

## Lattiz V1.2

# Technical Manual

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EN 61000-3-3:2014



*Vending Verband Schweiz  
Vending Association Suisse  
Vending Associazione Svizzera*



*Bundesverband der Deutschen  
Vending-Automatenwirtschaft e. V.*



*European Vending Association*



*Speciality Coffee Association of Europe*

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Software : 1420

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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 machine. The installation, service and repairing work must be done by a mechanical engineer authorized by Aequator.

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](mailto:support@aequator.ch) or via fax.



**Generic warning**



**Hazard symbol High Voltage**

## 1.1 Safety Instructions



**For safety purposes, unplug the power connector for any operation inside the unit, e.g. cleaning!**

**To reduce to the risk of electric shock, do not remove or open cover. No user-serviceable parts inside.**



**The machine complies with IP20 and must be operated in dry rooms only!**

**This table top machine must not be operated on the floor!**

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

**Machine needs a minimum distance to micro wave ovens and inductive devices of minimum 1m**

This machine is **FOR PROFESSIONAL USE IN BUSINESS ESTABLISHMENTS ONLY**, e.g. in restaurants, hotels, motels, cafeterias, shops, offices etc.

The machine is **NOT FOR OPEN-AIR USE**.

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

**The above may cause**

- danger to correct, efficient, and reliable working of the machine
- danger to the payment system and to further assets of the operator or the user
- danger to life and limb

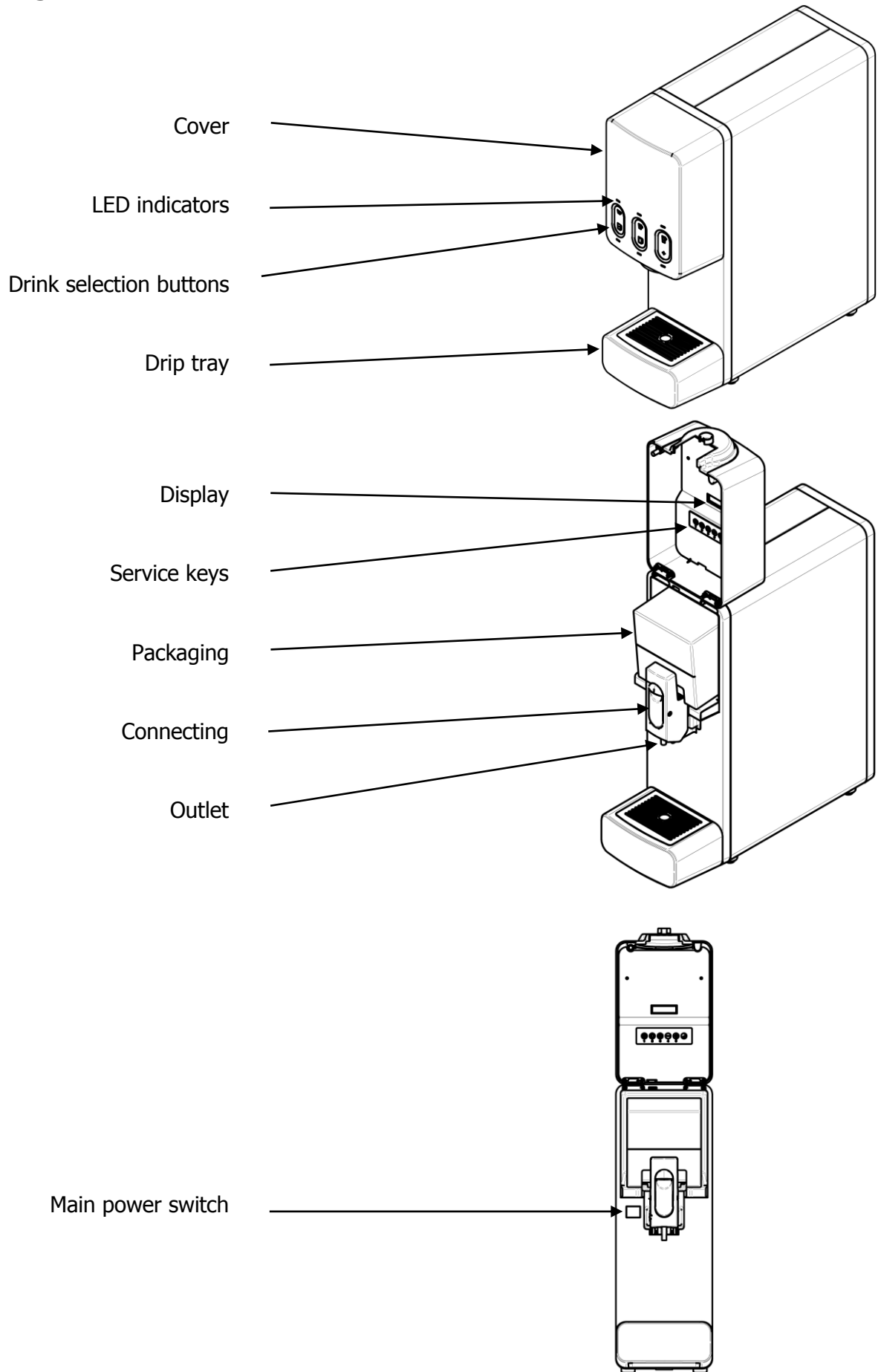
**Concerning transport, installation, maintenance and repair please consult the latest edition of the following regulations and guidelines of your country:**

- 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 Drawing of the Machine



## 1.3 Dimension

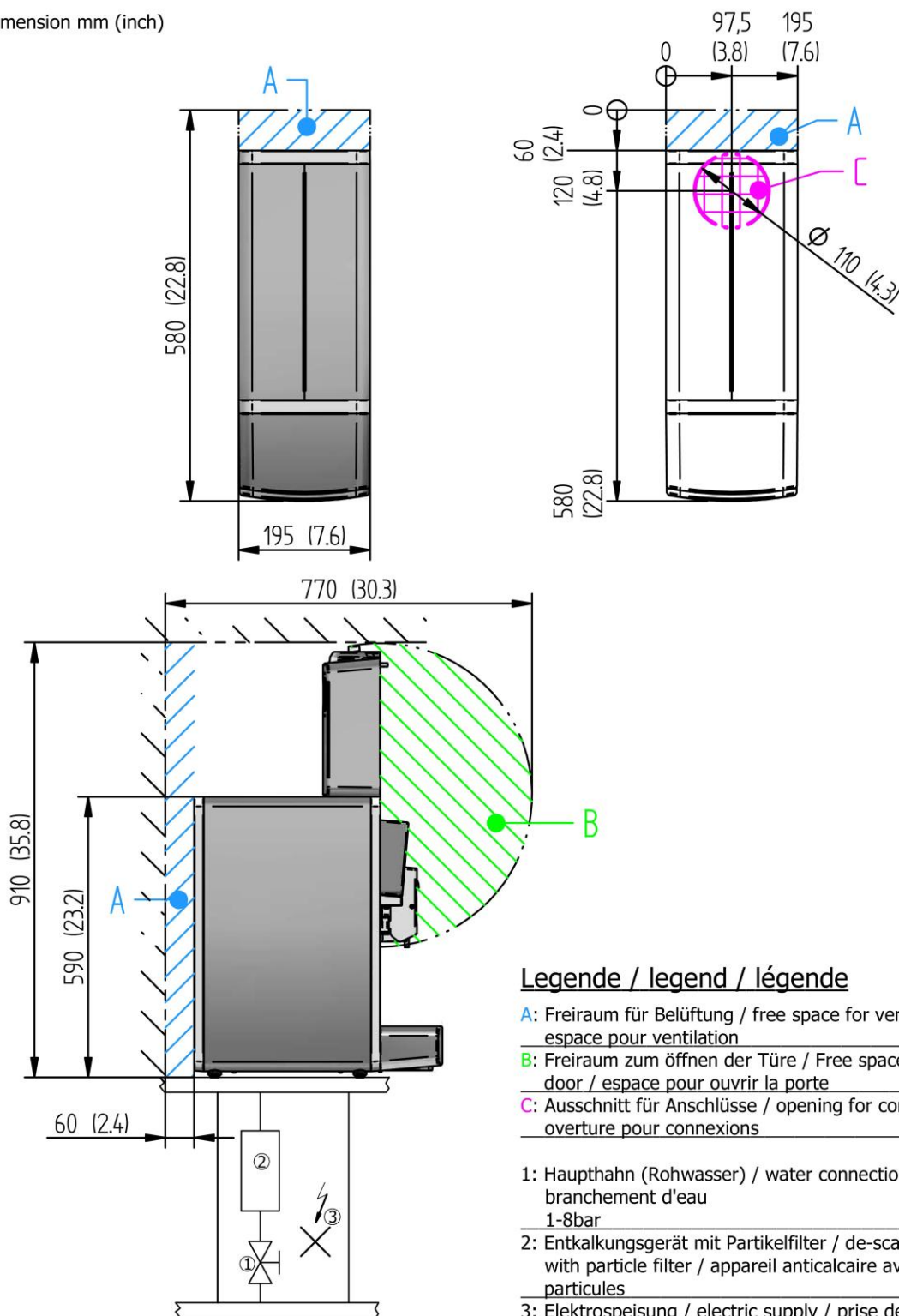
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Massblatt / Dimension / Mesures

**Aequator**  
Swiss made coffee machines 

# Lattiz

Dimension mm (inch)



### Legende / legend / légende

- A: Freiraum für Belüftung / free space for ventilation / espace pour ventilation
- B: Freiraum zum öffnen der Türe / Free space to open the door / espace pour ouvrir la porte
- C: Ausschnitt für Anschlüsse / opening for connections / ouverture pour connexions

- 1: Haupthahn (Rohwasser) / water connection / branchement d'eau  
1-8bar
- 2: Entkalkungsgerät mit Partikelfilter / de-scaling device with particle filter / appareil anticalcaire avec filtre à particules
- 3: Elektrospeisung / electric supply / prise de courant  
230V / 50 Hz / 3000W / 13A

## 2 Handling



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

### 2.1 Installation

Please check before installing the machine:

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

#### 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 complies with IP20 and must be operated in dry rooms only!**



**This table top machine must not be operated on the floor!**

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

#### Water Connection

Connect the machine to your drink water system (Filter menu 2.1.4), observing the legal regulations of your country. The water pressure must be 0.1 to 0.6 MPa (1 to 6 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.

#### 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 mm<sup>2</sup> 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.



## 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 and particle filter must be placed between the water tap 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 timely replacement of the filters.

## Operation Steps

### 1. Filling water system:

- Press rinse key
- If water flows out of the outlet, you can stop by pressing any button



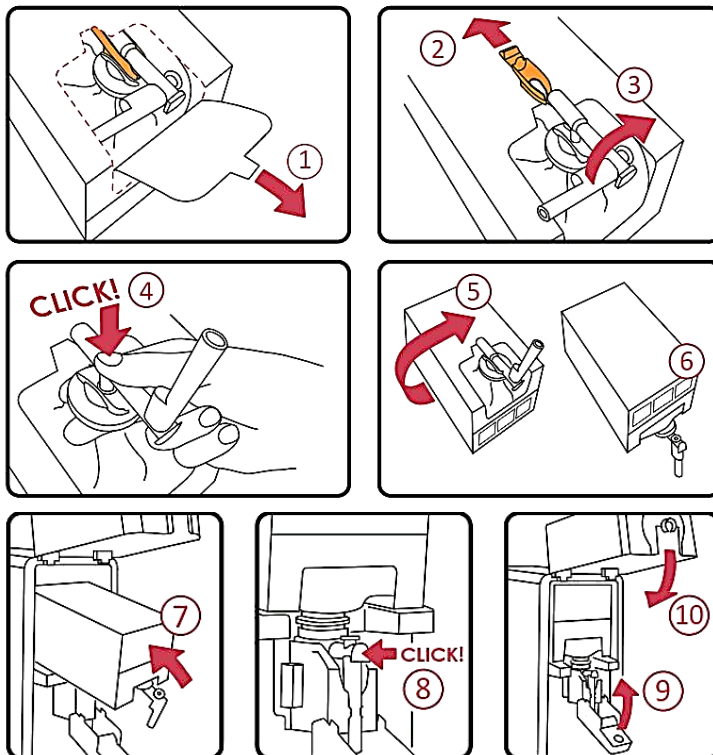
**Water will come out of the outlet, max. 0.6 l**

### 2. Insert the Milk Box

See individual steps on the milk box!

Open the machine door

1. Tear off flap of milk box, take out spout
2. Remove orange lock
3. Rotate outlet to vertical (upright) position
4. Push outlet into cap
5. Turn over box
6. See the next steps on the front of the milk box
7. Place box in machine
8. Click outlet in position
9. Close handle, read display
10. Close the machine door, the machine is ready for use



## 2.2 Operation

### Button assignment

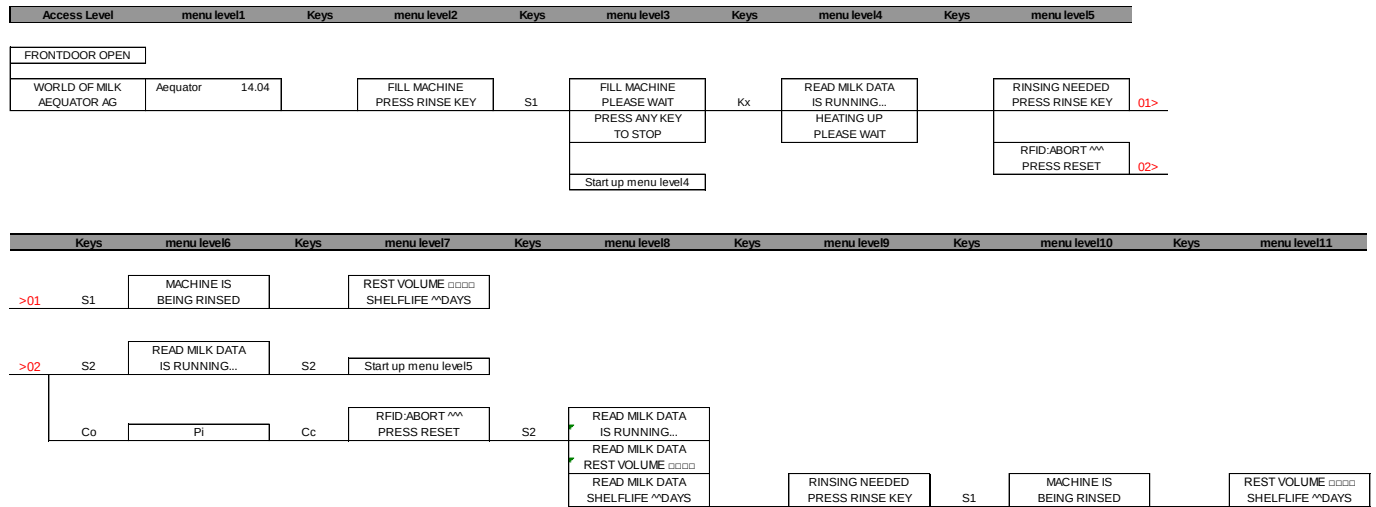
| Drink 1                                                                            | Drink 3                                                                            | Drink 5                                                                              |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| Drink 2                                                                            | Drink 4                                                                            | Drink 6                                                                              |

### Service keys

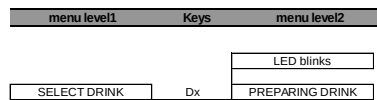
|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| <b>1</b>                                                                            | <b>2</b>                                                                            | <b>3</b>                                                                            | <b>4</b>                                                                            | <b>5</b>                                                                              |                                                                                       |
| <b>S1</b>                                                                           | <b>S2</b>                                                                           | <b>S3</b>                                                                           | <b>S4</b>                                                                           | <b>S5</b>                                                                             | <b>S6</b>                                                                             |
| Rinse                                                                               | Reset                                                                               | Cancel                                                                              | Minus<br>menu<br>navigation /<br>backward                                           | Plus<br>menu<br>navigation /<br>forward                                               | Enter                                                                                 |

## 2.3 User Menu

### Start Up

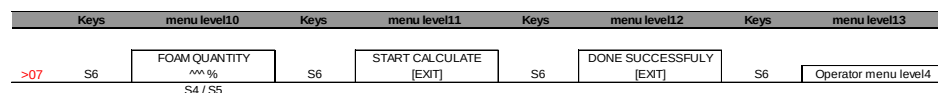
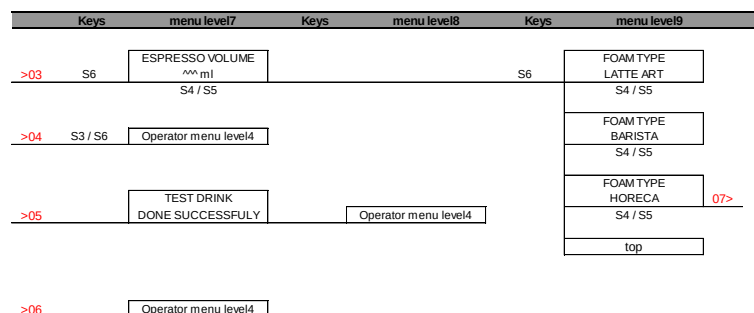
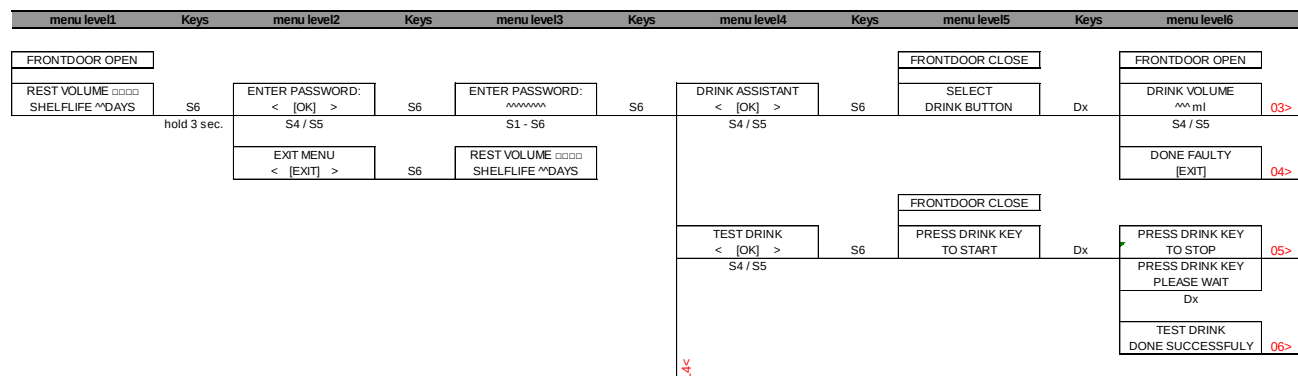


### User

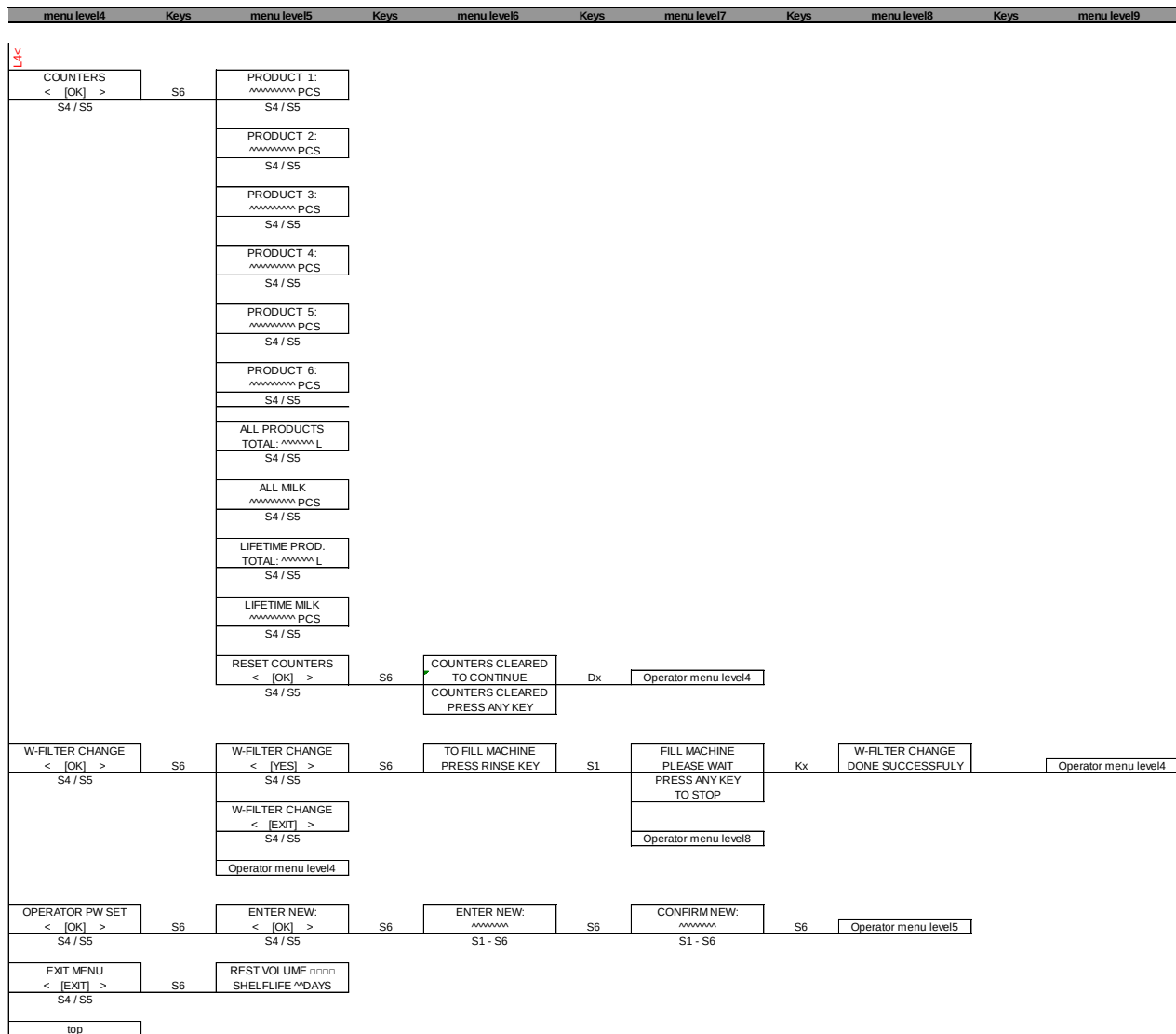


| Menu                                 | Description                                                                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| FILL MACHINE<br>PRESS RINSE KEY      | According to the machines software the machine hasn't been filled yet. Due to this fact the heaters are switched off too avoiding to overheat. |
| RINSING NEEDED<br>PRESS RINSE KEY    | According to the machines software the machine needs a rinsing.                                                                                |
| REST VOLUME □□□□<br>SHELFLIFE ^^DAYS | According to the product tag you see the bags rest volume and also the shelf-life in days of the bag.                                          |

## Operator Menu Default Password = 1234



| Menu                                                 | Description                                                                                                    |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| REST VOLUME <input type="text"/><br>SHELFLIFE ^^DAYS | After replacing the milk box, you will see the rest volume in the box, and the shelf life of the milk in days. |
| DRINK ASSISTANT<br>< [OK] >                          | Menu to set up the drink recipes.                                                                              |
| SELECT<br>DRINK BUTTON                               | Select the drink recipe you wish to change pressing the corresponding drink button.                            |
| DRINK VOLUME<br>^^ ml                                | Set the total volume of the drink.                                                                             |
| ESPRESSO VOLUME<br>^^ ml                             | Set the espresso volume.                                                                                       |
| FOAM TYPE<br>LATTE ART                               | Select the milk foam quality LATTE ART.                                                                        |
| FOAM TYPE<br>BARISTA                                 | Select the milk foam quality BARISTA.                                                                          |
| FOAM TYPE<br>HORECA                                  | Select the milk foam quality HORECA.                                                                           |
| FOAM QUANTITY<br>^^ %                                | Set the amount of milk foam in % of the drink volume.                                                          |
| TEST DRINK<br>< [OK] >                               | Have a test drink of the current recipe.                                                                       |



| Menu                              | Description                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------|
| PRODUCT 1:<br>^^^^^^^^^ PCS       | Shows the number of drinks of the indicated product (number 1 up to 6) since last reset. |
| ALL PRODUCTS<br>TOTAL: ^^^^^^ L   | Shows the number of all dispensed products since last reset.                             |
| ALL BOXES<br>^^^^^^^^^ PCS        | Shows the total number of milk boxes used since last reset.                              |
| LIFETIME PROD.<br>TOTAL: ^^^^^^ L | Shows the total life time production of the machine in litres.                           |
| LIFETIME BOXES<br>^^^^^^^^^ PCS   | Shows the total number (pieces) of milk boxes used in the machine's lifetime.            |
| RESET COUNTERS<br>< [OK] >        | Resets all the counters (without the lifetime counters)                                  |
| W-FILTER CHANGE<br>< [OK] >       | Reset the litre counter of the water filter after replacing it.                          |
| OPERATOR PW SET<br>< [OK] >       | Menu to set a new operator password.                                                     |



| menu level4                              | Keys | menu level5                                 | Keys | menu level6                                 | Keys    | menu level7                    | Keys                   | menu level8 |
|------------------------------------------|------|---------------------------------------------|------|---------------------------------------------|---------|--------------------------------|------------------------|-------------|
| TEMPERATURE<br>< [OK] ><br>S4 / S5       | S6   | TEMPERATURE<br> -----# +<br>S4 / S5         | S6   | TEMPERATURE<br> -----# +<br>S4 / S5         | S6      | Technician menu level4         |                        |             |
| AUTO. RINSING<br>< [OK] ><br>S4 / S5     | S6   | AUTO. RINSING<br>AFTER ^^^ MIN<br>S4 / S5   | S6   | AUTO. RINSING<br>AFTER ^^^ MIN<br>S4 / S5   | S6      | Technician menu level5         |                        |             |
| SLEEP MODE<br>AFTER ^^^ HOURS<br>S4 / S5 | S6   | SLEEP MODE<br>AFTER ^^^ HOURS<br>S4 / S5    | S6   | Technician menu level4                      |         |                                |                        |             |
| LANGUAGE<br>< [OK] ><br>S4 / S5          | S6   | LANGUAGE<br>ENGLISH<br>S4 / S5              | S6   | LANGUAGE<br>^^^^^^^^<br>S4 / S5             | S6      | LANGUAGE<br>ENGLISH<br>S4 / S5 |                        |             |
| COUNTERS<br>< [OK] ><br>S4 / S5          | S6   | LIFETIME PROD.<br>TOTAL: ^^^^^ L<br>S4 / S5 |      |                                             |         | LANGUAGE<br>S4 / S5            |                        |             |
|                                          |      | LIFETIME MILK<br>^^^^^^^^ PCS<br>S4 / S5    |      |                                             |         | LANGUAGE<br>S4 / S5            | Technician menu level4 |             |
|                                          |      | W-FILTER CHANGE<br>SINCE ^^^^^ L<br>S4 / S5 |      |                                             |         | top                            |                        |             |
|                                          |      | NUMBER OF RINSES<br>^^^^^^ CYCL.<br>S4 / S5 |      |                                             |         |                                |                        |             |
|                                          |      | NUMBER OF RINSES<br>< [CLEAR] ><br>S4 / S5  | S6   | NUMBER OF RINSES<br>^^^^^^ CYCL.<br>S4 / S5 | S4 / S5 | Technician menu level5         |                        |             |
|                                          |      | USE TIME AIR<br>^^^^^^^^ H<br>S4 / S5       |      |                                             |         |                                |                        |             |
|                                          |      | USE TIME AIR<br>< [CLEAR] ><br>S4 / S5      | S6   | USE TIME AIR<br>^^^^^^ CYCL.<br>S4 / S5     | S4 / S5 | Technician menu level5         |                        |             |
|                                          |      | CONCENTR. VALVE<br>^^^^^^ MOVES.<br>S4 / S5 |      |                                             |         |                                |                        |             |
|                                          |      | COUNTERS<br>< [EXIT] ><br>S4 / S5           | S6   | Technician menu level4                      |         |                                |                        |             |
|                                          |      | top                                         |      |                                             |         |                                |                        |             |

| Menu                             | Description                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------------------|
| TEMPERATURE<br>< [OK] >          | Menu to set the temperature. Left side colder, right side hotter.                            |
| AUTO. RINSING<br>< [OK] >        | Menu to set the automatic rinsing interval.                                                  |
| LANGUAGE<br>< [OK] >             | Menu to set the machine language.                                                            |
| COUNTERS<br>< [OK] >             | Menu to check the machine counters.                                                          |
| LIFETIME PROD.<br>TOTAL: ^^^^^ L | Menu to show the counter in litres of all the produced products (in the machine's lifetime). |
| LIFETIME MILK<br>^^^^^^^^ PCS    | Menu to show the counter in pieces of all the milk boxes used (in the machine's lifetime).   |
| W-FILTER CHANGE<br>SINCE ^^^^^ L | Menu to show the litres the current filter has descaled until now.                           |
| NUMBER OF RINSES<br>^^^^^^ CYCL. | Menu to show the number of rinses since the last reset.                                      |
| NUMBER OF RINSES<br>< [CLEAR] >  | Menu to reset the rinsing counter.                                                           |
| USE TIME AIR<br>^^^^^^^^ H       | Menu to show the number of hours the air pump has been running.                              |
| USE TIME AIR<br>< [CLEAR] >      | Menu to reset the air pump running counter.                                                  |
| CONCENTR. VALVE<br>^^^^^^ MOVES. | Menu to show the number of movements of the concentrate valve.                               |

| menu level4                           | Keys | menu level5                                   | Keys | menu level6                                                                       | Keys | menu level7                               | Keys | menu level8                                             | Keys | menu level9                          | Keys | menu level10           |
|---------------------------------------|------|-----------------------------------------------|------|-----------------------------------------------------------------------------------|------|-------------------------------------------|------|---------------------------------------------------------|------|--------------------------------------|------|------------------------|
| ERROR MESSAGES<br>< [OK] ><br>S4 / S5 | S6   | ID:^^^ NOT IMPL.<br>PRESS RESET<br>S4 / S5    | S6   | REST VOLUME ^^^^^<br>SHELFLIFE ^^DAYS<br>S4 / S5                                  |      |                                           |      |                                                         |      |                                      |      |                        |
| TIME & DATE<br>< [OK] ><br>S4 / S5    | S6   | TIME & DATE<br>DATE: ^^^^<br>S4 / S5          | S6   | TIME & DATE<br>DATE: ^^^^<br>S4 / S5                                              | S6   | TIME & DATE<br>DATE: ^^^^<br>S4 / S5      | S6   | TIME & DATE<br>DATE: ^^^^<br>S4 / S5                    | S6   | Technician menu level5               |      |                        |
|                                       |      | TIME & DATE<br>TIME: ^^:^^<br>S4 / S5         | S6   | TIME & DATE<br>TIME: ^^:^^<br>S4 / S5                                             | S6   | TIME & DATE<br>TIME: ^^:^^<br>S4 / S5     | S6   | Technician menu level5                                  |      |                                      |      |                        |
|                                       |      | top                                           |      |                                                                                   |      |                                           |      |                                                         |      |                                      |      |                        |
| INSTALLATION<br>< [OK] ><br>S4 / S5   | S6   | FILL MACHINE<br>< [OK] ><br>S4 / S5           | S6   | FILL MACHINE<br>PLEASE WAIT<br>PRESS ANY KEY<br>TO STOP<br>Technician menu level5 | Kx   | Technician menu level5                    |      |                                                         |      |                                      |      |                        |
|                                       |      |                                               |      |                                                                                   |      |                                           |      | Start up menu level2                                    |      |                                      |      |                        |
|                                       |      | EMPTY MACHINE<br>< [OK] ><br>S4 / S5          | S6   | EMPTY MACHINE<br>PLEASE WAIT<br>PRESS ANY KEY<br>TO STOP                          | Kx   | PLEASE SWITCH<br>MACHINE OFF/ON           |      | FILL MACHINE<br>PRESS RINSE KEY                         |      |                                      |      |                        |
|                                       |      |                                               |      |                                                                                   |      |                                           |      |                                                         |      |                                      |      |                        |
|                                       |      | DEFAULT SETTINGS<br>< [OK] ><br>S4 / S5       | S6   | DEFAULT SETTINGS<br>< [RESET] ><br>S4 / S5                                        | S6   | DEFAULT SETTINGS<br>< [EXIT] ><br>S4 / S5 | S6   | Technician menu level5                                  |      |                                      |      |                        |
|                                       |      |                                               |      |                                                                                   |      |                                           |      | Start up menu level2                                    |      |                                      |      |                        |
|                                       |      |                                               |      |                                                                                   |      | RESET DONE<br>MACHINE OFF/ON              |      | FILL MACHINE<br>PRESS RINSE KEY                         |      |                                      |      |                        |
|                                       |      | WATER CALIBRAT.<br>< [OK] ><br>S4 / S5        | S6   | WATER CALIBRAT.<br>< [START] ><br>S4 / S5                                         | S6   | WATER CALIBRAT.<br>PLEASE WAIT            |      |                                                         |      |                                      |      |                        |
|                                       |      |                                               |      | Technician menu level6                                                            |      | WATER CALIBRAT.<br>^^^ ml<br>S4 / S5      | S6   | Technician menu level5                                  |      |                                      |      |                        |
|                                       |      | W-FILTER CHANGE<br>< [OK] ><br>S4 / S5        | S6   | W-FILTER CHANGE<br>< [YES] ><br>S4 / S5                                           | S6   | TO FILL MACHINE<br>PRESS RINSE KEY        | S1   | FILL MACHINE<br>PLEASE WAIT<br>PRESS ANY KEY<br>TO STOP | Kx   | W-FILTER CHANGE<br>DONE SUCCESSFULLY |      | Technician menu level5 |
|                                       |      |                                               |      | W-FILTER CHANGE<br>< [EXIT] ><br>S4 / S5                                          | S6   | Technician menu level5                    |      |                                                         |      |                                      |      |                        |
|                                       |      |                                               |      | top                                                                               |      |                                           |      | W-FILTER CHANGE<br>DONE SUCCESSFULLY                    |      |                                      |      |                        |
|                                       |      |                                               |      |                                                                                   |      |                                           |      | Technician menu level5                                  |      |                                      |      |                        |
|                                       |      | W-FILTER WARNING<br>LIMIT: ^^^^^ L<br>S4 / S5 | S6   | W-FILTER WARNING<br>LIMIT: ^^^^^ L<br>S4 / S5                                     | S6   | Technician menu level5                    |      |                                                         |      |                                      |      |                        |
|                                       |      | INSTALLATION<br>< [EXIT] ><br>S4 / S5         | S6   | Technician menu level4                                                            |      |                                           |      |                                                         |      |                                      |      |                        |
|                                       |      | top                                           |      |                                                                                   |      |                                           |      |                                                         |      |                                      |      |                        |

| Menu                               | Description                                                                                                          |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| TIME & DATE<br>< [OK] >            | Menu to set time and date (make sure the machine has the correct time and date).                                     |
| FILL MACHINE<br>< [OK] >           | Menu to start the water filling process.                                                                             |
| EMPTY MACHINE<br>< [OK] >          | Menu to start the water emptying process.                                                                            |
| DEFAULT SETTINGS<br>< [OK] >       | Menu to set back the machine to factory settings.                                                                    |
| WATER CALIBRAT.<br>< [OK] >        | Shows the volume of water required. Measure the volume when rinsing.                                                 |
| W-FILTER CHANGE<br>< [OK] >        | Menu to reset the water filter litre counter after replacing the filter.                                             |
| W-FILTER WARNING<br>LIMIT: ^^^^^ L | Menu to set the water filter capacity in litres (a filter warning will be shown at the display 200L before the end). |



| menu level4                               | Keys | menu level5                           | Keys | menu level6                         | Keys | menu level7                          | Keys | menu level8            |
|-------------------------------------------|------|---------------------------------------|------|-------------------------------------|------|--------------------------------------|------|------------------------|
| RFID READER TYPE<br>V2 G2_MINI<br>S4 / S5 | S6   | RFID SYSTEM<br>V2 G2_MINI<br>S4 / S5  |      | RFID SYSTEM<br>V1 57.6Kb<br>S4 / S5 |      | RFID SYSTEM<br>V1 115.2Kb<br>S4 / S5 | S6   | Technician menu level4 |
|                                           |      | top                                   |      |                                     |      |                                      |      |                        |
| OPERATOR PW SET<br>< [OK] ><br>S4 / S5    | S6   | ENTER NEW:<br>< [OK] ><br>S4 / S5     | S6   | ENTER NEW:<br>~~~~~<br>S1 - S6      | S6   | CONFIRM NEW:<br>~~~~~<br>S1 - S6     | S6   | Technician menu level4 |
| PASSWORD CHANGE<br>< [OK] ><br>S4 / S5    | S6   | ENTER NEW:<br>< [OK] ><br>S4 / S5     | S6   | ENTER NEW:<br>~~~~~<br>S1 - S6      | S6   | CONFIRM NEW:<br>~~~~~<br>S1 - S6     | S6   | Technician menu level4 |
| ACTIVATION<br>< [OK] ><br>S4 / S5         | S6   | ACTIVATION<br>< [YES] ><br>S4 / S5    | S6   | NR: ~~~~~<br>CODE: ~~~~~            | S6   | ACTIVATION<br>DONE SUCCESSFULLY      |      | Technician menu level4 |
|                                           |      | ACTIVATION<br>< [EXIT] ><br>S4 / S5   | S6   |                                     |      |                                      |      | Technician menu level4 |
| DEACTIVATION<br>< [OK] ><br>S4 / S5       | S6   | DEACTIVATION<br>< [YES] ><br>S4 / S5  | S6   | DEACTIVATION<br>DONE SUCCESSFULLY   |      |                                      |      |                        |
|                                           |      | DEACTIVATION<br>< [EXIT] ><br>S4 / S5 | S6   |                                     |      |                                      |      | Technician menu level4 |
| EXIT MENU<br>< [EXIT] ><br>S4 / S5        | S6   |                                       |      | Operator menu level6                |      |                                      |      |                        |
|                                           |      | top                                   |      |                                     |      |                                      |      |                        |

| Menu                           | Description                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| RFID READER TYPE<br>V2 G2_MINI | Menu to change the different kind of RFID readers.                                                                |
| PASSWORD CHANGE<br>< [OK] >    | Menu to change the technician's password.                                                                         |
| ACTIVATION<br>< [OK] >         | Menu to activate the machine (please note that the machine only works for 168 hours without the activation code). |
| DEACTIVATION<br>< [OK] >       | Menu to deactivate the machine.                                                                                   |

## 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

### 3.2 Service Work

Service Checklist:

- ☐ **Ask customer for any irregularities or remarks**
- ☐ **Error messages:** check/delete
- ☐ **Outlet:** check
- ☐ **Machine cleaning:** do a whole machine cleaning
- ☐ **Modifications:** install available modification kits
- ☐ **Water hardness:** check it, check **filter** (capacity exceeded, setting, over 1 year old)
- ☐ **De-scaling counter:** reset if **filter** was replaced
- ☐ **Check water flow** as fouling may have occurred
  - ☐ Execute 3-5 rinses & weigh grammage
  - ☐ Average must be in between 73.5 – 75.5 g > **optimal performance on 74.5 g**
  - ☐ If not achieved, clean orifices and recheck
- ☐ **Error counter** read/check/delete
- ☐ **Colour damage:** repair if possible
- ☐ **Test drinks,** let the customer try them
- ☐ **Customer/staff training:** Show them how to clean, change milk box etc.
- ☐ **Read error counter again**

### 3.3 Maintenance

**Maintenance interval:**

The reseller will work out this information according to their contract with the project owner.

**Maintenance work:**

The reseller will work out this information according to their contract with the project owner.

**Maintenance parts:**

The reseller will work out this information according to their contract with the project owner.

### 3.4 Required Service Tools

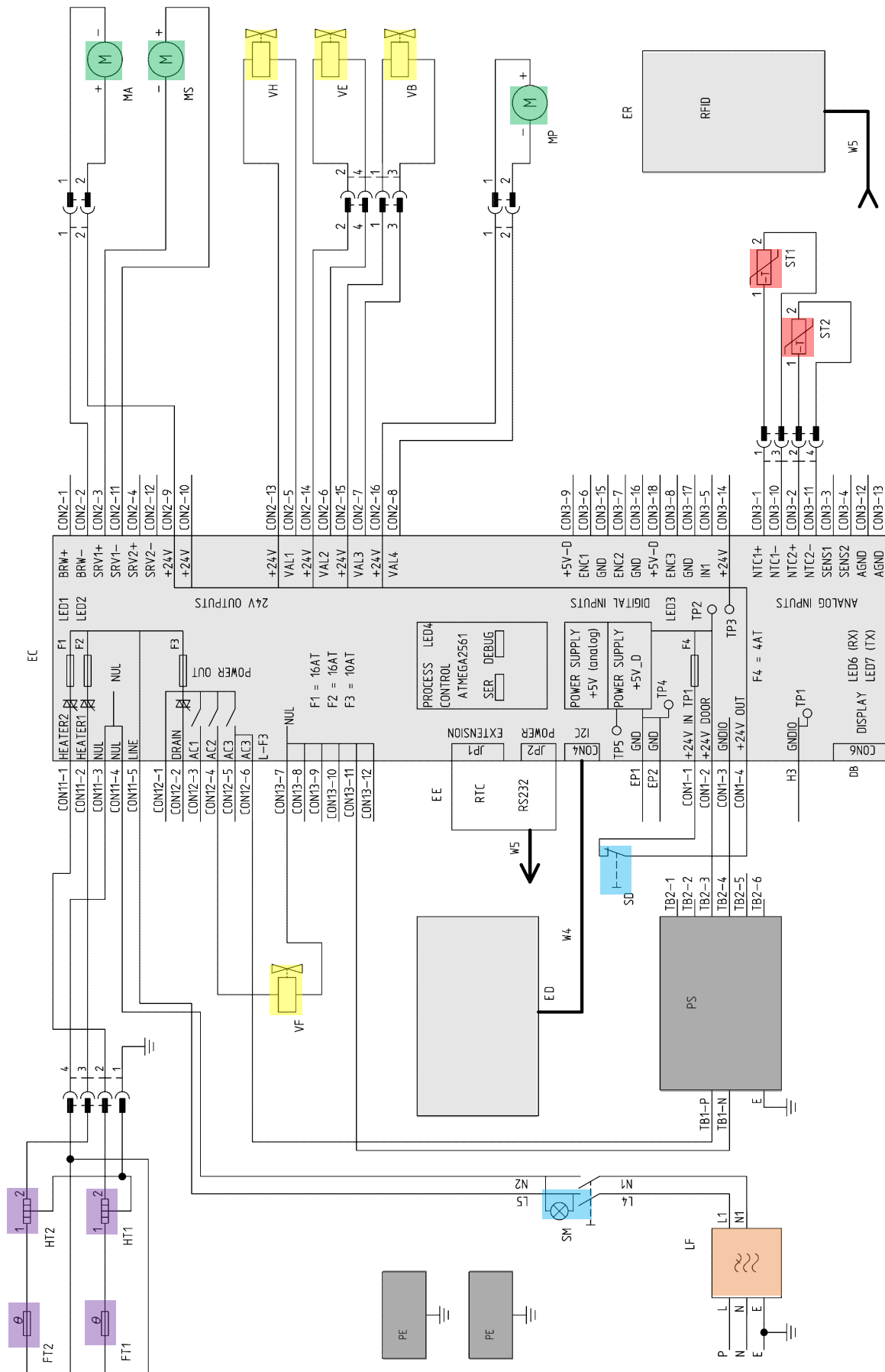
- Screw driver torx 10/15
- Philips screwdriver
- Spanner wrench 5.5/10/12/14

## 4 Error Messages and how to solve them

### 4.1 Error Messages

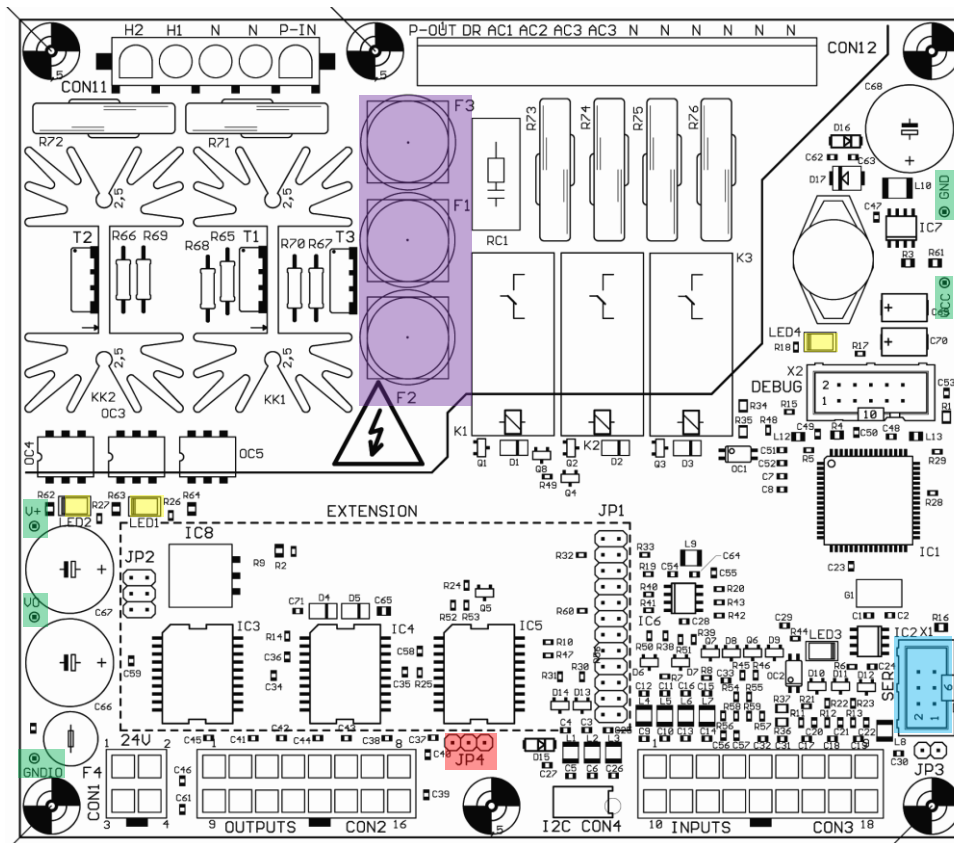
| Error message    | Description / Meaning                                                                                                                                                             | Solution                                                                                                                                              |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| ERR:LEAD NOTINIT | control software initialisation failure                                                                                                                                           | -restart machine<br>-upload control board software<br>-exchange control board                                                                         |
| HEATERS DISABLED | control software initialisation failure                                                                                                                                           | -restart machine<br>-upload control board software<br>-exchange control board                                                                         |
| ERR:W-SYS.EMPTY  | water system isn't filled<br>start condition failure -><br>-after machine has been emptied<br>-after machine has been set to default<br>-after machine software has been uploaded | -fill water system (running time 40sec)                                                                                                               |
| ERR:HEAT1 N.RDY  | heater 1 status failure                                                                                                                                                           | -restart machine<br>-check over temperature fuses<br>-check NTC sensors<br>-check control board<br>-check heater 1 cables<br>-check thermo block coil |
| ERR:HEAT1 FREEZE | heater 1 sensor value too low                                                                                                                                                     | see solution ERR:HEAT1 N.RDY                                                                                                                          |
| ERR:HEAT1 COLD   | heater 1 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 N.RDY                                                                                                                          |
| ERR:HEAT1 LOW    | heater 1 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 N.RDY                                                                                                                          |
| ERR:HEAT1 GEN    | heater 1 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 N.RDY                                                                                                                          |
| ERR:HEAT1 HIGH   | heater 1 sensor detected over temperature                                                                                                                                         | -check solid state relay on control board<br>-check over temperature fuses<br>-check heater 1 NTC-sensor<br>-check heater 1 cables                    |
| ERR:HEAT1 NTC    | heater 1 sensor NTC failure                                                                                                                                                       | -check heater 1 NTC-sensor<br>-check over temperature fuses<br>-check control board                                                                   |
| ERR:HEAT1 RANGE  | heater 1 sensor range failure                                                                                                                                                     | see solution ERR:HEAT1 NTC                                                                                                                            |
| ERR:HEAT1 TMOUT  | no temperature reaction heater 1                                                                                                                                                  | see solution ERR:HEAT1 NTC                                                                                                                            |
| ERR:HEAT2 N.RDY  | heater 2 status failure                                                                                                                                                           | see solution ERR:HEAT1 N.RDY                                                                                                                          |
| ERR:HEAT2 FREEZE | heater 2 sensor value too low                                                                                                                                                     | see solution ERR:HEAT1 FREEZE                                                                                                                         |
| ERR:HEAT2 COLD   | heater 2 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 COLD                                                                                                                           |
| ERR:HEAT2 LOW    | heater 2 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 LOW                                                                                                                            |
| ERR:HEAT2 GEN    | heater 2 sensor value is cold                                                                                                                                                     | see solution ERR:HEAT1 GEN                                                                                                                            |
| ERR:HEAT2 HIGH   | heater 2 sensor detected over temp.                                                                                                                                               | see solution ERR:HEAT1 HIGH                                                                                                                           |
| ERR:HEAT2 NTC    | heater 2 sensor NTC failure                                                                                                                                                       | see solution ERR:HEAT1 NTC                                                                                                                            |
| ERR:HEAT2 RANGE  | heater 2 sensor range failure                                                                                                                                                     | see solution ERR:HEAT1 RANGE                                                                                                                          |
| ERR:HEAT2 TMOUT  | no temperature reaction heater 2                                                                                                                                                  | see solution ERR:HEAT1 TMOUT                                                                                                                          |
| ERR:WATER BUSY   | water function not finished                                                                                                                                                       | -restart machine<br>-upload control board software<br>-exchange control board                                                                         |
| ERR:WATER TOUT   | water function not finished                                                                                                                                                       | see solution ERR:WATER BUSY                                                                                                                           |
| ERR:WATER        | water function not finished                                                                                                                                                       | see solution ERR:WATER BUSY                                                                                                                           |
| ERR:WATER GEN.   | water function not finished                                                                                                                                                       | see solution ERR:WATER BUSY                                                                                                                           |
| ERR:PROC.TIMEOUT | water function not finished                                                                                                                                                       | see solution ERR:WATER BUSY                                                                                                                           |
| FAULTY RTC CLOCK | clock failure                                                                                                                                                                     | -check RTC piggyback board                                                                                                                            |
| NO RFID READER   | no communication to RFID reader                                                                                                                                                   | -restart machine<br>-check RFID reader<br>-check RFID reader cable<br>-check position of left hand side machine panel                                 |
| CORRUPT TAG DATA | incorrect data from product tag                                                                                                                                                   | -restart machine<br>-check RFID tag position<br>-replace product box                                                                                  |
| RFID:ABORT xxx   | incorrect data from product tag                                                                                                                                                   | see solution CORRUPT TAG DATA                                                                                                                         |
| DATAUPDATE FAULT | tag data writing failed                                                                                                                                                           | see solution CORRUPT TAG DATA                                                                                                                         |
| TIMEOUT          | RFID response timeout                                                                                                                                                             | see solution NO RFID READER                                                                                                                           |
| FAULTY RESPONSE  | RFID response failure                                                                                                                                                             | see solution TIMEOUT                                                                                                                                  |
| READER ERROR     | RFID response error                                                                                                                                                               | see solution TIMEOUT                                                                                                                                  |
| TIMEOUT          | RFID response timeout                                                                                                                                                             | see solution TIMEOUT                                                                                                                                  |
| ERR:RFID SYSTEM  | RFID reader error                                                                                                                                                                 | see solution NO RFID READER                                                                                                                           |
| CLOCK DESELECTED | time and date data missing                                                                                                                                                        | -set time and date<br>-charge RTC battery (4h)<br>-exchange RTC board                                                                                 |

## 4.2 Electrical Connection Diagram



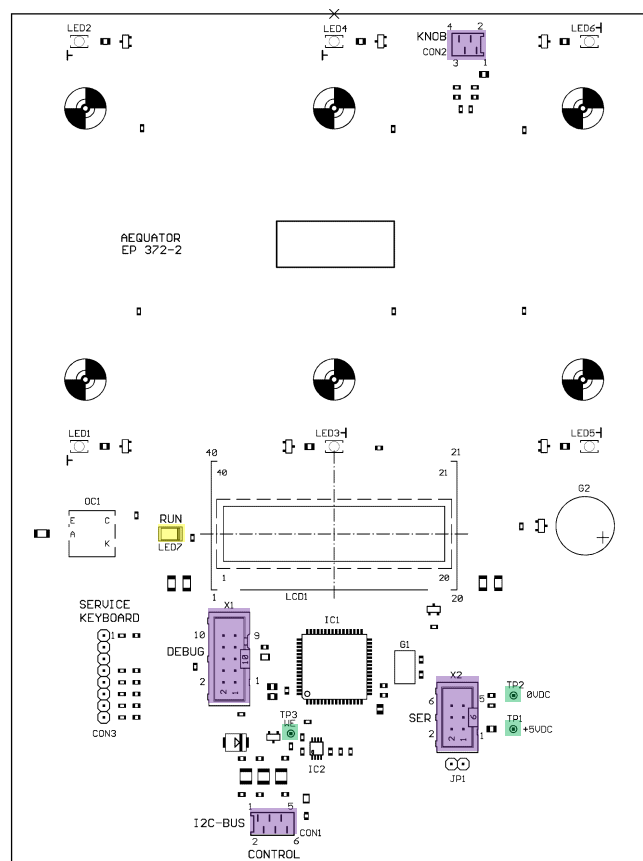
| Description of the Electrical Connection Diagram |                                   |
|--------------------------------------------------|-----------------------------------|
| Pos.                                             | Item                              |
| EC                                               | Control board 3                   |
| ED                                               | Display board                     |
| ER                                               | RFID interface                    |
| FT1                                              | Thermo fuse heater1               |
| FT2                                              | Thermo fuse heater2               |
| HT1                                              | Thermo block 1                    |
| HT2                                              | Thermo block 2                    |
| LF                                               | Mains connector incl. filter      |
| MA                                               | Air pump                          |
| MP                                               | Water pump                        |
| MS                                               | eBooster motor                    |
| PE                                               | Machine side cover                |
| PS                                               | Power supply 90-240 VAC           |
| SD                                               | Door switch                       |
| SM                                               | Main switch                       |
| ST1                                              | Temperature sensor thermo block 1 |
| ST2                                              | Temperature sensor thermo block 2 |
| VB                                               | Air valve 1                       |
| VE                                               | Air valve 2                       |
| VF                                               | Inlet valve                       |
| VH                                               | Hot water valve                   |

## 4.3 Control Board Top View



| LED's                                 |                        |                                        |          |
|---------------------------------------|------------------------|----------------------------------------|----------|
| Pos.                                  | Name                   | Function                               | Colour   |
| LED1                                  | HEATER 1               | Heater 1 ON                            | yellow   |
| LED2                                  | HEATER 2               | Heater 2 ON                            | yellow   |
| LED4                                  | RUN                    | System running 1Hz interrupt           | yellow   |
| Test points                           |                        |                                        |          |
| Pos.                                  | Name                   | Function                               | Level    |
| GNDI0                                 | TP1                    | Power ground                           | 0 VDC    |
| V+                                    | TP2                    | Power supply after fuse                | +24 VDC  |
| V0                                    | TP3                    | Power supply after door switch         | +24 VDC  |
| GND                                   | TP4                    | Power ground logic                     | 0 VDC    |
| VCC                                   | TP5                    | Power supply logic                     | +5 VDC   |
| Fuses                                 |                        |                                        |          |
| Pos.                                  | Name                   | Function                               | Value    |
| F1                                    | HEATER 1               | Power supply heater 1                  | 10 AT    |
| F2                                    | HEATER 2               | Power supply heater 2                  | 10 AT    |
| F3                                    | Actuators/Power supply | Outputs for Actuators and power supply | 10 AT    |
| Interface to upload/download programs |                        |                                        |          |
| Pos.                                  | Name                   | Function                               | Level    |
| X1                                    | SER                    | Serial interface for upload/download   | 0-5 VDC  |
| Jumper                                |                        |                                        |          |
| Pos.                                  | Name                   | Function                               | Value    |
| JP4                                   | PWM4                   | Ampl. output for water pump            | 0-24 VDC |

## 4.4 Display Board Rear View



### LED's

| Pos. | Name | Function                     | Colour |
|------|------|------------------------------|--------|
| LED7 | RUN  | System running 1Hz interrupt | yellow |

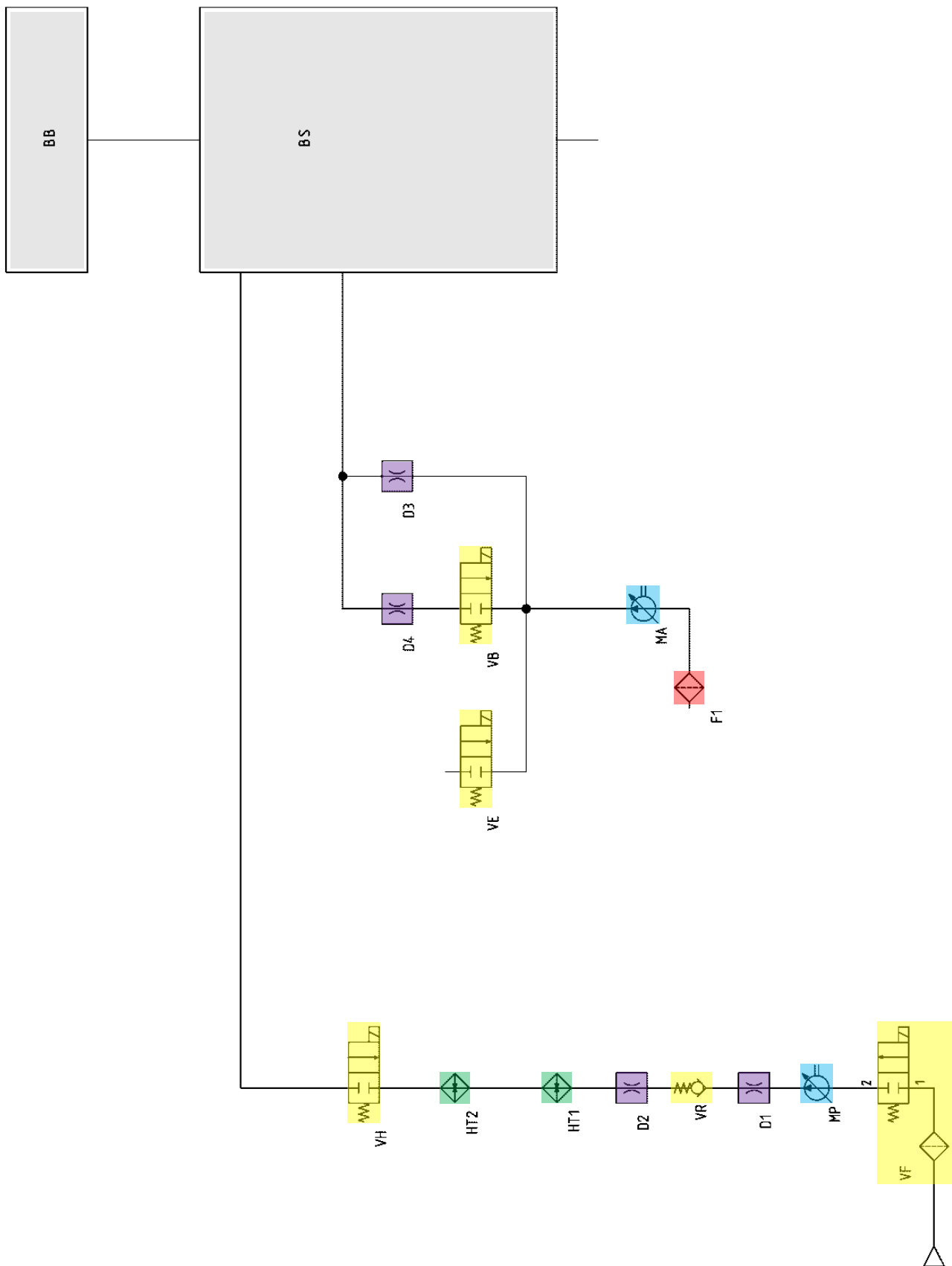
### Test points

| Pos. | Name   | Function     | Level   |
|------|--------|--------------|---------|
| TP1  | +5 VDC | enable       | 5 VDC   |
| TP2  | Ø VDC  |              | GND     |
| TP3  | WE     | Write EEPROM | 0-5 VDC |

### Connectors

| Pos. | Name              | Function                             | Level   |
|------|-------------------|--------------------------------------|---------|
| CON1 | CONTROL           | I2C Bus                              | 0-5 VDC |
| CON2 | not assembled     |                                      |         |
| CON3 | SERVICE KEY BOARD |                                      | 0-5 VDC |
| X1   | DEBUG             | SPI interface for boot loader        | 0-5 VDC |
| X2   | SER               | Serial interface for upload/download | 0-5 VDC |

## 4.5 Water Flow Diagram





| Description of the Water Flow Diagram |                   |          |
|---------------------------------------|-------------------|----------|
| Pos.                                  | Description       |          |
| BB                                    | Bag-in-box        |          |
| BS                                    | eBoost / coupling |          |
| D1                                    | Water nozzle      | Ø 0.68mm |
| D2                                    | Water nozzle      | Ø 0.68mm |
| D3                                    | Air nozzle        | Ø 0.1mm  |
| D4                                    | Air nozzle        | Ø 0.1mm  |
| F1                                    | Air filter        |          |
| HT1                                   | Thermo block 1    | 1400W    |
| HT2                                   | Thermo block 2    | 1400W    |
| MA                                    | Air pump          |          |
| MP                                    | Water pump        |          |
| VB                                    | Air valve (dry)   |          |
| VE                                    | Air valve (wet)   |          |
| VH                                    | Hot water valve   | Ø 1.3mm  |
| VF                                    | Water inlet valve | ¾" Gas   |
| VR                                    | Non return valve  |          |

## 5 Technical Data

|                                                                  |                       |
|------------------------------------------------------------------|-----------------------|
| <b>Dimensions:</b>                                               |                       |
| Width                                                            | 195 mm                |
| Depth                                                            | 510 mm                |
| Height                                                           | 586 mm                |
| <b>Weight:</b>                                                   |                       |
| Total weight                                                     | 15kg                  |
| <b>Water connection:</b>                                         |                       |
| Fresh water connection                                           | 3/4 gas thread        |
| Input water pressure                                             | 0.1-0.6 MPa (1-6 bar) |
| System pressure max.                                             | 1.6 MPa (16 bar)      |
| <b>Electricity:</b>                                              |                       |
| Operating voltage                                                | 230 V 50 Hz           |
| Power connection                                                 | 3000 W (13A)          |
| <b>Conditions:</b>                                               |                       |
| Working temperature                                              | 5-40°C                |
| <b>Never expose your machine to temperatures below freezing.</b> |                       |

## 6 Declaration of Conformity



### EU DECLARATION OF CONFORMITY EU KONFORMITÄTSERKLÄRUNG UE DÉCLARATION DE CONFORMITÉ

**Product model/product:**

Produktmodell/ Produkt:  
Modèle de produit/produit:

**HOT MILK MACHINE F50**

Lattiz

**Name and address of the manufacturer or his authorised representative:**

Name und Anschrift des Herstellers oder seines Bevollmächtigten:  
Nom et adresse du fabricant ou de son mandataire:

AEQUATOR AG  
St. Gallerstrasse 229  
CH-9320 Arbon  
SWITZERLAND

**This declaration of conformity is issued under the sole responsibility of the manufacturer.**

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.  
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.

**Object of the declaration:**

Gegenstand der Erklärung:  
Objet de la déclaration :

**Machine for dispensing hot drinks**

Maschine zur Ausgabe heisser Getränke

Machine pour la distribution de boissons chaudes

**The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:**

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:  
L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable:

EMC Directive 2014/30/EU  
LVD 2014/35/EU  
RoHS Directive 2011/65/EU

**References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:**

Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der anderen technischen Spezifikationen, in Bezug auf die die Konformität erklärt wird:  
Références des normes harmonisées pertinentes appliquées ou des autres spécifications techniques par rapport auxquelles la conformité est déclarée:

|                 |                   |
|-----------------|-------------------|
| EN 50581:2012   | EN 60335-1:2012   |
| EN 55014-1:2015 | EN 60335-75:2012  |
| EN 55014-2:2015 | EN 61000-3-2:2014 |
| EN 55022:2010   | EN 61000-3-3:2014 |

**Signed for and on behalf of:**

Unterzeichnet für und im Namen von:  
Signé par et au nom de:

Arbon, 14.04.2016

Marcel Lendenmann, CEO

## 7 Your Service Partner

