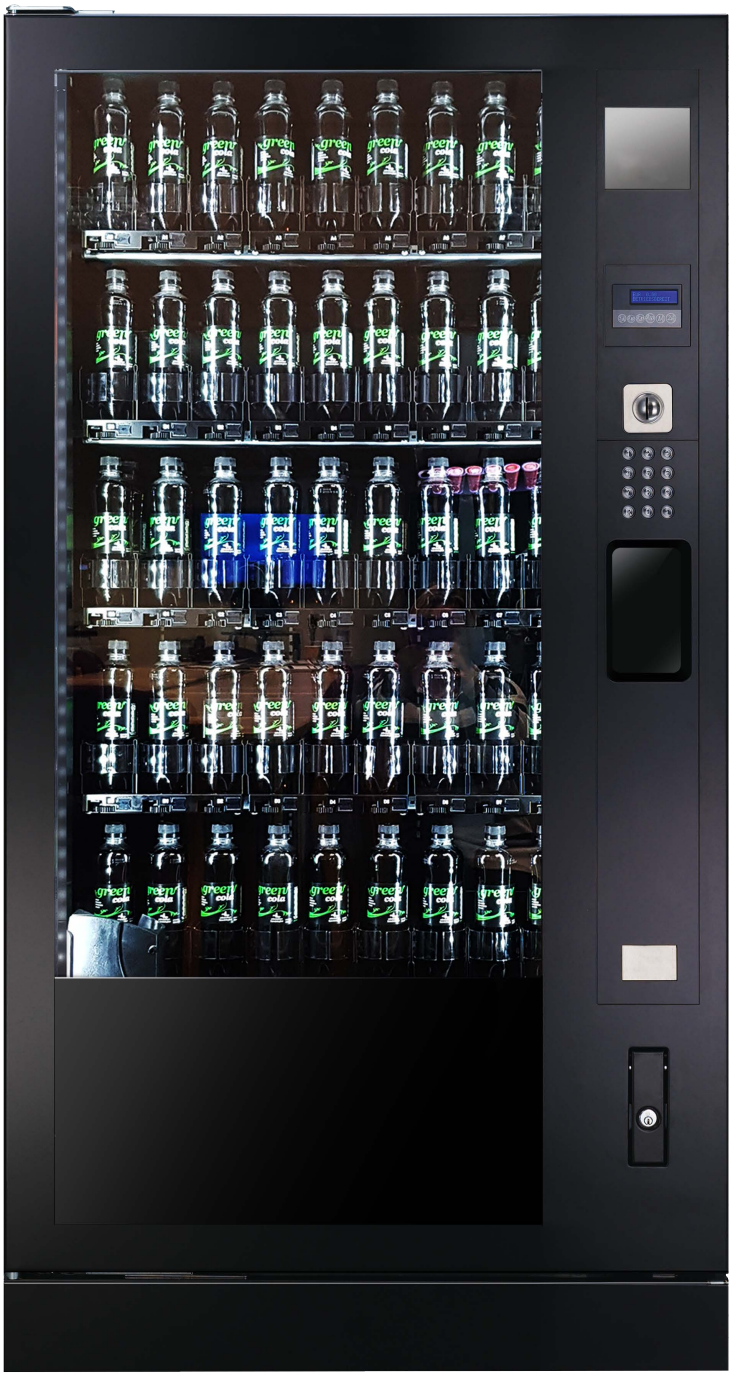
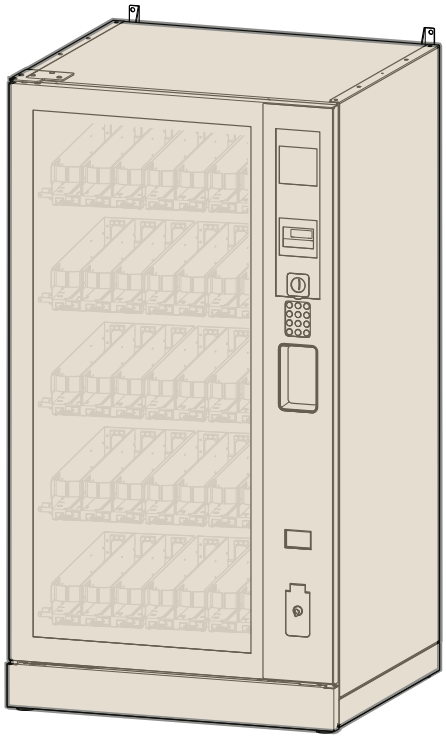
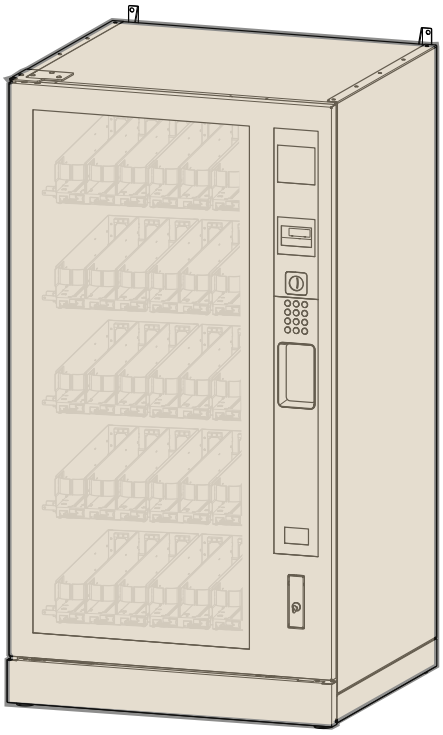
westomatic

British Vending Excellence Since 1966



ELEVATE QUARTZ SERVICE MANUAL





Software ROMFjb11.pat

GF
Cold drinks vending machine
Robimat XL

Typ XL

Typ XM

Typ EC

Typ EW

704 00 000 00	Robimat XL
706 00 000 00	Robimat XM
704 00 000 10	Robimat XL-EC
706 00 000 10	Robimat XM-EC
704 00 000 20	Robimat XL-EW

704 66 020 00

Index 04

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GB

XL
XM
EC

Technical manual

1 General

1.1 Introduction

1.1.1 Copyright

1.1.2 Changes

The texts, pictures and data in these Operating instructions are in accordance with the technological state of the machine at the date of printing. Errors due to further development excepted.

1.1.3 Number of pages of document / Completeness

This document consists of 61 pages.
If you have all pages in consecutive order on hand, your document is complete.

1.1.4 Software

Please note that these operating instructions apply for different vending machine variants. For this reason some of the details described might not apply for your vending machine.

The software version described in this document is ROMFjb11.pat. If a different version is installed on your machine, there might be discrepancies.

Enter service code [21L] to read out the software version installed.

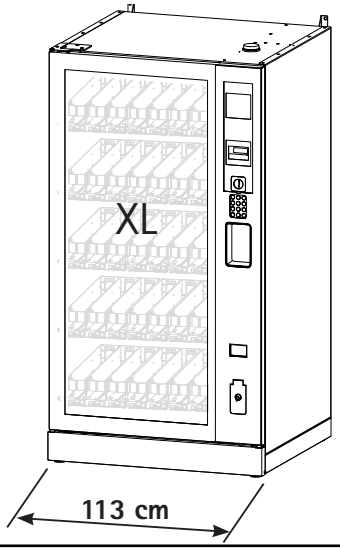
1.1.5 Alternative source of reference

Registered users can also download this document from our website at http://www.sielaff.com/en/customer-login.

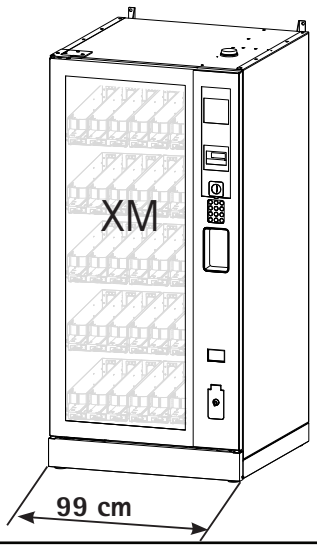
1.1.6 Deviations in illustrations (Robimat XL - Robimat XM)

This technical manual was originally created for Robimat XL. Cause of including Robimat XM there can be deviations in illustrations.

9 product compartments per level



7 product compartments per level



1.2 Safety Information

- Before commissioning of the machine the operating instructions should be read and understood.
- When the vending machine is being transported, installed, serviced or repaired, it is recommended to observe the following regulations and guidelines in their latest version: EU guidelines, VDE regulations (Association of German Electrotechnical Engineers), Country-specific regulations, Accident prevention regulations, Industrial code, Trade association guide-lines, Regulations of the responsible utility company
- Machine installation and repairs may only be performed by trained service engineers.
- This machine is not designed to be used by persons (including children) with limited physical, sensory or mental abilities or lack of experience and/or knowledge, unless they are looked after by another person responsible for their safety or they have received instructions how to use the machine.
- Children should be looked after to guarantee that they do not play with the machine.
- If the connection cable is damaged, it may only be replaced by a service engineer of the manufacturer or an equally qualified person.
- Appliance plugs should never be inserted in sockets when damp or touched with wet hands.
- A residual current circuit-breaker with maximum 30 mA absolute fault current must be connected in series with the machine, the fuse protection must not be higher than 16 amp.
- Prior to all work on electric parts the machine must be unplugged from the mains supply.
- Disconnect the machine before cleaning.
- The machine has to be secured to the wall or to the floor.
- The venting clearance between the rear wall of the vending machine and the wall at the mounting site must be observed (5 cm at least).
- The vending machine in its standard configuration is only suitable for climate class N.
- The mounting room must be dry and heatable.
- The machine may only be transported when empty.
- Do not clean the machine with a water hose or a high-pressure cleaner.
- Quickly moving the lift system by hand can cause damage. That is why please move both axes of the lift system slowly.
- When the product basket is moved manually to the product delivery position (on the right), the drawer should not be pulled out. Risk of damage!
- Use only original spare parts.
- Any modification or conversion of the machine is prohibited! SIELAFF disclaims liability for any defects in these cases!

Intended use

- The machine may only be used for vending beverages in bottles and cans.
- Only products approved by SIELAFF may be used.
- Inflammable or explosive goods must not be vended.

1.3 Explanation of symbols and signs

This vending machine was manufactured in accordance with state-of-the-art technology standards. Nevertheless there may be risks from machines that cannot be avoided constructively.

In order to assure sufficient protection for the operator, additional safety instructions are supplied as detailed below:

Only if these are observed sufficient safety during operation is assured.

DANGER!

Indicates imminent danger possibly resulting in death or serious injury.

WARNING!

Indicates a potentially dangerous situation, which may result in death or serious injury.

CAUTION!

Indicates a dangerous situation possibly resulting in slight injury or machine damage.

NOTE

Guidelines to facilitate machine operation.

WARNING of electrical energy! Risk to life!

Live parts are mounted near this symbol. Covers labelled as such may only be removed by a qualified electrician.

Handling regulations for dealing with electrostatically sensitive components and modules (ESD)

Covers labelled with the symbol opposite conceal dangerous electrical voltages.

Touching plug connections, printed conductors and component pins should be avoided at all times.

Only qualified personnel with ESD knowledge are authorised to remove covers.

1.4 Conventions in the manual

Convention	Description	Example
Bold	Emphasizes important information	...only trained..
[M]	Buttons that can be touched are shown in squared brackets	[M] = call up service function
[2] - [0] - [3] - [M] ...	Step-by-step instructions Touch these buttons in sequence	Check illumination
[203M]	"Service function 203M" "Service number 203M"	[2] - [0] - [3] - [M]
XMOffset: 00.0mm E:Edit	= blinking cursor in display	-

2 Maintenance work

During all repair and maintenance work the greatest care and attention must be exercised.
The safety instructions must be observed.
Only original SIELAFF spare parts may be used and mounted.

DANGER! Components are electrified.

Risk to life!

Switch off machine and disconnect mains plug prior to maintenance and repair work

ESD-sensitive components

In the event of improper handling destruction of components!
Only specialist personnel with ESD knowledge are authorized to work on the Robimat XL!

NOTE

Maintenance and repair work may be carried out only by a service engineer or trained specialists.

2.1 Maintenance list

Machine: Robimat XL/ XM/EC **Housing**	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Is the machine standing safely, no tilting, fixings fitted?		2	2	2	
Does the glass door close without any resistance?		2	2	2	
Housing exterior		1	1	1	
Bearing studs at top and bottom glass door	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	2+3	2+3	2+3	
Locking hook	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	3	3	3	
Flap to delivery unit Torsion spring		2	2	2	
Seal		2	2	2	
Locking function		2	2	2	

Cooling unit	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Lint filter (directly under the drawer)	Brush, air	1	1	1	
Condensor	Brush, air	1	1	1	
Compressor	Rinsing water	1	1	1	
Evaporation tray	Rinsing water	1	1	1	
Connection gaskets, front, rear + left, right in the housing	Vaseline, rubber care	1 +2 +3	1 +2 +3	1 +2 +3	

Glass door	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Insulating glass pane	Rinsing water	1+2	1+2	1+2	
Door gasket	Vaseline, rubber care	2+3	2+3	2+3	
Lock bearing studs	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	2+3	2+3	2+3	
Lock	according to manufacturer's specifications	2+3	2+3	2+3	

Illumination	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
LED function		2	2	2	
Swing function, light strip left		2	2	2	
Laying of cables upper left		2	2	2	

Drawer	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Vending machine control board M32: minimum tension buffer battery 2.8V	Voltmeter	2	2	2	
Coin channels	Rinsing water	1+2	1+2	1+2	
Selection keypad, outside	Rinsing water	1+2	1+2	1+2	
Display	Rinsing water	1	1	1	
Coin return tray	Rinsing water	1	1	1	
Coin return motor function		2	2	2	

Drawer	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1]	24 months or 60.000 [1]	36 months or 90.000 [1]	
Coin mechanism, card reader, banknote reader	Cleaning according to manufacturer's specifications	-	-	-	
Product removal unit Interior		1	1	1	
Smooth operation of the locking pusher incl. spring		2	2	2	
Delivery unit flap Easy movement of motor drive	movable by hand	2	2	2	
Lifting force at least 250 g	e. g. can 0,25l	2	2	2	
Sliding clutch function	e. g. can 0,25l	2	2	2	

Product shelves	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1]	24 months or 60.000 [1]	36 months or 90.000 [1]	
Catching function of the product shelf		2	2	2	
Inside of the product shelf [2]	Check if clean and clean if necessary	1+2	1+2	1+2	
P**roduct pusher** movable with even force		2	2	2	
Catch mechanism of pusher/sliding piece		2	2	2	
Position of the belt in the pusher		2	2	2	
Positioning of belt deflexion at rear		3	3		
Damaged toothed belt		2	2	2	
Front drive wheel		2	2	2	
Front drive wheel, bearing	Multifunction grease Berulub FR 43 998 90 064 00	3	3	3	
Hooking-in position of the pendulum hook		2	2	2	
Legibility of the price/selection labels		2	2	2	
Retaining spring	Correctly snapped in; no damage?	2	2	2	

Lift System	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1]	24 months or 60.000 [1]	36 months or 90.000 [1]	
Horizontal linear rail, top	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	1+3	1+3	1+3	
Horizontal guide rail below	Rinsing water	1	1	1	
Damage to horizontal toothed belt		2	2	2	
Damage to vertical toothed belt		2	2	2	

Lift System	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Deflexion rollers belt drives (7x)		2+3	2+3	2+3	
Belt tensions: **horizontal drive:** Checkpoint: middle above; I-rail right left. 1N with 15mm excursion or 20 Hz	Dynamometer	2	2	2	
vertical drive: Checkpoint in centre, with lift arm right down at the bottom. 1N with 15mm travel or 15 Hz	Dynamometer	2	2	2	
Displacement forces I-rail left/right: max. 15 N	Dynamometer	2	2	2	
Basket upwards: max. 9 N		2	2	2	
Basket downwards: max. 6 N		2	2	2	
Movable ribbon cable loop, bottom: without kink/damage?		2	2	2	
Fork light barrier for height recognition + Y-reference	Brush, air	1+2	1+2	1+2	
Micro switch for X reference		2	2	2	

Product basket	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 [1)]	24 months or 60.000 [1)]	36 months or 90.000 [1)]	
Upper part of basket	Rinsing water	1	1	1	
Light bar	Brush, air	1	1	1	
Light bar: Flashing mode at 5 second intervals?		2	2	2	
Damage on drive belt		2	2	2	
Damage on toothed wheel pendulum		2	2	2	
toothed wheel bearing incl. intermediate wheels	Multifunction grease Berulub FR 43 998 90 064 00	3	3	3	
Constant accruement of force when the pendulum is swung to and fro		2	2	2	
Damage to pendulum hook		2	2	2	
Bearing of pendulum hook	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	3	3	3	
Gear motor, upper shaft bearing	Special grease e.G. Microlube GL 261 part no. 998 90 037 01	3	3	3	

Service technicians/trained specialists only!

Junction box (if available)	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		6 months 3)	12 months 3)	18 months 3)	
Test button T at FI circuit breaker	press	2	2	2	

Closing Check	**Solution Spare part reference number**	**Action/ operation** 1 = clean 2 = test/ control 3 = lubricate 4 = replace/ exchange			OK
		12 months or 30.000 1)	24 months or 60.000 1)	36 months or 90.000 1)	
Stop positions of selections 10, 18, 30, 38, 50, 58: X-direction: Toothed wheel for pendulum drive aligned with toothed wheel of product compartment Y-direction: Pendulum hook catches in centre of hooking-in position of the product compartment		2	2	2	

1) whichever occurs first.

2) It is vital that the compartment surface is in a clean condition if the machine is to function correctly. Products with sticky, sugary contents tend to be also soiled accordingly on the outside of the packaging. Drink residue on bottles will soil the product compartments and thereby impede the smooth transportation of the bottles.

The condition of the product compartment surface must be recorded and, if it is not clean, a complaint should be filed with the operator!

3) Attention, changed interval (six-monthly)

2.2 Cooling unit, cooling module

2.2.1 Instructions for cooling unit

DANGER

Make sure to wear suitable protective gear (safety glasses, protective gloves, safety boots) when transporting, installing, servicing, demounting or decommissioning the machine!

WARNING!

Risk of cuts when touching the lamellae.

WARNING!

Work on CO2 compressors and cooling devices requires individual expert knowledge on handling CO2 as a cooling agent. Furthermore, a qualified training for the operating personnel is necessary.

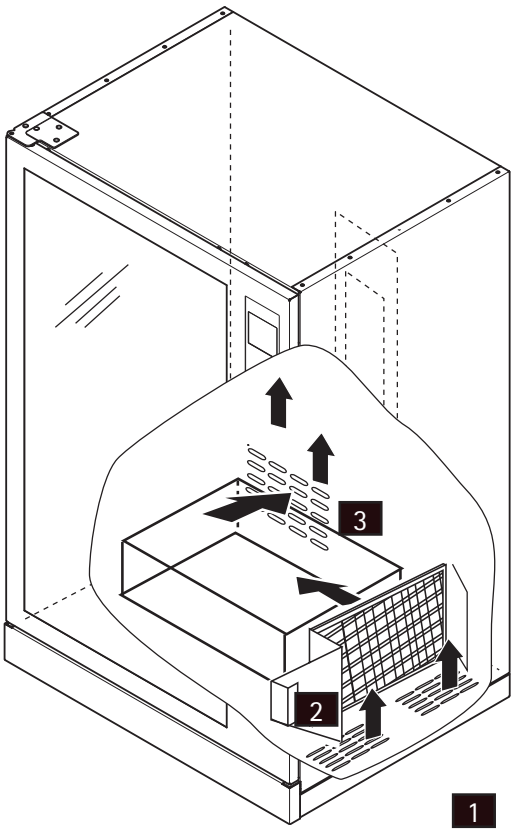
- The operator of the machine is responsible for training the skilled personnel, for having the machine regularly maintenanced and for adhering to the regulations on site!
- Set up the machine in such a way that the air inlet and outlet surfaces of the heat exchanger are always kept clear, thus avoiding a short circuit.
- On the back the machine must be placed at least 50 mm from the wall, because the hot air must escape.
- A hot air back-flow must be avoided. This is the case if the kick plate in the rear of the machine is correctly mounted (exception: real wall cover)
- The lamellae must not be bent out of shape, in order to ensure proper functioning of the lamellar heat exchanger.

The cooling unit complies with German safety regulations for refrigeration equipment (VBG 20). It has been leak tested.

- The cooling unit is automatically controlled by a temperature sensor and the machine control.
- When the cooling unit is turned off, the fan starts up automatically in certain intervals to circulate the air.
- The cooling unit is maintenance-free to a large extend. However, the lint filter and the lamellas on the evaporator or condensor side should be cleaned from dust occasionally with compressed air.

In case of problems with the cooling unit

- check first if the plug for the cooling unit is connected.
- Check if the plug is connected to the cooling unit.
- Check if the cooling unit is switched off at the machine control.
- If this is not the case, notify service personnel.



1 Air inlet (cold air)
2 Lint trap
3 Air outlet (hot air)

2.3 Dismounting the cooling unit

WARNING of electrical energy! Components are electrified.

Disconnect the mains plug before you start removing the cooling unit

CAUTION!

- The cooling module can be damaged if it is tilted over!
- Store and transport the cooling module in installation position only.
- If the cooling unit has been tilted over, it must be stored in installation position for at least 24 hours before it is switched on again.

CAUTION! Risk of damage!

If the basket is driven manually to the product delivery position, the drawer should not be pulled out!

Proceed as follows to remove the cooling unit:

- Open machine door.
- Pull out, empty and remove the undermost right product compartment (Illustration 1).
- Remove the left and the right screw and pull out the foam cover. Unfasten the flat ribbon cable out of the holders and lift up (Illustration 2 on next page).
- Loosen the screws and remove the metal cover (Illustration 3).
- **Only Robimat XM:** Unfasten the screw at the right side and remove the corner piece of the cooling unit (Illustration 4).
- Move the lift system slowly to the right and lift the product basket. The product basket must reach into the delivery pocket so that the lift system is at the stop on the right side.
- Pull out the cooling unit (push-in cooling unit) slightly (approx. 10 cm) towards the front (2 straps). Disconnect the mains plug (mind the snap-fits at the top and bottom) (Illustration 5)
- The cooling unit can be taken out completely

Mounting is performed in reverse order..
Important:

Prior to placing the cooling module, check that the mounting place is free from foreign objects (e. g. screws). The cooling module lies behind against the rear wall on the whole width. Check if the sealing surfaces on the right and left side of the mounting place are intact.

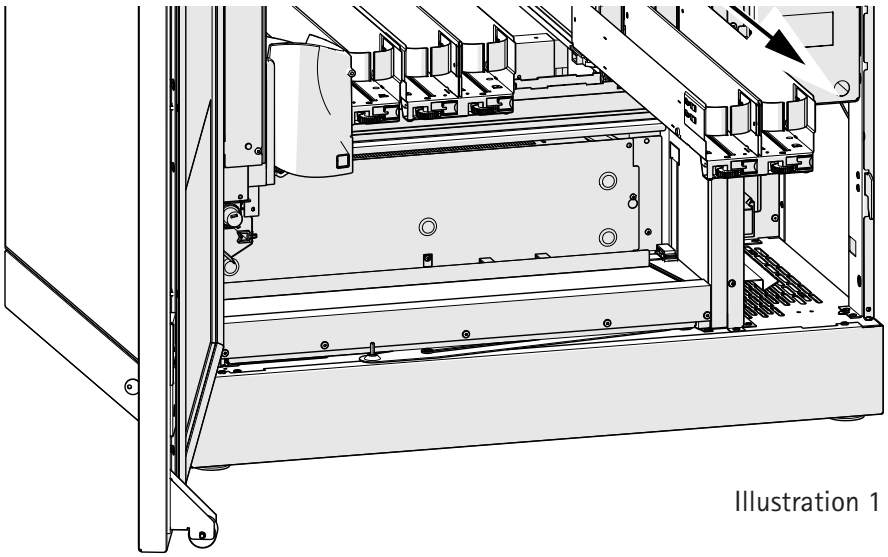


Illustration 1

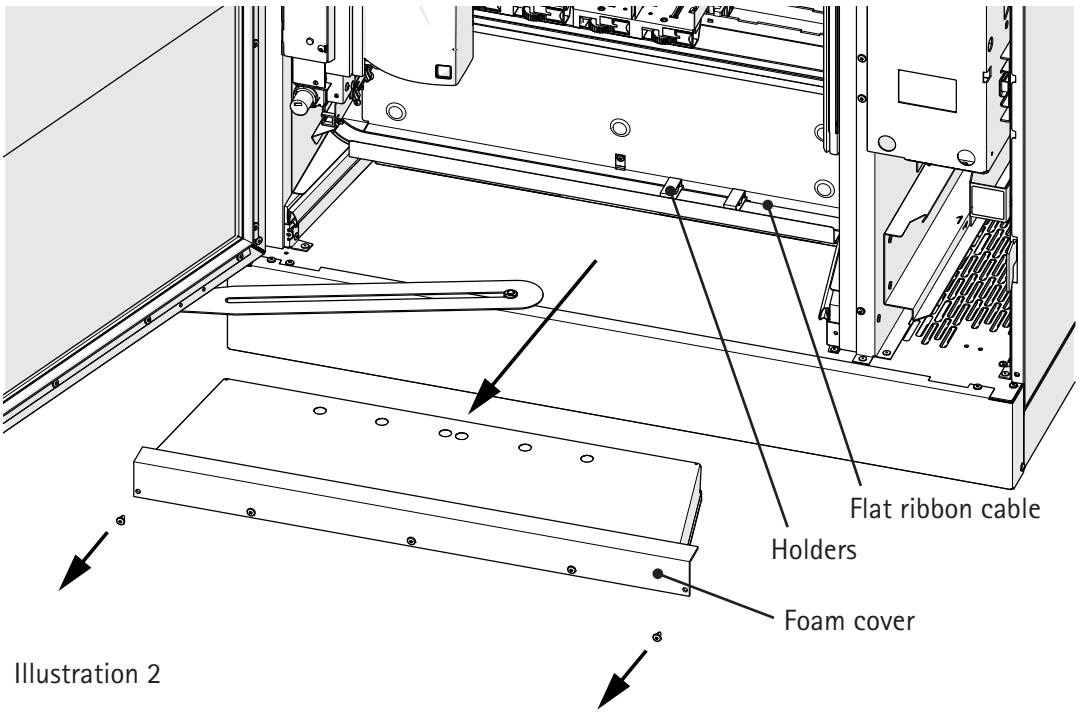


Illustration 2

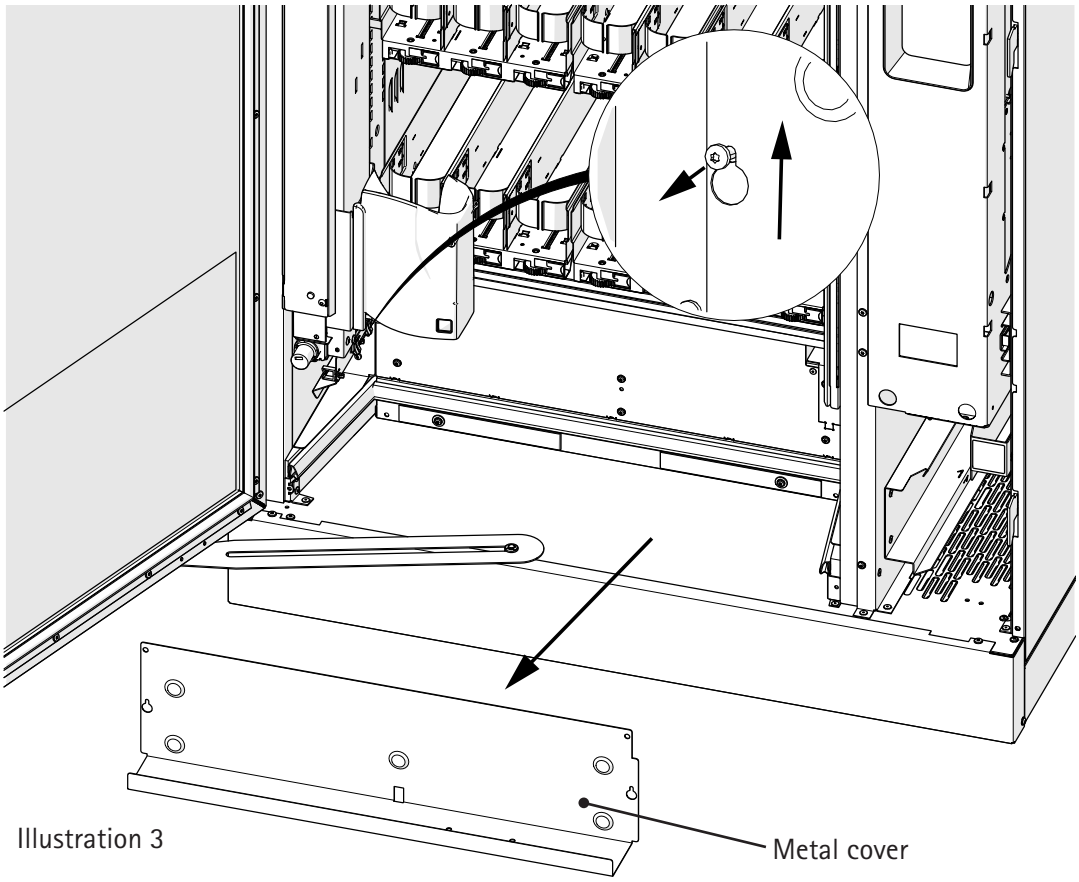


Illustration 3

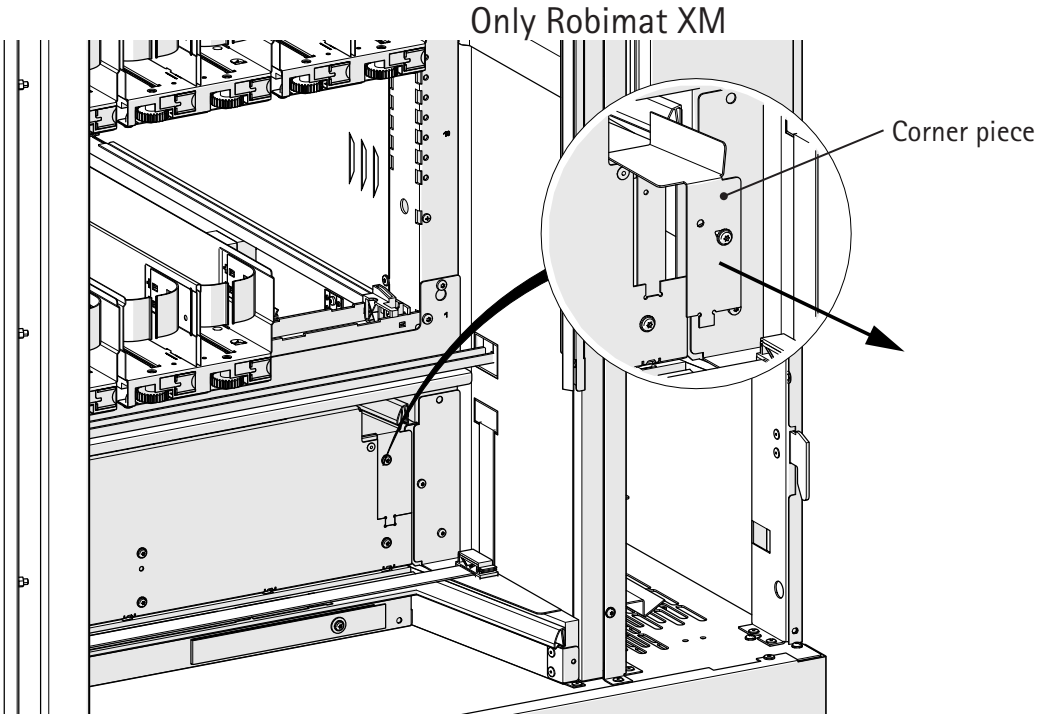


Illustration 4

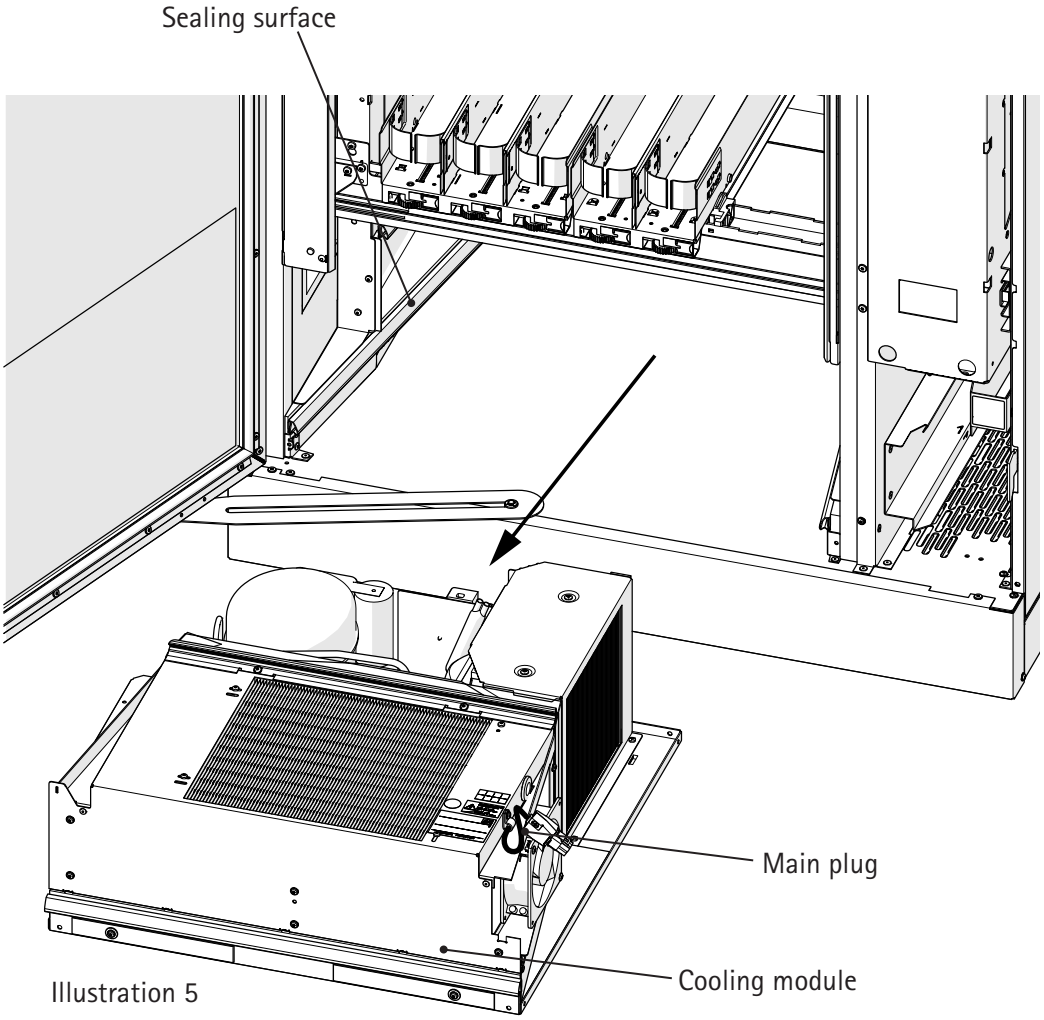


Illustration 5

2.4 Clean evaporator, condensor

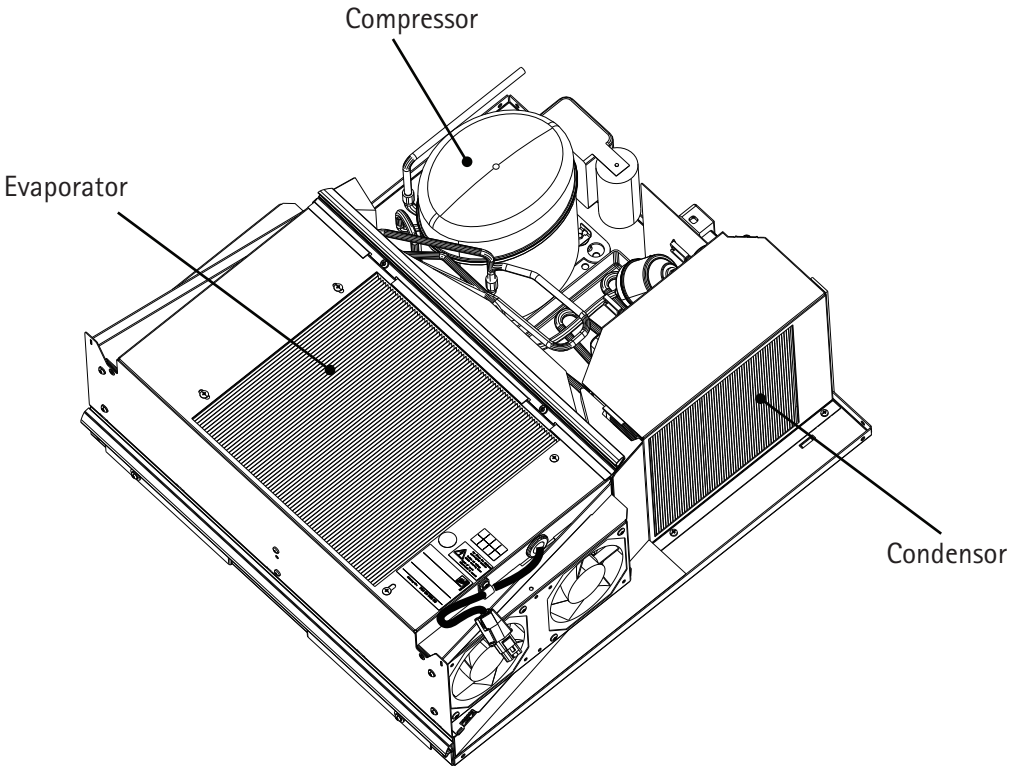
NOTE

Cleaning jobs may only be performed by trained personnel. If the cooling unit is not cleaned properly, it may be damaged and break down!

- Do not use sharp-edged tools.
- Do not use cleaning agents containing abrasives or acids.

The evaporator and condensor must be cleaned with a vacuum cleaner or blow compressed air at least every six months. Any dirt residue reduce the performance and increase the energy costs.

Especially places with more dust appearance should be cleaned more often.



CAUTION! Risk of damage to the compressor

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

> Do not undercut the minimum period of idleness for the compressor, which is 5 minutes!

Note

- The vending machine starts being ready for vending every time the door is closed; the compressor starts running audibly, the lighting will come on.
- Each time the service key is inserted a closed door is simulated.

Cooling unit shut down temporarily

In order to switch off the cooling unit for maintenance work, it is sufficient to unplug it from the power supply unit.

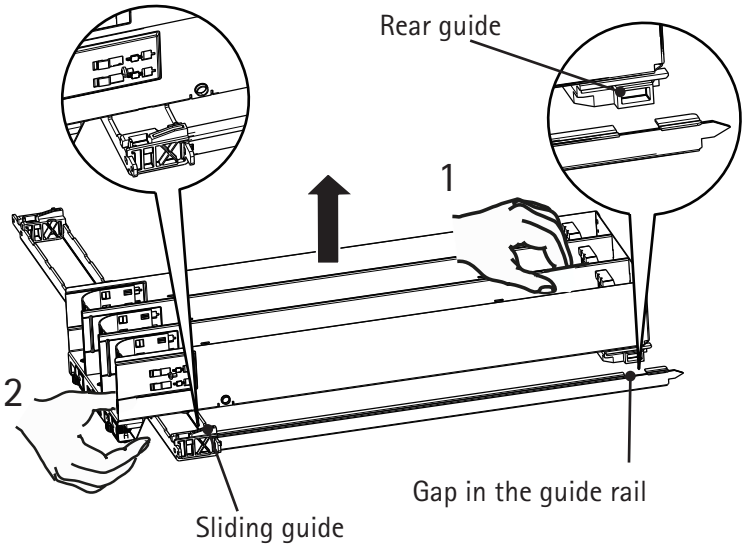
Important: Plug it back in again after finishing the maintenance work!

2.5 Removing and inserting the product compartment

Remove all the products to take out the product compartment.

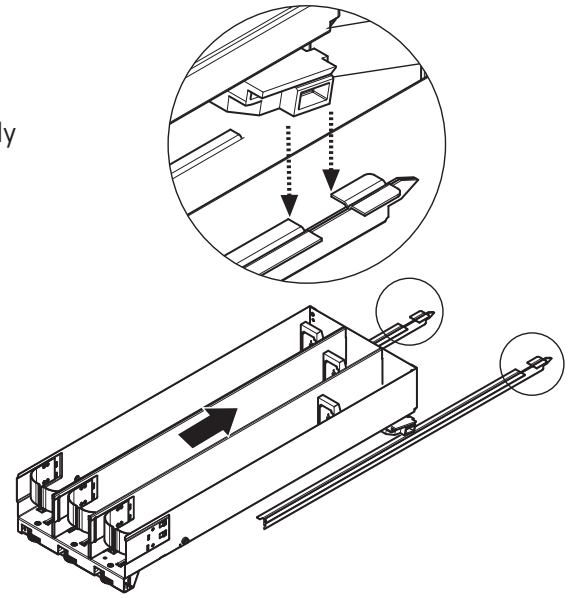
Lift the product compartment slightly at the rear with one hand while pulling it out at the front with the other hand.

The rear guide must be lifted up through the cutout in the guiding rail.



Place the product compartment on the guide rails and push it in. Shortly before the stop at the rear wall the sliding guide clicks audibly into the gap in the guide rail.

When it is inserted, the product compartment should be horizontal and nearly touch the rear wall.

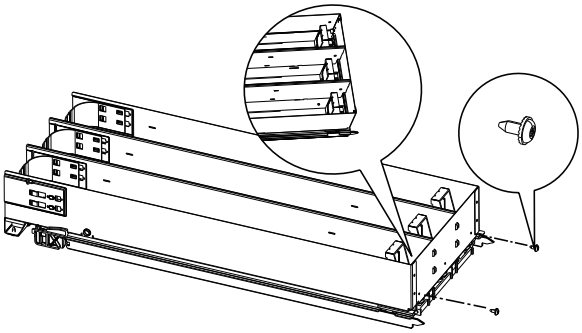


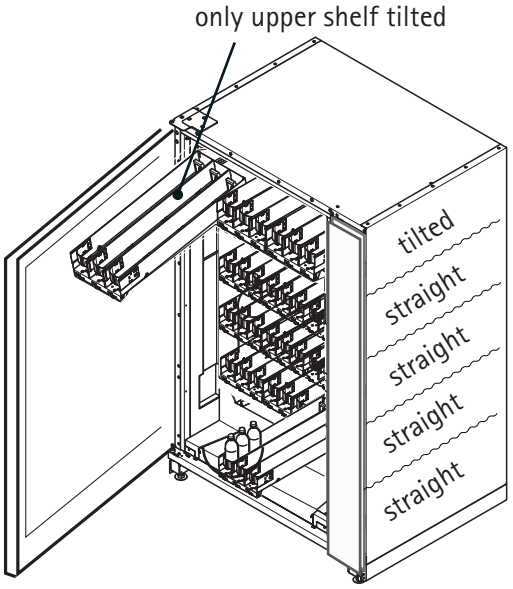
2.6 Swivelling the product compartment

For easier filling the product compartments of the uppermost compartment can be swivelled downwards. The inclined position comes off when the product compartment is pulled out.

The mechanism is deactivated in the factory for all other compartments which stay in a fixed horizontal position.

To activate the mechanism remove both screws on the rear side of the product compartment. The bracket can then be moved freely, the product compartment can be swivelled.



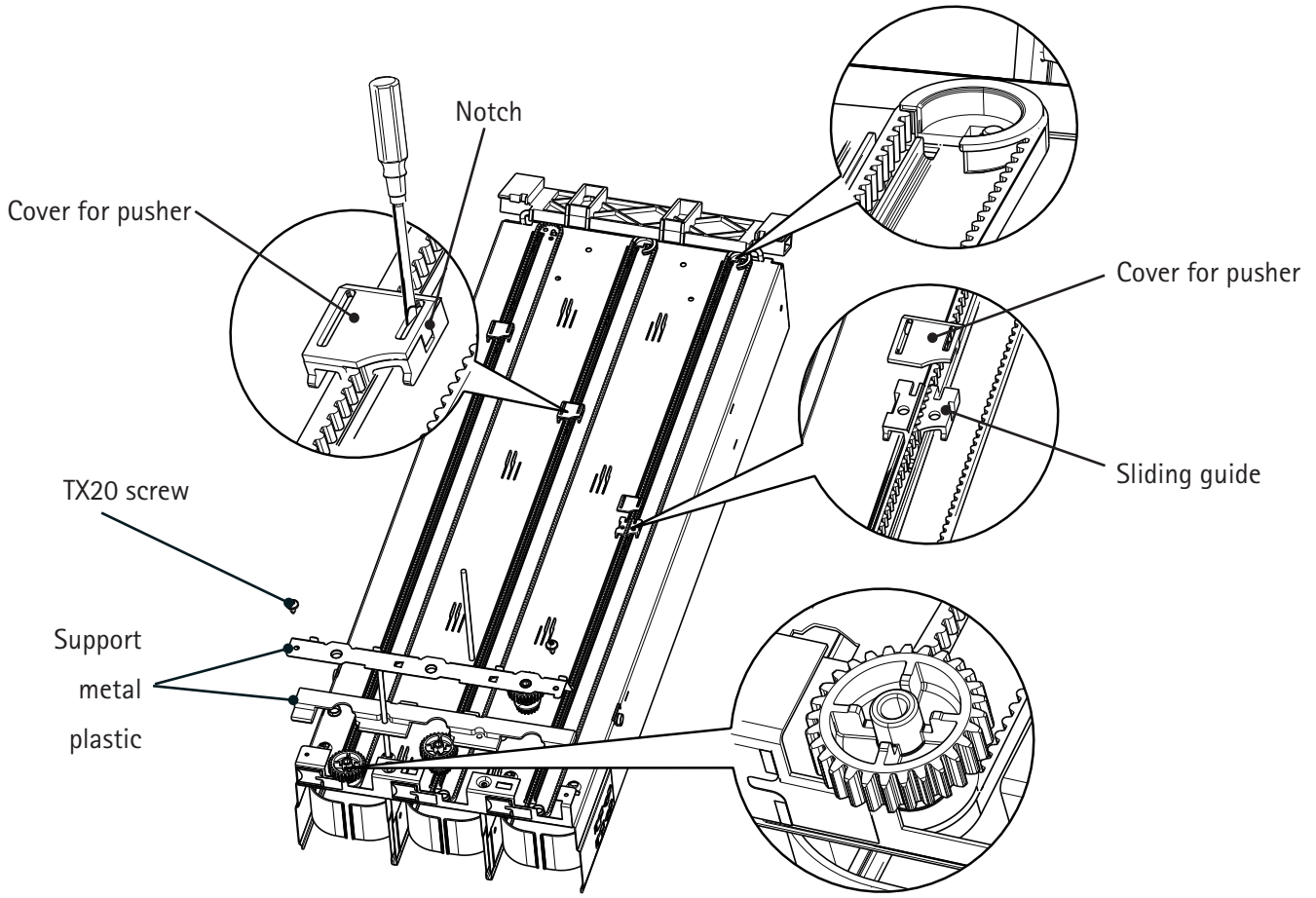


2.7 Exchange product compartment drive

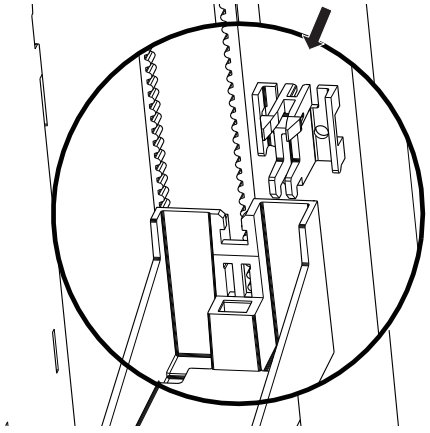
The drive of the compartment is designed in a maintenance-free and easy-to-service way. All components can be exchanged in case of damage.

How to proceed

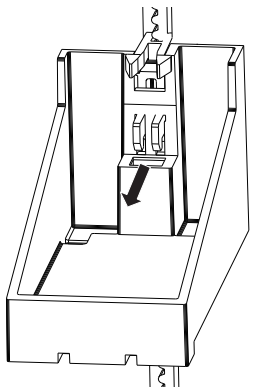
- Turn the product shelf over. Remove the two screws with a TX 20 screwdriver. Lift off the metal and plastic supports. Pull out the axes.
- Release the notch of the cover and lift the cover off. The ribbed belt can be taken out of the sliding guide.
- Mounting is performed in reverse order.



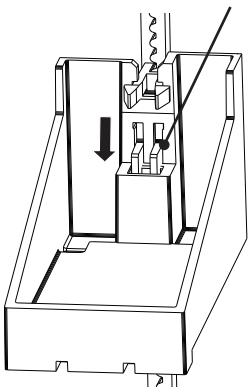
End position



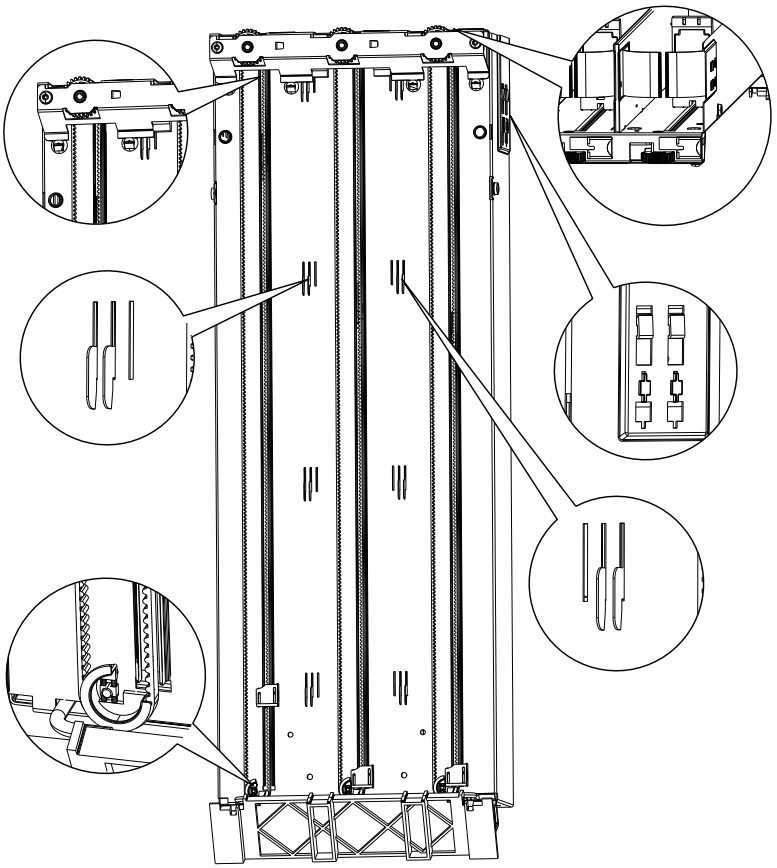
Arrange the sliding guide from the base of the product compartment.



Hold the pusher and click in the sliding guide.



Move the sliding guide to end position.

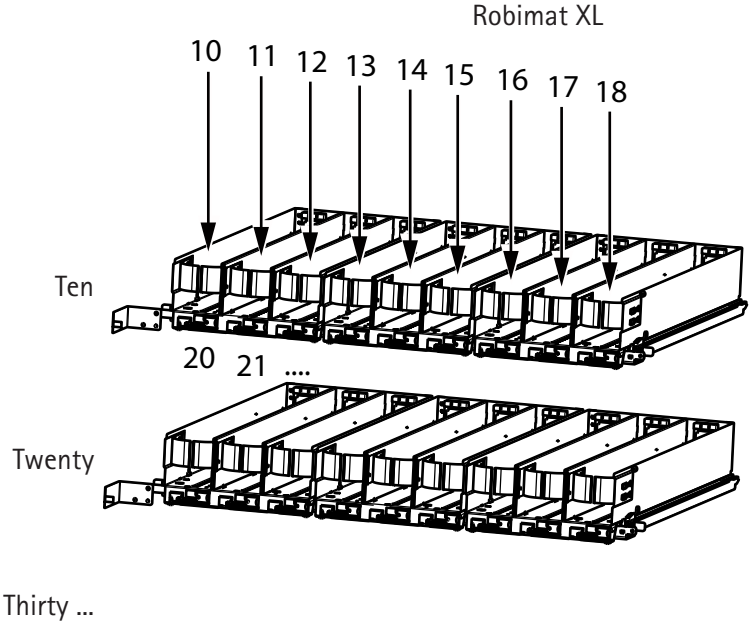


Drive mounted correctly

2.8 Numbering of product compartments

The product compartments start with number 10 on the uppermost shelf left, continuing to the right up to number 18 at maximum (Robimat XM: 16). On the second shelf the numbers are from 20 to 28 (Robimat XM: 26) and so on. A maximum of eight shelves may be installed.

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



10	11	12	13	14	15	16	17	18
20	21	22	23	24	25	26	27	28
30	31	32	33	34	35	36	37	38
40	41	42	43	44	45	46	47	48
50	51	52	53	54	55	56	57	58
60	61	62	63	64	65	66	67	68
70	71	72	73	74	75	76	77	78
80	81	82	83	84	85	86	87	88

Compartment

Product compartment

Product shelf

2.9 Move product shelves

The shelves can be installed in accordance with the product sizes.

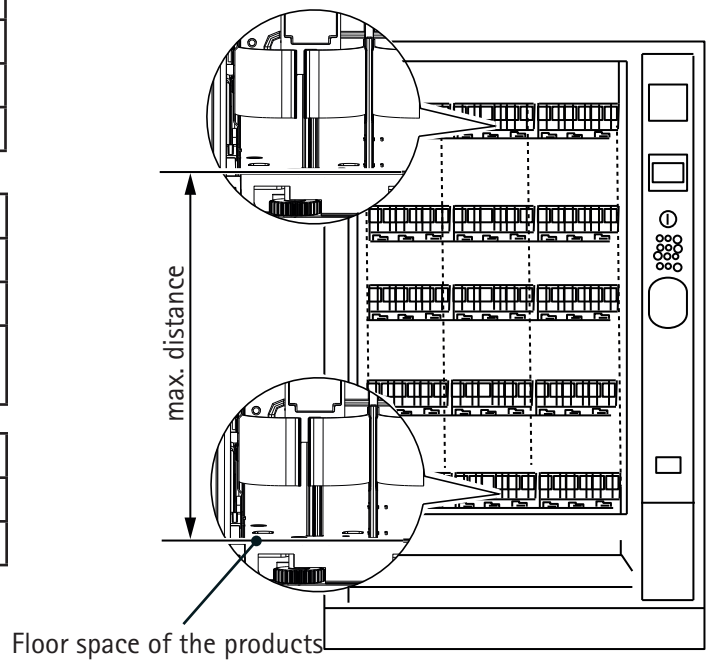
The spacing is 19.35 mm, i. e. the shelf can be relocated by this rate.

A reference run must be triggered after the shelves have been relocated. See sec. 3.5

Product requirements	
Can 0.25 l	Ø 53 mm/ Height 134 mm
Bottle 0,5l	Ø 66 mm/ Height 234 mm
Bottle 0,6l	Ø 72 mm/ Height 240 mm

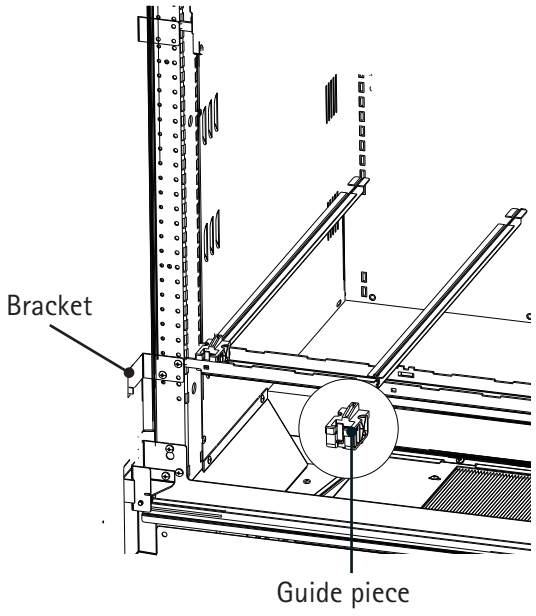
Maximum product heights	
5 shelves	240 mm
8 shelves	123 mm
can be transported through the flap	270 mm

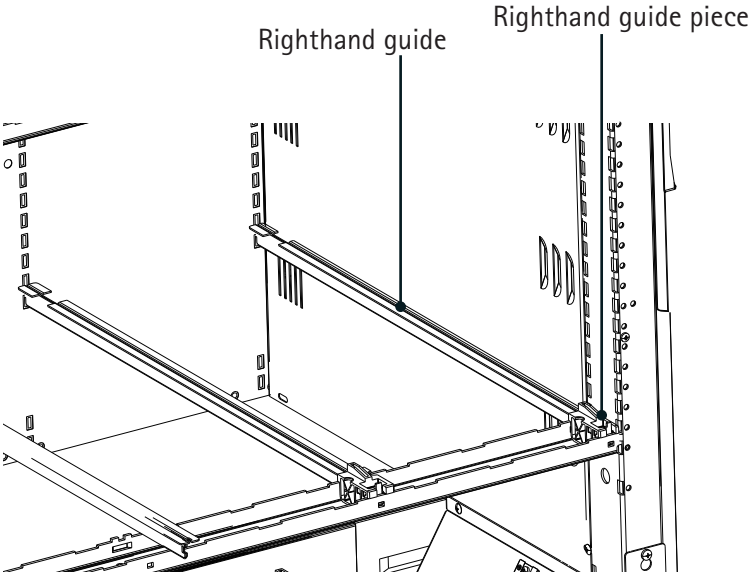
Floor space distance of the products	
minimum distance	154,8 mm
maximum distance	1161,0mm

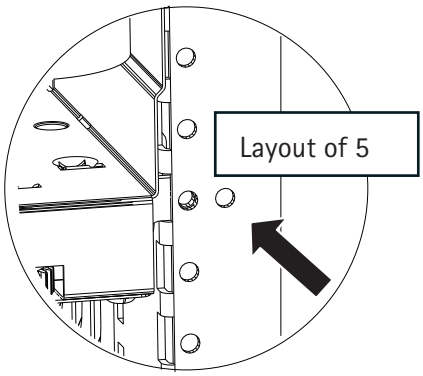


How to proceed

- Empty and remove the product shelves.
- Unlock the guide pieces and take the parts out. The guide is stuck into the rear wall.
- Loosen the securing screws at the front crossbar and take out the front crossbar.
  Important: Relocate the bracket too!





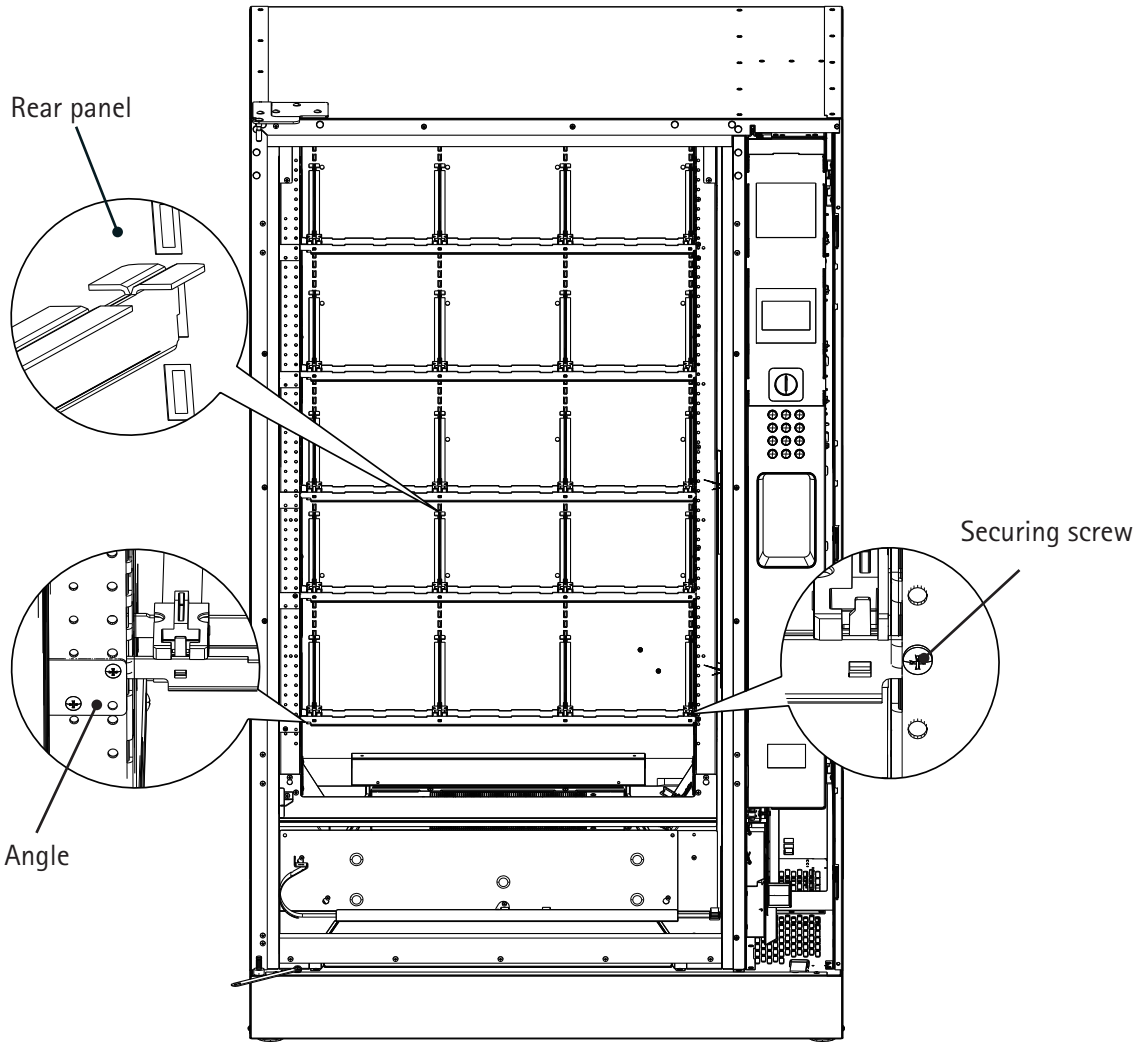


Hole = Layout of 5

(i. e. Sielaff standard layout with 5 shelves)

Mount the product shelves

- Insert the crossbar at the required height. Insert a securing screw on the right, fix the bracket on the left with two securing screws.
- First push the guide with the pointed end into the provided cutout at the rear and then secure it with the guide piece at the front.
  Please mind: There is a "righthand guide" with a "righthand guide piece" for the righthand side.
- After mounting the guides check if all shelves are level!

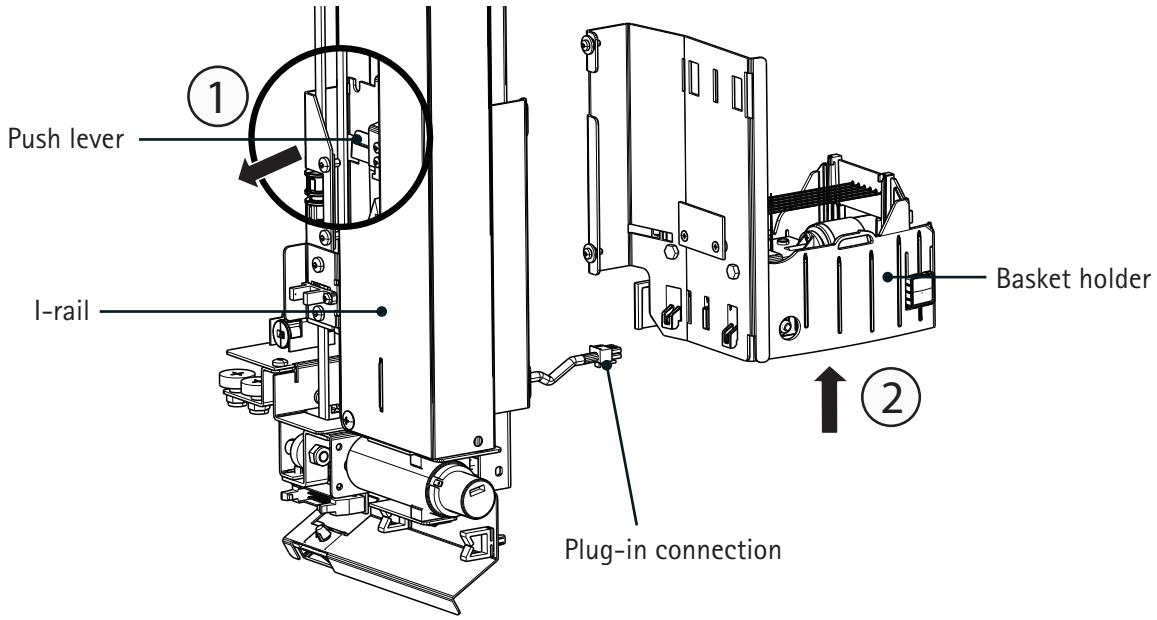


2.10 Exchange basket holder

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

2.10.1 Removing

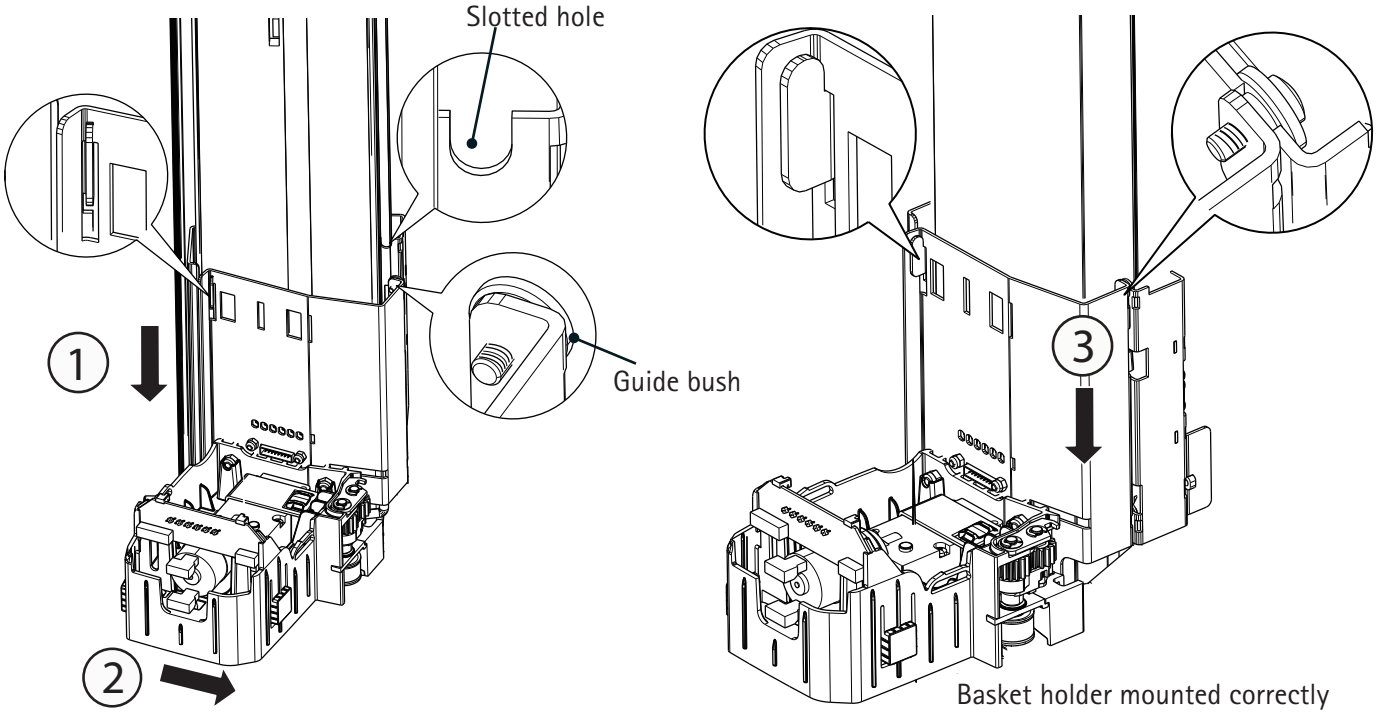
- Clasp the carriage of the I-rail with your left hand and actuate the lever with your index finger (push to the left). Then carefully strike against the basket holder from below with your right hand. The basket holder will come off the carrier.
- Disconnect the plugs of the electric lines after unhooking the basket holder.



2.10.2 Mounting

Lay the electric cables in the provided clamping units at the bottom side of the basket holder and connect the plug again.

- Fit the basket holder at the front and swivel to the rear. The two guide bushes must be inserted into the slots from above by pushing the basket holder downwards and simultaneously actuating the lever.
- Pay attention to the correct positioning!

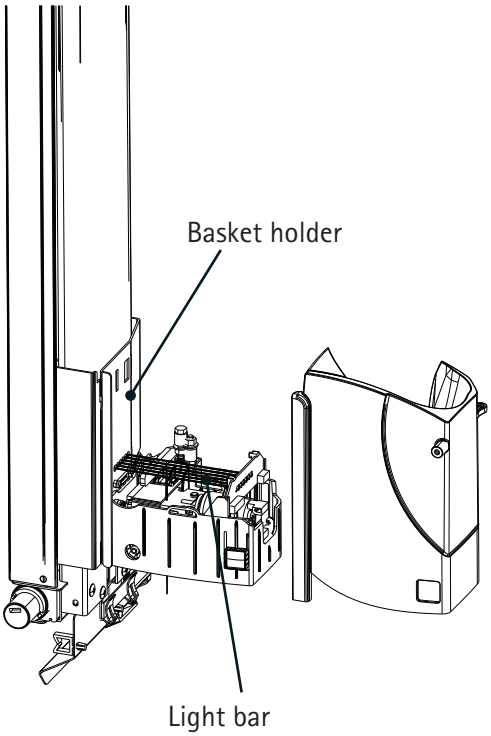


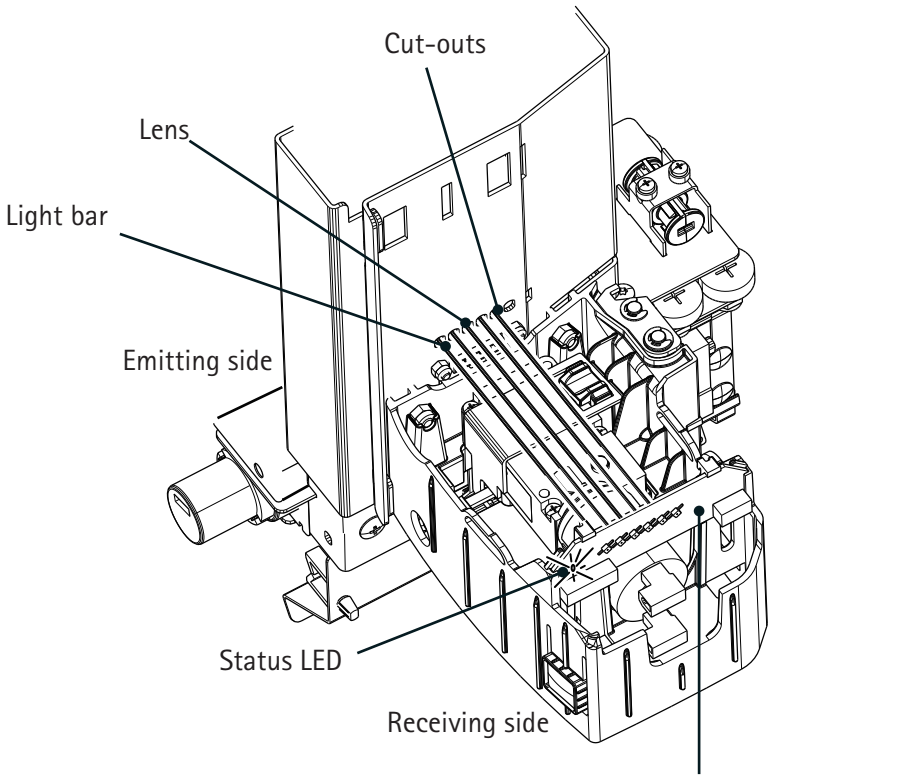
2.11 Product basket light bar

The light bar in the product basket must detect the product in the basket. This is done with several rays arranged in parallel, with breaking just one ray being sufficient for product detection.
A status-LED will flash at the receiver board.

Flashing frequency	Status
slow (every 5 sec.)	ok
fast	Light bar faulty

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

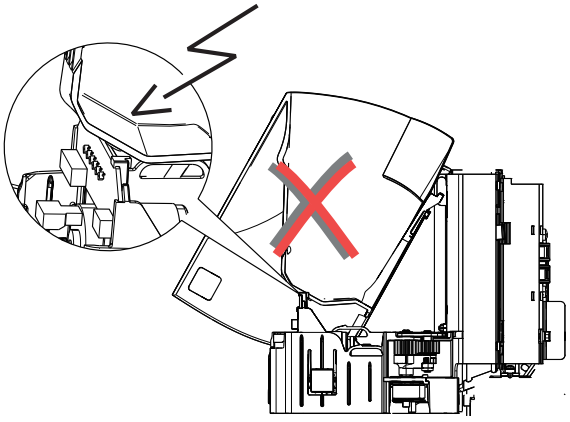




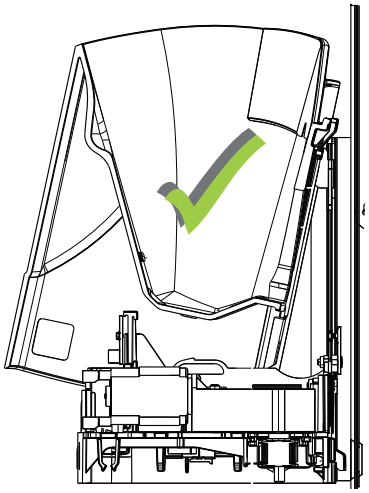
The board must be positioned correctly in the appropriate carrier.

CAUTION!

If the product basket is inserted in the wrong way, the light bar board may be damaged. For this reason be careful not to damage the board with the dent in the bottom of the basket!



If the basket is arranged in a wrong angle, the dent will damage the board!



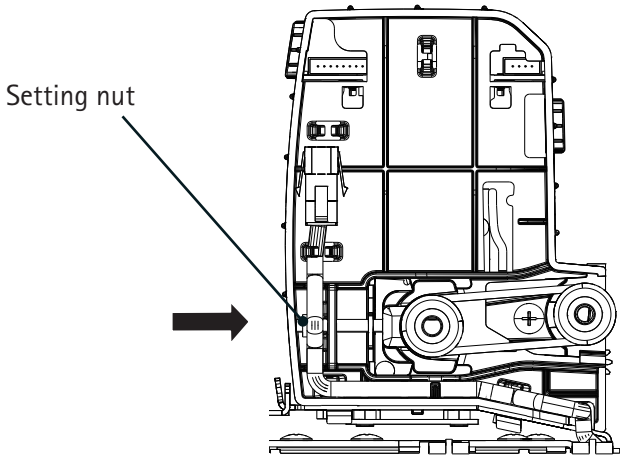
2.12 Product basket belt tension

NOTE

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

The toothed belt for the Z-axis drive with the pendulum drive is located at the bottom side of the basket.

In order to adjust the belt tension use a box spanner SW7 (and an adjusting gauge if available).



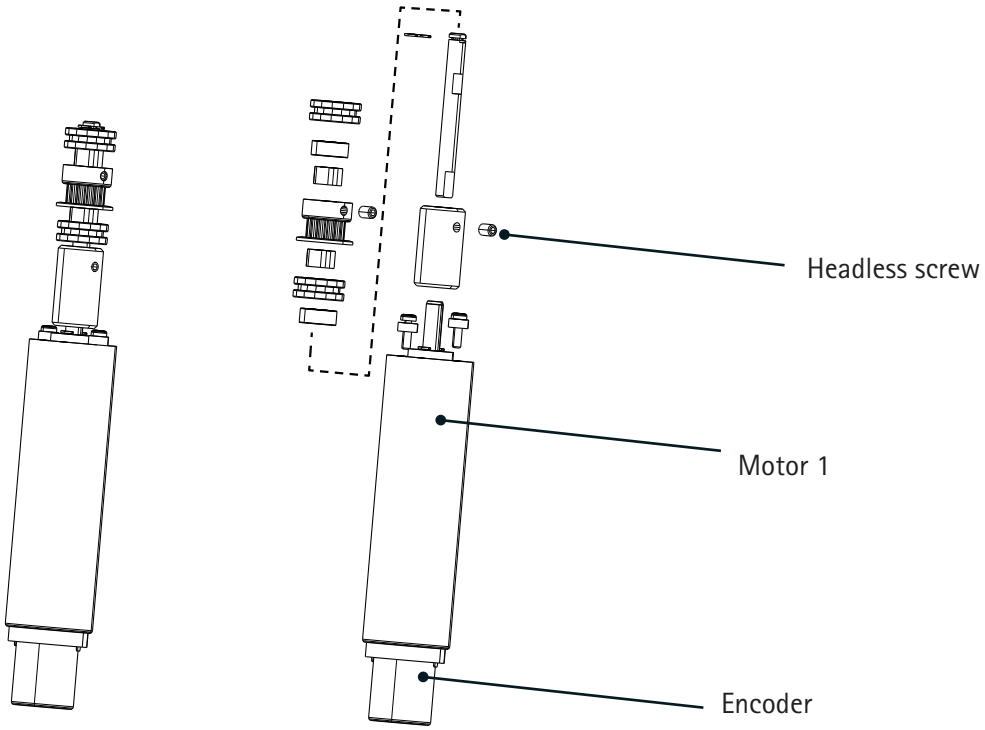
2.13 Position of the motors

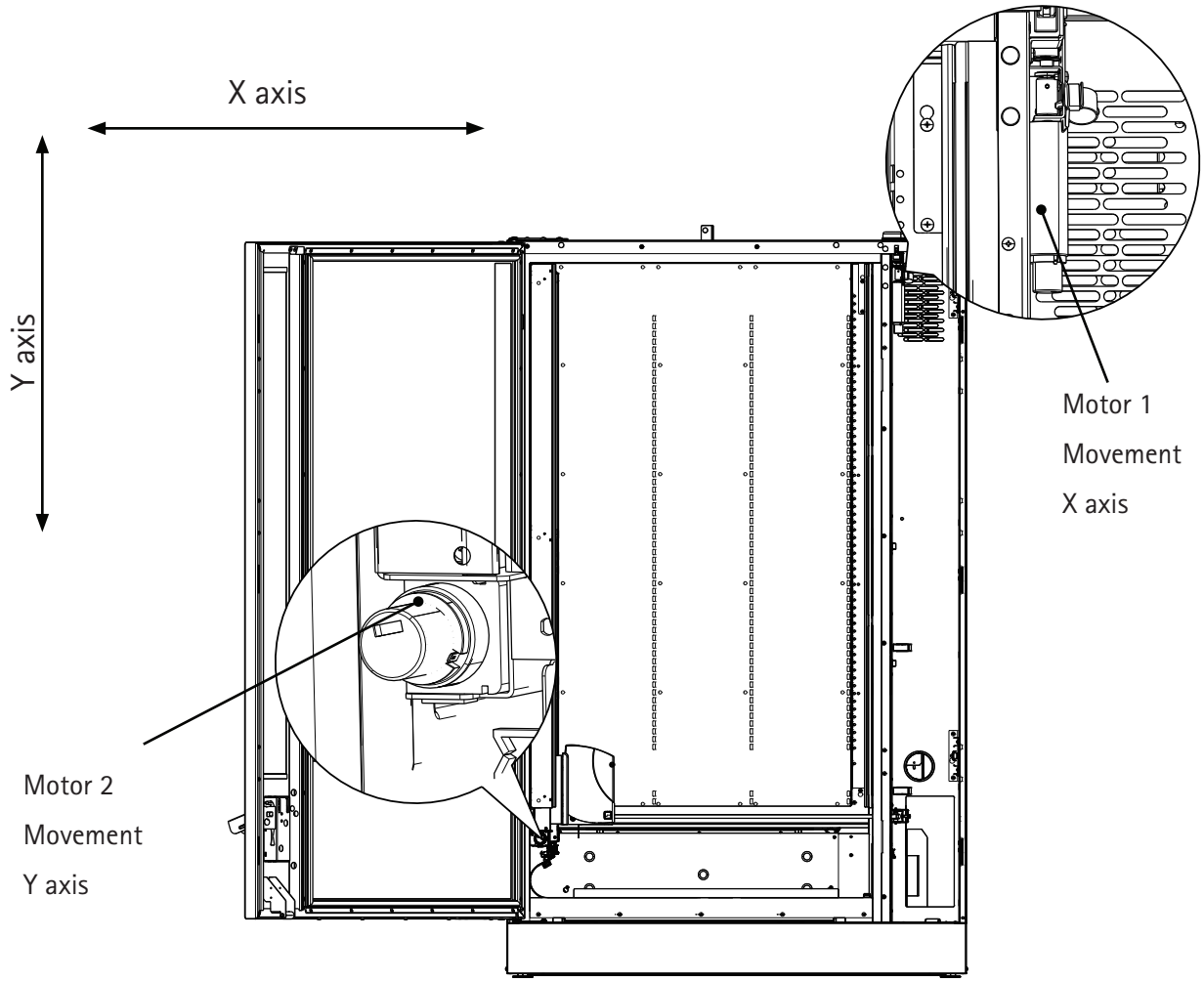
There are 3 electric drive motors in the vending machine.

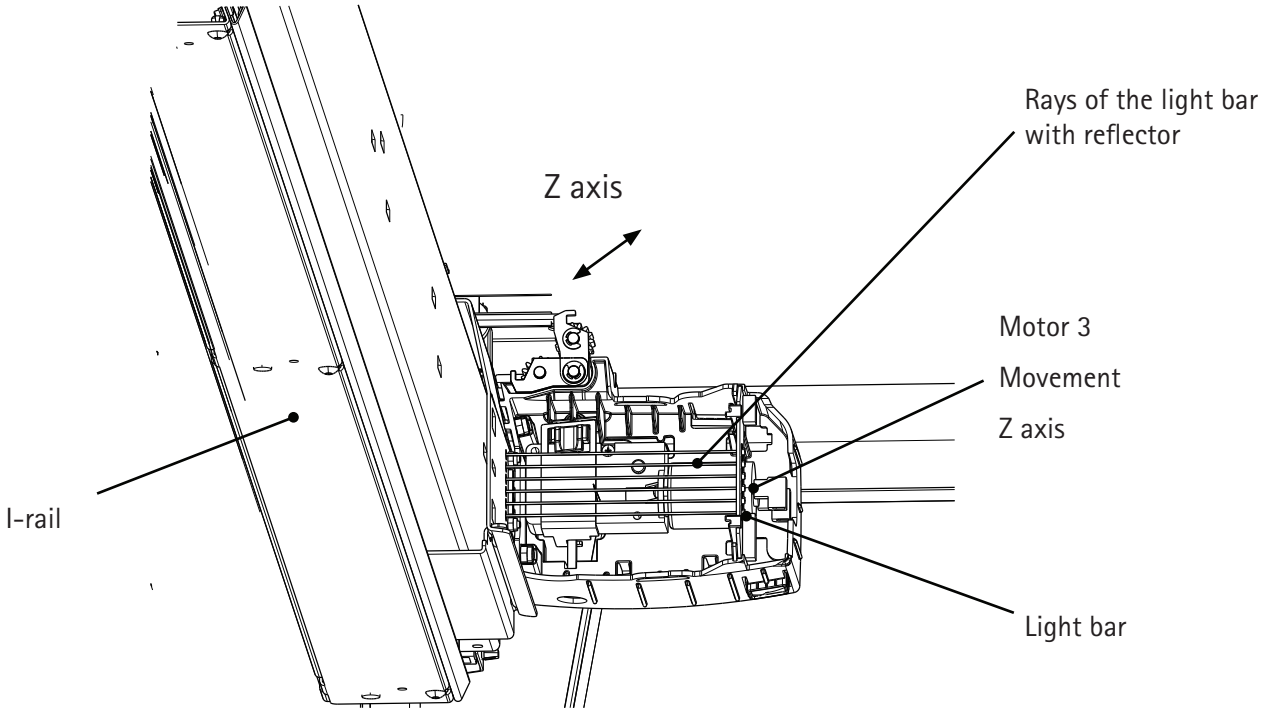
Motor 1: is located on the right at the top and can be seen after the drawer has been pulled out.

Motor 2: is located at the I-rail at the outer side of the product basket.

Motor 3: is located under the product basket.




X axis
Y axis
Motor 1
Movement
X axis
Motor 2
Movement
Y axis


Rays of the light bar
with reflector
Z axis
Motor 3
Movement
Z axis
I-rail
Light bar

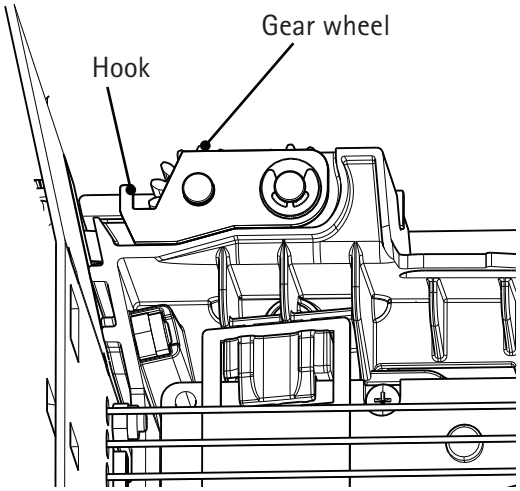
Service technicians/trained specialists only!

Motor 3

Z axis

Basic setting,

Hook run in

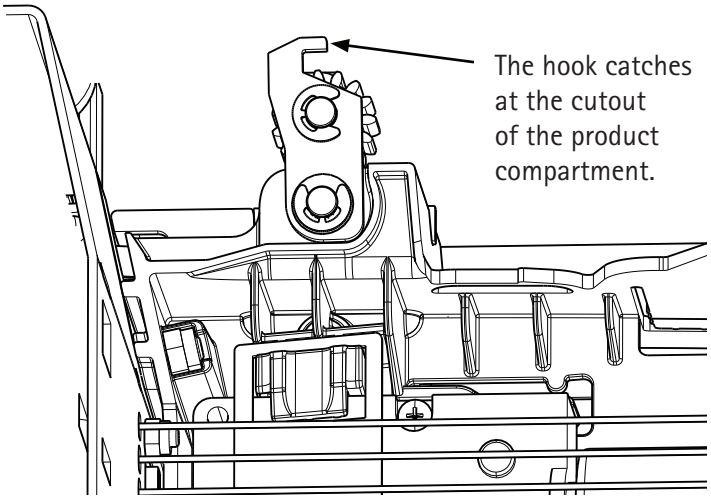


Motor 3

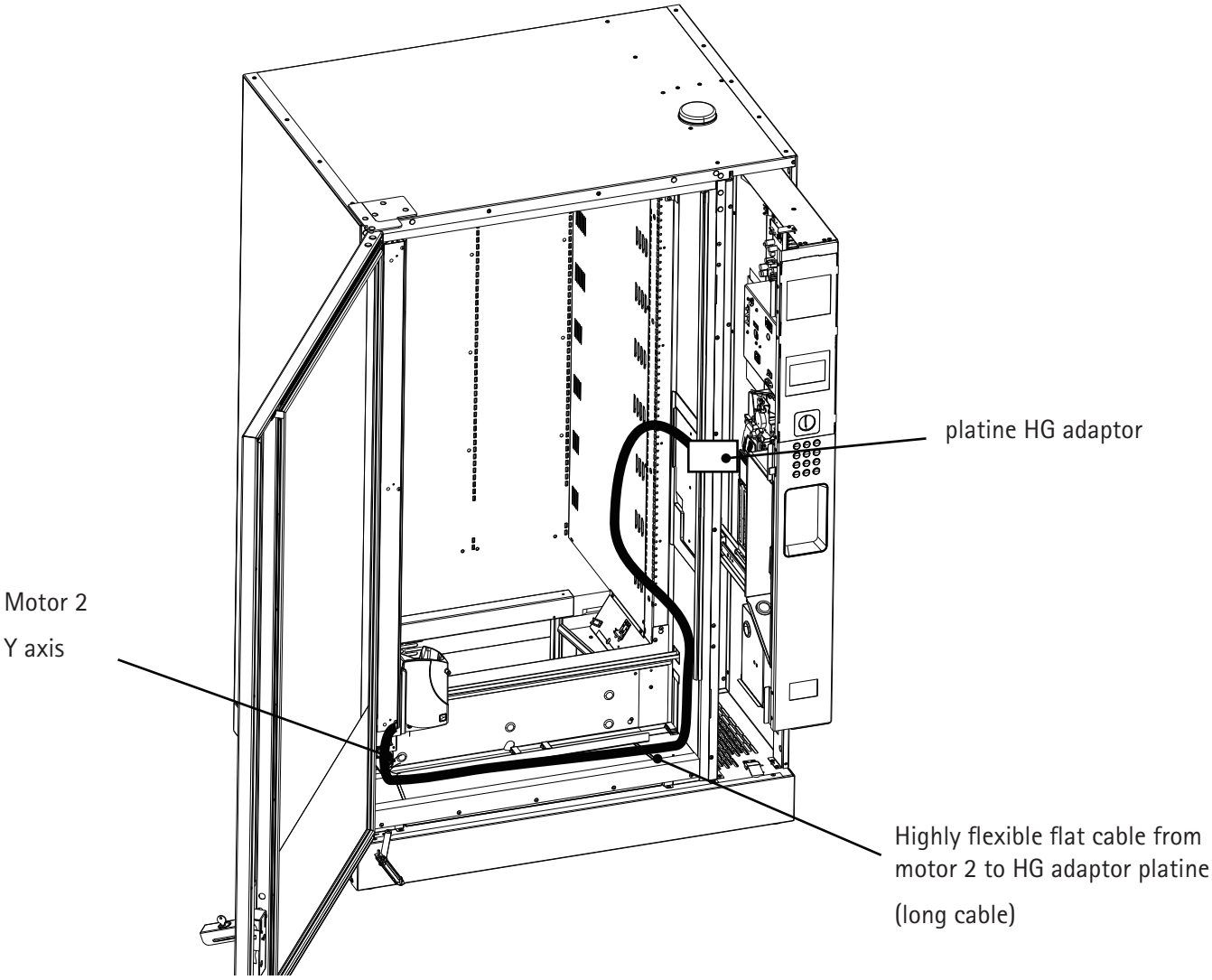
Z axis

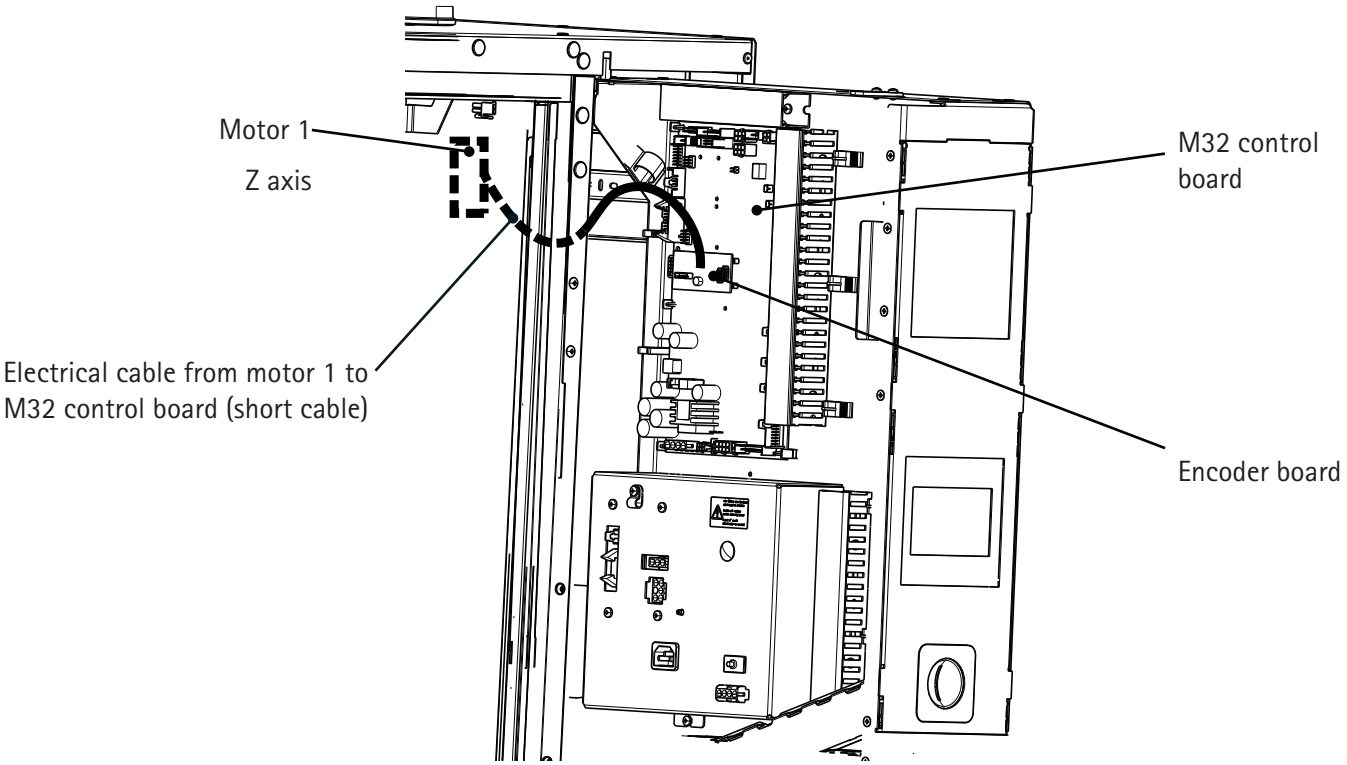
Transporting position,
hooks pulled out,

products in the compartment are pushed forward
when the drive is active

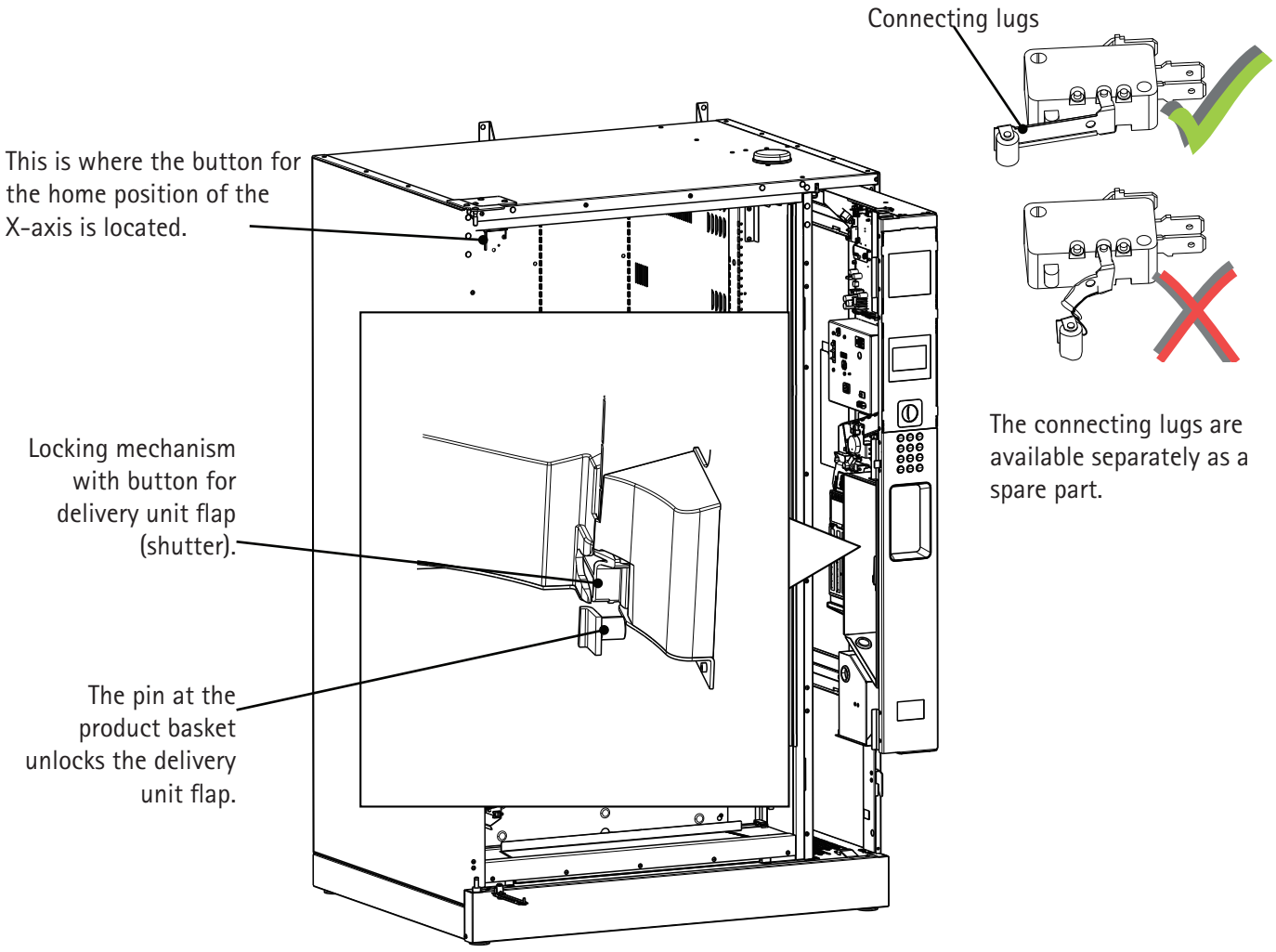


2.14 Electrical wires, cable connections





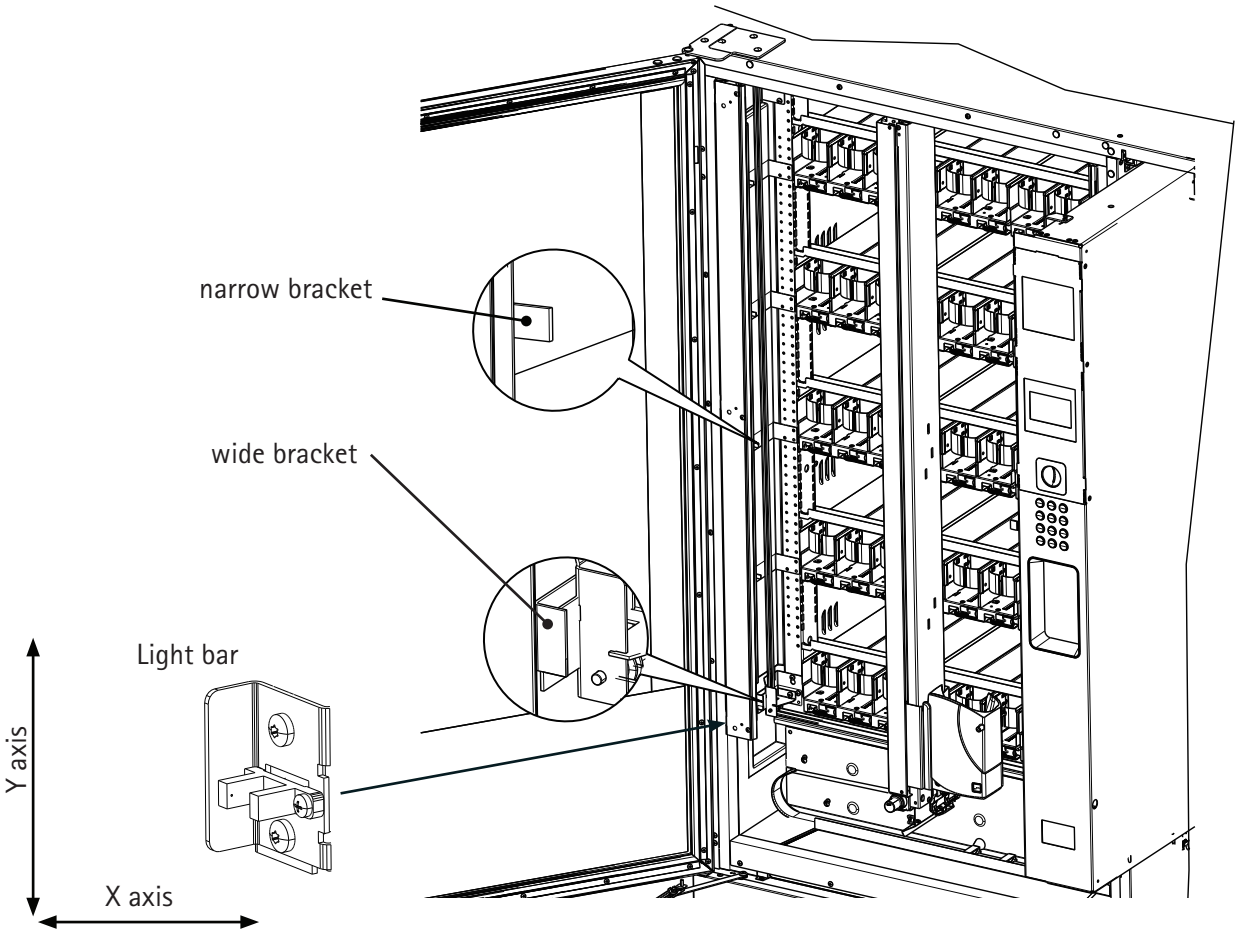
2.15 Switches, buttons, locking mechanisms



2.16 Bracket (metal) shelf detection

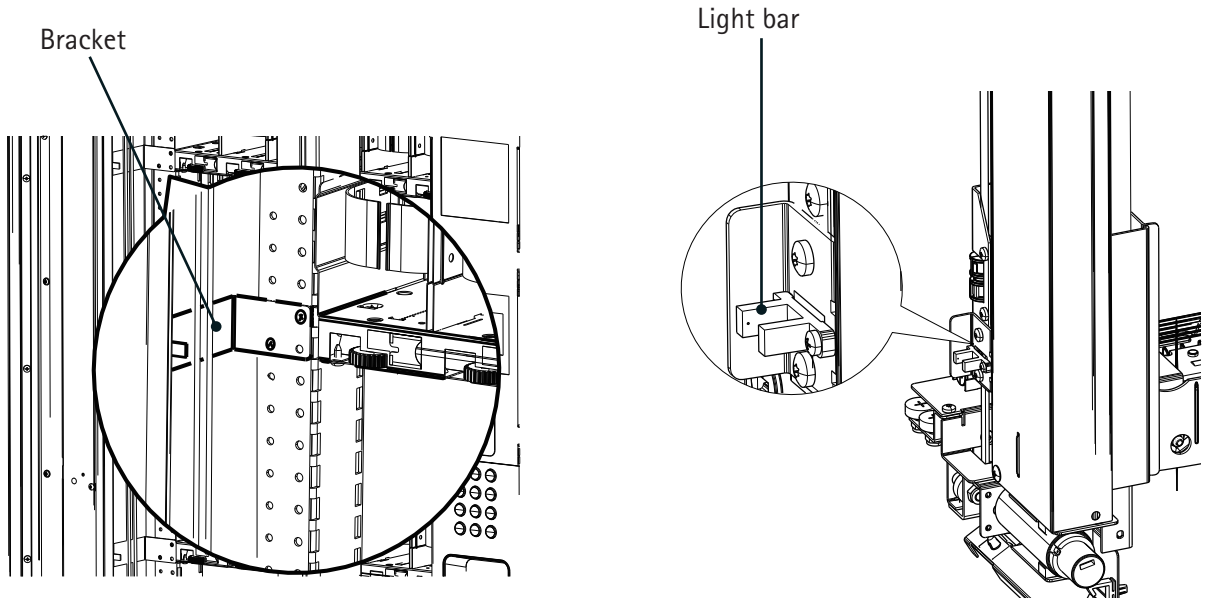
The home position of the Y-axis is determined via a light bar at the product basket:

- narrow bracket = product compartment
- wide bracket = home position at bottom



Important: Each product shelf must have a narrow bracket (metal bracket) to enable detection during the shelf detection process.

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



2.17 Adjusting the pendulum hook (Menu MasterOffSet)

MasterOffSet - correction of stop positions (pendulum hook)

Entering correction values in mm in the **MasterOffSet** menu ensures that the pendulum hook hooks up correctly and that power transmission works properly.

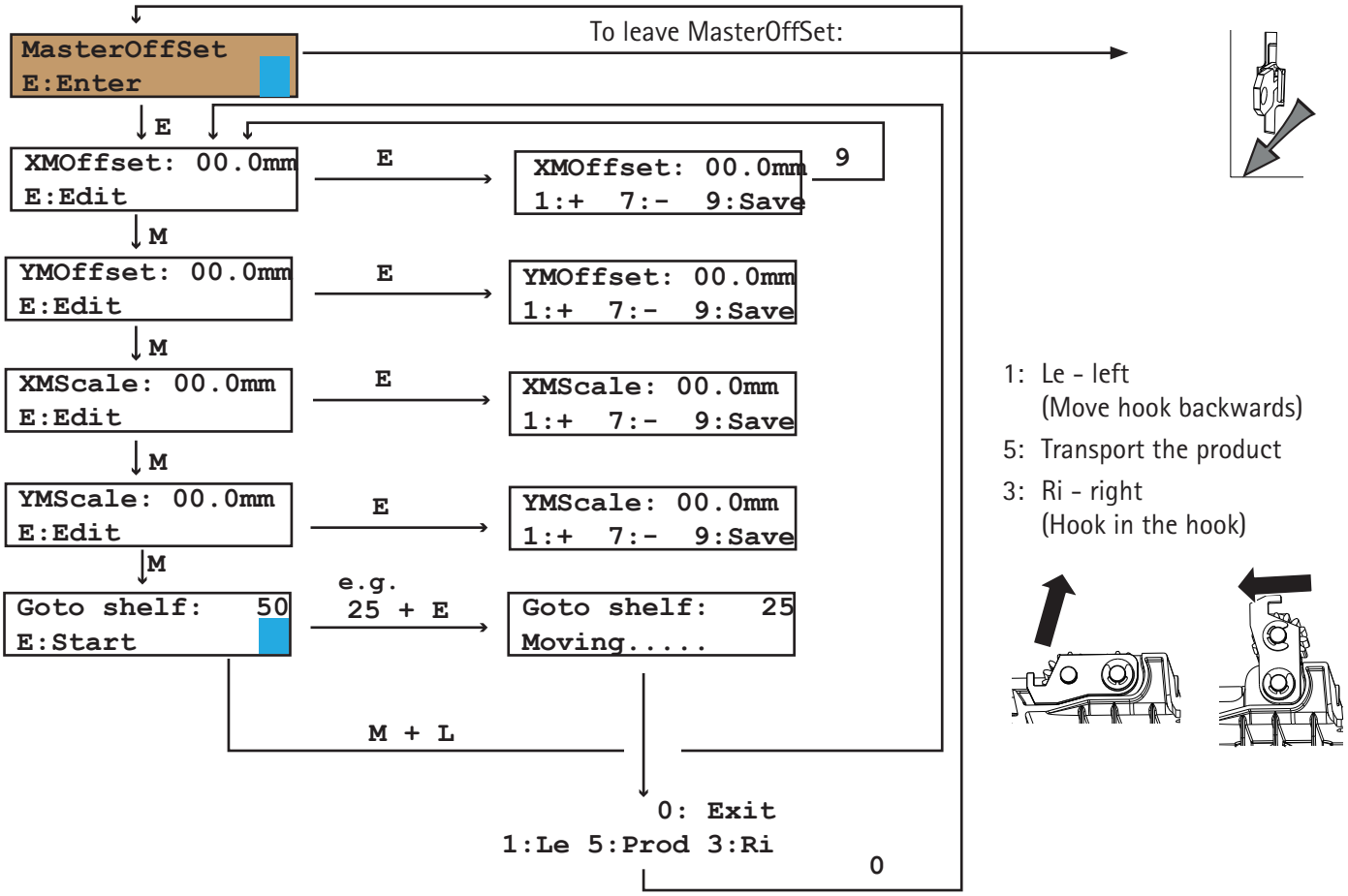
Deviations are due to operational demands on the lift system, wear, strain and other factors.

System of axes: X-axis - horizontal
Y-axis - vertical
Z-axis - to the rear (extension of the pendulum hook)

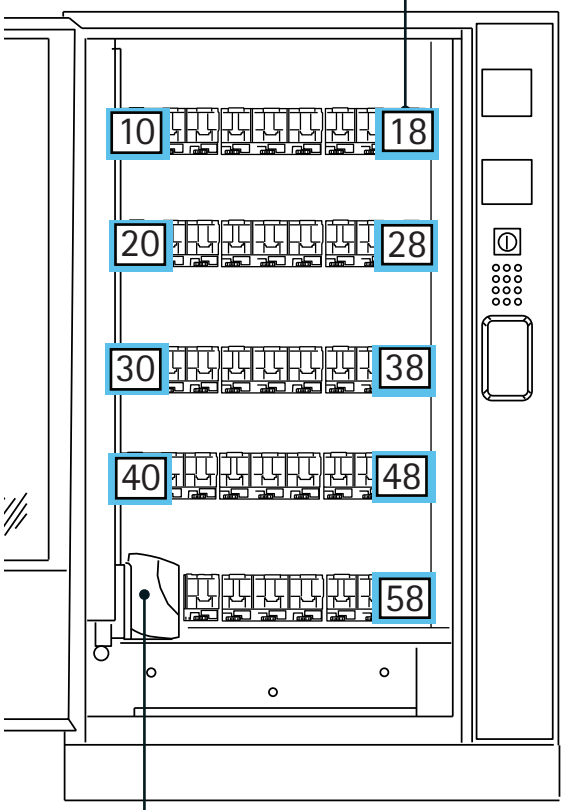
A total of 4 parameters may be set:
XMOffset
YMOffset
XMScale
YMScale

- **Offset** refers to the complete coordinate system.
- **Scale** refers to the deviation **at maximum deflection from home position**. Interim values are approximated.
- Positive values (e. g. + 2mm) mean "further to the right" or "higher".
- Negative values (e. g. - 5mm) mean "further to the left" or "lower".
- The data refer to the pendulum hook.
- A correction can easily be made by moving to the outer compartments and observing hooking in and unhooking of the pendulum hook. Navigating is done simply via the service keys and the selection keypad.
- The upper product shelf is awkward to be observed, to simplify matters concentrate on the second product shelf.

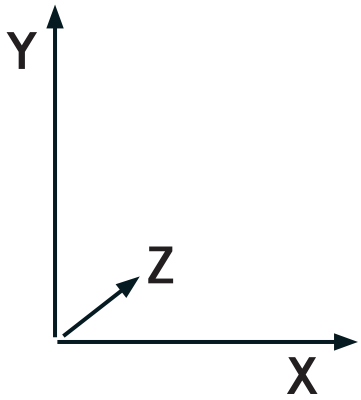
Remove service Key



Maximum deflection:
Robimat XL: 18, 28, 38
Robimat XM: 16, 26, 36



Home position, zero position

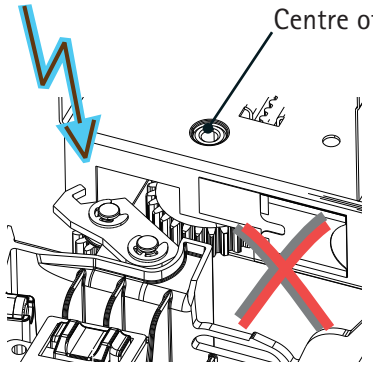


How to proceed

1 Set the lowermost product shelf - **OffSet** (selection 50 resp. 58)

2 Set the topmost product shelf - **Scale** (selection 10 and 18)

XMOffset resp. YMOffset influences all product compartments of all shelves!

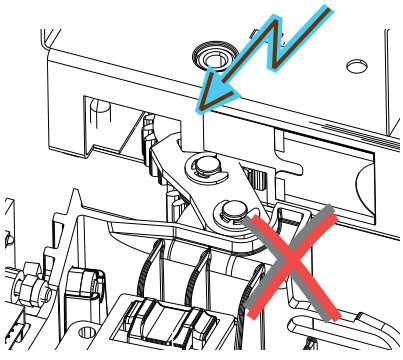


Pendulum hook is too far to the left and cannot hook in. Pendulum hook must be further to the right = + X-direction.

XMOffset - increase value (e.g. +6mm)
YMOffset
XMScale
YMScale

for example:

```
XMOffset:+06.0mm
1:+  7:-  9:Save
```

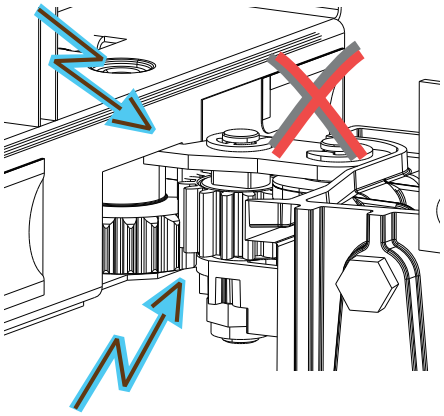


Pendulum hook cannot hook in correctly;
Pendulum hook must be further to the left = - X-direction.

XMOffset - reduce value (e.g. -5mm)
YMOffset
XMScale
YMScale

for example:

```
XMOffset:-05.0mm
1:+  7:-  9:Save
```



Pendulum hook drags at the top; gear wheels are not at the same height; pendulum hook must be positioned lower = - Y-direction.

XMOffset

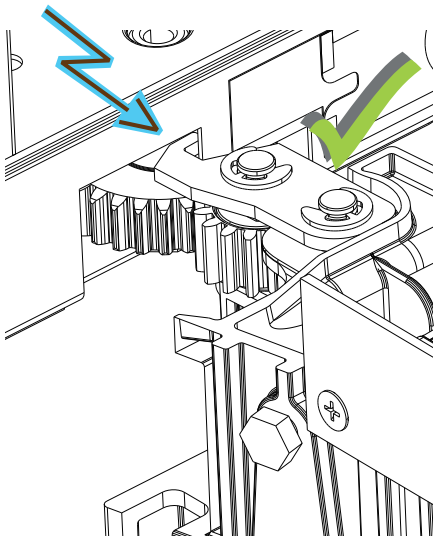
XMOffset - reduce value (e.g. -3mm)

XMScale

YMScale

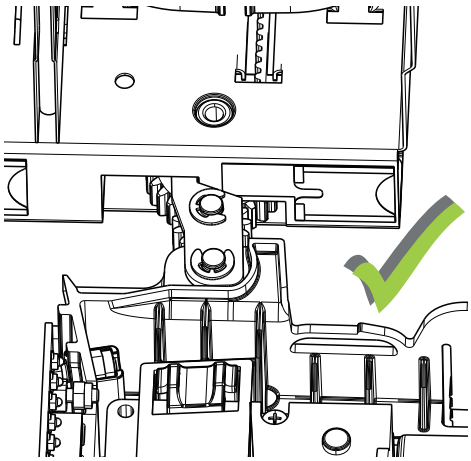
for example:

```
YMOffset:-03.0mm
1:+  7:-  9:Save
```



The pendulum hook must freely swing in and off.

Gear wheels must be at the same height.



The pendulum hook is correctly adjusted.

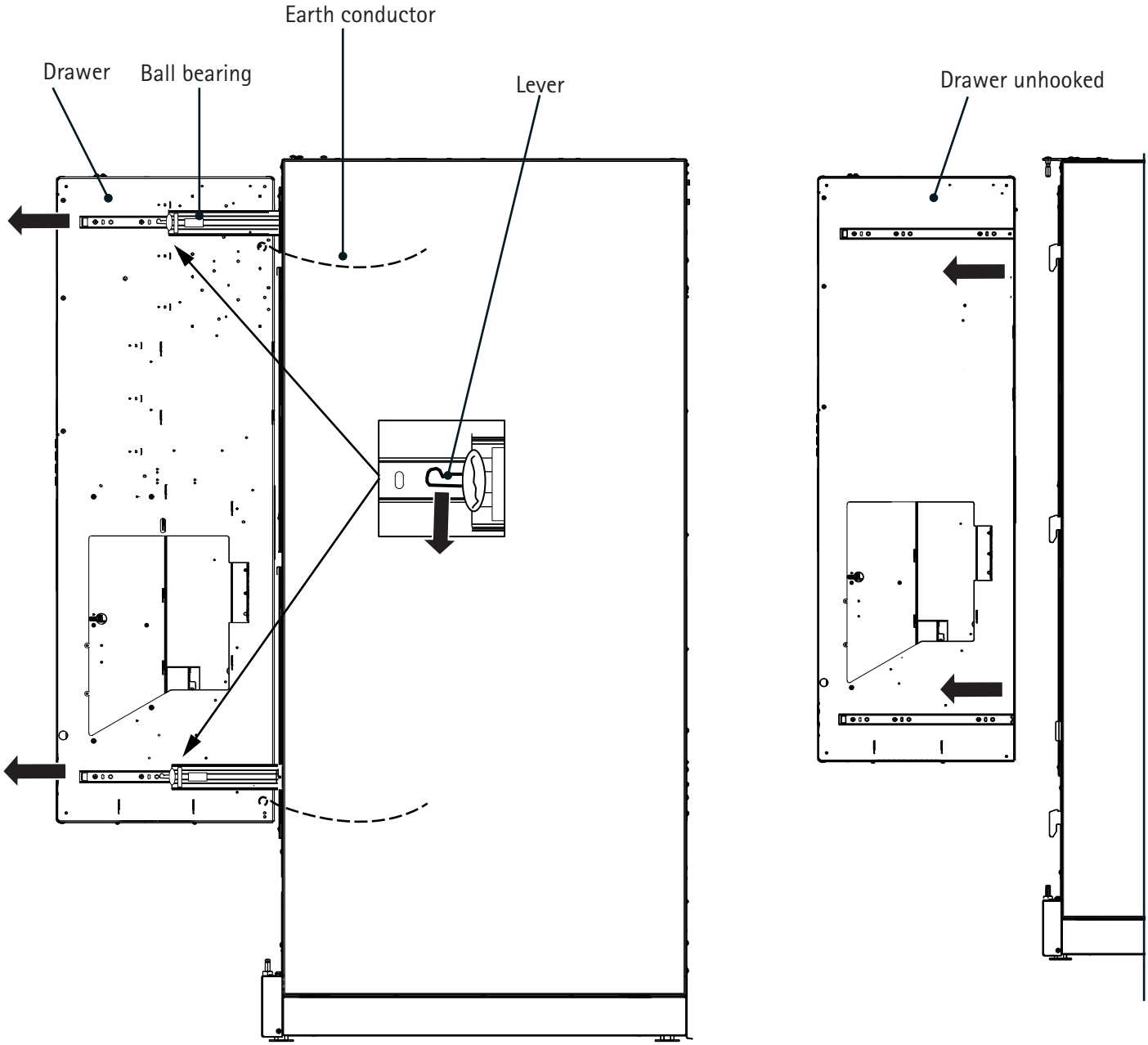
2.18 Hook out the drawer

The drawer can be hooked out for repair works. Hooking it out can be done in a short time without any tools.

- Disconnect the electrical cables to the drawer.
- Disconnect the two earth conductors with ring cable lug.
- Pull out the drawer to the stop, press down the levers at the top and the bottom.
- Pull out the drawer and thereby separating the rails. Hold the drawer and secure it well!

Insert the drawer

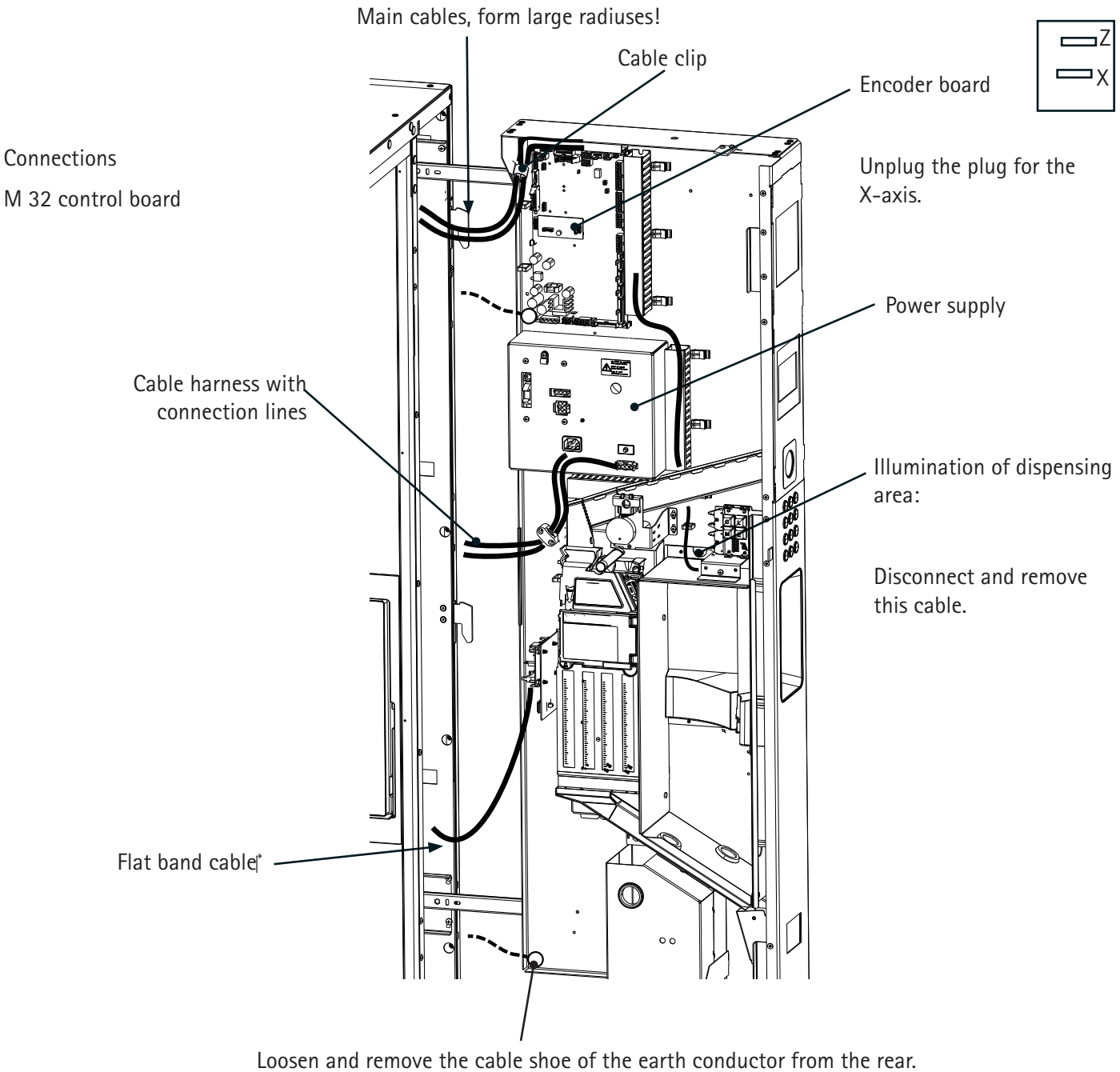
- Pull the ball bearing frontwards to the stop!
- Position the drawer with its two firmly mounted rails into the pulled out rails + ball bearings.
  Pay attention that the ball bearing does not slide backwards, but that the rail is inserted in it.



2.19 Cabling of the drawer

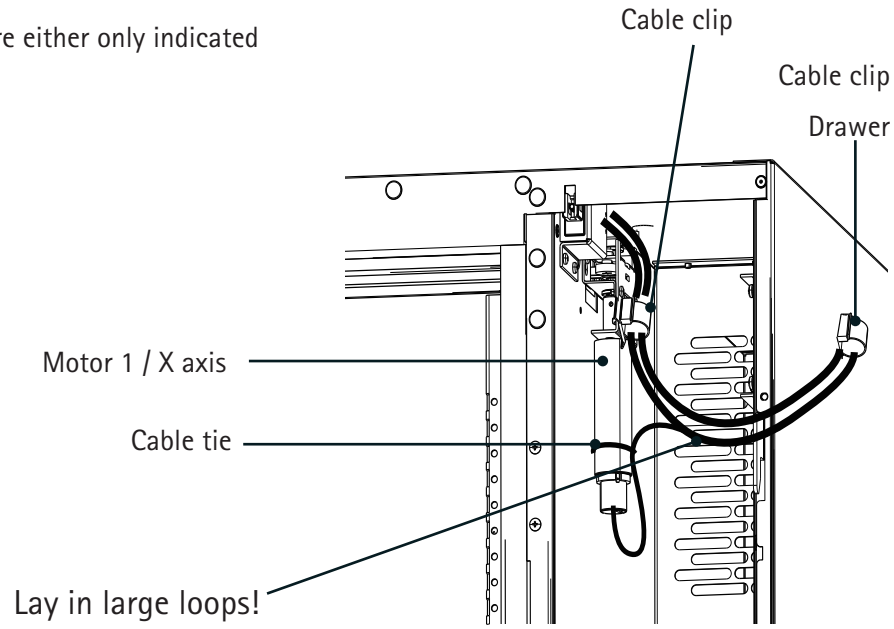
Cabling from the machine to the drawer must be done in large loops and through strain relief.

Make sure to avoid sharp bends and lay the cables in a way that they do not get caught and are not tensioned.



Note on the diagrams

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

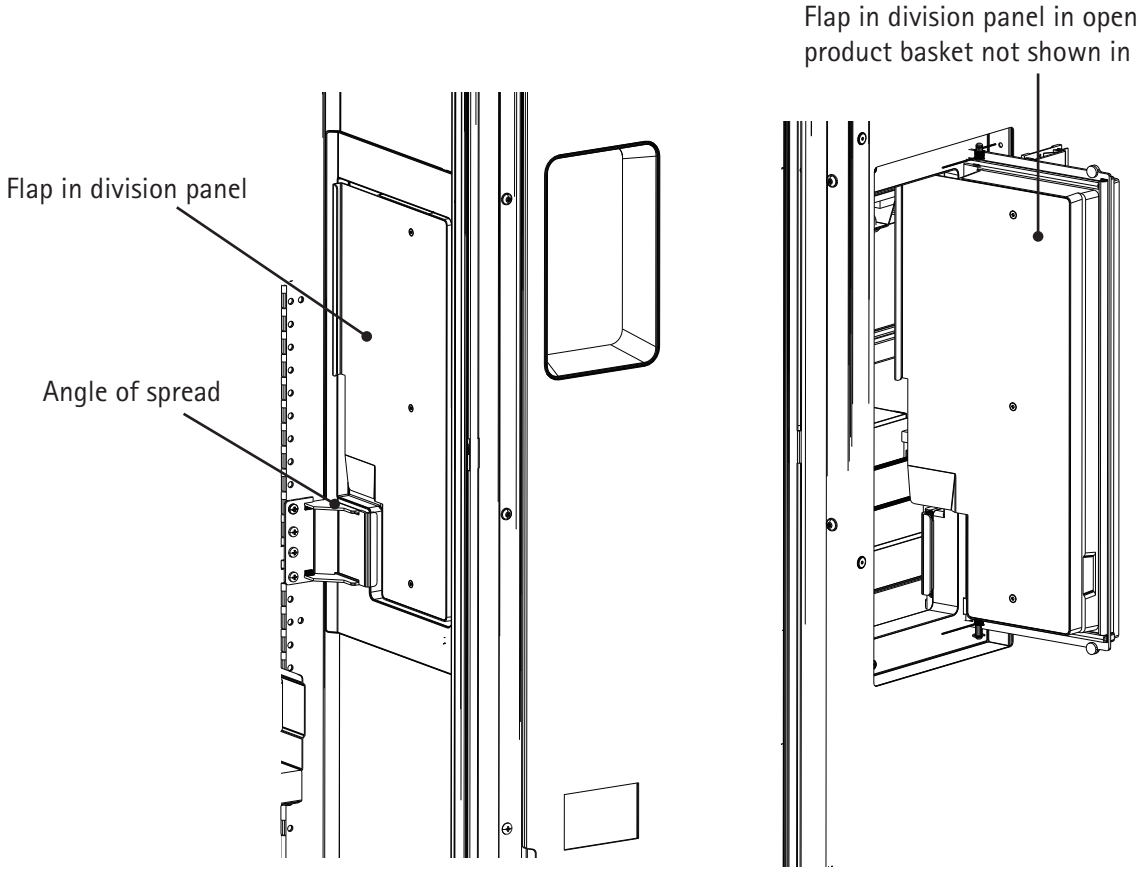


2.20 Flap for the division panel

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

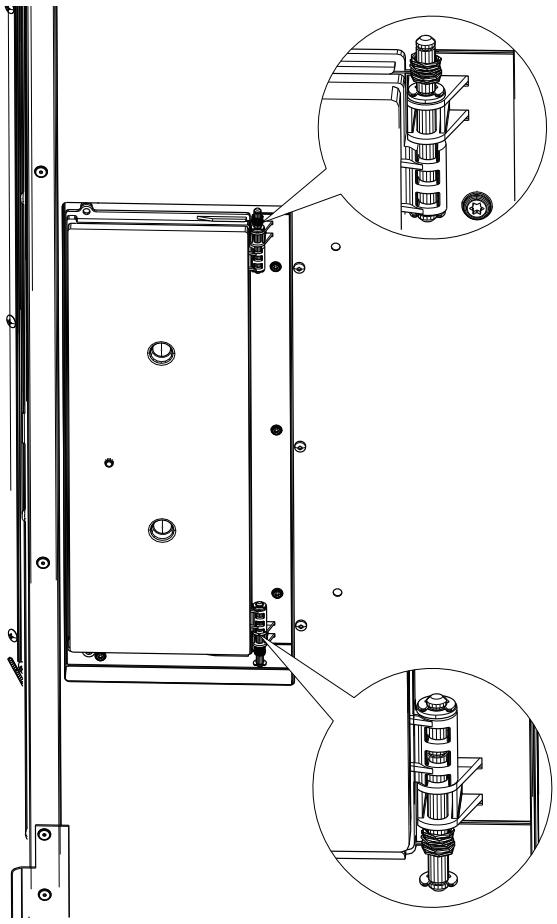
It is pushed in locking position with two springs at the hinge axis.

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.



Demounting and mounting the flap in the division wall

- Unhooking the drawer (flap accessible; if necessary).
- Remove the two snap rings at the axes.
- Pull out the upper axis upwards
  Pull out the lower axis downwards.
- The flap can be taken out completely.

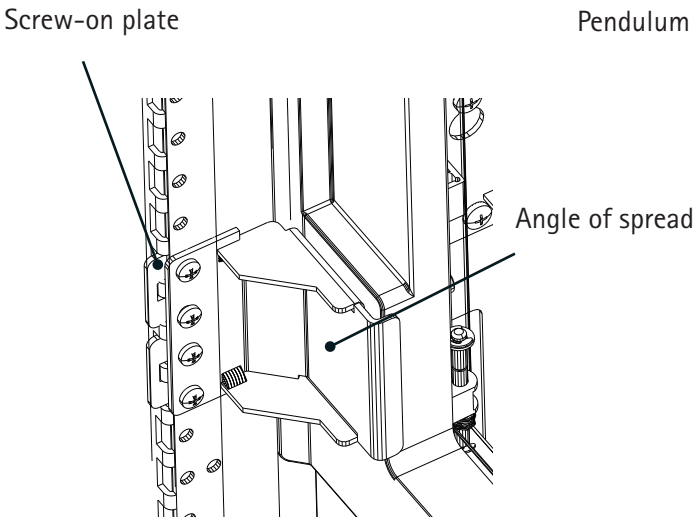


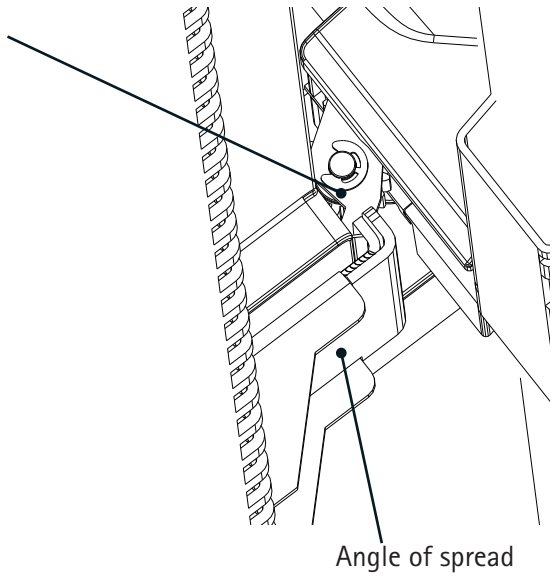
Mounting is performed in reverse order. Finally, check functioning of the flap to avoid unnecessary loss of energy.

The flap is self-closing!

2.21 Blocked l-rail during product dispensing

When the l-rail with the product basket is in the delivery unit, the pendulum hook is pulled out and thus blocks at the angle of spread. This prevents mechanically that the product basket is pushed back (Theft protection).



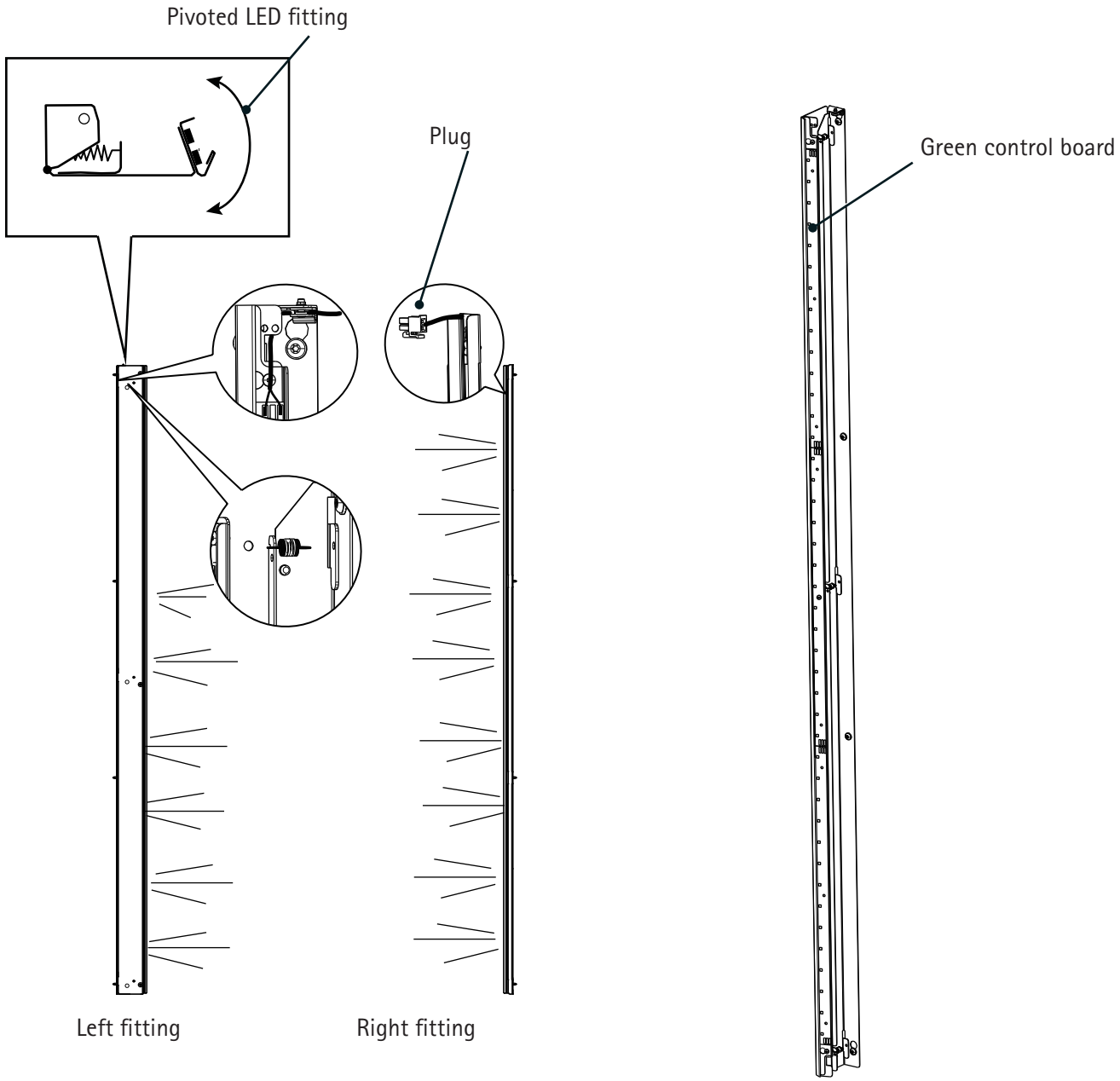


2.22 Machine illumination: LED fitting left/right

WARNING! Risk of damage!

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

- 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 if the left product compartments are pulled out.
- The righthand fitting is firmly mounted.
- The light fittings can be exchanged by loosening the fixing screws. The electrical line is connected via a reverse polarity protected plug.



2.23 Lift system

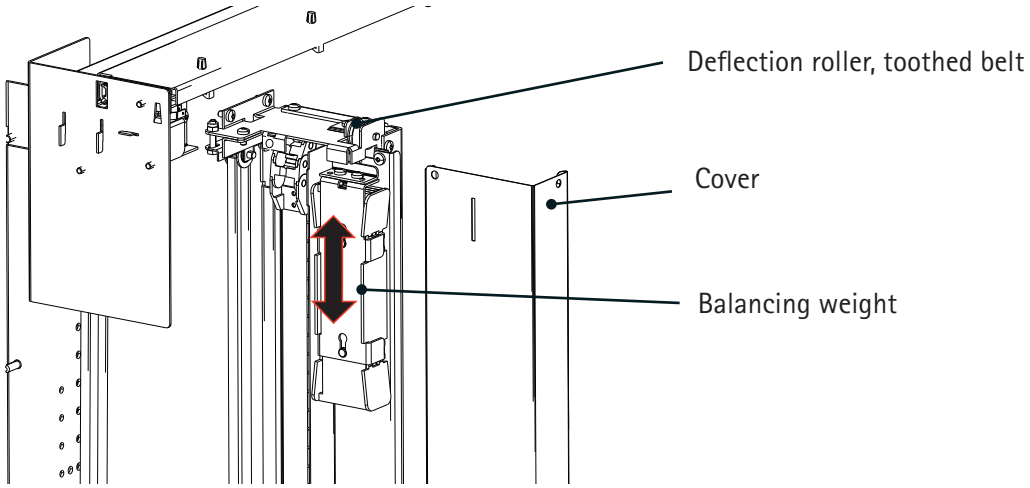
2.23.1 Counterweight I-rail

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.

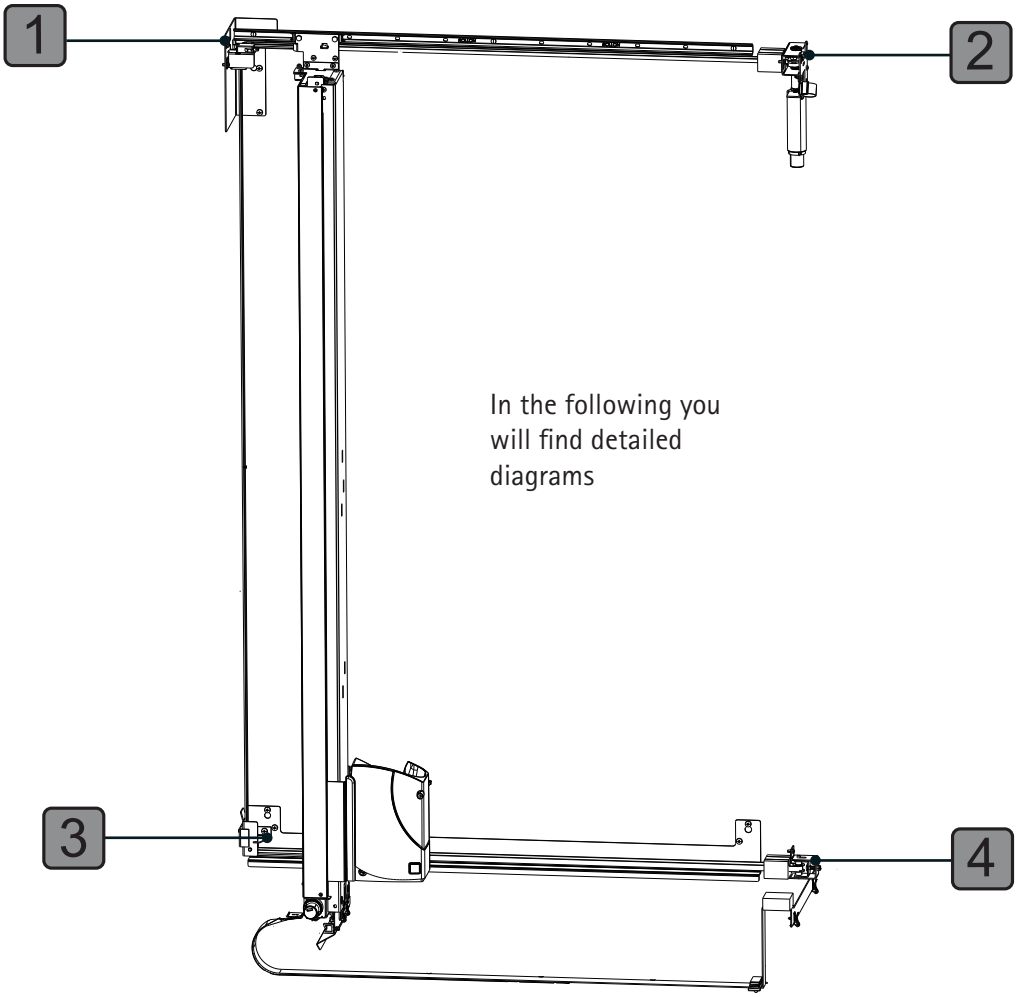
The counterweight is accessible after removal of the cover.

Note:

Counterweight and deflection roller are maintenance-free.

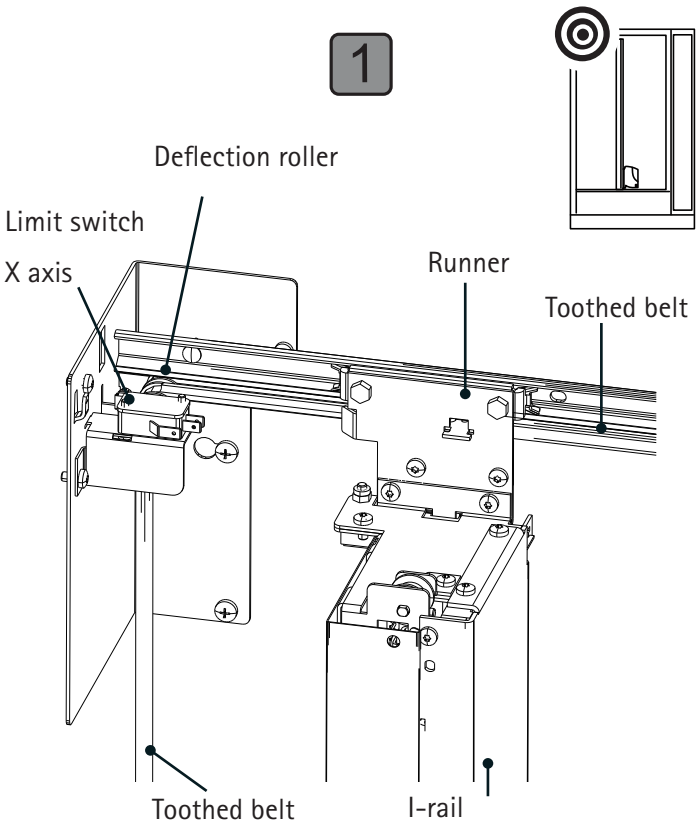


2.23.2 Belt drive, I-rail, Set-up of lift system

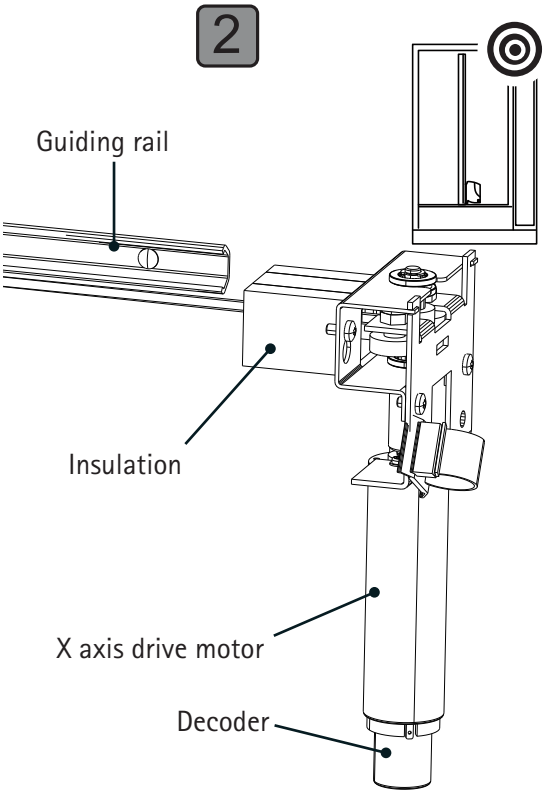


Service technicians/trained specialists only!

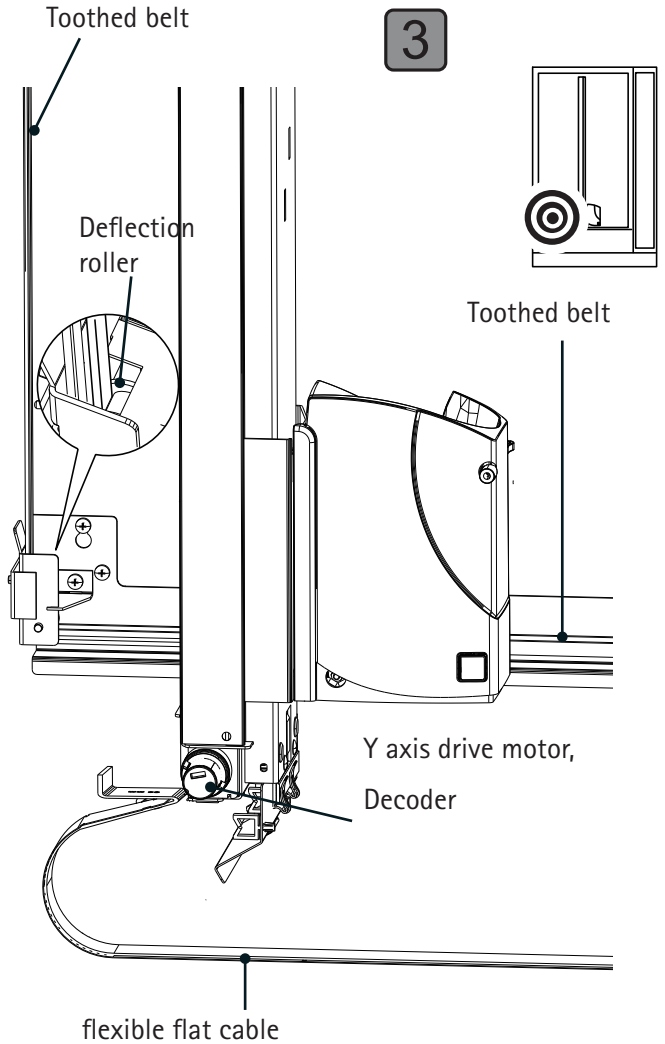
1



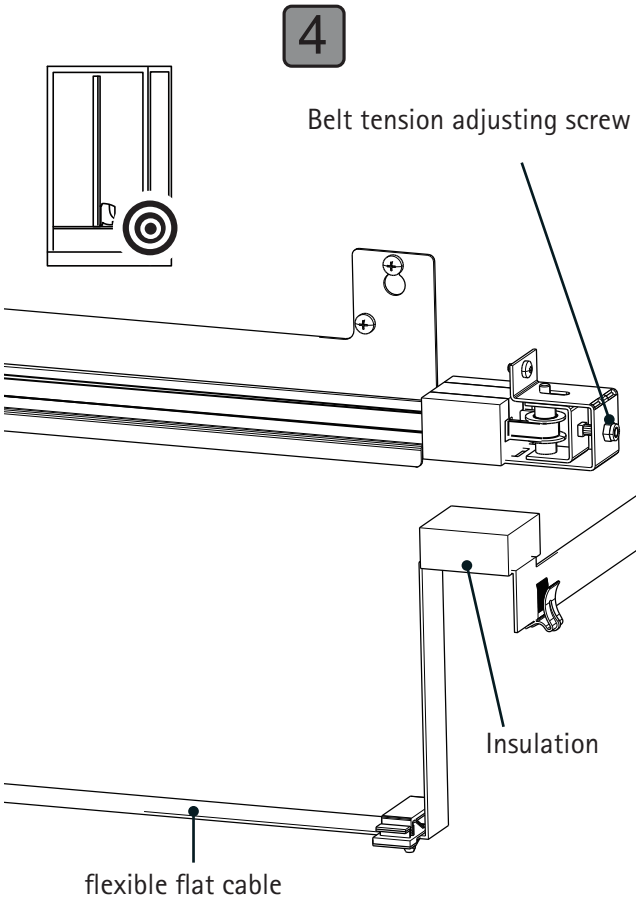
2



3



4



2.23.3 Dismantling I-rail

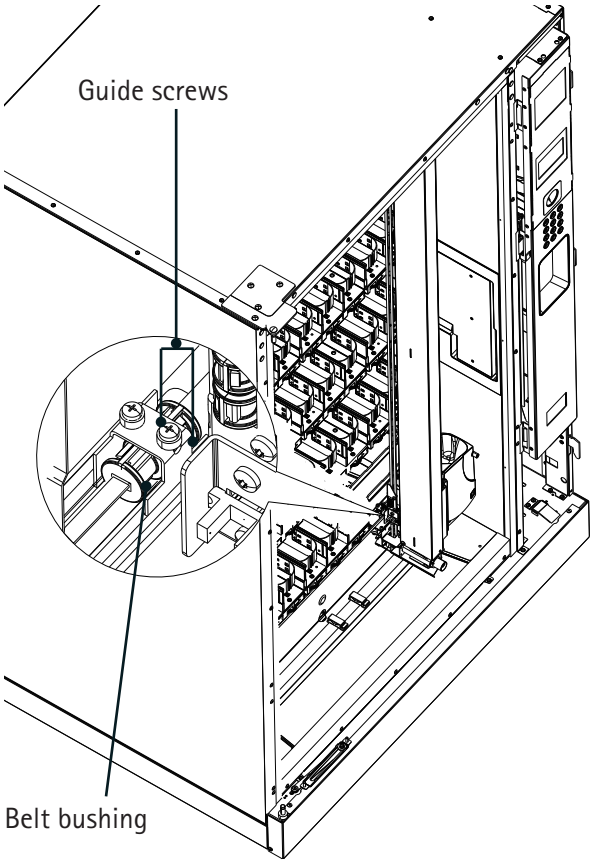
How to proceed

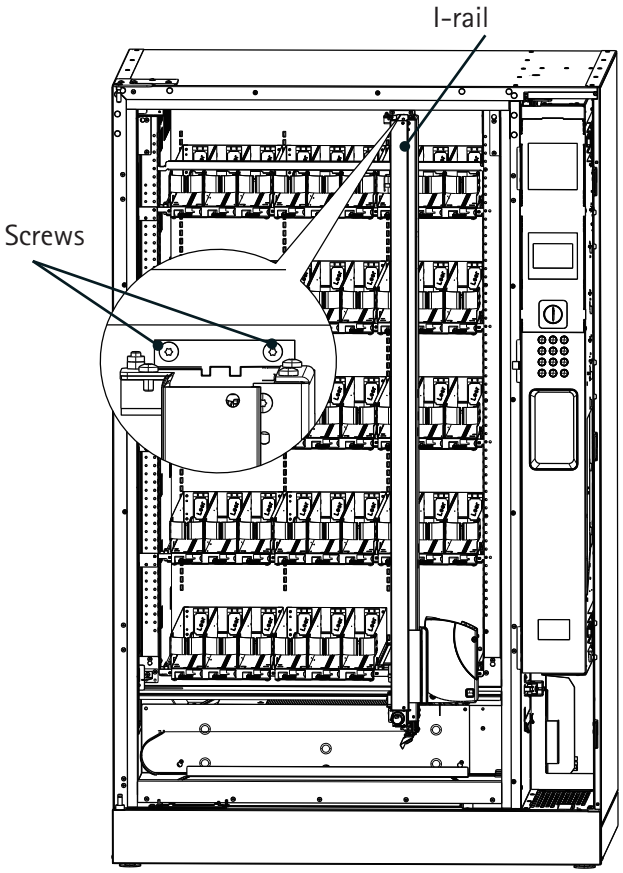
- Empty and remove the undermost right product compartment.
- Push the I-rail as far to the right as possible.
- Screw out the two guide screws at the lower belt bushing completely; the connection I-rail/toothed belt is thus unfastened.
- Remove the two fixing screws at the top of the I-rail. The I-rail is unfastened and can be taken out completely.

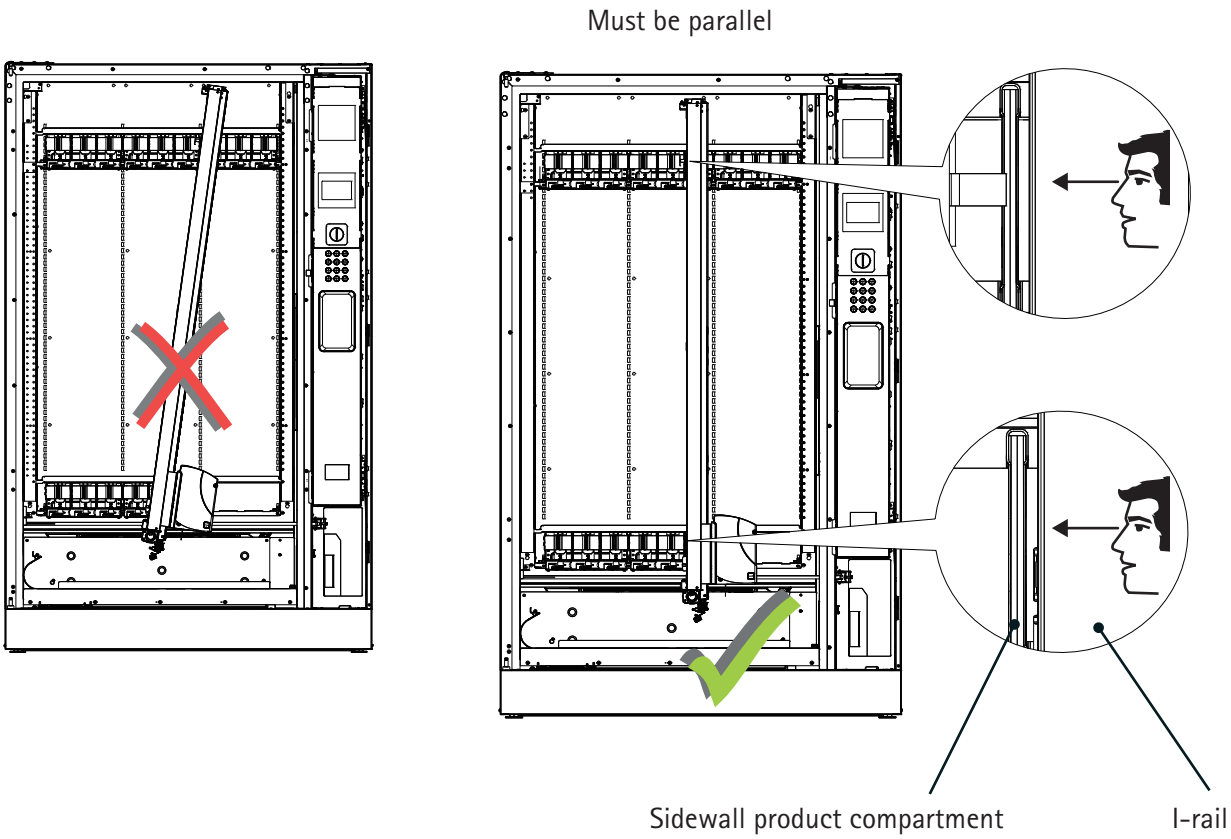
Note for mounting

Mounting of the I-rail is performed in reverse order. The lower roller guide must be inserted in the rail from below.

After installation push the I-rail into the centre and check parallelism. For this purpose align with the product compartments at the top and the bottom shelf on the left side of the I-rail. With care and accuracy the alignment can be checked.

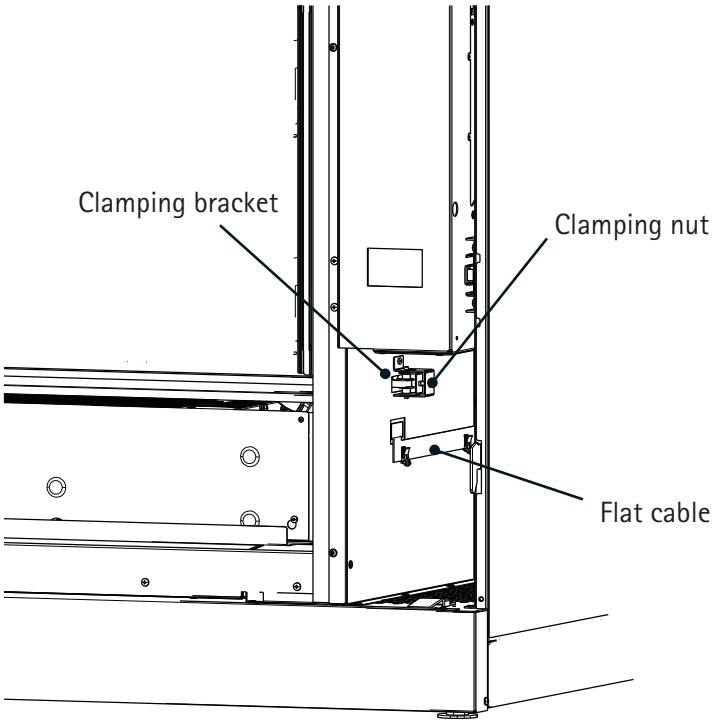






2.23.4 Setting the belt tension (X axis)

The belt tension and its parallel alignment is adjusted at the clamping bracket by turning the clamping nut.



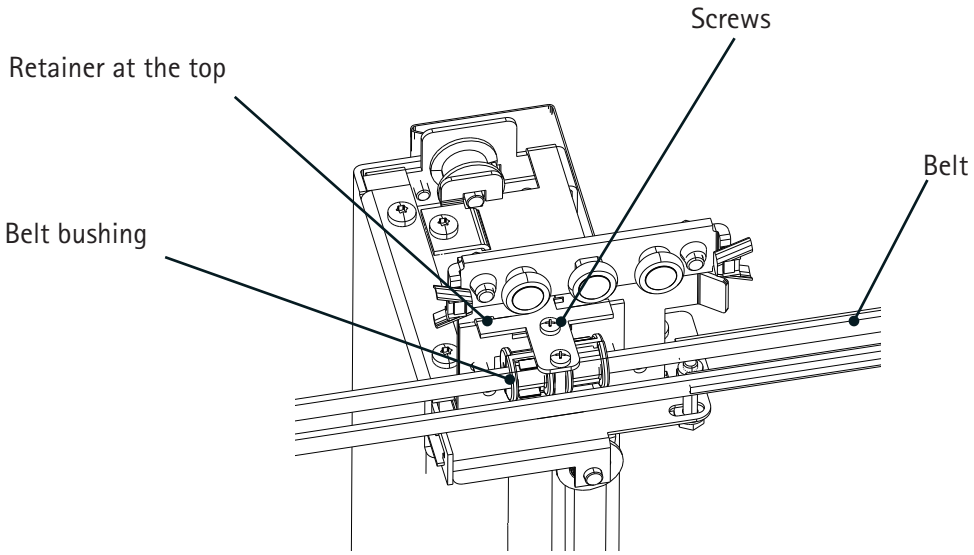
NOTE

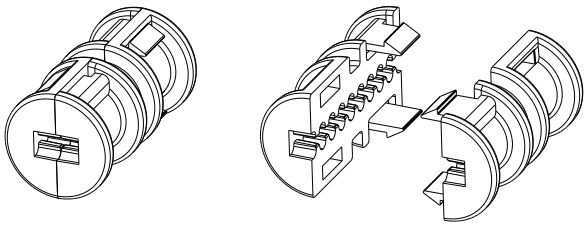
Mind the mounting instructions and the diagnostic flags in part no. 704 01 001 00!

2.23.5 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.

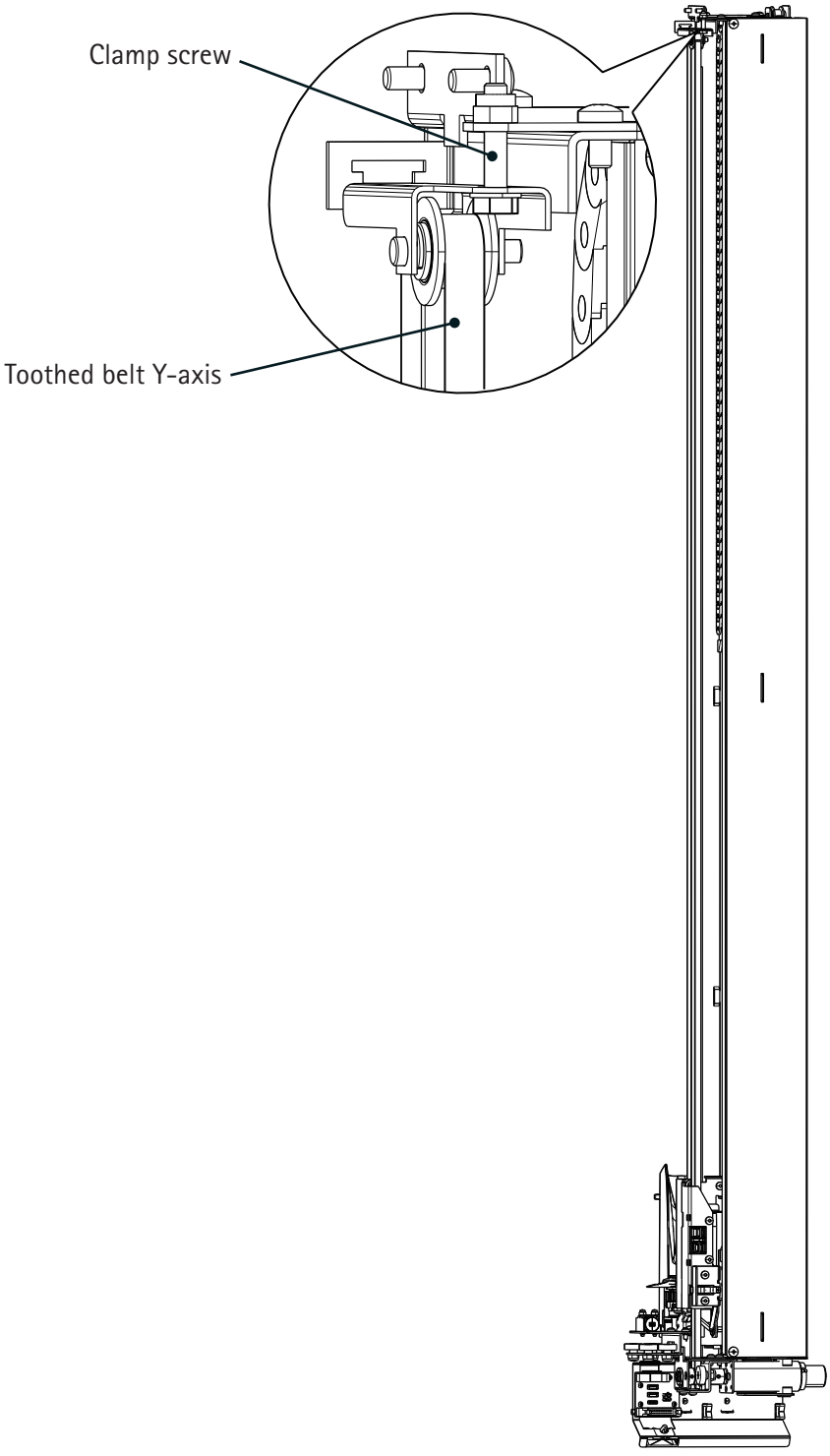




Open belt bushing (clip fastening)

2.23.6 Setting the belt tension (Y axis)

The belt tension is adjusted at the clamp screw.



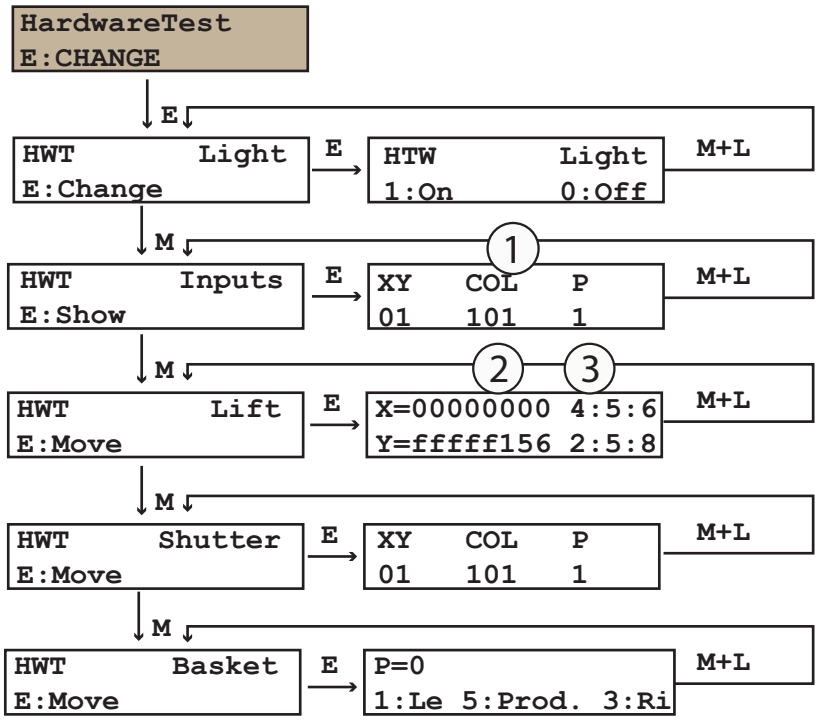
NOTE

Mind the mounting instructions and the diagnostic flags in part no. 704 01 230 00!

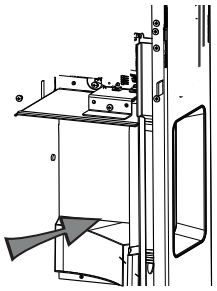
2.24 Test of the hardware (HardwareTest, HWT)

2.24.1 Overview

Use the function HardwareTest to check the lift, the product basket and the shutter mechanically via the selection keypad.



The shutter only works when the switch was pressed (use a pen).



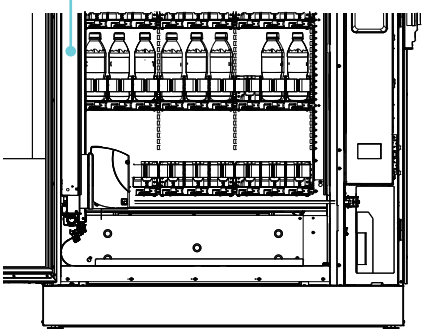
Display	Meaning	Note on the Test
Light	Interior illumination	Switch LED illumination on and off.
Inputs	State of the switches and light bar	When limit switches are pressed or the light bar is interrupted, the state must change (0 or 1).
Lift	I-rail and product basket	Move it slowly by hand; the hexadecimal display changes (relative change or values, not absolute!).
Shutter	Shutter of delivery unit	Loosen the mechanical locking, open the shutter completely by hand and then close it completely.
Basket	Product basket	Extend the hook, let the drive for product transport in the compartment run, retract the hook

(1) COL = **c**losed; **o**pened; **l**ight bar
0 - Switch not actuated; 1 - Switch actuated;
P - Product basket (light bar): 0 Product basket empty, 1 Product in product basket

(2) move by hand	(3) move via button
Lift: X values count	4 - left
Product basket: X values count	5 - holds XY (pause)
	6 - right
	2 - up
	8 - down

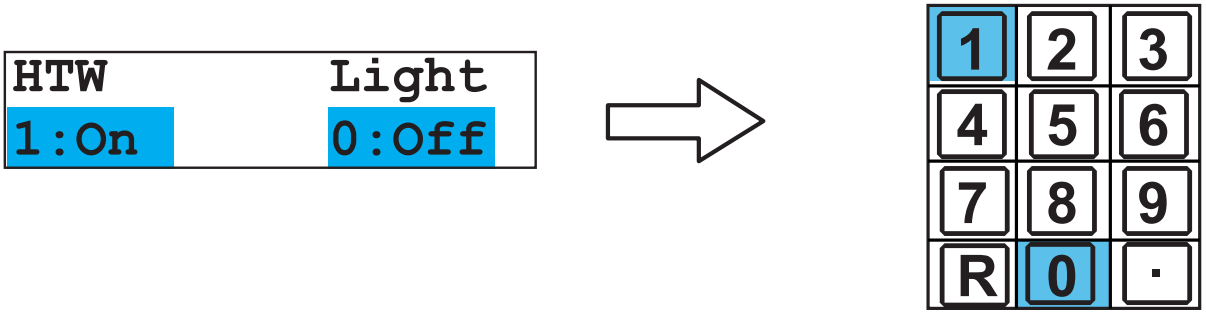
When the lift is in home position:

DO NOT MOVE TO THE LEFT WITH BUTTON 4



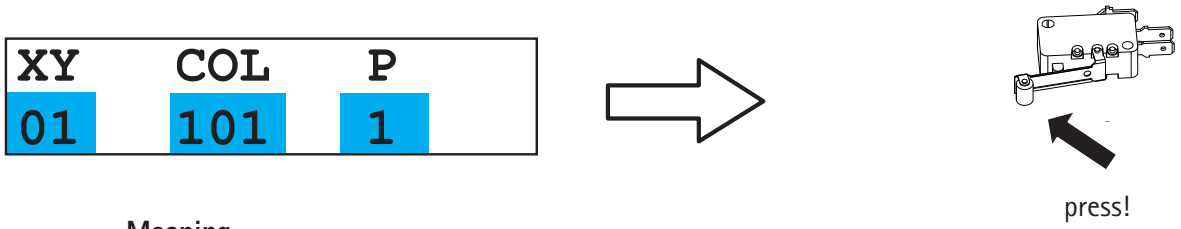
WARNING! Risk of damage! In no case use button 4 ("move to the left"), when the product basket is in home position. Commands via buttons 4 6 2 etc. are neither checked for plausibility nor protected by limit switches.

2.24.2 Light test



2.24.3 Checking the limit switch, light bar and locking mechanisms

Press the respective limit switch on the vending machine and release it again; the display must change accordingly; if it does not, there is an error.



press!

Meaning

X - limit switch X-axis

Y - limit switch Y-axis

C - Shutter closed

O - Shutter opened

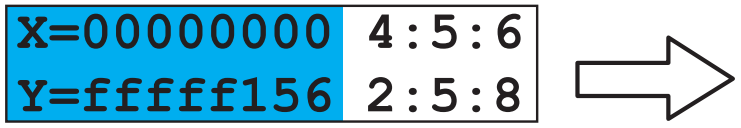
L - Locking mechanism of shutter

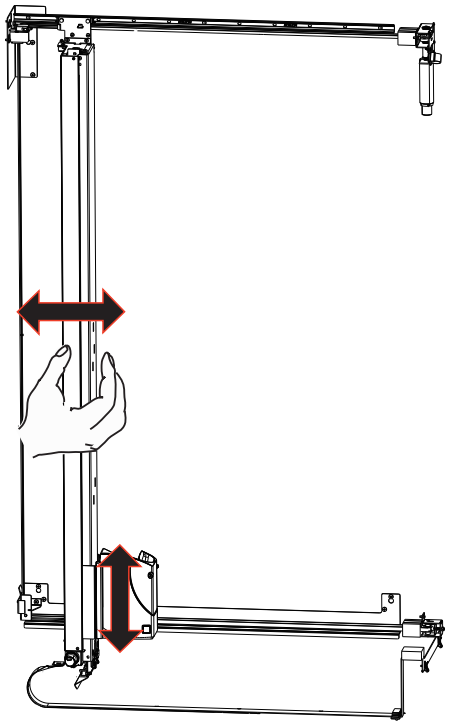
P - Light bar product basket

0 - off

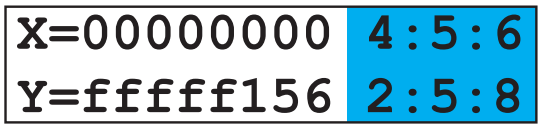
1 - on

2.24.4 Checking Decoder feedback





The respective hexadecimal code will be incremented or decremented ("running bytes").



Navigation of I-rail and basket with buttons 4, 6, 2 and 8.

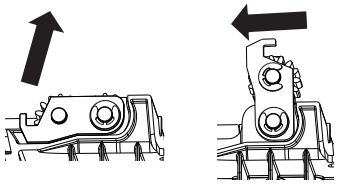
Button 5 means "pause" (the basket will be held at its current level)

2.24.5 Checking the pendulum hook / gear wheels

1: Le - left
(Move hook backwards)

5: Transport the product

3: Ri - right
(hook hooked in)

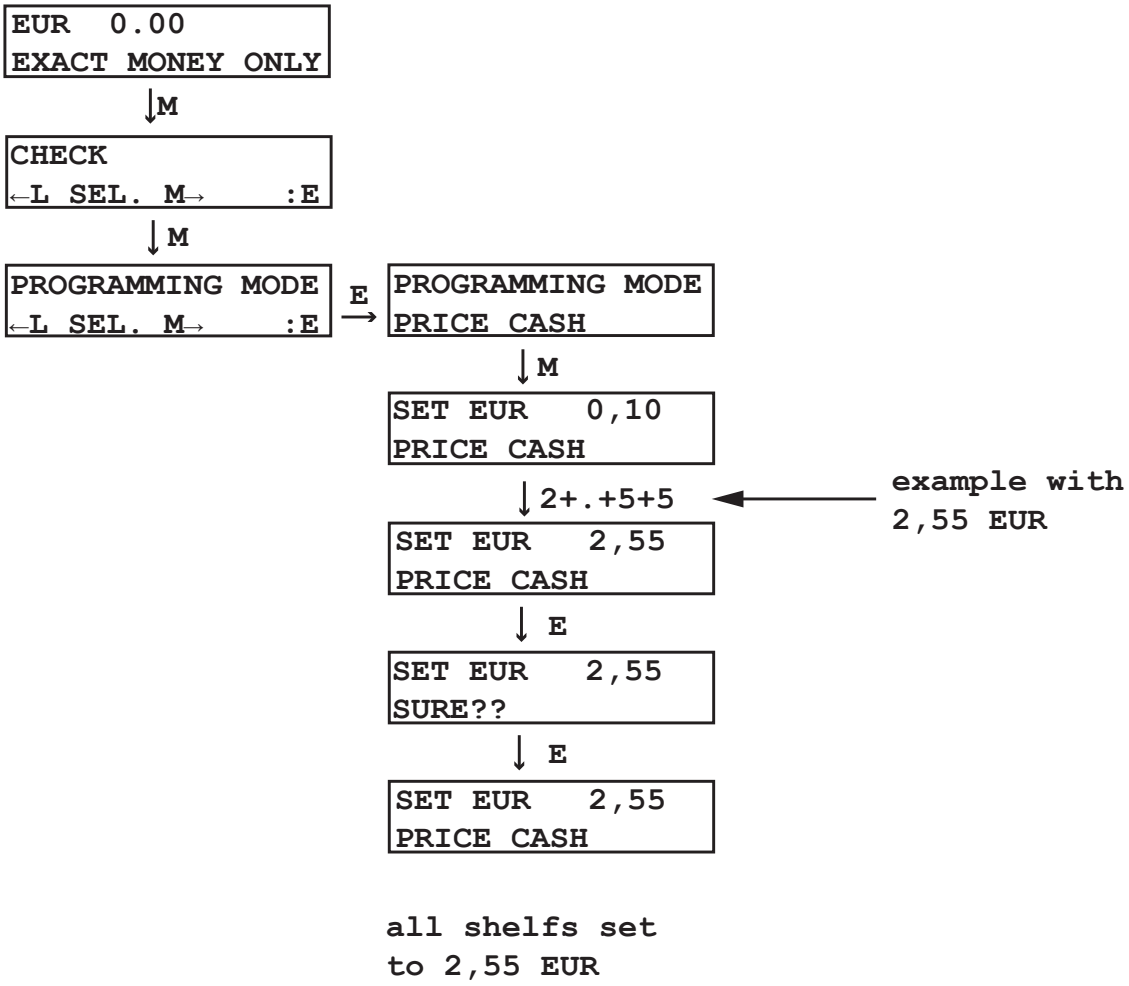


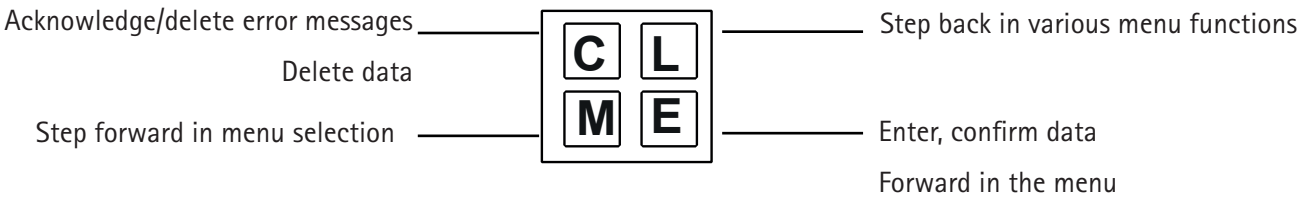
3 Practical examples of use

3.1 Set one price for all product shelves

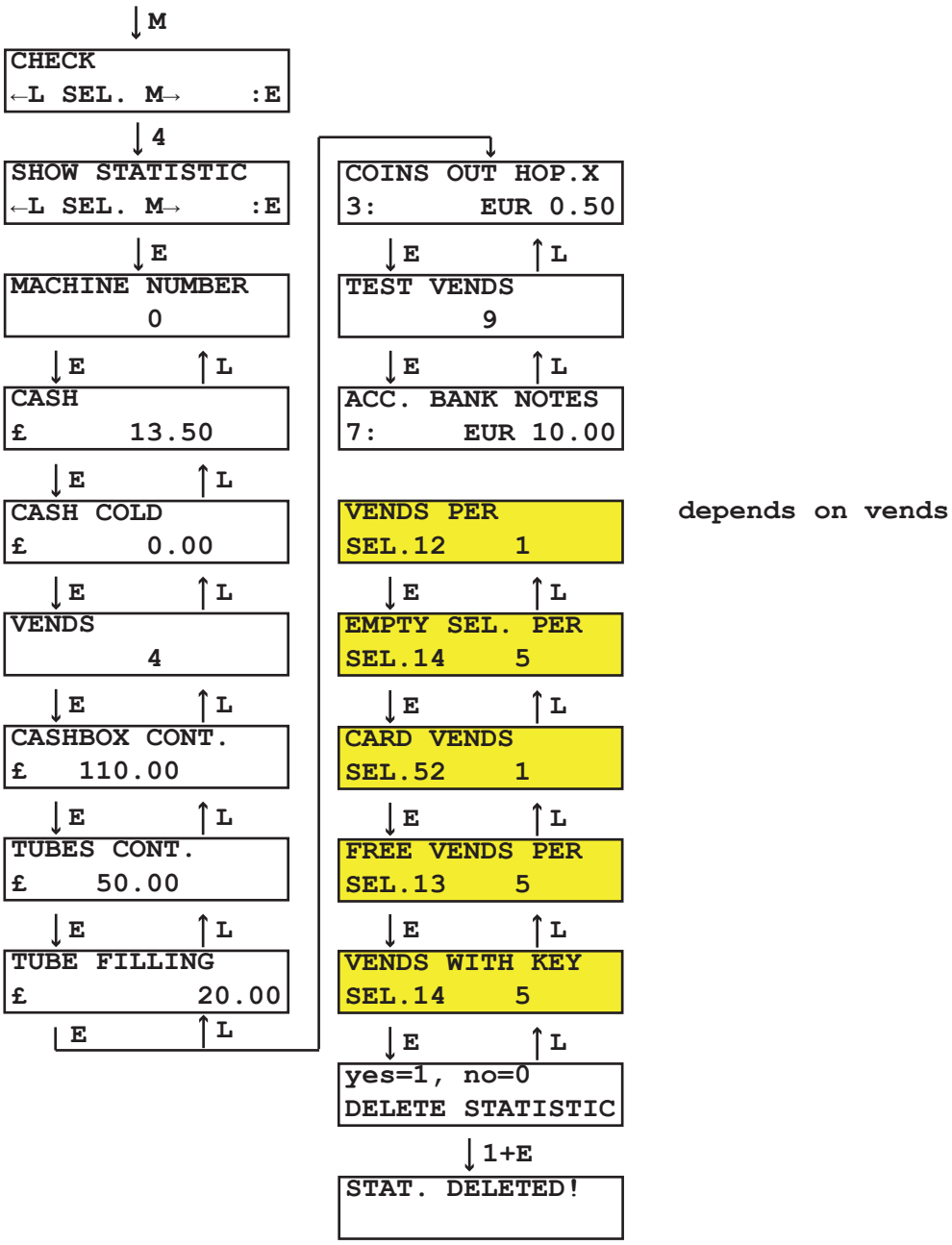
Open the machine door and slightly pull out the drawer, so that the service keypad is accessible.

Start programming in the following way:

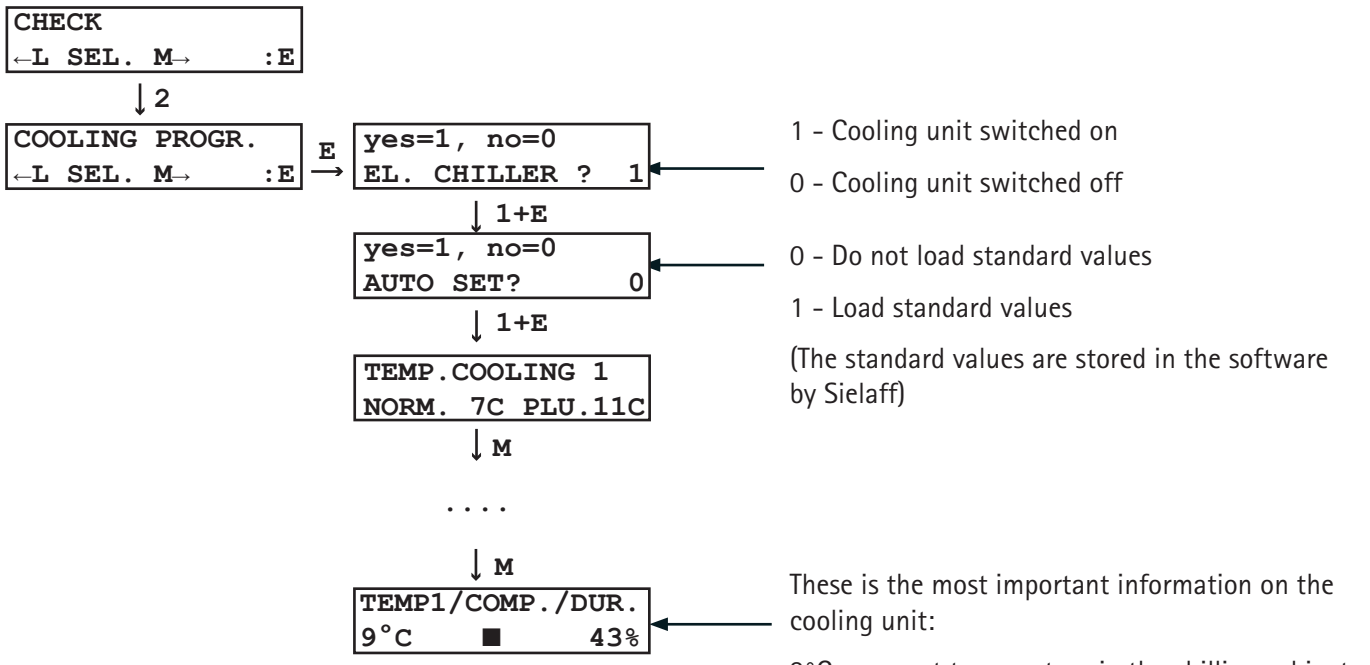




3.2 Reading the vending statistics



3.3 Checking the temperature and function of the cooling unit

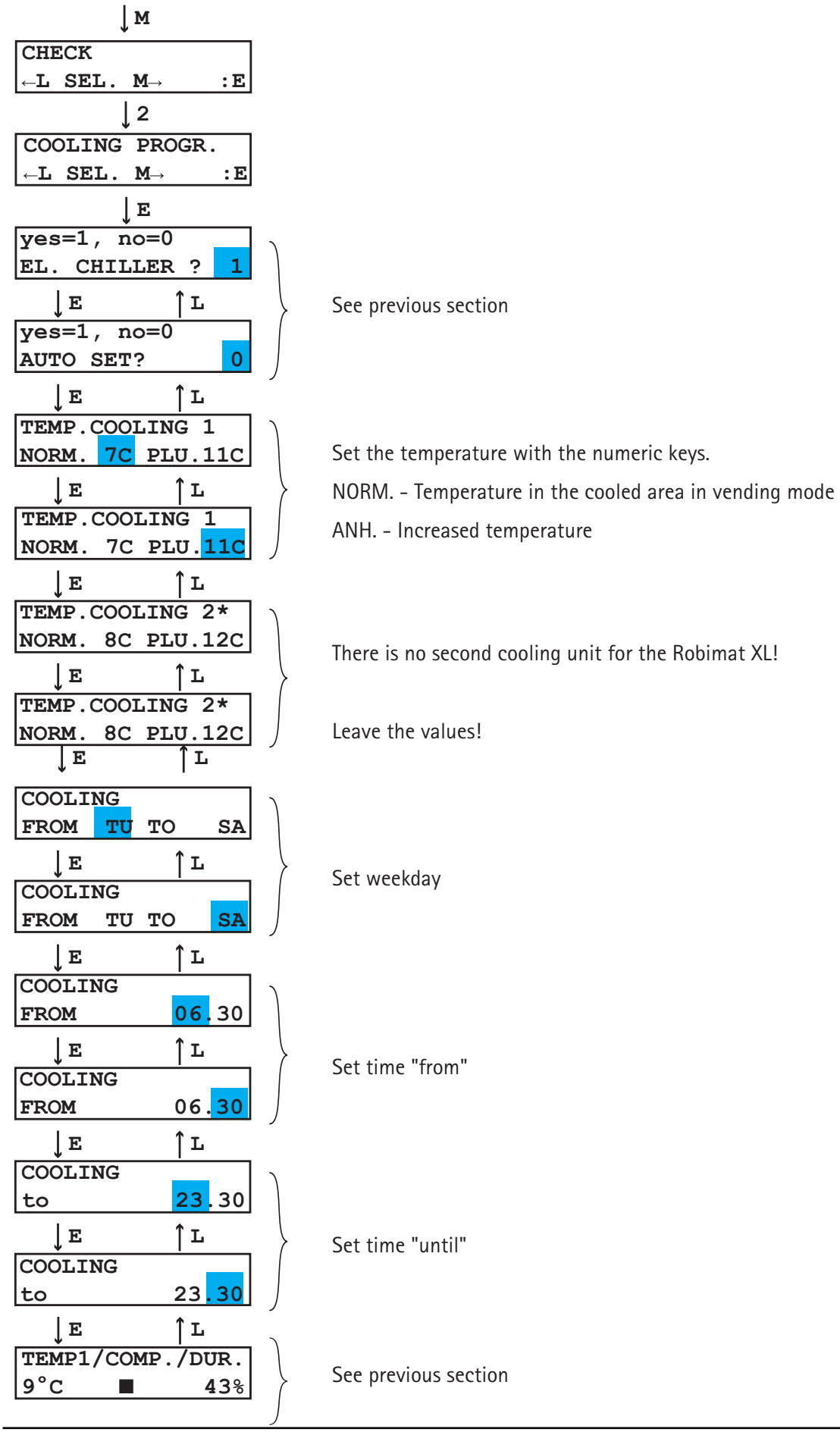


DUR. Percentage duty cycle	Meaning	Explanation
0 %	The cooling unit does not work	- Cooling unit not connected electrically - Cooling unit out of order
100 %	The cooling unit runs continuously	This value is plausible for a new unit, which first has to cool down to nominal temperature. In daily operation this value indicates an error/extreme stress: - Ventilation grid (air supply) is blocked - Very hot ambient temperature (summer) with high product turnover - Cooling unit too weak for the conditions on site
64% ... 84%	Plausible value	It is recommended to read this value (DUR) every time the cashbox is emptied, as it shows an average of the compressor runtime. If the value is correctly interpreted in its context, it indicates the correct functioning of the vending machine.

DUR. = duration: Percentage duty cycle of compressor since last power on

3.4 Setting the temperature of the vending machine

The standard values of the programmed temperatures are to be adjusted to individual requirements.

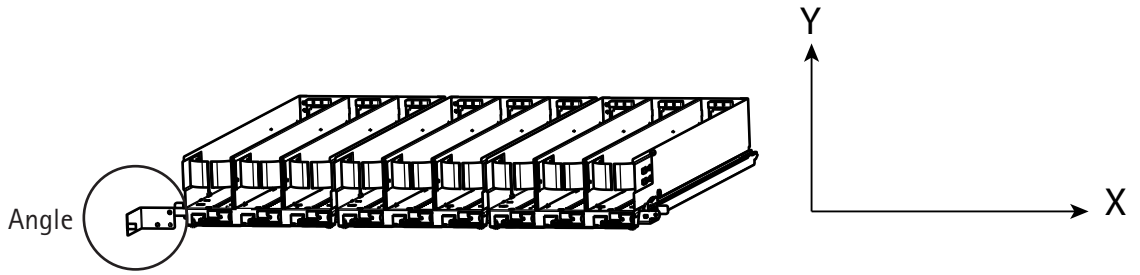


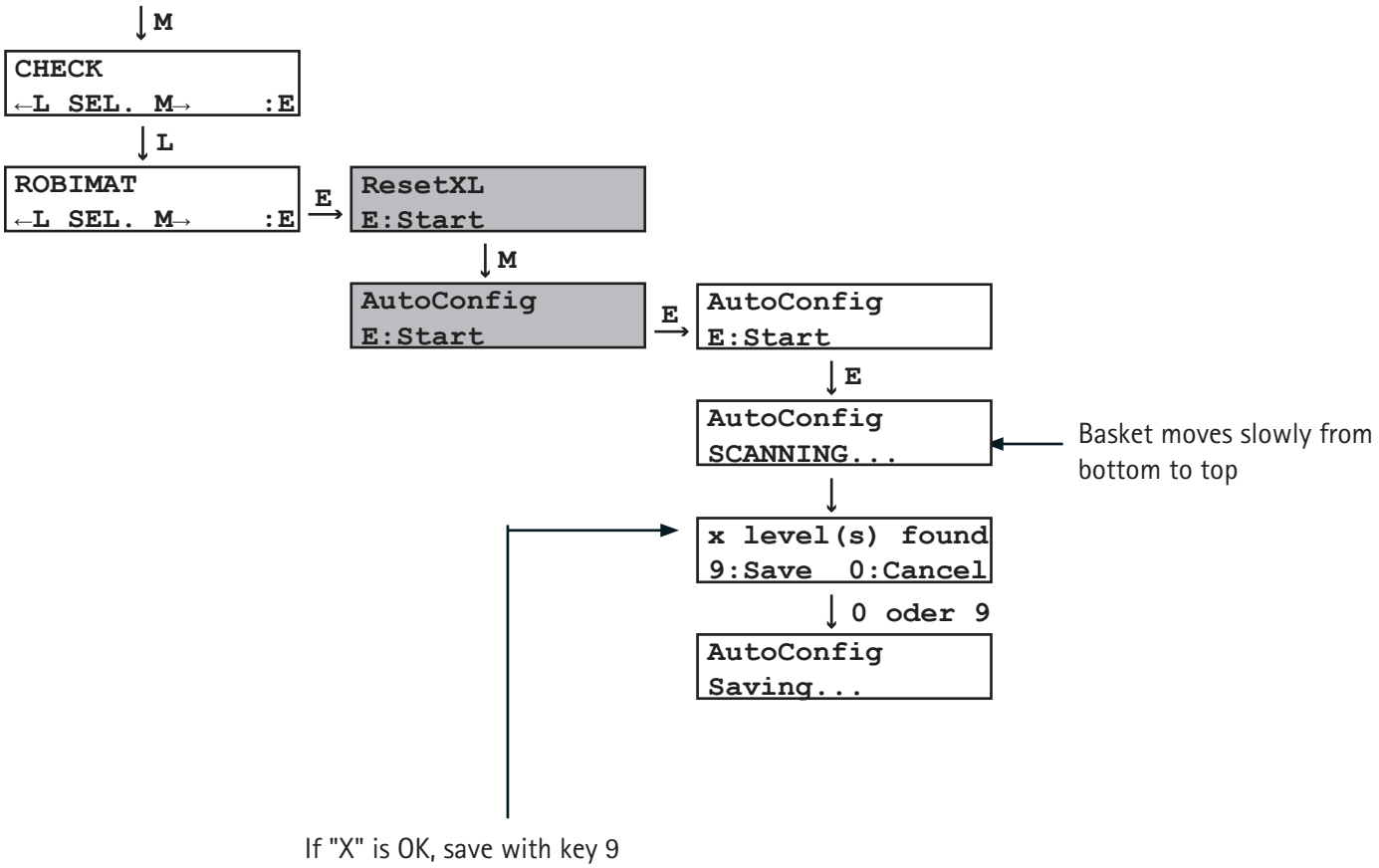
3.5 Trigger a reference run (finding the product shelves)

The product shelves in the Robimat XL can be relocated in order to use the cooled area in an optimum way and to follow trends of the market.

If a product shelf was relocated to another height, a reference run must be triggered **once** so that the control board can find the change.

Trip reference run:





4 Malfunctions

4.1 Error messages

If an error occurs, the corresponding error code will be displayed. In the following you will find potential error causes and service proposals for these error codes.

If this error message occurs, the machine stops operating.

Error code	Error message	Possible cause	Service proposal
20	Mains failure	The voltage is non-constant.	a) Check motor voltage, door contact switch; b) check motor M3, M5; see circuit diagram see section 2.13 and section 5.1
21	Temperature performance	The temperature is too high	a) Check motor voltage of the mains supply circuit b) Make sure that the lift system and the product basket can easily be moved
34	RESET_NoSensor	No sensor found during system check	a) Sensor check available b) Check if the sensors are connected c) Check if the plugs are correctly positioned
35	RESET_SensorenFalsch	Sensor combination not plausible	a) Check the shutter switch ("shutter open", "shutter closed")
41	RESET_MX_Zero	After switching on, limit switch not reached	a) Check if cable connection between encoder motor and control board is OK. a) Check limit switch c) Check encoder signal d) Mechanically blocked? Obstruction removed.
42	RESET_MX_Ref	Limit switch cannot be left after switching on	
44	RESET_MX_EncoderMove	No encoder signal when the motor moves in Y-direction	a) Check if cable connection between encoder motor and control board is OK. d) Mechanically blocked? Obstruction removed. .
45	RESET_MX_EncoderHold	No encoder signal when the motor moves in X-direction	
46	RESET_MX_RunTimeout	Timeout error on X-direction movement	
49	MX_Zero	X-direction motor cannot find a limit switch	
4A	MX_Ref	X-direction motor cannot find a limit switch	
4C	MX_EncoderMove	No encoder signal for X-direction motor movement	
4D	MX_EncoderHold	No encoder signal for X-direction motor stop function	
4E	MX_RunTimeout	Timeout error on X-direction movement;Target position not reached	

Error code	Error message	Possible cause	Service proposal
51	RESET_MY_Zero	After switching on, limit switch not reached	a) Check if cable connection between encoder motor and control board is OK. b) Check limit switch c) Check encoder signal d) Mechanically blocked? Obstruction removed.
52	RESET_MY_Ref	Limit switch cannot be left after switching on	
54	RESET_MY_EncoderMove	No encoder signal when the motor moves in Y-direction	a) Check if cable connection between encoder motor and control board is OK. d) Mechanically blocked? Obstruction removed.
55	RESET_MY_EncoderHold	No encoder signal when the motor moves in Y-direction	
56	RESET_MY_RunTimeout	Timeout error on Y-direction movement	
59	MY_Zero	Y-direction motor cannot find a limit switch	a) Check limit switch b) Check motor d) Mechanically blocked? Obstruction removed.
5A	MY_Ref	Y-direction motor cannot find a limit switch	a) Check if cable connection between encoder motor and control board is OK. d) Mechanically blocked? Obstruction removed.
5C	MY_EncoderMove	No encoder signal for Y-direction motor movement	
5D	MY_EncoderHold	No encoder signal for Y-direction motor stop function	
5E	MY_RunTimeout	Timeout error on Y-direction movement; Target position not reached	
71	RESET_ShutterNichtZu	After switching on, delivery unit flap (shutter) not closed	a) Close the shutter completely by hand b) Check shutter switch c) Check limit switches (2 pieces) of the shutter d) Check drive motor of the shutter
72	RESET_ShutterNicht Verriegelt_ Vorausgabe	-	
73	RESET_Shutter Nicht Verriegelt_ Unlock Ausgabe	-	
74	RESET_Shutter Nicht Entriegelt	-	
75	RESET_Shutter Nicht Verriegelt_ Lock Ausgabe	-	
76	RESET_ShutterNichtAuf	The shutter does not open	a) Problem with the shutter a) Check limit switch c) Check motor
77	RESET_ShutterNichtZu	The shutter is not closed completely	
79	ShutterNicht Verriegelt_ Vorausgabe	Shutter not locked, Lift in position "pre-delivery"	

Error code	Error message	Possible cause	Service proposal
7A	ROBIMAT_ERROR_ ShutterNichtVerriegelt_LockAusgabe	Shutter nicht verriegelt, Lift in Position Lockausgabe	
7D	ROBIMAT_ERROR_RESET_ ScanShutterUnlockPosition	Nach Einschalten Lift kann Position "Shutter nicht verriegelt" nicht erreichen	
7E	ROBIMAT_ERROR_RESET_ ShutterNichtVerriegelt_Init	Nach Einschalten Shutter zu, aber nicht verriegelt	Shutterproblem, Endschalter "ShutterZu" und "Shutter entriegelt" überprüfen
7F	ROBIMAT_ERROR_RESET_ ShutterNichtZuAberVerriegelt	Nach Einschalten Shutter nicht zu, aber verriegelt	Shutterproblem, Endschalter "ShutterZu" und "Shutter entriegelt" überprüfen
80	ROBIMAT_ERROR_AusgabeAuf	Intern, sollte nicht auftreten	----
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 nicht bereit	Softwarefehler oder Eeprom defekt
A4	ROBIMAT_ERROR_InitEWPo_ EepromNotIdle		
A5	ROBIMAT_ERROR_ ReadHWCfgCRC_EepromNotIdle		
A6	ROBIMAT_ERROR_WriteHWTA_ EepromNotIdle		
A7	ROBIMAT_ERROR_RESELECT_ ReadPosition_EepromNotIdle		
A8	ROBIMAT_ERROR_PldVersion_ Invalid	PLD Firmware fehlerhaft	PLD Firmware aufspielen oder PLD defekt
A9	ROBIMAT_ERROR_PositionCRC_ Invalid	Positionen CRC-Fehler	AutoConfig im Robimat-Menü speichern oder Eeprom defekt
AA	ROBIMAT_ERROR_ConfigCRC_ Invalid	Konfiguration CRC-Fehler	
AB	ROBIMAT_ERROR_Config_Invalid	Konfiguration ungültig	AutoKonfiguration speichern oder Eeprom defekt
AC	ROBIMAT_ERROR_HWCfgCRC_ Invalid	Hardware-Konfiguration CRC-Fehler	HWConfig im Robimat-Menü speichern oder Eeprom defekt
AD	ROBIMAT_ERROR_HWCfg_Invalid	Hardware-Konfiguration ungültig	

4.2 Warnings

The vending machine will not stop operation if these warnings appear.

ERR	MESSAGE	Explanation	Cause
----	----	----	----
C2	ROBIMAT_WARNING_WahlIllegal	Internal	----
C3	----	----	----
C4	ROBIMAT_WARNING_WahlLeer	Empty selection without current surge detection	Lift position wrong or current surge detection defective
C5	ROBIMAT_WARNING_WahlLeer_BlockadeErkannt	Empty selection with current surge detection	----
C6	ROBIMAT_WARNING_LiftWrong	Lift position wrong	Interfering impulses on the encoders, headless screws not tight or toothed belt jumped
----	----		----
C8	ROBIMAT_WARNING_HoleProdukt_ VorStartKorbVoll	internal	----
C9	ROBIMAT_WARNING_HoleProdukt_ ErstNachStopKorbVoll	internal	----
CA	ROBIMAT_WARNING_HoleProdukt_ NachStopKorbNichtVoll	internal	----
----	----	----	----
D1	ROBIMAT_WARNING_RemoteReset	internal	----
D2	ROBIMAT_WARNING_SelfHealingReset	SelfHealingReset after an error	----
D3	ROBIMAT_WARNING_INT	internal	----
D4	ROBIMAT_DEBUG_DoVend	internal	----
D5	ROBIMAT_DEBUG_EmptyVend	internal	----
D6	ROBIMAT_DEBUG_AgainEmptyVend	internal	----
----	----	----	----
D8	ROBIMAT_WARNING_Robimator	internal	----
D9	ROBIMAT_WARNING_RobMenu	internal	----
DA	ROBIMAT_WARNING_DoorClosed	door closed	----
DB	ROBIMAT_ErrorWarnListPointer	internal	----
----	----	----	----
DD	ROBIMAT_WARNING_VorProduktHolen_ KorbZuerstVoll	----	----
----	----	----	----
DF	ROBIMAT_WARNING_StatisticInitialized	internal	----
E0	ROBIMAT_WARNING_MXEncoderLow_ ZeroRefTimeInterval	MX step losses after position check	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped

E1	ROBIMAT_WARNING_MXEncoderHigh_ ZeroRefTimeInterval	MX step losses after position check	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E2	ROBIMAT_WARNING_MYEncoderLow_ ZeroRefTimeInterval	MY step losses after position check	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E3	ROBIMAT_WARNING_MYEncoderHigh_ ZeroRefTimeInterval	MY step losses after position check	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E4	ROBIMAT_WARNING_MXEncoderLow_LiftWrong	MX step losses after wrong lift position	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E5	ROBIMAT_WARNING_MXEncoderHigh_LiftWrong	MX step losses after wrong lift position	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E6	ROBIMAT_WARNING_MYEncoderLow_LiftWrong	MY step losses after wrong lift position	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
E7	ROBIMAT_WARNING_MYEncoderHigh_LiftWrong	MY step losses after wrong lift position	Interfering impulses on the encoder, headless screw(s) not tight or toothed belt jumped
----	----	----	----
F0	ROBIMAT_WARNING_WatchDog	internal	----
----	----	----	----
F6	ROBIMAT_WARNING_Ausgabe_ ShutterVerriegelungFalsch	Shutter locking wrong after a vend	Shutter problem, lift problem or operating error of the customer
F7	ROBIMAT_WARNING_Ausgabe_ ShutterVerriegelungNichtMehrFalsch	Shutter locking after a vend no longer wrong	----
F8	ROBIMAT_WARNING_Ausgabe_MotorBlockiert	Lift blocked after a vend	Shutter problem, lift problem or operating error of the customer
F9	ROBIMAT_WARNING_Ausgabe_ MotorNichtMehrBlockiert	Lift no longer blocked after a vend	----
FA	ROBIMAT_WARNING_Ausgabe_ShutterBlockiert	Shutter blocked after a vend	Shutter problem, lift problem or operating error of the customer
FB	ROBIMAT_WARNING_Ausgabe_ ShutterNichtMehrBlockiert	Shutter no longer blocked after a vend	----
FC	ROBIMAT_WARNING_KorbVoll	Product basked full after a vend	Basket problem, light bar or operating error of the customer
FD	ROBIMAT_WARNING_KorbNichtMehrVoll	Product basket no longer full after a vend	----
FE	ROBIMAT_VendCounter	Number of vends before the error occured	----
FF	ROBIMAT_PowerUp	Machine was switched on	----

4.3 Problem: Vending machine de-energized

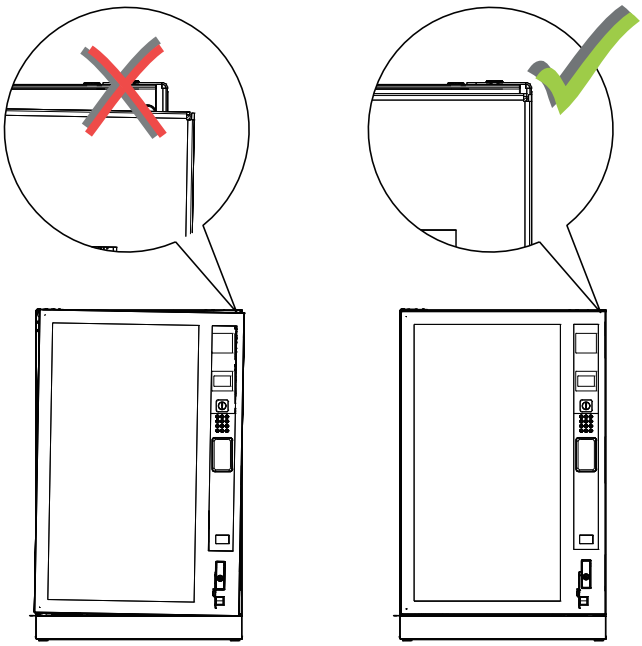
If the machine does not start operation - as usual - after the machine door has been closed, please mind the following:

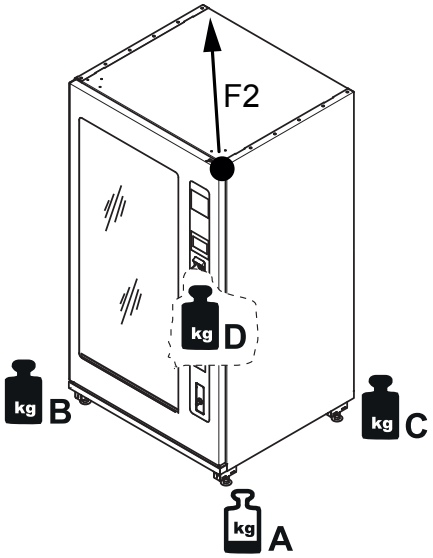
1 Has the plug been connected to a socket? Is the power cable faultless?

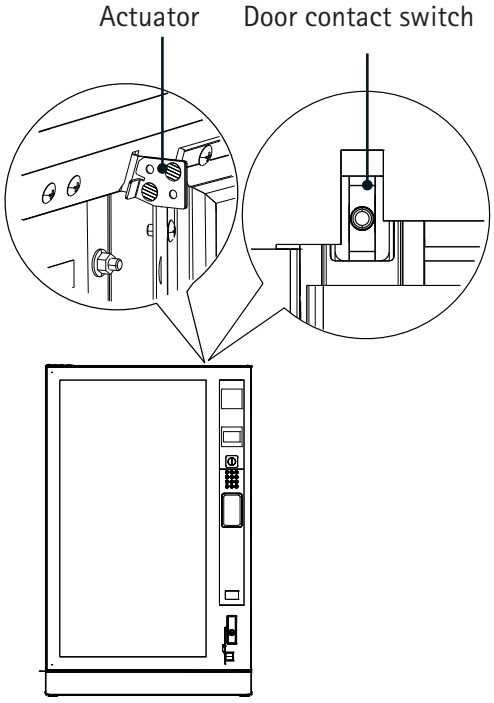
2 Pull out the drawer and check if the mains plug and the cooling unit plug have been connected to the power supply.

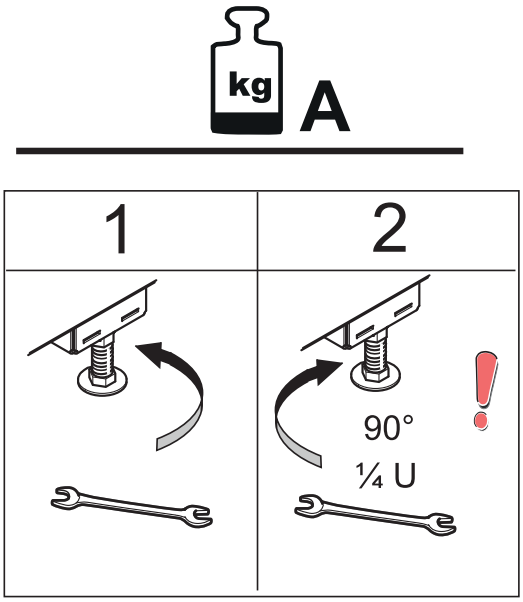
3 Has the vending machine been installed correctly?
This vending machine complies with the requirements of the market to offer a lot of space for vending while there is only little space left for the control board and the cooling unit. This requirement demands certain compromises with regard to the construction and accordingly the stability, in a way **that correct installation and adjustment of the machine are a functional basic prerequisite**.

For this reason check if the vending machine is positioned horizontally and if **the front righthand foot is relieved as far as possible.**
Only then the door can be closed correctly!



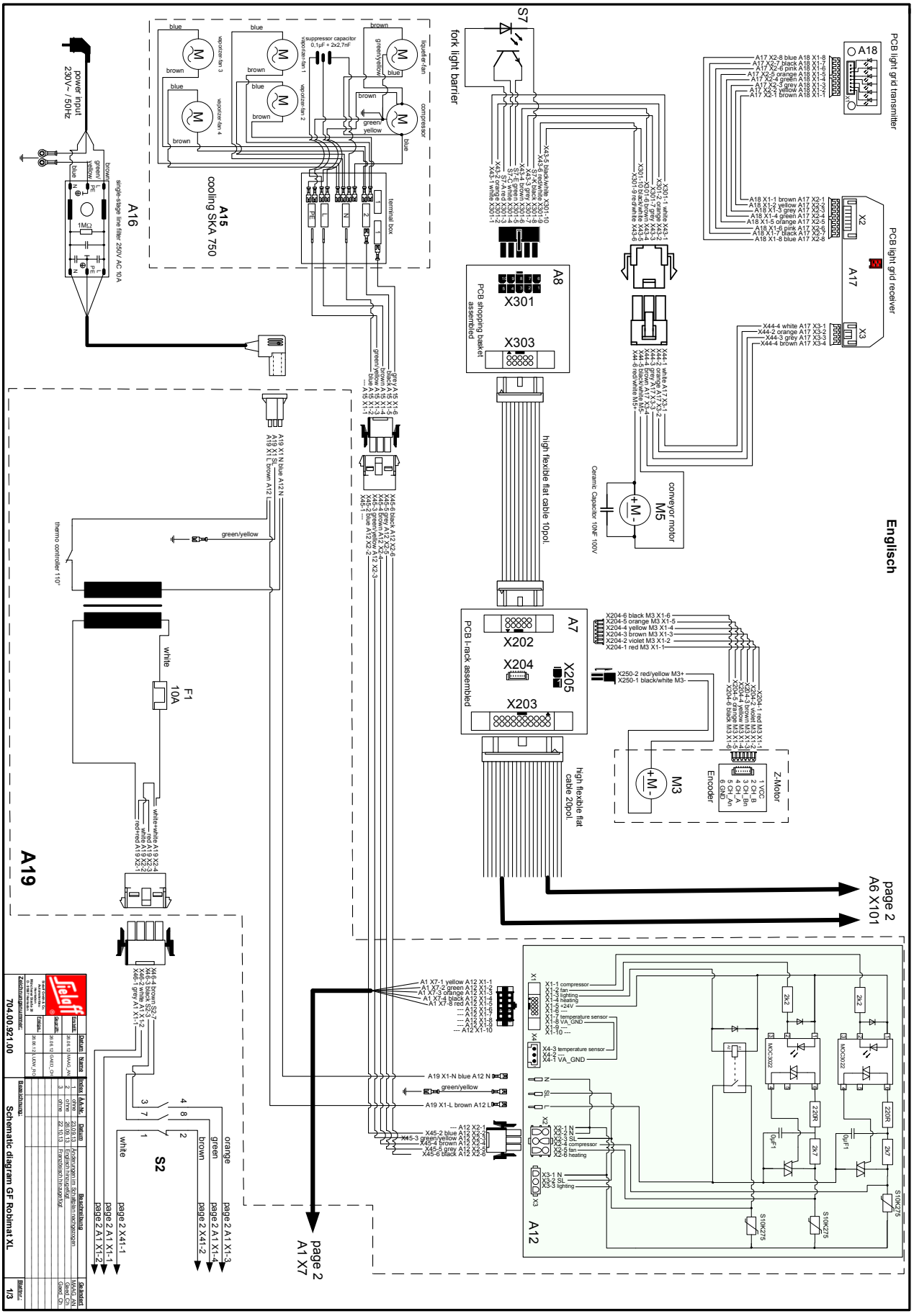




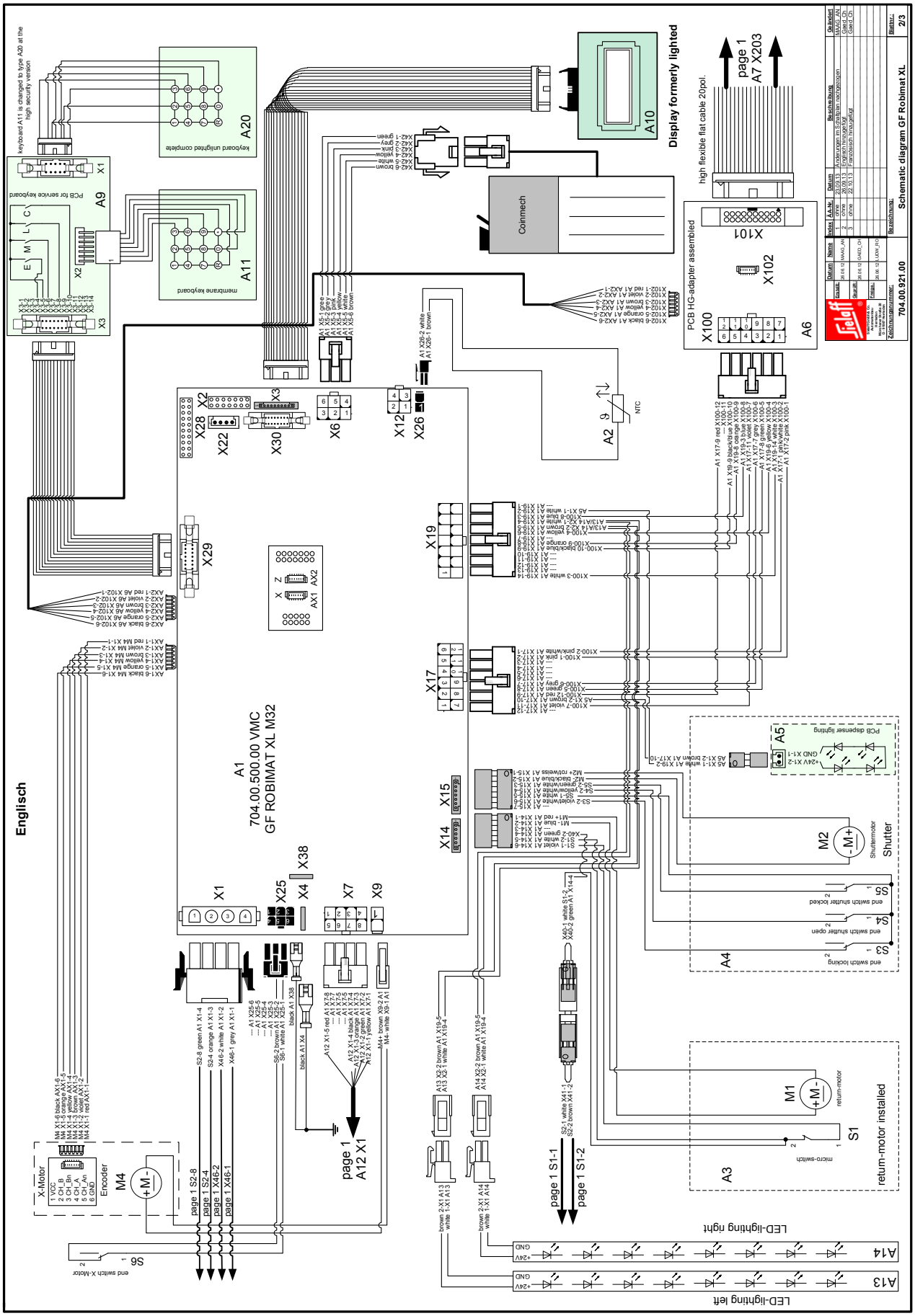


5 Wiring diagrams

5.1 Wiring diagram part no. 704.00.921.00



Wiring diagram part no. 704.00.921.00



Service technicians/trained specialists only!

Wiring diagram part no. 704.00.921.00

Plug	Signal	Description
X25: MicroFit 6P2R		
X25-1	Gnd	GND
X25-2	E_ST4	switch X-Referenz (versus GND)
X25-3	E_ST28	language setting
X25-4	E_ST29	
X25-5	E_ST30	
X25-6	E_ST31	
X7: MiniFit 8P2R		
X7-1	A_ST0	compressor
X7-2	A_ST1	fan
X7-3	A_ST2	lighting
X7-4	A_ST3	heating
X7-5	A_ST4	
X7-6	A_ST5	
X7-7	A_ST6	
X7-8	P+	+24 für triac coupler and relay coil
X9: MiniFit 2P		
X9-1	M_ST12	X-Motor +
X9-2	M_ST13	X-Motor -
X14: Stocko 6P1R		
X14-1	A_ST12	return-motor+
X14-2	P+	return-motor-
X14-3	E_ST5	
X14-4	E_ST6	door switch
X14-5	Gnd_C	GND
X14-6	E_ST15	return-motor micro-switch (NC)
X15: Stocko 7P1R		
X15-1	M_ST10	Shuttermotor +
X15-2	M_ST11	Shuttermotor -
X15-3	E_ST1	end switch shutter locked
X15-4	E_ST2	end switch shutter open
X15-5	Gnd_C	end switch shutter COM (GND)
X15-6	E_ST7	end switch locking
X15-7	E_ST12	
X17: MiniFit 12P2R		
X17-1	M_ST0	Z-Motor +
X17-2	M_ST1	Z-Motor -
X17-3	M_ST2	
X17-4	M_ST3	
X17-5	M_ST4	
X17-6	M_ST5	
X17-7	M_ST6	compartment motor +
X17-8	M_ST7	compartment motor -
X17-9	P+	supply current limiting PCB HG-Adapter
X17-10	P+	supply dispenser lighting
X17-11	E_ST3	switch Z-Referenz (gegen GND_C)
X17-12	Gnd_C	Gnd_C

Plug	Signal	Description
X19: MiniFit 14P2R		
X19-1	A_ST8	
X19-2	A_ST9	dispenser-lighting switch-signal
X19-3	A_ST10	light bar Enable
X19-4	A_ST11	LED-border switch-signal (max. 1,8A)
X19-5	P+	lighting supply (LED-border)
X19-6	E_ST16	product-identification basket (versus GND):Lightbar Out
X19-7	E_ST17	
X19-8	E_ST18	GLS out (compartment ups detection)
X19-9	E_ST19	overcurrent-signal compartment motor
X19-10	E_ST20	
X19-11	E_ST21	
X19-12	E_ST22	
X19-13	E_ST23	
X19-14	Gnd_C	GND
X26: MicroFit 2P		
X26-1	TEMP3	temperature sensor
X26-2	GND_VA	temperature sensor
X5: MiniFit 6P2R		
X5-1	MDB+	MDB
X5-2	Gnd	MDB
X5-3	MDB3	MDB
X5-4	MDBRXD	MDB
X5-5	MDBTXD	MDB
X5-6	Gnd	MDB
X30: AMPMODU verriegelt, 16P2R		
X30-1	Gnd	Display
X30-2	Vcc	Display
X30-3	n.c.	Display
X30-4	LRSN	Display
X30-5	LRWN	Display
X30-6	LE	Display
X30-7	LD0	Display
X30-8	LD1	Display
X30-9	LD2	Display
X30-10	LD3	Display
X30-11	n.c.	Display
X30-12	Control	Display
X30-13	IR_TXDn0	Display
X30-14	IR_INT8	Display
X30-15	IRCLKOUT	Display
X30-16	IR_RXDn0	Display
X29: AMPMODU verriegelt, 14P2R		
X29-1	KC2	keyboard
X29-2	KEY_LED	keyboard
X29-3	KC1	keyboard
X29-4	KR3	keyboard
X29-5	KC3	keyboard
X29-6	KR2	keyboard
X29-7	KC0	keyboard
X29-8	KR1	keyboard
X29-9	Gnd	keyboard
X29-10	KR0	keyboard
X29-11	KR7	unassigned
X29-12	KR6	unassigned
X29-13	KR5	unassigned
X29-14	KR4	unassigned

Componente	Sielaff part number
A1	704.01.510.00 VMC HG M32 VORM.
A2	985.15.430.12 high temperature conductor NTC
A3	704.01.033.00 return-motor installed
A4	704.01.021.00 dispenser preassembled
A5	700.00.517.00 PCB lighting assembled
A6	704.00.513.00 PCB HG-adapter assembled
A7	704.00.514.00 PCB I-rack assembled
A8	704.00.515.00 PCB shopping basket assembled
A9	704.00.552.00 PCB for service keyboard
A10	306.04.045.00 DISPLAY to preassemble lighted 2/16/5MM IRDA
A11	985.14.137.00 membrane keyboard
A12	640.00.532.00 PCB for transformer 3 outputs
A13	704.01.075.00 LED-lighting left LTW-5630SZS65
A14	704.02.075.00 LED-lighting right LTW-5630SZS65
A15	704.00.509.00 cooling SKA 750 KPL. MONT. GF XL
A16	621.33.616.00 single-stage line filter 10A german
A17	704.00.547.00 PCB light grid receiver
A18	704.00.549.00 PCB light grid transmitter
A19	704.00.512.00 Power supply 230VAC 26VAC 260W
A20	306.00.561.00 keyboard unlighted complete
M1	985.27.035.11 gear motor DC 9V without rack-wheel
M2	985.27.035.07 gear motor 9V with rack-wheel
M3	985.27.035.20 gear motor 12V with ENCODER
M4	985.27.035.19 gear motor 12V with ENCODER
M5	704.00.563.00 gear motor to preassemble
S1	985.14.065.23 micro-switch
S2	985.14.065.48 safety disconnecting switch SNAP-IN
S3	985.14.060.20 micro-switch changer
S4	985.14.060.20 micro-switch changer
S5	985.14.060.20 micro-switch changer
S6	985.14.060.20 micro-switch changer
S7	985.55.340.00 light bar

Englisch

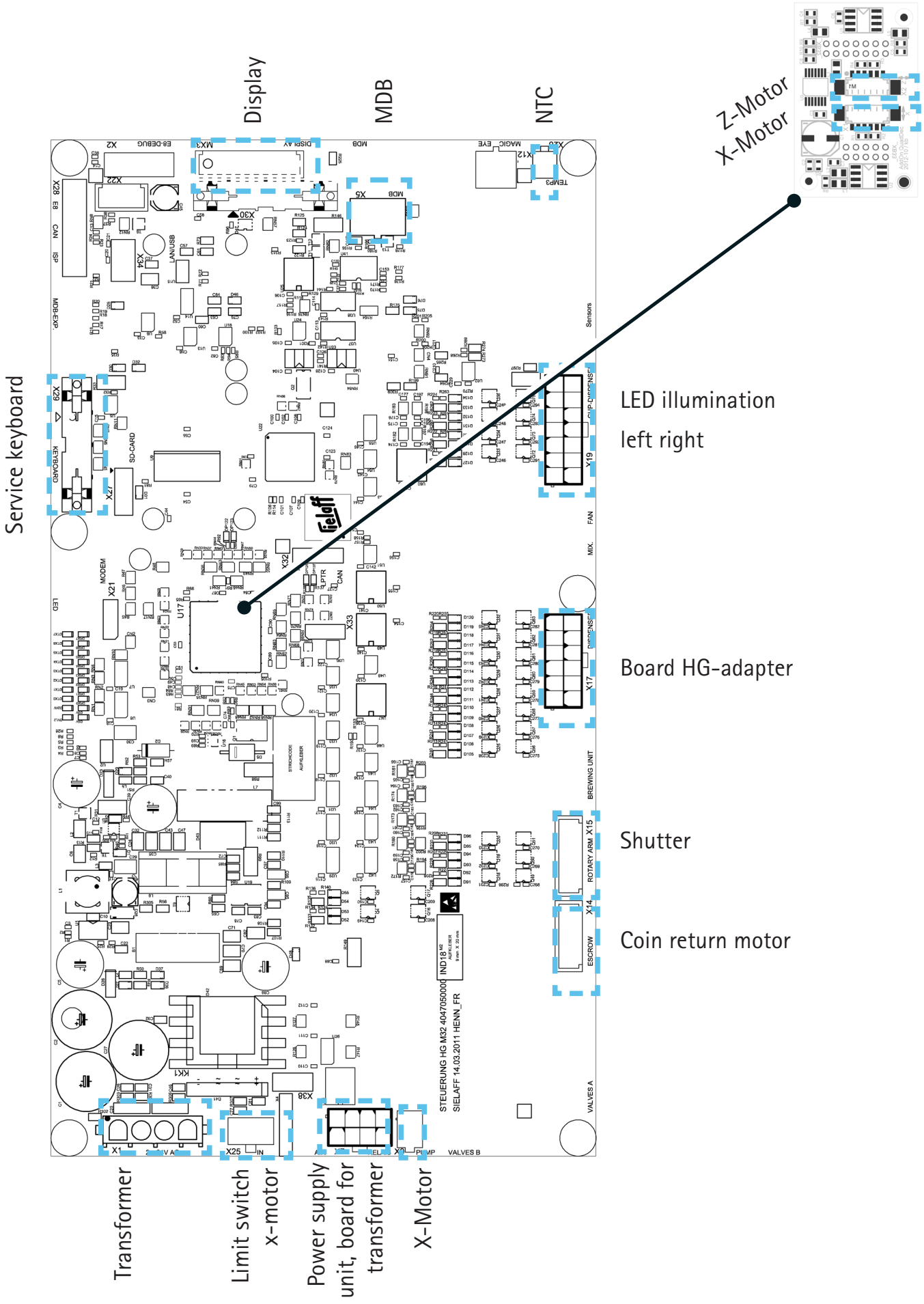
Sielaff Gmbh & Co. Automatenbau Herrieden
Münchener Straße 20
D - 91567 Herrieden

	Datum	Name
Erstellt:	26.06.12	MAAG_AN
Geprüft:	26.06.12	GAED_CH
Freige.:	26.06.12	LUDW_RO

Index	ÄA-Nr.	Datum	Beschreibung	Geändert
1	ohne	23.09.13	Änderungen im Schaltplan nachgezogen	MAAG_AN
2	ohne	26.09.13	Englisch hinzugefügt	Gaed_Ch
3	ohne	22.10.13	Französisch hinzugefügt	Gaed_Ch

Zeichnungsnummer: 704.00.921.00
Bezeichnung: Schaltplan GF Robimat XL
Blattnr.: 3/3

5.2 Layout of the M32 control board



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