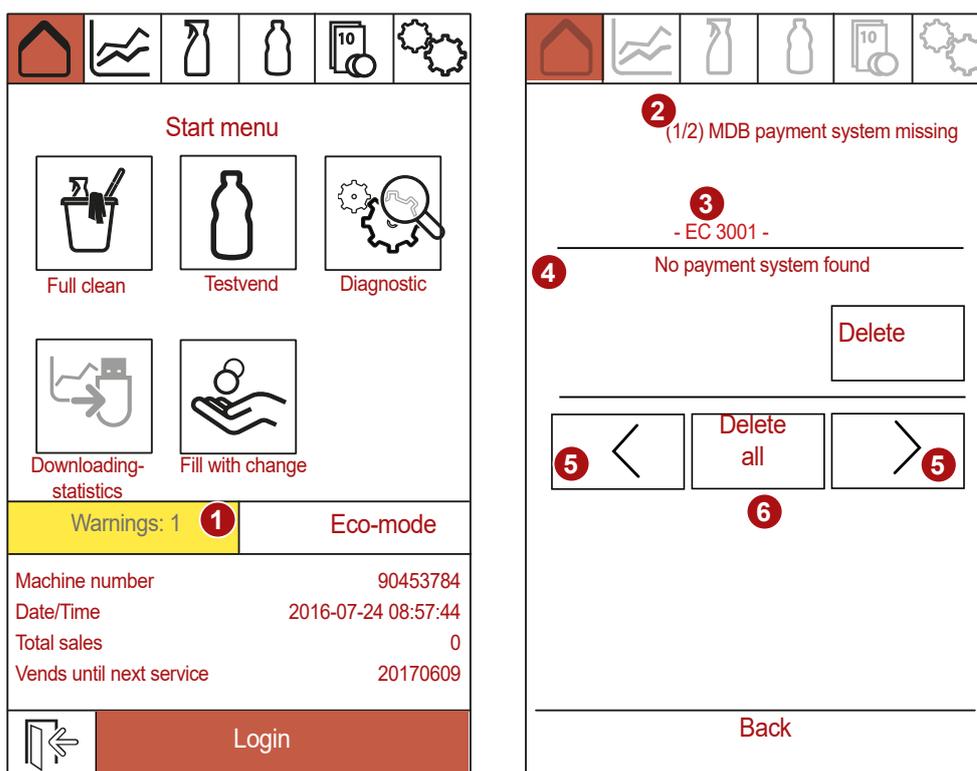
Example: [No payment system found]

In the following example the error text [-EC 3001 -] is shown in red. The relevant text [No payment system found] helps the filler or service engineer.

Presumably [MDB] is programmed in the settings but the coin mechanism has been removed. The software searches for communication via the MDB-protocol with the coin mechanism and cannot find any. This is a serious error which will lead to the machine ceasing to function.

What must you do now?

- Log in i.e. register yourself as *Operator" or "Technician"
- Install a coin mechanism and connect it to the MDB.
- Press Tab 5 [Payment Systems] and then [General]. In the menu [Credit system Protocol] must be set to [MDB].

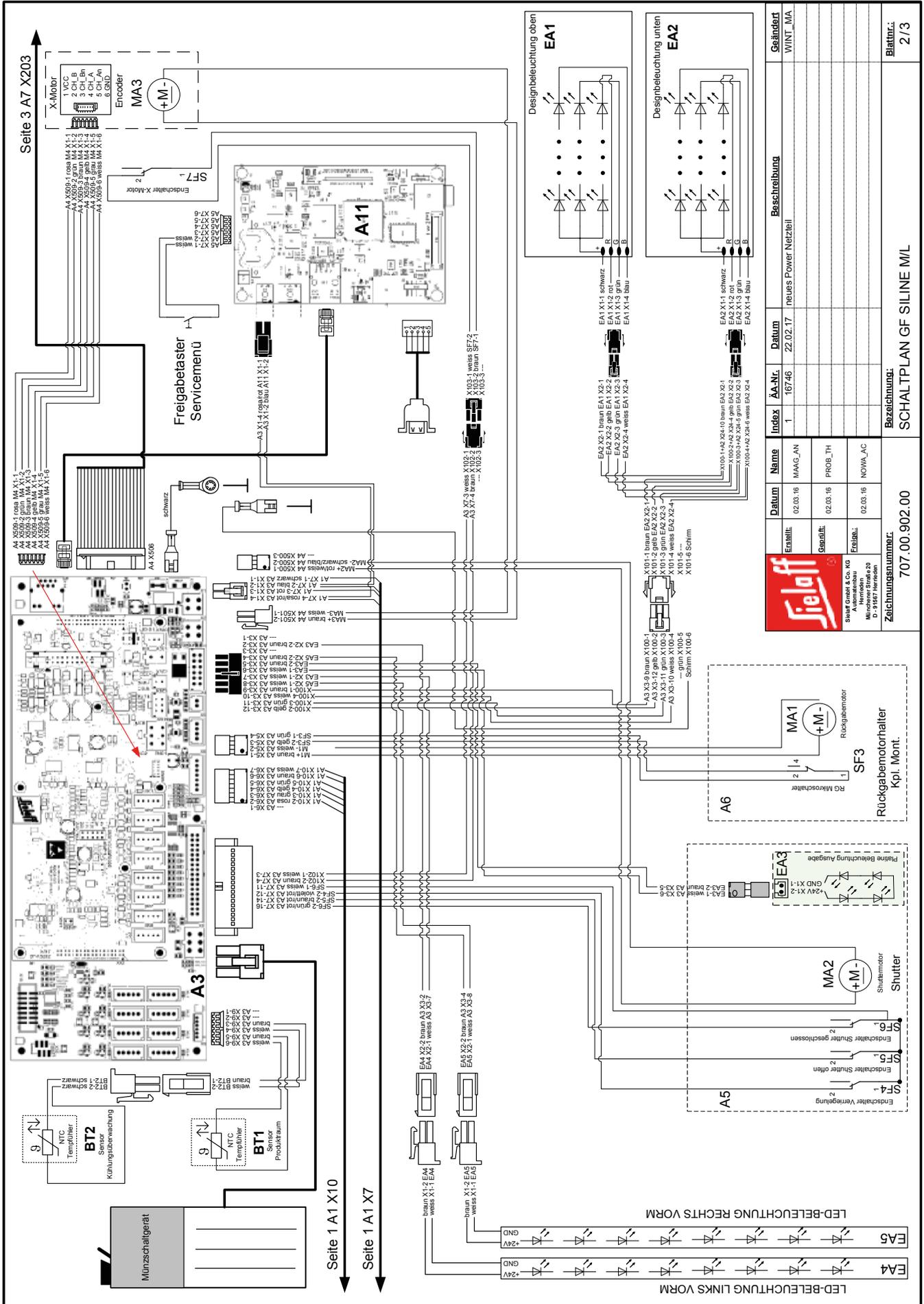


- 1 Yellow error message
- 2 Error number, error text
- 3 Internal error number
- 4 Instructions on removing errors
- 5 Scrolling through the error list
- 6 By pressing [Delete All] the errors can be deleted. If the cause of the error is not removed, the error will re-appear.

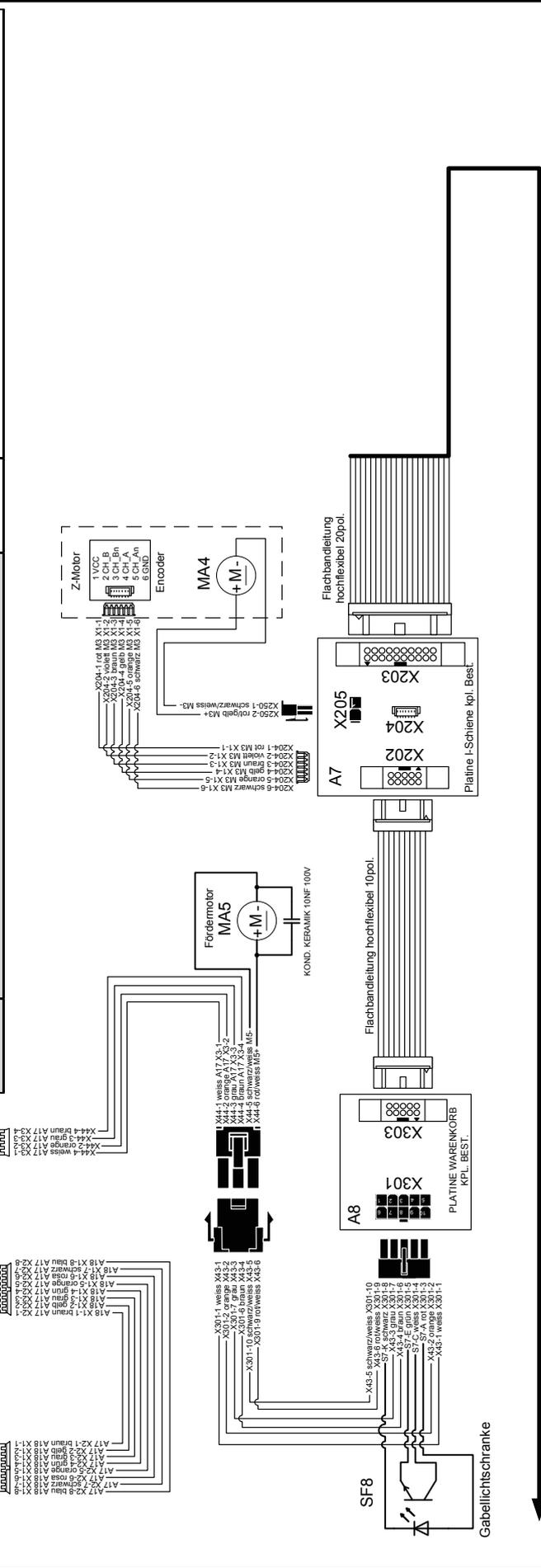
Error code	Error message	Possible cause	Suggested course of action
20	Mains failure	The voltage is not constant.	a) Check motor voltage, door contact switch; b) check motor M3, M5; refer to circuit diagram
21	Temperature performance	The temperature is too high.	a) Check motor voltage on the mains supply circuit. b) Make sure that the lift system and the product basket can be moved easily.
34	RESET_NoSensor	No sensor detected during the system check.	a) Sensor check available. b) Check if the sensors are connected. c) Check if the plugs are correctly positioned.
35	RESET_Wrong sensors	Sensor combination not feasible.	a) Check the shutter switch ("shutter open", "shutter closed").
41	RESET_MX_Zero	Limit switch not reached after switching on.	a) Check if cable connection between motor encoder and control board is OK.
42	RESET_MX_Ref	Cannot leave limit switch after switching on.	b) Check limit switch. c) Check encoder signal. d) Mechanical jam? Obstruction removed.
44	RESET_MX_EncoderMove	No encoder signal when the motor moves in Y-direction.	a) Check if cable connection between motor encoder and control board is OK. d) Mechanical jam? Obstruction removed.
45	RESET_MX_EncoderHold	No encoder signal when the motor moves in X-direction.	
46	RESET_MX_RunTimeout	Timeout error when moving in X-direction.	
4A	MX_Ref	X-direction motor cannot find a limit switch.	
4C	MX_EncoderMove	No encoder signal for motor moving in X-direction.	
4D	MX_EncoderHold	No encoder signal for X-direction motor stop function.	
4E	MX_RunTime out	Time out error on X-direction movement; target position not reached.	
51	RESET_MY_Zero	Limit switch not reached after switching on.	a) Check if cable connection between motor encoder and control board is OK.
52	RESET_MY_Ref	Cannot leave limit switch after switching on.	b) Check limit switch. c) Check encoder signal. d) Mechanical jam? Obstruction removed.
54	RESET MY_EncoderMove	No encoder signal when the motor moves in Y-direction.	a) Check if cable connection between motor encoder and control board is OK. d) Mechanical jam? Obstruction removed.
55	RESET_MY_EncoderHold	No encoder signal when the motor moves in Y-direction.	
56	RESET_MY_RunTimeout	Timeout error when moving in Y-direction.	

Error code	Error message	Possible cause	Suggested course of action
59	MY_Zero	Y-direction motor cannot find a limit switch.	a) Check limit switch. b) Check motor. d) Mechanical jam Obstruction removed.
5A	MY_Ref	Y-direction motor cannot find a limit switch.	a) Check if cable connection between motor encoder and control board is OK. d) Mechanical jam? Obstruction removed.
5C	MY_EncoderMove	No encoder signal for motor moving in Y-direction.	
5D	MY_EncoderHold	No encoder signal for Y-direction motor stop function.	
5E	MY_RunTimeout	Time out error on Y-direction movement; target position not reached.	
71	RESET_Shutter not closed	After switching on, delivery unit flap (shutter) not closed.	a) Close the shutter completely by hand.
72	RESET_Shutter not locked_Pre-delivery unit	–	b) Check delivery unit flap (shutter).
73	RESET_Shutter not locked_Unlock delivery unit	–	c) Check limit switches (2) on the shutter.
74	RESET_Shutter not unlocked	–	d) Check drive motor on the delivery unit flap (shutter).
76	RESET_Shutter not open	The shutter does not open.	a) Problem with the shutter.
77	RESET_Shutter not closed	The shutter is not completely closed.	b) Check limit switch.
79	Shutter not locked_pre-dispensing position.	Shutter not locked, lift in pre-dispensing position.	c) Check motor.
7A	ROBIMAT_ERROR_Shutter not locked_Lock delivery outlet	Shutter not locked, lift in locked delivery outlet.	
7D	ROBIMAT_ERROR_RESET_ScanShutterUnlock-Position	After switching the lift on the position "shutter not locked" cannot be achieved.	
7E	ROBIMAT_ERROR_RESET_Shutter not locked_Init	After switching on, shutter closed, but not locked.	Shutter problem, check limit switch "Shutter closed" and "Shutter released"
7F	ROBIMAT_ERROR_RESET_Shutter not closed but locked	After switching on shutter not closed, but locked.	Shutter problem, check limit switch "Shutter closed" and "Shutter released".

Error code	Error message	Possible cause	Suggested course of action
80	ROBIMAT_ERROR_AusgabeAuf	Internal, should not occur.	---
81	ROBIMAT_ERROR_AusgabeAuf_MotorTimeout		
82	ROBIMAT_ERROR_AusgabeAuf_ShutterTimeout		
88	ROBIMAT_ERROR_AusgabeZu		
89	ROBIMAT_ERROR_AusgabeZu_MotorTimeout		
8A	ROBIMAT_ERROR_AusgabeZu_ShutterTimeout		
A2	ROBIMAT_ERROR_ReadPosition_EepromNotIdle	Eeprom not ready.	Software error or Eeprom faulty.
A4	ROBIMAT_ERROR_InitE-WPo_EepromNotIdle		
A5	ROBIMAT_ERROR_ReadHWCfgCRC_EepromNotIdle		
A7	ROBIMAT_ERROR_RESELECT_ReadPosition_EepromNotIdle		
A8	ROBIMAT_ERROR_Pld-Version_Invalid	PLD firmware faulty.	Upload PLD firmware or PLD faulty.
A9	ROBIMAT_ERROR_PositionCRC_Invalid	Positions CRC-error.	Save AutoConfig in Robimat menu or Eeprom faulty.
AA	ROBIMAT_ERROR_ConfigCRC_Invalid	Configuration CRC-error.	
AB	ROBIMAT_ERROR_Config_Invalid	Invalid configurations.	Save Auto Configuration or Eeprom faulty.
AC	ROBIMAT_ERROR_HWCfgCRC_Invalid	Hardware configuration CRC-error	Save HWConfig in the Robimat menu or Eeprom faulty.
AD	ROBIMAT_ERROR_HWCfg_Invalid	Invalid hardware configuration.	



Komponente	Stelaff Artikelnummer	Komponente	Stelaff Artikelnummer
A1	343.00.515.00 M PLATINE SNAOK PDU 4 AUSG. KPL. BEST.	MA5	704.00.563.00 M GETRIEBEMOTOR VORM.
A2	704.00.550.00 M KUEHLUNG SKA 435 KPL. MONT. GF XL/M	SF1	985.14.290.29 K WIPPSCHALTER BEL. SNAP-IN 2 POL
A3	704.00.574.00 M KUEHLUNG SKA 751 KPL. MONT.	SF2	985.14.065.27 K SICHERHEITS-TRENNSCHALTER SNAP-IN
A4	704.00.581.00 M KUEHLUNG SKA 791 KPL. MONT.	SF3	985.14.060.20 K MIKROSCHALTER WECHSLER
A5	343.00.502.00 K STEUERUNG VMI LAN MIN KPL. BEST.	SF4	985.14.060.20 K MIKROSCHALTER WECHSLER
A6	704.00.520.00 K PLATINE ADD-ON VMI KPL. BEST.	SF5	985.14.060.20 K MIKROSCHALTER WECHSLER
A7	343.01.233.00 M RUECKGABEMOTORHALTER KPL. MONT.	SF6	985.14.060.20 K MIKROSCHALTER WECHSLER
A8	704.00.514.00 M PLATINE I-SCHIENE KPL. BEST.	SF7	704.00.520.00 M KV KORB - PLATINE
A9	704.01.547.00 M PLATINE LICHTGITTER EMPF. KPL. BEST.	TB1	985.26.001.53 K NETZTEIL 230VAC 24VDC 120W
A10	704.01.549.00 M PLATINE LICHTGITTER SENDEK KPL. BEST.	TB2	985.26.001.59 K NETZTEIL 230VAC 24VDC 90W
MA1	414.01.555.00 M DISPLAY KPL. MONT. HMI	EA1	985.15.430.12 K HEISSELEITER (TEMPERATURUEHLER) NTC
MA2	985.27.035.68 K GETRIEBEMOTOR DC 18V M. ZAHNRAD	EA2	985.22.017.00 K LED MODUL RGB STREIFEN 24V 14.4W/M
MA3	985.27.035.68 K GETRIEBEMOTOR DC 18V M. ZAHNRAD	EA3	704.00.564.00 M PLATINE BELEUCHTUNG KPL. BEST.
MA4	985.27.035.20 K GETRIEBEMOTOR DC 12V M. ENCODER	EA4	704.01.075.00 M LED-BELEUCHTUNG LINKS VORM.
		EA5	704.02.075.00 M LED-BELEUCHTUNG RECHTS VORM.



Datum	Name	ÄA-Nr.	Datum	Beschreibung
02.03.16	MAAG_AN	1	16746	22.02.17 neues Power/Netzteil
02.03.16	PROBE_TH			
02.03.16	NOVA_AC			

Erstellt:	02.03.16	MAAG_AN
Geprüft:	02.03.16	PROBE_TH
Freigelegt:	02.03.16	NOVA_AC

Stelaff	Stelaff GmbH & Co. KG Automatenbau Münchener Straße 20 D-91827 Herrieden
Zeichnungsnummer:	707.00.902.00
Bezeichnung:	SCHALTPLAN GF SILINE M/L
Blattnr.:	3/3

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