



Technical Manual

Linea Gastro 22 & 26

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A E Q U A T O R
Swiss made coffee machines

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Certified Quality Tests:



Emissions

EN 55014-1
EN 55014-2
EN 61000-3-2
EN 61000-3-3
CISPR 14-1
CISPR 14-2
IEC 61000-3-2
IEC 61000-3-3

Security

EN 60335-1
EN 60335-2-15
IEC 60335-1
IEC 60335-2-15
IEC 60335-2-75

Associations:



Vending Association
Switzerland



Austrian Vending
Association



Bundesverband der
Deutschen Vending-
Automatenwirtschaft e.V.



European Vending
Assosiation

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Article WP 036-1
Version 09/12 V4.21

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Swiss made coffee machines

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1 Introduction

Welcome to our service team. Reading this manual you will find out how easy it is to take care of this modern coffee machine.

Operating, programming, servicing and maintenance are explained in this manual. You will learn about safe and correct handling of the machine.

We do not assume any liability for damages caused by non-observance of the instructions or by improper handling of the machine.

It is impossible to treat all problems in this technical manual. If you need additional information or do not find your problem in the manual, do not hesitate to contact us at support@aequator.ch or via fax.

1.1 Safety Instructions



For safety reasons, unplug the machine whenever you do any maintenance or cleaning inside the machine!

The machine is constructed for safe operation, meeting advanced engineering standards. The machine is produced in accordance with the valid CE regulations and ISO 9001.

However, the use of the machine may be dangerous if

- you do not follow the present instructions of operation carefully
- unauthorised staff installs, maintains or repairs the machine
- there is improper use of the machine, not according to the original purpose thereof.

Concerning transport, installation, maintenance and repair please consult the latest edition of the following regulations and guidelines of your country:

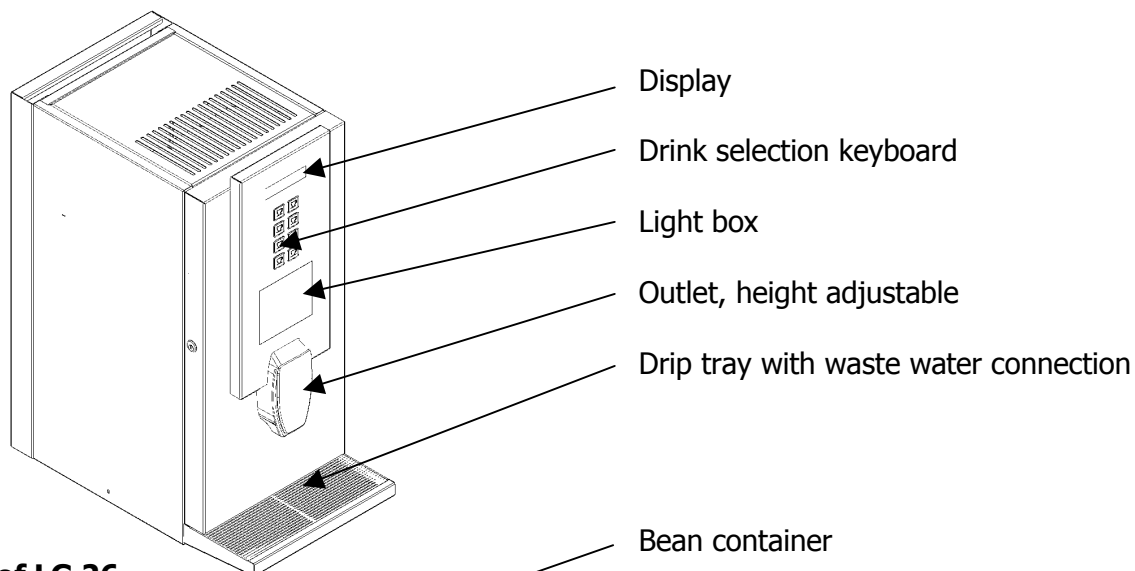
- Regulations of the federation of electro-technology
- EU – guidelines (in EU - countries)
- Regulations concerning the prevention of accidents
- Guidelines of the professional union
- Trade regulations

The following points are to be considered:

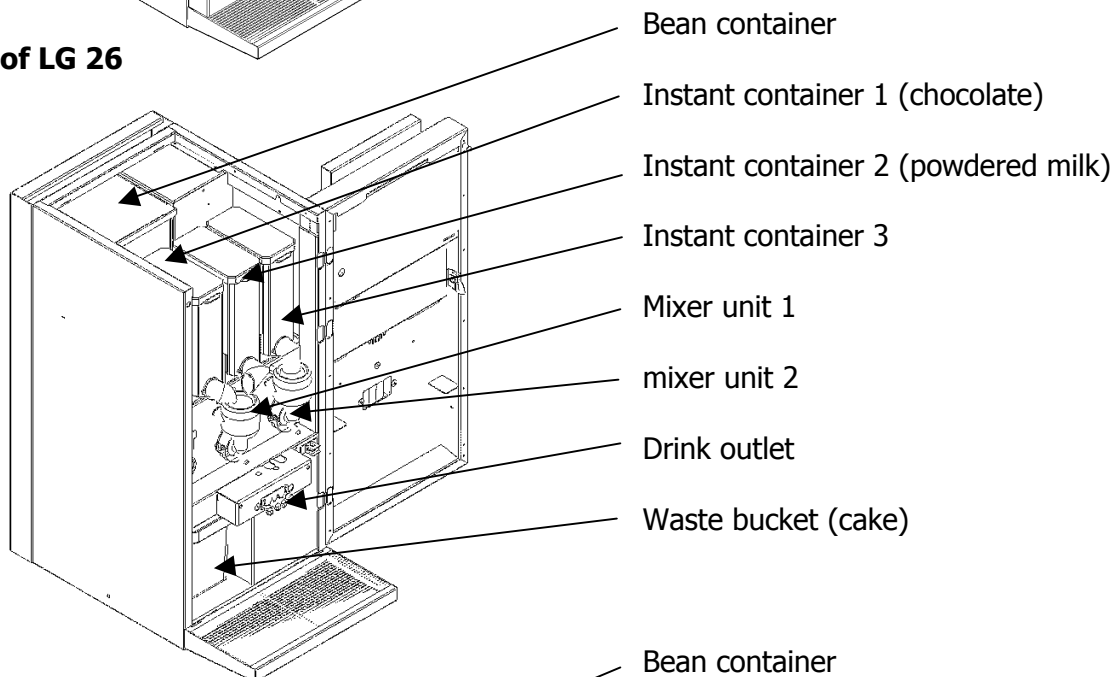
- The prepared drinks are hot.
- Some parts of the machine are hot.
- Some parts of the machine are under high pressure. (Hot water)
- The water flowing out during the cleaning process is hot.
- Any change or modification of the machine is prohibited.
- AEQUATOR AG does not assume any liability in such a case.
- Store the machine in dry rooms and never in frosty environment.
- Transport it only in the original packing.



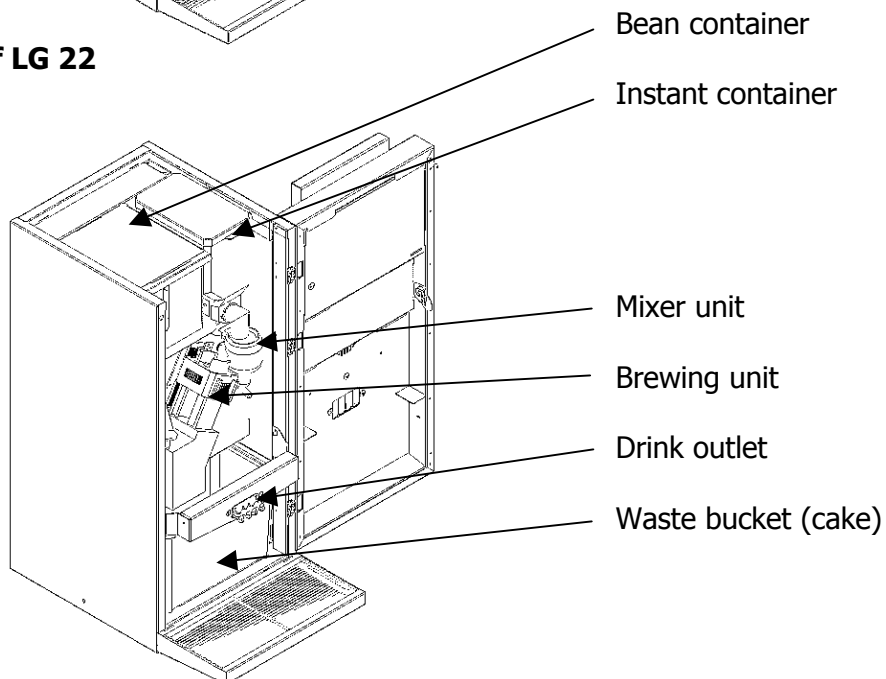
1.2 Projection of the machine



Inside of LG 26



Inside of LG 22



2 Handling

2.1 Installation

Please check before installing the machine:

- water connection
- electricity
- degree of hardness of the water

2.1.1 Unpacking the Machine

Check whether the machine is undamaged. If you have any doubts, do not operate the machine.

Recycle the packaging material.



The machine must be placed on a horizontal surface, not exceeding 2 degrees inclination. Adjust the position with the adjustable feet.

2.1.2 Water Connection

Connect the machine to your drink water system, observing the legal regulations of your country.

The water pressure must be 1 to 8 bars.

Rinse the water tubes before connecting the machine, until the water is clean and clear, without dirt. Connect the machine using the hose delivered with the machine. Outside the machine there must be an easily accessible water tap to turn the water on and off.

2.1.3 Electricity

The machine is constructed for a one phase voltage of 230V AC. Before operating the machine, make sure the specifications indicated on the label correspond to your electricity network:

- Is the voltage range within the legal limits?
- Can the fuses take the required maximum load, and is the disconnection from the net between phase and neutral conductor guaranteed with a distance of a minimum of 3 mm between the wires?

The main plug must be easily accessible.

The power cord is firmly connected to the machine and must only be removed and replaced by electrical engineers. The exclusive use of cables of type HO5 RR-F, HO5 RN-F, HO5 VV-F, HO7 RN-F, with wire size of 3 x 1.5 mm² is a must.

The electric safety of the machine is only guaranteed if duly connected to a network with proper earth connection.



This safety measure must be guaranteed. If you have any doubts, have your connection checked by an electrical engineer.

It is strictly forbidden to use adapters, multiple plugs or extension power cords.

Before operating the machine make sure that the water connection is properly installed and that the water tap is open.



The manufacturer does not assume any liability for damages caused by non-observance of the above instructions.

2.1.4 Water Filter / Water Softener

The standard machine is delivered without filter nor softener.

Phosphate filters may be used in case of hard water, or ion exchangers in case of very hard water.

A suitable water filter must be placed between the water connection and the machine.

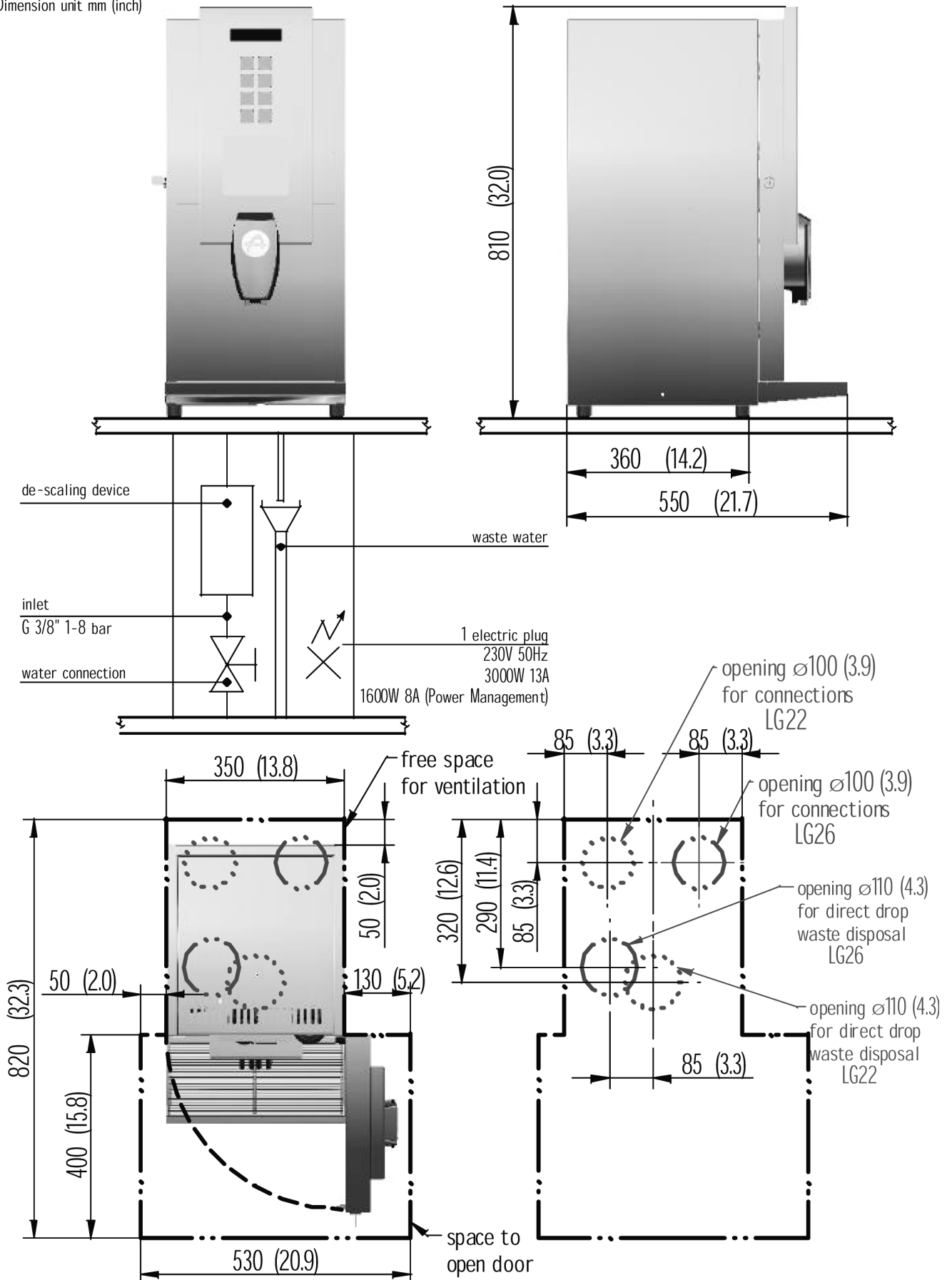
The manufacturer does not assume any liability for damages caused due to missing or improper use of water filters or softeners respectively.

A volume counter is integrated in the machine to facilitate the handling of exchangers.



2.1.5 Dimensions

Dimension unit mm (inch)



2.1.6 First Operation of the Machine

The water system of the machine is empty at delivery. Fill it before operating the machine.

1. Fill the water system pressing a drink selection button.



Water will come out of the outlet, max. 1.5 l

You may stop the filling process pressing keys <D1>&<D2> simultaneously.



Incomplete filling of the water system may damage the heating element!

2. Fill product containers with the desired ingredients and label the containers.
3. Calibrate ingredients
Prepare scales and a container to catch the ingredients.
Enter the service menu (see program diagram)
Move forward to „service ingredients“
Enter menu
Move forward to „calibrate ingredients grinder 1“
Calibrate the grinder following the display instructions
Move forward to „calibrate drink ingredients“
Calibrate the ingredient motors following the display instructions
4. Key assignment
If you wish to change the key assignment you may do so. You will find the available recipes in chapter 2.2.1 and the assignment to the keys in chapter 8.1.
5. Settings
The drinks and options now have to be set according to your needs, e.g. payment systems, water volume per drink, quantity of ingredients, on/off times of your machine, counters, etc.. You will find the menus in chapter 8.1.
6. The machine is now ready for use, and you may prepare your drinks.



2.2 Programming

Basics

Keys

Service key <0>
 Service keys 0-5
 Drink button <D1>
 Drink button <D2>
 Drink buttons <D1>&<D2> simultaneously
 Drink buttons <D1>&<D2> simultaneously for 3 sec.
 Service key <0>

their functions

entering programming level
 entering code
 backwards / value -
 forwards / value +
 enter / confirm
 back one level
 escape

moving in the diagram

upwards
 down
 to the right



When you close the machine you automatically leave the programming mode.

Key assignment

Service keys

0
1
2
3
4
5

Drink selection buttons

D1	D2
D3	D4
D5	D6
D7	D8

Summary

Set / change service settings	Step in menu	Description	Go to
Error messages Read / delete	SERVICE ERROR MESSAGES	Protocols of last 30 errors in systems.	→ BREWER SYSTEM → HEATING SYSTEM → WATER SYSTEM → SYSTEM → DELETE p.32
Increase temperature of a specific drink	SERVICE DRINK SETTINGS	Increase the temperature of one specific drink compared with the temperature of other drinks.	→ DRINK BUTTON → HEATER INCREMENT p.28
Increase temperature of all drinks	SERVICE TEMPERATURE	General temperature increase for all drinks.	→ TEMPERATURE p.30
Drink settings	SERVICE DRINK SETTINGS	Change the recipe of a specific drink	→ DRINK BUTTON p.28
Instant calibration	SERVICE INGREDIENT	Calibration of instant ingredients.	→ PROD.CALIBRATION p.31
Grinder setting (in grams)	SERVICE DRINK SETTINGS	Change quantity ground for one specific coffee drink.	→ DRINK BUTTON → GRINDER p.28
Setting of brewing speed	SERVICE INGREDIENT	Basic setting of brewing speed	→ BREWSPEED p.31



Set / change service settings	Step in menu	Description	Go to
Coffee calibration	SERVICE INGREDIENT	Grinder calibration	→ GRINDER CALIB. p.31
Change grinder setting	SERVICE INGREDIENT	Set grinding level.	→ GRINDER FINER → GRINDER COARSER p.31
„no beans“ machine set	SERVICE INSTALLATION	Set what machine does when there are no beans.	→ MACHINE OFF → MACHINE ON p.33
Change password	SERVICE PASSWORD	Change password.	p.35
Test pump pressure	SERVICE INSTALLATION	Test pump pressure	→ TESTING PRESSURE p.34
Set cash register / payment system 0 = no payment system 1 = coin acceptor parallel 2 = coin changer executive 3 = coin changer MDB 4 = cashless MDB 5 = cashless MDB and coin changer MDB 6 = cashless MDB and coin acceptor parallel	SERVICE PAYMENT SYSTEMS	Set the desired cash register or payment system.	→ REGISTR.-SYSTEMS → DEBIT → CREDIT → COIN MECHANISM → TYPE p.35
Set price with cash register	SERVICE DRINK SETTINGS	Fix price of the chosen product for the registration mode.	→ DRINK BUTTON → REGISTR. CHANNEL p.28
Set price with coin system	SERVICE DRINK SETTINGS	Fix price of the chosen product if you have a coin system.	→ DRINK BUTTON → DRINK PRICE p.28
Key assignment	SERVICE DRINK ASSIGNMENT	Assign recipe number to drink buttons.	→ DRINK BUTTON → R XXX p.28
Drink settings	SERVICE DRINK SETTINGS	Change recipe of the selected drink.	→ DRINK BUTTON p.28
Language selection	SERVICE INSTALLATION	Select the desired language.	→ INSTALLATION LANGUAGE p.33
Set machine type	SERVICE INSTALLATION	Set the desired machine type.	→ MACHINE TYPE p.33
Machine test	SERVICE INSTALLATION	Test machine operation.	→ TESTING MACHINE p.33
Set water amount of drinks	SERVICE DRINK SETTINGS	Set the amount of water you wish in each drink.	→ DRINK BUTTON p.28
Fill/empty water system	SERVICE INSTALLATION	Fill and empty the machine.	→ FILLING MACHINE → EMPTYING MACHINE p.33
Reset drink counters	SERVICE DRINK COUNTER	Reset drink counters.	→ PAID COUNTERS → FREE COUNTERS p.28
Read/reset machine counters	SERVICE MACHINE COUNTER	Read and reset the different machine counters.	→ INITIALISATIONS → RINSING COUNTER → CLEANING COUNTER → BREW COUNTER → MAINTENANCE → GRIND COUNTER → FILTER CHANGE VOLUME p.29
Set message „EMPTY WASTE“.	SERVICE INSTALLATION	Set value when coffee waste bucket has to be emptied.	→ WASTE BUCKET p.34
Set message „ FILTER CHANGE “	SERVICE INSTALLATION	Set value when machine has to be de-scaled.	→ FILTER CHANGE VALUE p.34
Set time and date	SERVICE TIME & DATE	Set time and date.	p.29
Set timers	SERVICE TIMER	Set the different timers.	→ MACHINE ON/OFF → LIGHTBOX ON/OFF → NO CHARGE ON/OFF p.30



2.2.1 Drink Recipes

There are different groups of recipes. Within each group you may choose the individual drinks. The basic recipes depend on the software.

The recipe groups described here will provide some basic information.

Functions:

The functions may be assigned to any button. Use the corresponding recipe numbers (0000 to 0005).

Function buttons cannot be used as drink buttons! Drink assignment is not possible.

Functions

0000	No key assignment
0001	Shift function (to enter the second assignment level)
0003	Machine on / off Optional ¹
0005	Machine and light on / off Optional ¹

¹ Additional switch to mains switch if desired, no extra charge.

Option: Define shift button

Use recipe number 0001 to assign the shift function to any button.

Press and hold the shift button for 3 seconds to cancel the shift function.

No drink assignment is possible on the shift button!

How to assign a second drink to a button, using the shift button:

1. Press shift button
2. Press button you wish to assign (e.g. coffee)
3. Choose recipe number (e.g. number 0407 for latte macchiato)
4. Confirm pressing <D1> & <D2> simultaneously

Recipe groups

0100-0199	Coffee
0200-0299	Coffee (espresso)
0300-0399	Coffee (ristretto)
0400-0499	Instant 2 & coffee
0500-0599	Coffee & instant 2
0600-0699	Instant 1,2,3 & coffee & instant 1,2,3 ²
0700-0799	Instant 1
0800-0899	Instant 2
1100-1199	Either instant 1 or 2 or 3
1200-1299	Hot water

² According to your choice, max. 2 instant & coffee before or after the coffee.

Aequator standard recipes

0100	Coffee
0200	Espresso
0400	Cappuccino
0407	Latte macchiato
0500	Coffee with milk
0700	Chocolate
0800	Milk
1100	Chocolate with milk
1200	Hot water



Explanations:

Ingredient 1 dos.	=	dosage of instant ingredient 1(grams)
Ingredient 1 wait	=	waiting time (sec.) instant ingredient 1
Ingredient 2 dos.	=	dosage of instant ingredient 2 (grams)
Ingredient 2 wait	=	waiting time (sec.) instant ingredient 2
Mix. 1 time	=	mixer operating time (sec.)
Ingredient 1 PWM	=	speed (PWM) of instant ingredient 1
Ingredient 2 PWM	=	speed (PWM) of instant ingredient 2
Add. ingredient 1 wait	=	waiting time (sec.) of instant ingredient 1 after coffee
Add. ingredient 1 dos.	=	dosage of instant ingredient 1 (grams) after coffee
Add. ingredient 2 wait	=	waiting time (sec.) of instant ingredient 2 after coffee
Add. ingredient 2 dos.	=	dosage of instant ingredient 2 (grams) after coffee
Add. mix. 1 time	=	mixer operating time (sec.) after coffee



2.3 Machine test

You will find all actors being activated, one after the other, during the machine test. The process of the test depends on the machine type and on the boiler being filled or empty.

Activity	LG22 sequence	LG26 sequence
Display test	1	1
Drink selection buttons D1 bis D8	2	2
Service keys S0 bis S5	3	3
Initialising brewing unit	4	4
Drainage valve	5	5
The magnet will close after max. 10 sec, if it is not stopped before by pressing <D1>or<D2>.		
Grinder	6	6
Stop pressing <D1>or<D2>		
Open grinder servo	7	7
Close grinder servo + grinder active	8	8
The grinder servo starts measuring the grinding time when it opens. It will close automatically after max. 5 sec if it is not stopped before by pressing <D1>or<D2>.		
Ingredient motor 1		9
Ingredient motor 2	9	10
Ingredient motor 3		11
Stop pressing <D1>or<D2>		
Inlet valve + brewing valve + pump	10	12
Inlet valve + mixer 1 valve + mixer 1 + pump	11	13
Inlet valve + mixer 2 valve + mixer 2 + pump		14
Inlet valve + hot water valve + pump	12	15
Stop pressing <D1>or<D2>		
Fan	13	16
Stop pressing <D1>or<D2>		
Heater of flow heater	14	17
Heater of boiler	15	18
The function of the heaters is checked by the LED of the power board. The outputs must pulsate. The process stops automatically after 5 sec.		
Light box	16	19
Initialise brewing unit	17	20



2.4 Outflow Speed of Coffee (grinding level)

The grinding level is essential to achieve and maintain premium quality coffee. Set your grinder carefully.

The grinding level determines the outflow speed. Fast flowing coffee means that the brewing water stays in the ground coffee for a shorter time. Coffee extraction diminishes and the taste of your coffee is weaker. The other extreme is a very fine grinding level causing overextraction of the ground coffee and thus a bitter taste.

If the brewing speed is fast, set a finer grinding level, if it is slow choose a coarser grinding level.

Grinder 1 with automatic grinding servo

The grinding servo regulates the outflow speed of the coffee. If it flows slowly the grinder is automatically set to coarser, and viceversa. The outflow speed of every fourth coffee is measured. With programmed pre-infusion (espresso) however the outflow time is not checked.

Set the grinder servo in service mode (INGREDIENT BREW SPEED)

- BREW SPEED SLOW (6.0 ml/sec.)
- BREW SPEED NORMAL (7.0 ml/sec.)
- BREW SPEED HIGH (8.0 ml/sec.)

It is possible to pre-set the grinding level in the service mode (INGREDIENT GRINDER COARSER / INGREDIENT GRINDER FINER) for extreme values (e.g. very coarse coffee powder).

See chart page 31, SERVICE INGREDIENTS

2.5 Outflow Speed of Instant Ingredients

The outflow speed of the instant ingredients changes if you change the speed value.

50% PWM*	speed = slow
75% PWM	speed = medium
100% PWM	speed = fast

Reduce the speed value if, for instance, there is only water flowing out of the outlet during the last 4 seconds of milk preparation.

Increase the speed value if there is no pure water in the end, or if the message „INGREDIENT 1 DOSAGE TIMEOUT“ appears.

* PWM = Pulse Width Modulation (influences the motor revolutions/min.)



2.6 Calibration

Calibration is essential to get best results, i.e. maximum quality out of coffee beans and instant ingredients.

Calibration guarantees that the programmed amount of powder is actually used to prepare your drink.



Prepare some drinks before you calibrate! Drink preparation fills the outlet pipes. If they are empty, the full programmed amount cannot be ejected and the measured values are wrong.

2.6.1 Coffee

The value measured when calibrating the grinder does not equal the grams programmed in DRINKS SETTINGS. The DRINK SETTING amounts only serve to calculate the grinding time.

Calibrate each grinder three times to get realistic results.

The inside of the brewing unit must be dry. Coffee powder will stick to moist parts thus falsifying your measuring results.

2.6.2 Instant

Calibrate instant ingredients in three steps:

1. Ejection with 3 different dosage times at 50% PWM
2. Ejection with 3 different dosage times at 75% PWM
3. Ejection with 3 different dosage times at 100% PWM

The machine uses the figures to calculate the average ejection amount.

Catch and measure the ejected amount with a calibrated container. The machine indicates the pre-calibrated amount. Adjust it to the amount measured.

3 Servicing

3.1 Cleaning

Cleaning is compulsory with each servicing in order to prevent malfunctions and to enable the machine to work perfectly, without problems.

- Clean the interior of the machine
- Clean the coffee slide
- Clean the fan and the ventilation channel
- Check and adjust the pressure of the pump (10 bars)

3.2 Annual Maintenance

The annual maintenance work is described in a separate annex.

You may order the separate annex from Aequare AG.



4 Error Messages and how to solve them

4.1 Error messages

Error message	Code	Description / Meaning	Solution
TOLERANCE ERROR MACHINE OFF/ON	EB01	5 failures initialising the machine. This error is generated by the display controller.	<ul style="list-style-type: none"> - Check whether brewing unit is blocked mechanically - Check motor of brewing unit and encoder - Check drain valve - If the encoder check LED26 is blinking when the brewer moves up and down, clean the brewing unit or change it if necessary. - If the encoder check LED26 does not blink when the brewer moves up and down, replace the encoder.
COMM. ERROR MACHINE OFF/ON	ECE01	Main board does not answer (time out). This error is generated by the display controller.	<ul style="list-style-type: none"> - Restart the machine. - Check connection between main controller and display controller. - Replace MAIN BOARD EP220. - Replace DISPLAY BOARD EP 230.
COMM. ERROR MACHINE OFF/ON	ECO01	Unknown order of display board.	Restart the machine.
COMM. ERROR MACHINE OFF/ON	ECO02	Wrong type indicator in display board order.	Restart the machine.
COMM. ERROR MACHINE OFF/ON	ECO03	Wrong value in display board order.	Restart the machine.
COMM. ERROR MACHINE OFF/ON	ECO04	Wrong identity in display board order.	Restart the machine.
COMM. ERROR MACHINE OFF/ON	ECO05	Machine type not available /not sent.	Restart the machine.
COFFEE SHORTAGE PLEASE REFILL	EBD03	Brewing unit passed lower limit / decoder.	Fill beans and execute operator reset: Service key <5> or select a coffee.
CLEANING NEEDED	ECL01	Cleaning pre-warning reached.	The brewer must be cleaned within the next 100 drinks, press service key <4> to start cleaning .
NO CASH RELEASE	ECR03	No release signal from cash register for chosen drink.	<ul style="list-style-type: none"> - Restart the machine. - Check release signal of registration board EP102. - Switch machine to "no charge" using key switch. - Delete error log after repair.
NO REGISTRATED OUTPUT POSSIBLE	ECR04	No contact to registration system. No registration release from registration release chain.	<ul style="list-style-type: none"> - Check the machine prior in line: does it work? - Switch machine to „no charge" using key switch. - Delete error log and restart machine.
NO CHANGE	ECR05	Payment system message: no change available.	Fill in coins for change.
MACHINE OPEN	EDS02	Door switch open.	Close machine door.
EMPTY DRIP TRAY	EDT01	Reaction of the drip tray sensor.	Empty drip tray.
FILTER CHANGE NEEDED	EFL03	De-scale pre-warning counter reached (2000 l before EFL04).	Change de-scale cartridge eventually.
FILTER CHANGE REQUIRED	EFL04	De-scale counter reached. No more drinks available.	De-scale cartridge must be replaced. Confirm using the service menu (see machine counter, filter change counter).
	EFL05	Boiler does not fill in given time.	<ul style="list-style-type: none"> - Check water flow. - Check sensor electronics.
FAILURE HEATER 1	EHE01	The flash heater does not work, the temperature does not rise. The heater was de-activated.	<ul style="list-style-type: none"> - Check/replace fuse F2 of the POWER BOARD EP 115. - Check/replace overtemperature sensor of flash heater. - Check/replace flash heater in case of interruption. - Check/replace POWER BOARD EP115. - Refill machine after repair. - Delete error log and restart machine.
FAILURE HEATER 2	EHE02	The boiler heater does not work, the temperature does not rise. The heater was de-activated.	<ul style="list-style-type: none"> - Check/replace fuse F1 of the POWER BOARD EP 115. - Check/replace overtemperature sensor of boiler. - Check/replace boiler in case of interruption. - Check/replace POWER BOARD EP115. - Refill machine after repair. - Delete error log and restart machine.

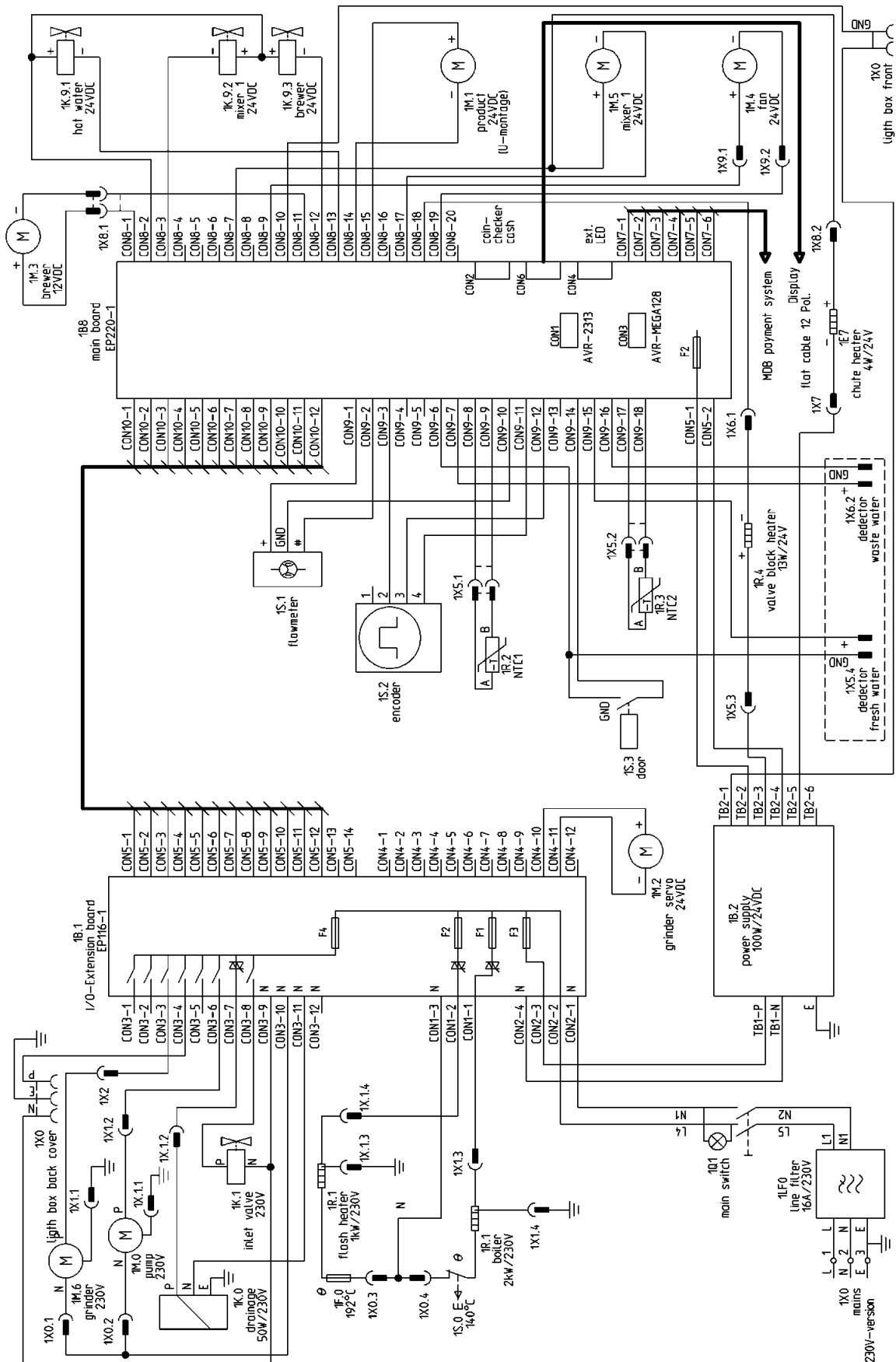


Error message	Code	Description / Meaning	Solution
FAILURE SENSOR 1	EHE03	Sensor of heater 1 is defect. Sensor defect threshold values have been reached. No more drinks available.	<ul style="list-style-type: none"> - Check/replace temperature sensor of flash heater. - Delete error log and restart machine.
FAILURE SENSOR 2	EHE04	Sensor of heater 2 is defect. Sensor defect threshold values have been reached. No more drinks available.	<ul style="list-style-type: none"> - Check/replace temperature sensor of boiler. - Delete error log and restart machine.
FAILURE BOILER TOO HOT	EHE06	Reaction of the electronic temperature control.	<ul style="list-style-type: none"> - Check signal Con1/Pin2 of the power board EP115 (possible short circuit towards phase). - Check/replace the POWER BOARD EP 115. - Refill machine after repair. - Delete error log and restart machine.
INGREDIENT 1 DOSAGE TIMEOUT	EIT01	Duration of water flow is below dosage time of ingredient 1. The programmed grams cannot be distributed within the duration of the water flow.	Reduce the number of grams, increase PWM, or use a faster gear motor for ingredients, and re-calibrate.
INGREDIENT 2 DOSAGE TIMEOUT	EIT02	Duration of water flow is below dosage time of ingredient 2. The programmed grams cannot be distributed within the duration of the water flow.	Reduce the number of grams, increase PWM, or use a faster gear motor for ingredients, and re-calibrate.
INGREDIENT 3 DOSAGE TIMEOUT	EIT03	Duration of water flow is below dosage time of ingredient 3. The programmed grams cannot be distributed within the duration of the water flow.	Reduce the number of grams, increase PWM, or use a faster gear motor for ingredients, and re-calibrate.
SELECT A DRINK EMPTY WASTE	EWB01	Pre-warning empty waste bucket reached. Drinks available.	The waste bucket must be emptied within the next drinks. Empty waste and press service key <5>
ERROR EMPTY WASTE	EWB02	Command to empty the waste bucket. No more drinks available.	Empty waste and press service key <5> to confirm.
FILL MACHINE	FC01	The water system is empty.	Fill water system (start with drink selection key).
TOLERANCE ERROR MACHINE OFF/ON	EBH01	Position error while pre-heating brewer unit.	See solution of error code EB01.
	EGC02	Position error while calibrating grinder.	See solution of error code EB01.
	EBC02	Position error while rinsing brewing unit.	See solution of error code EB01.
	EBD02	Position error while brewing coffee.	See solution of error code EB01.
	EBI02	Deviations of the two impulse digits „upwards“ and „downwards“ during brewer initialisation are too big.	See solution of error code EB01.
	EBI03	Position error while initialising brewer.	See solution of error code EB01.
	EBO01	Not enough power to open brewer.	See solution of error code EB01.
	EBO02	Position error while opening brewer.	See solution of error code EB01.
	EBR02	Position error while rinsing brewer.	See solution of error code EB01. If the Rinsing of the brewing unit is stopped, it can be that the waterflow is insufficient. <ul style="list-style-type: none"> - Check valve block and nozzles, replace them if necessary.

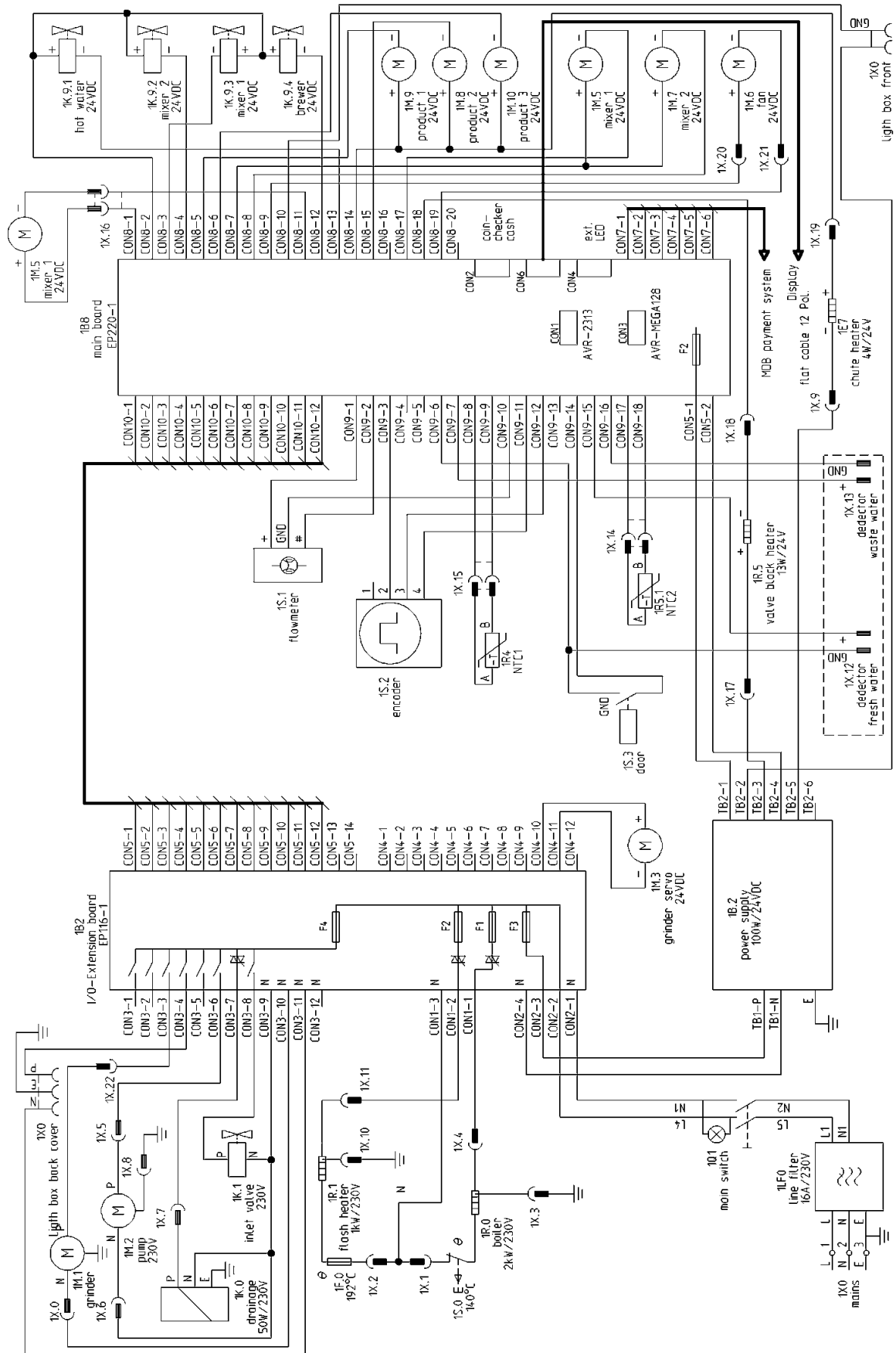


5 Charts

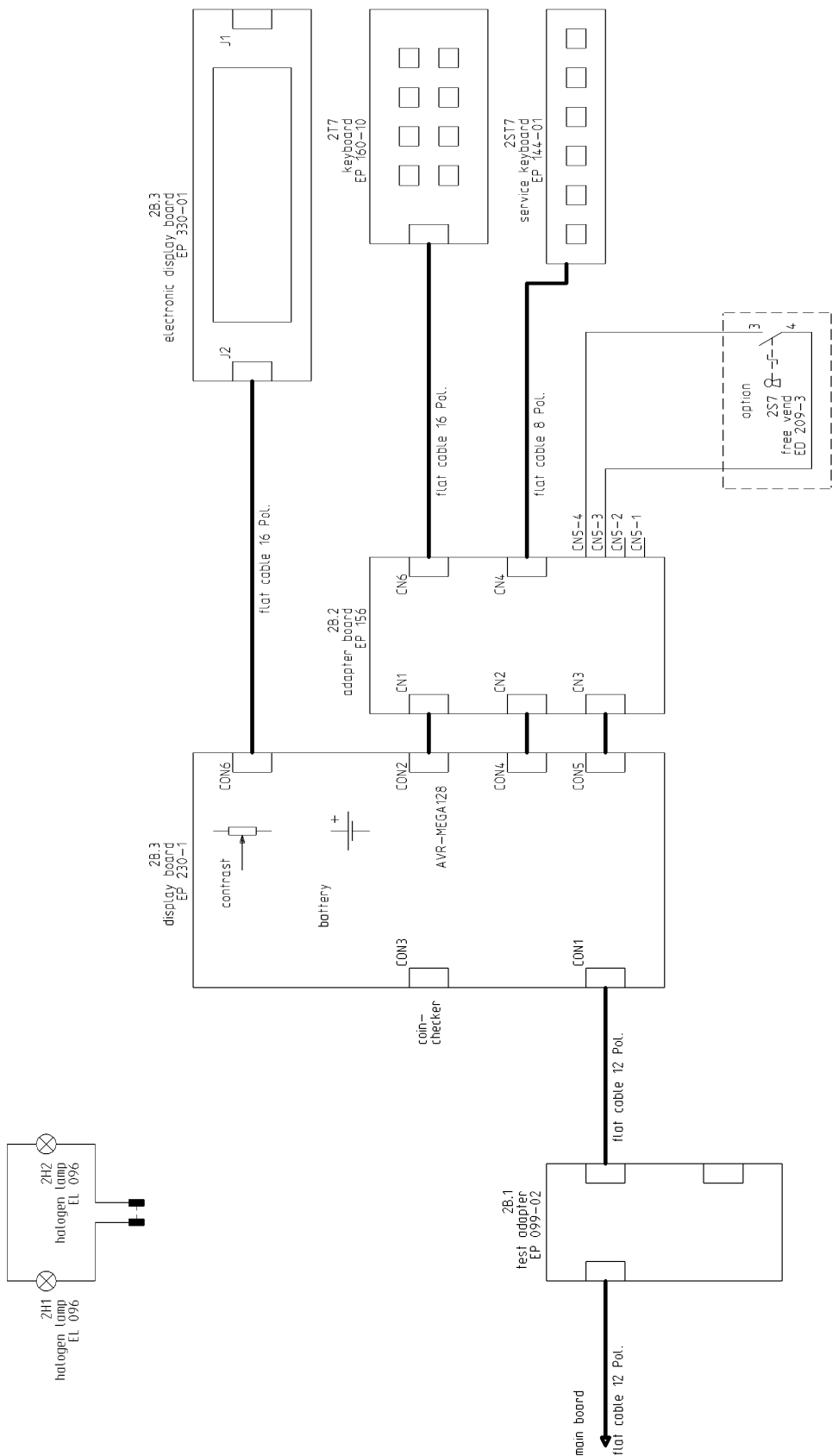
5.1 Electrical Connection Diagram LG 22



5.2 Electrical Connection Diagram LG 26

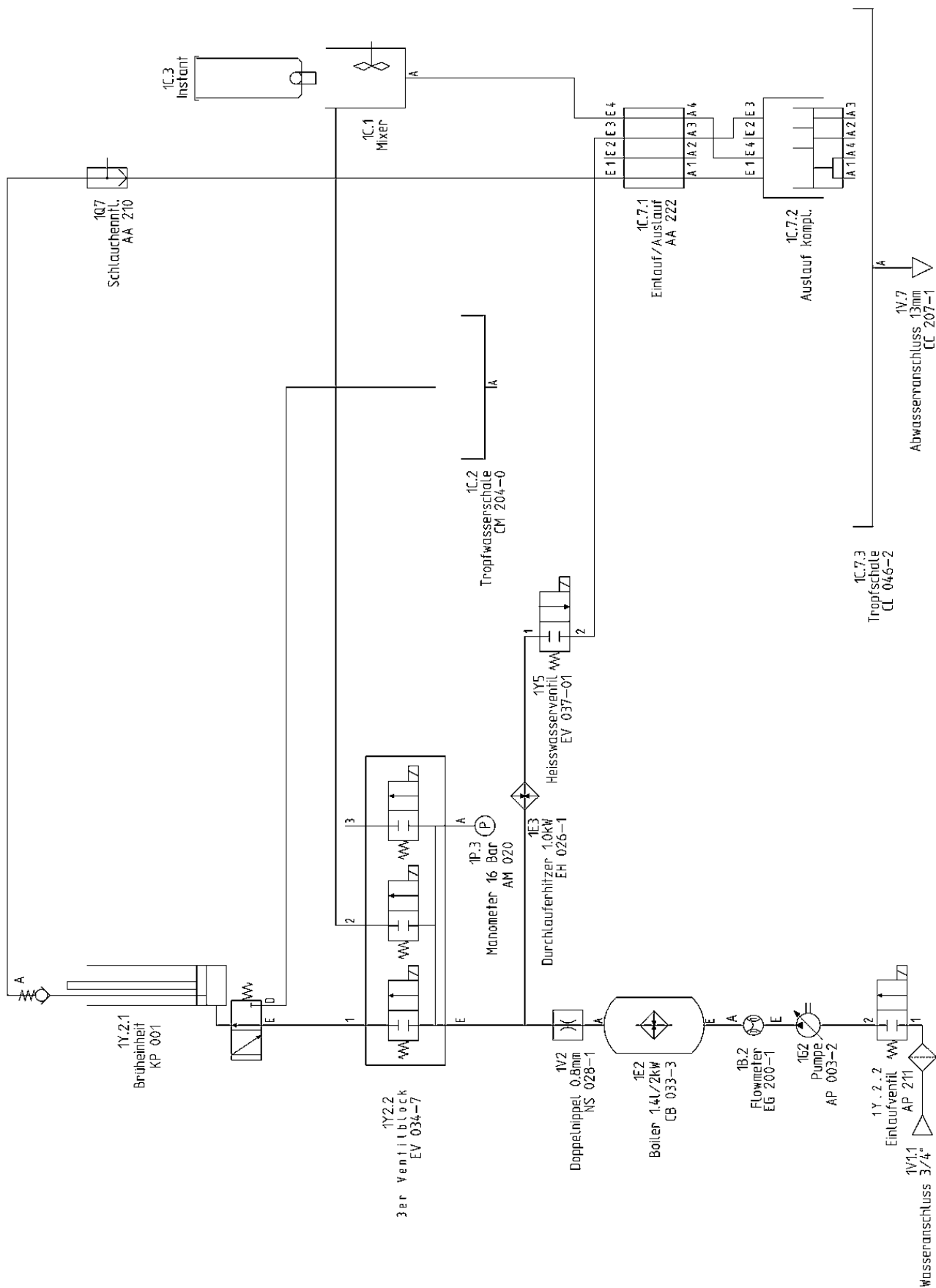


5.3 Console Electrical Diagram LG22 / LG 26



6 Water Flow Diagram

6.1 LG 22

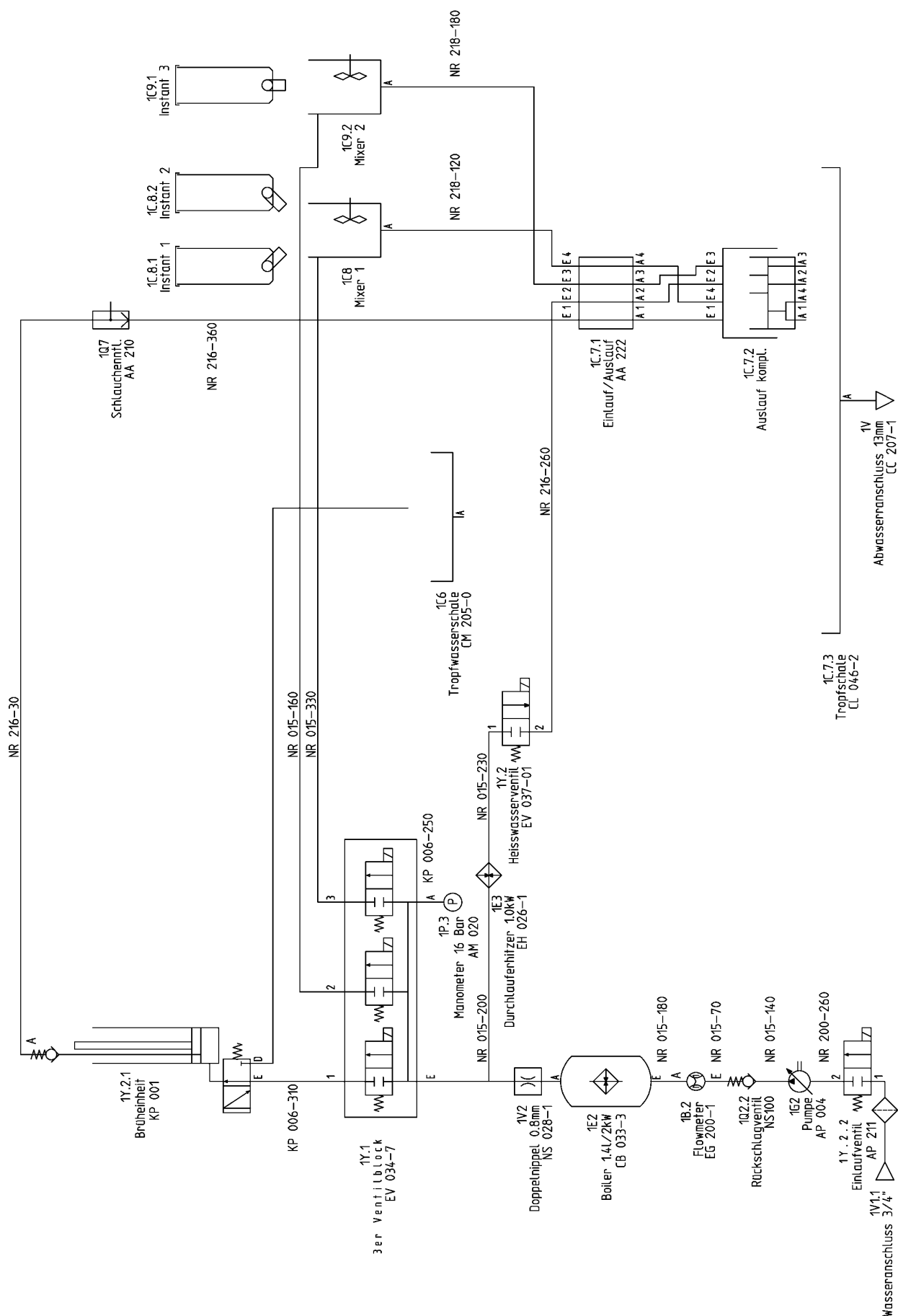


6.2 Description of the Water Flow Diagram LG 22

Pos.	LG 22 Bezeichnung	LG 22
1V1.1	Water connection	¾" Gas
1Y.2.2	Inlet valve	230V AC
	Pressure regulation	Standard 10 bar
1G2	Pump	200 l/h
1B.2	Flow meter	
1E2	Boiler	1.4l, 2000 W
1V2	Double fitting with nozzle hole	Ø 0.8mm
	Inlet hot water heater	Ø 6mm
1E3	Hot water heater	1kW
1Y5	Hot water valve	24V DC
1Y2.2	3 valve module	
	Coffee valve	24V DC
	Mixer valve	24V DC
1P.3	Pressure manometer	16 bar
	Brewer hose	Ø 4mm
1Y.2.1	Brewer unit	
	Drain valve	
1C.2	Waste water container	
1Q7	Hose exhaust	
	Coffe outlet hose	Ø 10mm
	Mixer hose	Ø 6mm
1C.3	Ingredient container	
1C.1	Mixer	
	Outlet hose mixer	Ø 10mm
1C.7.1	Drinks outlet	
1C.7.2	Outlet complete	
1C.7.3	Drip tray	
1V.7	Waste water connection	Ø 13mm



6.3 LG 26



6.4 Description of the Water Flow Diagram LG 26

Pos.	LG 26 Bezeichnung	LG 26
1V1.1	Water connection	¾" Gas
1Y.2.2	Inlet valve	230V AC
	Pressure regulation	Standard 10 bar
1G2	Pump	100 l/h
1Q2.2	Clap valve	
1B.2	Flow meter	
1E2	Boiler	1.4l, 2000 W
1V2	Double fitting with nozzle hole	Ø 0.8mm
1E3	Hot water heater	1kW
1Y.2	Hot water valve	24V DC
	Inlet hot water heater	Ø 6mm
1Y.1	3 valve module	
	Coffee valve	24V DC
	Mixer valve mixer 2	24V DC
	Mixer valve mixer 1	24V DC
1P.3	Pressure manometer	16 bar
	Brewer hose	Ø 4mm
1Y.2.1	Brewer unit	
	Drain valve	
1C6	Waste water container	
1Q7	Hose exhaust	
	Coffee outlet hose	Ø 10mm
	Mixer hose mixer 1	Ø 6mm
	Mixer hose mixer 2	Ø 6mm
1C.8.1	Ingredient container1	
1C.8.2	Ingredient container 2	
1C9.1	Ingredient container 3	
1C8	Mixer 1	
1C9.2	Mixer 2	
	Outlet hose mixer 1	Ø 10mm
	Outlet hose mixer 2	Ø 10mm
1C.7.1	Drinks outlet	
1C.7.2	Outlet complete	
1C.7.3	Drip tray	
1V	Waste water connection	Ø 13mm



7 Accessories

7.1 Interface for Cash Register

(Coin 225)



If adding the interface later on, the software has to be updated.

DEBIT-Mode

Process: The machine gets the release message from the cash register. Pressing a drink button you start the drink preparation and, at the same time, the machine sends the registration impulse(s) to the cash register.

Configuration: Menu "SERVICE PAYMENT SYSTEMS", "PAYMENT SYSTEM REGISTR.SYSTEMS", "SET REGISTR. MODE" to "DEBIT".
Configuration and setting of impulse figure in menu „SERVICE DRINK SETTINGS“.

Connection: MAIN BOARD EP 222-11: CON 2 10 pin ribbon connector
The connection diagram for the cash register comes with the interface.

Interface: Interface part number: VM 270-40

CREDIT-Mode

Process: Pressing a drink button the machine sends the registration impulse(s) to the cash register. If the cash register has the necessary credit, it answers with the release message and the drink preparation starts.

Configuration: Menu "SERVICE PAYMENT SYSTEMS", "PAYMENT SYSTEM REGISTR.SYSTEMS", "SET REGISTR. MODE" to "CREDIT".
Configuration and setting of impulse figure in menu „SERVICE DRINK SETTINGS“.

Connection: MAIN BOARD EP 222-11: CON 2 10 pin ribbon connector
The connection diagram for the cash register comes with the interface.

Interface: Interface part number: VM 270-40

7.2 Payment System Parallel Coin Checker

(Coin 231)

Configuration: Set menu „SERVICE PAYMENT SYSTEMS“ „PAYMENT SYSTEM COIN MECHANISM“ „SET COIN MECH TYPE:“ to 1, then type in the value of the corresponding channel by using menu points "COIN CHANNE 1 VALUE: xxxxx" to "COIN CHANNE 6 VALUE: xxxxx".

Connection: MAIN BOARD EP 222-11: CON 2 (next to CON 6) 10 pin ribbon connector
DISPLAY BOARD EP 232-11: CON 3 10 pin ribbon connector

Accessories: Ribbon cable 10 pin part number: VZ 257
To connect a 24 V DC coin checker you need the extra interface part number: EP 190-0

7.3 Payment System Executive

(Coin 231)

Configuration: Set menu „SERVICE PAYMENT SYSTEMS“ „PAYMENT SYSTEM COIN MECHANISM “ „ SET COIN MECH TYPE:“ to 2.

Connection: MAIN BOARD EP 222-11: CON 7 6 pin Molex Mini Fit connector

Accessories: To connect an Executive system you need a level converter, part number: VZ 255



7.4 Payment System MDB Coin Changer

(Coin 231)

Configuration: Set menu „SERVICE PAYMENT SYSTEM“ „PAYMENT SYSTEM COIN MECHANISM “ „ SET COIN MECH TYPE :“ to 3.

Connection: MAIN BOARD EP 222-11: CON 7 6 pin Molex Mini Fit connector

Accessories: MDB extension cord part number: VZ 256

7.5 Payment System MDB Cashless

(Coin 231)

Configuration: Set menu „SERVICE PAYMENT SYSTEM“ „PAYMENT SYSTEM COIN MECHANISM “ „ SET COIN MECH TYPE :“ to 4.

Connection: MAIN BOARD EP 222-11: CON 7 6 pin Molex Mini Fit connector

Accessories: MDB extension cord part number: VZ 256

7.6 Payment System MDB Cashless & MDB Coin Changer

(Coin 231)

Configuration: Set menu „SERVICE PAYMENT SYSTEM“ „PAYMENT SYSTEM COIN MECHANISM “ „ SET COIN MECH TYPE :“ to 5

Connection: MAIN BOARD EP 222-11: CON 7 6 pin Molex Mini Fit connector

Accessories: MDB extension cord part number: VZ 256

7.7 Payment System MDB Cashless & Parallel Coin Checker

(Coin 231)

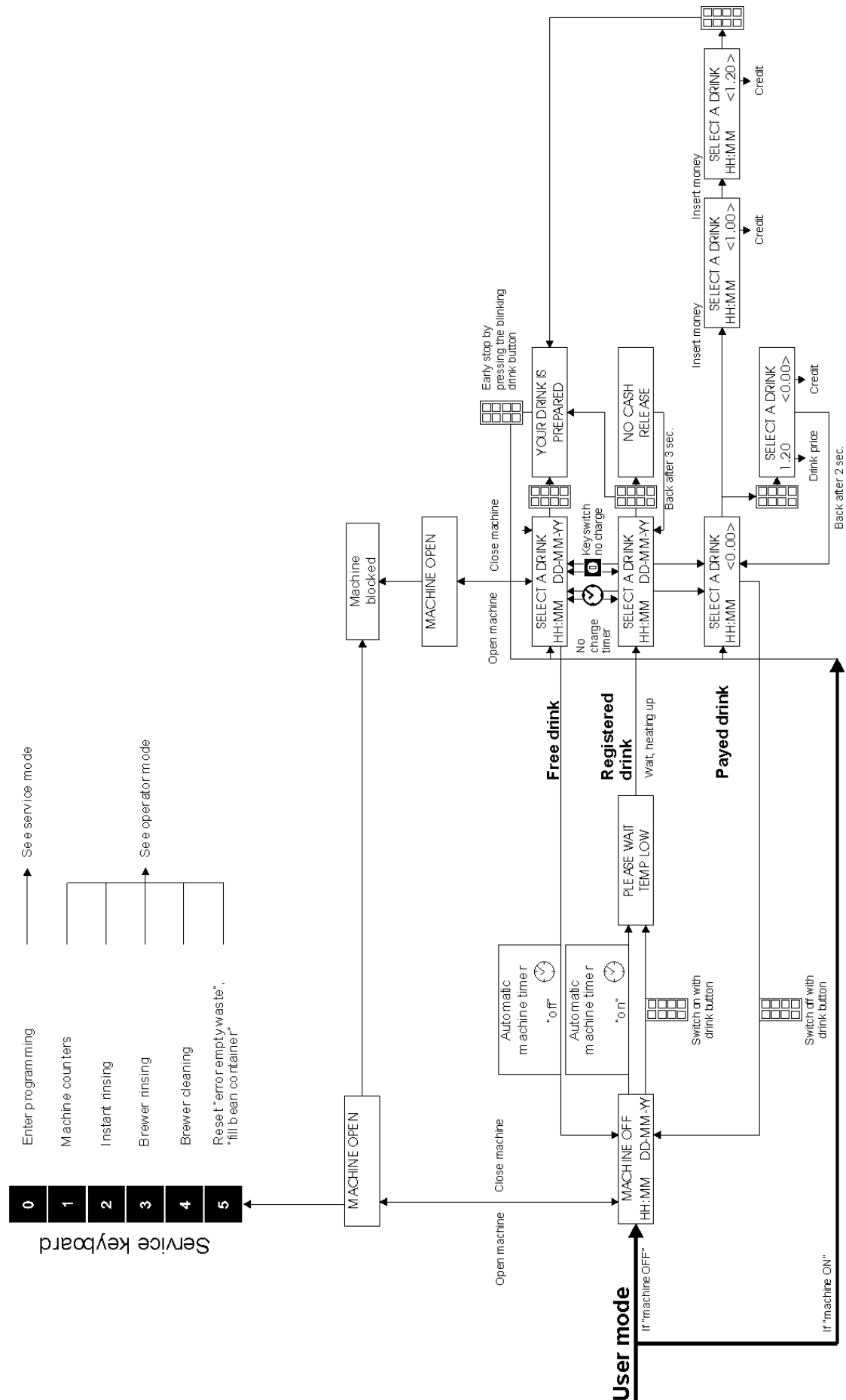
Configuration: Set menu „SERVICE PAYMENT SYSTEM“ „PAYMENT SYSTEM COIN MECHANISM “ „ SET COIN MECH TYPE :“ to 6.

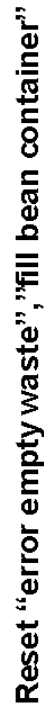
Connection: MAIN BOARD EP 222-11: CON 7 6 pin Molex Mini Fit connector to cashless
CON 2 10 pin ribbon connector to coin checker

Accessories: MDB extension cord part number: VZ 256
Ribbon cable 10 poles part number: VZ 257

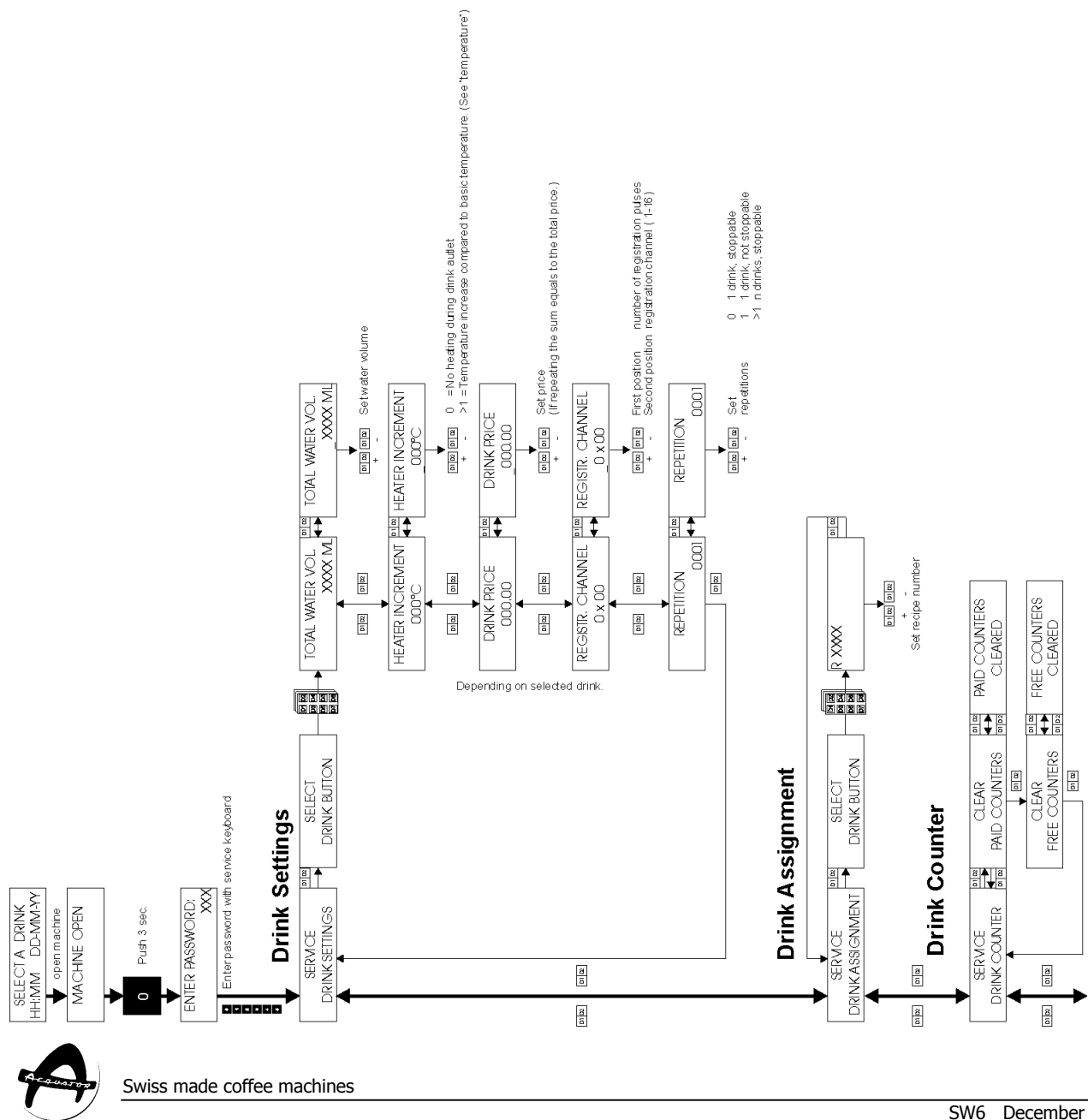


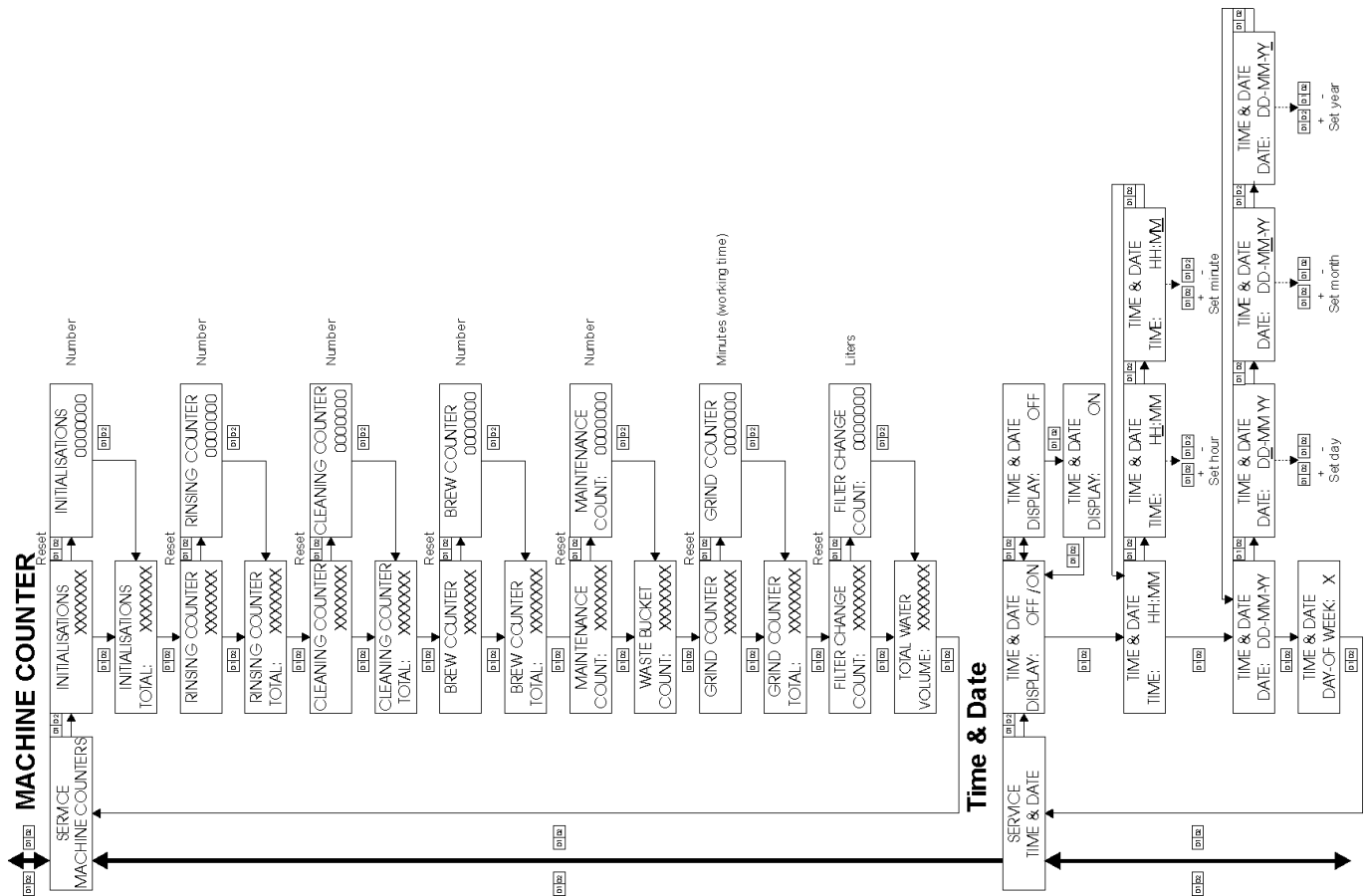
8 User Programs

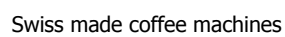




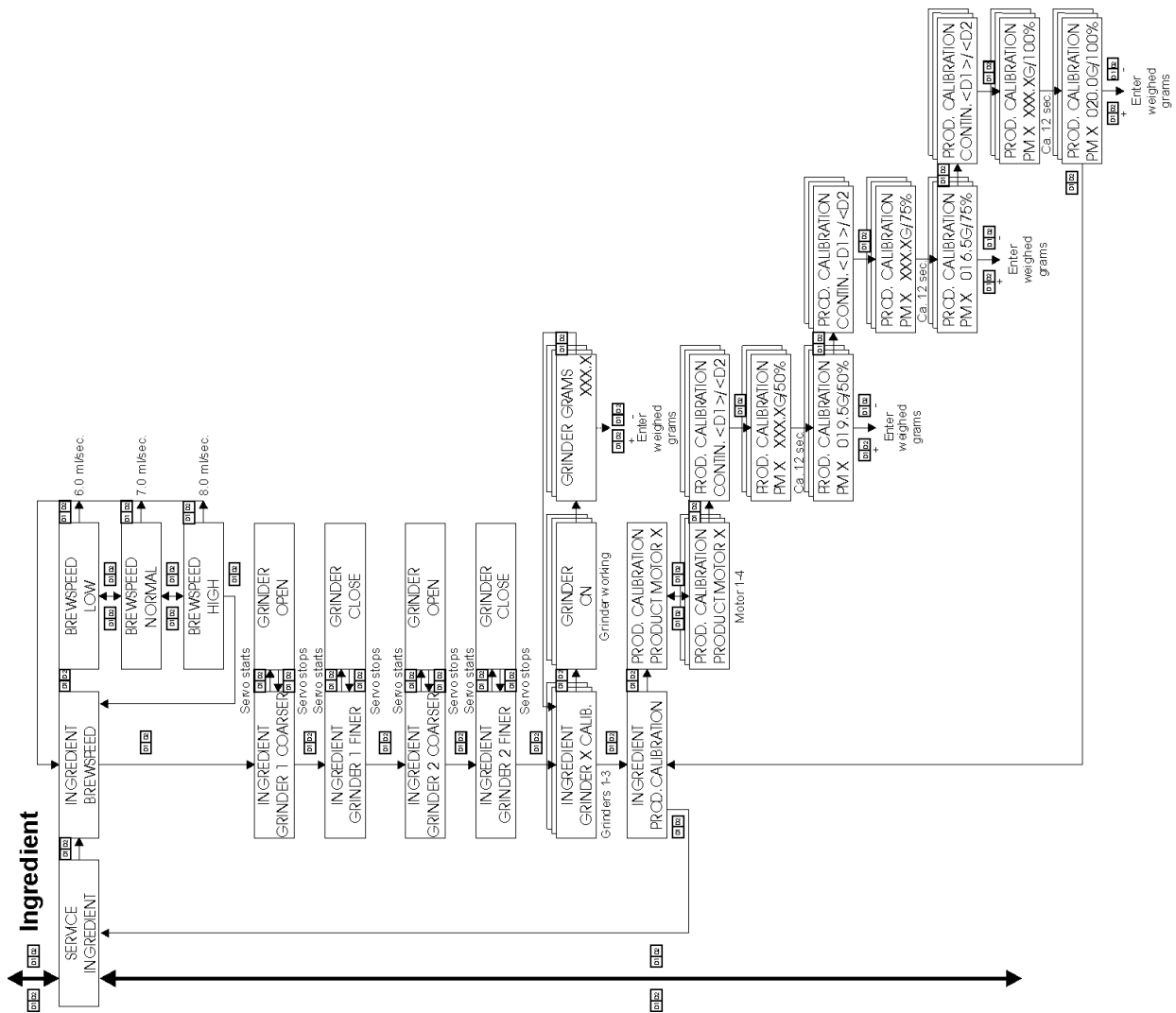
8.1 Engineers' Programs

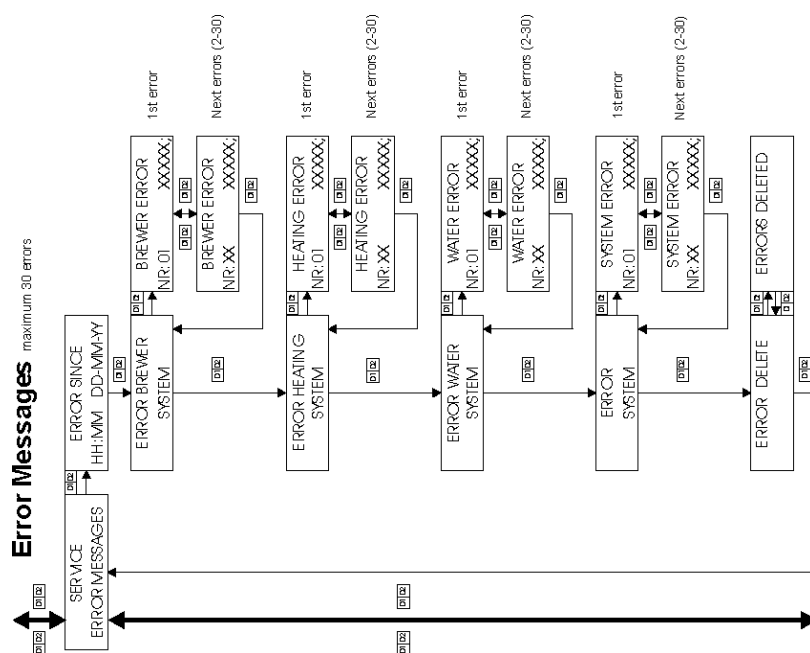


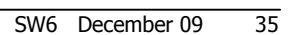
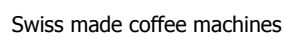


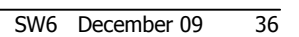
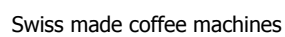


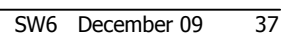
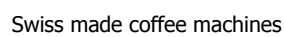
32











9 Tips & Tricks

9.1 LG 26



Disconnect the power cord from the mains before starting any work inside the machine !

Brewing Unit

Remove:

- Remove left hand cover
- Remove clip of water connection to brewer
- Remove water hose
- Remove coffee outlet hose from brewer
- Unscrew brewer fixing
- Pull out brewing unit

Install:

Proceed the opposite way

Grinder

Remove:

- Remove all ingredient containers
- Unscrew and remove the metal sheet above the grinder
- Unscrew and remove back cover of the housing
- Disconnect electric connection
- Unscrew grinder and remove it pulling it upwards

Install:

Proceed the opposite way

Pump

Remove:

- Remove right hand cover of the housing
- Remove back cover of the housing
- Disconnect electric connection and water connection
- Unscrew pump fixing
- Remove pump

Install:

Proceed the opposite way

Boiler

Remove:

- Remove waste box
- Remove right hand cover of the housing
- Unscrew flash heater
- Remove valve element and disconnect water hose
- Disconnect electric connection
- Unscrew fixing below the boiler
- Unscrew fixing on the side of the waste box
- Remove boiler

Install:

Proceed the opposite way

Ingredient Motors

Remove / Install:

If you cannot pull out the ingredient motors, remove the axle.



9.2 LG 22



Disconnect the power cord from the mains before starting any work inside the machine !

Brewing Unit

Remove:

- Turn the machine off and on again. During the initialisation of the brewing unit turn the machine off at the moment when the brewing unit is in a position without any overhanging parts on the left.
- Remove clip of water hose leading to the brewing unit
- Remove water connection
- Remove coffee outlet hose from brewer
- Unscrew brewer fixing
- Remove brewer

Install:

Proceed the opposite way

Grinder

Remove:

- Remove all ingredient containers
- Unscrew and remove the left hand part of the housing
- Unscrew and remove back cover of the housing
- Remove the cover behind the waste bucket
- Disconnect electric connection
- Unscrew grinder and remove it to the left.

Install:

Proceed the opposite way

Pump

Remove:

- Remove left hand part of the housing
- Remove the cover behind the waste bucket
- Disconnect electric connection and water connection
- Unscrew pump fixing
- Remove pump

Install:

Proceed the opposite way.

Boiler

Remove:

- Unscrew and remove back cover of the housing
- Remove right hand cover of the housing
- Remove valve element and disconnect water hose
- Disconnect electric connection
- Unscrew fixing below the boiler
- Unscrew fixing on the back side
- Remove boiler

Install:

Proceed the opposite way

Ingredient Motors

Remove / Install:

If you cannot pull out the ingredient motors, remove the axle.



10 Technical Data

Dimensions

Width		350 mm
Depth including light box backside		600 mm
Height		810 mm
Weight	LG22	55kg
	LG26	50kg

Water

Fresh water connection	3/4" Gas outside
Fresh water hose*	3/8" Gas inside
Length of fresh water hose*	1.5 m
Water pressure	1-8 bar
Waste water connection	ø 13mm
Length of waste water hose*	1.5 m

Electricity

Operating voltage	230 V 50 Hz
Length of power cord	1.5 m
Fuse protection	16 A
Maximum power	3200 W (14A)
	2200 W (10A) with power management
Stand by consumption in 24 hours	2.5 kWh

Conditions

Working temperature	5-40° C
Never expose you machine to temperatures below freezing.	

* Included



11 Declaration of conformity

EU-Konformitätserklärung **EU Declaration of Conformity** **Déclaration de conformité UE**

Hiermit erklären wir, dass die Kaffeemaschine
We herewith declare that the coffee machine
Nous déclarons que la machine à café

Linea Gastro 22

auf die sich diese Erklärung bezieht, mit folgenden Normen übereinstimmt:
to which this declaration relates is in conformity with the following standards:
à laquelle se réfère cette déclaration, est conforme aux normes suivantes:

Sicherheit / Security / Sécurité

EN 60335-1, 2004; IEC 60335-1, 2001
EN 55014-2, 2002; CISPR 14-2

DIN EN 60335-2-15, 2003; IEC 60335-2-15, 2002

DIN EN 60335-2-75, 2003; IEC 60335-2-75, 2002

Emissionen / Emissions

EN 55014-1, 2003; CISPR 14-1

DIN EN 61000-3-2, 2001; IEC 61000-3-2
DIN EN 61000-3-3, 2002; IEC 61000-3-3

gemäss den Bestimmungen folgender Richtlinien:
following the provisions of the following directives:
conformément aux dispositions des directives suivantes:

EMV / electromagnetic compatibility / compatibilité électromagnétique	2004/108/EG
Niederspannungsrichtlinie / low voltage / basse tension	73/23/EG
Maschinenrichtlinie / machinery / machines	2006/42/EG
Druckgeräte richtlinie / pressure equipment / équipement sous pression	97/23/EG
"RoHS" Restriction of the use of certain hazardous substances in electrical and electronic equipment	2002/95/EG
"WEEE" Waste Electrical and Electronic Equipment	2002/96/EG

Arbon, May 2009

Aequator AG
St. Gallerstrasse 229
CH-9320 Arbon


Manfred Meyer
Geschäftsführer
CEO / directeur général



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EU Declaration of Conformity
Déclaration de conformité UE

Hiermit erklären wir, dass die Kaffeemaschine
We herewith declare that the coffee machine
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EN 55014-2, 2002; CISPR 14-2

DIN EN 60335-2-15, 2003; IEC 60335-2-15, 2002

DIN EN 60335-2-75, 2003; IEC 60335-2-75, 2002

Emissionen / Emissions

EN 55014-1, 2003; CISPR 14-1

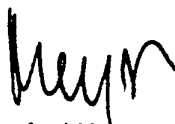
DIN EN 61000-3-2, 2001; IEC 61000-3-2
DIN EN 61000-3-3, 2002; IEC 61000-3-3

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CEO / directeur général



12 Your Service Partner

