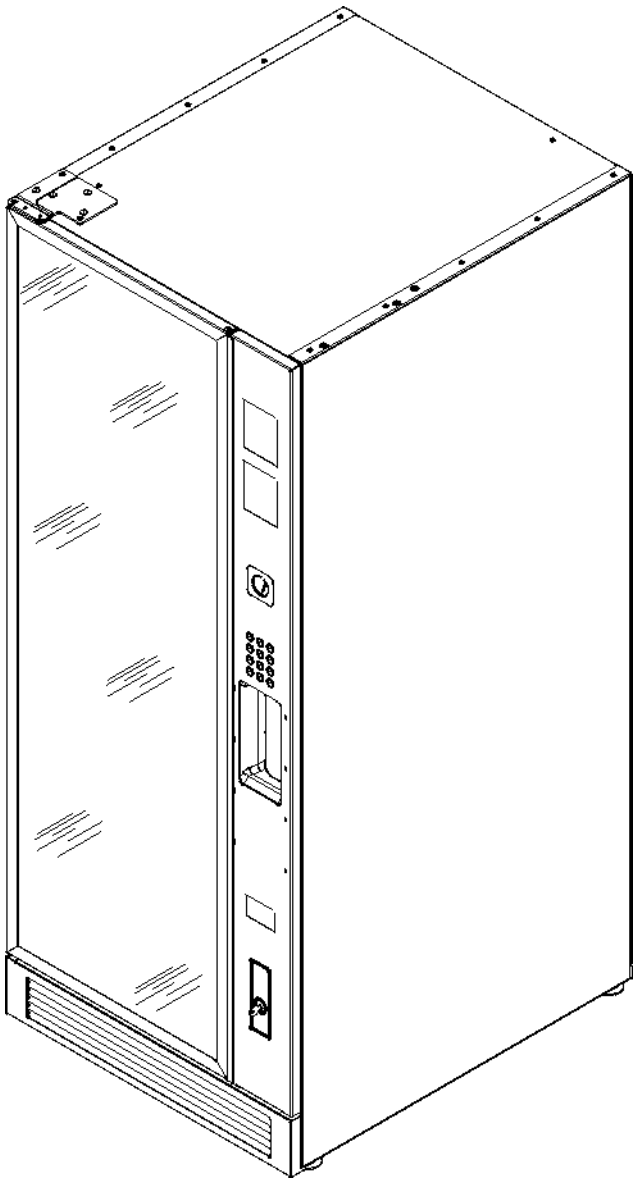

Robimat
GF 75-01 and GF 99

700 67 020 00
Index 11
Date: 23.12.2010

Operating instructions

GB
Translation
of the original instructions

Sielaff GmbH & Co. KG
Automatenbau
Postfach 20
D-91565 Herrieden
Münchener Straße 20
D-91567 Herrieden
Telephone: +49 (0) 9825 180
Telefax: +49 (0) 9825 18111

E-Mail: info@sielaff.de
Internet: http://www.sielaff.de

Sielaff®

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Changes

Index	Date	Short description	Pages
00	06.11.2006	Manual written	
01	09.02.2007	Optimization	all
02	14.03.2007	Description Demounting of cooling unit altered Description Programming of promo-button altered	18, 19 36-45
03	29.03.2007	Description Programming of promo-button altered	25-46
04	26.06.2008	Adjustment to Robimat 75-01 Robimat 99 supplemented New wiring diagram	all
05	20.08.2008	Maintenance list added	43-52
06	14.11.2008	Service function 214 M added Changes software update lift control	36 41, 42
07	03.07.2009	Technical data complemented Wiring diagram new	11 47-54
08	18.12.2009	Maintenance list changed Changes software update lift control Troubleshooting added Flow chart Vending procedure added	all
09	12.01.2010	EC Declaration of Conformity added	63
10	12.04.2010	Adaptations to new Machine directive Checklist first-time commissioning added Mounting instructions outdoor machine added Patch menu added	all
11	23.12.2010	New control M32	all

Contents

1. General

Robimat is a machine for vending cooled drinks in PET and glass bottles as well as cans and Tetra Paks. The drinks do not drop into the delivery unit but are carried there by a lift system. Thus also fragile products can be vended.
Specifications for the products that shall be vended are listed in chapter 4.4.1 of these operating instructions.

A two-line LCD provides selection and system information.

All machine functions are controlled and checked via two microprocessor modules.
The SUE control records and saves sales and error statistics. The lift control checks the functions of the delivery unit.
During service operation the selection keypad is used together with the programming keys for programming the machine control.

The vending machine is prepared as standard for operation with a coin mechanism.

Configuration of the machine may be performed by SIELECTOR software for PC-supported programming on Windows basis. The software supports the duplication, creation, saving and printing out of all parameters.

If malfunctions should occur which you cannot remedy yourself, then our customer service department will be pleased to help. Please be prepared to state the type, vending machine number and software version. These data are absolutely necessary for warranty claims.

SIELAFF GmbH & Co. KG Automatenbau

Münchener Strasse 20

D - 91567 Herrieden

Telephone:	**(+49) 0 98 25 - 18 - 0**	**Switchboard**
	(+49) 0 98 25 - 18 - 447	**Service hotline**
Telefax:	**(+49) 0 98 25 - 18 - 111**	**Service**
	(+49) 0 98 25 - 18 - 129	**Spare parts orders**
E-Mail:	**info@sielaff.de**	
WWW:	**www.sielaff.de**	

The instruction manual is part of the purchase agreement. It contains important information about the vending machine you purchased. Please note:

Kindly read thoroughly!

2. Safety

The operating manual should be kept in an easily accessible place.

- 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 guidelines
    - Regulations of the responsible utility company
- The machine must be in a level position.
- 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.
- The vending machine in its standard configuration is only suitable for climate class N.
  As an option it can be equipped with an extra-strength cooler unit suitable for climate classes ST and T.
- The indoor-version of the machine is only suited to be put up indoors in dry and heated rooms.
- The outdoor version of the vending machine is suitable for protection class IP 24.
- The machine may only be transported when empty.
- Do not clean the machine with a water hose or a high-pressure cleaner.
- Too fast manual movement of the lift system can cause damage of the vending machine control.
- Use only original spare parts

NOTE
Any modification or conversion of the machine is prohibited!
SIELAFF disclaims liability for any defects in these cases!

2.1. Intended use

- The machine may only be used for vending beverages in bottles, cans and Tetra Paks.
- Inflammable or explosive goods must not be vended.

2.2. Explanation of symbols and signs

This vending machine was manufactured in accordance with state-of-the-art technology standards. Nevertheless, the design of the machine necessitates that due care and attention must be observed at all times.

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.

The marked text sections differ in meaning:

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.

In addition the following danger symbols are used in some places:

CAUTION! Electrical power!
Risk to life!
This symbol warns about live parts.

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

3. Technical data

3.1. Machines

Model (Standard configuration for climate class N)	Robimat 75-01	Robimat 99	Robimat 99 Outdoor
Selections	max. 48	max. 64	max. 64
Product shelves	max. 24	max. 32	max. 32
Height	1,830 mm	1,830 mm	1,830 mm
Width	750 mm	990 mm	990 mm
Depth	880 mm	880 mm	880 mm
Weight	approx. 370 kg	approx. 430 kg	approx. 490 kg
Power connection	230 V/50 Hz; 16 A	230 V/50 Hz; 16 A	230 V/50 Hz; 16 A
Power input	max. 480 W	max. 480 W	max. 850 W
Max. sound pressure level	< 70 dB (A)	< 70 dB (A)	< 70 dB (A)
Ambient temperature	+10 - +32 °C	+10 - +32 °C	-20 - +32 °C

Weight and power consumption are standard values. The weight may change due to different configurations.

3.2. Cooling units

Climate class		Robimat 75-01	Robimat 99	Robimat 99 Outdoor
24 °C, 45 %	**Standard**	SKA 291	———	———
N	**Standard**	SKA 411	SKA 411	———
	Extra-strength	SKA 702	SKA 702	SKA 702
	LM	SKA 703	SKA 703	———
ST	**Standard**	———	———	———
	Extra-strength	———	———	———
	LM	———	———	———
T	**Standard**	———	———	———
	Extra-strength	———	SKA 852	———
	LM	———	———	———

Climate class N (normal): Ambient air temperature +10 to +32 °C

Climate class ST (subtropics): Ambient air temperature +18 to +38 °C

Climate class T (tropics): Ambient air temperature +18 to +43 °C

The coolant used in all cooler units is R 134a.

Cooling unit	Power input	Coolant contents
SKA 291	210 W	170 g
SKA 411	400 W	245 g
SKA 702	500 W	380 g
SKA 703	500 W	380 g
SKA 852	770 W	350 g

4. Machine description

4.1. Interior view

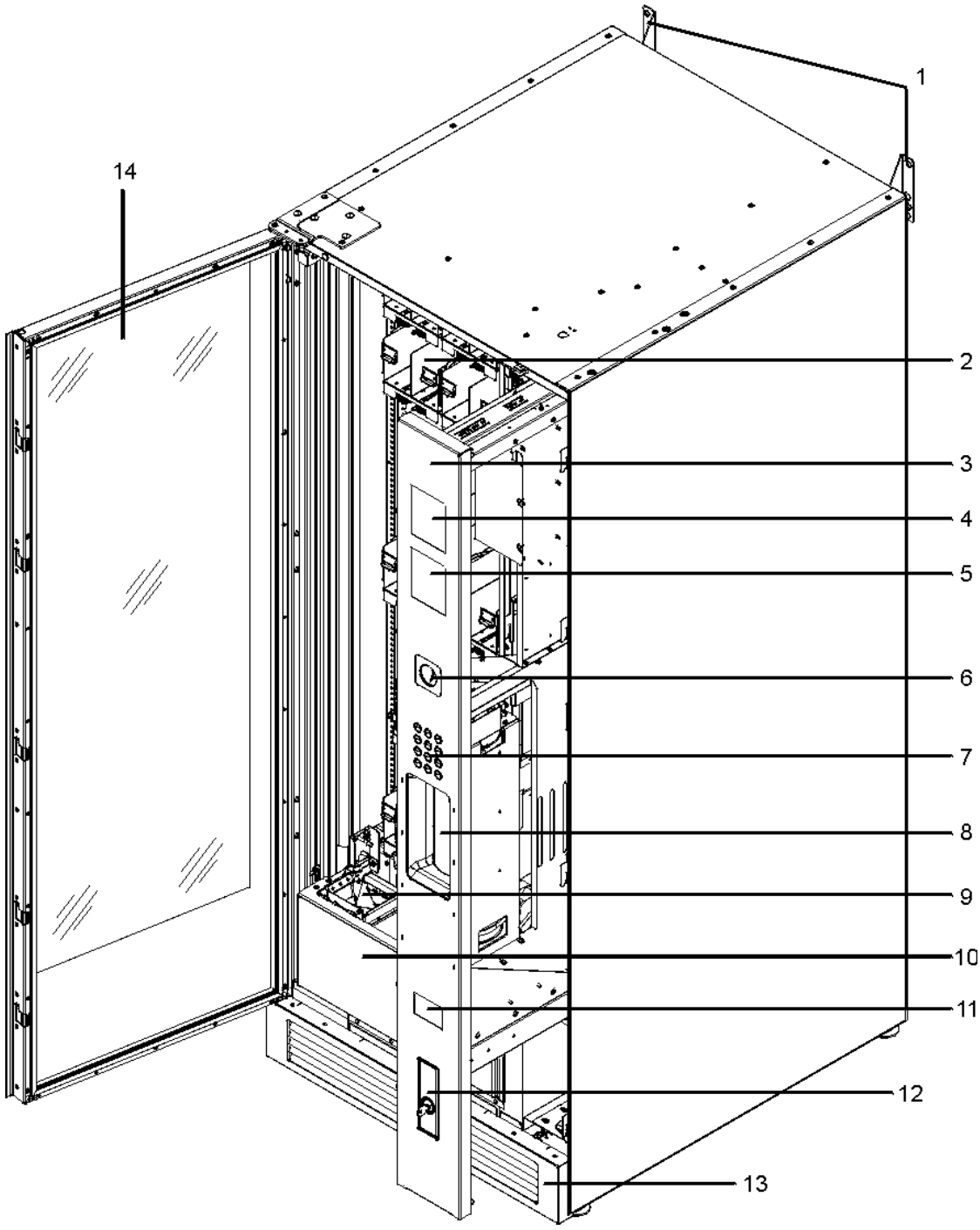


Diagram 1

1	Wall fixing devices	8	Carousel
2	Container	9	Product basket
3	Drawer	10	Lift system
4	POS	11	Coin return
5	Display	12	Locking lever
6	Coin insert	13	Panel
7	Selection keypad	14	Glass door

4.2. Drawer

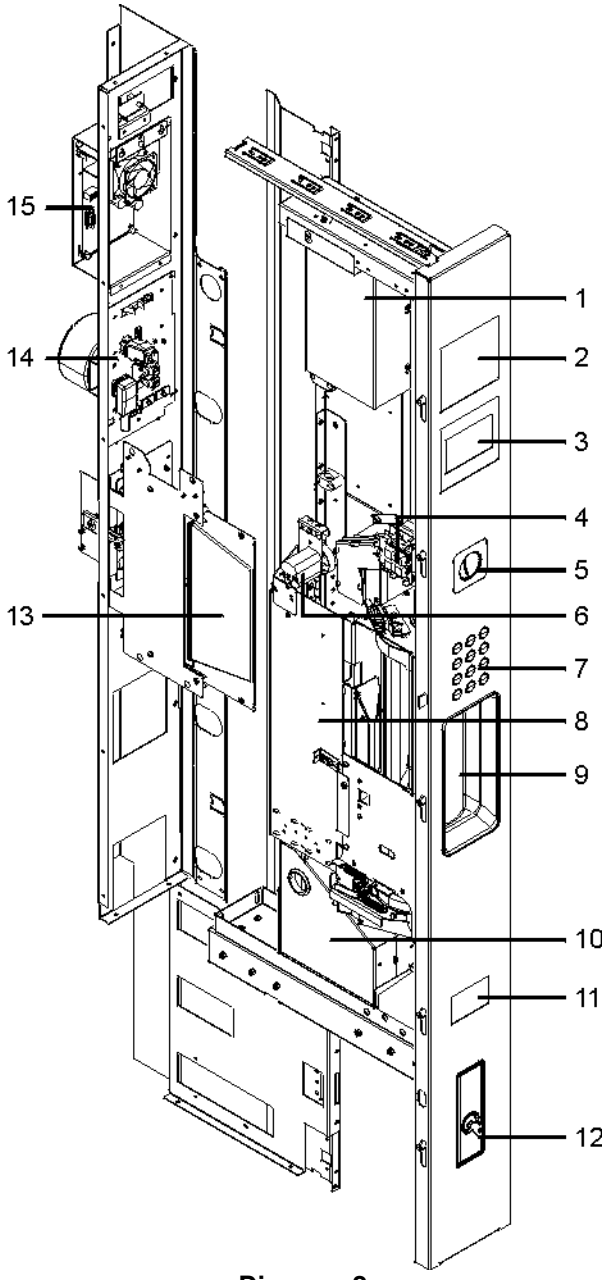


Diagram 2

1	Control SUE/FS	9	Carousel
2	POS (cutout for payment systems)	10	Cash box
3	Display	11	Coin return
4	Programming keys	12	Locking lever
5	Coin insert	13	Shutter
6	Return motor	14	Power supply unit
7	Selection keypad	15	Lift control
8	Coin mechanism		

4.3. Vending procedure

Diagram 3 shows the vending procedure schematically.

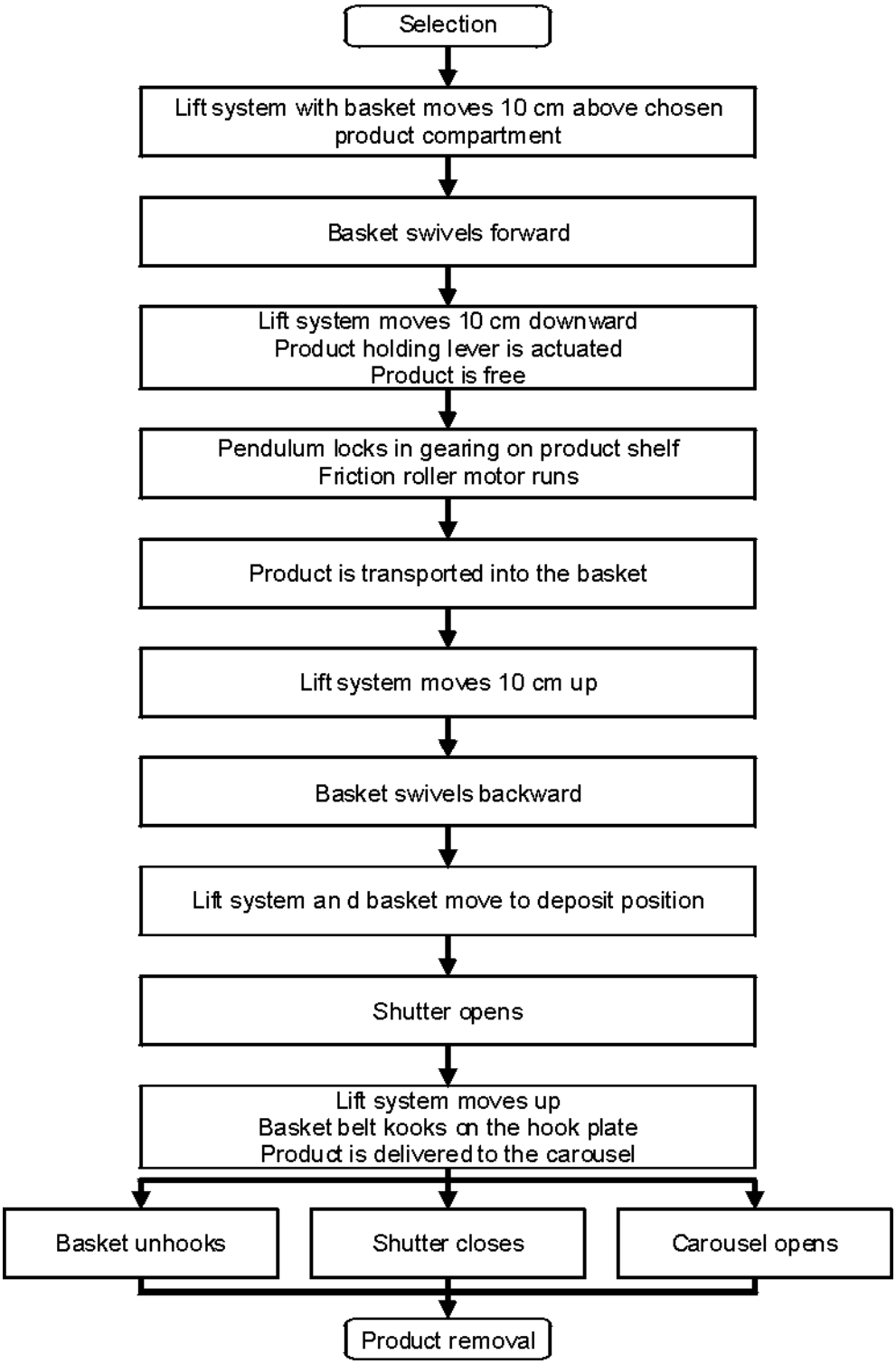


Diagram 3

4.4. Product shelves

IMPORTANT INFORMATION

- Do not transport the machine with products inside!
- Do not reset the machine while filling and push in the shelves as far as possible. Otherwise malfunctions may arise.
- Pull out only one shelf at a time, or the centre of gravity may be shifted.
- After filling, perfect machine function is to be checked with the door closed, through a real vend.

4.4.1. Numbering of chutes

View from the front:

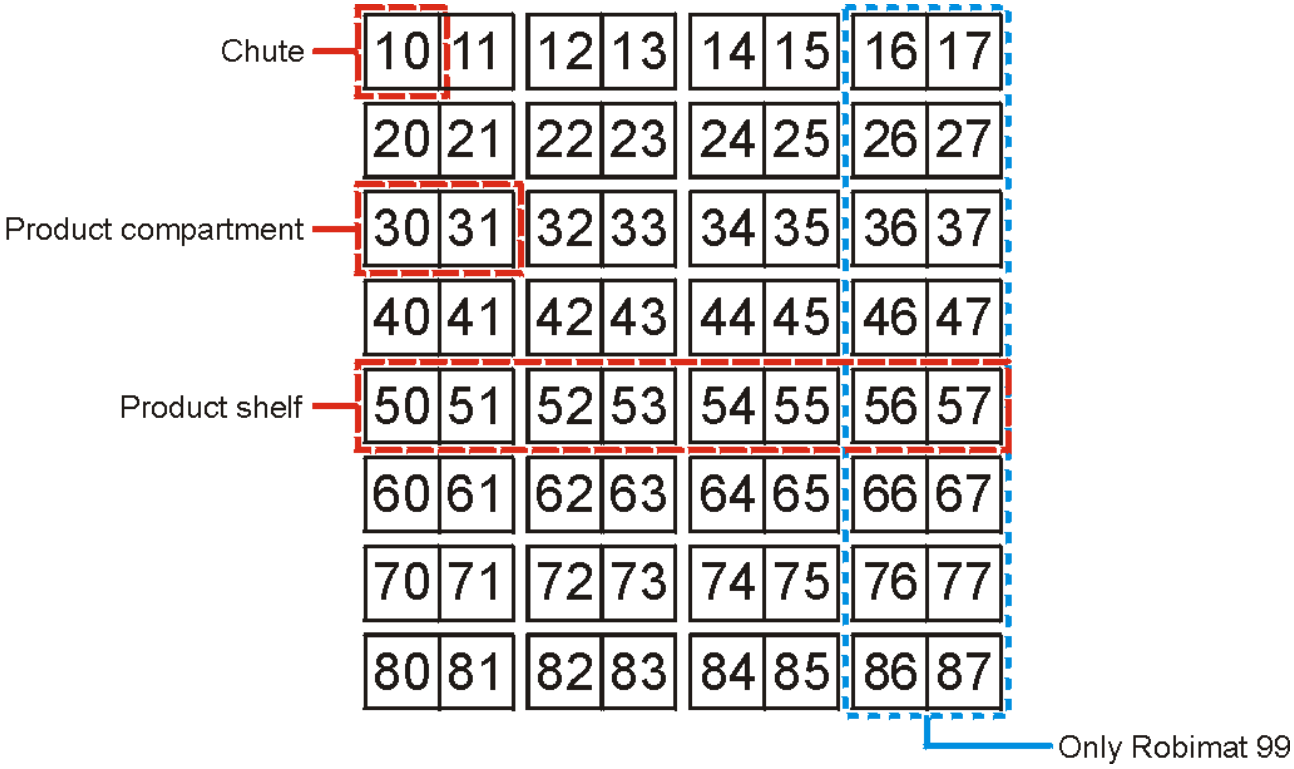


Diagram 4

The chutes start with number 10 on the uppermost shelf left, continuing to the right up to number 17 at maximum. On the second shelf the numbers are from 20 to 27 and so on. A maximum of eight shelves may be installed.

4.4.2. Specifications for the products

The chutes may only be filled with products that fulfil the following specifications:

WARNING! Explosive and inflammable products
Danger of explosion!
- ➢ Do not fill with inflammable or explosive products

- The products must not be higher than 300 mm.
- The diameter of the products must not exceed 66 mm in the small compartments and 88 mm in the big compartments.
- The products must weigh at least 200 g.
  Lighter products have to be tested.

4.4.3. Filling

For filling purposes the compartments may be pulled out to the front. For easier filling the compartments of the uppermost shelf can be swivelled downwards.

- When filling the compartments always start from the front.
- Only fill with loose products. Products must not be compacted!
- Make sure that the product slides can move freely.

4.5. Cooling unit

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

Before commissioning the machine make sure that it has adapted to the room temperature.
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.

NOTE
If the cooling system does not work, check first if the power supply is interrupted or if the cooling unit is switched off at the machine control. If this is not the case, notify service personnel.

4.5.1. Cleaning

CAUTION!
If the cooling unit is not cleaned properly, it may be damaged and break down!
- ➢ Do not use sharp-edged tools
- ➢ Use luke-warm water to remove ice and frost on the evaporator
- ➢ Do not use cleaning agents containing abrasives or acids

The heat exchanger matrix must be thoroughly cleaned with a vacuum cleaner or a broom every six months.
For cleaning the evaporator (heat exchanger in the cooling unit) use luke-warm water with washing-up liquid.
The drip tray must also be cleaned with a damp cloth.

4.5.2. Removing

WARNING! Live electrical components
Risk to life!
- Disconnect the mains plug before you start removing the cooling unit

CAUTION!
The cooling unit may be damaged when it is turned over!
- Store and transport the cooling unit in installation position only
- If possible, do not turn over the cooling unit during disassembling
- If the cooling unit has been turned over, it must be stored in installation position for at least 24 hours before it is switched on again

Proceed as follows to remove the cooling unit:

1. Open the glass door and pull out the drawer.
2. Push up the lift system carefully.
3. Take out the lint trap.
4. Remove 4 screws and take out the holding angle.
5. Remove 2 screws and take out the supporting feet.
6. Disconnect the plug from the cooling unit.
7. Release the two hexagon screws marked in Diagram 5 by a 90° turn to the left with the help of a fork wrench.
   This will lower the cooling unit.
8. Remove the insulation.
9. Remove the complete cooling unit by pulling it forwards.

Mounting is performed in reverse order.

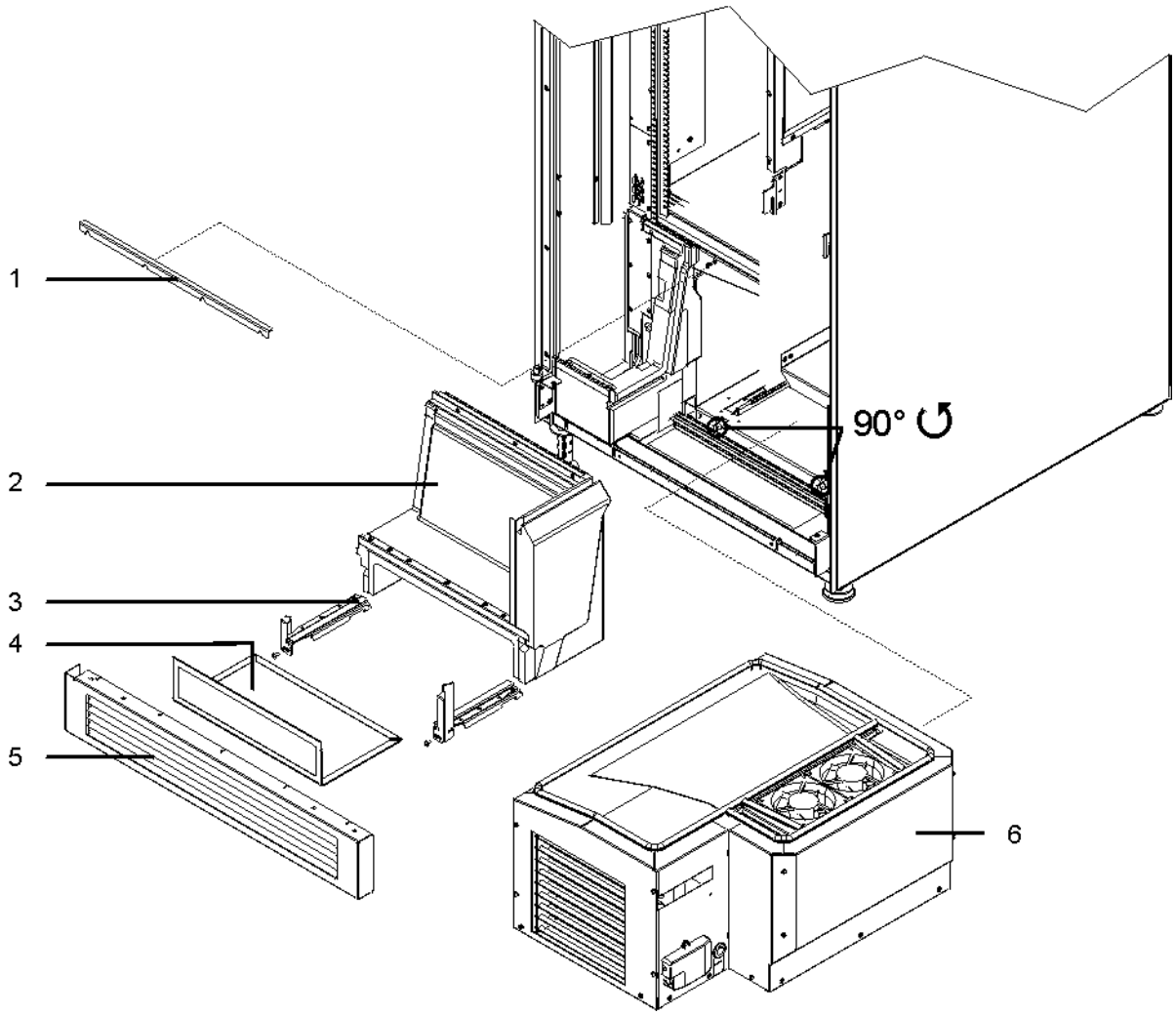


Diagram 5

1 Holding angle
2 Insulation
3 Supporting foot
4 Lint trap
5 Panel
6 Push-in cooling unit

4.6. Heater (only outdoor machine)

In addition to the cooling unit a heater is installed in the outdoor machine. The heater can not be switched on manually.
When the ambient temperature at the location falls below the set cooling temperature the heater is switched on by the vending machine control. The cooling temperature is set in the menu Cooling (→ page 36).

5. First-time commissioning

IMPORTANT!
Make sure that the machine is in a level position.
To assure perfect machine function the lift system must be exactly parallel to the product shelves.

- Adjust the machine accordingly with the feet.
- Use a spirit level for the adjustment

5.1. Checklist first-time commissioning

For commissioning the machine please proceed as follows:

	Action	Notes	Page	done
1	Put up the machine at its final destination	Venting clearance? Is the machine level?	18	
2	Indoor machine Insert mains plug Outdoor machine: Assemble electrical connection		19	
3	Insert coin mechanism	Adjust change return motor		
4	Check all components to ensure they are complete and positioned securely			
5	Remove transportation lock		22	
6	Fix machine to the floor		23	
7	Check prices	M1 prices/ assignment	30	
8	Fill coin mechanism		25	
9	Program the machine-specific settings	M6 Clock / Inhibit and M7 Installation	40, 42	
10	perform test vends	with the door closed	37	

Then the machine is ready for operation.

5.2. Choosing the location

When you choose the location for the machine please mind the following:

- Indoor machines may not be installed outdoor.
  covered areas such as e.g. railway platforms. In this case the indoor machine may be put up within a special housing after an additional heater has been installed (at extra charge).
- The ambient temperature at the location of the indoor machine must not fall below 2 °C.
- For the outdoor version of the machine the ambient temperature at the location must not fall below -20 °C.
- The machine must not be installed in air containing salt or chlorine, such as in an indoor swimming pool.
- The front pane of the machine must not be exposed to direct sunlight.
- Do not install the machine in places where water hoses or a high-pressure cleaner is used.

5.3. Power connection

5.3.1. Indoor machines

The machine is delivered ready for connection, with cable and continental European plug for a single-phase AC supply of 230V/50Hz. It has to be plugged into a properly installed socket with earth connection.

The power requirement is max. 480W, the circuit must be fuse protected by an L16A safety cut-out. A permanent installation may be carried out only by a qualified electrician.
The plug must be easily accessible after the machine is installed.

5.3.2. Outdoor Machines

DANGER! Live electrical components
Risk to life!

- Arrange for an all-pole disconnector with at least 3 mm contact opening width.
- Fuse protection with 16 A max.
- Residual current circuit-breaker with max. 30 mA absolute fault current must be connected ahead
- The connection cable has to be installed in a way that it cannot be damaged from the outside.

1. Remove the rain shield
   Remove the 4 hexagon screws (Diagram 6, item 1), push the cover (2) backwards and detach it.
2. Remove the back panel of the machine
   Remove screws, lift back panel (Diagram 7, pos. 3), unhinge it and take off towards the back.
3. Remove lid of distribution box (lower left part of the vending machine back panel)
4. Insert connection through bushing tube and connect to L1, N and PE. Tighten bushing tube!
   Diagram 7 shows the connecting box with mounted and tightened connecting cable.
5. Re-attach lid of distribution box.
6. Screw support (4) and panel (5) to the back panel.
7. Re-attach rain shield and vending machine back panel in reverse order.

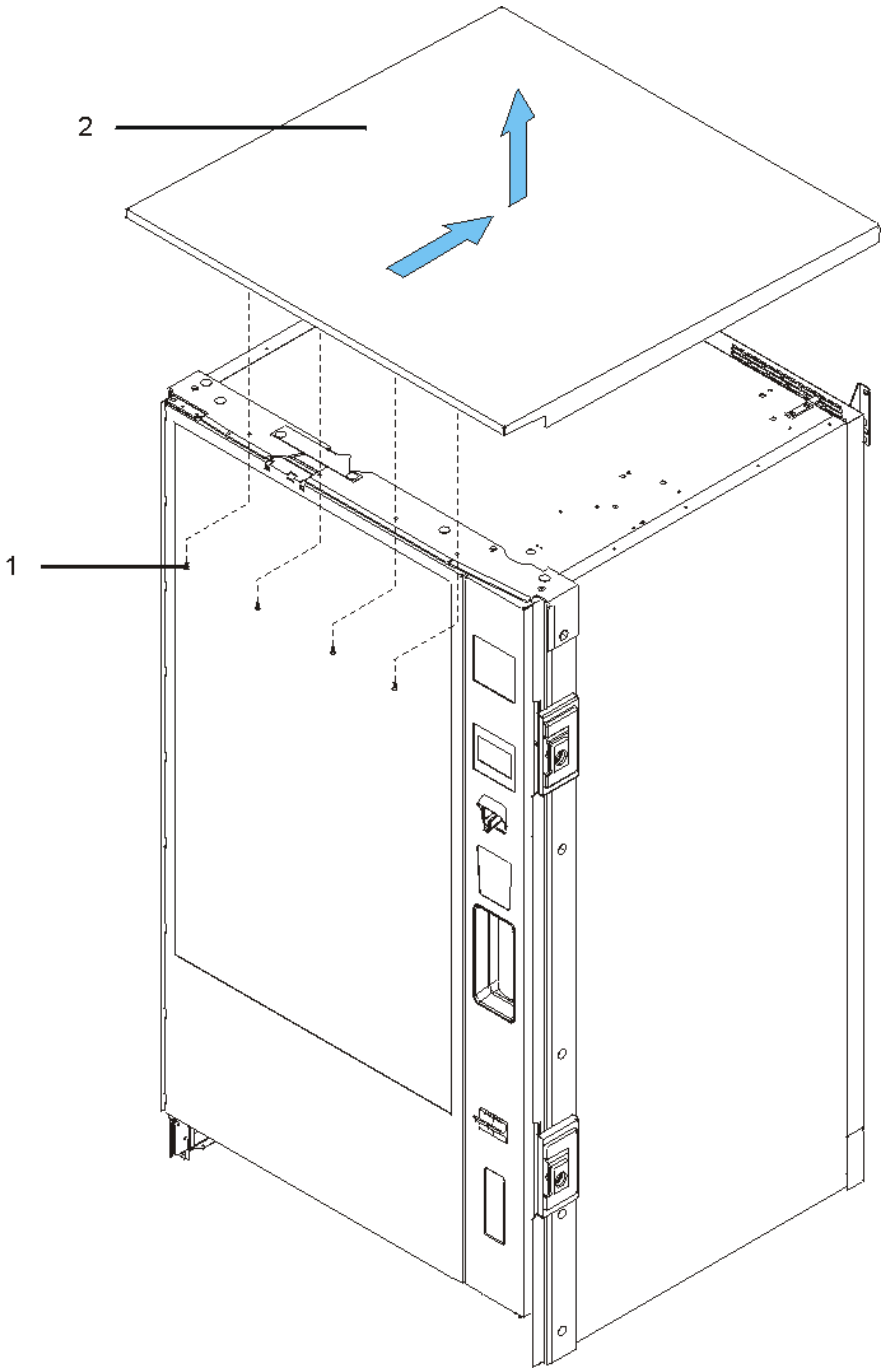


Diagram 6

1 Hexagon screws

2 Rain shield

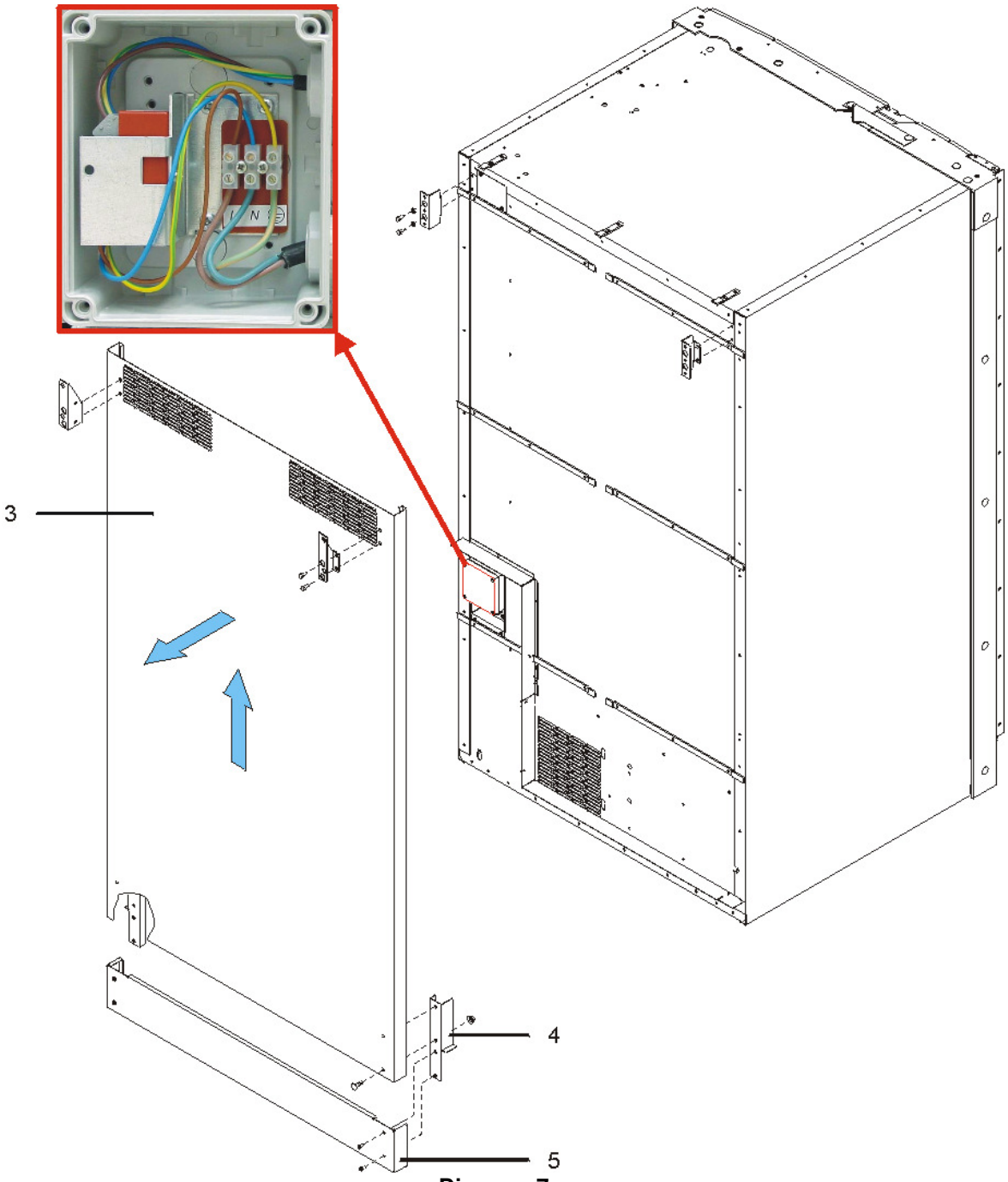


Diagram 7

3 Back panel

4 Support for panel

5 Panel

5.4. Transportation safety device

NOTE
The rubber ring and the securing screw ensure that the metal rope is not unhooked or damaged during transport.
If you transport the machine to another site, the transportation lock must be fixed again.

Remove the securing screw and the rubber ring before commissioning.
If the first compartment is mounted in the uppermost position, it must be pulled out in order to access the securing screw.

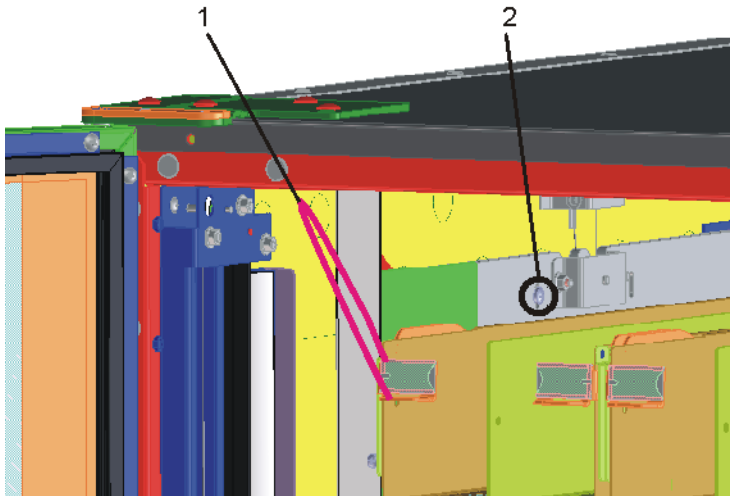


Diagram 8

1 Transportation lock (rubber ring)

2 Securing screw

NOTE
Before the machine is transported with a hand lift truck the kick plate must be removed.

5.5. Fixing the machine

WARNING! Danger of tilting
Risk to life!
- Secure machine to wall or floor

In order to ensure proper and reliable operation, the machine must stand precisely vertically. The feet are height-adjustable and can therefore compensate for any unevenness in the floor.
In order to guarantee free circulation of air for the cooling unit, there must be a gap of 50 mm (2 inches) behind the vending machine. The distance pieces supplied should be used for this purpose.
If it is not possible to secure the machine to the wall, it must be anchored to the floor. Fixing brackets are available as part number 603 01 639 00. At least two fixing brackets must be used diagonally per machine (see Mounting instructions page 22).

NOTE
In order to guarantee proper function of the lock, the front right hand foot should not be under pressure.

5.6. Installation Instruction Floor Mounting

WARNING!
The floor surface must be suitable for floor securing.
Make sure that there are no installations underneath the floor surface (cables, pipes, coil heating etc.).

NOTE
In order to mount the floor-fixing components the machine height must be adjusted to at least 1,900 mm. The machine height may be adjusted by means of the feet.

5.6.1. Indoor machines

1. Position the machine at the place of installation
2. Fix the floor-securing component to the adjusting foot and mark the drill holes.
3. Drill a hole with a diameter of 12 mm at least 90 mm deep into the floor.
4. Clean the drill hole
5. Hammer the threaded floor plug through the floor-securing component into the drill hole. The nut must be flush with the top edge of the thread.
6. Push machine to the place of installation.
7. Tighten the nut (torque 50 Nm), the washer has to be between nut and floor mount. If the torque cannot be achieved no strain may be exerted on the threaded floor plug.

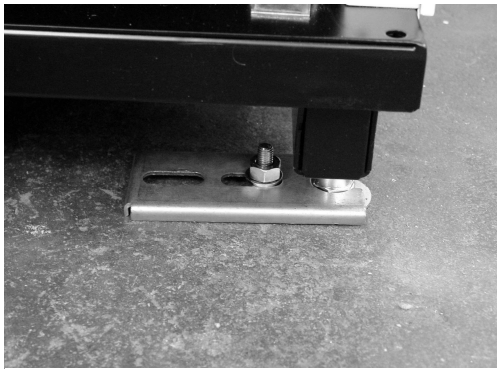


Diagram 9

5.6.2. Outdoor Machines

To secure the machine to the floor two fixing brackets must be used diagonally.

1. Position the machine at the place of installation.
2. With a distance of 72 mm to the adjusting foot, drill a hole with a diameter of 10 mm at least 90 mm deep into the floor.
3. Clean the drill hole
4. Insert washer between screw and floor-securing component. Screw through the floor-securing component into the drill hole.
5. Push machine to desired location.
6. Push the floor securing component above the adjusting foot.
7. Tighten the screw (torque 50 Nm). If the torque cannot be achieved no strain may be exerted on the screw.

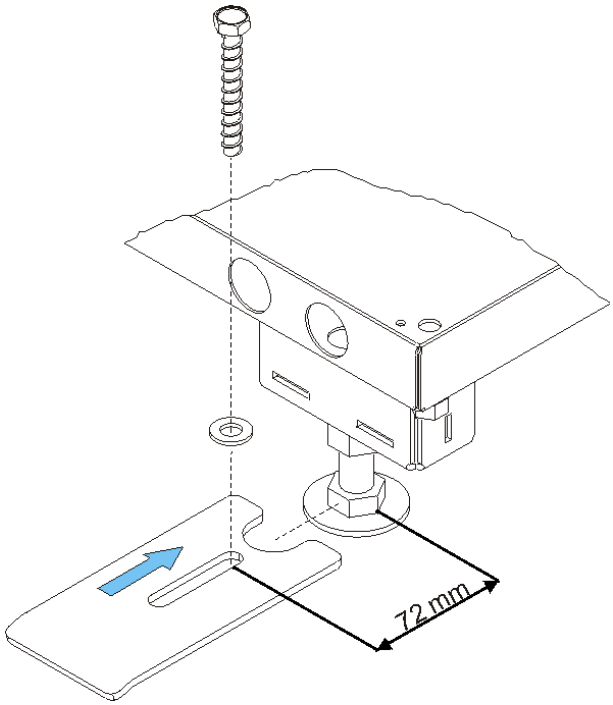


Diagram 10

5.7. Adjust door (outdoor machines)

The locking levers of the theft protection door must be adjusted to ensure easy door opening and closing. But the door may not have clearances when closed.

To adjust the locking levers proceed as follows:

1. Open the theft protection door.
2. Loosen all nuts an the locking lever with a box spanner size 10.
3. Move the locking lever horizontally and vertically until the door can easily be opened and closed.
4. Fix the nuts again.
5. Repeat steps 2 to 4 on the second locking lever.

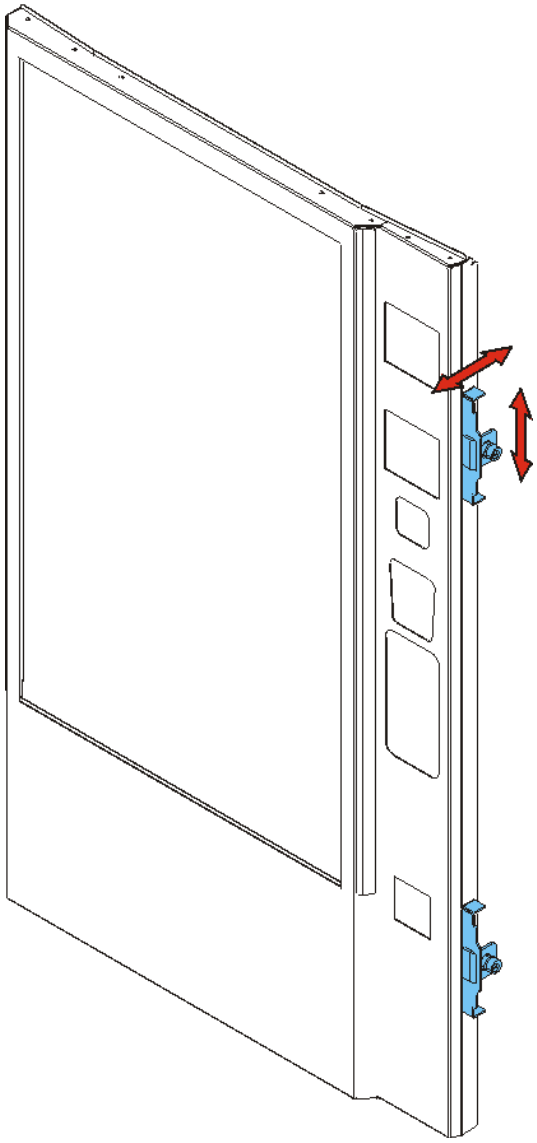
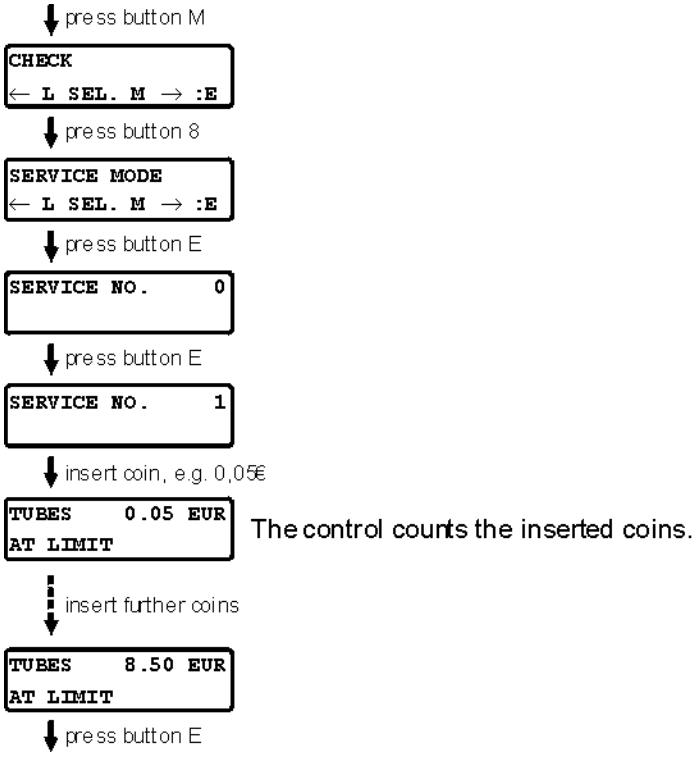


Diagram 11

5.8. Fill coin mechanism

On first-time filling approx. 20 coins should be inserted in each coin tube. The machine is thus operational.



The control counts the inserted coins.

NOTE
The coins can be inserted directly into the coin mechanism. If a limit for coin acceptance is programmed, only the set amount can be inserted. Afterwards button E and the coin return button must be pressed.

6. Control

CAUTION! Electrostatically sensitive components and modules (ESD)
Damage to components!
- Do not touch printed circuit boards and pins on the control

The vending machine control is a microprocessor board with sufficient interfaces to control all machine functions. The control functions may easily be changed by a software upload via a PC or a notebook.
The control can be accessed by pulling out the drawer.

6.1. Buffer battery

There is a lithium buffer battery on the VMC. This ensures that data is retained during transportation or in cases of power failure. Faultless operation is only possible if this battery has sufficient capacity to store programming and statistical data.
Should a data error occur after a lengthy voltage interruption, check the battery. If this is less than 2.8V, install a new battery CR 2032 (Part No. 985 26 436 02).

NOTE
Batteries are consumable parts. No warranty claims may be made. Defective batteries must be disposed of correctly. Observe the regulations for disposal of batteries.

6.2. Programming keys

When the drawer is open four programming keys are accessible. They are labelled with C, L, M and E. The machine is programmed with these keys and the selection keypad.
The programming keys and their functions:

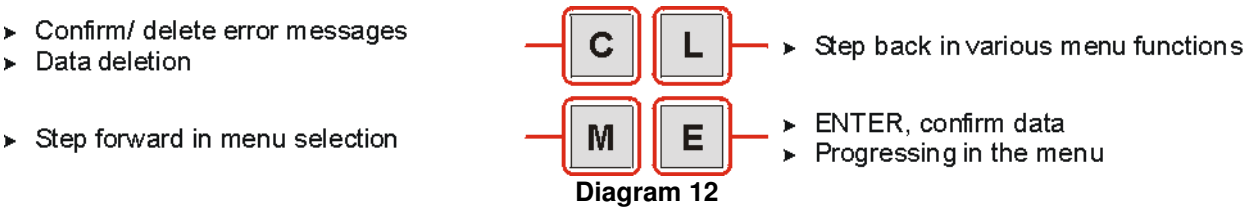


Diagram 12

6.3. Menu selection

Values may be set and changed via the menu selection after pressing key M.
The following information is displayed after pressing M:

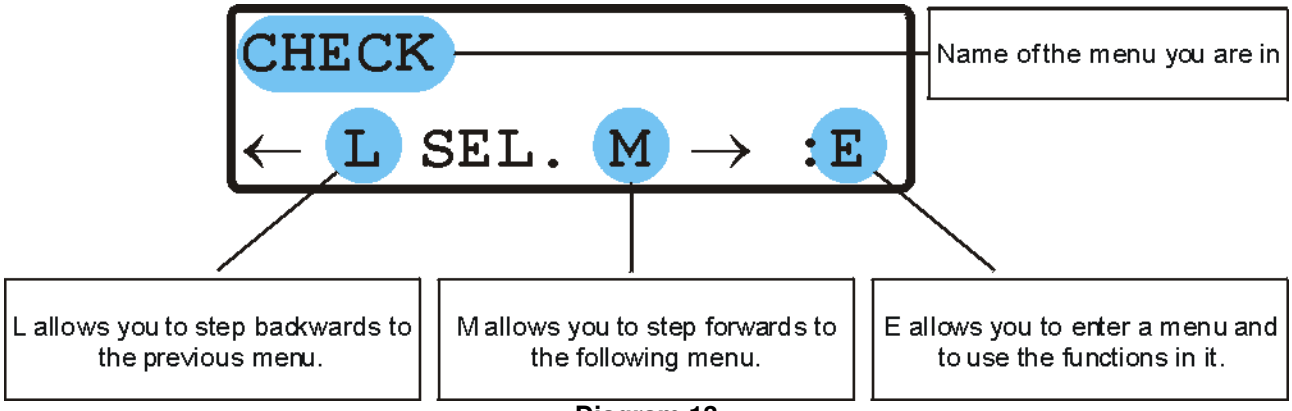


Diagram 13

Each menu can also be entered directly from the menu selection by pressing the corresponding code number for this menu (→ page 28).
To leave a menu, press L and M together. When pressing both keys simultaneously again, the machine returns to normal sales mode. You can leave any menu and go straight to sales mode by pressing the refund button.
If no button is pressed for one minute, the machine returns to vend mode automatically.

6.4. Structure of main menu

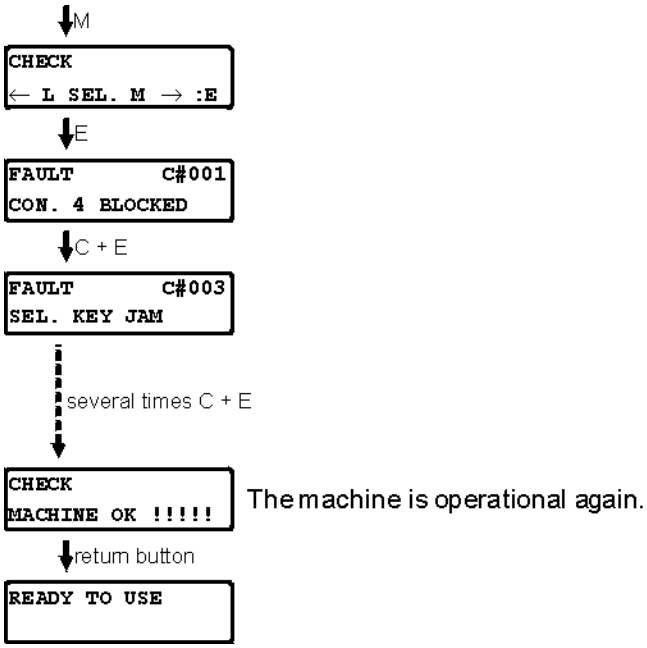
NOTE
When inhibit codes A and B were installed in the installation menu, the marked menus are locked and can only be accessed after the corresponding code is entered.

	Display	Code	Function
0	CHECK ← L SEL. M → :E	-	Error display, deletion of error messages
1	PROGRAMMING MODE ← L SEL. M → :E	B	Assign selling prices Assigning product compartments to the promo-buttons Entering product names for each selection key
2	BEVERAGE ALLOC. ← L SEL. M → :E	A	Electronic regulation of cooling unit Cooling temperature and times
3	TEST VENDS ← L SEL. M → :E	A	Check assignments Checking the vending procedure
4	SHOW STATISTICS ← L SEL. M → :E	A	Display of vending statistics Clear short-term statistics
5	SHOW FULL STAT. ← L SEL. M → :E	B	Display of vending statistics The entire statistics may only be deleted by the manufacturer
6	PROG. TIME/ LOCKS ← L SEL. M → :E	B	Set time, date, inhibit times
7	INSTALLATION ← L SEL. M → :E	B	Setting of country, currency, machine type, machine number, inhibit codes, pre-selection times, credit system, vending mode, coin change parameters, machine options, service telephone number
8	SERVICE MODE ← L SEL. M → :E	B	Testing machine components Reading machine parameters
9	TUBE INVENT. ← L SEL. M → :E	-	Filling and emptying coin mechanisms

7. Menus

7.1. Check

The current machine errors are displayed in words in the Check menu. A current counter status is overlaid with each malfunction.



- Button E acknowledges the error messages.
- Button C deletes the error messages.
  If several malfunctions occur at the same time the next message is displayed following acknowledgement.
- Button 1 indicates the error statistics.
- Button E switches through the error statistics list.
- The return button switches back to vending mode.

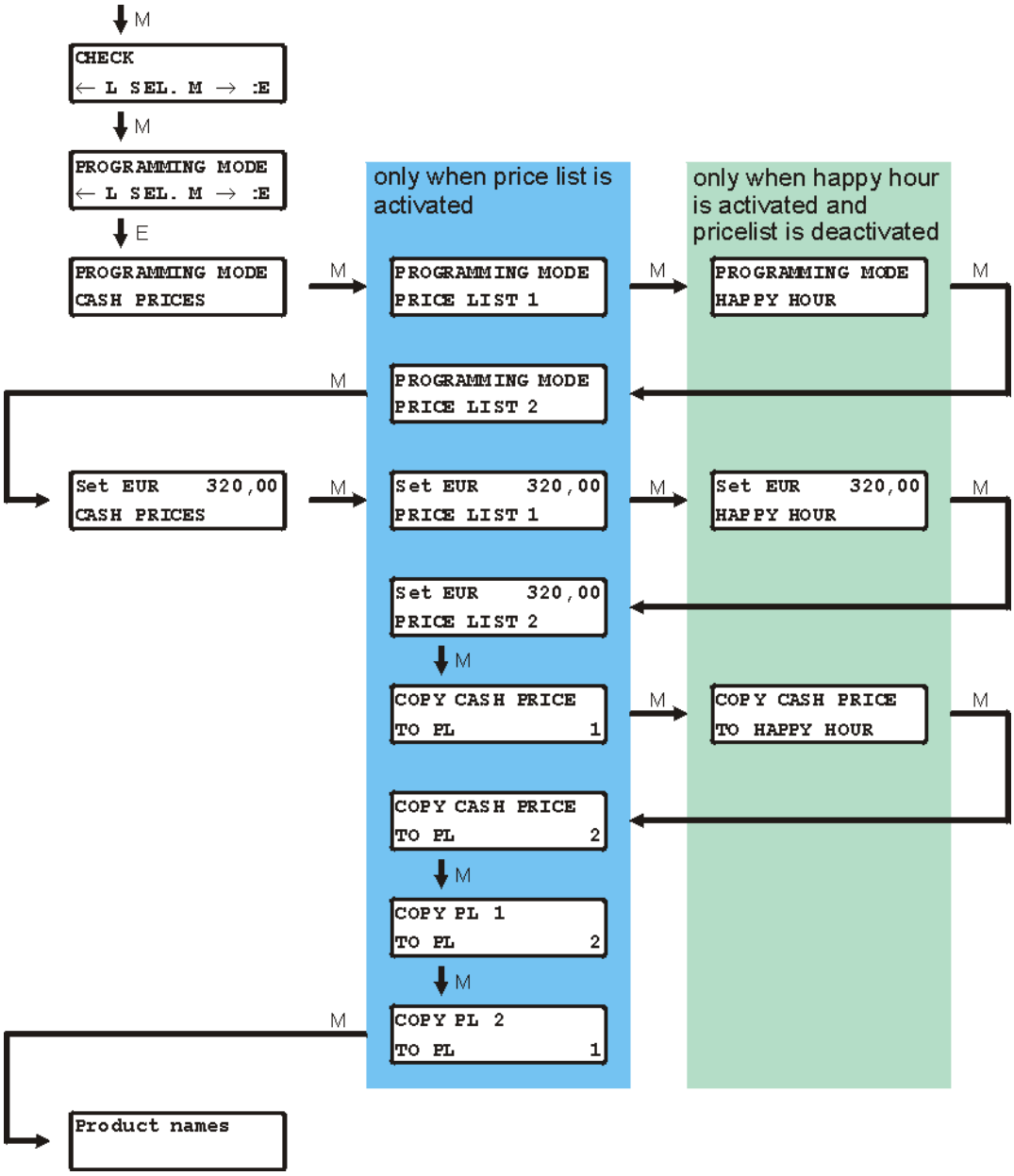
7.2. Programming mode

You can assign up to three different prices to each selection.

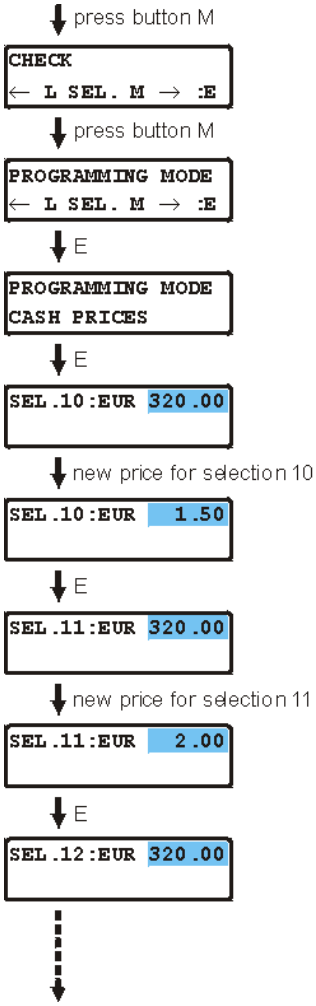
- The normal selling price of the product.
- The Happy hour price: To use this price the happy hour function in the installation menu, submenu Options (→ page 49) must be set to "on". Further different setting must be made in the menu "Prog. time/locks" (→ page 41).
- One price each for price list 1 and price list 2. This function depends on the used card reader. To use this price the function Pricelists in the installation menu, submenu Card system (→ page 46) must be set to "on".

NOTE
Functions "Price list" and "Happy Hour" can't be used simultaneously. To use "Happy Hour" function Pricelists must be set to "off".

7.2.1. Summary



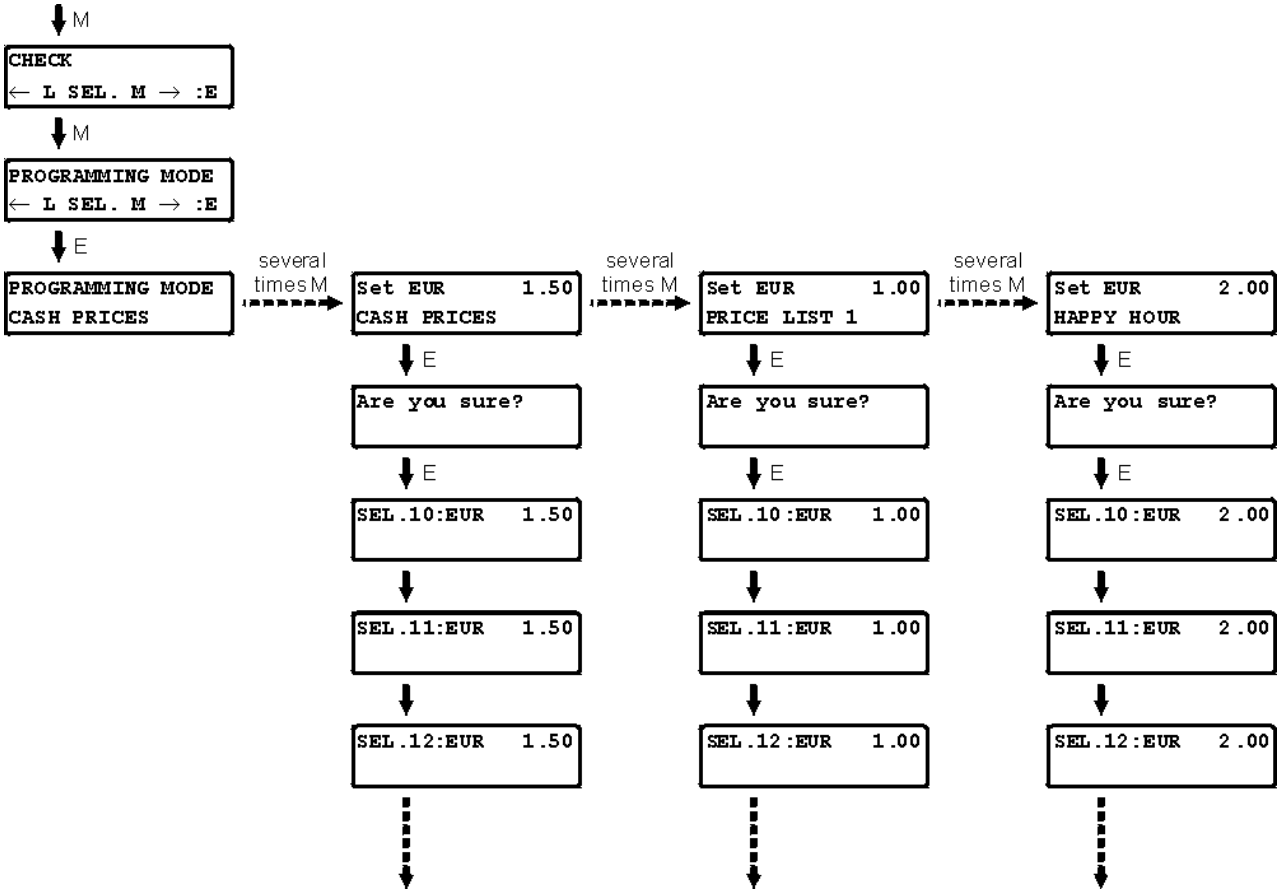
7.2.2. Set prices



Prices for price list 1, price list 2 and happy hour are set with the same procedure in the appropriate sub-menus.

7.2.3. Copy one price for all selections

With this function the price of selection 10 can easily be taken over for all other selections. Thus all products can be sold for the same price.



7.2.4. Copy all prices

With this function all prices can be copied. Here you have the following possibilities:

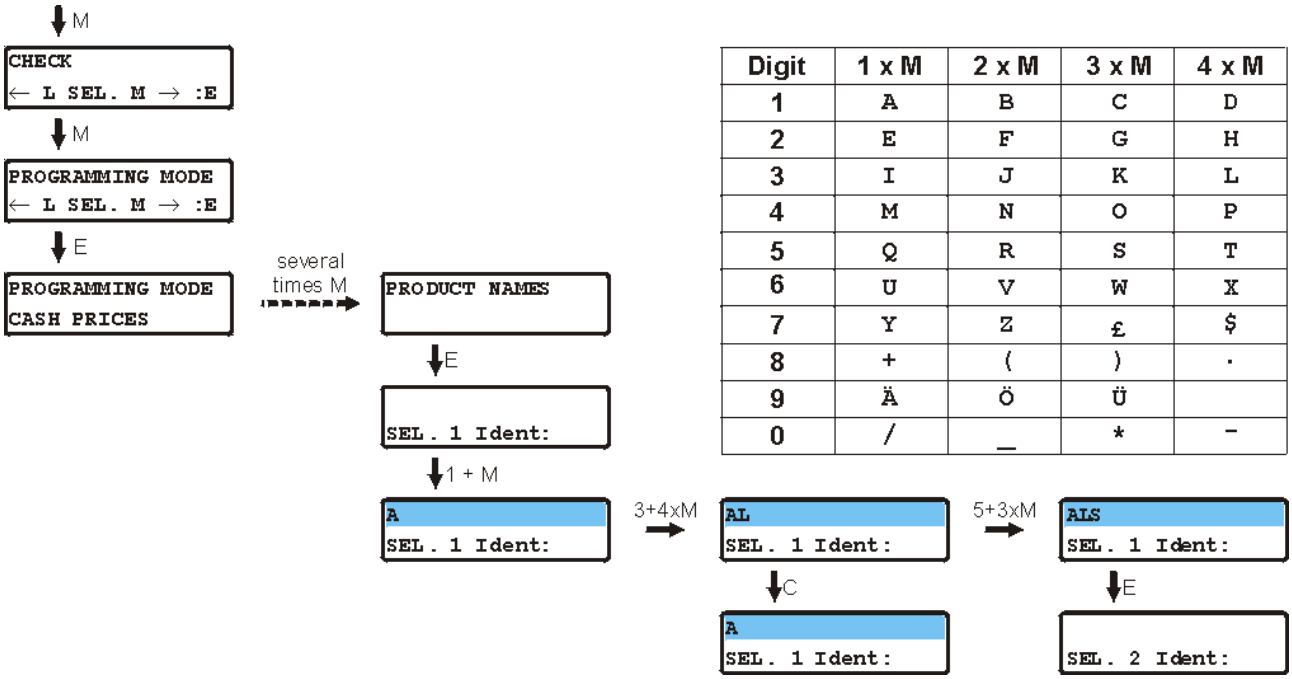
- Copy cash prices to price list 1
- Copy cash prices to price list 2
- Copy cash prices to happy hour
- Copy price list 1 to price list 2
- Copy price list 2 to price list 1

The availability of the individual functions depends on the settings in the installation menu.

7.2.5. Product names

A product name may be assigned to each selection button that is indicated in the display on vending. Product names are entered via the digit keypad.

- Press the appropriate digit button and step via button M to the required character.
- Repeat process until the required text is indicated in the display
- Acknowledge entire text via button E
- Button L deletes the character before the current cursor position
- Button C deletes the entire character string



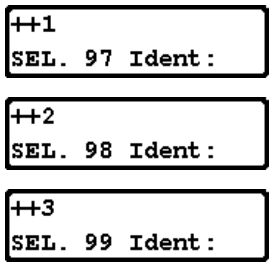
Digit	1 x M	2 x M	3 x M	4 x M
1	A	B	C	D
2	E	F	G	H
3	I	J	K	L
4	M	N	O	P
5	Q	R	S	T
6	U	V	W	X
7	Y	Z	£	$
8	+	(	)	·
9	Ä	Ö	Ü	
0	/	_	*	-

NOTE

The product names of the promo-buttons must be entered as follows:

- ++1 for selection 97 (Promo-button 1)
- ++2 for selection 98 (Promo-button 2)
- ++3 for selection 99 (Promo-button 3)

These are the basic settings which must not be altered.
On page 32 you can read how to program the promo-buttons.



7.2.6. Programming the Promo-Button

Any product may be assigned to the promo-buttons. This is done by assigning the desired chute number to the corresponding promo-button. Selection 97 means the left promo-button, selection 98 the middle one and selection 99 the right one (→ Diagram 14).

1 Display

2 Promobuttons (option)

NOTE
If you program several selections on one promo-button, the products will be delivered alternately from the containers when this promo-button is pressed.

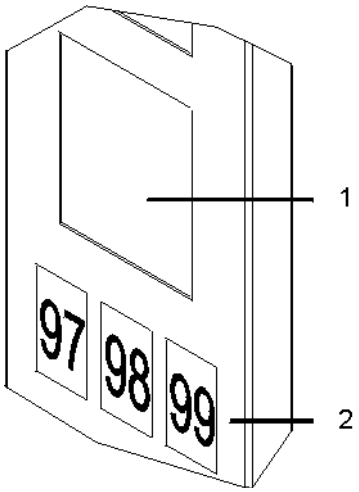
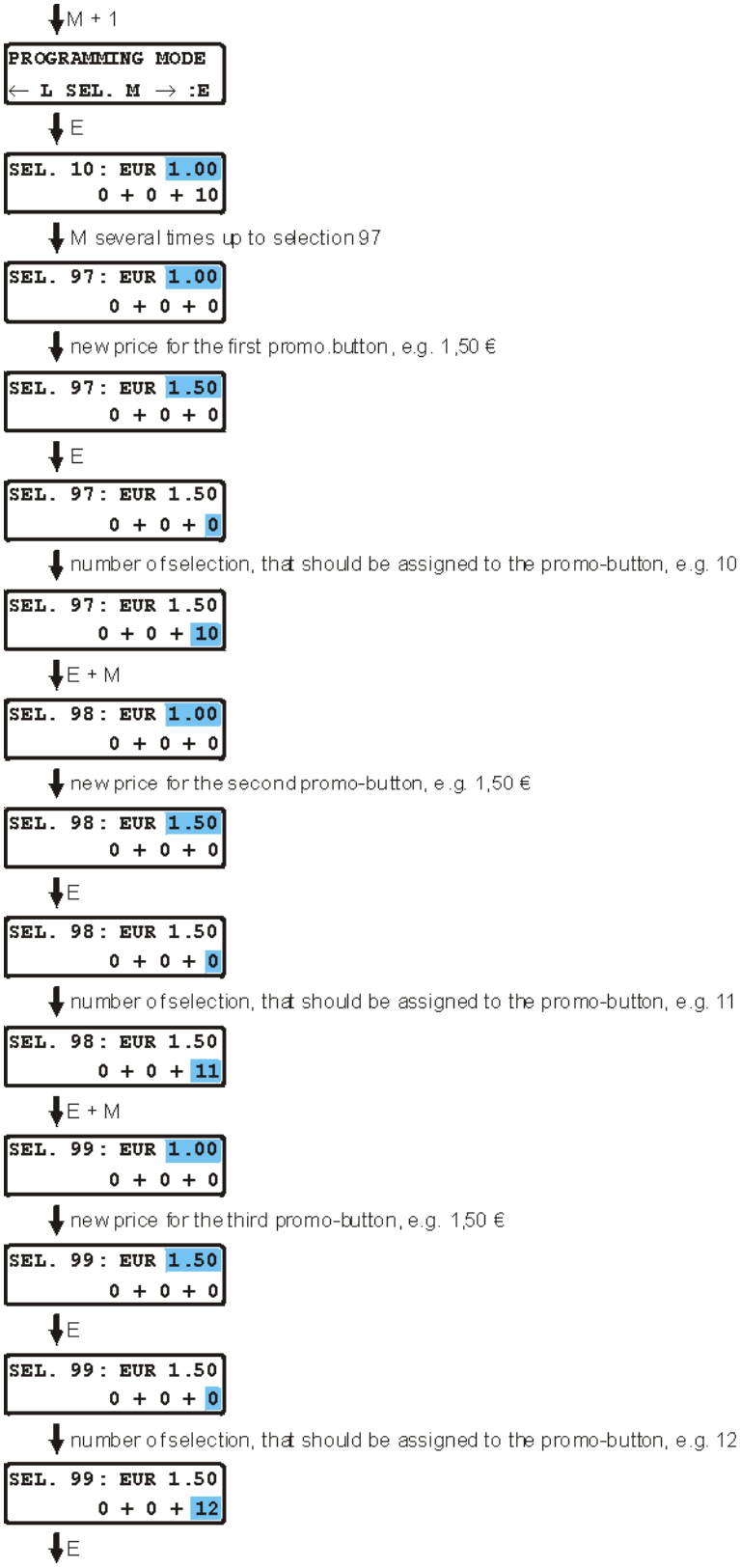


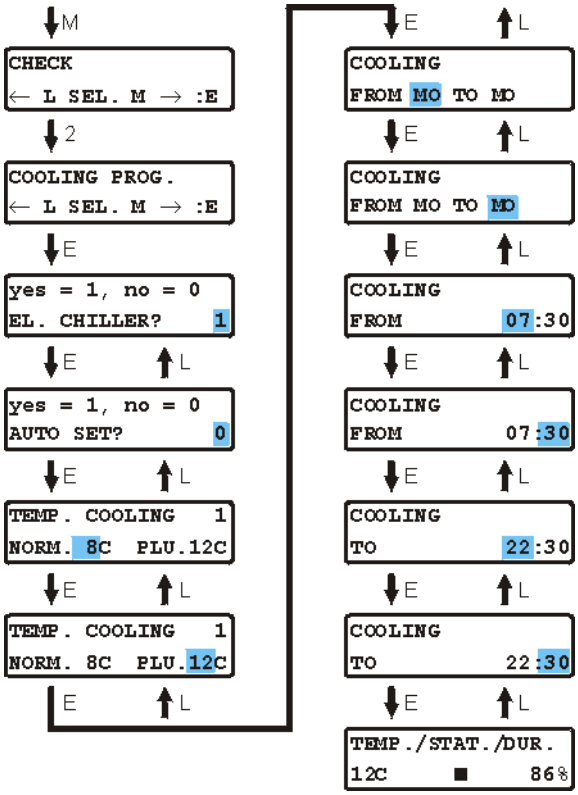
Diagram 14

Procedure

In the following example selection 10 is programmed on the first promo-button (selection 97), selection 11 on the second promo-button (selection 98) and selection 12 on the third promo-button (selection 99).



7.3. Cooling unit



1 → with electronically regulated cooling
0 → without electronically regulated cooling (with thermostat)
Enter 1.

```
yes = 1, no = 0
EL. CHILLER?    1
```

1 → electronically regulated cooling with the following fixed basic settings:
Cooling temperature 8°C, increased temperature 12°C
These settings cannot be altered.
0 → electronically regulated cooling with adjustable settings

```
yes = 1, no = 0
AUTO SET?       0
```

Enter the desired cooling temperature and the increased temperature with the digit keys.

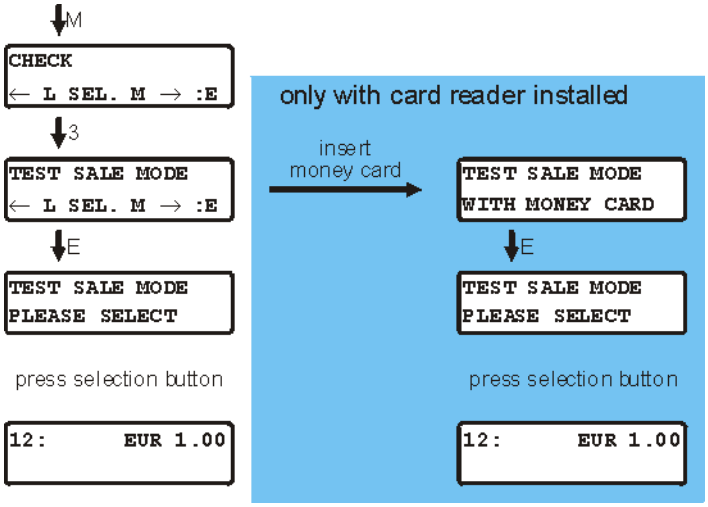
```
TEMP. COOLING   1
NORM.16C  PLU.16C
```

The following data are displayed:
12°C → current temperature in the chilling cabinet
☐ → empty rectangle, cooling off; ■ → full rectangle, cooling on
86 % → Percentage duty cycle of compressor since last power on

```
TEMP./STAT./DUR.
12C     ■     86%
```

7.4. Test vend

In the Test Vends menu the vending transaction may be checked.
The selected product is dispensed free and recorded in a separate statistics memory as a test vend.

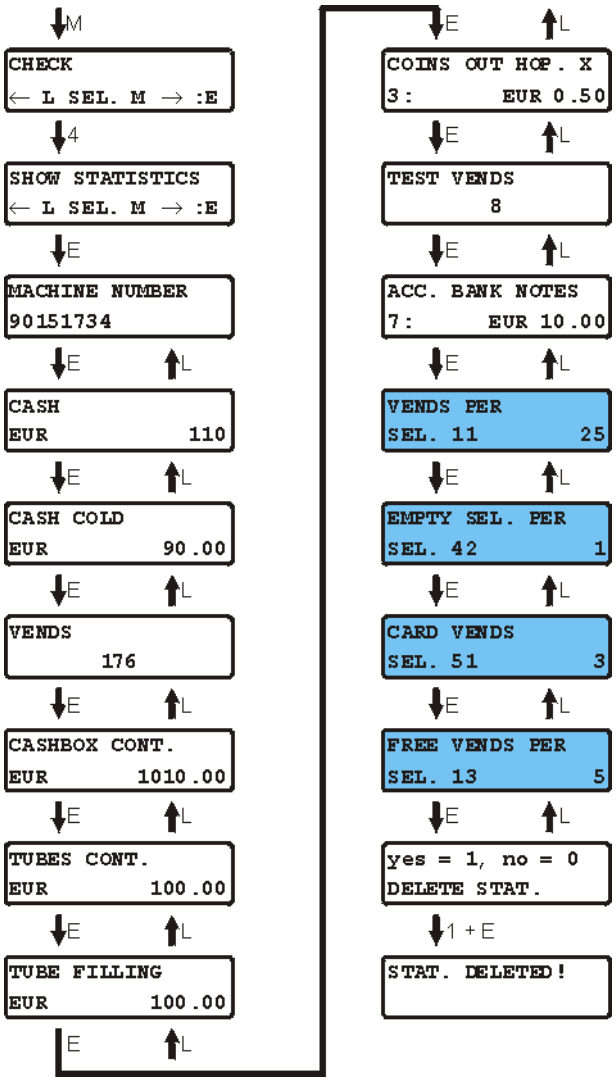


NOTE

- The machine will supply the selected product (unless empty)
- If a test vend is performed with a money card, the amount will not be debited from the card.

7.5. Short-term statistics

Vend statistics are displayed in the Statistics menu. Targeted product supply may be performed via the vend statistics.
If inhibit codes have been entered the statistics may be deleted by the operator via code A.

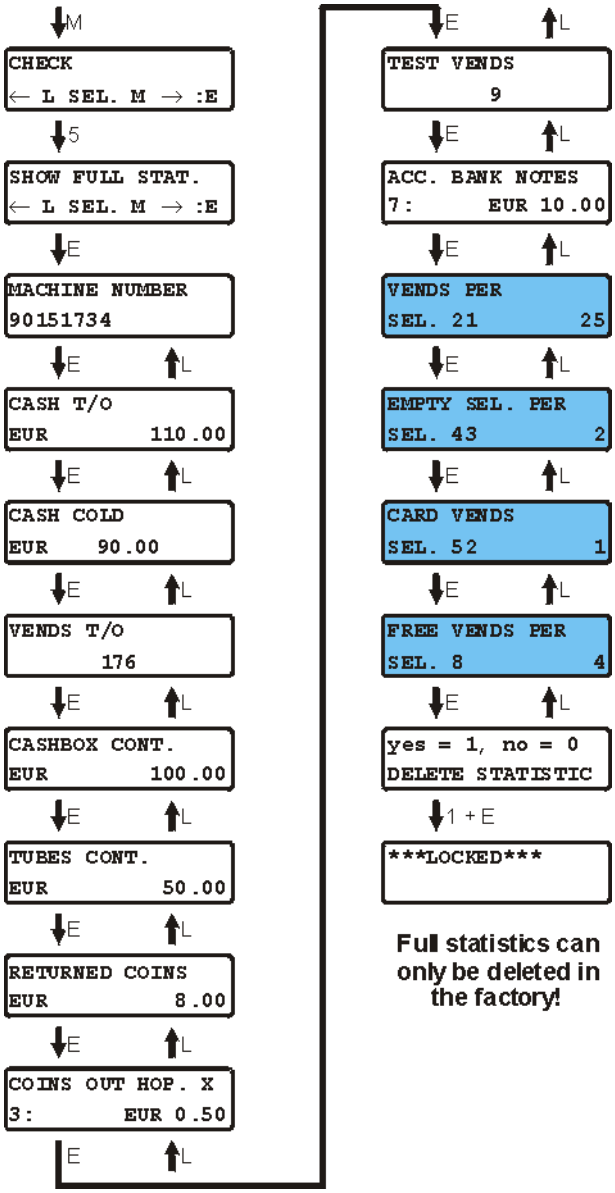


NOTE
The marked fields indicate the individual vend types per selection button.
All values not equal to zero are displayed. As such the display in the vending machine may deviate from the above illustration.

NOTE
The statistics are not actually deleted until the next vend. In the meantime statistics data may be viewed again.

7.6. Show full stat.

In the Total Statistics menu vend values from the first commissioning of the machine are displayed. The total statistics cannot be cleared.

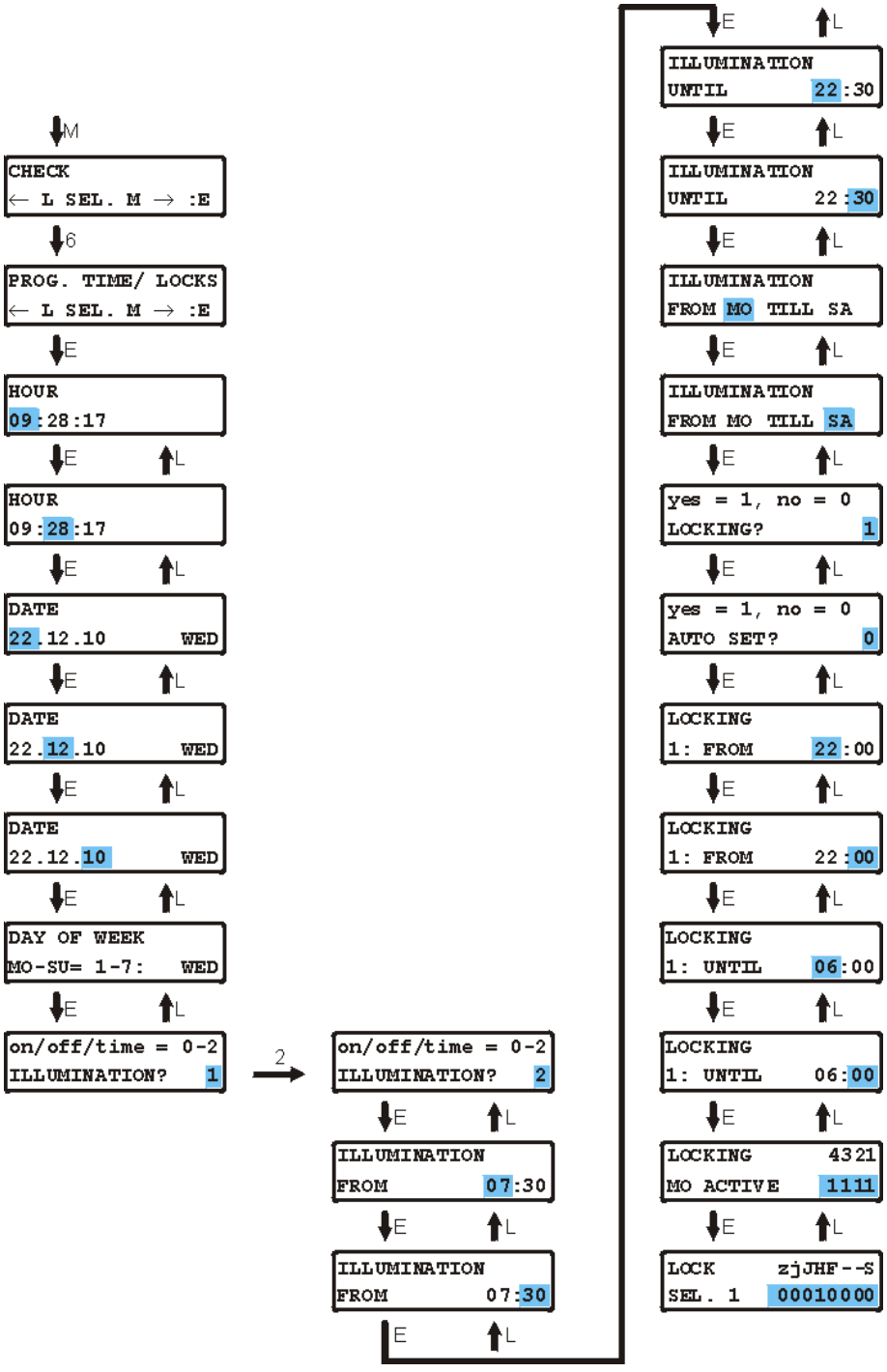


NOTE
The marked fields indicate the individual vend types per selection button.
All values not equal to zero are displayed. As such the display in the vending machine may deviate from the above illustration.

7.7. Clock/Inhibit

The system clock is set to local time in the Clock/ Inhibit menu. Entering is performed via the digit keypad in the appropriate entry field. The weekday is automatically calculated by the control.

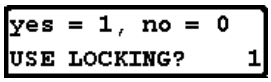
NOTE
If a money card reader is used, the machine will take date and time from this device.



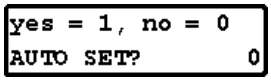
7.7.1. Inhibit times

The operation of the entire machine or only individual selection buttons may be very flexibly set via the inhibit times. A total of 4 inhibit times may be set.

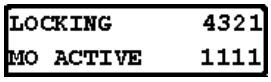
Switch inhibit times on/ off
0 → inhibit times not active, machine is always operational
1 → inhibit times active, machine only operational during the set times



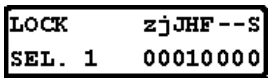
Switch basic values on/ off
0 → inhibit times may be set individually
1 → basic values



Assign validity of the 4 inhibit times for each weekday individually
Here you must always enter a four-digit number. The digit below the locking time number indicates, what applies for this locking time on the weekday.
0 → not valid
1 → valid, inhibit time active
Select button E → weekdays (Mon - Sun)



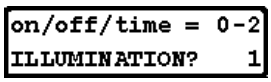
Link selection button function with the inhibit times
Here you must always enter an eight-digit number. Here you may enter only the following numbers:



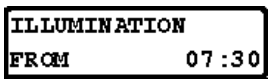
zjJHF--S	
00000000	No inhibiting
00010000	During locking time, this selection is sold for happy hour price. To use this function, the happy hour function in the installation menu, submenu options (→ page 49) must be set to "on".
00001000	During locking time this selection is set to free vend.
00000001	During locking time this selection is locked.

7.7.2. Illumination

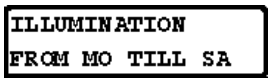
Activate illumination control
0 → illumination off
1 → illumination always on
2 → illumination controlled by timer



Set the period during which the illumination is switched on.



Set the days on which the illumination is switched on.
Entering of the weekdays is via the digit keypad.
(1 = Mon, 2 = Tues, 3 = Wed, 4 = Thurs, 5 = Fri, 6 = Sat, 7 = Sun)

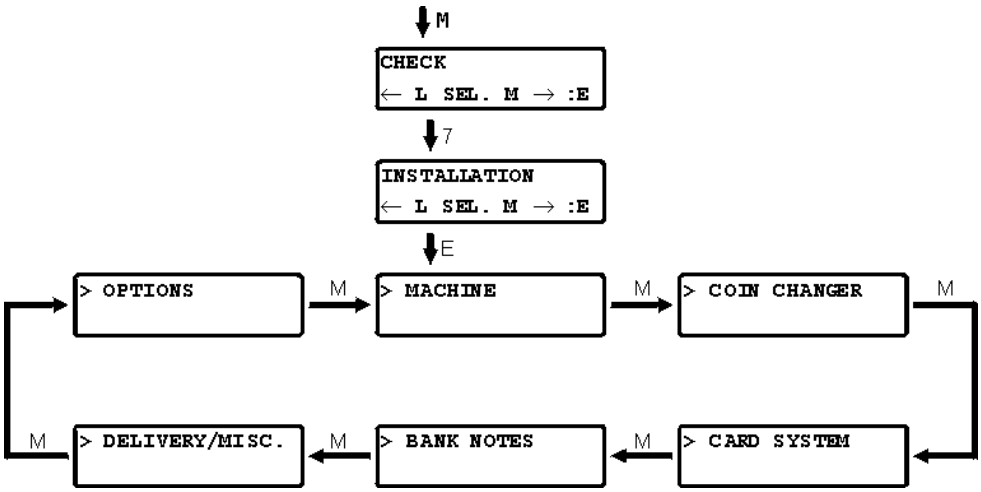


7.8. Installation

In the Installation menu the machine parameters are set. The Installation menu is divided in the submenus machine, coin changer, card system, bank notes, delivery/miscellaneous and options.

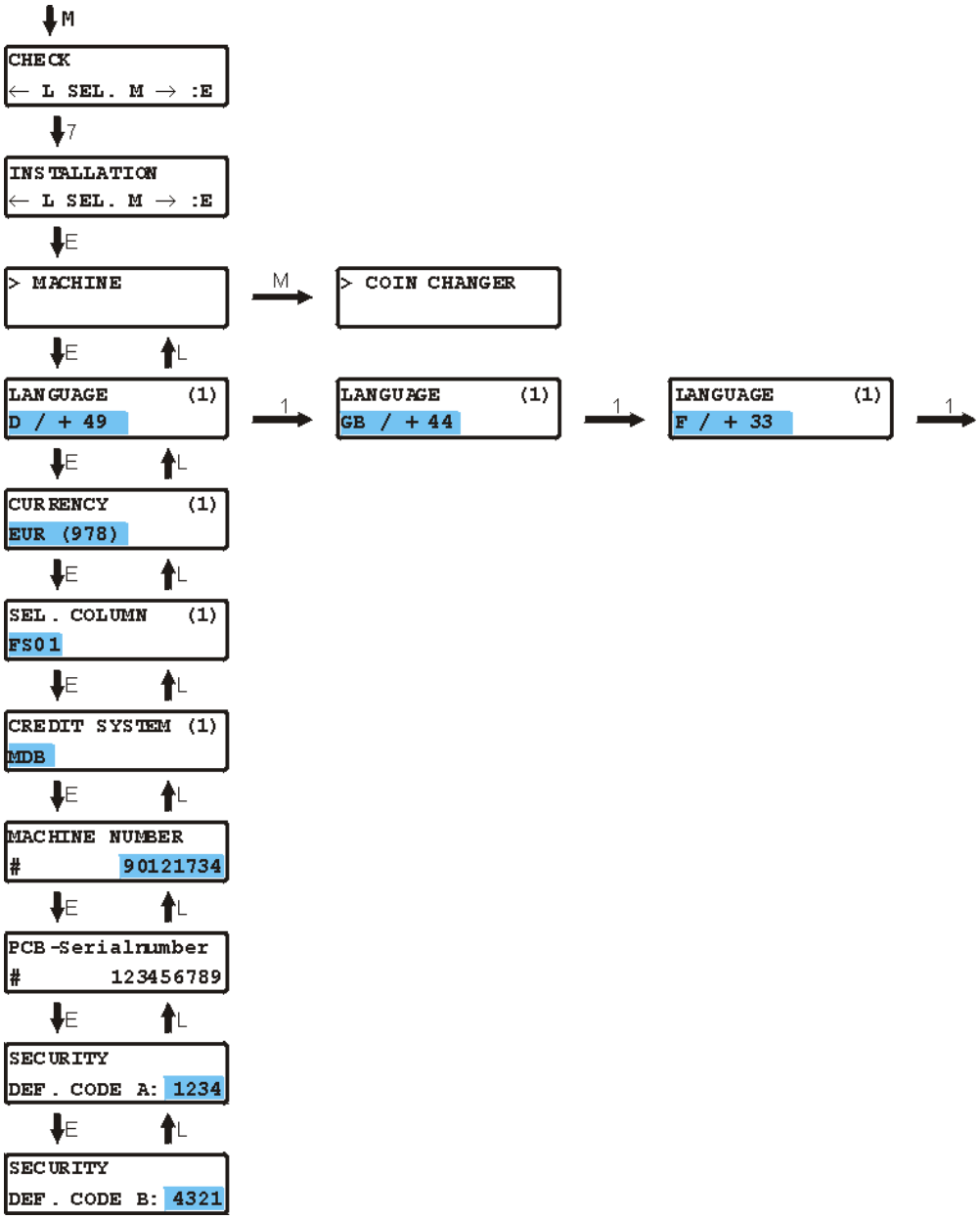
7.8.1. Summary

Via button M you can select between the sub menus. Press button E to open a submenu.
The availability of various functions in the submenus is depending on the connected credit systems.
In the fields of the submenus each next possibility may be selected by pressing key 1. Confirm your selection by pressing button E.



7.8.2. Submenu machine

In the submenu machine you can set the required language, currency, credit system an inhibit codes.

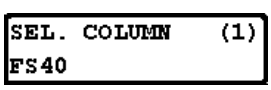


Language change

When changing the language the following values are set from the program data:

- Currency of the country
- Messages (errors, instructions, menu...) are displayed in the respective language immediately after the change.

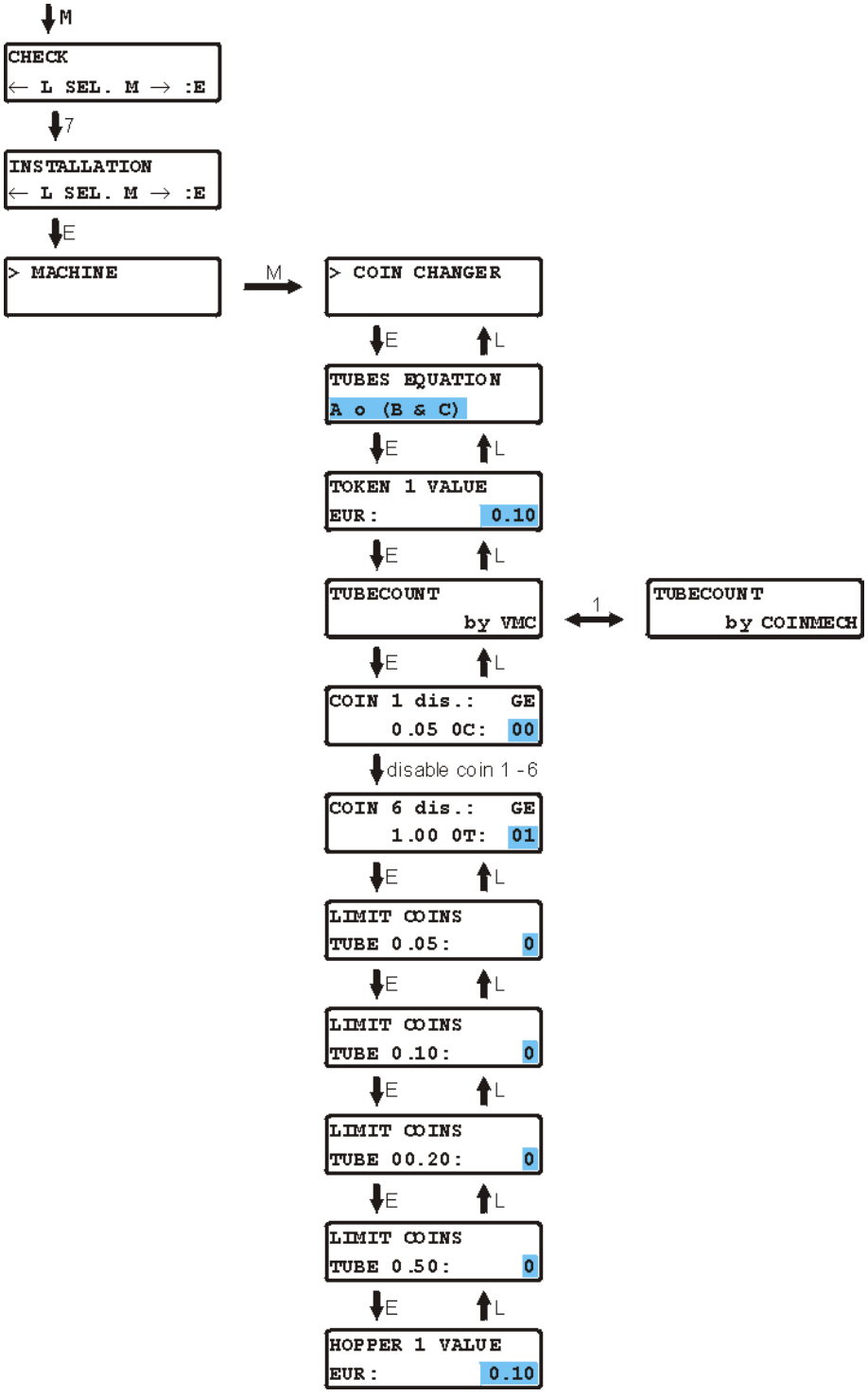
FS40 must be set.



Credit system

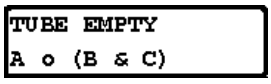
MDB must be set.

7.8.3. Submenu coin changer



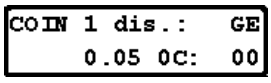
Tube empty message

If the refund tubes are empty according to the logic link set here, the message „No coin refund“ is indicated in the display.
Is not displayed with AUTO CONFIG or MDB.
A → tube with the lowest coin denomination



Inhibit coins

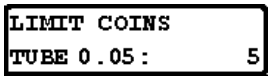
The coin can be inhibited with the keys 0 and 1. Its value (0.05 → 5 Cent) and the number of coins in the tube or in the cash box will be displayed.
0T → no coins in the tube; 0C → no coins in the cash box
Here you must always enter a two-digit number. Here you may enter only the following numbers:



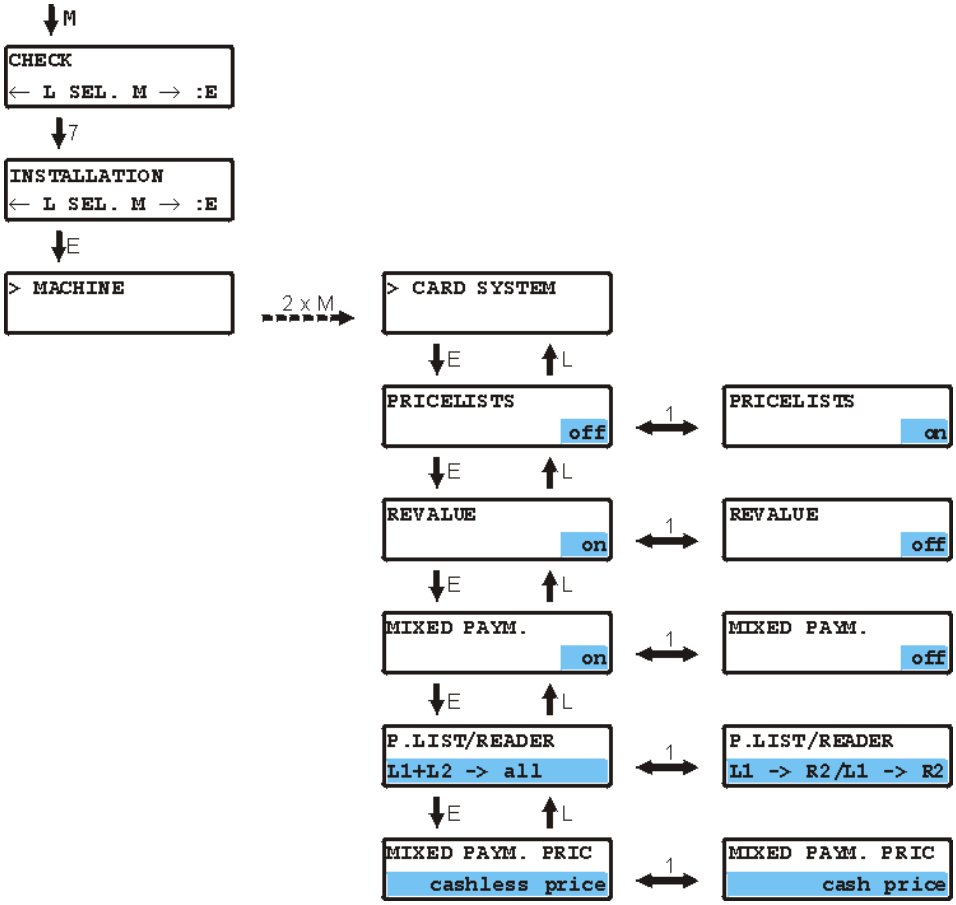
00 The coin will always be accepted.
10 The coin will not be accepted when "no change" is displayed.
01 The coin will be accepted when "no change" is displayed.
Press button E to display step by step all coins that the coin mechanism accepts.

Minimum number of coins

The minimum number of coins of the value shown that must be in the coin mechanism, is set with the digit keys. According to these settings the coin mechanism is filled or emptied in M9 (→ page 55).



7.8.4. Submenu card system



Pricelists

When setting "on" here, you can assign two different prices to each selection. The two prices are set in the menu "Programming mode" (→ page 30).
This function depends on the used card reader.
In addition, this function can be used for price lines in BDV/Executive. Here the prices are stored in the coin mechanism. On the control the corresponding price line must be programmed to the selection.

Revalue

With this option you can allow or inhibit revaluing credit on a card. This function depends on the used card reader.

Mixed paym.

When setting to "on" here mixed payment, e. g. with coins and card, is possible.

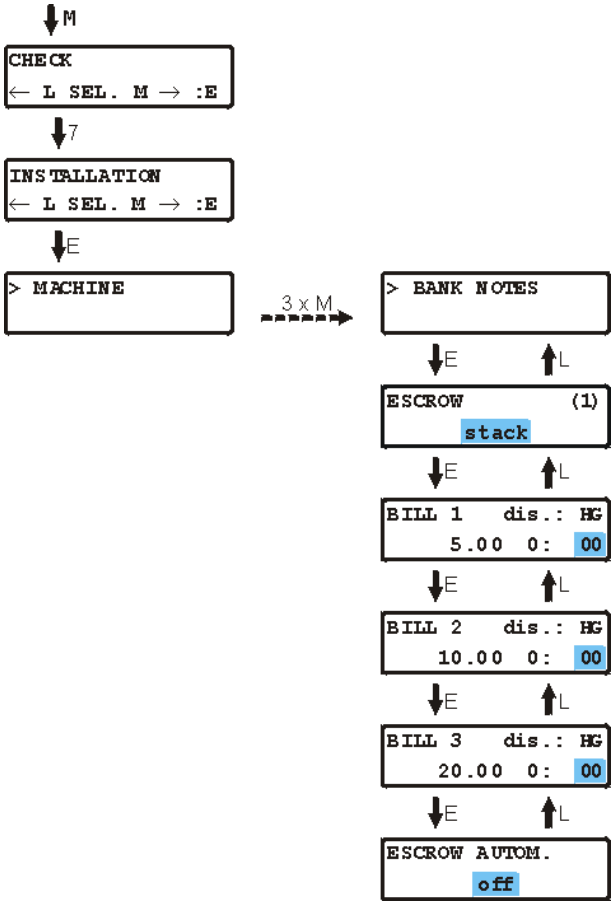
P.List/Reader

This function is only relevant when two card readers are connected.
All: Both price lists are valid for card reader 1 and card reader 2.
L1->R1/L2 ->R2: Price list 1 is valid for card reader 1, price list 2 is valid for card reader 2.

Mixed paym. Pric.

Here it can be set which price is to be used for mixed payment.
Cash price: The cash price set in menu "prices/assignment" (→ page 30) is used.
Cashless price: The price set in menu "prices/assignment" (→ page 30) for the corresponding price list is used.

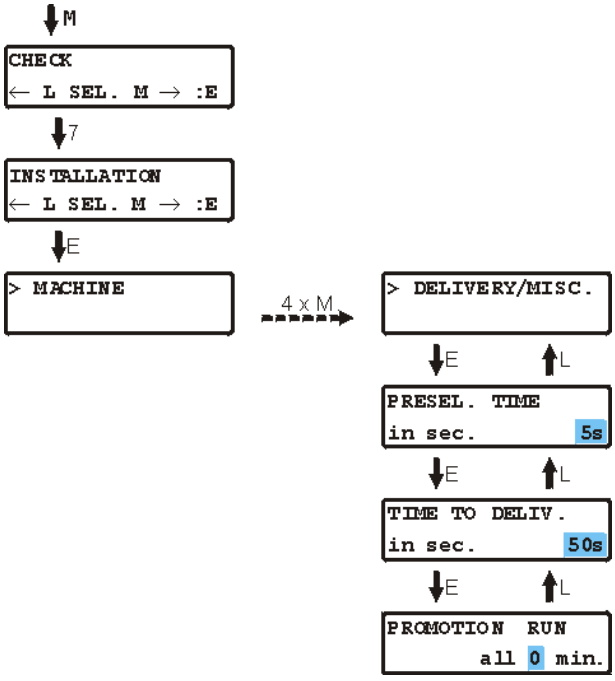
7.8.5. Submenu bank notes



Escrow

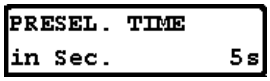
This function only appears if a banknote reader is installed.
If the setting is "normal", the last banknote is returned in case of an incorrect vend.
This is not possible with the setting "stack".

7.8.6. Submenu Delivery/Misc.



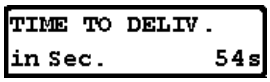
Pre-selection times

During the time set it is possible to choose before inserting coins. Enter 0.



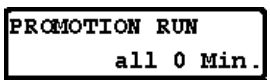
Time for dispensing

If the delivery unit flap is locked, it is unlocked for the set time after product dispensing.
Here you can enter a value between 10 and 200.

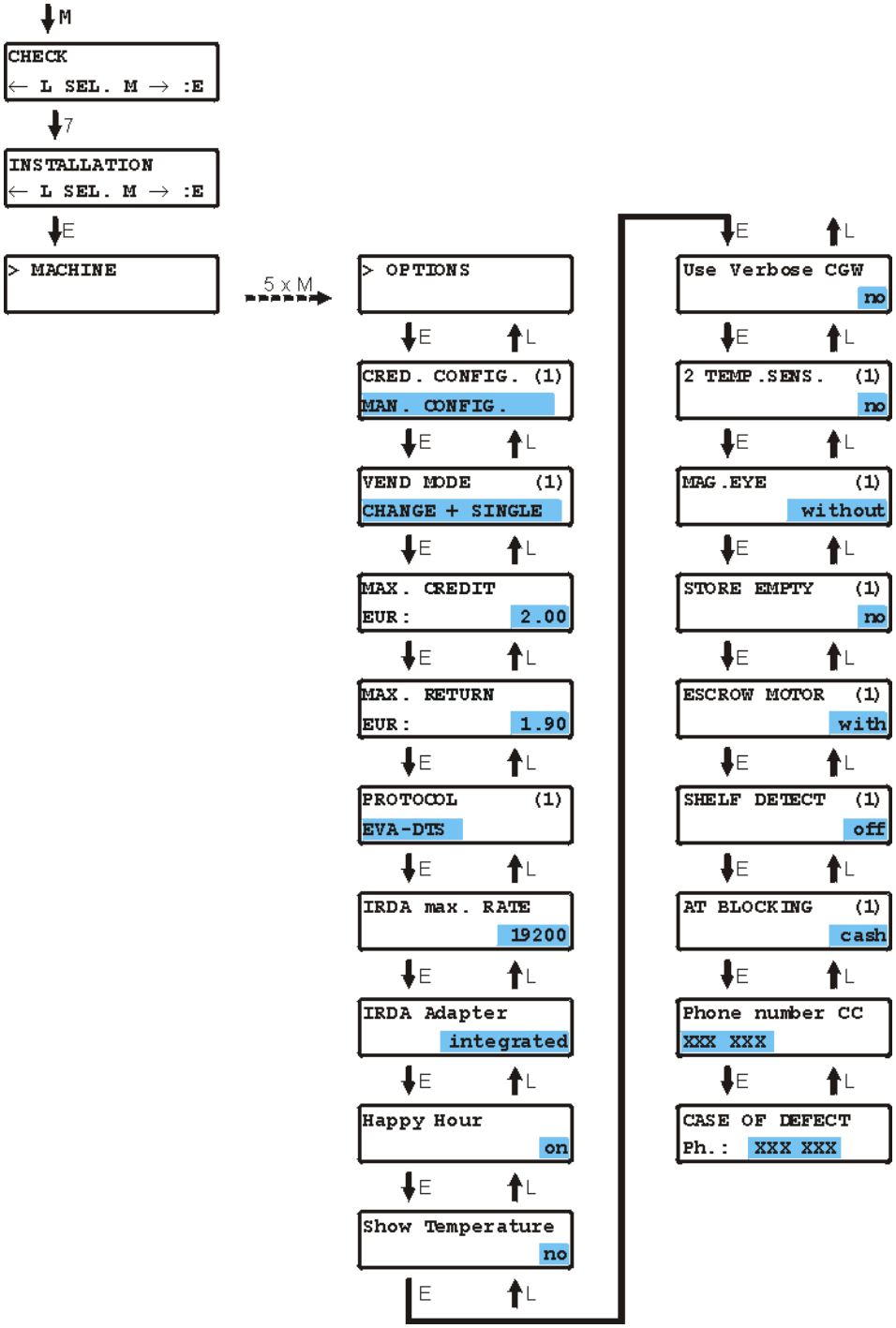


Advertising run

At this point you can program the frequency of advertising runs.
With the setting 0 minutes the advertising run is deactivated.



7.8.7. Submenu options



Cred. Config.

Automatic or manual setting of the coin switching device configuration
Some of the following fields appear only if you enter "MAN. SETTING" here.
For further information please refer to the manual of the coin mechanism.

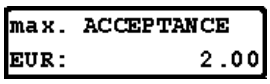
Vending mode

Setting of the required vending mode

COMPV. Compulsory vending:	After coin insertion at least one product must be bought before coins are refunded.
COINR (Coin return):	No product need be bought, on aborting coins are refunded. With this setting the machine may be misused as a coin changer.
MULTIVEND (Multiple vend):	In the case of over-payment the machine expects further selection. Aborting and refunding is possible.
SINGLEVEND (Single vend):	In the case of over-payment refunding is automatic following product selection.

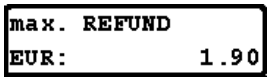
Maximum acceptance

Setting the maximum acceptance of coins
Is not displayed with AUTO CONFIG.



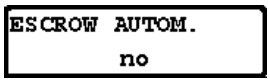
Max. refund

Setting the maximum refund of coins
Is not displayed with AUTO CONFIG.



Automatic coin return

This setting is only operational if vending mode "Multivend" is set.
If the setting here is "on", the change will be returned automatically, i.e. without pressing the coin return button, as soon as the credit is less than the amount set in "maximum refund".



Happy hour

When setting happy hour to "on", different selections can be sold for another price for a certain time.
The normal price and the happy hour price are set in the menu "Programming mode" (→ page 30). The happy hour time and for which selections it applies is set in the menu "Prog. time/locks" (→ page 40).

IRDA max. rate

Data transfer rate of IRDA interface on the display can be selected between 19,200 Bit/s and 57,600 Bit/s.
Factory-provided it is set to 19,200.

IRDA adapter

External/cable: is necessary for example when the machine is to be read out via a DEX/UCS interface connected to the display.
Integrated: standard setting, machine is to be read out via the integrated IRDA interface.

Use Verbose CGW

The setting must be "no".

Light bar

The setting must be "without".

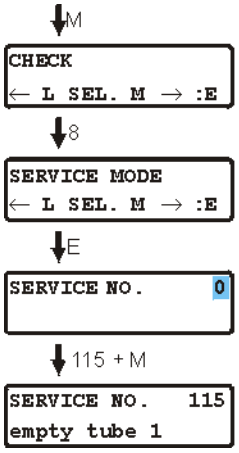
Empty memory

The setting must be "no".

7.9. Service

In the Service menu all important machine parameters are displayed. Service mode provides support during error location and machine maintenance.
Various functions may be tested and the coin changer may be emptied.

7.9.1. Empty tubes



	all coins	single coins
Tube 1	115 M	105 M
Tube 2	116 M	106 M
Tube 3	117 M	107 M
Tube 4	118 M	108 M
Tube 5	119 M	109 M

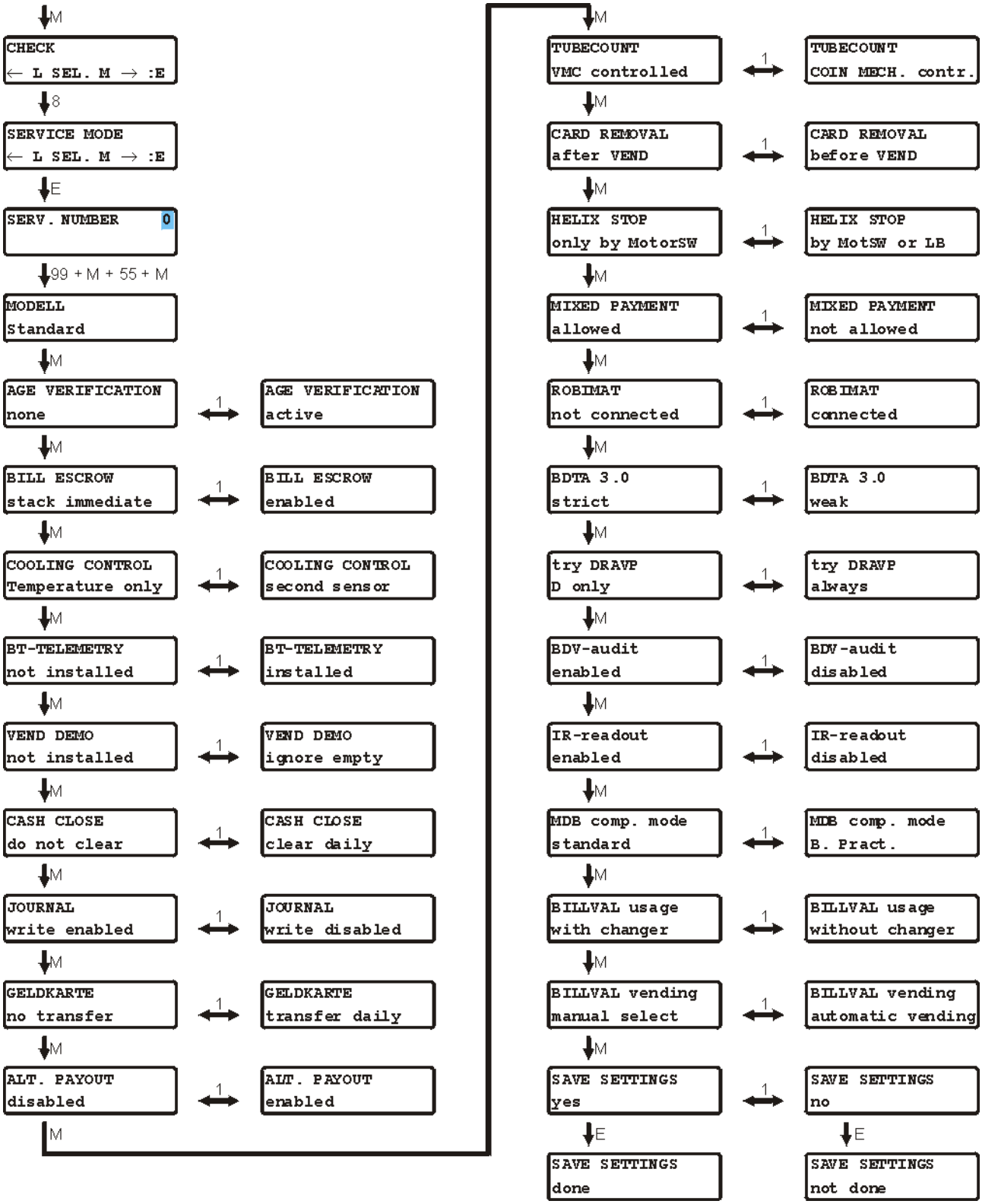
The tube contents are emptied.

7.9.2. Service functions

There are three categories of service codes: M, double M and L-functions.

Number	Display	Note
101 – 103M	take out single coins from the tubes of a 3-tube coin changer	If coins remain in the tubes they must be removed via the service keypad of the coin switching device (MSD). The assignment of the coins to the tubes is specified on the MSD manufacturer's type plate.
105 – 109M	take out single coins from the tubes of a 4-/5-tube coin changer	
111 – 113M	take out all coins from the tubes of a 3-tube coin changer	
115 – 119M	take out all coins from the tubes of a 4-/5-tube coin changer	
201M	Check cooling unit	CAUTION: Do not do this test several times in a row, because the condenser would not start against the mounted pressure.
203M	Check illumination	
204M	Check evaporator fan	
214M	Configuration Reset	The chutes will be assigned to the motors in accordance with the type that has been entered. Prices will not be altered
1L	Display of processor voltage	
5L	Check temperature and temperature sensor	If a temperature of 99°C is shown, the sensor or the supply line of the control is defective. The reason could be a short-circuit or an interruption.
21L	Display of software version	
22L	Display of run time of the control	
24L	The run time of the compressor is displayed in hours and minutes	
29L	Display of code word entered	
91L	Display of all active MDB components	
99M81M	Generation of data reset	CAUTION: Clear this manually caused error and re-program the control!

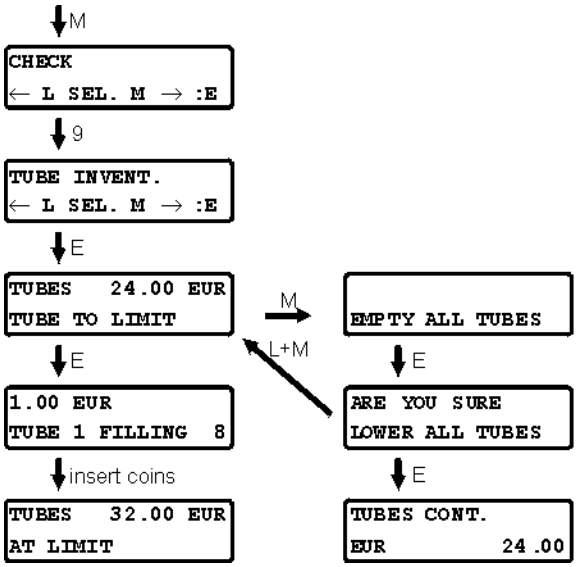
7.9.3. Patch Menu



Menu text	Explanation	possible settings
AGE VERIFICATION	activates protection of minors with prepared SW	none, active
BILL ESCROW	activates escrow with bank note reader Should be set in the installation menu!	stack immediate, enabled
COOLING CONTROL	activates cooling control for fresh food vending	temperature only, second sensor
BT-TELEMETRY	activates special treatment BT telemetry	not installed, installed
VEND-DEMO		not installed, ignore empty
CASHCLOSE	activates deletion of statistics when cashing-up at midnight	do not clear, clear daily
JOURNAL	deactivates writing of journal at Executive and BDV	write enabled, write disabled
GELDKARTE	activates transmission of sales with money card when cashing-up at midnight	no transfer, transfer daily
ALT. PAYOUT	activates alternative payout for MSD. MSD decides, which coins are paid out.	disabled, enabled
TUBECOUNT	activated: tube level is not counted by MDB, but taken over from the MSD. The tube level transmitted by MSD is assumed payable.	VMC controlled, COIN MECH contr.
CARD REMOVAL	activates card before product in connection with protection of minors	after VEND, before VEND
HELIX STOP	no function	
MIXED PAYMENT	deactivates mixed payment	allowed, not allowed
ROBIMAT	Robimat lift control is recognised automatically	not connected, connected
BDTA3.0	display texts don’t follow BDTA 3.0 strictly	strict, weak
try DRAVP	Protection of minors is performed following protocol DRAVP.	D only, always
BDV-audit	deactivates audit function in BDV	enabled, disabled
IR-readout	deactivates IR data transmission	enabled, disabled
MDB-comp. Mode	MDB best practice	standard, B.Pract.
Billval usage	no function	
Billval vending	no function	

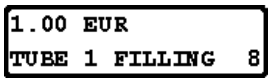
7.10. Tube inventory

In the tube inventory menu the individual tubes of the coin mechanism can be filled in accordance with the minimum number of coins set in M7 (→ page 45). In addition the coin mechanism can be emptied completely.

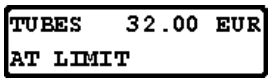


All tubes are emptied completely.

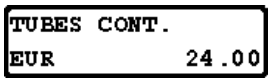
The surplus coins are ejected
Display of coin value in tube 1 and the coins to be filled



The current tube status is displayed.



The tube content is displayed and all tubes are emptied completely.



8. Software update

8.1. SUE-Control

8.1.1. With programming box

NOTE
When the software is exchanged, data may be lost in rare cases.
Therefore we advise you to read out the configuration of the machine and note it down before the software update.

1. Disconnect the machine.
2. Unplug all credit systems connected to the MDB.
3. Plug in the programming unit at the MDB plug of the control.
4. Switch the machine on again.
5. Press button E on the programming unit.
   „PLEASE WAIT“ is displayed. After about 2 to 3 minutes the software is uploaded and the message "SW Upload ok" is displayed. The current software version is displayed and the machine will stop operation.
6. Disconnect the machine.
7. Unplug the programming unit.
8. Plug the credit systems back in.
9. Switch on the machine and go to the Service menu (→ page 42).
10. Enter 99M81M in the service menu.
    This will clear the RAM and a dummy data error 81 is caused.
11. Go to the check menu (→ page 29) and delete the data error 81 by pressing buttons C and E.
12. Reprogram the vending machine and re-enter the data you read out before.

8.1.2. With PC

NOTE
A PC or a laptop computer with the programme "serwin.exe", a USB-dongle and a MDB-cable are required to load software onto the SUE-control.

1. Switch off the machine.
2. Unplug the MDB plug on the SUE-control.
3. Connect the MDB-cable to the SUE-control and the USB-dongle.
4. Insert the service key.
5. Switch the machine on.
6. Connect the USB-dongle to a free USB-interface at the PC.
7. Start the programme "serwin.exe" (→ Diagram 15) on the PC.
8. Click on "Select file".
   Select the directory where the new software is stored. Select the software version and click on "Open".
9. The menu bar "Interface" shows a list of all COM-interfaces available. The virtual interface to which the dongle is connected, has the appendix "USB".
10. After all settings have been done, click on "Start Upload" in order to start the software upload.
    When the upload is finished, a message is displayed accordingly.
11. Switch off the machine.
12. Remove the MDB-cable and connect the MDB-plug to the SUE-control again.
13. Switch on the machine.

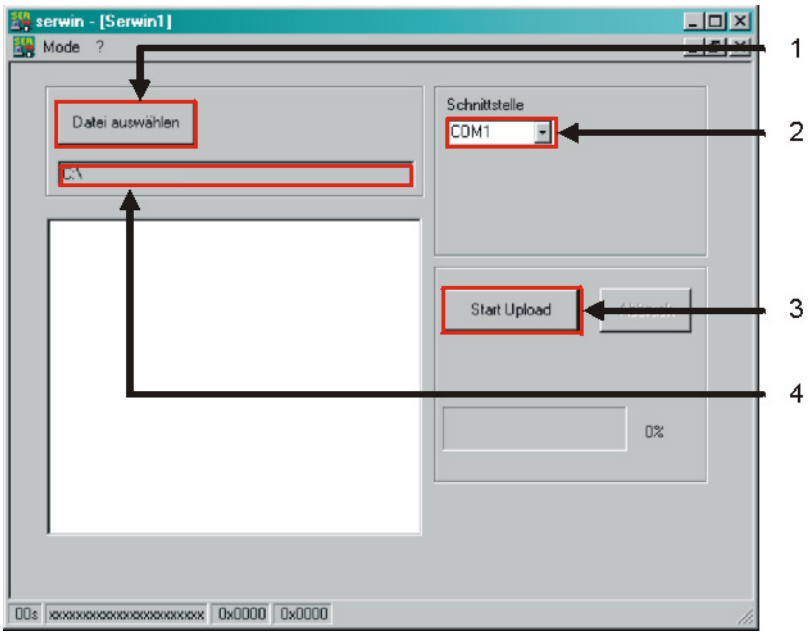


Diagram 15

1 Select software version
2 Select COM interface
3 Start upload
4 Display of selected software version

8.2. Lift control

NOTE
A PC or a laptop computer with the programmes "Flip" and "Robimator" as well as a null modem cable are required to load software onto the lift control.

1. Disconnect the cooling unit plug from the transformer.
2. Unplug the MDB plug on the SUE-control.
3. Connect the null modem cable to the PC and to the lift control.
4. Reconnect the cooling unit plug to the transformer and insert the service key.
5. Start the programme "Robimator".
6. Establish a connection to the machine by selecting the COM-interface used.
7. Select the function "Software update".
   Robimator sets the Robimat control to boot mode and deactivates itself.
8. Start the programme "Flip" (→ Diagram 16) on the PC.
9. Click on the component symbol.
   A list of various components is displayed. Select the component AT89C51CC03.
10. Click on the symbol "set communication" in order to set the data connection used.
    Select the RS232 interface and the number of the COM interface.
    Then click on "Connect".
11. Press button F4 on the PC keyboard to select the required software version.
12. After all settings have been done, click on "Run" in order to start the software upload.
    Make sure that the two switches BLJB and X2 are not marked.
    When the upload is finished, a message is displayed accordingly.
13. Disconnect the cooling unit plug from the transformer.
14. Remove the serial cable and connect the MDB plug to the SUE-control again.
15. Reconnect the cooling unit plug to the transformer and remove the service key.

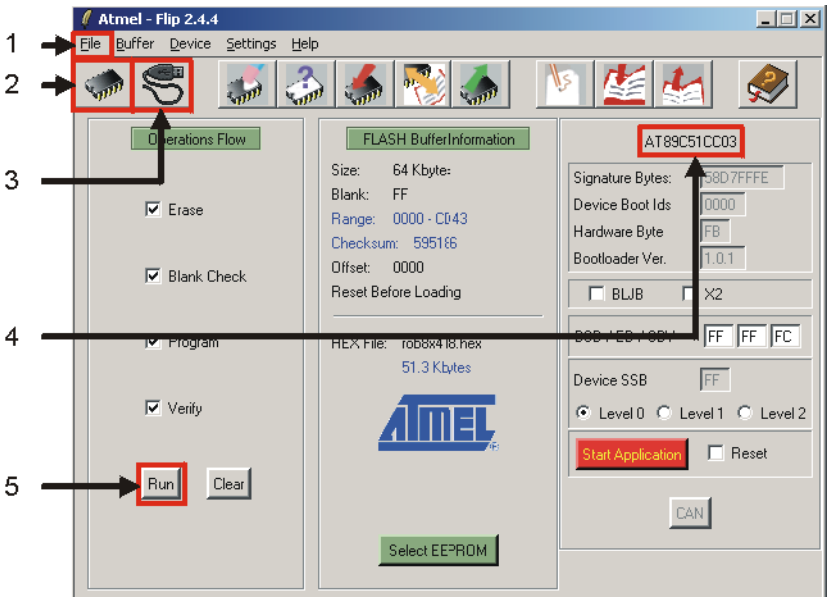


Diagram 16

1 Select software version
2 Select part concerned
3 Set data connection
4 Selected part
5 Start upload

9. Maintenance schedule

The services and inspections that were done have to be documented by lists. For an example of such a list refer to page 62.

WARNING! Risk of injury
The sheet metals inside the machine may have sharp edges.

- wear protective gloves when performing cleaning and maintenance jobs

NOTE
Recommended lubricants

- Tunfluid DAB Spray (Part ref. no. 998.90.023.00)
- Interflon Fin Food Lube
- multi-purpose grease, resin and acid free

9.1. General

Part concerned	Action	Frequency	Procedure & Part required
Exterior	Clean housing, display and operating panel, visual inspection	monthly	Lukewarm water with detergent, cloth
Delivery unit	Clean product delivery carousel and product basket	monthly	Lukewarm water with detergent, cloth
Interior	Clean, remove dust etc. in the coin funnels if necessary	half-yearly	Lukewarm water with detergent, cloth, tweezers
Stickers	Replace if necessary, remove remains of glue	half-yearly	Lukewarm water with detergent, cloth, sticker Door closed
Coin mechanism	Check acceptance of different coins and their values	half-yearly	coins
Illumination	Visual inspection	half-yearly	
Condenser in the cooling unit	Remove dust	half-yearly	Vacuum cleaner, bottle brush, broom
Lock	Lubricant according to manufacturer's recommendation	half-yearly	Reference numbers: KESO: 998.00.142.00 CES: 998.00.143.00 KNAPP: 998.00.144.00
Hinge bolt of door	lubricate	yearly	multi-purpose grease, resin and acid free
Coin mechanism	Cleaning according to manufacturer’s specifications		
Card reader			
Banknote reader			
Electrical routine check	Checking according to VDE 0701	every 2 years	

9.2. Lift system

NOTE
All maintenance jobs must be performed at least half-yearly or after 20,000 vends. Depending on the ambient conditions the cleaning and maintenance intervals may be much shorter.

9.2.1. Vertical guiding rail

Part concerned	Action	Note
inner running surfaces	Clean	
Carriage, vertical	Clean running tread of the wheels	
vertical toothed belt	Check for damage	
	Check belt tension and adjust if necessary	Tension measured in the middle of the belt with the lift system in the lower end position Force: 270 ± 10 cN Excursion: 18 mm
Limit switch, bottom	clean and check function	
Balancing weight	Check slideway left/right for soiling and lubricate	see recommended lubricants
Rope	Check for damage	
Deflection rollers for rope	clean, lubricate bedding	see recommended lubricants
vertical movement	check for constant motivity	

9.2.2. Lift system

Part concerned	Action	Note
Horizontal aluminium slideway, inside	clean and lubricate	Tunfluid DAB Spray or Interflon Fin Food Lube
Vertical plastic slideway, right	clean and lubricate	Tunfluid DAB Spray or Interflon Fin Food Lube
Driving motor for rotating mechanism	Exchange after 250,000 vends	
Bearings rotating mechanism	lubricate	see recommended lubricants Caution: Cover the light bar
horizontal toothed belt	Visual inspection for damage	
	Check belt tension and adjust if necessary	Tension measured in the middle of the belt with the basket in the left end position Force: 220 ± 10 cN for Robimat 75, 200 ± 10 cN for Robimat 99 Excursion: 12 mm
Parallelism arm/shelf	Check and adjust if necessary	
Horizontal movement	check for constant motivity	Force to move the basket on the belt: max. 15 N

9.2.3. Basket

Part concerned	Action	Note
Gear for plastic belt	lubricate endless screw / endless screw wheel and gear wheels	Tunfluid DAB Spray or Interflon Fin Food Lube
Motor for plastic belt	Exchange after 250,000 vends	
Plastic belt	Check for damage	
Bearings plastic belt shaft / axis	lubricate	Tunfluid DAB Spray or Interflon Fin Food Lube
Toothed belt for pendulum drive	Check for damage	
Drive motor pendulum gear wheels	Exchange after 250,000 vends	
Pendulum gear wheels	Check left and right movement with the Robimator	
Pendulum gear wheels	check for soiling and signs of wear, lubricate toothing	see recommended lubricants
Ejection belt	Visual inspection for damage	
Roller	Visual inspection for damage lubricate support	see recommended lubricants
Interior	Clean	
Flap switch	clean and check function	
Product detection (bottom switch)	clean and check function	
	Functional check	A product weighing 200 g must be detected

The services and inspections that were done have to be documented by lists. See example of such a list on the next page.

10. Troubleshooting

10.1. Flow chart

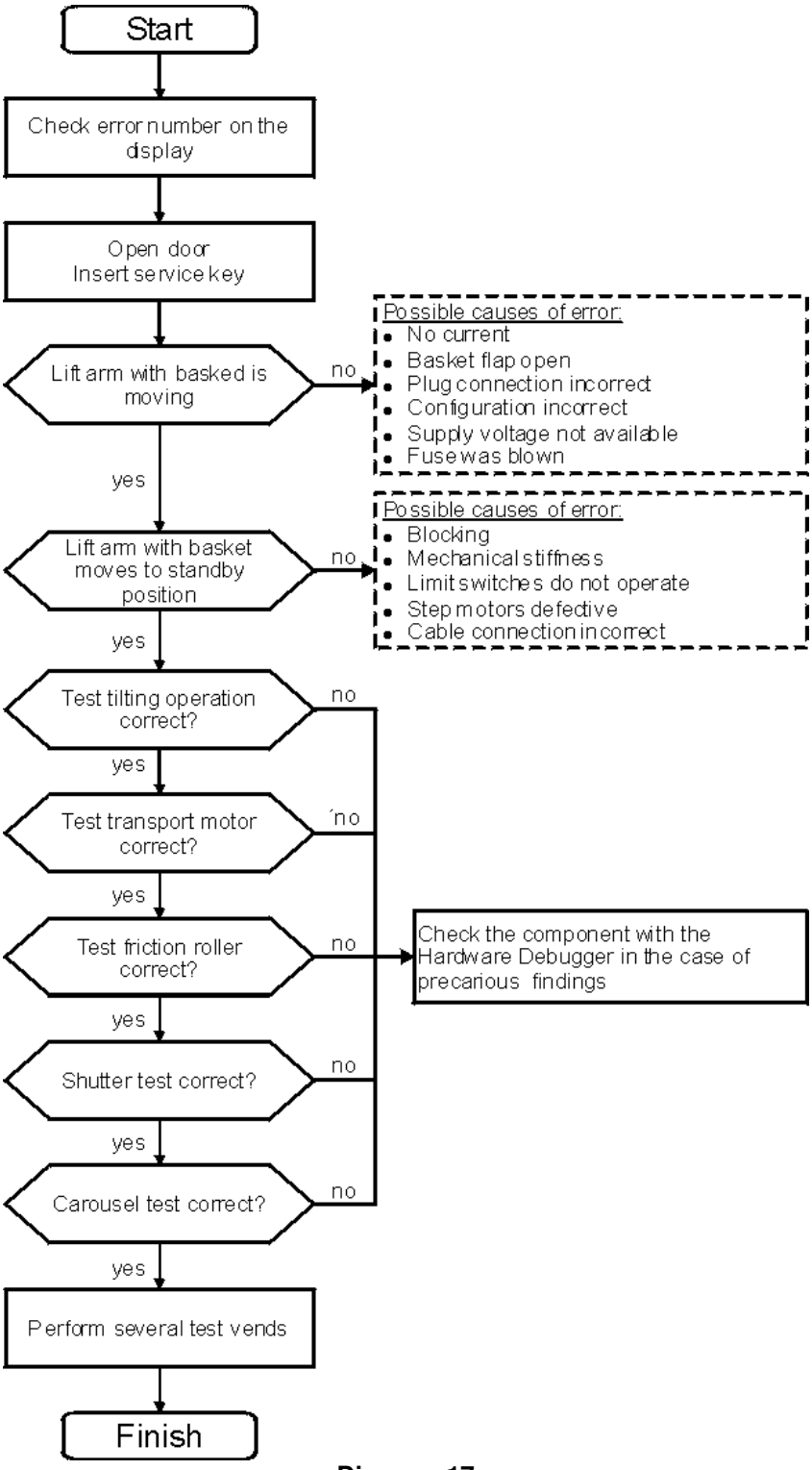


Diagram 17

10.2. Error display

In software version FS_7s904.pat or higher error messages of the lift control are shown in the display. The display is hexadecimal.

If you readout the error list with Robimator, the error messages are displayed as follows (Diagram 18):

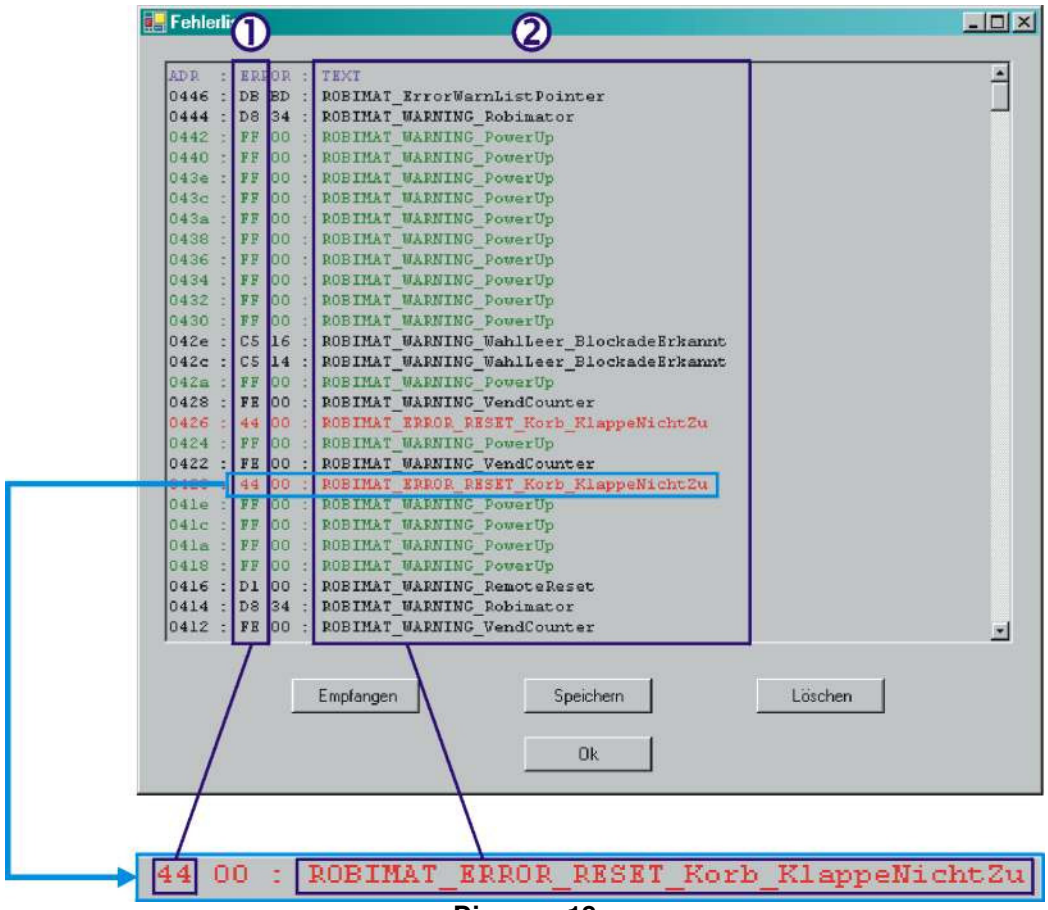


Diagram 18

1 Error number
2 Error message

10.3. Error numbers

Error no.	Cause	Rectification
01-0E	Eeprom probably defective	Exchange Robimat control
10	Software error	Readout error list and mail to Sielaff
11	Eeprom probably defective	Exchange Robimat control
12	Software error	Readout error list and mail to Sielaff
13	Eeprom probably defective	Exchange Robimat control
30	Not hooked in during transfer of the product into the carousel	Check with Robimator micro switch at the hooks, move to position "Pre-delivery" with the lift and correct if necessary.
31	Basket flap already open before product transfer. Therefore hook-in failed	Check flap switch with Robimator. The product might have hit the flap on falling into the basket. Repair mechanically. Close basket flap before starting anew!
34	All sensors currentless. Only tested when switched on	Probably short circuit of sensor voltage. Check again. Check sensors with Robimator.
35	Invalid sensor combination, e. g. Shutterclosed and Shutteropen. Only tested when switched on	Check sensors with Robimator.
40	After switching on for testing: Basket not at the back	Remove possible mechanical jam of the basket at the shelf, test tilting of the basket with Robimator and check limit switches.
41	After switching on for testing: Basket not at the front	
42	The basket cannot tilt away from the shelf after collecting the product.	
44	After switching on: Basket flap not closed	Close basket flap. If it is not open, check flap switch with Robimator
47	Basket flap has not opened during product transfer to the carousel	Check flap switch with Robimator.
48	After switching on: Basket not at the back	Remove possible mechanical jam of the basket, test tilting of the basket with Robimator and check limit switches.
49	The basket could not tilt forwards when approaching the shelf. When the blocking was tried to be removed, the basket could not tilt backwards.	Remove possible mechanical jam of the basket, test tilting of the basket with Robimator and check limit switches. Move the lift to the selected product and check position, if necessary.
4A	Blocking after Basket forward: during test basket not forward	
4B	Blocking after Basket forward: during test basket not backward	
4C	Basket bottom switch not free after product transfer	Check sensor basket bottom with Robimator and test mechanically
4D	Matrix only: Overload current during test of friction roller motor after switching on	Check motor and Robimat control
4E	While collecting product: Overload current pendulum gear wheels or with matrix also overload current friction roller	
50	After switching on: hooked in, but basket flap not closed	Remove possible mechanical jam of the basket flap and push the basket from the micro switch at the hooks by hand if necessary. Check the sensors flap switch and hooks with Robimator

Error no.	Cause	Rectification
51	After switching on: Basket not empty during product transfer	Check sensor basket bottom with Robimator and test mechanically. Perhaps software update Robimat control, as the later software is more fault-tolerant in this case
52	After switching on: unhooked, but basket flap not closed	Check flap switch with Robimator. Check mechanically, if necessary, whether the basket belt is in the centre of the basket
53	After switching on: unhooked, but micro switch at the hooks not free	Basket unhooked: check hook switch with Robimator Basket hooked in: Push lift from the micro switch at the hooks by hand
54	During product transfer: hooked in, but basket flap not closed	Remove possible mechanical jam of the basket flap and push the basket from the micro switch at the hooks by hand if necessary. Check the sensors basket flap and hooks with Robimator
55	After product transfer: Basket not empty	Check sensor basket bottom with Robimator and test mechanically. Perhaps software update Robimat control, as the later software is more fault-tolerant in this case
56	After product transfer: Delivery carousel not filled	Check sensor carousel with Robimator. Perhaps software update Robimat control, as the later software is more fault-tolerant in this case
57	After product transfer: unhooked, but basket flap not closed	Check flap switch with Robimator. Check mechanically, if necessary, whether the basket belt is in the centre of the basket
58	After product transfer: unhooked, but micro switch at the hooks not free	Basket unhooked: check hook switch with Robimator Basket hooked in: Push lift from the micro switch at the hooks by hand
60	Carousel not closed; Matrix: Overload current possible	Check carousel and limit switch with Robimator. Can the carousel be moved easily by hand? Mechanically blocked?
61	Carousel not open; Matrix: Overload current possible	
62	Carousel not closed; Matrix: Overload current possible	
64	Carousel not open; Matrix: Overload current possible	
65	Carousel not open; Matrix: Overload current possible	
68	Delivery carousel not closed	Locking of the carousel is defective
70	Shutter not open; Matrix: Overload current possible	Check shutter and limit switch with Robimator. Can the shutter be moved easily by hand? Mechanically blocked?
71	Shutter not closed; Matrix: Overload current possible	
72	Shutter not open; Matrix: Overload current possible	
73	Shutter not closed; Matrix: Overload current possible	
74	Shutter not open; Matrix: Overload current possible	
75	Shutter not closed; Matrix: Overload current possible	

Error no.	Cause	Rectification
80	After switching on: unhooked, but basket flap not closed	Check flap switch with Robimator. Check mechanically, if necessary, whether the basket belt is in the centre of the basket
81	After switching on: unhooked, but micro switch at the hooks not free	Basket unhooked: check hook switch with Robimator Basket hooked in: Push lift from the micro switch at the hooks by hand
82	During product transfer into the carousel: Basket flap not open, after unhooking basket flap not closed	Check flap switch with Robimator. Check mechanically, if necessary, whether the basket belt is in the centre of the basket
83	During product transfer into the carousel: Basket flap not open, after unhooking micro switch at the hooks not free	Basket unhooked: check hook switch with Robimator Basket hooked in: Push lift from the micro switch at the hooks by hand
88	After switching on: Lift has not reached stand-by position	See chapter 10.4
89	At repeated attempt to approach the shelf for product transfer: Lift has not reached stand-by position	Check limit switches MY and MX with Robimator. Test lift. Mechanically blocked?
90	During switching on: Basing point not found or overload current pendulum gear wheels	Check limit switches MY and MX with Robimator. Test lift. Mechanically blocked?
91	During demonstration: Basing point not found or overload current pendulum gear wheels	
92	During pre-vending: Basing point not found or overload current pendulum gear wheels	
93	During a vend: Basing point not found or overload current pendulum gear wheels	
94	After not hooked in: Basing point not found or overload current pendulum gear wheels	
95	Blocking after Basket forward: Basing point not found or overload current pendulum gear wheels	
98	During switching on: Lift has not reached stand-by position	
99	During demonstration: Lift has not reached stand-by position	
9A	After not hooking in: Lift has not reached stand-by position	
9B	Blocking during Basket forward: Lift has not reached stand-by position	
9C	Blocking during Basket forward: Overload current pendulum gear wheels	Check motor and Robimat control
9D	After switching on: Overload current pendulum gear wheels	
9E	After switching on: During test overload current pendulum gear wheels	
9F	After switching on: During test overload current pendulum gear wheels	
A0-A7	Software error	Readout error list and mail to Sielaff
A8	version of pld-software not recognised (tested when switched on)	Exchange Robimat control
A9	Checksum of items invalid	Load configuration anew with current Robimator

Error no.	Cause	Rectification
AA	Checksum of configuration invalid	version. If the error occurs repeatedly, the Eeprom is probably defective, exchange Robimat control.
AB	Configuration invalid	
AC	Checksum of hardware configuration invalid	Create hardware configuration anew with current Robimator version. If the error occurs repeatedly, the Eeprom is probably defective, exchange Robimat control.
AD	Hardware configuration invalid	
B0	Overload current pendulum gear wheels motor	Will not directly be displayed, but the subsequent error. Error list or machine journal only in Robimator. Check motor and Robimat control
B1	Matrix only: Overload current swivel motor	
B2	Matrix only: Overload current friction roller motor	
B3	Matrix only: Overload current shutter motor	
B4	Matrix only: Overload carousel motor	
B8	Hardware configuration cannot be tested as basket is hooked in	Unhook basket and restart the machine
B9	Hardware configuration cannot be tested as basket flap is not closed	Close basket flap and restart machine.
BA	Basket cannot tilt forwards during creation of hardware configuration.	Tilt the basket carefully by hand and check the limit switches with Robimator.
FF	Communication problem between SUE control and Robimat control.	This error must be deleted in Check menu of the SUE control.

10.4. Troubleshooting when Error 88 occurred

Error 88 (Lift has not reached stand-by position) can have different causes. When this error occurs you should proceed as follows to find the cause.

1. Check the guides for free movement. Clean and lubricate the guides if they are stiff
2. Pull up the lift arm and push the basket to the middle.
3. Switch the machine on again.
   When switching on a reset is performed. Check, if the end positions are reached.
4. Check if there are particles in the machine.
5. Inspect the end switches visually and test there function by hand.
6. Check if all plugged connections are performed properly.
7. Control the transformer with a transformer checking device.
8. Exchange the control if you didn't find any error.

If you find an error in one of these steps, this has to be solved immediately. Prior to further troubleshooting, check if error 88 persists. Only if this is the case you must continue with the next step.

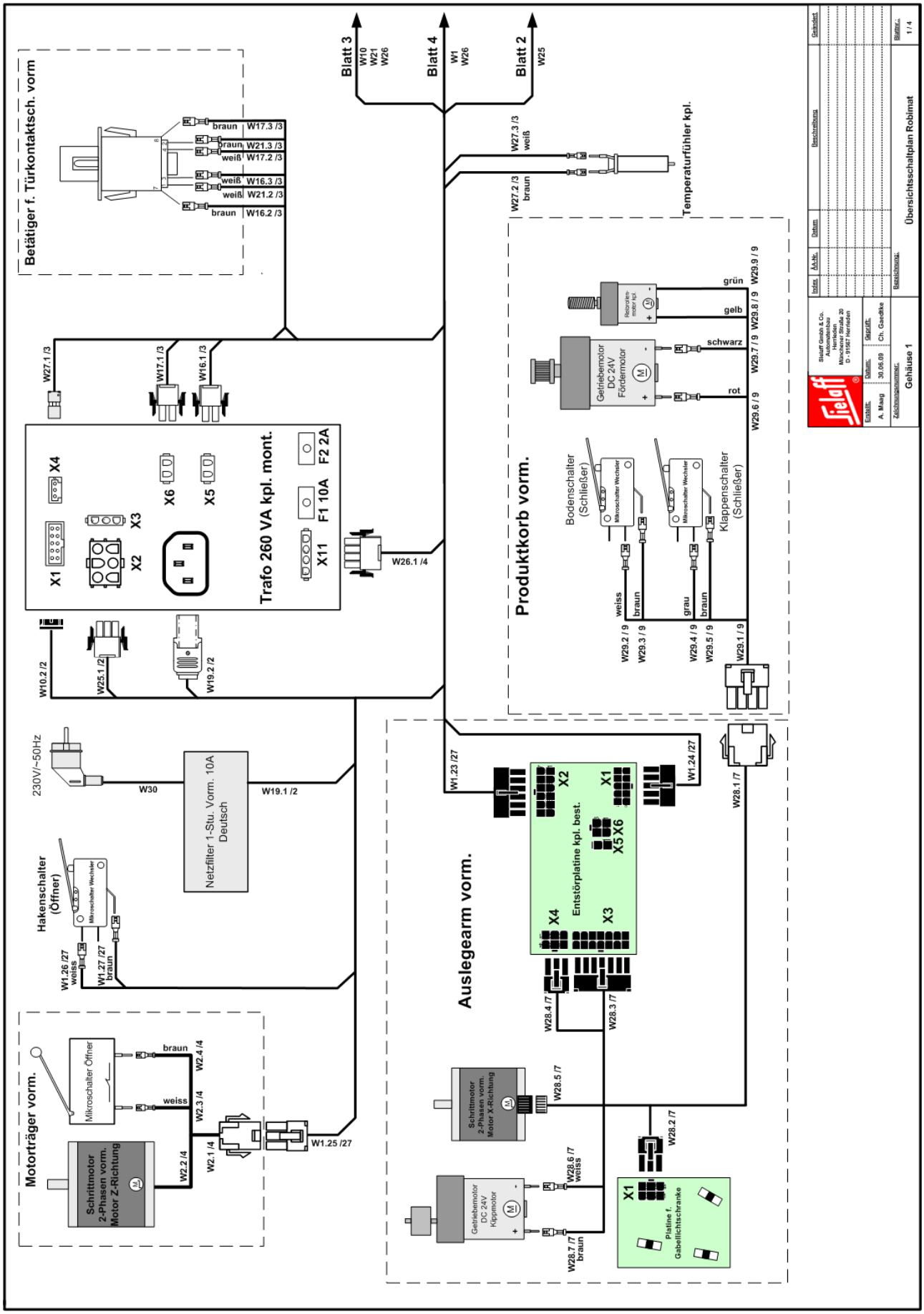
11. Service list

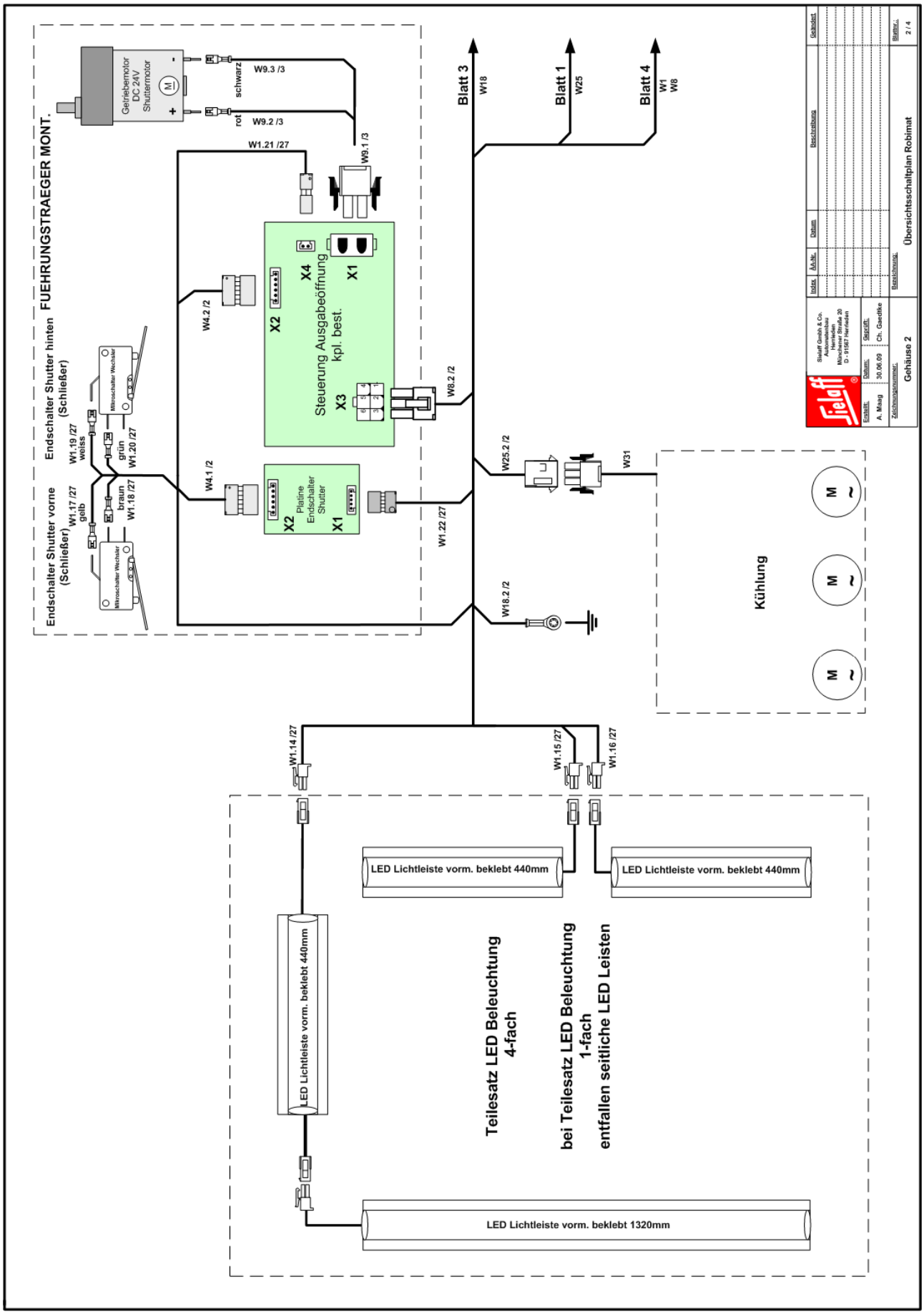
Machine type: _____ Manufacturer of machine: _____ Machine number:_____ Year of manufacture: _____
Page: ___

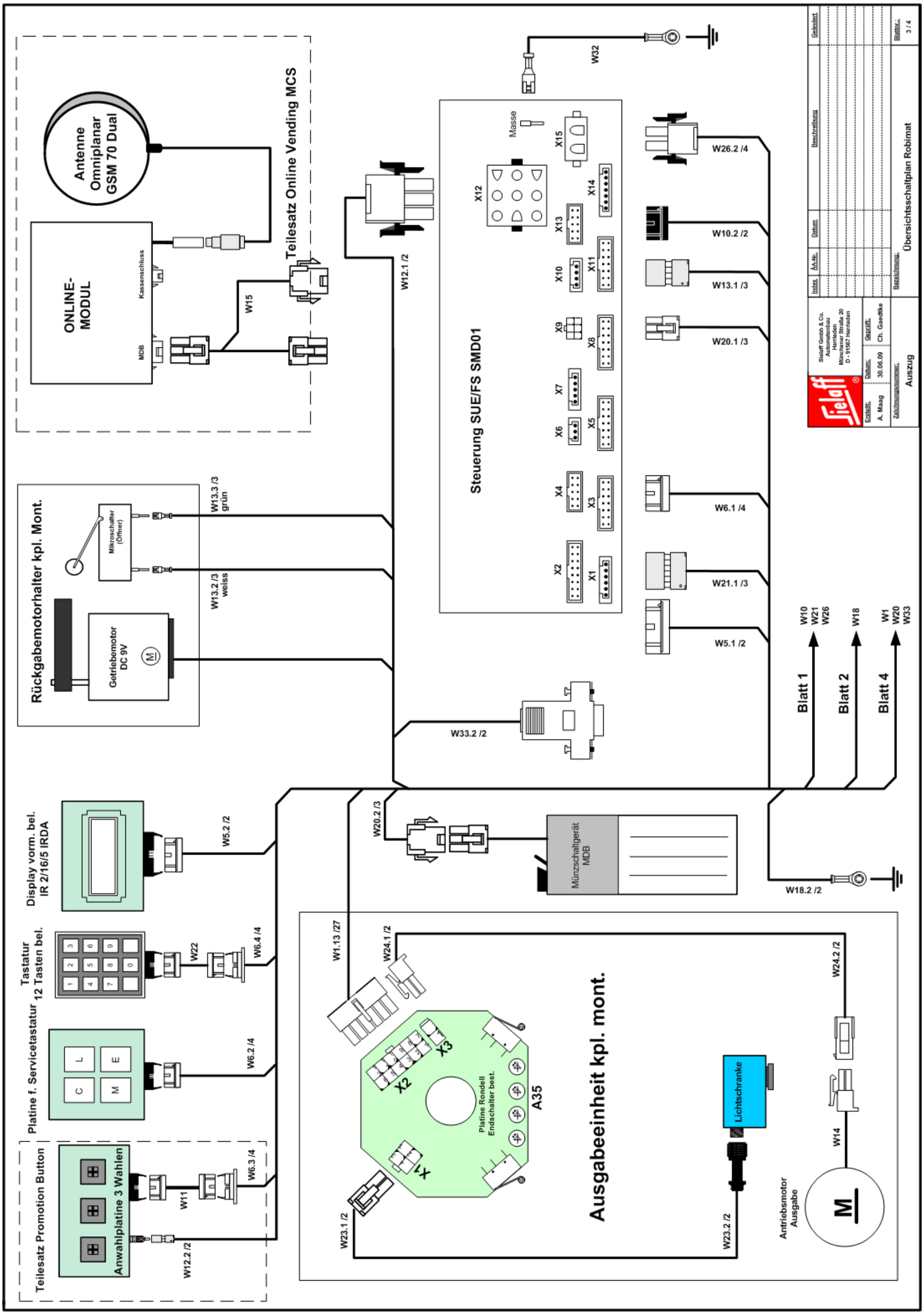
Service			**Work done/Remarks/Spare parts**
Date	Abbrev.	Employee	Please state "new" or "used" when using spare parts

↑
I = Installation P = Preventive service R = Repair HS = Hygiene service C = Check

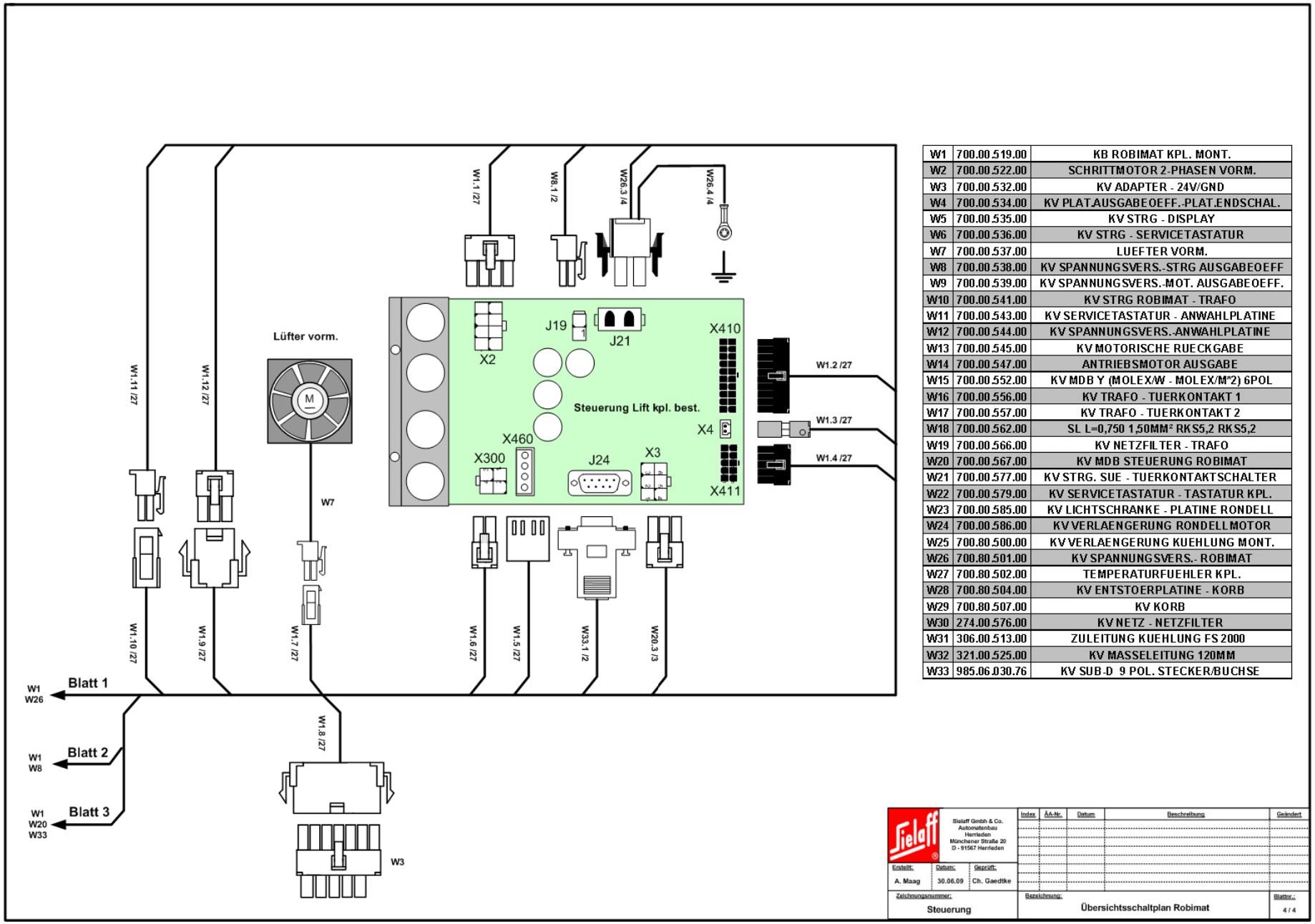
12. Wiring diagram




FUEHRUNGSTRAEGER MONT.
Endschalter Shutter hinten (Schließer)
Endschalter Shutter vorne (Schließer)
Getriebemotor DC 24V Shuttermotor
schwarz
rot
W9.3 /3
W9.2 /3
W9.1 /3
W1.21 /27
Blatt 3
W18
Blatt 1
W25
Blatt 4
W1
W8
W4.2 /2
X2
X4
X1
Steuerung Ausgabeöffnung kpl. best.
X3
W8.2 /2
W1.19 /27 weiss
W1.17 /27 gelb
braun
W1.18 /27
grün
W1.20 /27
Mikroschalter Wechsler
W4.1 /2
X2
Platine Endschalter Shutter
X1
W1.22 /27
W25.2 /2
W31
W18.2 /2
Kühlung
M ~
W1.14 /27
W1.15 /27
W1.16 /27
LED Lichtleiste vorm. beklebt 440mm
LED Lichtleiste vorm. beklebt 440mm
LED Lichtleiste vorm. beklebt 440mm
LED Lichtleiste vorm. beklebt 1320mm
Teilesatz LED Beleuchtung 4-fach
bei Teilesatz LED Beleuchtung 1-fach entfallen seitliche LED Leisten
Index
Änd.Nr.
Datum
Bezeichnung
Gezeichnet:
A. Maag
Datum:
30.06.09
Geprüft:
Ch. Gaedtke
Zeichnungsnummer:
Gehäuse 2
Benennung:
Übersichtsschaltplan Robimat
Blattnr.
2 / 4



Teilesatz Online Vending MCS
Antenne Omniplanar GSM 70 Dual
ONLINE-MODUL
Kassenschluss
MDB
W15
W12.1 /2
W32
Masse
X15
X12
X14
X13
X11
X10
X9
X8
X7
X6
X5
X4
X3
X2
X1
Steuerung SUE/FS SMD01
W26.2 /4
W10.2 /2
W13.1 /3
W20.1 /3
W6.1 /4
W21.1 /3
W5.1 /2
Rückgabemotorhalter kpl. Mont.
Mikroschalter (Öffner)
Getriebemotor DC 9V
W13.3 /3 grün
W13.2 /3 weiss
W33.2 /2
Blatt 1
Blatt 2
Blatt 4
W10 W21 W26
W18
W1 W20 W33
Display vorm. bel. IR 2/16/5 IRDA
W5.2 /2
Tastatur 12 Tasten bel.
W22
W6.4 /4
Platine f. Servicetastatur
W6.2 /4
Teilesatz Promotion Button
Anwahlplatine 3 Wahlen
W11
W6.3 /4
W12.2 /2
W20.2 /3
Münzschaltgerät MDB
W18.2 /2
W1.13 /27
W24.1 /2
W24.2 /2
Platine Rondell Endschalter best.
A35
X1
X2
X3
Ausgabeeinheit kpl. mont.
Lichtschranke
W14
W23.1 /2
W23.2 /2
Antriebsmotor Ausgabe
Sielaff GmbH & Co. Automatenbau Herrieden
Münchener Straße 20
D - 91567 Herrieden
Erstellt: A. Maag
Datum: 30.06.09
Geprüft: Ch. Gaedtke
Zeichnungsnummer: Auszug
Bezeichnung: Übersichtsschaltplan Robimat
Blatt: 3 / 4
Index
ÄÄ-Nr.
Datum
Beschreibung
Geändert



W1	700.00.519.00	KB ROBIMAT KPL. MONT.
W2	700.00.522.00	SCHRITTMOTOR 2-PHASEN VORM.
W3	700.00.532.00	KV ADAPTER - 24V/GND
W4	700.00.534.00	KV PLAT.AUSGABEOEFF.-PLAT.ENDSCHAL.
W5	700.00.535.00	KV STRG - DISPLAY
W6	700.00.536.00	KV STRG - SERVICETASTATUR
W7	700.00.537.00	LUEFTER VORM.
W8	700.00.538.00	KV SPANNUNGSVERS.-STRG AUSGABEOEFF
W9	700.00.539.00	KV SPANNUNGSVERS.-MOT. AUSGABEOEFF.
W10	700.00.541.00	KV STRG ROBIMAT - TRAFO
W11	700.00.543.00	KV SERVICETASTATUR - ANWAHLPLATINE
W12	700.00.544.00	KV SPANNUNGSVERS.-ANWAHLPLATINE
W13	700.00.545.00	KV MOTORISCHE RUECKGABE
W14	700.00.547.00	ANTRIEBSMOTOR AUSGABE
W15	700.00.552.00	KV MDB Y (MOLEX/W - MOLEX/M*2) 6POL
W16	700.00.556.00	KV TRAFO - TUERKONTAKT 1
W17	700.00.557.00	KV TRAFO - TUERKONTAKT 2
W18	700.00.562.00	SL L=0,750 1,50MM² RKS5,2 RKS5,2
W19	700.00.566.00	KV NETZFILTER - TRAFO
W20	700.00.567.00	KV MDB STEUERUNG ROBIMAT
W21	700.00.577.00	KV STRG. SUE - TUERKONTAKTSCHALTER
W22	700.00.579.00	KV SERVICETASTATUR - TASTATUR KPL.
W23	700.00.585.00	KV LICHTSCHRANKE - PLATINE RONDELL
W24	700.00.586.00	KV VERLAENGERUNG RONDELLMOTOR
W25	700.80.500.00	KV VERLAENGERUNG KUEHLUNG MONT.
W26	700.80.501.00	KV SPANNUNGSVERS.- ROBIMAT
W27	700.80.502.00	TEMPERATURFUEHLER KPL.
W28	700.80.504.00	KV ENTSTOERPLATINE - KORB
W29	700.80.507.00	KV KORB
W30	274.00.576.00	KV NETZ - NETZFILTER
W31	306.00.513.00	ZULEITUNG KUEHLUNG FS 2000
W32	321.00.525.00	KV MASSELEITUNG 120MM
W33	985.06.030.76	KV SUB-D 9 POL. STECKER/BUCHSE

Sielaff GmbH & Co.
Automatenbau
Herrleden
Münchener Straße 20
D - 91567 Herrleden

Index	ÄA-Nr.	Datum	Beschreibung	Geändert

Erstellt:	Datum:	Geprüft:
A. Maag	30.06.09	Ch. Gaedtke

Zeichnungsnummer: Steuerung

Bezeichnung: Übersichtsschaltplan Robimat

Blattnr.: 4 / 4

13. SIELAFF Software licence agreement

ISSUE 24.10.06

§1 Subject matter of the Contract

1. The subject matter of the contract is the computer program, help programs, program libraries, scripts, sample files, program description, operating instructions and other associated written material – hereafter called software – recorded on a data medium, held in the SIELAFF vending machine controller or prepared for downloading.
2. In accordance with the present state of the art, program errors cannot be fully excluded in software. SIELAFF will make every effort to prevent errors occurring in software products wherever possible by taking quality assurance measures. Under the terms of the contract, Sielaff is only obliged to supply functional software which is strictly in accordance with the program description and operating instructions.

§2 Scope of Use

SIELAFF grants the licensee the single, personal, non-exclusive right, transferable, only with SIELAFF's consent, within the framework of this contract, to use the software in purchased SIELAFF machines and for the operation of necessary accessory equipment to read-out information from the machines. This licence is granted upon payment by the licensee of the agreed licence fee.

§3 Specific restrictions

1. The licensee is prevented from transferring the software or associated written material or making this accessible to third parties, modifying, translating, developing, decompiling software, constructing work derived from the software or copying written material, changing material or constructing work derived from written material, without the prior written consent of SIELAFF.
2. There is no right of claim whatsoever to the source code.

§4 Rights of ownership

With the software license, the licensee only takes ownership of the physical data medium, on which the software is recorded. The software itself is protected by copyright laws and international copyright agreements and other laws and agreements. The licensee merely receives the right of use agreed in the licence agreement. The acquisition of rights of the software itself is not associated with this. SIELAFF reserves all rights in respect of publication, copying, processing and rights of use of the software.

§5 Copying

Provided the software does not have copy protection, the licensee is permitted to produce a single spare back-up copy. The licensee undertakes to affix SIELAFF's copyright notice to the spare copy. A copyright notice and registration number in the software should not be removed. Copying or otherwise reproducing the software or written material in full or part in the original or modified format or mixed with other software or included in software in another format, is expressly prohibited.

§6 Duration of the contract

1. The contract runs for an indefinite period. The right of the licensee to use the Software automatically expires without termination if one of the conditions of this contract is infringed. Upon termination of the right of use, the licensee undertakes to destroy original data medium and all copies of the software including any modified copies and all written material. Upon the request of SIELAFF, the complete destruction is to be assured by an affidavit.
2. The right to use the software can only be transferred to third parties jointly with the sale of respective machines and only based on the conditions of this contract. A pre-requisite for passing on the software is that the licensee passes on the complete software and all copies (including all components) and does not retain any integral parts of the software. The recipient must agree to the conditions of this Licence Agreement.

§7 Duties of the licensee

1. In the event where the software does not work properly in full or part, the licensee will take appropriate precautions. The software must be tested for its usability for the intended purpose before operative use. The licensee ensures that data security is in accordance with the latest version such that current data can be reproduced from data stock kept in a machine-readable format with justifiable expense.
2. The software must be protected by the licensee against unauthorized access by third parties by means of suitable measures.

§8 Damages in the event of contract infringement

The licensee is liable for all damages based on copyright infringements, which SIELAFF incurs based on infringement of these contractual conditions by the licensee. A penalty of EUR 200,000.00 is agreed as lump sum compensation for each case of violation, unless the licensee can prove that minimal damages have been incurred in individual cases.

§9 Modifications and updates

SIELAFF is entitled to create software updates at its own discretion. SIELAFF is not obliged to provide program updates for those licensees, who do not hold registered software, or if an updating fee has not been paid or in the event of a maintenance agreement not having been concluded.

§10 SIELAFF's warranty and liability

1. SIELAFF guarantees the original licensee that, at the time the software and associated material is transferred, the data medium is error-free under normal operating conditions and normal maintenance.
2. If the data medium is defective, the licensee can request a replacement within the warranty period of 12 months. He must return the data medium, including all spare copies and written material and a copy of the invoice or purchase receipt for the software to SIELAFF or retailer, where the product was purchased. Upon SIELAFF's request, the licensee has to assure, by means of an affidavit, that to the best of his knowledge, no further copies of the software exist.
3. If the defect is not remedied within an appropriate period of time by means of a replacement, the licensee can request a reduction in the purchase price or cancellation of the contract at his discretion. For the reasons specified in article 1, SIELAFF will not accept liability for freedom of errors in the software.
4. SIELAFF's liability is excluded (even outside the contract) if SIELAFF is not liable for compelling legal reasons e.g. due to intent or gross negligence, lack of assured properties or infringement of important contractual duties. If a third party makes a claim against the licensee for industrial rights due to the delivery forming the subject matter of the contract, then SIELAFF is entitled with the exclusion of further liability and undertakes at his discretion and expense, either
    1. to obtain a right of use from persons entitled to use the registered design or
    2. to modify parts infringing registered designs or exchange them for parts which are free from registered designs or
    3. to take back relevant products for a refund of the purchase price.
5. SIELAFF undertakes to test data mediums with the latest version of a standard virus scanner program and to remove any viruses. If SIELAFF's data mediums have viruses in spite of these measures, then SIELAFF's liability is excluded.

§11 Final clause

1. All modifications and supplements to this contract are to be in writing in order to be valid. This also relates to the cancellation of the requirement for the written form itself.
2. If one of these licence conditions should become invalid in full or part this does not affect the validity of the remaining conditions. The invalid condition should be replaced by a condition which comes close to the purpose and sense of the invalid condition.
3. In addition to the conditions of this licence agreement, the SIELAFF's General Terms and Conditions of Sale are applicable in accordance with the latest issue.
4. This Licence Agreement is in accordance with German Law with the exception of UN Purchasing Law. The place of fulfillment and court of jurisdiction is Herrieden, provided the licensee is a trader, corporate body or public property.

14. Index

T

V

W

Customer Satisfaction Questionnaire

We make every effort to continually improve our customer relationships and would therefore like to ask you to answer the following questions concerning our range of services and products. Only with your help and your experience we will be able to better our performance.
Please take a few minutes to answer the questions and be so kind as to send it to our fax no. +49 9825 18-301.

1 What vending machines did you purchase from us?

Model:	Serial numbers:

2 To what extent are you satisfied with our company with regard to these quality features?
(Please circle where applicable!)

With regard to this quality feature I am	extremely satisfied				not at all satisfied
Contactability for our customers	1	2	3	4	5
Qualification of our staff in their field	1	2	3	4	5
Individual attention to the customer's demands	1	2	3	4	5
Delivery time	1	2	3	4	5
Keeping the delivery time	1	2	3	4	5
Transport documents	1	2	3	4	5
Delivery / Transport company	1	2	3	4	5
Packaging	1	2	3	4	5
Clear invoicing	1	2	3	4	5
Frequency of complaints	1	2	3	4	5
Expert knowledge of sales representatives	1	2	3	4	5
Service	1	2	3	4	5
Spare parts management	1	2	3	4	5
Mounting of spare parts	1	2	3	4	5
Handling of complaints	1	2	3	4	5

3 If you were asked to judge the quality of our services/products on the whole, to what extend are you satisfied?

extremely satisfied				not at all satisfied
1	2	3	4	5

4 Please give reasons for your assessment. Which are in your opinion the three strongest and the three weakest points of our services/products?

Strong points:	Weak points:
1.	1.
2.	2.
3.	3.

Finally we would like to ask you for some information about your company:

5 What is your company's line of business?
(Please circle where applicable!)

(1) Vending machine trade	(2) Brewery	(3) Operator	(4) Catering trade
(5) Cold beverages producer	(6) Confectionery producer	(7) Hot beverages producer	(8) Producer sanitary products
(9) Producer of other products	(10) Tobacco products trade	(11) others:	

6 Number of staff in your company?

	10 or less		50 or less		100 or less		200 or less		500 or less		more than 500

Thank you very much for your assistance!

EC Declaration of Conformity for Machines

We,

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

the manufacturer, hereby confirm that the vending machine type specified below complies to the EC Directives for machinery and electromagnetic compatibility in its design and manufacture relating to health and safety requirements.

Any modification without our prior written consent to the machine specified herein, will automatically invalidate this.

Description: Glass front vendor
Machine type: GF ...

EC directives applicable:

EC machine directive: 2006/42/EC

EC directive to electromagnetic compatibility: 2004/108/EC
The following standards also apply:
EN 55011:2002 + A2 :2007
EN 55014-1:2006
EN 55014-2:1997 + Corrigendum 1997 + A1:2001 + A2:2008
EN 61000-3-2:2006
EN 61000-3-3:2008
EN 50366:2003 + A1:2006

Aufkleber für Seriennummer

Aufkleber für Typenschild

The objectives of the low voltage directive 2006/95/EC will be fulfilled in accordance with Appendix I, no. 1.5.1 of machine directive 2006/42/EC.

Authorised representative responsible for the documentation: Dipl.-Ing. (FH) Jürgen Utschig, Sielaff GmbH & Co. KG, Münchener Str. 20, D-91567 Herrieden.

Herrieden, 29.12.2009		SIELAFF GMBH & CO. KG AUTOMATENBAU Postfach 20 91565 Herrieden Münchener Straße 20 91567 Herrieden ☎ 0 98 25 / 18-0 Fax 0 98 25 / 1 81 55
Place, Date	Dipl.-Ing. (FH) Jürgen Utschig Managing director	Company stamp