# TALEA - ODEA

# SERVICE MANUAL

**Revision 04 December 2012**

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# CHAPTER 1
# INTRODUCTION

### 1.1 Documents required

The following documents are needed for repair work:

- Instruction booklet for the related model
- Technical documentation for specific model (diagrams, exploded view, sympton cure and service manual).

### 1.2 Tools and resources

As well as the standard equipment, the following is required:

| Pieces | Description | Comment |
|---|---|---|
| 1 | Special screwdriver | Torx T 10 |
| 1 | Pliers for Oetiker clamps | |
| 1 | Tester CC - A - VDC | |
| 1 | Digital temperature meter | Temperature range > 150°C |
| 1 | SSC (Saeco Service Center) | Interface for programming |

### 1.3 Materials

| Description | Comment |
|---|---|
| Thermal conductance paste | Temperature resistance > 200°C |
| Descaler | Saeco descaler |
| Fat solvent | Personal choice |
| Silicone grease | Food-safe |

### 1.4 Safety precautions

We recommend you consult this Service Manual of the machine before performing any maintenance work.
Observe all applicable standards relating to the repair of electrical appliances.

Always disconnect the power plug from the mains before beginning repair work.
Simply turning off the main machine power switch is not an adequate safety precaution.

This domestic appliance is rated as insulation class I.
On completion of the repair work, insulation and dielectric rigidity tests must be performed.

**For IN WARRANTY** repairs is mandatory to use the single components (not the assembly) available in the exploded views of the coffee machines or of the specific components. If you find the information "SEE THE EXPLODED VIEW E....." in the assembly description field, it means that the single components of the assembly are available in the other pages of the exploded view. It's possible to use the assembly only if there is a specific Symptom Cure that include this possibility or when the single components are not available for the order.

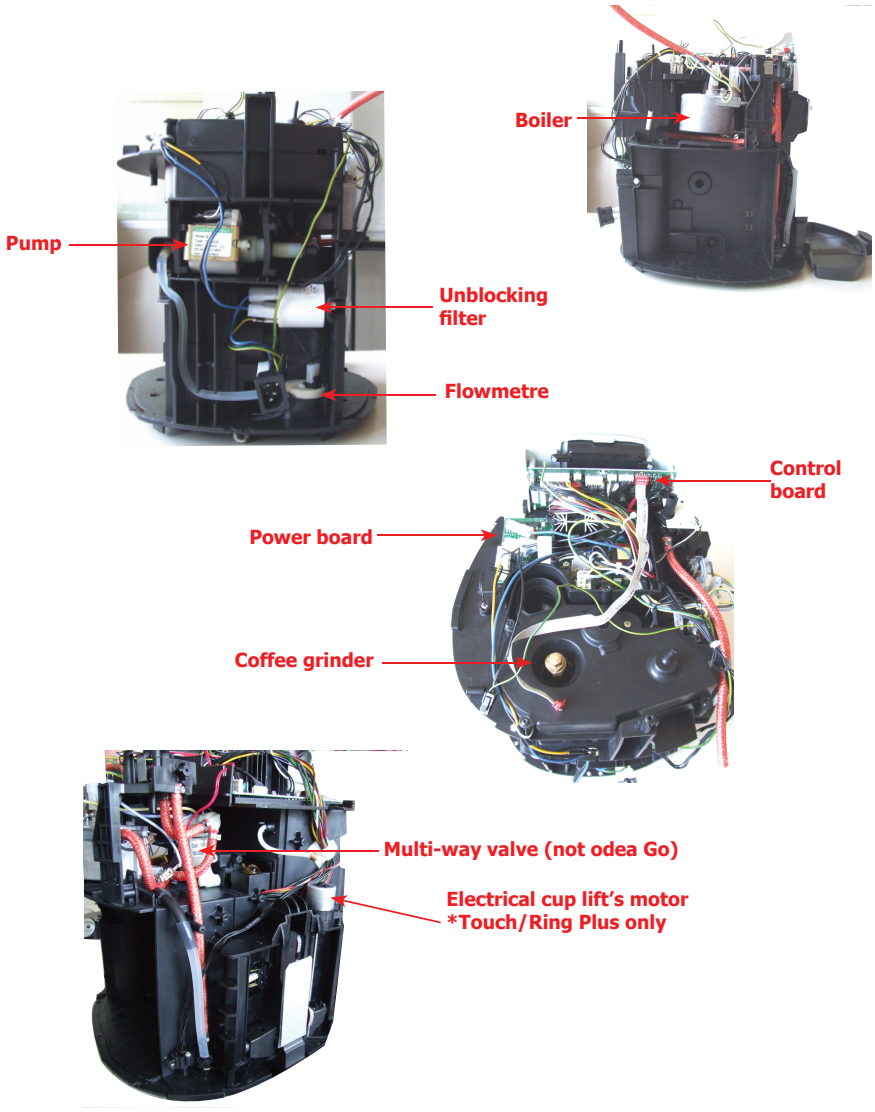
### 1.5 Service POLICY grid as used for coffee machine

**List of principal assembly present in all our coffee machines**

| Components | Assembly use | Single components available |
|---|---|---|
| **COFFEE GRINDER** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine or of the Coffee Grinder on website |
| **BREWING UNIT** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine or of the Brewing unit on website |
| **BOILER** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine on website |
| **GEAR MOTOR** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine on website |
| **FILTER HOLDER** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine on website |
| **MILK CARAFE** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the machine on website |
| **THERMAL CARAFE** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the Thermal Carafe on website |
| **MILK ISLAND** | **Only for OOW repairs** | **YES**, to consult the specific exploded-view of the Milk Island on website |

### 1.6.1. External appliance components

### 1.6.2. Internal appliance components



# CHAPTER 2
# TECHNICAL SPECIFICATIONS

**2.1. Technical specifications**

| | |
|---|---|
| Connection values / power consumption: | 230 V~, 50/60 Hz, 1500 W |
| Temperature control: | Temperature sensor (NTC, 20°C approx. 61 kOhm) |
| Safety equipment: | 2 safety thermostats, can resist 175°C |
| Power output of stainless boiler: | 1300 W - to dispense coffee, hot water and steam |
| Electrical cup lift<br>*Talea Touch and Ring Plus only | Stepping motor 24VDC |
| Tank water level and<br>residual water tray sensor | Capacitive sensor |
| Gear motor: | DC motor with 2 rotating directions (24VDC) |
| Actively heated cup warmer:<br>*Talea Touch and Ring Plus only | PTC control |
| Pump: | Ulka reciprocating piston type pump with thermal safety 100°C<br>48 W, 230V, 50 Hz, Type EP5 approx. 13-15 bar |
| Safety valve: | Opens at approx. 18-20 bar |
| Water filter: | in tank |
| Coffee grinder: | DC motor with<br>ceramic grinders |
| Multi-way valve: | 15 W |
| Coffee dose control | Hall sensor - pulse control. Adjustable<br>coffee dosage from approx. 7 - 10.5 g set via program. |
| Power consumption: | During heating phase - approx. 5.6 A |
| Dimensions: W x H x D in mm: | 300/375/410 |
| Weight: | approx. 10 kg |
| Water tank capacity: | approx. 1.7 l. |
| Coffee container filling capacity | approx. 250g coffee beans |
| Dreg drawer capacity | 14 |
| Continuous-flow heater capacity: | approx. 10 ccm |
| Water circuit filling time: | approx. 15 seconds for first filling cycle |
| Heating time: | approx. 45 seconds |
| Grinding time: | approx. 8-10 seconds |

**2.2. Specification for the measurement of the coffee products temperature.**

The temperature is influenced by the flow from the dispenser and stratification of temperatures in the glass. In order to consider these phenomena and to introduce measures that allow comparisons in controlled conditions, below guidelines must be followed:

**Conditions:**
a) Water temperature in tank: 23°C (+/-2°C).

b) It must be used a plastic cup (see picture N°1).

c) It must be used a thermocouple thermometer (e.g. type K - see picture N°2).

d) The coffee machine is tested without any change of parameters or calibrations, which may affect the temperature of products, so the measurement of temperature must be done with machine in default factory setting.

**Procedure:**
1. The temperature must be measured in the cup, immediately after dispensing. Cup has to be placed on a non-metal surface using a thermocouple thermometer.

2. The temperature in the cup is measured by immersing the probe of the thermometer up to touch the bottom.The probe then must be moved in a circular motion for 5/6 rotations. At the of the rotations, stop in the center of the cup.

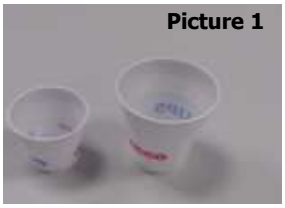
3. The highest temperature measured during the rotations is the value we are searching for, and that must be reported;

4. Test measurement: from end of dispensing to the end of rotations must be completed within 12 seconds.

**Limits of acceptability**
The acceptance limits are divided by features and products and are the following:

**Espresso Coffee Italy Q.ty 25/40 gr.**
Temperature of 1st product 69°C ≤ 85°C
Temperature of 2nd product 72°C ≤ 85°C

**Coffee Q.ty 70/120 gr.**
Temperature of 1st product 69°C ≤ 85°C
Temperature of 2nd product 72°C ≤ 85°C


**Picture 1**


**Picture 2**

# CHAPTER 3
# OPERATING

### 3.1. User interfaces

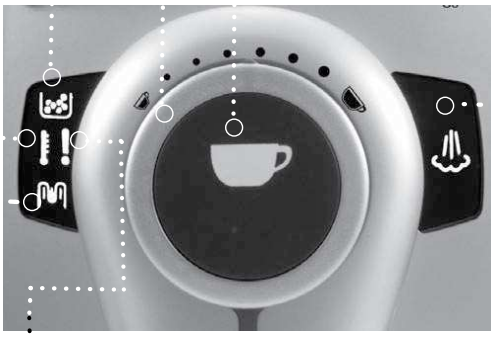
#### 3.1.1 Odea Go

"Appliance ready" LED:
- **Permanently on:** The appliance is ready for use.
- **Flashing:** The appliance has to finish the heating-up phase.

"Empty dreg drawer" LED:
- **Permanently on:** Empty the dreg drawer. The appliance must be switched on for this procedure.

Control to set how much coffee is dispensed into the cup.

Coffee dispensing key:
- **Flashing slowly:** 1 coffee selected (key pressed once).
- **Flashing rapidly:** 2 coffees selected (key pressed twice).



"Hot water" key:
- **On:** The appliance dispenses steam.
- **Off:** The appliance dispenses hot water.

Alarm LED:
- **Permanently on (one or more causes):** No coffee left, water tank is empty, empty the residual water tray is full (in this case the dreg drawer also has to be emptied to prevent problems).
- **Flashing slowly (one or more causes):** Brewing unit is missing, dreg drawer has not been inserted, coffee container cover has not been inserted, service door is open, rotary knob for opening the hot water / steam is not in the right position.
- **Flashing rapidly:** Ventilate the water system.

"Descaling" LED:
- **Flashing:** Start the descaling cycle.

**Reset: Press the steam key for 10 seconds**

and LEDs flashing alternately: turn off the appliance. Turn the appliance back on after 30 seconds and wait until the movements stop. Then turn the appliance off again. Remove the brewing unit and clean thoroughly (see page 29). If the display reappears when you turn the machine back on, contact the Service Centre.

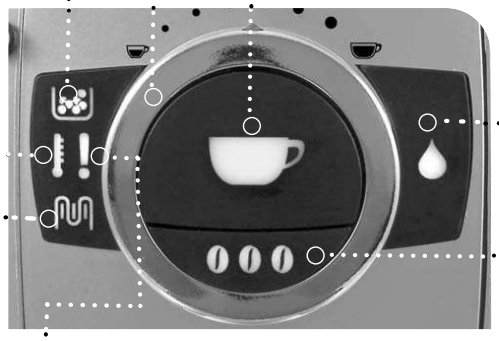
### 3.1.2 Odea Giro,Talea Giro

"Appliance ready" LED:
- **Permanently on:** The appliance is ready for use.
- **Flashing:** The appliance has to finish the heating-up phase.

"Empty dreg drawer" LED:
- **Permanently on:** Empty the dreg drawer. The appliance must be switched on for this procedure.

Control to set how much coffee is dispensed into the cup.

Coffee dispensing key:
- **Flashing slowly:** 1 coffee selected (key pressed once).
- **Flashing rapidly:** 2 coffees selected (key pressed twice).



"Hot water" key:
- **Off:** The appliance dispenses steam.
- **On:** The appliance dispenses hot water.

Ground coffee quantity (Opti-dose) key.

Alarm LED:
- **Permanently on (one or more causes):** No coffee left, water tank is empty, the residual water tray is full (in this case the dreg drawer also has to be emptied to prevent problems).
- **Flashing slowly (one or more causes):** Brewing unit is missing, dreg drawer has not been inserted, coffee container cover has not been inserted, service door is open, rotary knob for opening the hot water / steam is not in the right position.
- **Flashing rapidly:** Ventilate the water system.

"Descaling" LED:
- **Flashing:** Start the descaling cycle.

**Reset: Press the hot water key for 10 seconds**

and LEDs flashing alternately: turn off the appliance. Turn the appliance back on after 30 seconds and wait until the movements stop. Then turn the appliance off again. Remove the brewing unit and clean thoroughly (see page 29). If the display reappears when you turn the machine back on, contact the Service Centre.

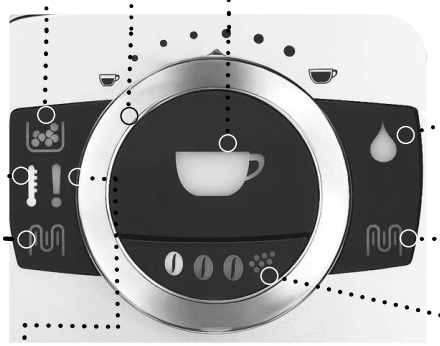
### 3.1.3 Talea Giro Plus

"Appliance ready" LED:
- **Permanently on:** The appliance is ready for use.
- **Flashing:** The appliance has finished the heating-up phase.

"Empty dreg drawer" LED:
- **Permanently on:** empty the dreg drawer. The appliance must be switched on for this procedure.

Control to set how much coffee is dispensed into the cup.

Coffee dispensing key:
- **Flashing slowly:** 1 coffee selected (key pressed once).
- **Flashing rapidly:** 2 coffees selected (key pressed twice).



"Hot water" key:
- **Off:** The appliance dispenses steam.
- **On:** The appliance dispenses hot water.

"Descaling cycle" key
- **On:** Press for 3 seconds.
- **Off:** Press for 3 seconds.

Ground coffee quantity (Opti-dose) key.

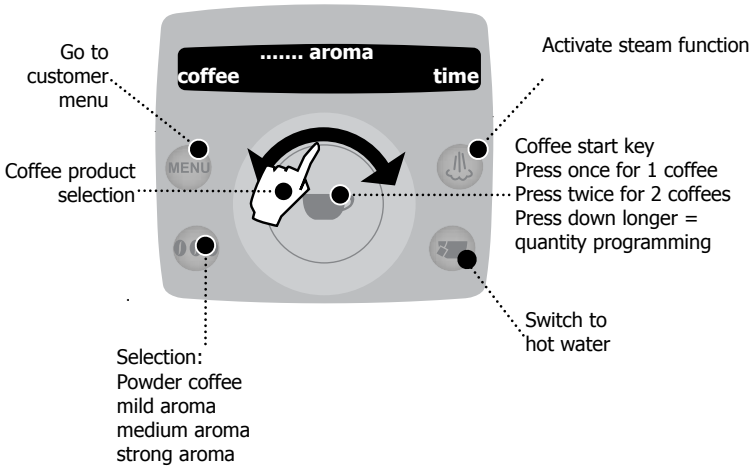
Alarm LED:
- **Permanently on (one or more causes):** No coffee left, water tank is empty, the residual water tray is ful (in this case the dreg drawer also has to be emptied to prevent problems).
- **Flashing slowly (one or more causes):** Brewing unit is missing, dreg drawer has not been inserted, coffee container cover has not been inserted, service door is open, rotary knob for opening the hot water / steam is not in the right position.
- **Flashing rapidly:** Ventilate the water system.

"Descaling" LED:
- **Flashing:** Start the descaling cycle.

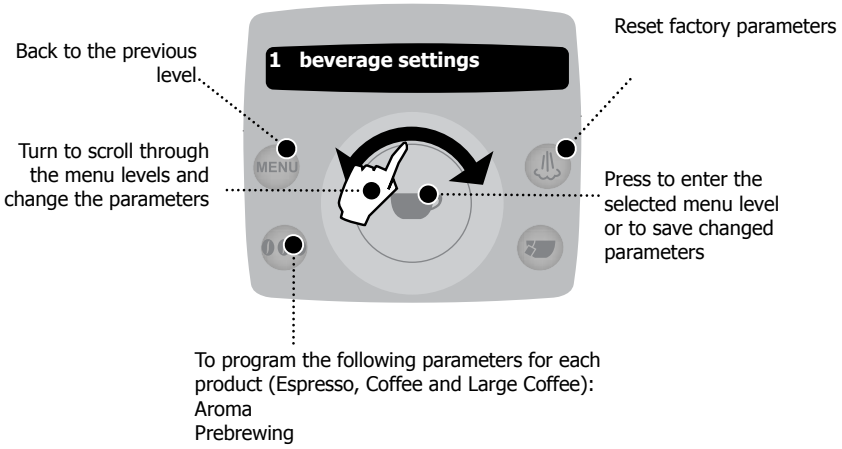
**Reset: Press the hot water key for 10 seconds**

and LEDs flashing alternately: turn off the appliance. Turn the appliance back on after 30 seconds and wait until the movements stop. Then turn the appliance off again. Remove the brewing unit and clean thoroughly (see page 29). If the display reappears when you turn the machine back on, contact the Service Centre.

### 3.1.4 Talea Ring, Ring Plus

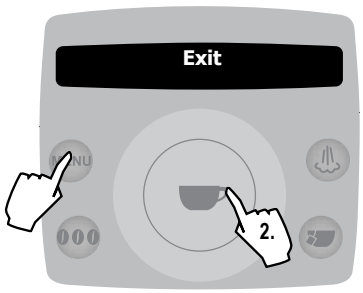



**Customer programming menu**



**Main menu levels**

| | |
|---|---|
| **1 beverage settings** | Dosage quantity<br>Temperature<br>Prebrewing |
| **2 machine settings** | Language<br>Water hardness<br>Acoustic signal / alarm<br>Filter alarm<br>Rinsing<br>Cup warmer (Ring Plus)<br>Time setting (Ring Plus) |
| **3 maintenance** | Aqua Prima<br>Descaling<br>Clean brewing unit |
| **4 energy saving** | Switch-off time (standby)<br>Timer (switching time) |
| **5 special functions** | Restore settings (factory settings) |




Cancel:
Press the menu key several times until you see "cancel" in the display, then confirm with the start key

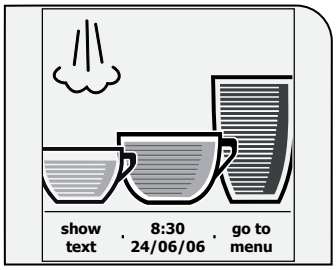
## Customer menu table

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 1. Beverage settings | | 1.1.Espresso<br>1.2. Coffee<br>1.3. Large coffee | Short press | ***Cup capacity*** | | | ***Aroma*** |
| | | | | +/- | | | mild |
| | | | | | | | medium |
| | | | | | | | strong |
| | | | | | | | preground |
| | | | Long press | ***Temperature*** | | ***Prebrew*** | |
| | | | | low | | normal | |
| | | | | medium | | long | |
| | | | | high | | off | |
| 2. Machine settings | | 2.1 Language | | 8 languages | | | |
| | | 2.2 Water hardness | | 1,2,3,4 | | | |
| | | 2.3 Signal alarms | | On/Off | | | |
| | | 2.4 Water filter alarm | | On/Off | | | |
| | | 2.5 Rinsing | | On/Off | | | |
| | | 2.6 Cup warmer ** | | On/Off | | | |
| | | 2.7 Clock setting ** | | Time setting | | Hours - Minutes | |
| | | | | Time format | | 24hr - am/pm | |

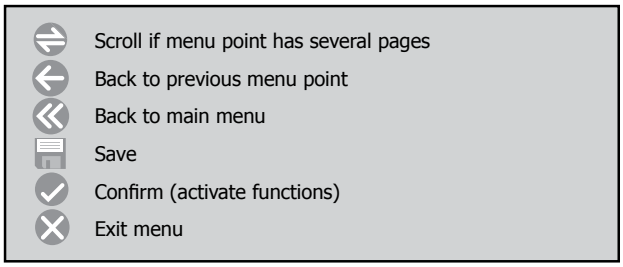
| Men | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Date setting | | dd/mm/yyyy | |
| | | | | | Date format | | dd/mm/yy | |
| | 3. Maintenance | | 3.1 Water filter | | Remaining water quantity | | | |
| | | | | | Filter status | | On/Off | |
| | | | | | Activate filter | | Activate | |
| | | | 3.2 Descaling | | Remaining water quantity | | | |
| | | | | | Carry out immediately | | | |
| | | | 3.3 Clean brewing unit | | Carry out immediately | | | |
| | 4. Energy saving mode | | 4.1 Switch-off time | | 15 - 180 minutes | | | |
| | | | 4.2 Timer setting ** | | On/Off | | | |
| | | | 4.3 Monday - 4.9 Sunday ** | | Turn on | | Time | |
| | | | | | Turn off | | Time | |
| | 5. Special case | | 5.1 Restore settings immediately | | Restore settings, are you sure? | | | |

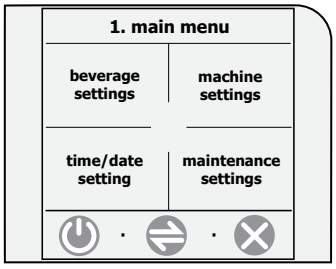
**** Available with Ring Plus only**

### 3.1.5 Talea Touch

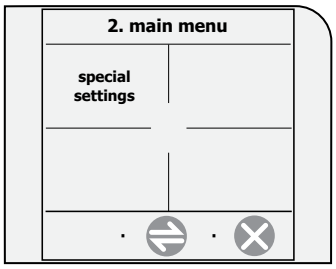



**To start:**
Press the "go to menu" key
**Beverage programming:**
Keep the relevant beverage key pressed



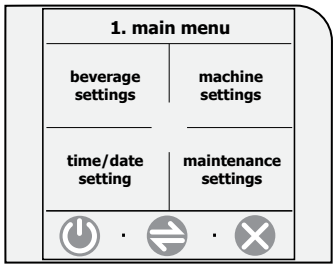




**beverage settings:**
Espresso, Coffee and Large Coffee settings
**machine settings:**
Language, acoustic signals, cup warmer and water settings
**time/date settings:**
Time, clock timer and standby settings
**maintenance settings:**
Product counter, cleaning cycle, descaling cycle and display lock

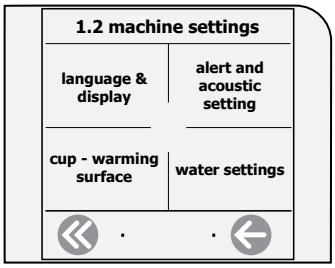



**special settings:**
Factory settings

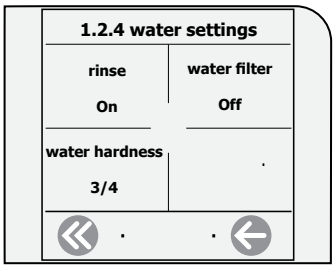
**Example, water hardness setting**



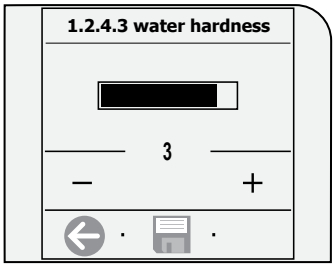

In the first main menu, select "machine settings"




Press the "water settings" key




Press the "Water hardness" key




Carry out the settings with the +/- keys and save with the save key.

**Customer menu table**

| 1. Main menu | | | | | | |
|---|---|---|---|---|---|---|
| | Beverage settings | 1.1. Beverage setting | Espresso<br>Coffee<br>Large coffee | 1.1.1. Espresso/ 1.1.2.Coffe/1.1.3.Large Coffee | Prebrewing | normal |
| | | | | | | strong |
| | | | | | | off |
| | | | | | Temperature | low |
| | | | | | | medium |
| | | | | | | high |
| | | | | | Aroma | mild |
| | | | | | | normal |
| | | | | | | strong |
| | | | | | | preground |
| | | | | | Coffee capacity | + / - |
| | Machine settings | 1.2. Machine settings | Language & display | 1.2.1. | Language | 11 languages |
| | | | | | Contrast | + / - |
| | | | Acoustic signals and alarms | 1.2.2. | Machine ready | On/Off |
| | | | | | Key tone | On/Off |
| | | | Heated cup holder | 1.2.3. | always on | |
| | | | | | always off | |
| | | | | | off in standby | |
| | | | Water settings | 1.2.4. | Rinse | On/Off |
| | | | | | Aqua Prima | On/Off |
| | | | | | Water hardness | 1,2,3,4 |
| | | | Time settings | 1.3. | Current time | + / - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Clock settings | 1.3. Clock settings | Time settings | 1.3 | Time format | Select |
| | | | Date settings | 1.3.2. | Current date | Year / Month / Day |
| | | | | | Date format | Select |
| | | | Standby setting | 1.3.3. | after 15 minutes | |
| | | | | | after 30 minutes | |
| | | | | | after 1 hour | |
| | | | | | after 3 hours | |
| | | | Machine on/off | 1.3.4. | Interval 1 | Hours / Minutes |
| | | | | | Interval 2 | Hours / Minutes |
| | | | | | Interval 3 | Hours / Minutes |
| | | | | | Day settings | Select |
| | Maintenance settings | 1.4. Maintenance settings | Product counter | 1.4.1. | Espresso | |
| | | | | | Coffee | |
| | | | | | Large coffee | |
| | | | | | Reset | |
| | | | Cleaning cycle | 1.4.2 | Yes/no | |
| | | | Descaling cycle | 1.4.3 | Yes/no | |
| | | | Display lock | 1.4.4 | Release | |
| 2. Main menu | Special settings | 2.1. Special settings | Factory settings | 2.1.1. | no/yes | |

### 3.2 Use, cleaning and maintenance

| Using the machine | | |
|---|---|---|
| 1 | Insert the limescale filter | If available |
| 2 | Fill water tank | |
| 3 | Fill bean hopper | |
| 4 | Turn on the appliance | |
| 5 | Carry out machine settings (machines with display only) | Determine and set water hardness, activate limescale filter<br>**IMPORTANT:** if the limescale filter is not inserted for longer periods, the relevant setting must be set to "OFF" otherwise the descaling interval calculated by the appliance is too long and this results in limescale building up in the appliance.<br>Two settings must be programmed on models with ring function:<br>1. Machine settings: 2.4 Alarm Filter ON/OFF<br>2. Maintenance / Aqua Prima: 3.1.2 Additional Filter ON/OFF |
| 6 | Specify the product (machines with display only) | Cup capacity, dosing quantity, prebrewing |
| 7 | Press the start key | Press 1x for 1 coffee, press 2x for 2 coffees |

| Cleaning and service | | |
|---|---|---|
| A | Empty dreg drawer | When message appears |
| B | Empty drip tray | When message appears |
| C | Clean water tank | Weekly |
| D | Clean coffee bean hopper | As necessary |
| E | Clean housing | As necessary |
| F | Clean brewing unit | 2 - 3 x weekly or after 50 coffees |
| H | Carry out a descaling cycle | When message appears |
| J | Clean drip tray | Weekly |
| K | Clean brewing unit compartment | Weekly |

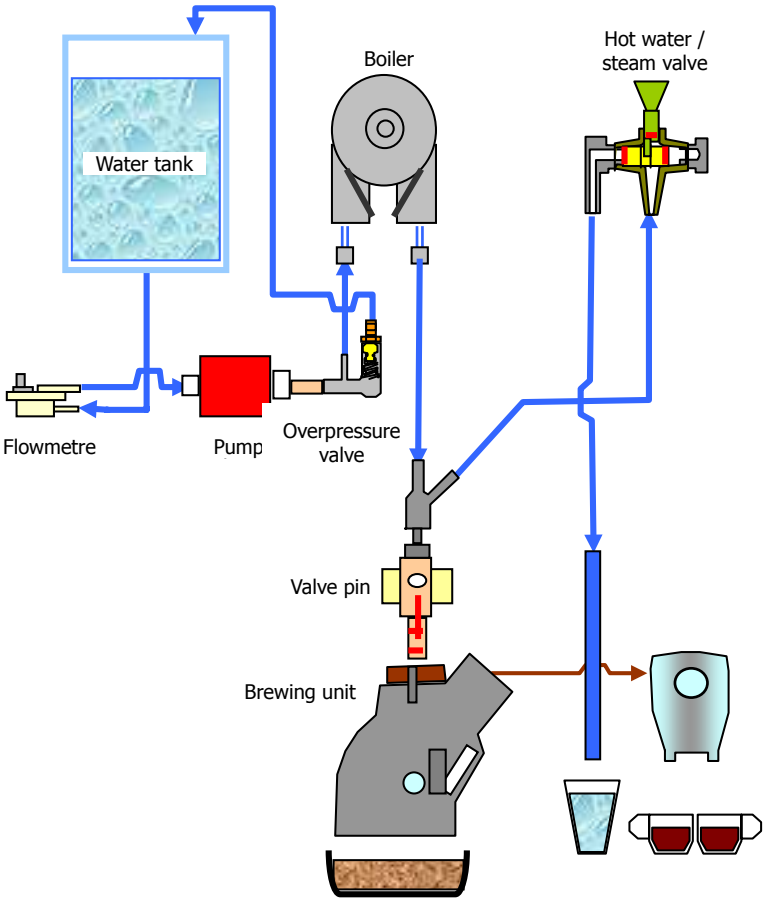
| Descaling cycles | | | |
|---|---|---|---|
| **Hardness** | **Water hardness** | **Interval without limscale filter** | **Interval with limscale filter** |
| 1 | Soft water (up to 7ºdH) | approx. every 3 months / 120 litres | approx. every 6 months / 240 litres |
| 2 | Medium hard water (7º-14ºdH) | approx. every 2 months / 90 litres | approx. every 4 months / 180 litres |
| 3 | Hard water (15º-21ºdH) | approx. every 6 weeks / 60 litres | approx. every 3 months / 120 litres |
| 4 | Very hard water (over 21ºdH) | approx. every 4 weeks / 30 litres | approx. every 6 weeks / 60 litres |

### 3.3 Messages - troubleshooting

| DISPLAY MESSAGE SHOWN | INSTRUCTIONS FOR TROUBLESHOOTING |
|---|---|
| Turn machine off and on to solve the problem | Turn the appliance off and then back on after 30 seconds to resolve the fault. |
| Call Service Centre | The problem requires the intervention of the Service Centre |
| Insert drip tray | Insert the drip tray |
| Close coffee bean hopper lid | The coffee bean hopper lid must be closed to produce beverages. |
| Insert ground coffee | This message is shown if the user selected the use of this type of coffee when the products were specifically programmed. |
| Insert brewing unit | Insert the brewing unit in its intended location |
| Insert dreg drawer | Insert the dreg drawer |
| Empty dreg drawer | Remove the dreg drawer and empty.<br>NOTE: the dreg drawer must only be emptied when the appliance is switched on. The drawer must be removed for at least 5 seconds. If the drawer is emptied when the appliance is switched off the message is not reset. |
| Close side door | Close the service door. |
| Fill water tank | Fill the water tank |
| Empty residual water tray | Empty residual water tray |
| Prime circuit | Start the automatic water cycle filling The appliance makes 5 attempts to fill the cycle automatically.<br>If these attempts fail, the Service Centre must be informed about these ventilation attempts. |
| The descaling cycle did not run correctly. | Repeat the operation as described in the appropriate chapter in the instruction booklet |
| Replace Aqua Prima filter | This message is only displayed if the filter control is enabled (see notes in the instruction booklet)<br>The filter should be replaced in the following cases:<br>1) Over 60 litres of water have been dispensed for drinks<br>2) 90 days have elapsed since installation<br>3) 20 days have elapsed since the coffee maker was last used. |
| The cleaning cycle did not run correctly | Repeat the operation as described in the relevant chapter in the instruction booklet. |
| Descale appliance | Carry out the descaling cycle |
| Standby | Press the “ON” key |

# CHAPTER 4
# FUNCTIONAL PRINCIPLES

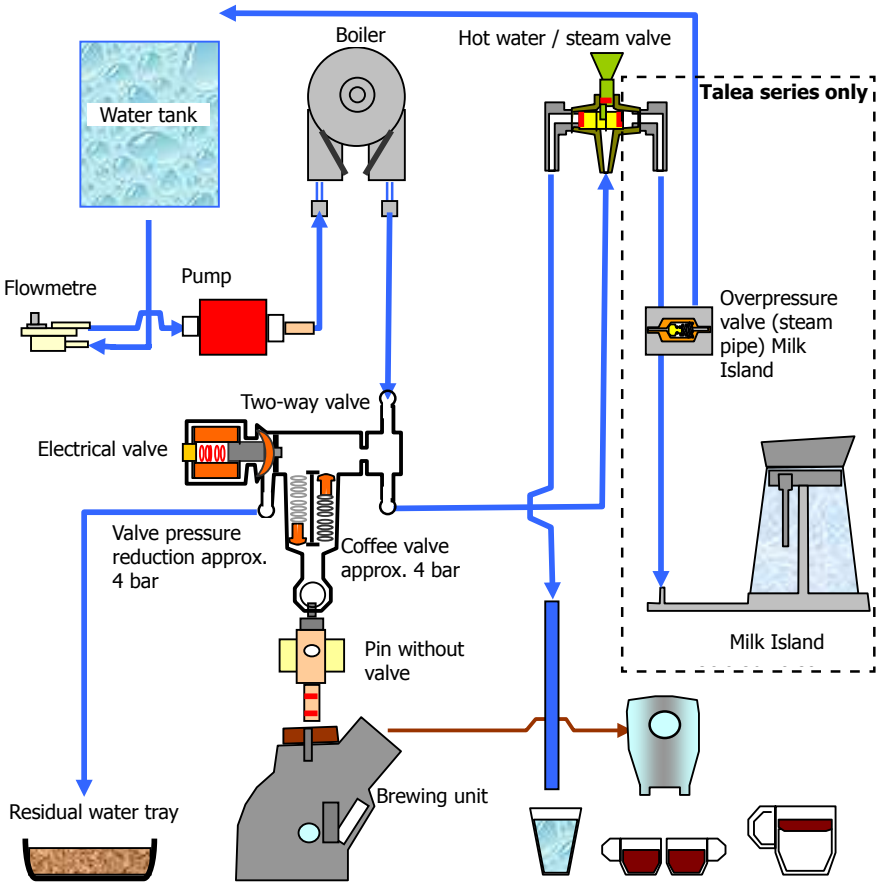
### 4.1.1 Odea Go water system




**Odea Go**

- Conventional water system
- Flowmetre - cup capacity / ventilation display
- Reciprocating piston type pump (13 - 15 bar)
- Overpressure valve (opening pressure 18 - 20 bar).
- Boiler (= continuous-flow heater) 1300 W
- Valve pin (mechanical valve opener)
- Hot water / steam valve (switch between coffee / hot water, steam output)

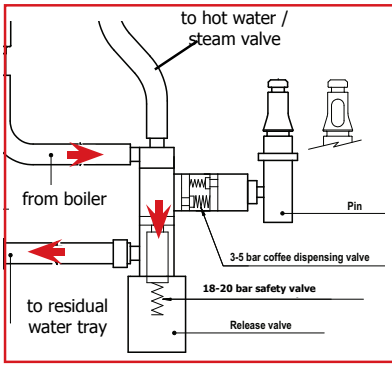
### 4.1.2 Talea, Odea Giro water system




**Talea, Odea Giro**

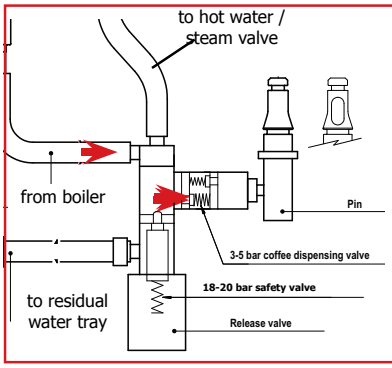
- The solenoid valve has several functions and these are described in the following paragraphs. A mechanical overpressure valve is integrated in the electrical valve which opens at approx. 18 - 20 bar.
- When dispensing coffee and the hot water / steam valve is closed, the coffee valve opens at approx. 4 bar and the water is pressed through the brewing unit.
- The overpressure valve in the steam pipe to the Milk Island protects the system against damage caused by pressure, the steam state overpressure is fed back to the fresh water tank.
- The multi-way valve opens selectively depending on the operating situation in the flow direction (dispensing) or against the flow direction (pressure release).

### 4.2. Solenoid valve / multi-way valve




**Ventilation:**

After the appliance is switched on, the electric valve opens, the pump is activated and the appliance is ventilated automatically.

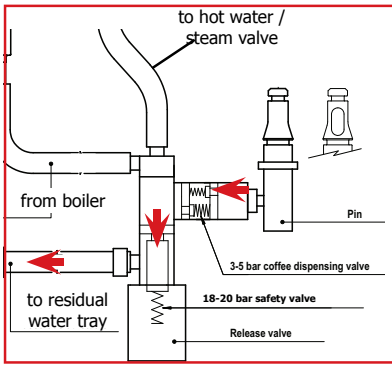



**Preheating the pipes:**

If the coffee machine has not been used for a while or after each heating-up phase, the pump is activated during the grinding process. The hot water enters via the pipes, the multi-way valve, and the water channel into the residual water tray.

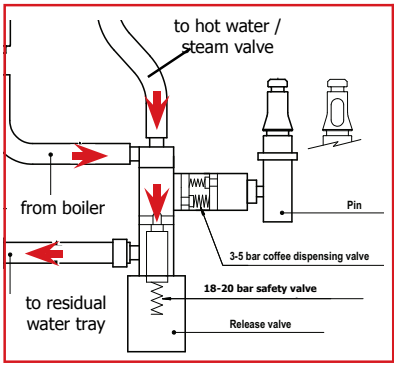
**When coffee is dispensed:**

The same applies for when coffee is dispensed, only the brewing unit is positioned in the brewing position and is docked to the pin.



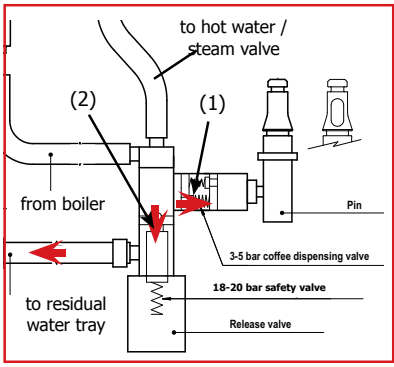

**Brewing unit pressure reduction:**

Before the brewing unit moves to the home position after a brewing process, the electric valve opens and the overpressure in the brewing chamber is released and escapes into the residual water tray.




**Pipe system pressure reduction:**

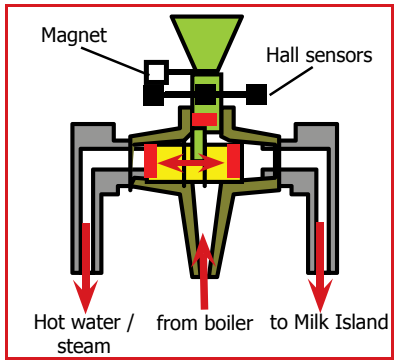
The electrical valve opens to reduce the pressure in the pipe system:
Each time hot water or steam is used
Each time milk is frothed with the Milk Island.




**Overpressure valve (safety valve):**

As the multi-way valve already opens at 3 - 5 bar in the flow direction, it takes over the overpressure function (1) when the brewing unit is not in the brewing position. If the brewing unit is positioned in the brewing position in an overpressure situation and/or the multi-way valve is blocked, the magnet valve acts as an overpressure valve and opens mechanically against the spring pressure at 16 - 19 bar (2).

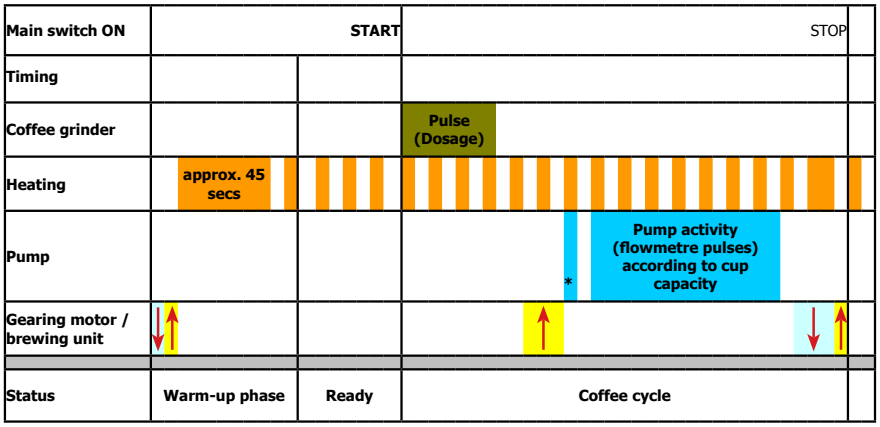
### 4.3. Hot water / steam faucet




**Hot water / steam faucet**
The hot water / steam valve has 3 positions:
1. Middle position = closed
2. Hot water / steam
3. Milk Island (not with Odea)

The three hot water / steam valve positions are monitored using three Hall sensors and a magnet that is fitted to the hot water / steam valve axle.

### 4.4. Coffee cycle




**Note: * With prebrewing only**


**Gearing mechanism with 2 microswitches (MS)**


**Gearing mechanism with single microswitch (MS)**

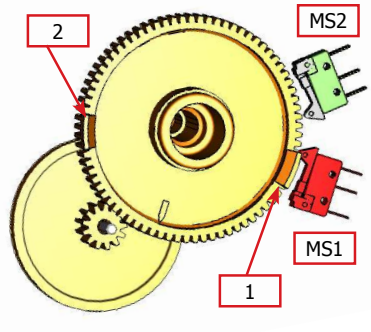
**To turn on:**

- When the main switch is activated, the gearing mechanism searches for its original position and moves downwards into the Microswitch (MS) (with cam 1, see the following section). The gear motor changes the direction of rotation, moves back up and stops approx. 1 - 2 mm after leaving the microswitch.
- The continuous-flow heater then starts to heat the water for approx. 45 seconds to reach the operating temperature,
- 40 seconds of which is spent at full heating power and the rest is spent recycling the power.

**Coffee cycle:**

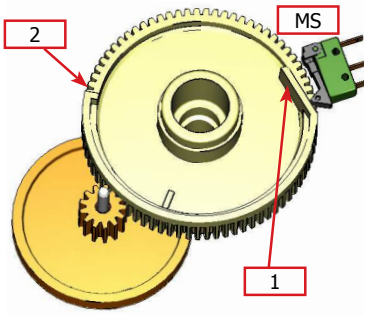
1. The coffee grinder starts the grinding process (pulse-controlled).
2. The gearing mechanism (brewing unit) moves to the brewing position.
3. Then the prebrewing begins (brief pumping activity, then a quick break).
4. Brewing procedure (length of the pumping activity, depending on the coffee quantity selected).
5. The gearing mechanism moves to its original position (brew grounds are automatically ejected).

### 4.5. Brewing unit's gear mechanism




**With 2 microswitches**

The gear is powered by a direct current motor that engages in the smaller double toothed gear using the worm gear drive. The brewing unit is placed on the axis between the large geared tooth and is moved by the change in direction of the motor between the home and brewing positions.
The end positions are monitored by the switching pins and the corrisponding microswitches.
**Home position: MS1 / Pin 1**
**Brewing position: MS2 / Pin 2**
When moving to the home position, pin 1 activates the MS1, the motor changes the direction of rotation and the pin disactivates the MS1.
The pin is positioned 2 mm away from the switching point in its home position.




**Single micro**

The function is the same as with 2 micros-witches. However, here a toothed gear with continuous pin is used and a single micros-witch takes over the monitoring of both end positions.
Important: during the movement between the brewing and home position, the microswitch is not activated (does not move onto the pin), but both ends of the pin switch the micros-witch in their final positions.
**Home position: Pin 1**
**Brewing position: Pin 2**

### 4.6. Temperature sensor (control)

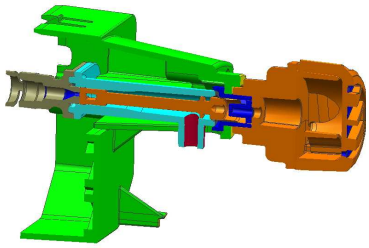
| T (°C) | R (kΩ) | ΔR (+/- %) |
|---|---|---|
| 20 | 61.465 | 8.6 |
| 50 | 17.599 | 5.9 |
| 75 | 7.214 | 4.1 |
| 80 | 6.121 | 3.7 |
| 85 | 5.213 | 3.4 |
| 90 | 4.459 | 3.1 |
| 100 | 3.3 | 2.5 |
| 125 | 1.653 | 3.9 |
| 150 | 0.893 | 5.1 |

**Temperature sensor**

An NTC is used as the temperature sensor:
If the NTC senses too high temperatures, electronics decreases boiler's temperature that is controlled by the resistance's voltage.

**Resistance values and the corrisponding temperatures:** see table

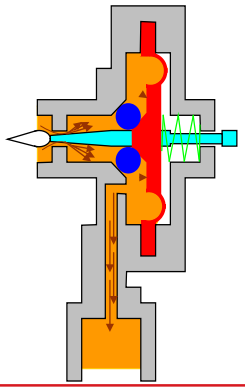
## 4.7. SBS



**SBS - Saeco Brewing System - principle**
Controlling the flow speed that then influences the contact time between the coffee and water, changes the extraction and therefore the taste intensity and strength of the coffee.

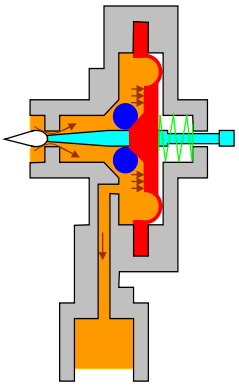
- Slower flow: strong extraction
- Rapid flow: weaker extraction

**SBS / dispensing valve**
Turning the SBS control knob creates a back pressure in the brewing unit where the flow speed is regulated using a controllable cream valve.



**Cream valve control**
**High flow (slow extraction)**

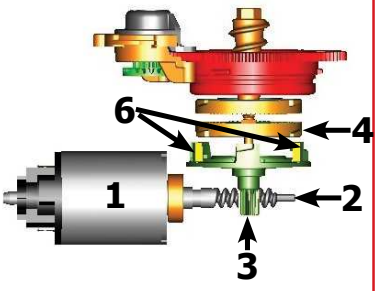
The coffee can flow much easier when the SBS valve is open. The pressure applied to the membrane remains comparatively low and with the support of spring, the membrane almost stays in its original position and the control needle is not pulled into the opening - the flow remains unchanged.



**Cream valve control**
**Low flow (strong extraction)**

The coffee can only dispense inadequately with a throttled SBS valve - a back pressure forms, forcing the membrane to the side and pushing it against the spring force.
In the next stage, the valve needle is pulled into the opening that, in turn, reduces the flow.

### 4.8. Coffee grinder

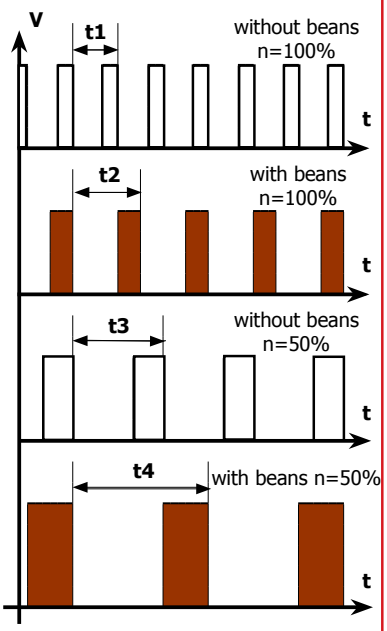



**Ceramic coffee grinder**

The coffee grinder is driven by a direct current motor (1) using a worm gear (2).
The worm (2) drives a plastic gear wheel (3) where the lower ceramic disc (4) and the copper pre-draw worm (5) is driven at the bottom.

Two magnets (6) are built into the drive gear. A Hall sensor is mounted on the bottom side of the housing that sends 2 pulses to the electronics using two magnets per rotation.

### 4.9. Dosing quantity control, coffee grinder blockage when machine is low on beans




**Low bean quantity**
If the machine is low on beans, it is detected from the speed difference (frequency Hall sensor pulses) of the grinder between its idle state and the bean grinding process.
If no beans are found in the grinder (idle state), the speed and therefore the frequency of the pulses is higher - small
**t1 = "Beans low" message**.
If beans are in the grinder, this results in a reduced grinding speed due to the resistance that is generated by the beans in the grinding process and therefore, a greater
**t2 = no message displayed**.

**t3 and t4 = This measurement is carried out when the grinding process slows down at the end.**

**Dosing quantity control**
The dosing quantity is controlled using the recorded pulses (number of rotations proportional to the choose of aroma, mild, medium and strong).

**Coffee grinder blockage**
If external objects enter the grinder, the electronics detects the blockage from the missing flow and stops the grinder.

### 4.10. Autodose - automatic dosing quantity control

**Autodose**

The appliances are fitted with an automatic dosage quantity adjustment from the following software versions:

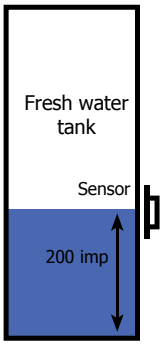
| Type | Software version with autodose |
|---|---|
| Talea Touch | ≥ V.01.08.14 |
| Talea Ring Plus / Ring | ≥ V.02.00.08 |
| Talea Giro e Odea Giro / Go | ≥ V01.02.01 |

**Function:**
The coffee machine adjusts automatically the average coffee dose with an algorithm based on three informations that it detects via the electronic board:
1. Number of grinding pulses performed during the grinding,
2. Maximum of average values of the current consumption of the gear device during the coffee pressing,
3. Aroma selected by the customer.
The algorithm compares the maximum of the average values of the gear device's current consumption with the range defined to the selected aroma fuction in order to adjust the number of grinding pulses for the next coffee.
If the value of the current consumption is less than the minimum of the range defined for the aroma in question, the grinding pulses will be increased by 2.
If the value of the current consumption is more than the maximum of the range defined for the aroma in question, the grinding pulses will be decreased by 4.
If the value of the current consumption is within the range defined for the "Exceeded stress", the coffee will be brewed and the grinding pulses will be decreased by 10.
If the value of the current consumption is within the range defined for the "Ejection", the coffee cake will be ejected and the grinding pulses will be decreased by 10.
In the customer has selected "coffee powder" as the aroma, no adjustment will be done.

| | Setting/status | Current consumption | Pulses corrected in the next grinding process | |
|---|---|---|---|---|
| | | Area | Exceeded by | Deficient by |
| A | mild aroma | 200 - 300 mA | -4 | +2 |
| B | medium aroma | 301 - 450 mA | -4 | +2 |
| C | strong aroma | 451 - 600 mA | -4 | +2 |
| D | Stress | 601 - 800 mA | -4 | |
| E | Exceeded stress | 801 - 1,000 mA | -10 | |
| F | Ejection of dry coffee | > 1,000 mA | -10 | |

**This guarantees that, regardless of the coffee type used, the grinding level setting or possible wear to the grinding disc always remains constant when dosing.**
**Important:**
The machine monitors in the area of the fields shown in green (A,B,C) during normal operation. This area is normally only left when changing the type of coffee (new bean type / fat content, new blend). Therefore when changing the type of coffee, a few dispenses may be subject to under or over dosage (until the controller has compensated for the change).
**Caution: In case of overdosage, dry coffee may be ejected several times as a result. This is not a fault and can occur during first use or after a service.**

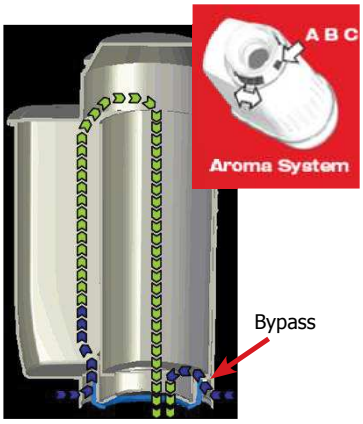
### 4.11. Water level detection of fresh water tank




**"Low water" message (water reserve)**

**Function:**
The water level is monitored using a capacitive sensor. This is fitted on the side of the machine at the height level of the lower third of the water tank. When the sensor communicates to the electronics that there is no water in the tank at its level, there is still a water reserve of 200 flowmetre pulses remaining for the current dispensing that will be completed.
If a drink cycle ends after the sensor has been triggered (in the reserve) then the message "Water low" continues to be displayed also the next time you request a drink.

### 4.12. Limescale filter



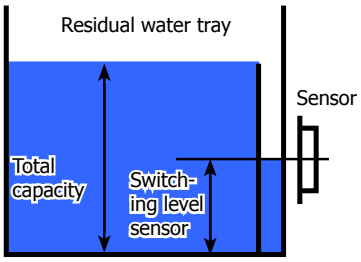

**Limescale filter** Intenza (Brita)

**Function:**
- Reduction or delay of limescale deposits.
- Improved quality of water.
- Optimum taste due to the ideal water hardness.

**Life span / descaling performance:**
- - 10° dH
- 60 litres
- 2 months

To achieve the best possible consistency in the operating mode over the total life span, the water is blended using a 3 stage bypass (A, B, C) depending on the degree of hardness. See the small picture.

### 4.13. Water level detection of residual water tray




**"Empty residual water tray" message**

**Function:**
The residual water level is monitored using a capacitive sensor. The sensor is positioned approx. half way up the upper edge of the residual water tray. To ensure the best possible use of holding capacity, the sensor is positioned in the area of a shaft where its upper edge overlaps the sensor. Therefore, the residual water tray fills up to the upper edge of the shaft and the overflow in the shaft triggers the sensor and therefore displays to empty residual water tray.

**Exception:**
Odea: from 2008 production, the Odea series is no longer fitted with a residual water sensor.
The capacity is calculated by the electronics, depending on the dispensing situation (coffee, steam, hot water, rinsing).

### 4.14. "Empty dreg drawer" message

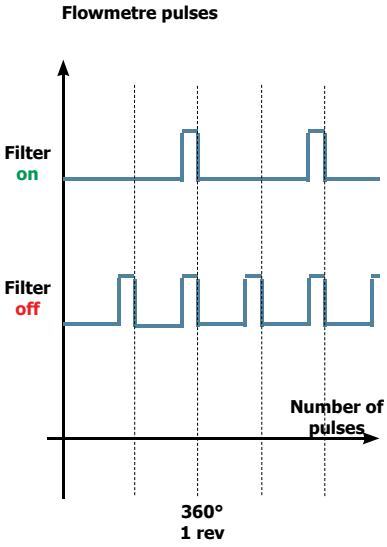
**"Empty dreg drawer" message:**

The following destinations are stored in the diagnosis menu for the message, **"Empty dreg drawer"**:

- Grounds limit (maximum dregs)
- Actual grounds (dreg counter)
- Grounds warning

Grounds limit is programmed to 13 cycles as standard. The counter **"actual grounds"** takes over this value when you empty the dreg drawer and deducts one of these values with each cycle.
If the value is 0, **"Empty dreg drawer"** appears (a request of dispensing is no longer possible). If the last order was a double cup function, the programming allows another 14th use and then displays **"Empty dreg drawer"**.
If the counter **"actual grounds"** reaches a value of **"grounds warning"** during the process (e.g. "3"), the advanced notice **"Empty dreg drawer"** appears on appliances with a display (coffee can still be dispensed).
When the dreg drawer is emptied, the counter **"actual grounds"** will be reseted (after 5 seconds).

### 4.15. Descaling request




**"Descaling with limescale filter" message**
(appliances that have a display only)

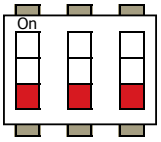
The water hardness is set in the usual way by determining the regional water hardness. (1, 2, 3, 4).
**Filter off:**
The appliance determines the amount of water that flows through the flowmetre and shows the Display "Descaling" according to the pre-specified quantity of water set via the hardness setting.
**Filter on:**
If the function limescale filter / Aqua Prima is turned on in the customer menu, only every 2nd flowmetre pulse is counted when determining the first descaling interval.
The descaling interval is doubled.

**"Change limescale filter / Aqua Prima" message**
(appliances that have a display only)

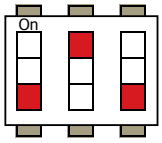
**Function:**
The electronics use the flowmetre pulses to count the amount of water that has flowed through and, after 60 litres, shows the "Change filter" message.

### 4.16. Electronical configuration (DIP - switch settings)

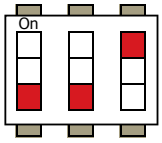
ODEA GO




ODEA GIRO

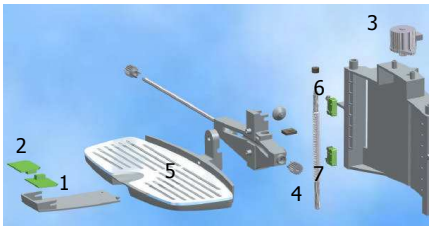



TALEA GIRO




**Function:**
Only one electric function is used with appliances in the Odea and Talea series (without display).
When changing the electronics, the dip-switch position must be checked and altered if necessary.

### 4.17. Cup lift

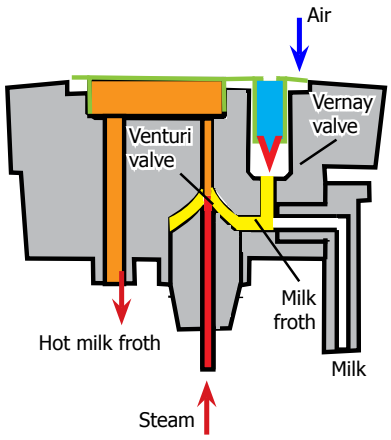



**Electrical cup lift**
(Talea Touch and Ring Plus only)

**Operation:**
The cup lift is activated via two capacitive sensors located on the front part of the cup holder.
The lower sensor (1) activates the upwards function.
The upper sensor (2) the downwards function.

**Function:**
The sensors control an inching motor (3) in different rotating directions.
A spindle (4) where the bottom end is attached flush with the cup plate (5), gets turned by the direction of motion of the motor: lifting or lowering.
The end positions are monitored by two microswitches: upper end switch (6) and lower end switch (7).

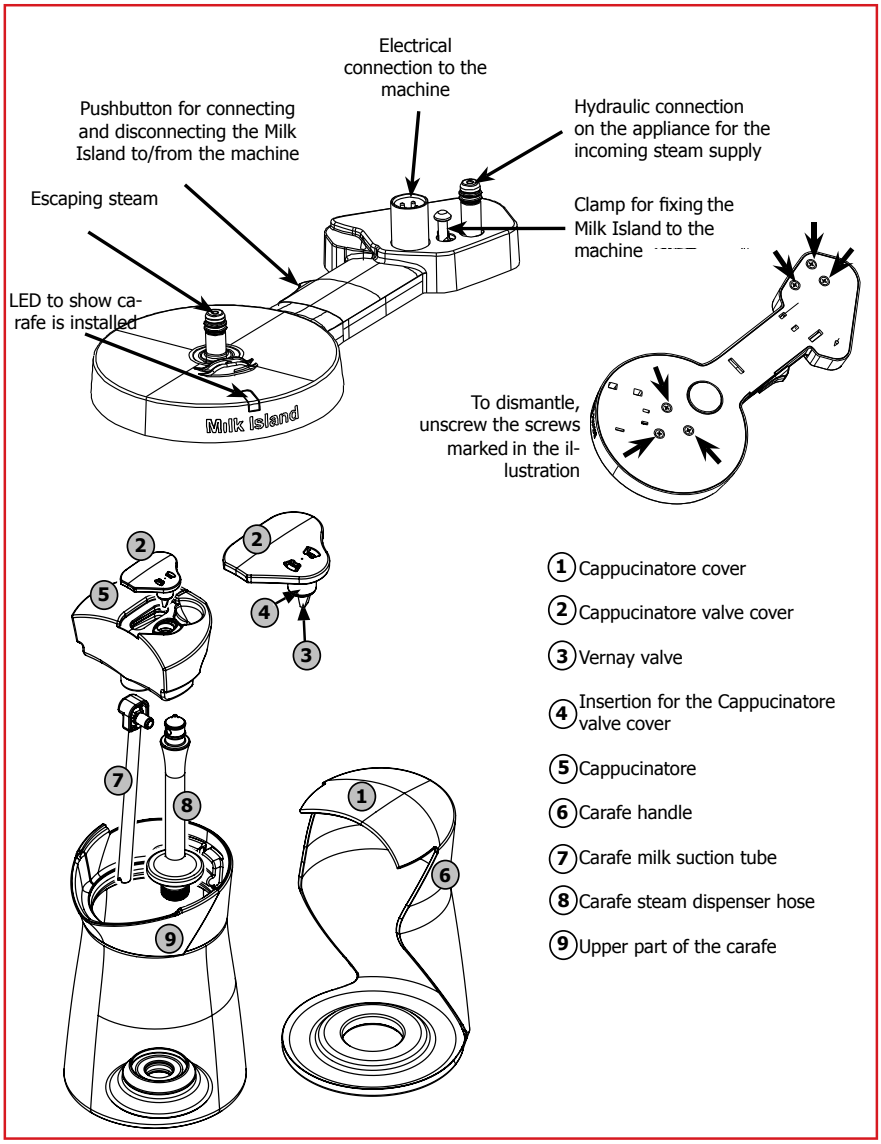
### 4.18. Milk Island




**Milk Island**
(Talea series only / optional)

**Function:**
The function of the Milk Island is based on the Venturi principle in combination with a Vernay valve.

1. The steam flowing into the Venturi valve produces a high subpressure that absorbs the milk.
2. In turn, the milk generates a subpressure when flowing past the Vernay valve that sucks air in via the Vernay valve.
3. The milk is frothed using this air.
4. The milk froth and the steam make contact in the Venturi nozzle and the milk froth is heated up.

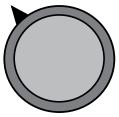
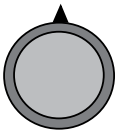
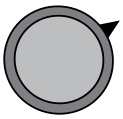



**Caution:** if the base station of the Milk Island is removed from the coffee machine, it is absolutely necessary to apply the lock on the bottom of the machine!

# CHAPTER 5
# SERVICE MODALITY

### 5.1.1. Test mode - Talea Giro and Odea

- Press the hot water key (steam key on the Odea Go) and turn the appliance on at the same time. Keep the hot water key or the steam key pressed until all four LEDs flash in the following sequence (anticlockwise)

| Rotary knob to set cup capacity | | Odea Go only | not with Odea Go | Function | Display |
|---|---|---|---|---|---|
|  | X | | | Electrical valve | |
| | | X | X | Coffee grinder | |
| | | **X + hot water / steam valve open** | | Letting steam out with new software | |
|  | X | | | Heating | |
| | | X | | Brewing unit (home position gear microswitches activated) | |
|  | X | | | Pump flowmetre pulses | |
| | | X | | Brewing unit (brewing position gear microswitch) | |
| | | | | Dosing quantity setting for coffee quantity test in test mode. =90 pulses =100 pulses =110 pulses | |

**Messages / Errors**

| Function | Signal | Display |
|---|---|---|
| Hot water / steam valve (open) | lit | |
| Microswitch of brewing unit not activated (missing) | flashing | |
| Dreg drawer's reed switch (missing) | flashing | |
| Reed switch for doors (open) | flashing | |
| Bean hopper cover's reed switch (missing) | flashing | |
| Flowmetre pulses (when the pump is active) | flashing | |
| Microswitch of milk carafe presence (hot water / steam valve closed) | lit | |
| Water tank's sensor (no water) | lit | |
| Residual water tray's sensor (full) | lit | |

### 5.1.2. Special function mode - Talea Giro and Odea

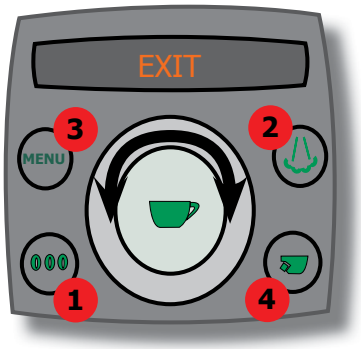
- Press the start key and turn the appliance on at the same time. Keep the start key pressed until all four LEDs flash in the following sequence (clockwise)
  **The following functions are no longer available with those appliances that are installed with the automatic dosing regulation.**

| Rotary knob to set cup capacity | Key | Function | Display | Comment |
|---|---|---|---|---|
| | | Let steam out (approx. 2 min / hot water / steam valve open) | | Flashing in clockwise sequence) |
| | Odea Go only | Press the key to reduce the dosing quantity pulses by 5 pulses each (setting range 60 - 150) standard 80 -100 | Odea Go only | The LED lights up when the key is pressed. If the value is at the minimum, the LED no longer lights up or flashes when pressed (depending on the model) |
| | Odea Go only | Press the key to increase the dosing quantity pulses by 5 pulses each time. (setting range 60 - 150) standard 80 -100 | Odea Go only | The LED lights up when the key is pressed. If the value is at the maximum, the LED no longer lights up or flashes when pressed (depending on the model) |

**Messages / Errors**

| Function | Status | Signal | Display |
|---|---|---|---|
| Brewing unit present - microswitch | Switch not on | lit | |
| Dreg drawer sensor | Sensor not on | lit | |
| Hot water / steam valve sensor | Sensor not on | lit | |
| Bean hopper cover sensor | Sensor not on | lit | |

### 5.2.1 Test mode - Talea Ring and Ring Plus




**Getting started with test mode:**

- Turn on the appliance.
- Keep the menu key pressed for approx. 2 seconds until "Cancel" appears in the display.
- Then press the aroma, steam, menu and hot water keys in that order (1,2,3,4).

**Navigation:**

- Use the ring function to move through the menu levels.
- Activate each function with the relevant key.
- Adjust with the ring.
- Save with the coffee/start key.

| Function level/display | Key | Function | Display/description |
|---|---|---|---|
| | | | |
| ***Test* M0** | **Key check / time / software version / mains frequency** | | |
| * Test* M0 (12345) time Ver.00.00.00 50/60Hz | Steam<br>Hot water<br>Aroma<br>Menu<br>Coffee/Start | Keypad check | 1: Steam key OK<br>2: Hot water key OK<br>3: Aroma key OK<br>4: Menu key OK<br>5: Coffee/Start key OK |
| ***Test* M1** | **Sensor/microswitch test** (can only be carried out manually) | | |
| *Test* M1 time Inputs(123456789ABCDEFGH) | | Sensor/ microswitch test | 1: Brewing unit microswitch<br>2: Brewing position gearing mechanism micro<br>3: Home position of gearing mechanism micro<br>4: Flowmetre (Hall sensor)<br>5: Water tank sensor (capacitive)<br>6: Door switch (reed sensor)<br>7: Dreg tray (reed sensor)<br>8: Bean cover (reed sensor)<br>9: Coffee grinder (Hall sensor)<br>A: Drip tray sensor (capacitive)<br>B: Hot water / steam valve Sensor pos. Milk Island<br>C: Hot water / steam valve Sensor pos. Water/steam<br>D: Milk Island (adapter) detected<br>E: Carafe microswitch<br>F: Cup lift, bottom end switch<br>G: Cup lift, top end switch<br>H: Hot water / steam valve Sensor pos. closed |
| ***Test* M2** | **Test: Brewing unit test** (power input / microswitch) | | |
| *Test* M2 (671**2)** mA going to work **xxx** | Menu | Brewing unit up | Brewing position microswitch **2**<br>**xxx** Power consumption of gear motor |
| *Test* M2 (671**3**) mA going to home **xxx** | Aroma | Brewing unit down | Home position microswitch **3**<br>**xxx** Power consumption of gear motor |

| Function level/display | Key | Function | Display/description |
|---|---|---|---|
| | | | |
| ***Test* M3** | **Test: El.valve/Adjust,Test Dosage quantity/Pump Flowmeter** | | |
| *Test* M3 xx yy<br>**z (8)** | Menu | Elctronic valve | **z**: Ev Brew (the electro valve opens)<br>**8**: Sensor bean cover (closed) |
| *Test* M3<br>Setup Aroma (imp) **tt** | Enter: Coffee<br>Adjust: Ring<br>Store: Coffee | Dosage quantity - start position | **tt**: 60 - 150 dosage quantity start position<br>(From Version 02.00.08 autodose) |
| *Test* M3 xx yy<br>**u** (8) | Aroma | Dosage quantity for the grinder test | **u**: 1 = mild start position -10%<br>**u**: 2 = medium start position<br>**u**: 3 = strong start position +10% |
| *Test* M3 **(F) xx yy**<br>Grinder (8) **vv ww** | Steam | Grinder on | Grinds the dosage quantity resulting from the start position and u (1,2,3)<br>**vv**: Number of pulses<br>**ww**: Pulses/sec.<br>**F**: Failed (low on beans)<br>**S:** Successful (beans detected)<br>**xx**: Factory parameters<br>**yy**: Factory parameters |
| *Test* M3 xx yy<br>Flowmetre (pulses/s) **ff** | Hot water | Pump on | **ff**: Number of pulses/sec (approx. 14-17) |
| ***Test* M4** | **Test: Continuous-flow heater / cup warmer / temperature display** | | |
| *Test* M4 **4**<br>Cup Heater | Menu | Cup warmer | Cup warmer heats up<br>- No temperature display<br>**4**: Key test (menu key) |
| *Test* M4 **3**<br>Heater | Aroma | Continuous-flow heater | Continuous-flow heater heats up<br>Temperature quantity with hot water key<br>**3**: Key test (Aroma key) |
| *Test* M4 **2**<br>Boiler temperature **tt** | Hot water | Temp. display | **tt**: Boiler temperature<br>**2**: Key test (hot water key) |
| *Test* M4 **2**<br>Boiler Temperature **tt** | Hot water / steam valve - Valve open + coffee key | Let steam out | **tt**: Boiler temperature<br>Heats up to 110°C after completing the display pass!! |
| ***Test* M5** | **Test: Cup lift (Ring Plus only)** | | |
| *Test* M5 **4 (67)**<br>Cuplift Position | Menu | Upwards movement | **G:** Upper end switch activated<br>**4**: Key test (menu key)<br>**6:** Cup lift UP sensor<br>**7:** Cup lift DOWN sensor |
| *Test* M5 **3 (67)**<br>Cuplift Position | Aroma | Downwards movement | **F:** Bottom end switch activated<br>**3:** Key test (Aroma key)<br>**6:** Cup lift UP sensor<br>**7:** Cup lift DOWN sensor |
| ***Test* M6** | **Adjustment: LCD Contrast** | | |
| *Test* M6 time<br>LCD Contrast **xx%** | Coffee | Adjustment (ring) | **xx:** 0 - 100 |

| Function level/display | Key | Function | Display/description |
|---|---|---|---|
| | | | |
| ***Test* M7** | **Adjustment: LCD backlight** | | |
| *Test* M7 time<br>LCD backlight **xx%** | Coffee | Adjustment (ring) | **xx:** 0 - 100 |
| ***Test* M8** | **Autotest** | | |
| *Test* M8 time<br>*Self test* | Coffee | Autotest | • Gearing mechanism test<br>• Grinder test<br>• Cup lift test<br>• Heater and sensor test<br>At the end of the tests, an acoustic signal tells you if the tests were successful or not.<br>• 2 acoustic signals - passed test<br>• 10 acoustic signals - failed test<br>If the test was not successful, the relevant error message is shown on the display. |
| ***Test* M9** | **Exit** | | |
| *Test* M9 time<br>Exit | Coffee | Exit test mode | |

### 5.2.2. Diagnosis menu - Talea Ring and Ring Plus

**Getting started:**

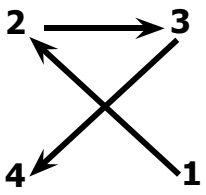
- Keep the menu key pressed for approx. 2 seconds until "Cancel" appears in the display.
- Then press the menu key, steam key, aroma and hot water key in that order.

| Menu | Address | Parameters | Comment |
|---|---|---|---|
| 1. Product counters | 1.1 Total Products N° | | Total amount of coffee used since production |
| | 1.2 Total N° of Espresso N° | | Total quantity of espresso used since production |
| | 1.3 Total ml of Espresso ml | | Amount of water used in ml for the Espresso program since production |
| | 1.4 Total N° of Coffee N° | | Number of coffees since production |
| | 1.5 Total ml of Coffee ml | | Amount of water used in ml for the Coffee program since production |
| | 1.6 Total N° of L.Coffee N° | | Number of long coffees used since production |
| | 1.7 Total ml of L.Coffee ml | | Amount of water used in ml for the Long Coffee program since production |
| | 1.8 Total N° of Water N° | | Number of hot water deliveries since production |
| | 1.9 Total ml of Water ml | | Amount of water used in ml for the Hot Water program since production |
| 2. Totalcounters | 2.1 Water S.L Descale N° | | Current descaling counter counts the amount of water flowed through since the last descaling |
| | 2.2 Water s. 1 Descale ml | | Last descaling interval |
| | 2.3 Water s. 2 Descale ml | | 2. Last descaling interval |
| | 2.4 Water s. 3 Descale ml | | 3. Last descaling interval |
| | 2.5 Water S. Production ml | | Total amount of water in ml for all drinks made since production |
| | 2.6 Descaling N° N° | | Number of descaling processes carried out since production |
| | 2.7 B.U Cleanings N° N° | | Number of cleaning cycles carried out since production |
| | 2.8 Water Filters N° N° | | Number of water filter resets carried out |

| Menu | Address | Parameters | Comment |
|---|---|---|---|
| 3. Errors | 3.1 Errors List | List | Error memory (20) |
| | 3.2 Clear all NO | No/Yes | Reset error memory |
| 4. Products Settings | 4.1 Espresso Settings<br>4.2 Coffee Settings<br>4.3. Coffee Settings | 4.1(2,3).1 Product Qty (pulses)165 | Stored number of pulses for the cup capacity |
| | | 4.1(2,3).2 Aroma (1,2,3) | Aroma setting (1 mild, 2 medium, 3 strong) |
| | | 4.1(2,3).3 Prebrewing (1,2) | Prebrewing (0: off, 1: normal, 2: long) |
| | | 4.1(2,3).4 Temperature °C °C | 95 - 105 Can be changed by +/- 3 °C in the customer menu |
| 5. System settings | 5.1 Fw Version v.3.00.05" | | |
| | 5.2 Fw Boot Version v.05 | | |
| | 5.3 Setup Aroma (pulses) N° | 60 -150 (autodose from V.2.00.08) | A dosage quantity adjustment should be carried out here up to V.2.00.08. From V.2.00.08, the value is corrected automatically by the autodose function, depending on the type of coffee or degree of grinding. |
| | 5.4 Temp. Standby °C 65 | 50 - 80 | Temperature level of the heater in standby |
| | 5.5 Temp. Cup °C 78 | 70 - 85 | Temperature control (brewing temperature) |
| | 5.6 Standby timeout 180 | 15 - 180 | Selected standby time from the customer menu |
| | 5.7 Flowrate (l/h) 15 | 10 - 20 | Flow speed during hot water dispensing |
| | 5.8 Language Select | 11 languages | Language setting (from the customer menu) |
| | 5.9 Water Hardness 3 | 1 - 4 | Water hardness setting (from the customer menu) |
| | 5.10 LCD Backlight 50 | 0 - 100 | Setting for the display's backlight |
| | 5.11 LCD Contrast 50 | 0 - 100 | Contrast setting (brightness of the lettering) in the display |

| Menu | Address | Parameters | Comment |
|---|---|---|---|
| 5. System settings | 5.12 Grounds Limit 13 | 5 -25 | Dreg stop (number of cycles until the message "Empty dreg drawer" appears |
| | 5.13 Grounds Left N° | 1 - 13 | Number of remaining uses until the message "Empty dreg drawer" (counts the uses from 13 downwards) |
| | 5.14 Grounds Warning 8 | 1 - 13 | If the value in Grounds Left and Grounds Warning are identical, (e. g. 3), the message empty dreg drawer appears (after 10 uses since the last reset the dreg drawer can be emptied but does not have to be (if the drawer is emptied, the Grounds Left counter is reset [set to 13 Grounds Limit]). The dreg drawer must be emptied at Grounds left = 0 |
| | 5.15 Cup Warm Power 0 | 0,1 | Cup warmer 0: Off, 1: On |

### 5.3.1 Test mode - Talea Touch



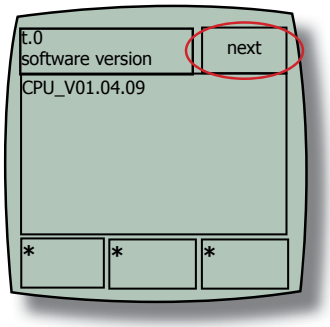

**Getting started with test mode:**

- Turn on the appliance (wait for hourglass to appear).
- Within 3 seconds, type in an X in the corner of the display in the sequence shown (beginning at the bottom right).

**Navigation:**

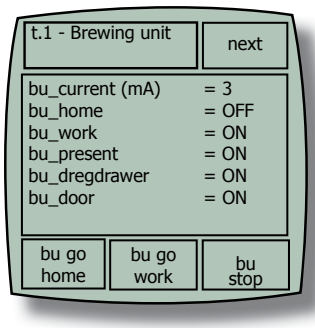
- Use the "next" key to move through the menu levels.
- You can use the three keys on the lower edge of the display to start up to three functions for each menu level.

**Function group t.0 - software version**



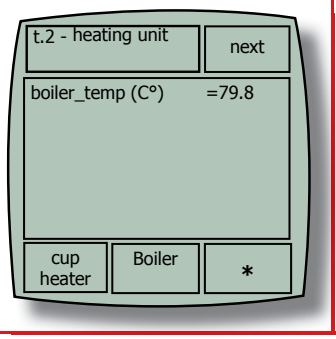

Displays the current CPU software version.

**Function group t.1 - Brewing unit**



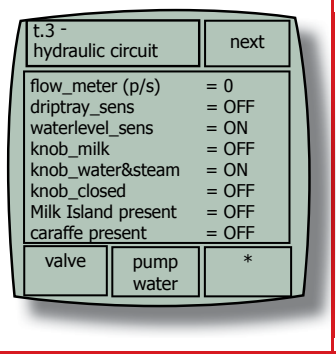

| | |
|---|---|
| bu_current (mA) | Power consumption in mA |
| bu_home: | ON - Microswitch (original position) Gearing mechanism activated |
| bu_work | ON - Microswitch (brew position) Gearing mechanism activated |
| bu_present: | ON - Microswitch brewing unit (inserted) activated |
| bu_dregdrawer: | ON - Dreg drawer reed switch |
| bu_door: | ON - Reed switch for doors |
| bu go home: | Brewing unit moves to original position |
| bu go work: | Brewing unit moves to brewing position |
| bu stop: | Stop brewing unit |

**Function group t.2 - Heater**



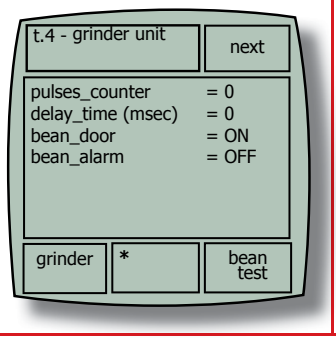

| | |
|---|---|
| boiler_temp (C°) | Temperature recorded by the temperature sensor. |
| cup heater: | Cup warmer heats up |
| boiler: | Continuous-flow heater heats up |
| *: | no function |

**Function group t.3 - Water/steam system**



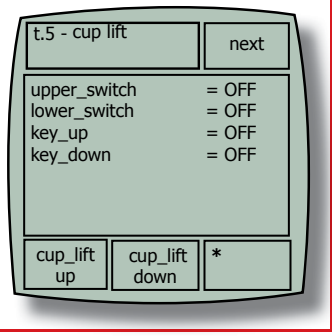

| | |
|---|---|
| flow_metre(p/s): | Flowmetre pulses (12-17) |
| driptray_sens: | ON - Residual water tray full |
| waterlevel_sens: | ON - Water tank full |
| knob_milk: | ON - Hot water / steam valve in pos. Milk Island |
| knob_water/steam | ON - Hot water / steam valve in pos. hot water/steam |
| knob_closed: | ON - Hot water / steam valve in pos. closed |
| milkisland present: | ON - Milk Island adapter detected |
| carafe present: | ON - Carafe microswitch activated |
| valve: | Magnet valve activation |
| pump water: | Pump activation |
| *: | no function |

**Function group t.4 - Grinder**



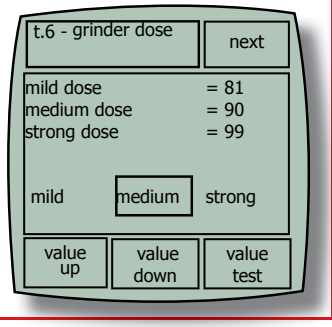

| | |
|---|---|
| pulses_counter: | Coffee grinder pulses (Hall sensor) |
| delay_time (msec) | Coffee grinder pulse msec/pulse |
| bean_door: | ON - Reed sensor bean cover activated |
| bean_alarm: | ON - Beans low (speed exceeded) |
| grinder: | Coffee grinder activation |
| *: | no function |
| bean_test: | The machine starts grinding and the relevant message is shown next to bean_alarm (ON/OFF) |

**Function group t.5 - Cup lift**



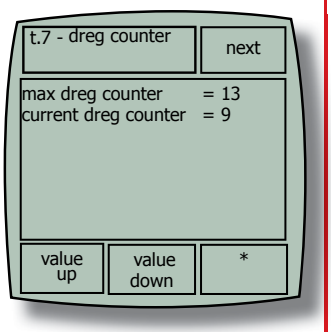

| | |
|---|---|
| upper_switch: | ON - Microswitch cup lift (top end position) |
| lower_switch: | ON - Microswitch cup lift (bottom end position) |
| key_up: | ON - Cup lift sensor UP activated |
| key_down: | ON - Cup lift sensor DOWN activated |
| cup_lift up: | Cup lift moves upwards |
| cup_lift down: | Cup lift moves downwards |
| *: | no function |

**Function group t.6 - Dosing**



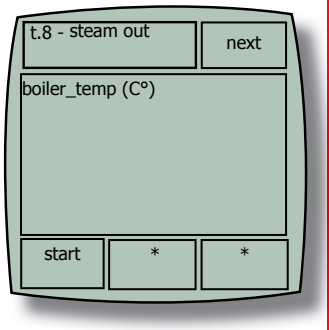

| | |
|---|---|
| mild dose | = medium dose -10% (fix) |
| medium dose | Range 60 - 150 (value up/down) |
| strong dose | = medium dose +10% (fix) |
| mild | Setting for the dosing quantity test |
| medium | Setting for the dosing quantity test |
| strong | Setting for the dosing quantity test |
| value up: | Brewing unit moves to original position |
| value down: | Brewing unit moves to brewing position |
| value test: | Stop brewing unit |

**Function group t.7 - Dreg counter**




| | |
|---|---|
| max dreg counter: | Maximum number of cycles until "Empty dreg drawer" message appears |
| current dreg count | Running dreg counter |
| value up: | increase the number of cycles |
| value down: | reduce the number of cycles |
| *: | no function |

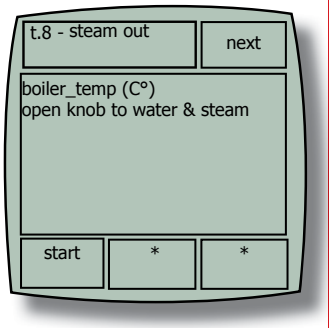
**Function group t.8 - Let steam out**




boiler_temp (C°): current boiler temperature

start: Starts the steam out procedure
*: no function
*: no function

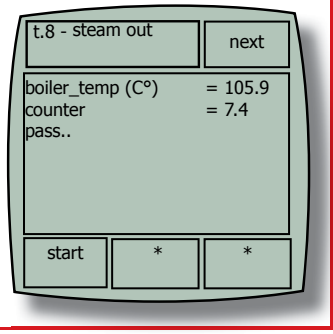
**Function group t.8 - Let steam out**




boiler_temp (C°): current boiler temperature
open knob to w/st: Instruction to open hot water / steam valve

start: Starts the steam out procedure
*: no function
*: no function

**Function group t.8 - Let steam out**




boiler_temp (C°): heats up to approx. 110 (C°)
counter: counts from 10 to 0 (steam out time)
pass: Steam out procedure completed

start: Starts the steam out procedure
*: no function
*: no function

### 5.3.2 Diagnosis menu - Talea Touch

**Getting started:**

- Turn on the appliance and within the first 3 seconds after the hourglass appears, touch the display in the corner with your finger in the following sequence (top left, top right, bottom left, bottom right = **Z**)

| Menu level | | | | | | | | | Comment |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | 4 | 5 | 6 | |
| | Counters | D1.1.counters | Water counters | D1.1.1. total counters | Water s. prod. | | | | Amount of water since first use |
| | | | | | Descaling cycles | since last DS. | +/- | | Water since the last descaling |
| | | | | | | since sec. last DS. | | | Water 2. last descaling |
| | | | | | | since third. last DS. | | | Water 3. last descaling |
| | | | | | | n° of DS. Cycles | | | Number of descaling cycles carried out |
| | | | | | Water filter | water since last filter reset | +/- | | Water since filter reset |
| | | | | | | water filters since prod. | | | Number of filters changed = number of filter initialisations |
| | | | | | Cleaning cycles | n° of cleaning cycles | | | Cleaning cycles carried out Brewing unit |
| | | | | | | water since last cleaning | +/- | | Water since the last cleaning cycle |
| | | | counters | error counters | current error | | | | |
| | | | | | error since prod. | | | | Errors since production |
| | | | | | error since last service | | | | Error since last service |
| | | | | | error log | | | | Error list (see list) |

| D1. Diagnostics menu | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Settings | | | | | | | | | | | | |
| Product settings | | | | | | | | | | | | |
| product counters | | | | | | | | | | | | |
| D1.1.3. product counters | | | | | | | | | | | | |
| product total | | | | | | | | | | | | Product counters |
| long coffee | | | | | | | | | | | | Product counters |
| coffee | | | | | | | | | | | | Product counters |
| espresso | | | | | | | | | | | | Product counters |
| reset error log | | | | | | | | | | | | Delete errors |
| D1.1.2A. error log | | | | | | | | | | | | Delete errors |
| reset errors last service | | | | | | | | | | | | Delete errors |
| D1.2.1A Product settings | | | | | | | | | | | | |
| beverage settings | espresso coffee long coffee | prebrewing | | | medium | Prebrewing setting | | | | | | |
| | | | | | strong | | | | | | | |
| | | | | | off | | | | | | | |
| | | temperature | | | low | Coffee temperature in the cup | | | | | | |
| | | | | | medium | | | | | | | |
| | | | | | high | | | | | | | |
| | | aroma | | | mild | Dosing quantity coffee | | | | | | |
| | | | | | medium | | | | | | | |
| | | | | | strong | | | | | | | |
| | | | | | preground | | | | | | | |
| | | coffee volume | | | +/- | Cup capacity | | | | | | |
| | rinse | prebrewing | | | no function | No function | | | | | | |
| | | temperature | | | low | Coffee temperature for rinsing | | | | | | |
| | | | | | medium | | | | | | | |
| | | | | | high | | | | | | | |
| | | aroma | | | no function | No function | | | | | | |
| | | coffee volume | | | +/- | Amount of water for rinsing | | | | | | |

| Menu level | | | | | | | | Comments / conversion |
|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | 4 | 5 | 6 | |
| | | | Product settings | D1.2.1A Product settings | time/date settings | set clock | current time | h/min | Programming current time |
| | | | | | | | time format | 24hr - am/pm | Program. 12 / 24 hour display |
| | | | | | | date settings | current date | yy/mm/dd | Program. Date Year/Month/Day |
| | | | | | | | date format | select (3) | Program. Date format |
| | | | | | | standby setting | 15 min | | Standby 15 min after use |
| | | | | | | | 30 min | | Standby 30 min after use |
| | | | | | | | 1h | | Standby 1 hour after use |
| | | | | | | | 3h | | Standby 3 hours after use |
| | | | | | | machine on/off | interval 1 | h/min | Switching time 1 (ON/OFF time) |
| | | | | | | | interval 2 | h/min | Switching time 2 (ON/OFF time) |
| | | | | | | | interval 3 | h/min | Switching time 3 (ON/OFF time) |
| | | | | | | | week day setting | Monday-Sunday | Allocation of the switching time/ day |
| | | | | | maintenance setting | Product counters | | | |
| | | | | D1.2.1B | Special settings | Factory settings | | | Initialise factory settings |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **D1. Diagnostics menu** | **Settings** | | **system settings** | **D1.2.2A. System setting** | grounds settings | grounds limit | (13) | | Maximum dregs |
| | | | | | | actual grounds | +/- (counts from 13 upwards) | +/- (1-26) | Dreg counter |
| | | | | | | warning grounds | (8) | +/- (1-13) | If this value is the same as the dreg counter then "empty dreg drawer" appears<br>Coffee can still be dispensed The counter is reset when emptied |
| | | | | | | delay reset grounds | +/- (1-100) 50 = 5 sec | | The time the dreg counter should be reset to when the dreg drawer has been removed |
| | | | | | heater settings | cup temperature | (78) | +/- (70-85) | Coffee temperature (in the cup) |
| | | | | | | coffee temp | temp.active (112) | +/- (80-140) | Boiler temp. when coffee is dispensed |
| | | | | | | | temp.inactive (105) | +/- (80-140) | Boiler temp. when coffee is not being dispensed |
| | | | | | | steam temperature | temp.active (145) | +/- 130-150) | Boiler temp. when steam is used |
| | | | | | | | temp.inactive (120) | +/-(130-150) | no function |
| | | | | | | hot water temperature | (90) | +/- (70-120) | Boiler temp. when hot water is dispensed |
| | | | | | grinder settings | medium dose | (80-100)/(auto dose) | +/- (50-150) | Grinder pulse with medium dose From V.....autodose (automatic setting) |
| | | | | | flowmetre settings | hot water flowrate | +/- (13-18) (18) | | Flow rate |
| | | | | **D1.2.2B** | service date | on/off (ON takes over the current date) | | | Date setting service |

### 5.4. Error messages

**Function group M3: Error log**

The following will be displayed at this program level:

- the last 20 faults
- date when the fault occurred

| CODE | BRIEF DESCRIPTION | DESCRIPTION / POSSIBLE FAULT |
|---|---|---|
| **FAULT IN THE COFFEE GRINDER** | | |
| 01 | Coffee grinder blocked | No Hall sensor pulses:<br>• Sensor/cable defective<br>• Gearing mechanism defective<br>• Coffee grinder blocked<br>• The motor is not driven |
| **BREWING UNIT FAULT** | | |
| 03 | TORQUE_FAULT_FWD | Torque exceeded when moving to the brewing position |
| | TIMEOUT_FWD | Time exceeded when moving to the brewing position |
| | TIMEOUT_FWD_DOWN | Time exceeded when releasing the start position microswitch |
| | HOME_WHILE_WORKING | Activates the start position microswitch when moving up to the brewing position |
| 04 | TORQUE_FAULT_RWD | Torque exceeded when returning to the start position |
| | TIMEOUT_RWD | Time exceeded when returning to the start position |
| | WORK_WHILE_HOMING | Activates the brewing position microswitch when moving to the start position |
| 16 | HOME_AND_WORK_PRESSED | Both gear microswitches operated at the same time |
| **FAULT IN THE WATER CYCLE** | | |
| 05 | No flowmetre pulses when the pump is activated | • Flowmetre defective<br>• Pump defective<br>• Lead shifted |
| 06 | Hot water / steam valve vent sensor board fault | More than one sensor is ON at the same time |
| **FAULT WITH THE TEMPERATURE CONTROLLER** | | |
| 10 | SENSOR1_SHORT | Short-circuit in the continuous-flow heater sensor |
| 11 | SENSOR1_OPEN | Interruption in the continuous-flow heater sensor |
| 14 | TEMPERATURE_BO_TOO_HIGH | Temperature exceeded on the continuous-flow heater |
| 15 | TEMPERATURE_BO_OUT_CONTROL | Coffee boiler temperature controller is not working (i.e. no response to signals: e.g. the continuous-flow heater is switched on but the temperature does not increase) |
| **GENERAL FAULTS** | | |
| 19 | No zero crossing | Power supply fault |
| 20 | Cup lift fault | Both limit switches operated at the same time |

# CHAPTER 6
# STANDARD CONTROLS

### 6.1. Repair plan

| | Action |
|---|---|
| 1 | Visual check (transport damage) |
| 2 | Recording the appliance data |
| 3 | Functional check / fault analysis |
| 4 | Opening the appliance |
| 5 | Visual check (leaks) |
| 6 | Checking the mechanical procedure (functional test) |
| 7 | Repairing the faults occurred |
| 8 | Checking the modifications |
| 9 | Service activities according to the Service plan |
| 10 | Cleaning inside |
| 11 | Functional test (when the appliance is open / leak test) |
| 12 | Assembly |
| 13 | End test according to the Test plan |
| 14 | Let steam out (Winter) |
| 15 | Exterior cleaning |
| 16 | Lubricating the brewing unit |
| 17 | Insulation test HG 701 |
| 18 | Documentation |

### 6.2. Service plan

R = Replace C = Clean VC = Visual check
HT = Hearing test D = Descale A = Adjust

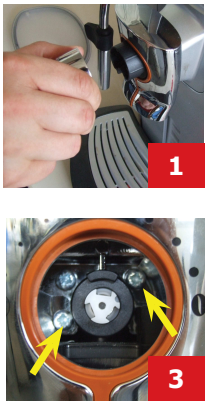
| Parts | Action | Resources |
|---|---|---|
| Water filter | C/R | |
| Lip seal / water tank | R | |
| Cream valve | C | |
| Valve spring | R | |
| O ring valve pin | R | |
| O ring valve pin | R | |
| Sieve (brewing unit) | C/VC | Fat solvent |
| Hose connections | VC | |
| Pump | VC/HT | |
| Gears | HT/VC | |
| Coffee grinder | C/A | Vacuum cleaner / brush |
| Water route | D | Descaler (Saeco) |
| Hot water / steam valve | VC/R | |
| Water drain (valve pin) | C | Fat solvent / brush |

### 6.3. Final control

| Test | Procedure | Resources | Specification | Tolerance |
|---|---|---|---|---|
| Cup capacity | 2-3 cups with the Espresso setting | Measuring beaker | Same amount | 15% |
| Cup capacity | 2-3 cups with the Coffee setting | Measuring beaker | Same amount | 15% |
| Noise levels | | | Standard noise experience value | |
| Cream quantity | Carefully blow into the cup until the cream separates | | The cream covering then has to re-close completely | |
| Cream colour | | | Hazel brown marbled | |
| Temperature | Reading taken in coffee flow | Temperature measuring device | 84°C | ± 4°C |
| Grinding level | Check the grain size of the ground coffee | | See the training course | |
| Hot water | Dispense hot water | | | |
| Steam function | Dispense steam | | | |
| "Water low" message | Remove the tank | | "Fill / insert water tank"-message | |
| "Dreg drawer missing" message | Remove the dreg drawer | | "Dreg drawer missing" message | |
| "Beans low" message | Start coffee program - dreg drawer empty | | "Beans low" message | |

# CHAPTER 7
# DISASSEMBLY

### 7.1. SBS / dispenser




**To disassemble the SBS**

**Fig.1**

- Remove the SBS rotary knob.

**Fig.2**

- Unscrew the fixing screw.
- Remove the bracket of the SBS rotary knob.

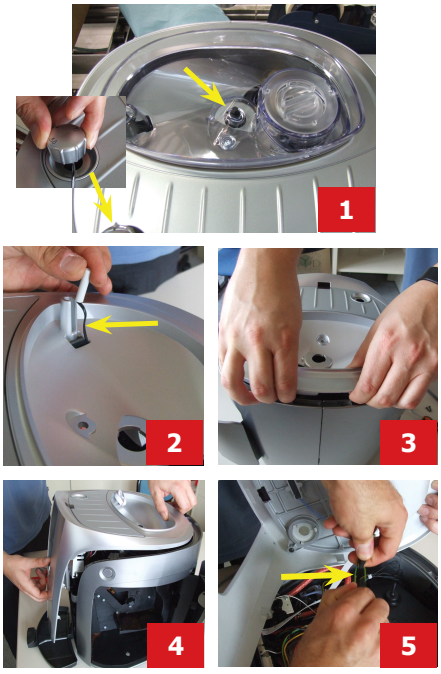
**Fig.3**

- Unscrew the screws shown.

**Fig.4**

- Remove the drain valve.

### 7.2. Housing




**To disassemble the housing - front and upper parts**

**Fig.1**

- Remove the cover of the coffee container.
- Unscrew the screw marked in the illustration.
- Remove the rotary knob from the hot water / steam valve.

**Fig. 2**

- Take out the bean hopper cover sensor.

**Fig. 3**

- Loosen the rear upper part of the housing.

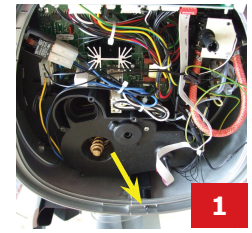
**Fig. 4**

- Fix the upper housing around the bean hopper.
- Pull the front side under the drain valve forwards.
- Remove the upper part of the housing.

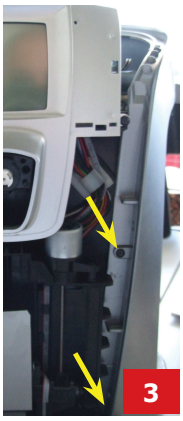
**Fig. 5**

- Unplug the cup warmer and grounding.

**Caution:** if you need to remove the upper part of the housing, start by moving the cup lift to its lowest position then remove the collection tray.








**To disassemble the right side part**

**Fig. 1**

- Remove the screw shown.

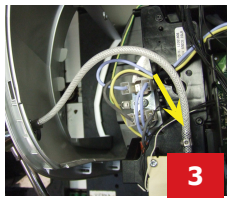
**Fig. 2**

- Remove the screw shown (not with Odea).

**Fig. 3**

- Remove the screws shown.






**To disassemble the left side part**

**Fig. 1**

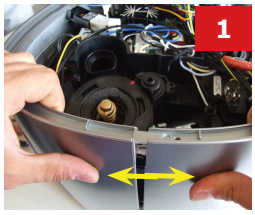
- Remove the screws shown.

**Fig. 2**

- Remove the screws shown.

**Fig. 3**

- If required, loosen the hose clamp on the hot water / steam valve and remove the hose.





**To remove the side panels**

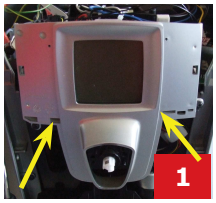
**Fig. 1**

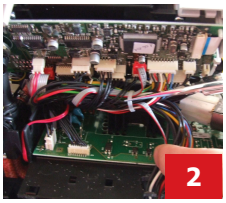
- Separate the rear upper side part.

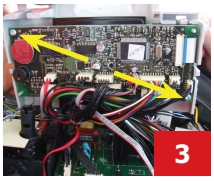
**Fig. 2**

- Grab the side part from underneath and remove.

### 7.3. Electronics




**To disassemble the control board**

**Fig. 1**

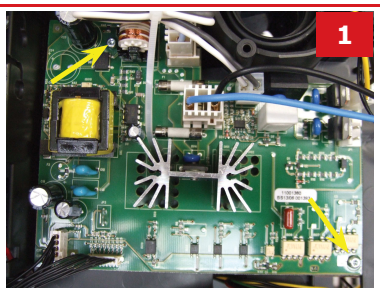
- Remove the screws shown.
- Fold the board to the back.

**Fig. 2**

- Loosen the plug contact.

**Fig. 3**

- Remove the screws shown.

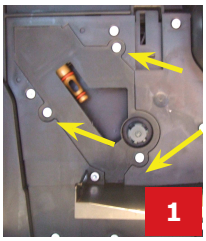


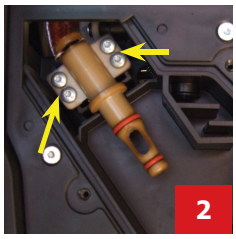

**To disassemble the power board**

**Fig. 1**

- Remove the black board's cover.
- Loosen the plug contact.
- Remove the screws shown.

### 7.4. Boiler's pin





**To disassemble the boiler's pin**

**Fig. 1**

- Remove the screws shown.
- Remove the water channel cover.

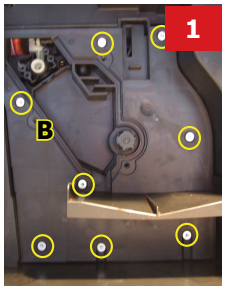
**Fig. 2**

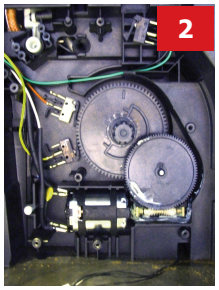
- Remove the screws (4 off) shown.

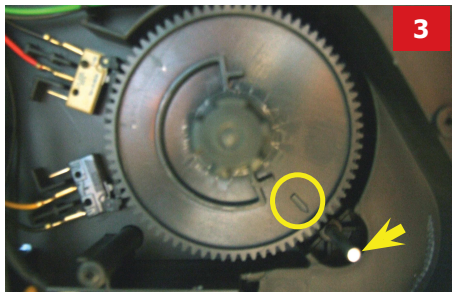
**Fig. 3**

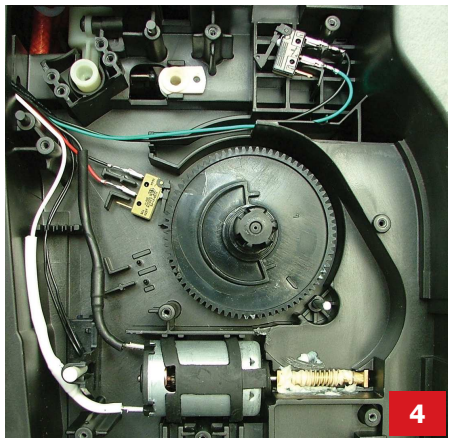
- During assembly, both screws have to be tightened alternately at equal rates to prevent the O-rings from being squeezed.

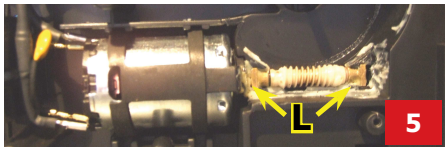
### 7.5. Gear motor device




**To disassemble the gears**

**Fig. 1**

- Remove the screws shown.
- Remove the gear cover.
  **Caution:** The sensor of the residual water tray is fitted to the gear cover (unplug).

**Fig. 2**

- If one of the gear wheels is damaged, replace both wheels.
- If one of the microswitches is defective, always replace both microswitches.

**Fig. 3**

- Gearing mechanism with 2 microswitches.
- When mounting the large gear wheel, take care that the arrow on the gear wheel is aligned to the axis of the small double toothed gear wheel.

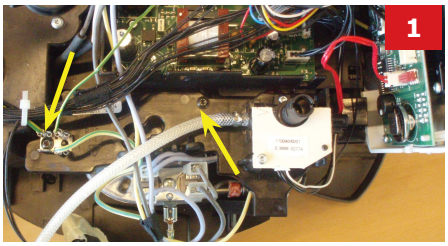
**Fig. 4**

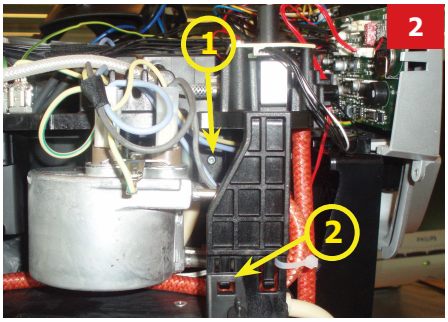
- Single micro version.
- Install as shown in Fig. 3.

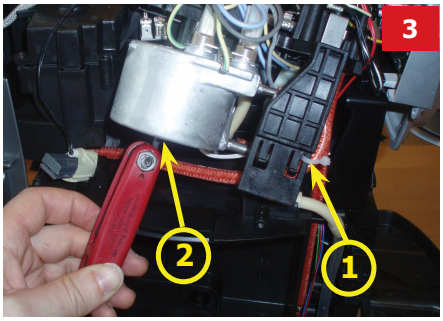
**Fig. 5**

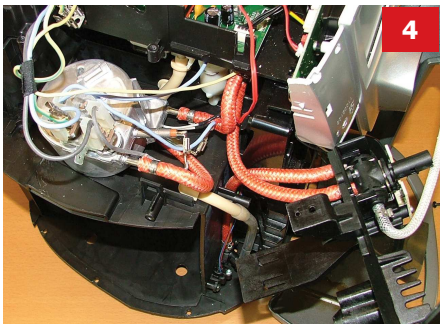
- When assembling the motor, make sure the bearing is fitted correctly (L).

### 7.6. Boiler




**To disassemble the boiler**

**Fig. 1**

- Remove the screws shown.

**Fig. 2**

1. Remove the screw shown.
2. Release the hook and fold the unit upwards.

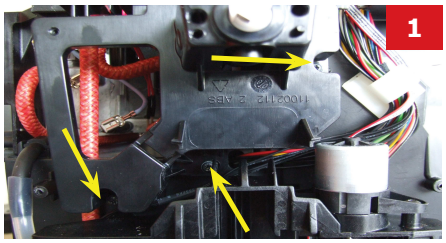
**Fig. 3**

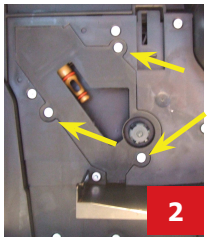
1. Loosen the cable tie.
2. Loosen the boiler from the bracket (Allen key).

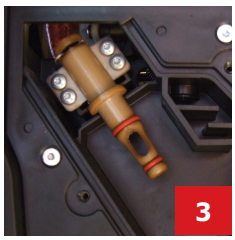
**Fig. 4**

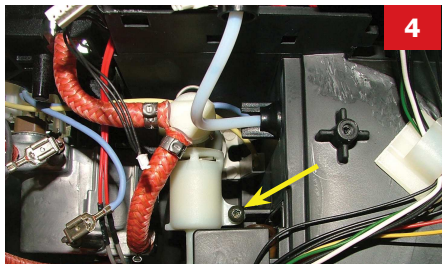
- Loosen the connections.
- Replace the boiler.

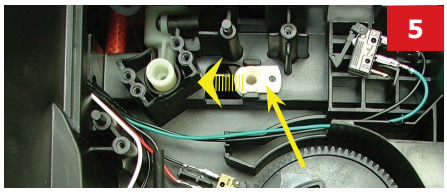
### 7.7. Solenoid valve / multi-way valve

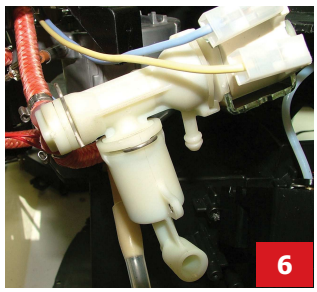




**To disassemble the solenoid valve / multi-way valve**

**Fig. 1**

- Remove the screws shown.
- Loosen the coffee dispenser bracket.

**Fig. 2 / 3**

- Loosen the boiler pin.
- Loosen the boiler's bracket (see section 7.6 / Fig. 1 and 2).

**Fig. 4**

1. Remove the screw shown.

**Fig. 5**

- Unhinge the pressure-relief hose.

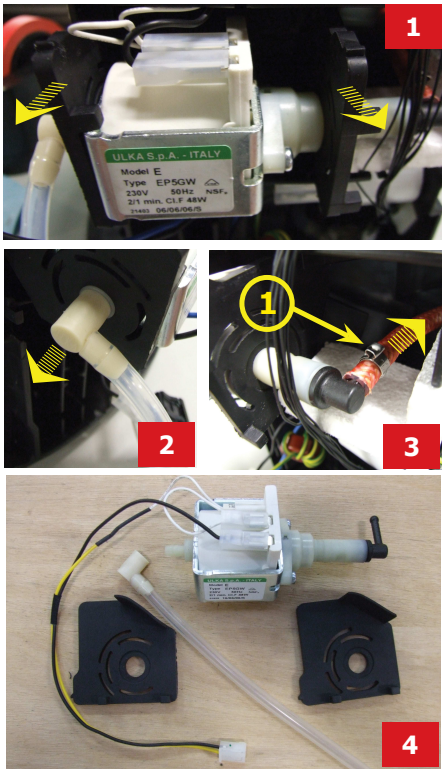
**Fig. 6**

- Remove the valve unit.

**Fig. 7**

- When putting together the 2nd control valve, make sure the graded side is pushed in first.

### 7.8. Pump




**To disassemble the pump**

**Fig. 1**

- Remove the pump and the pump bracket from the guide.

**Fig. 2**

- Remove the connecting bracket.

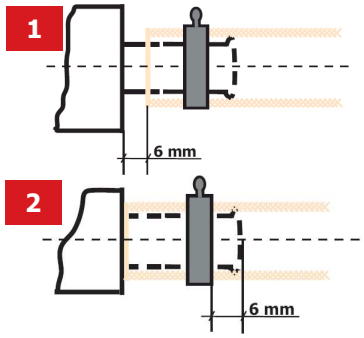
**Fig. 3**

- Loosen the hose clamp and remove the hose.

**Fig. 4**

1. Disassembled pump unit.

### 7.9. Hose connections (assembly)




**Hose connection specifications**

**Fig. 1**

- Boiler connection.

**Fig. 2**

- Other connections.

**To replace the hoses**

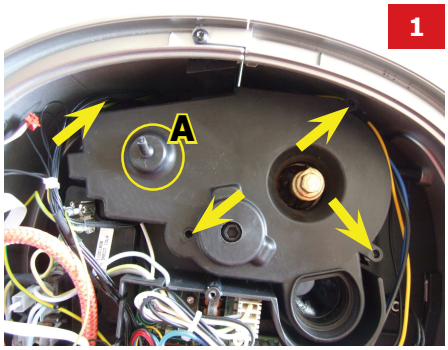
**Fig. 1**

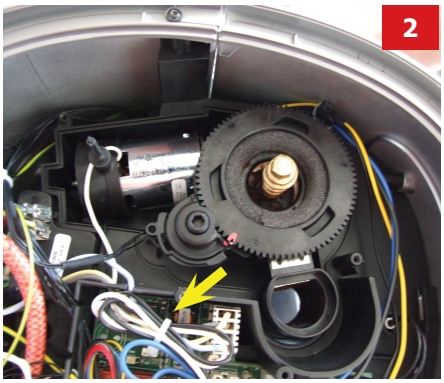
- To open the clamp, place the pliers at the front.

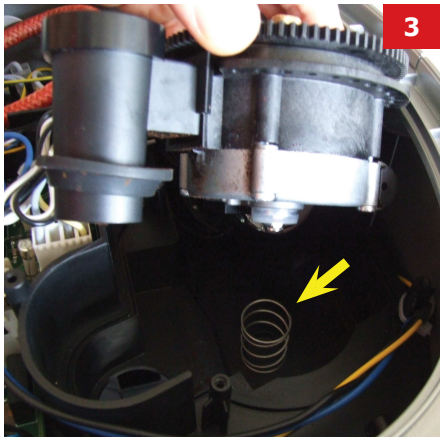
**Fig. 2**

- Use pliers to squeeze the clamp.

### 7.10. Coffee grinder




**To disassemble the coffee grinder**

**Fig. 1**

- Remove the screws shown.
- Loosen the motor mounting bracket (A).
- Remove the cover.

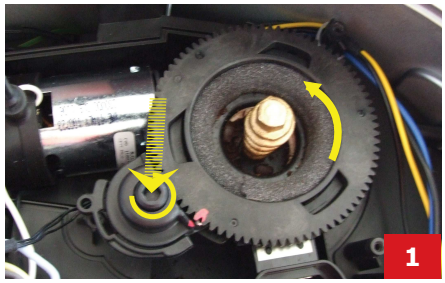
**Fig. 2**

1. Loosen the cable tie.

**Fig. 3**

- When installing, take care that the spring is fitted correctly in the centre of the coffee grinder axis.

### 7.11. Grinders




**To disassemble/adjust the grinding disc**

**Fig. 1**

- Press against the grinding level setting axis and then turn the grinding disc support anticlockwise until it stops, then remove it.


**Fig. 2**

1. Turn the grinding disc anticlockwise out of the support.


**Fig. 3**

- Turn the grinding disc anticlockwise out of the support. The bayonet connections can be accessed from the rear side.

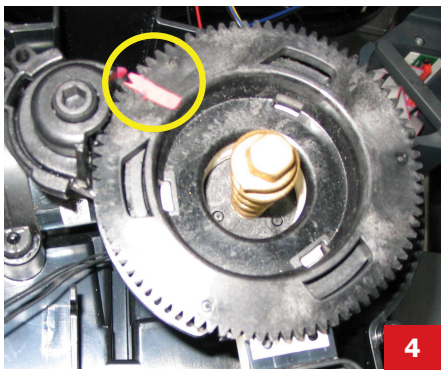
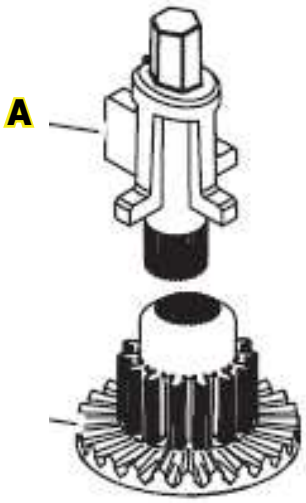
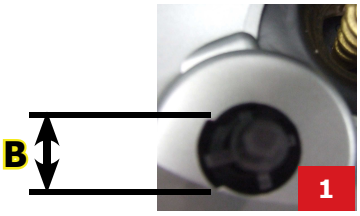



**Fig. 4**

1. In the start position, both markings must be aligned.

### 7.12. Adjustment of coffee grinder





**To adjust the coffee grinder**

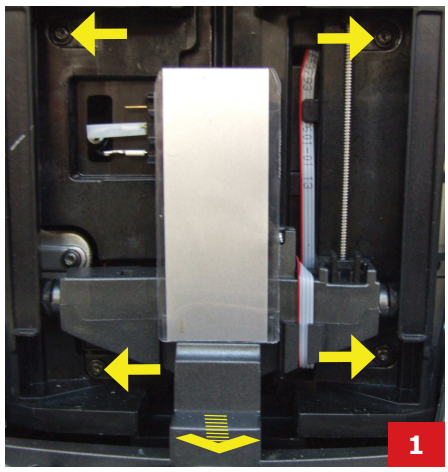
**Fig. 1**

- Insert the centre piece with the flag (A) into the recess (B).

**Fig. 2**

- Turn clockwise for a coarser setting and anticlockwise for a finer setting.
- If beans are in the grinder, turn 2 settings finer. Grind and repeat if required.
- Turn the flag (A) back to the centre.

### 7.13. Cup lift






**To disassemble the electrical cup lift**

**Fig. 1**

- Remove the screws shown.
- Loosen the motor mounting bracket (A).
- Remove the cover.

**Fig. 2**

1. Loosen the cable tie.

**Fig. 3**

- When installing, take care that the spring is fitted correctly in the centre of the coffee grinder axis.

**To disassemble the electrical cup lift**

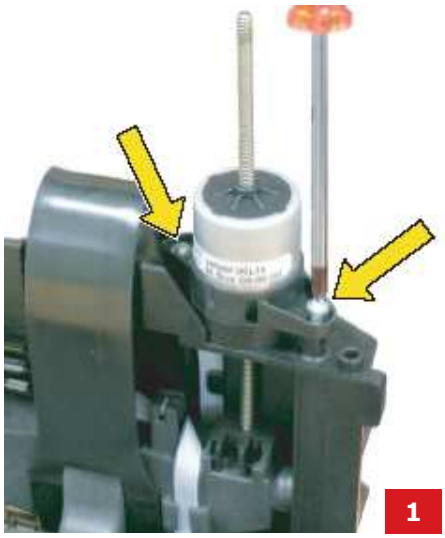



**Fig. 1**

- Remove the screws shown.

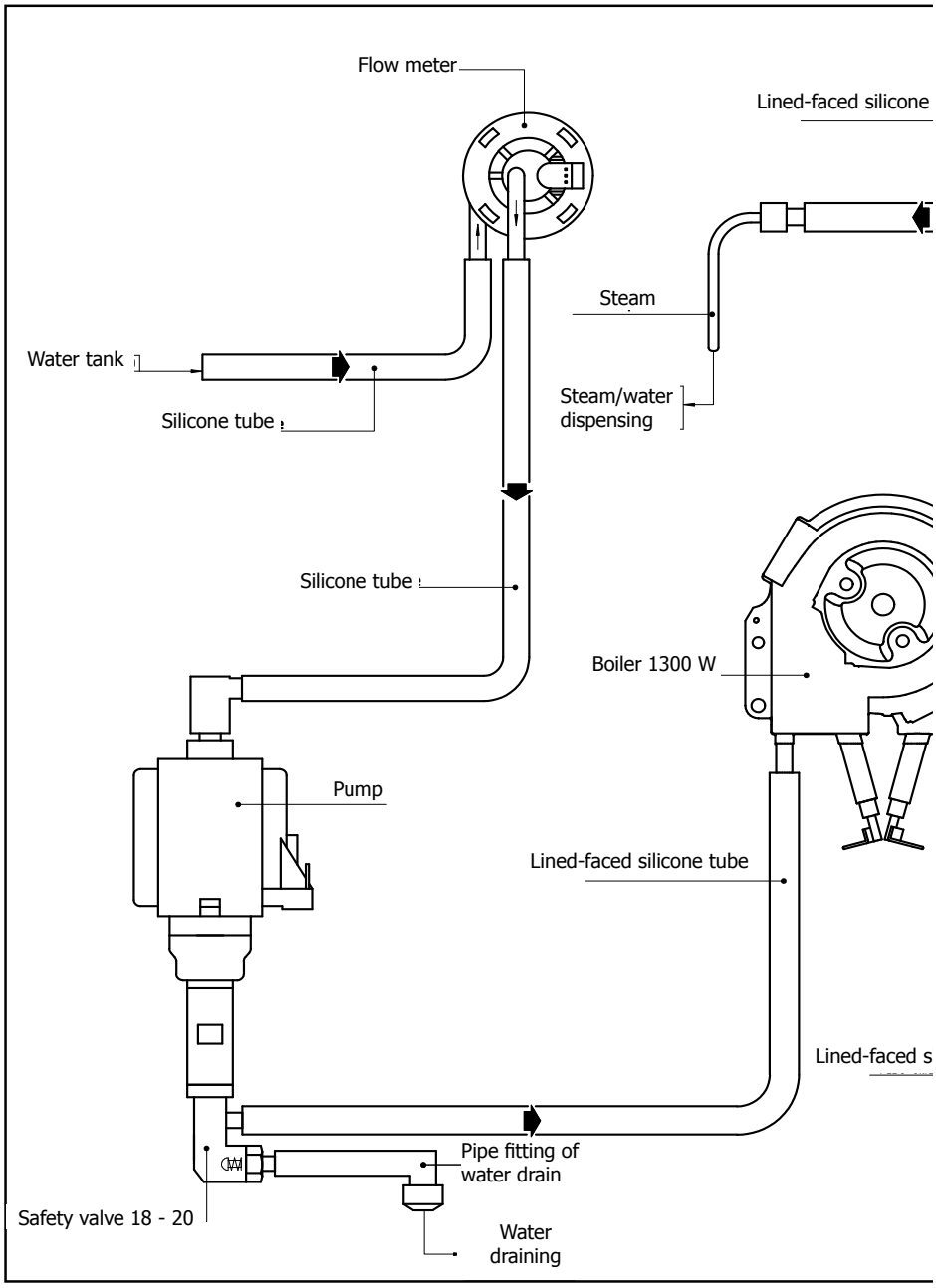

**Fig. 2**

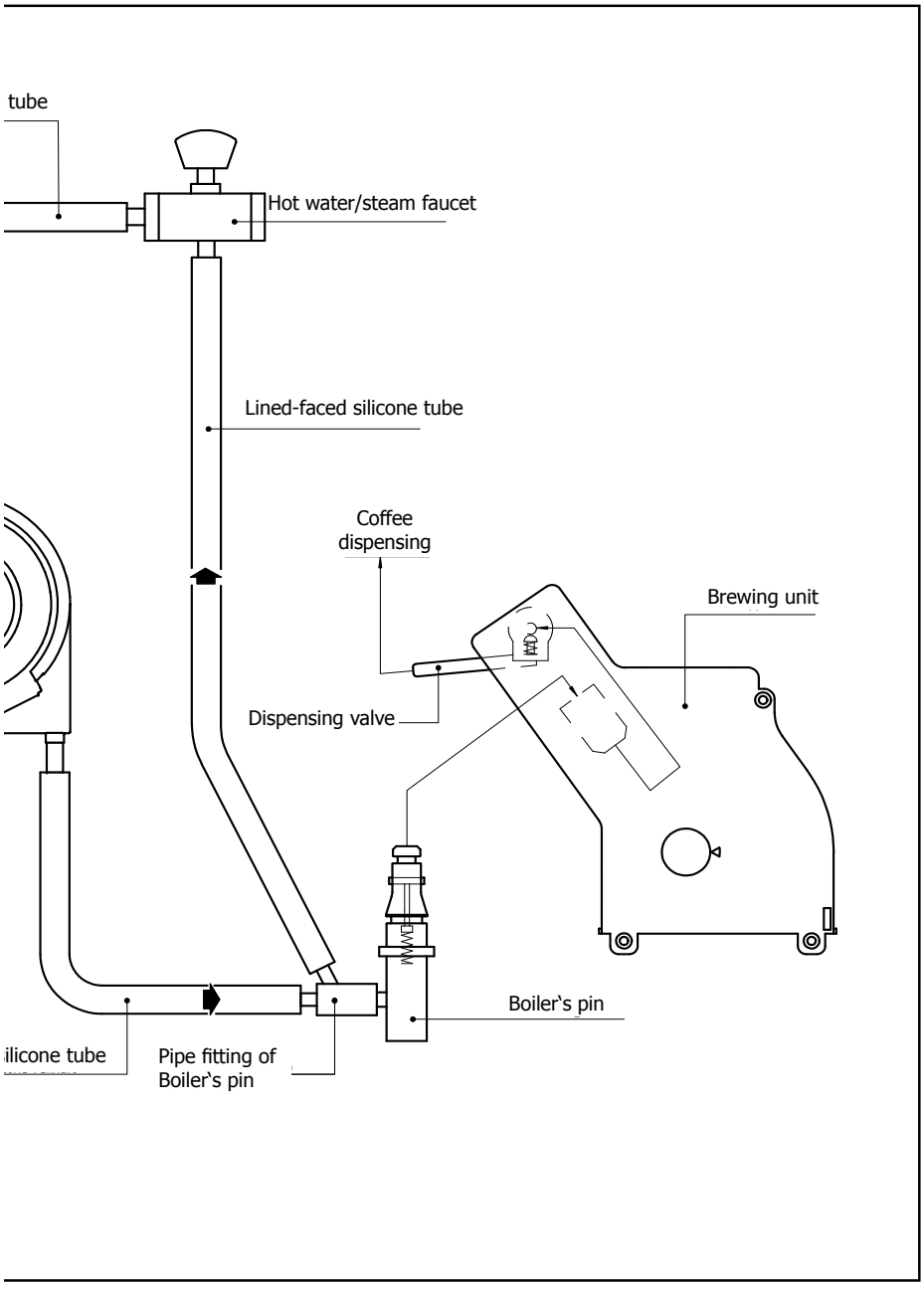
- Remove the securing clips.
- Loosen the sensor cable.
- Unhinge the cup lift.

# CHAPTER 8
# NOTES

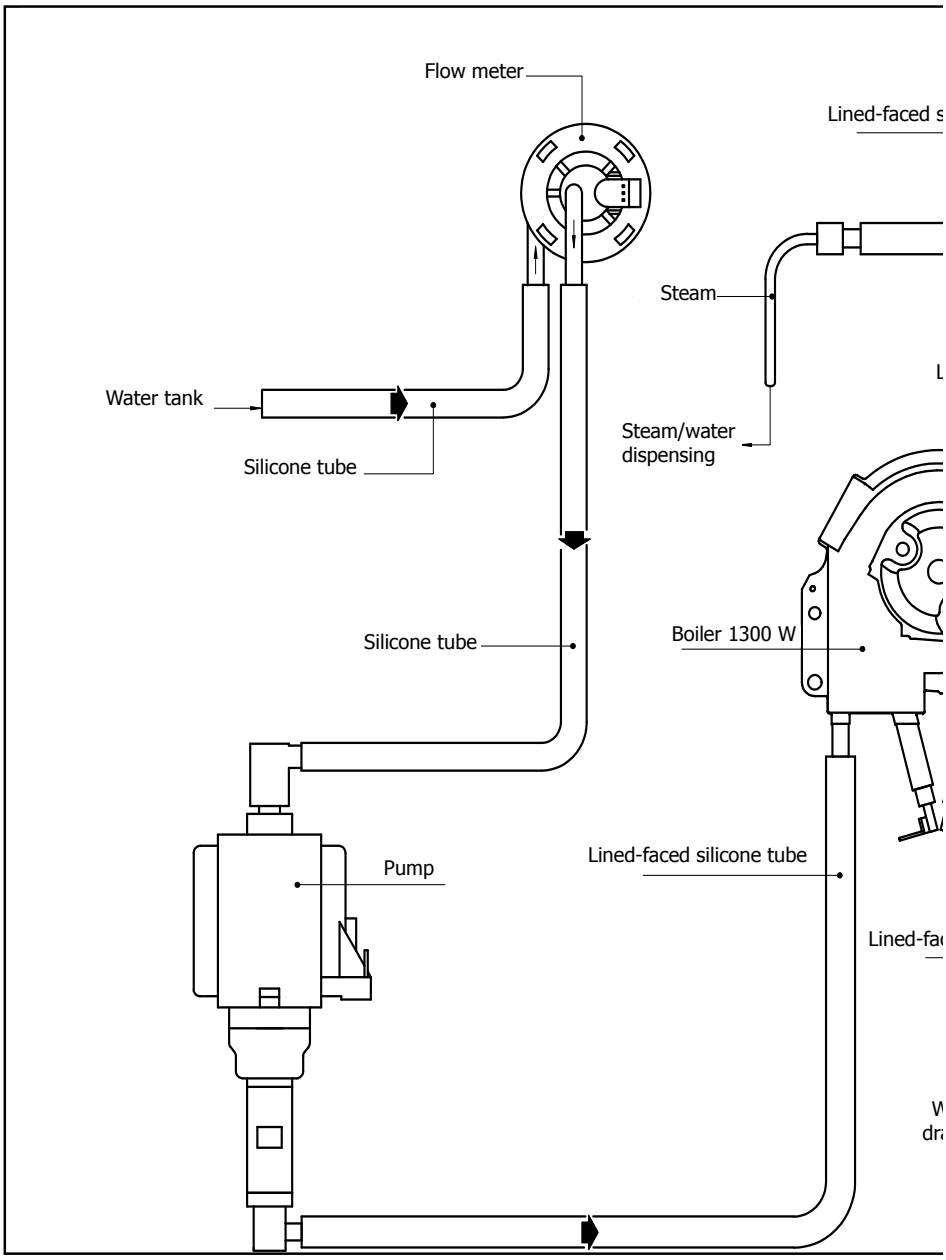
# CHAPTER 9
# WATER SYSTEM DIAGRAMS

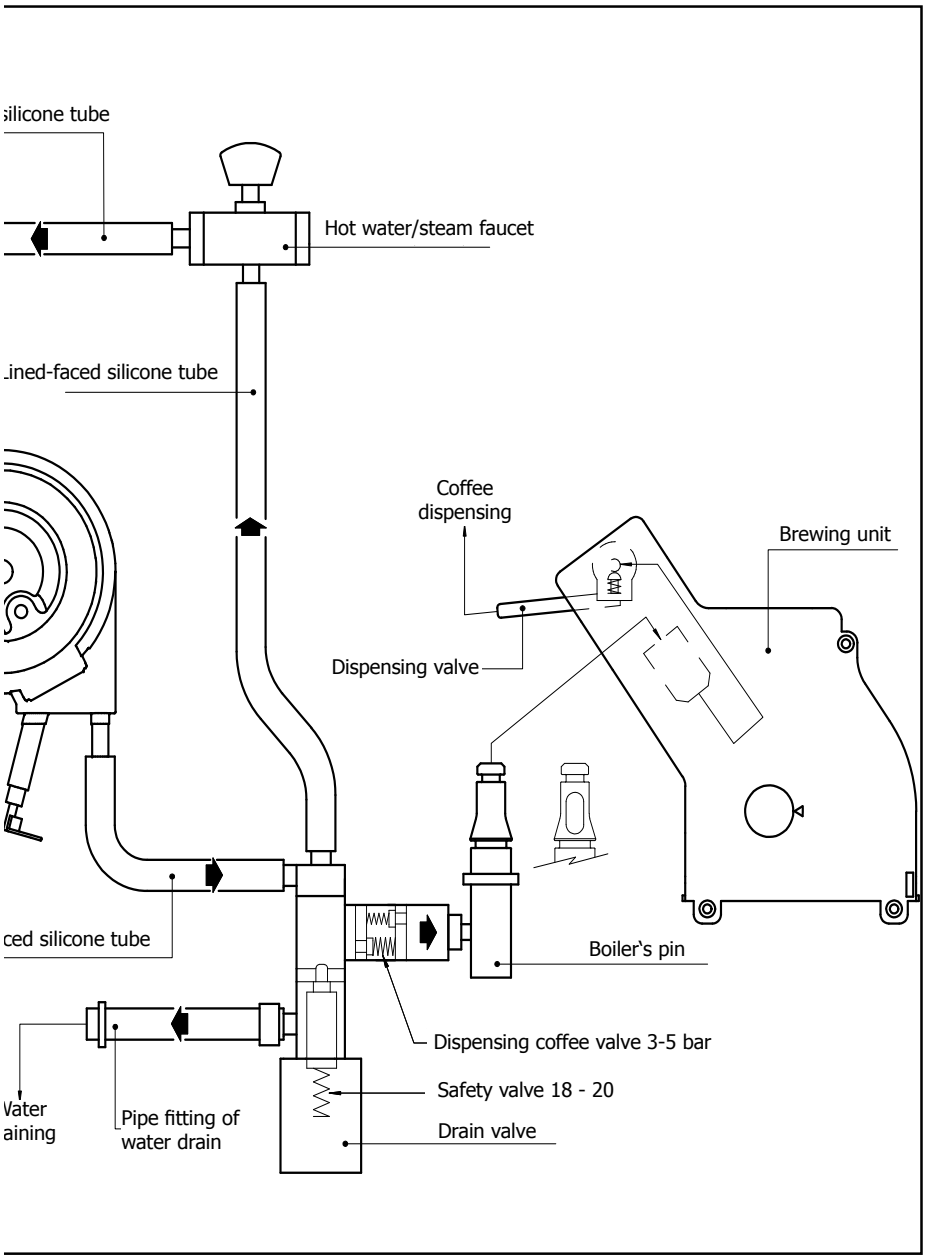
**Odea Go**



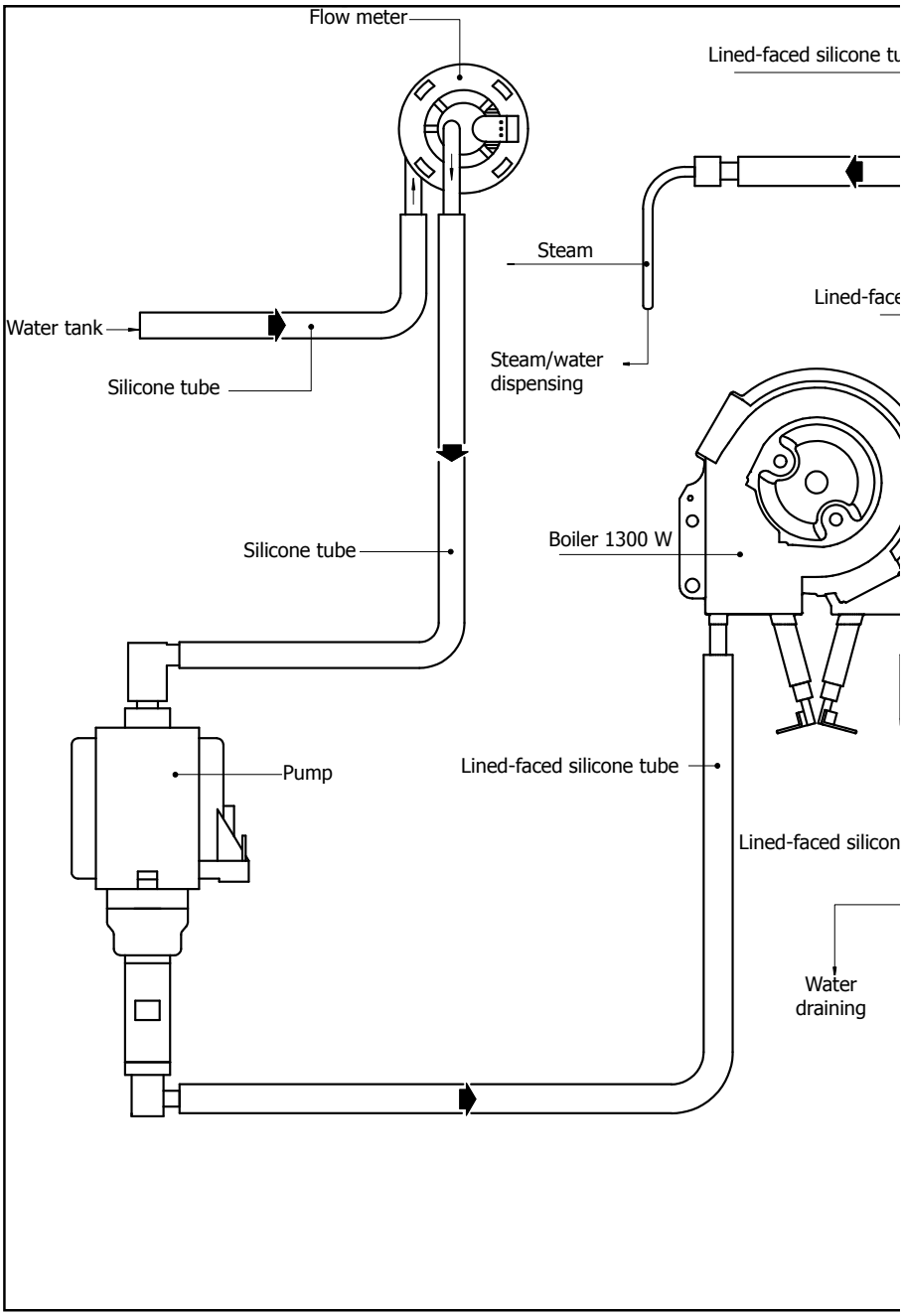


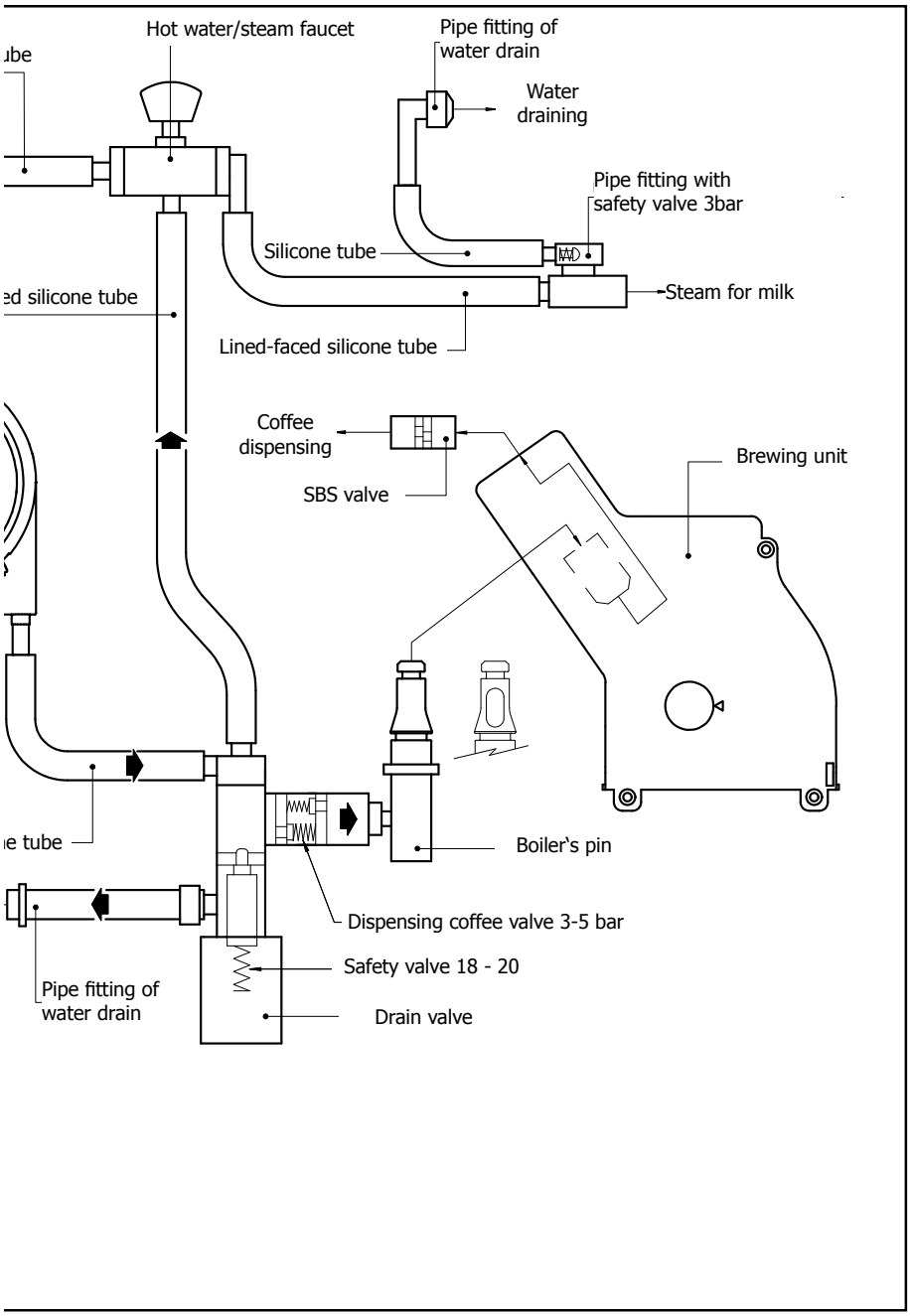
**Odea Giro Plus,Giro**





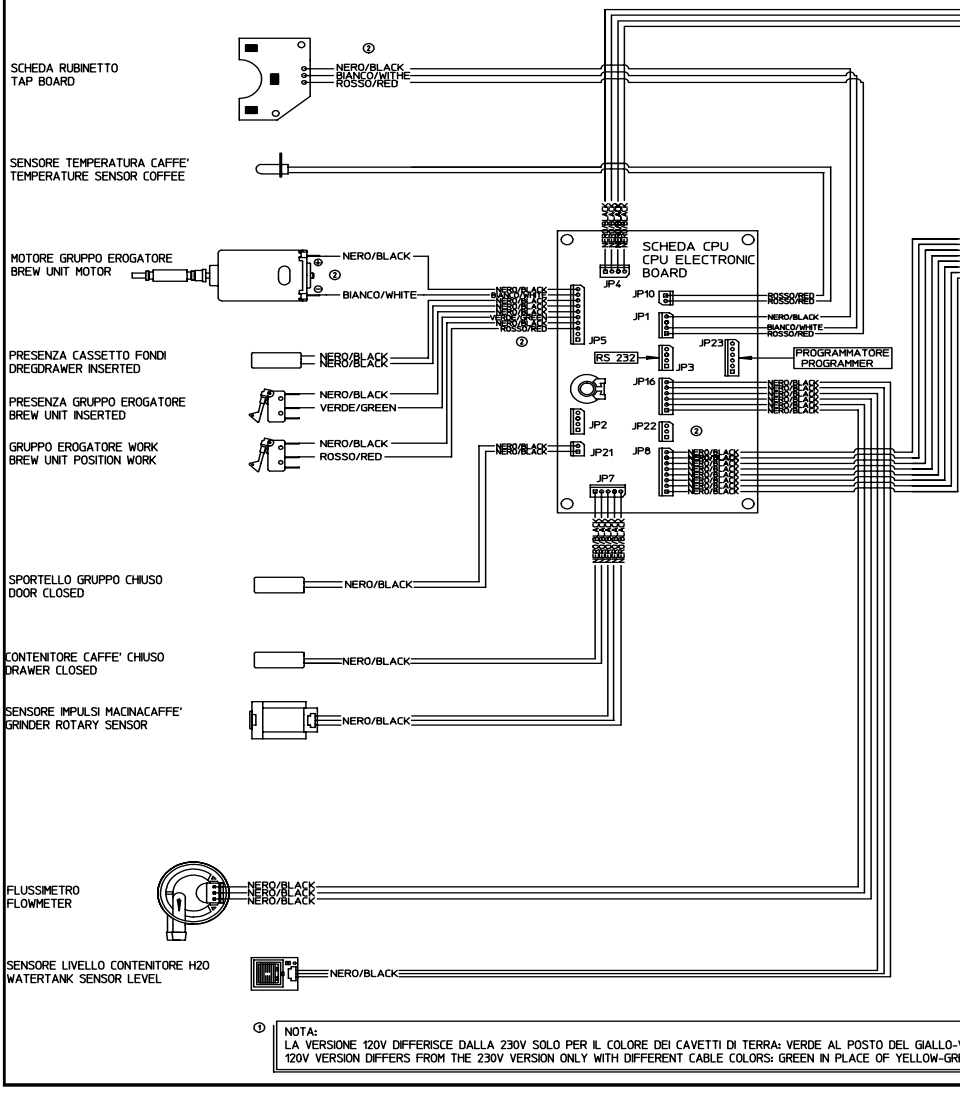
**Talea**

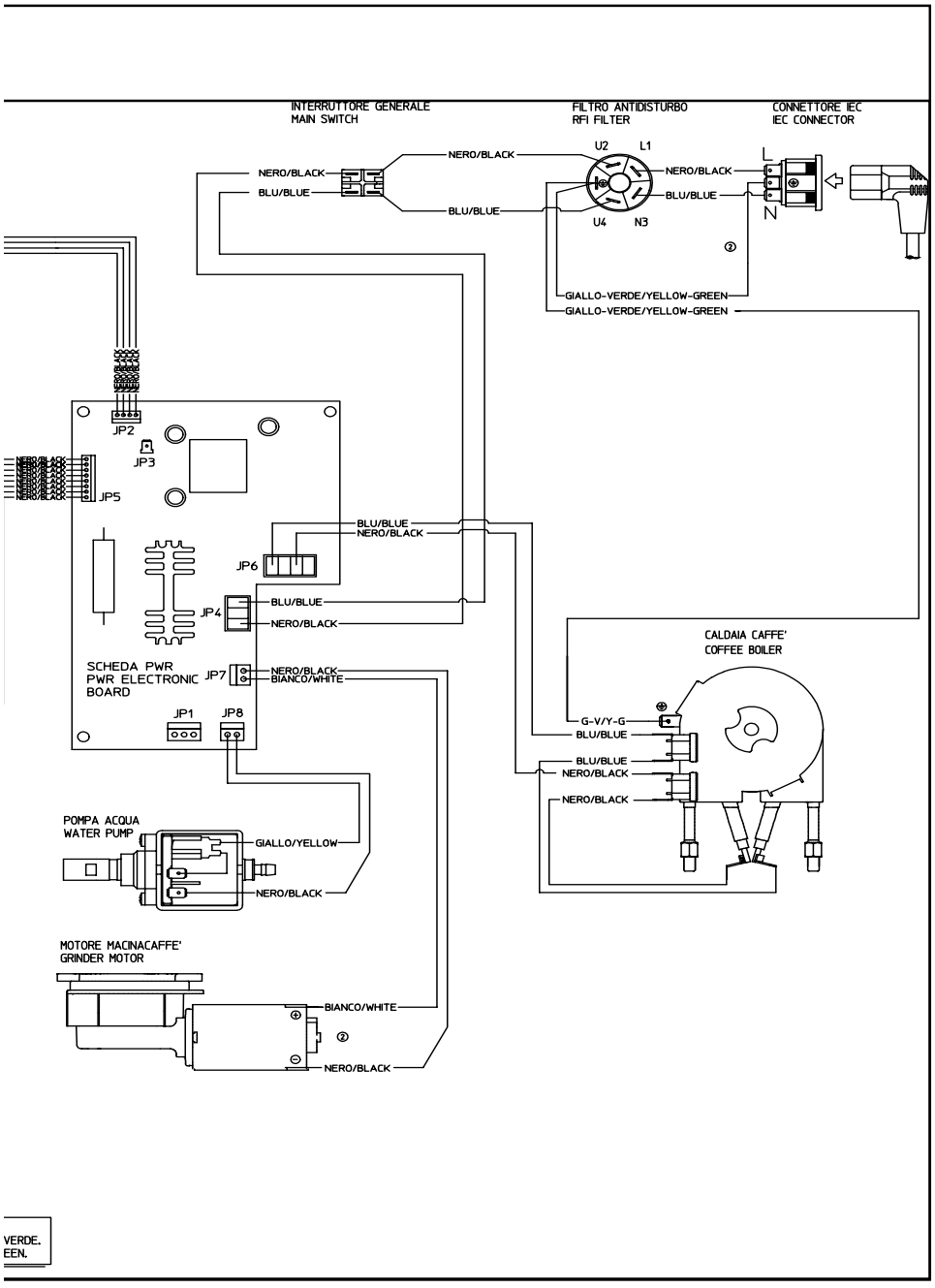




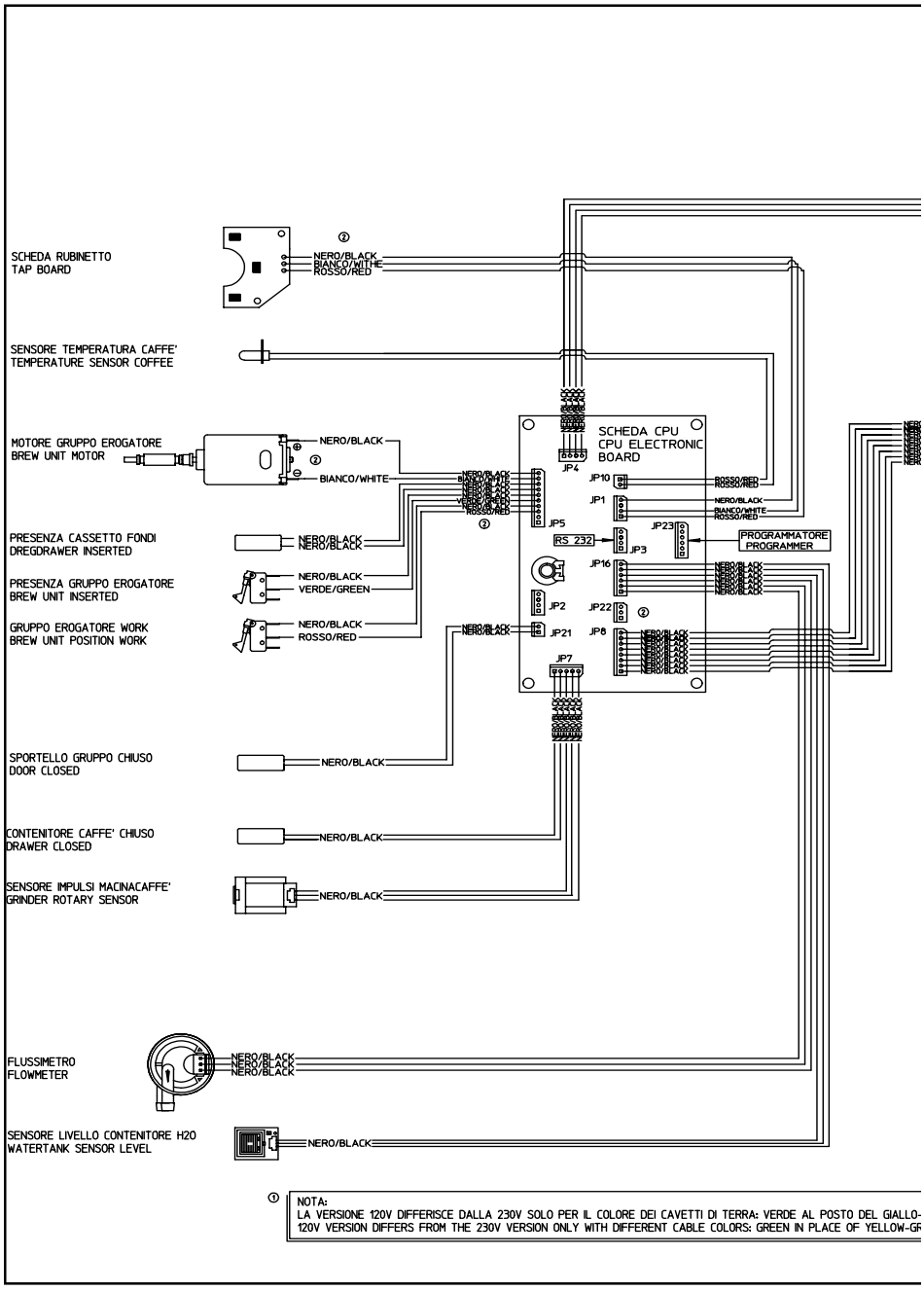
# CHAPTER 10
# WIRING DIAGRAMS

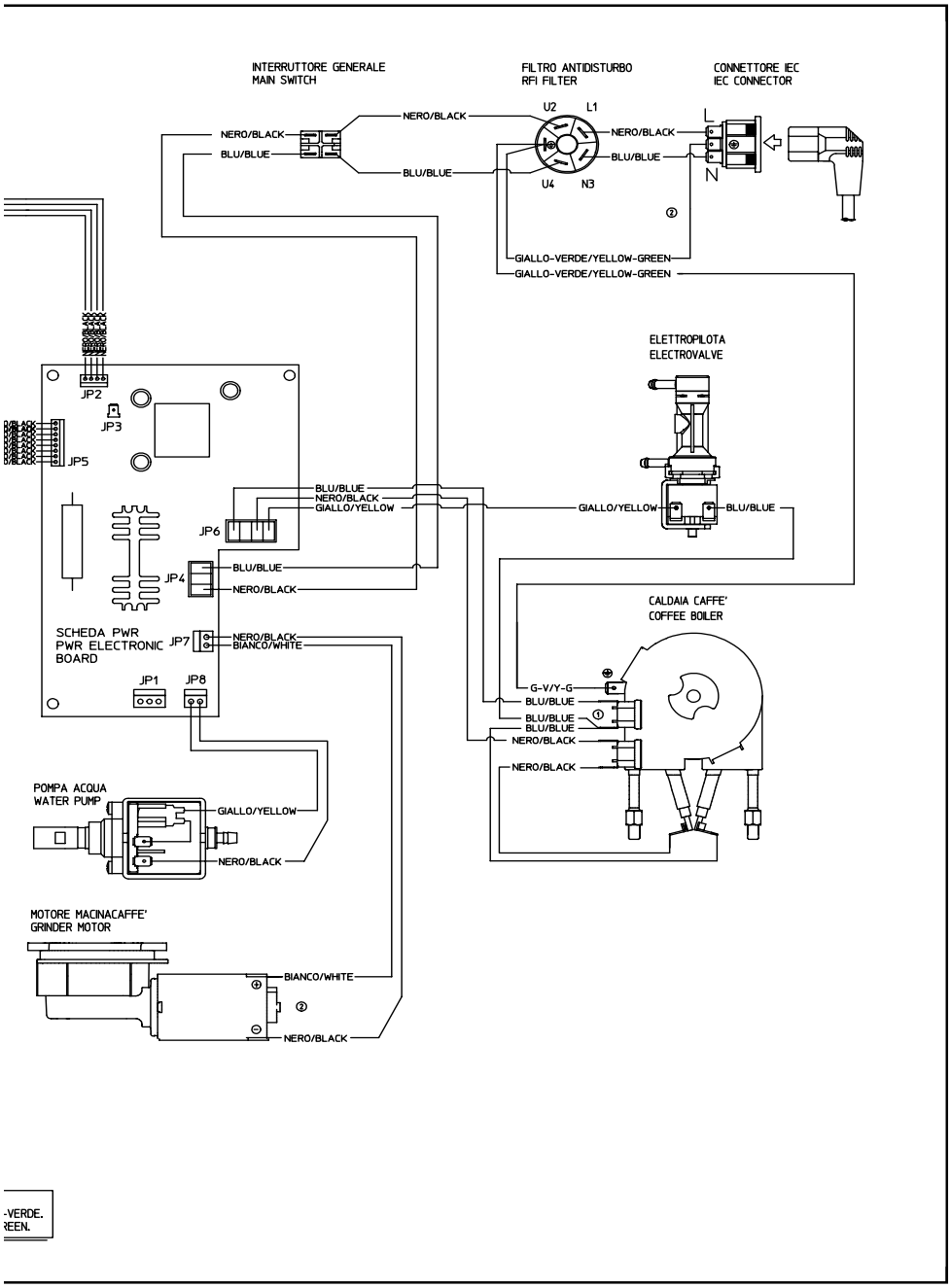
**Odea Go**



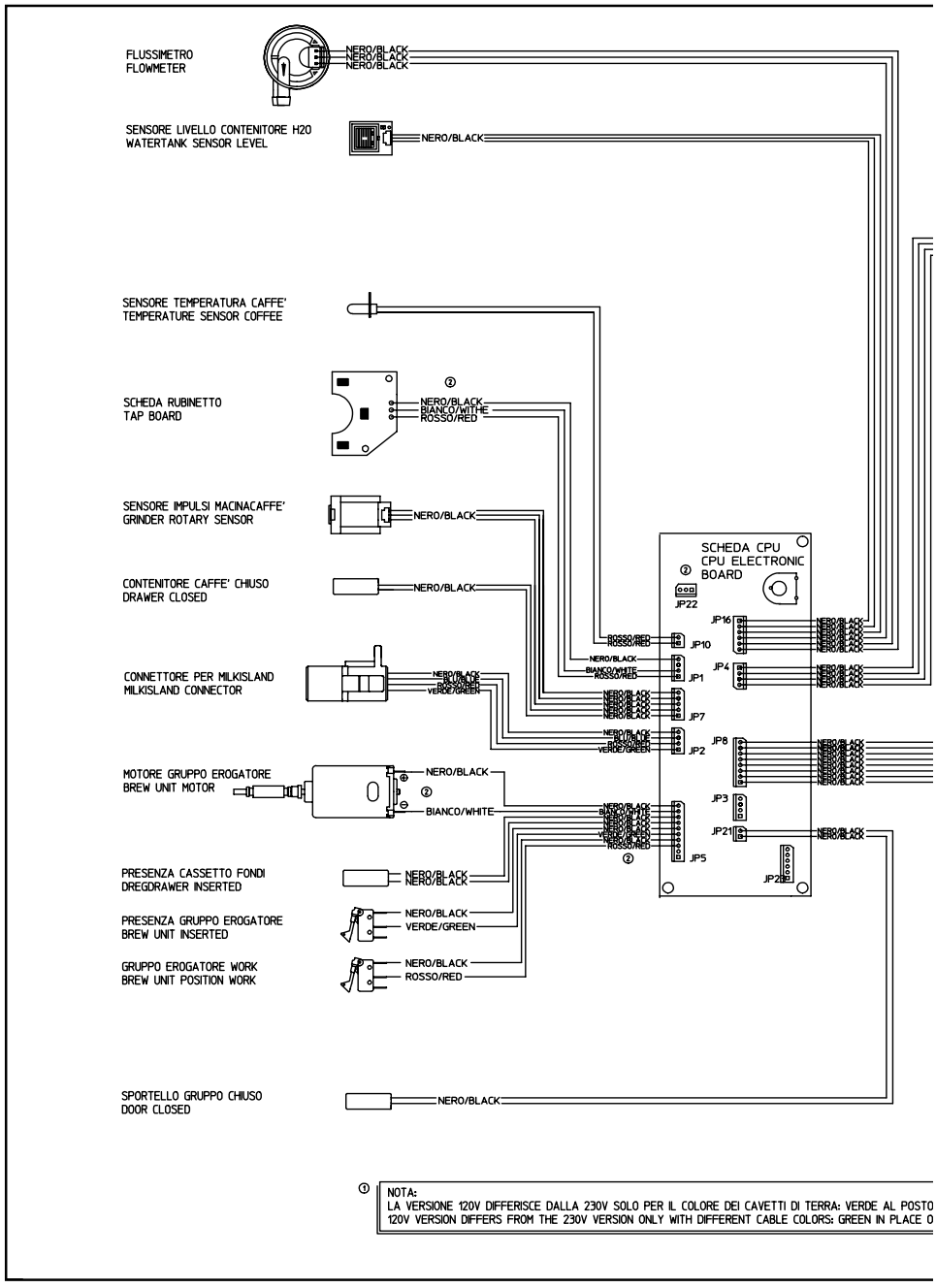


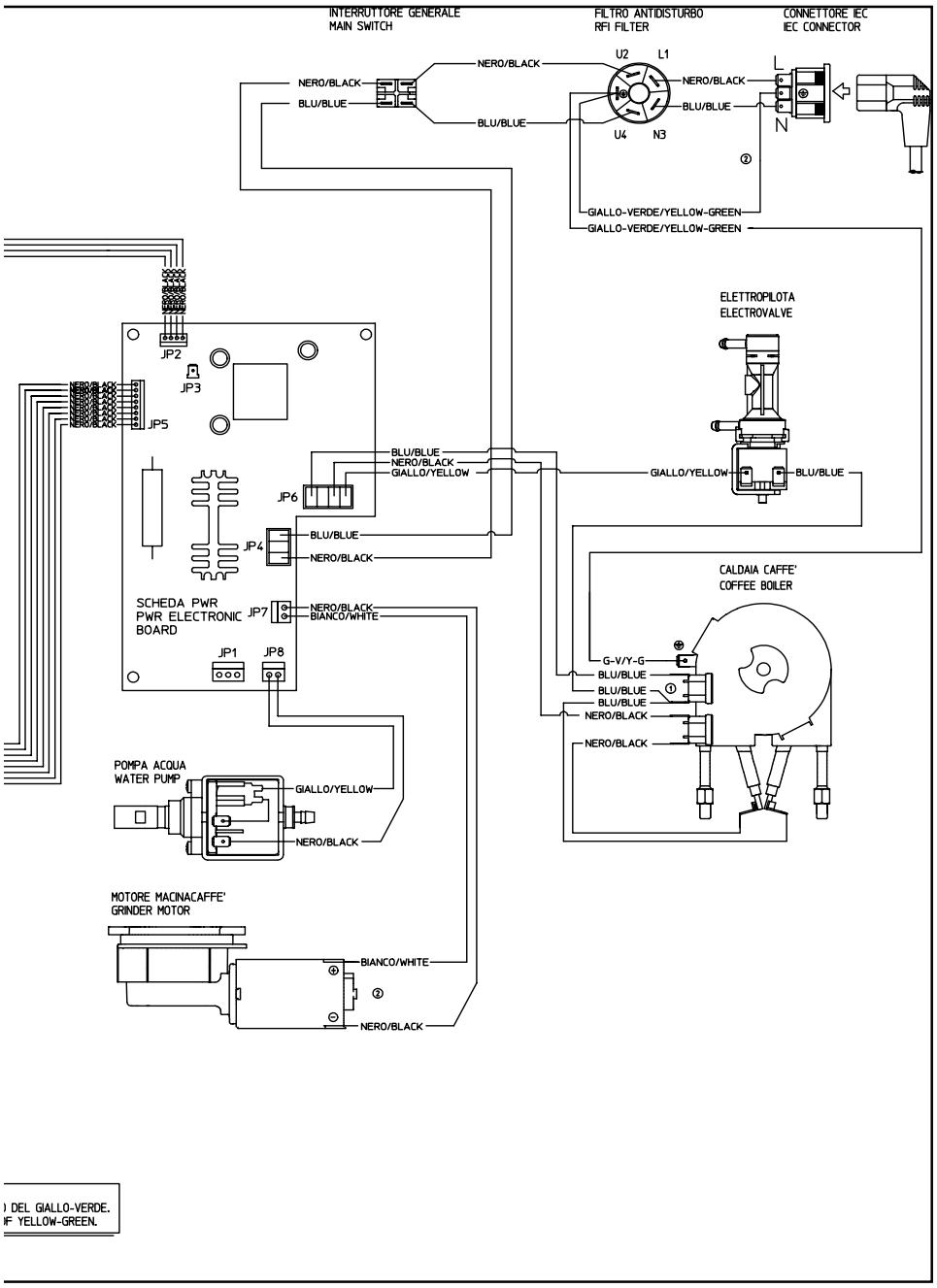
**Odea Giro**



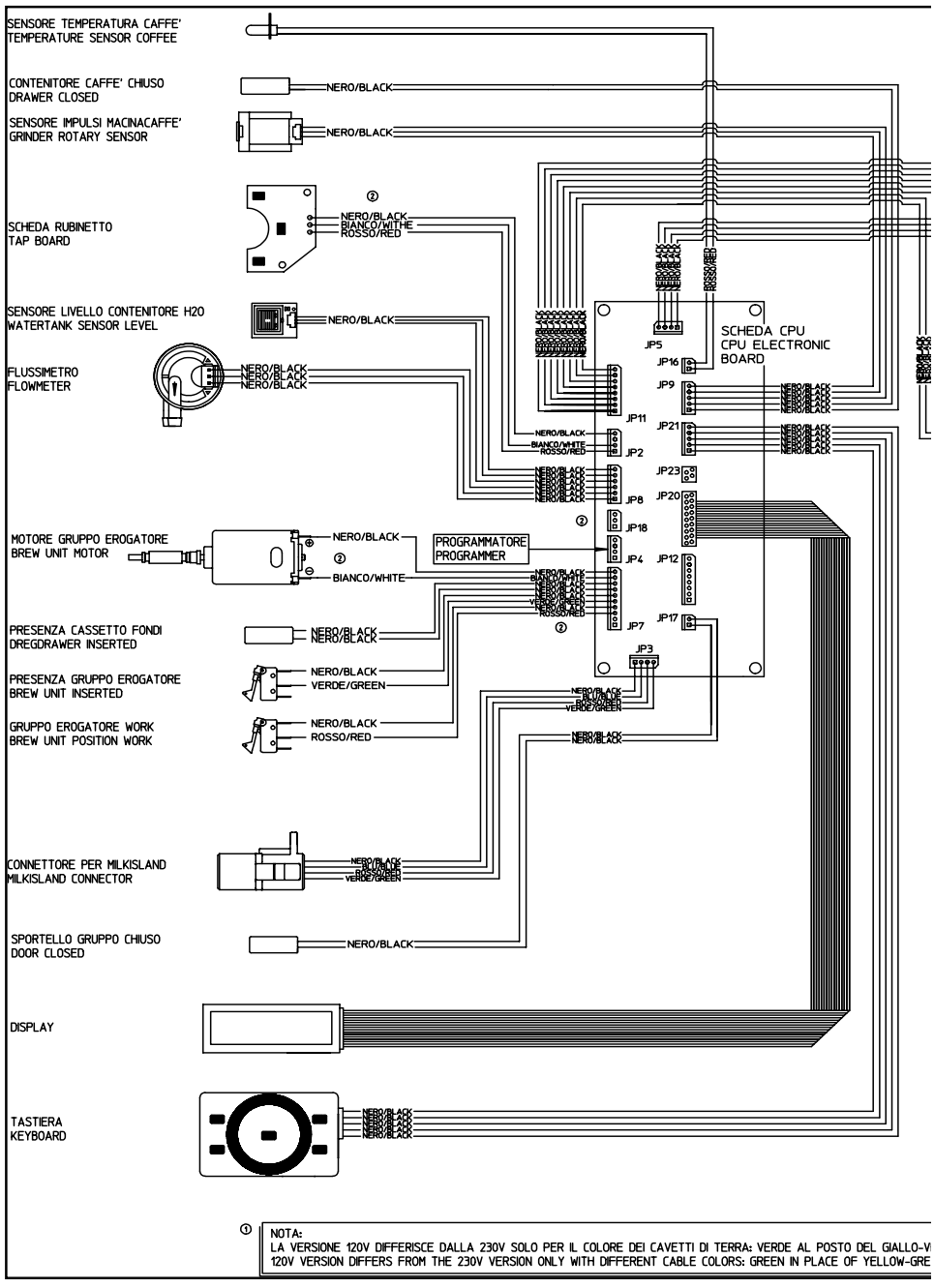


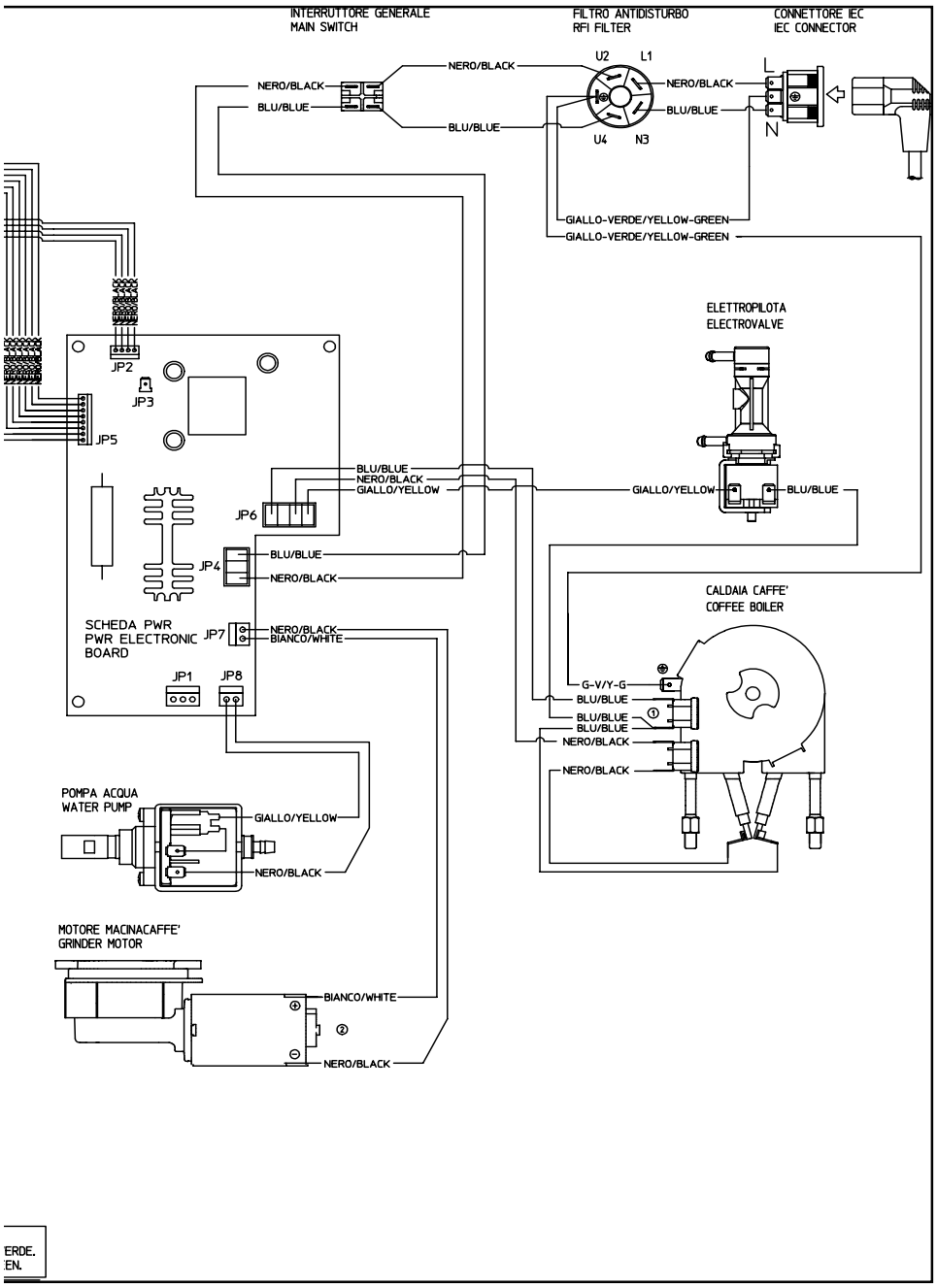
**Talea Giro Plus**



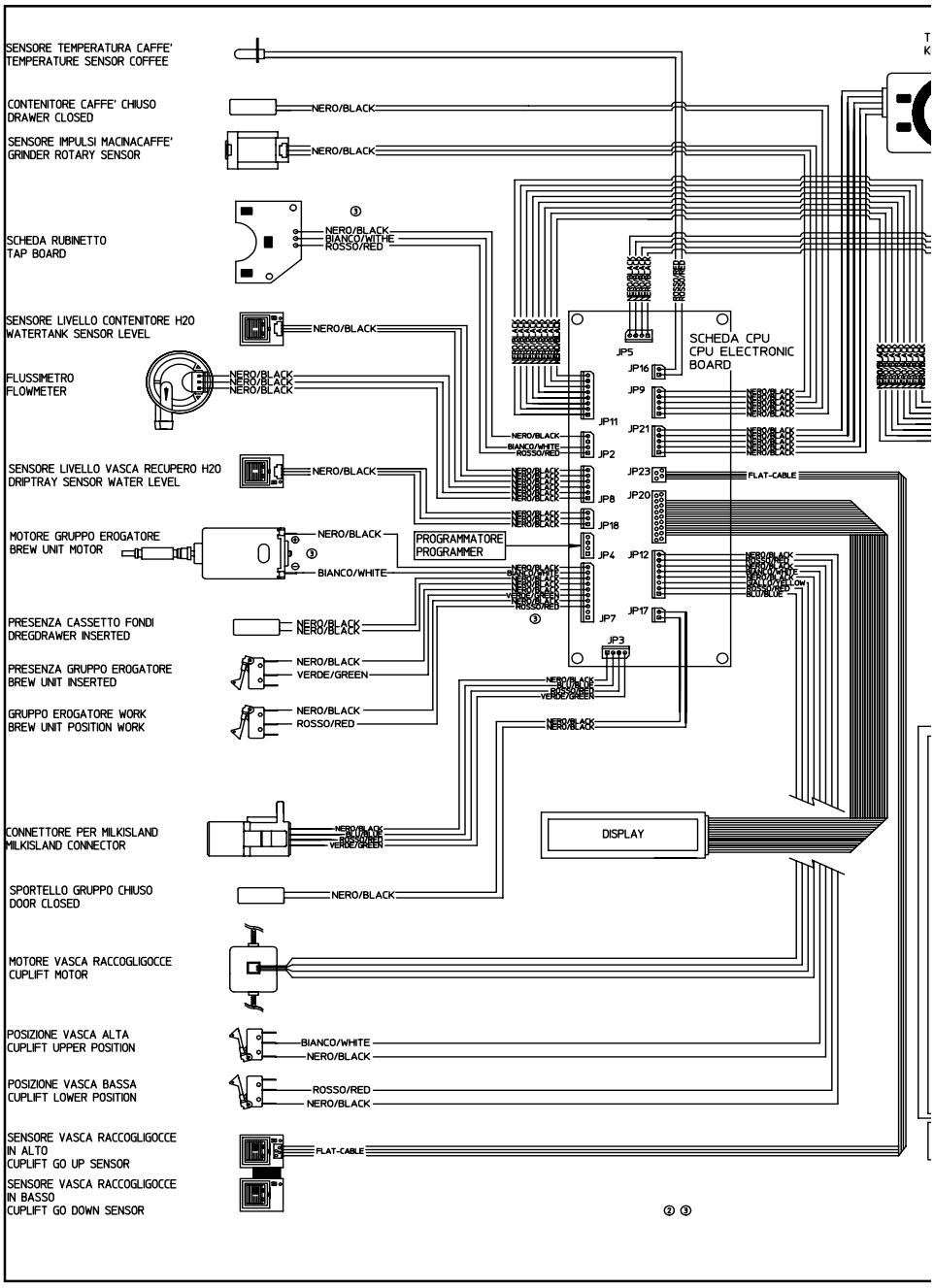


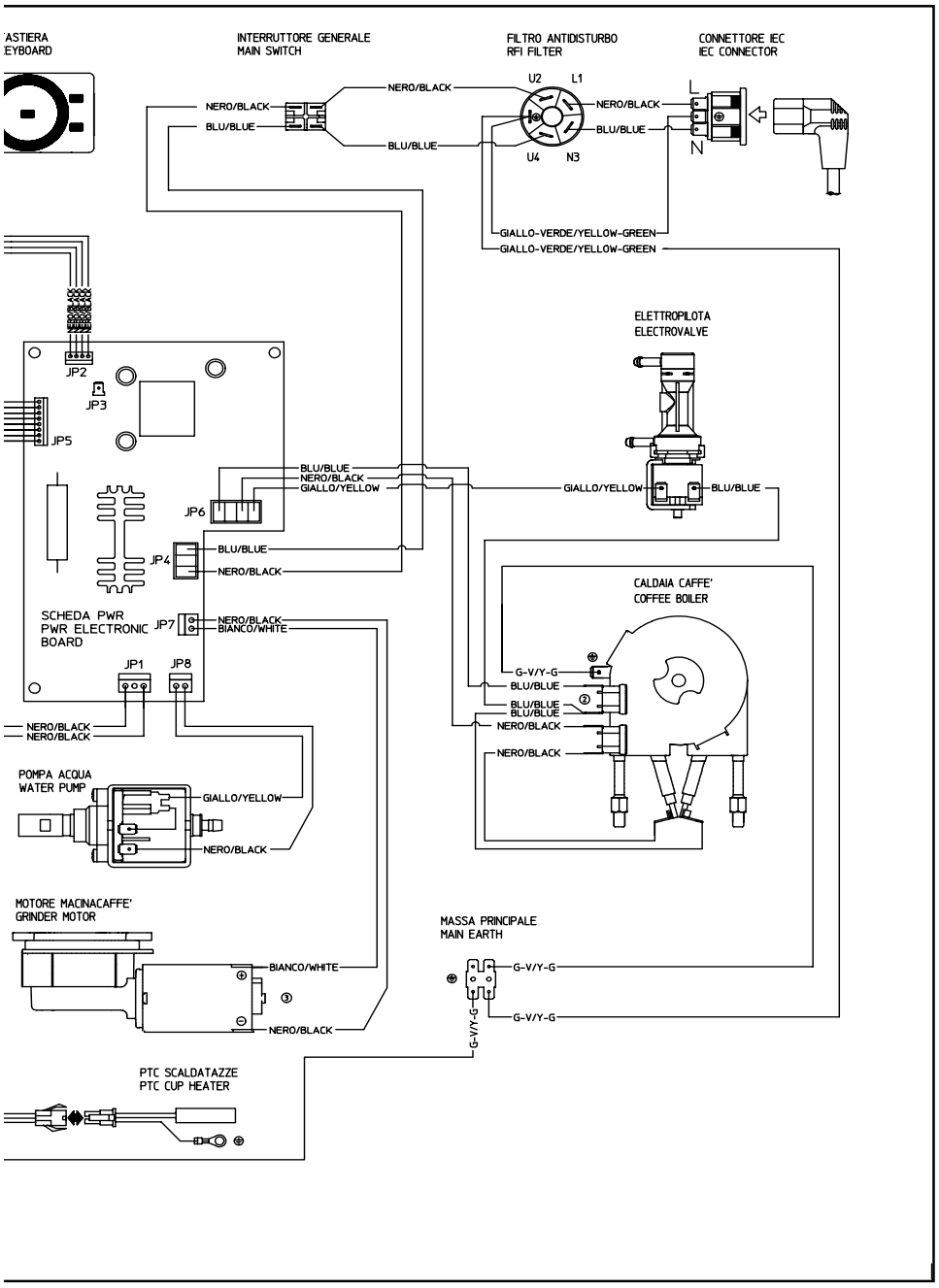
**Talea Ring**





**Talea Ring plus**





**Talea Touch Plus**