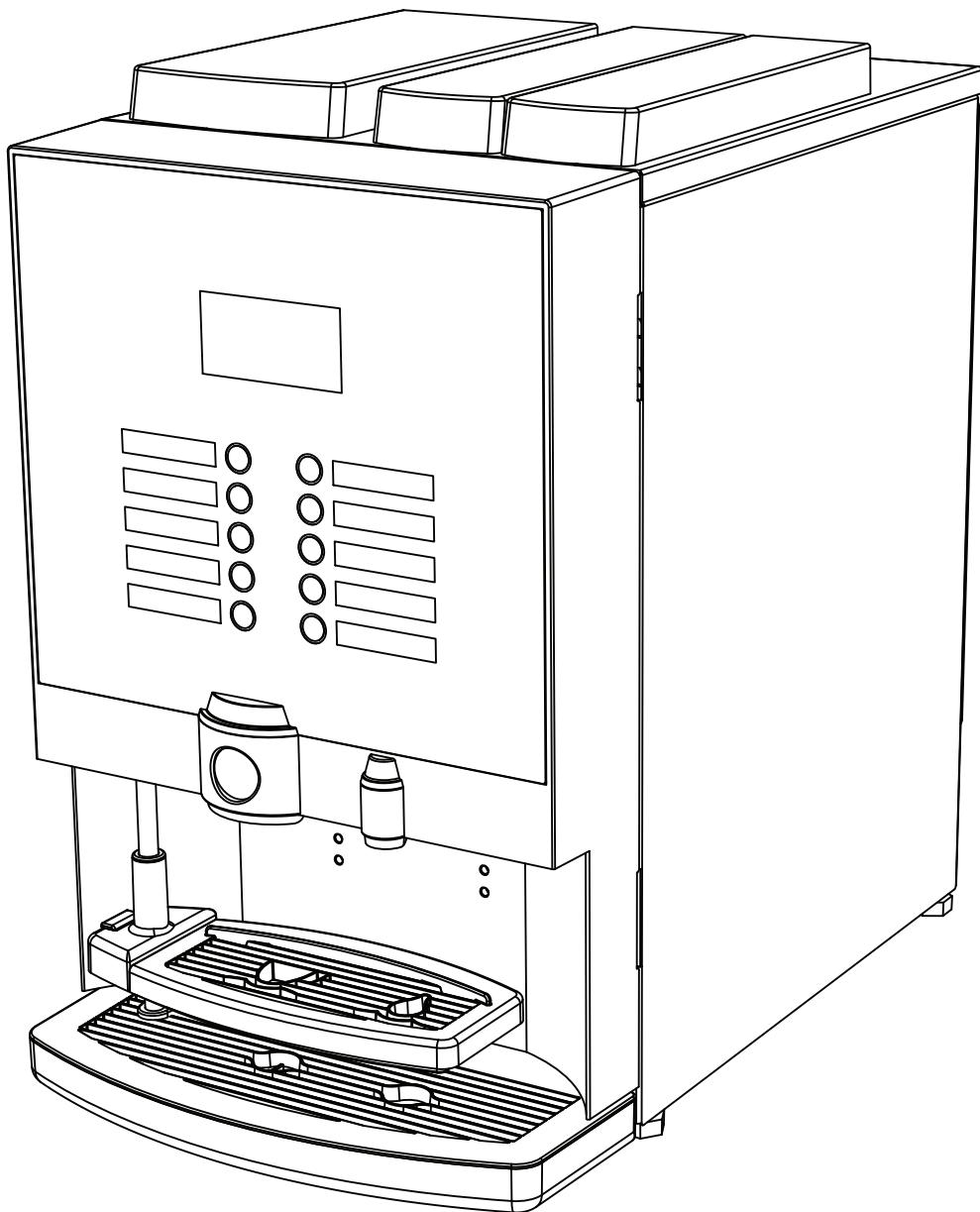


Technical manual Dorado compact espresso





Technical manual Dorado compact espresso

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CONTENTS

1	INTRODUCTION	6
1.1	This user manual	6
1.2	Pictograms and safety symbols on the machine	6
1.3	Pictograms and safety symbols in the manual	7
1.4	Conventions and definitions	7
1.5	Service and technical support.	7
1.6	Machine identification on outside of the machine	8
1.7	Machine identification inside the machine.	8
1.8	Used Machinery and the Environment	9
1.9	General safety instructions and restrictions	9
1.9.1	Operating and cleaning instructions	9
1.9.2	Icons and instructions	9
1.9.3	Users	10
1.9.4	Technical specifications	10
1.9.5	Modifications	10
1.9.6	Intended use	10
1.10	Available documentation	10
2	DESCRIPTION OF THE MACHINE	11
2.1	General description	11
2.2	Main components	12
2.2.1	Front view	12
2.2.2	Interior view	13
2.3	Operating principle.	13
2.4	Switching on and off	14
2.5	Service key	14
2.6	Operating the machine.	14
2.6.1	Drink selection.	15
2.6.2	Paid drinks.	15
2.6.3	Stand by	15
3	USE	16
3.1	Safety instructions - use	16
3.2.1	Filling the container in the machine.	17
3.2.2	Filling the ingredient containers outside the machine	18
4	MAINTENANCE AND CLEANING.	20
4.1	Safety instructions - maintenance and cleaning	20
4.2	Perishable ingredients	20
4.3	Service panel.	21
4.4	Maintenance	21
4.5	Daily maintenance	21
4.5.1	Checking the ingredient containers	22
4.5.2	Clean the waste container	22

4.5.3	Cleaning drip tray	23
4.5.4	Rinsing the mixers and brewing group	24
4.5.5	Clean the exterior	24
4.6	Weekly maintenance	24
4.6.1	Cleaning mixer parts.	25
4.6.2	Cleaning the bean container.	26
4.7	Maintenance overview.	28
5	RESOLVING PROBLEMS	29
5.1	LCD display on the selection panel	29
5.1.1	ERROR MESSAGES	29
5.1.2	Selection panel in programming mode	30
5.1.3	User menu (Operator)	31
5.1.4	Service code.	32
5.2	Service menu diagram	33
5.3	Electric diagram	33
5.4	Water flow diagram	35
6	TECHNICAL SPECIFICATIONS.	36
6.1	Electrical system	36
6.2	Water system	36
6.3	Sound level.	36
6.4	Ambient conditions	36
6.5	Dimensions and weight.	37
7	SOFTWARE	38
7.1	Levels	38
7.2	Time settings	39
7.3	Drink settings.	40
7.4	Machine counters	41
7.5	Machine settings	42
7.6	Display settings	43
7.7	Software settings.	43
7.8	Calibrate the machine	45
7.9	Calibrate the water tank	47
8	INSTALLATION.	48
8.1	Connect the machine	48
9	REPLACEMENT OF PARTS	49
9.1	Safety requirements - replacing parts	49
9.2	Repairs	49
9.2.1	Access to the machine	49
9.2.2	Removing the plating	49
9.3	Empty/fill the boiler	50
9.4	Restarting	51
9.5	Drink selection labels	51
9.6	Replacing intake valve	52
9.7	Replace water pump	53
9.8	Replace flow meter	54
9.9	Replacing boiler.	54
9.10	Replace bean grinder	55
9.11	Replacing extraction ventilator	56
9.12	Replacing the mixer engine	56
9.13	Replace ingredient motor	57
9.14	Replacing the drip tray sensor.	57
9.15	Door plate.	58
9.16	Replacing cup sensor	59
9.17	Replace brewer group.	60

9.18 LCD display and display PCB	61
9.19 Replacing the control PCB	62
9.20 Replacing the power supply	62
9.21 Replacing the on/off switch.....	63
9.22 Service panel.....	63

1 INTRODUCTION

1.1 This user manual

Congratulations on the purchase of your Dorado compact espresso. This machine has been developed and produced using state-of-the-art technology.

This manual is intended for authorised and trained users and contains all the information required to operate the machine safely and to carry out regular maintenance and cleaning tasks. Read the relevant user manual carefully before using your machine.



Ensure that the user manual is kept with the machine to ensure that all procedures are carried out correctly.



Figure 1-1

1.2 Pictograms and safety symbols on the machine

The following pictograms are used on the Dorado compact espresso:

- Electrical hazard



Figure 1-2

- Risk of fingers being trapped



Figure 1-3

1.3 Pictograms and safety symbols in the manual

These pictograms are used in the manual:



General warning. Damage to the machine or personal injury can occur.



Electrical hazard



Burning hazard



Remarks, suggestions and advice

1.4 Conventions and definitions

Throughout the document, reference is made to the "left", "right", "front" and "rear" of the machine. Where a component or specific part of the machine is referred to, this is described from the user's viewpoint facing the selection panel.

1.5 Service and technical support

Please contact your dealer for further information on settings, maintenance and/or repair activities that are not dealt with in this manual. Your dealer will be pleased to assist you.

If you contact your dealer, always have the following information at hand:

- model number
- serial number
- software versions

1.6 Machine identification on outside of the machine

1. Model number
2. Voltage
3. Frequency
4. Power rating
5. Serial number
6. Water pressure

The identification plate is on the rear of the machine.

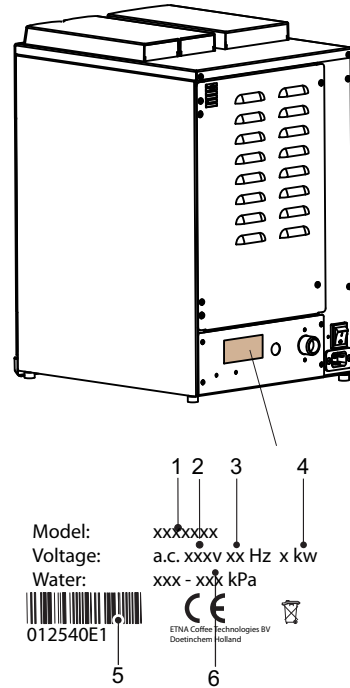


Figure 1-4

1.7 Machine identification inside the machine

1. Model number
2. Voltage
3. Frequency
4. Power rating
5. Serial number
6. Water pressure

The identification plate is on the inside of the left-hand frame plate.

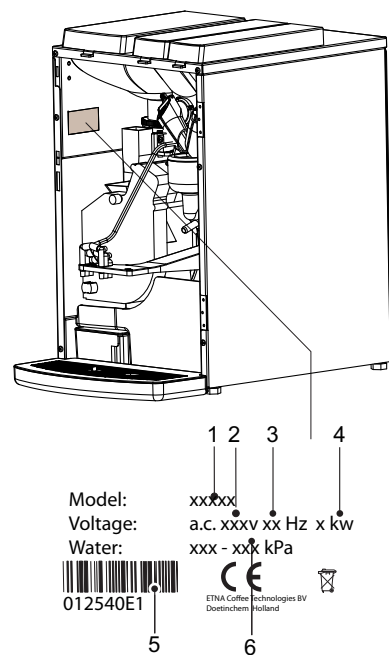
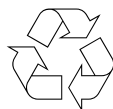
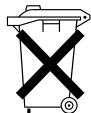


Figure 1-5

1.8 Used Machinery and the Environment



Ask your local authority for information on ways to recycle materials safely and in an environmentally friendly manner.



Ask your local authority for information on ways to dispose of materials safely and in an environmentally friendly manner.

1.9 General safety instructions and restrictions

The manufacturer does not accept liability for any damage caused by any failure to (strictly) observe the safety instructions or by carelessness during use and cleaning of the machine and any associated accessories.

Depending on the specific operating conditions or accessories used, additional safety instructions may apply. Please contact your dealer immediately if you encounter any hazards when using the machine.



The user of the machine is fully responsible at all times for observing locally applicable safety regulations and guidelines.

1.9.1 Operating and cleaning instructions

- All those using and/or cleaning the machine must be familiar with and follow the operating and cleaning instructions closely. The owner must ensure that personnel are informed of the operating and cleaning instructions contained in this manual and that they comply with these regulations and instructions.
- Never change the order in which activities are carried out.
- Always keep these instructions in the vicinity of the machine.

1.9.2 Icons and instructions

The icons, symbols and instructions attached to the machine form part of the safety instructions. Therefore, they must not be covered or removed. They must be kept within reach and be clearly legible throughout the entire service life of the machine.

- If icons, symbols or instructions are illegible, ring your supplier straightaway to rectify this.

1.9.3 Users

The daily, weekly and monthly maintenance and cleaning activities may only be carried out by users who have received training from the installer or owner of the machine. These individuals will be familiar with the potential risks of opening the machine.

1.9.4 Technical specifications

- The technical specifications may not be modified.

1.9.5 Modifications

- Modifications may not be made to the machine (or parts of the machine).

1.9.6 Intended use

The intended use¹ of the machine is designed exclusively for dispensing beverages as indicated on the selection panel. Use of the machine for any other purpose falls outside the terms of conditions of use. The manufacturer does not accept responsibility for any damage or injury that may result from improper use.

The machine meets current standards and directives.

- The machine may only be used in perfect technical condition for the purposes indicated above.

1.10 Available documentation

The following documentation is available for this machine:

- User manual
- Technical manual
- Parts book

1. "Intended use" as meant in EN 292-1 is the application for which this technical product has been made, as specified by the manufacturer – including references in sales brochures. In case of doubt, use can be derived from the construction, model and functions of the technical product the assumed normal use. Use of the product within the confines of the intended use also includes complying with the instructions in the user manual.

2 DESCRIPTION OF THE MACHINE

2.1 General description

This machine prepares and dispenses various hot drinks.

The drinks are dispensed in the cups intended for this purpose and that are placed on the machine cup stand. The cups must be placed on the cup stand manually.

The display on the machine indicates that:

- a drink can be selected
- a drink is being prepared
- a fault has occurred.
- the machine is performing a function.

2.2 Main components

2.2.1 Front view

1. Containers
2. Display
3. Selection panel
4. Capacitive touch
5. Dispenser water
6. Dispenser hot drinks
7. Cup sensor
8. Cup standard (double)
9. Drip tray

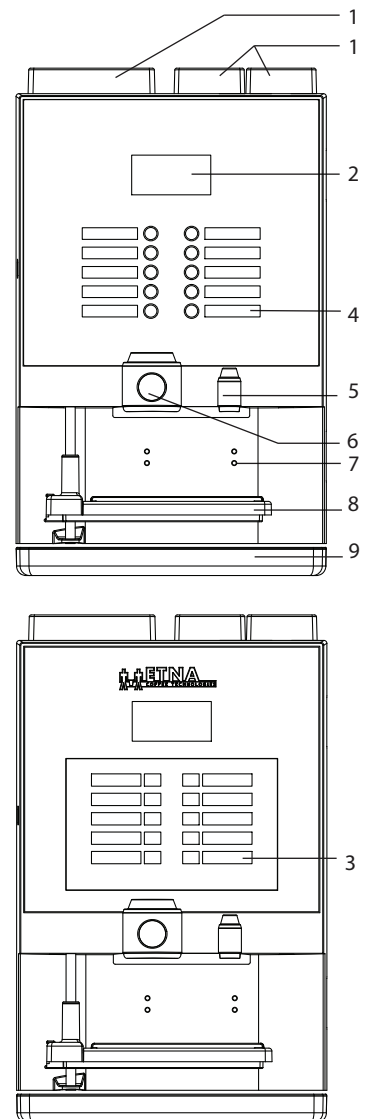


Figure 2-1

2.2.2 Interior view

1. Door detection switch
2. On/Off switch
3. Brewer (brewer group)
4. Dispenser nozzles
5. Waste container
6. Dispenser holder
7. Mixer parts
8. Dispensing spout
9. Ingredient containers 1L (2x)
10. Bean container 2L

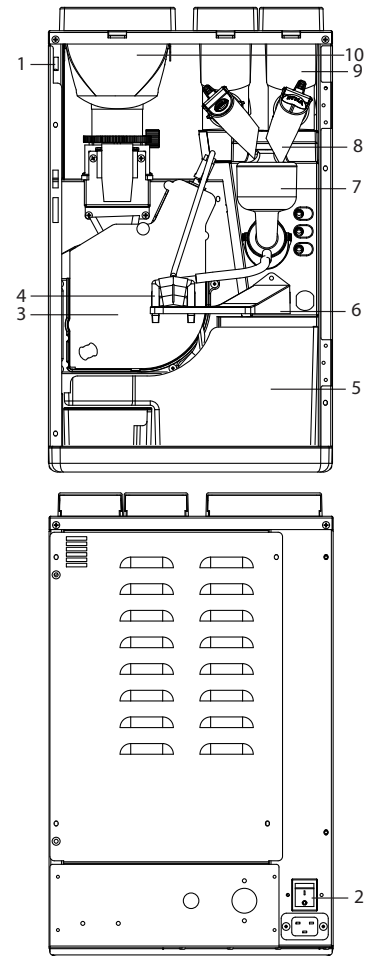


Figure 2-2

2.3 Operating principle

After a selection is made, the machine mixes water with the ingredients from the containers to dispense the drink.

- The water is supplied via the boiler (heated).
- Instant products or liquid concentrate are dosed from the containers into the mixer and/or the ground coffee is dosed from the grinder into the brewer group.
- The water and the ingredients are mixed in the mixer or compressed by the brewer group.
- The drink is dispensed through the dispenser nozzle into the cup placed on the cup stand.

2.4 Switching on and off

- I pressed in = ON (switch lights up)

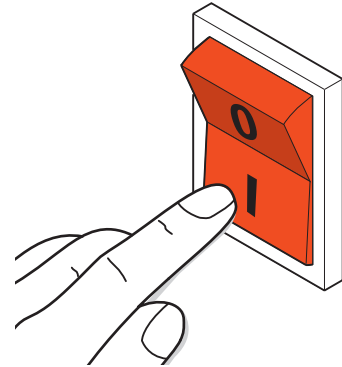


Figure 2-3

- 0 pressed in = OFF

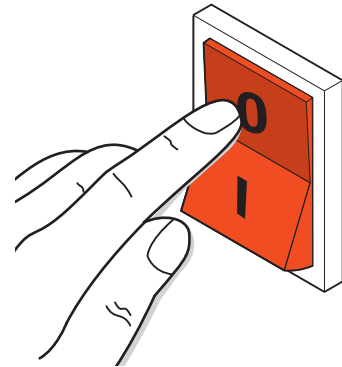


Figure 2-4

2.5 Service key

Once the service key has been inserted and turned a quarter turn, the machine is operational for repair and test purposes.



The machine contains rotating and moving parts. Ensure that your fingers do not become trapped when work is carried out.

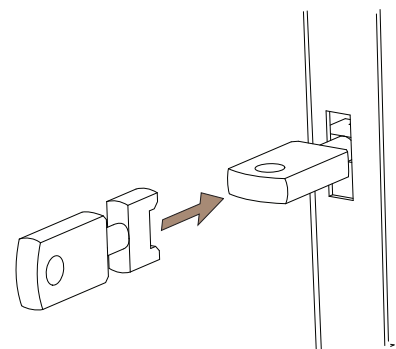


Figure 2-5

2.6 Operating the machine

The standard version of the machine has no payment mechanism. The machine can also be optionally fitted with a payment mechanism (for installation instructions, see the instructions for use supplied with the payment mechanism).

2.6.1 Drink selection

All the actions needed to obtain a drink are summarized in table 2-1.

Table 2-1 Actions for obtaining a drink

	You want a drink
1.	Place your beaker or cup on the cup stand
2.	Select a drink by pressing the appropriate button
3.	Your drink is being prepared

2.6.2 Paid drinks

Machines, which are fitted with a payment system, are able to dispense drinks either paid for or free of charge. When it is necessary to pay for drinks, the available credit is displayed in the display.

When a selection key is pressed, the price of the drink is shown in the display.

If there is sufficient credit, the drink selected is prepared when the selection key is pressed.

2.6.3 Stand by

Stand by mode is indicated by the following:

- The display shows a standby position.

Press any button to bring the machine out of stand by.

3 USE

3.1 Safety instructions - use

- Inspect the machine before use and check for any damage and defects.
Please contact your supplier if there is any damage to the machine.
- Please keep all packaging out of reach of children.
- Put the machine in a horizontal position.
- Put the machine in a location where it can be supervised by trained staff.
- The machine is not suitable for outdoor use.
- The machine may not be used by persons (including children) with a physical, mental or emotional handicap, or persons who have insufficient knowledge and experience to operate the machine without supervision or instructions, until they have been approved by a person responsible for their safety.
- Supervision of children must be maintained to ensure they do not play with the machine.
- Protect the machine from water and/or moisture.
- Do not clean the machine using a high pressure water jet.
- Do not install the machine in an area where a high pressure water jet may be used.
- Keep the buttons free from dirt and grease and clean them periodically.
- Use the machine only when the top valves are shut and all the plates are mounted.
- Never use sharp objects to operate the buttons.
- Only use the cups and pots available at reception.
- Make sure that the electricity connection point (wall socket with earth connection) and the water connection point remain accessible during use. In case of emergency, the mains plug can then be removed quickly and the water supply can be shut off immediately.
- When the machine is not used for a long period of time. remove the holders, disinfect the pipes, clean the machine by hand, clean and disinfect the mixing parts thoroughly, empty the boiler, disengage the water supply and the electricity supply. No water should be present in the machine or its parts.
- When you intend to use the machine after a long period of non-use, you need to first thoroughly clean the mixing parts and the preparation group. Place the mixing parts back where they were, carry out the cleaning programme at least three times and fill all the holders before using the machine.



The drinks prepared by this machine are very hot and could cause burn wounds.



In case of danger, disconnect the power supply by removing the plug from the wall socket. Do not pull the plug out of the wall socket by the cable.

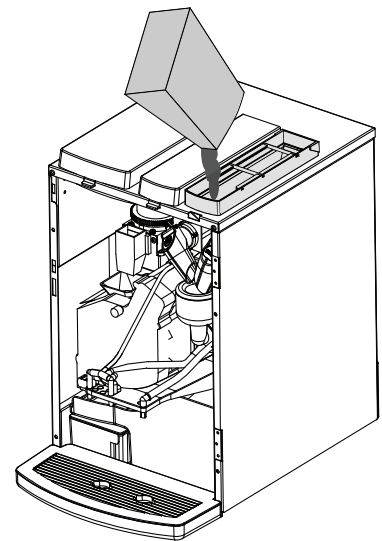
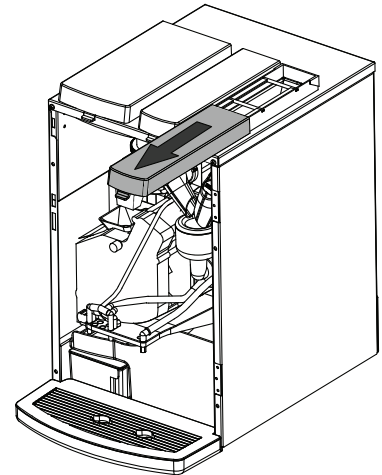


Disregarding the above instructions can jeopardise the safe use of the machine.

3.2

3.2.1 Filling the container in the machine

1. Open the door of the machine.
2. Open the lid on the container that needs refilling. Refill the container with the correct ingredients.
3. Close the upper lid.



3.2.2 Filling the ingredient containers outside the machine

The containers hold the ingredients required to prepare drinks.



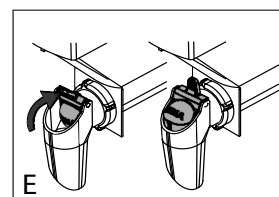
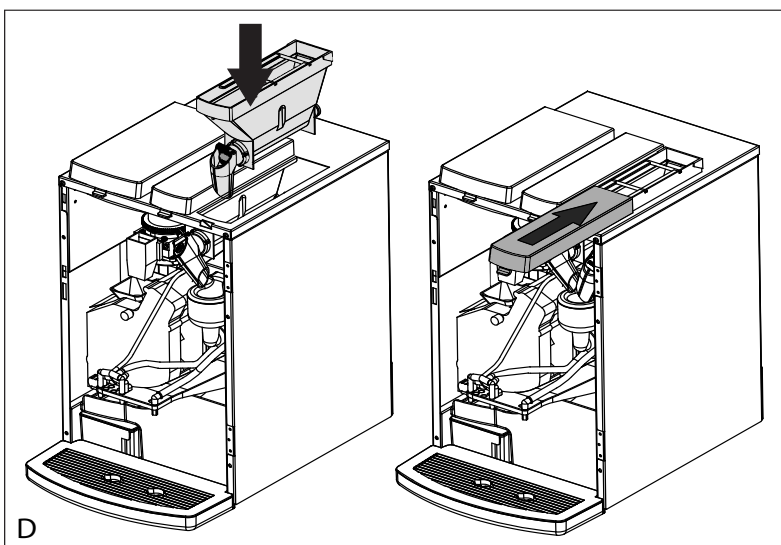
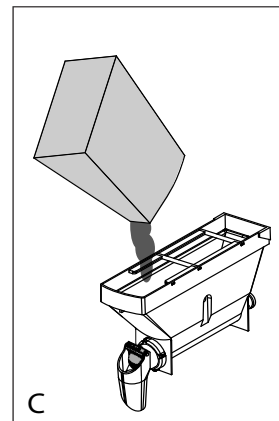
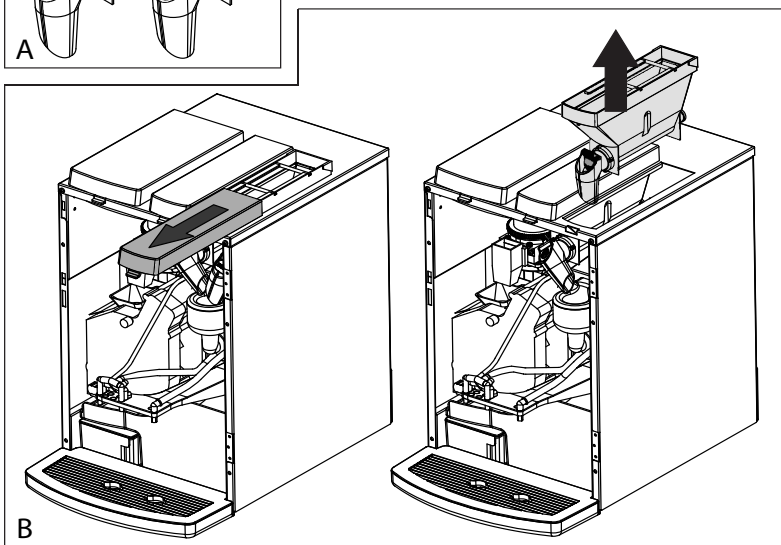
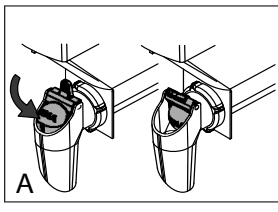
Ensure that no fingers are trapped when filling the containers.



Make sure that the right ingredient is put in the correct container.



See the label on the inside of the door for an overview of the maintenance functions.



1. Open the door of the machine.
2. Closes the container spout, by pushing the button until it clicks. (A)
3. Lift the containers being filled out of the holder (B).
4. Fill the container with the required ingredient (C).
5. Replace the container in the machine in its original position (D).
Ensure that the coupling of the container latches onto the gear.
6. Open the container by pushing the cover down until it clicks open (E).
7. Repeat this procedure for the other ingredients containers.
8. Place a 1.5 l cup under the dispensing spout.
9. Press button *00* on the service panel; clean valves = rinse mixers.
The valves will be rinsed with water. Repeat if necessary (if applicable).
10. Close the door of the machine.

4 MAINTENANCE AND CLEANING

Accurate maintenance and in particular careful cleaning are basic conditions for good product quality and smooth operation.

This device is designed so that the owner or license holder is able to clean and maintain it thoroughly in a relatively short time.



First read paragraph 4.1 before performing any maintenance work on the device. The maintenance work described may only be carried out by trained and authorised users.

4.1 Safety instructions - maintenance and cleaning

- See also par. 3.1.
- Carry out the procedures taking into account the hygiene regulations.
- Repairs may only be carried out on the machine by trained service engineers.
- Maintenance work on the electrical system may only be carried out by trained service engineers with a background in electrical engineering.



Warning with respect to burns: parts within the machine can be very hot.

- After cleaning or maintenance activities, the machine must not be used until all the removed parts have been correctly reinstalled.

Then inspect and check the inside of the machine:

- The dispenser holder must be aimed at the middle of the cup.
- The ingredient containers must be correctly placed.
- The mixer components must be in the correct position.
- The waste container must be in the correct position. (if applicable)
- The brewer group must be in the correct position. (if applicable)

4.2 Perishable ingredients



The ingredients have been supplied with a use by date. The following therefore needs to be taken into account:

- Comply with the use by date printed on the product packaging.
- Do not use ingredients, which are approaching the use by date.
- Replace any ingredients whose use by date has passed.
- Do not use opened ingredients for longer than the use by date indicated.
- Replace any opened ingredients whose use by date has passed.
- Only use the cleaning agents referred to in the cleaning schedule and follow the instructions on the packaging.

4.3 Service panel

The service panel will become visible when the door is opened. The following maintenance activities can be carried out via the service panel (if present):

Button	Function
00	Clean valves + rinse mixers
01	Clean valves + rinse brewer an mixers + reset wast container
02	Clean brewer with cleaning agent
03	Rinse brewer
04	Brewer positioning
05	Toggle paiment modeg
06	Reset container container
07	Read counters
08	Fill pump (liquid only)
09	Reset ingredient counters (only liquid)
10	Change light

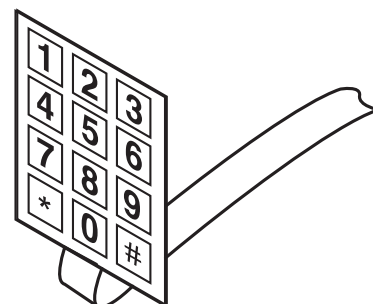


Figure 4-1

4.4 Maintenance

The quality of the drinks is only guaranteed if the machine is properly maintained on a regular basis. A number of essential components in the machine are highly sensitive to dirt. Use of this machine requires both daily and weekly maintenance.

4.5 Daily maintenance

The following activities should be carried out every day:

- Check the contents of the ingredient containers and refill if necessary.
- Clean and empty the waste container under the brewer group.
- Clean and empty the drip tray.
- Rinse the mixers and brewer (at least 2x a day).
- Clean the outside of the machine, including the selection panel.

When cleaning the machine, pay attention to the following:

- Clean the machine and its parts with a damp, clean cloth or paper towel.
- Always put the cleaned parts back into the machine.
- If necessary, clean the machine more often than indicated. If it is used frequently, this will certainly be required.

4.5.1 Checking the ingredient containers

1. Open the door.
2. Check whether the ingredient containers still contain sufficient ingredients.
3. If necessary, prime the containers as described in (*see chapter 3.2*).
4. Shut the door of the machine.

4.5.2 Clean the waste container



Ensure that your fingers do not become trapped when removing the waste container.



The waste container must not be washed in a dishwasher.

1. Open the door.
2. Remove and empty the waste container.
3. Clean the waste container
4. Clean the area immediately surrounding the waste container in the machine.
5. Put the tray back in the machine.
6. Use the service key.
7. Press *06* on the service panel (on the inside of the door) to reset the waste container.
8. Remove the service key.
9. Close the door.

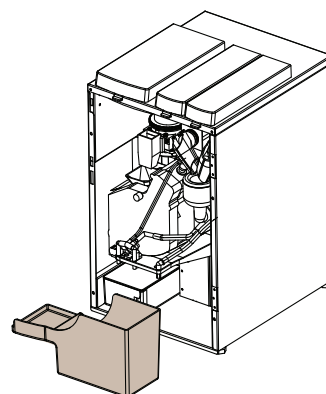


Figure 4-2

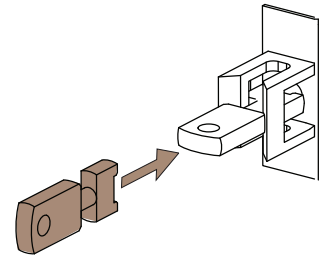


Figure 4-3

4.5.3 Cleaning drip tray



The drip tray must not be washed in a dishwasher.

1. Take the drip tray out of the machine carefully.
2. Empty the drip tray and clean it with water.
3. Put the drip tray back in the machine.

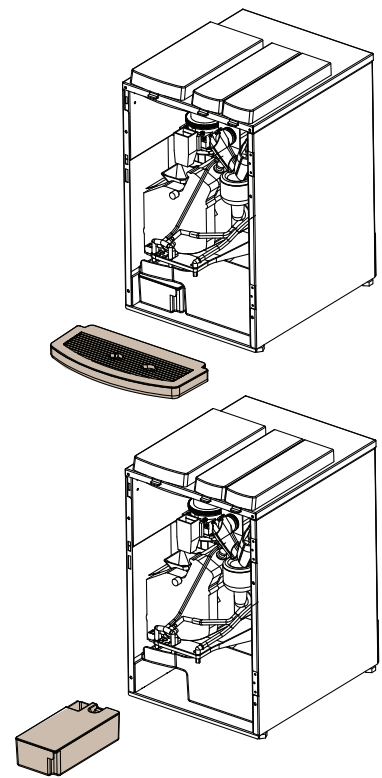


Figure 4-4

4.5.4 Rinsing the mixers and brewing group

Rinsing the mixers:

1. Open the door.
2. Use the service key (if available).
3. Place a jug (min. 1,5 l) under the dispenser holder.
4. Press *00* of the service panel (on the inside of the door) to clean the valves + rinse the mixers.
5. Remove the cup and the service key (if available) and close the door.
6. Empty the cup.

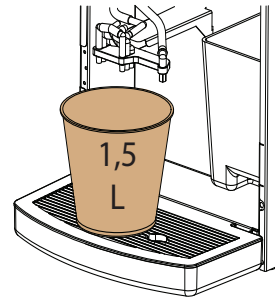


Figure 4-5

Rinsing the brewer group:

1. Open the door.
2. Use the service key (if available).
3. Place a cup (min. 1,5 L) under the dispenser holder.
4. Press *03* on the service panel (on the inside of the door) to rinse the brewer group.
5. Remove the cup and the service key (if available) and close the door.
6. Empty the cup.

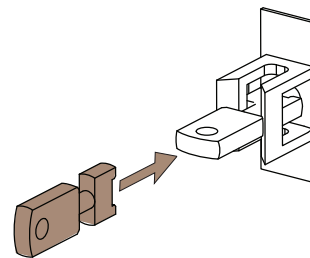


Figure 4-6

Rinse brewer group and mixers combined function:

1. Open the door.
2. Use the service key (if available).
3. Place a jug (min. 1,5 L) under the dispenser holder.
4. Press *01* on the service panel (on the inside of the door): clean valves + rinse brewer and mixers + reset waste container.
5. Clean the waste container.
6. Remove the cup and the service key (if available) and close the door.
7. Empty the cup.

4.5.5 Clean the exterior

Clean the outside of the machine with a damp, clean cloth or paper towel. Pay special attention to:

- The selection panel
- The area around the drink dispenser unit.
- The bottom of the door.

4.6 Weekly maintenance

The following activities should be carried out once a week:

- Clean the mixer parts with hot water
- Clean the brewer automatically
- Clean the brewer by hand
- Clean the bean hopper
- Clean the suction compartment below the containers

4.6.1 Cleaning mixer parts

Clean the following parts during weekly maintenance:

- Extractors
- Mixing compartments
- Hoses
- Suction filter cover
- Mixer blade



Wash your hands before starting on this procedure.

1. Open the door.
2. Switch the machine off at the on/off switch.
3. Remove the closed ingredient containers from the machine. Store in a dry, clean place.
4. Disconnect the hoses from the mixing compartments.
5. Disconnect the hoses from the dispenser nozzles.
6. Take the dispensing nozzles out of the dispenser holder.
7. Release the mixing compartment by pulling the green catch on the underside forwards.
8. Take the mixing compartment out of the machine by carefully pulling the bottom of the compartment towards you.
9. Use the tool to remove the mixer blade from the shaft of the motor. Move the tool forwards carefully until it clicks. Then remove the mixer blade manually.
10. Clean all parts in hot water and dry them carefully.
11. Clean the area directly surrounding the mixer in the machine with a damp cloth.

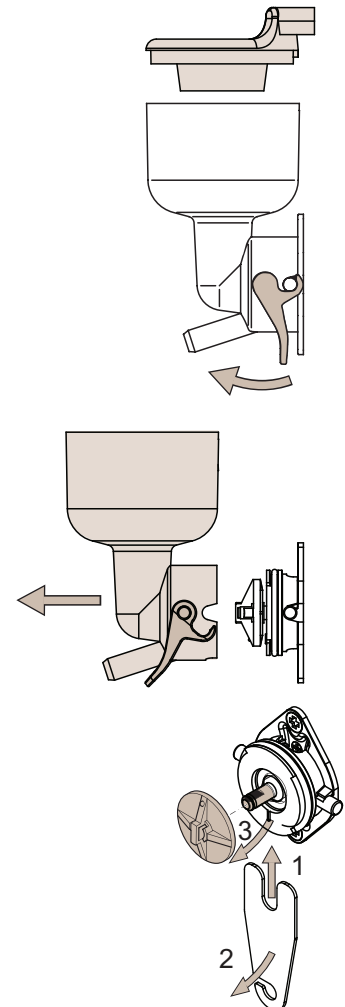


Figure 4-7

12. Put the mixer blade back in place. Ensure that the marker on the mixer blade is aligned with the flat part on the motor shaft.
13. Put the other cleaned parts back into the machine and connect the hoses.

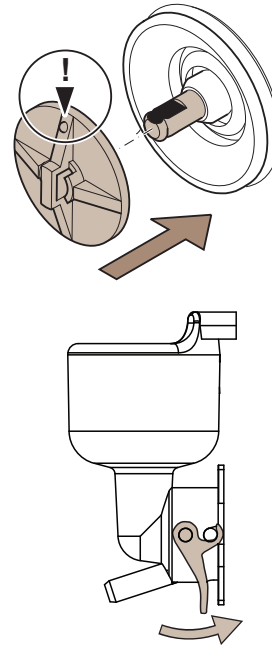


Figure 4-8



The mixing compartment must latch securely in place to prevent leaks. Ensure that the green catch snaps back into place.

14. Switch the machine on at the on/off switch.
15. Place a 1.5 l cup under the dispenser holder.
16. Press button *00* on the service panel; clean valves + rinse mixers.
17. Check that nothing leaks.
18. Close the door of the machine.

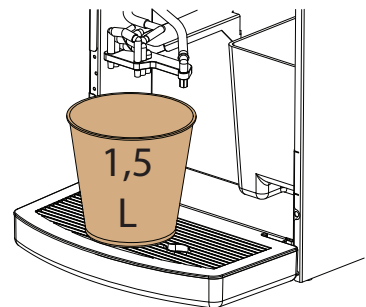


Figure 4-9

4.6.2 Cleaning the bean container



If the bean hopper has been removed, there will be an open connection to the grinder.



The bean hopper must not be cleaned with cleaning agents or water when it is placed on the machine.



The bean hopper must only be filled with roasted, dry coffee beans.

1. Switch the machine OFF using the on/off switch (*see paragraph 2.4*).
2. Open the door.
3. Open the bean hopper and unlock the container with the lever (*see figure 4-10*).
4. Remove the bean hopper.
5. Empty the bean hopper.
6. Clean the container with a damp cloth, rinse the container with clean water and dry thoroughly after cleaning.
7. Lock the container in place with the lever.
8. Fill the bean hopper with coffee beans.
9. Close the bean hopper.
10. Close the door.
11. Switch the machine ON using the on/off switch.

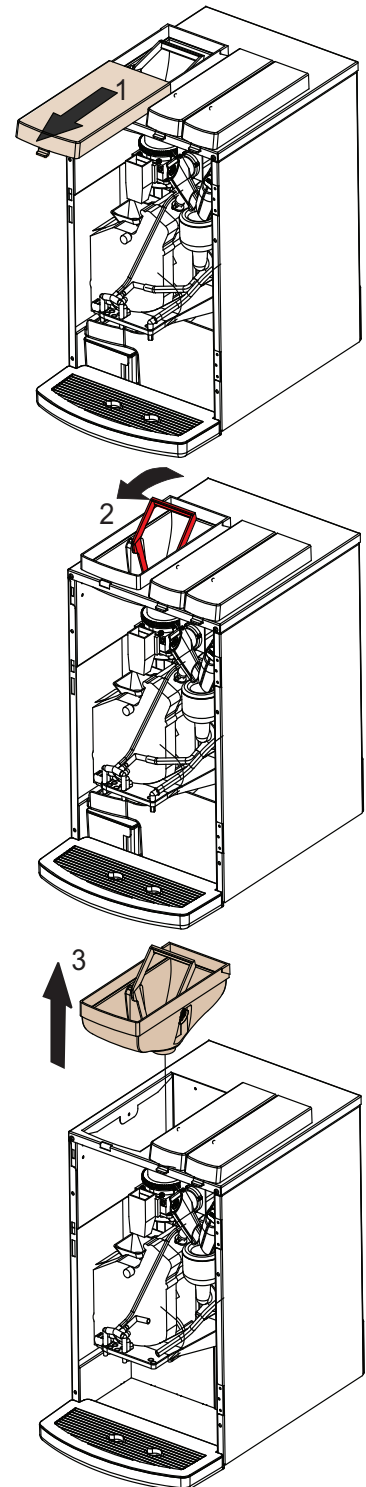


Figure 4-10

4.7 Maintenance overview

The sticker with an overview of the maintenance activities to be carried out are affixed on the inside of the door.

00 Spoelen mixers | Rinse mixers

Mischer spülen | Rincez les mixeurs

01 Reinigen ventielen + spoelen mixers/brewer + reset afvalbak

Clean valves + rinse mixers/brewer + reset waste container

Ventil reinigen + Mischer/Brüher spülen + Abfallwanne zurückstellen

Nettoyez les vannes+rincez les mixeurs et l'infuseur + appuyer le recipient

02 Brewer reinigen met reinigingsmiddel | Clean brewer with cleaning agent

Brüher reinigen mit Reinigungsmittel | Nettoyez l'infuseur avec détergent

04 Brewer positioneren | Brewer positioning

Brüher Positionierung | Positionnement l'infuseur

05 Gratis/Betaalde uitgifte | Toggle payment mode

Gratis/Zahler Produkt Gezahlt | Emission/payante libre

06 Reset afvalbak | Reset waste container

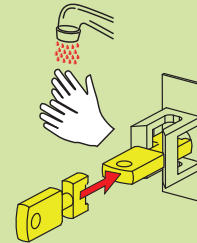
Abfallwanne zurückstellen | Appuyer le recipient

07 Tellers uitlezen | Read counters

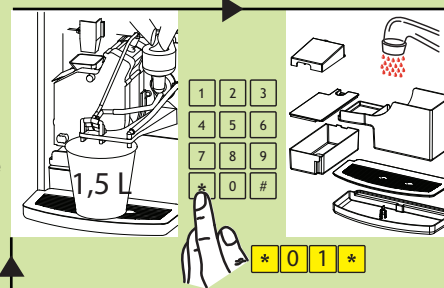
Zählers auslesen | Dispositifs de comptage/achever de lire

10 Uitgifteverlichting wijzigen | Change light

Licht ändern | Changez la lumière

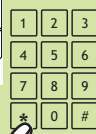
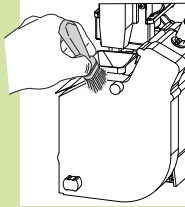


DAILY CLEANING

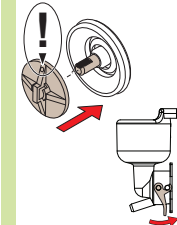
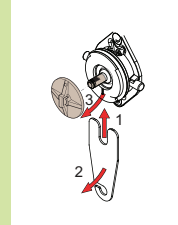
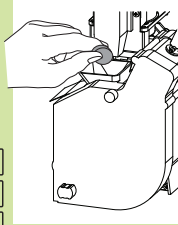


WEEKLY CLEANING

clean brewer



* 0 2 *



000870239100

Figure 4-11

5 RESOLVING PROBLEMS

5.1 LCD display on the selection panel

If faults occur in the machine, the LCD display on the selection panel will display a fault message.

5.1.1 ERROR MESSAGES

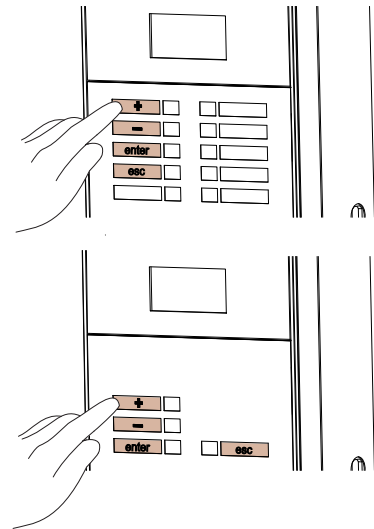
error message	code	possible causes	solution
Heating water	16	Water temperature in the tank is too low	Wait until the water tank has heated up
Brewing not ready	32	The brewing unit is being positioned	Wait until the brewing unit is in the correct position Check whether the brewing unit is moving Switch the machine OFF/ON if the message continues to appear in the display
Boiler is being filled	48	Boiler not filled	Wait until the water tank has been filled
No water available	49	Tank cannot be filled in time	Check the machine's water supply (tap) Switch the machine off and on
Drip tray is full	51	drip tray is full of water Drip tray sensor in the machine is wet	Empty drip tray Check whether drip tray connector in the machine is wet (leak from tank)
Door is opened	52	Door is not closed properly Door is open, but yellow key is not in position	Close the door Put the yellow key into position in order to use
No paper	53	The paper sensor does not detect a roll of paper	Insert a new roll of paper Check paper roll switch
Machine is in energy-saving mode	64	Energy-saving mode time schedule activated in machine menu	Press a button to temporarily take the machine out of energy-saving mode. Adjust the time schedule for energy-saving mode Switch energy-saving mode off
Machine is initializing	65	The machine is not yet ready to dispense beverages	Wait until the machine is initialised
Payment device found	168	Coin system connected to machine	Wait until the message on the display disappears or press any button

error message	code	possible causes	solution
Waste bin is full	225	Waste bin is (almost) full Waste bin counter has not been reset after bin was last emptied	Empty the waste bin and reset the notification (*06*)
Replace limescale filter	226	The set alarm value has been reached (volume/date)	The limescale filter needs to be replaced Contact your supplier to have the limescale filter replaced Reset the counter and/or enter a new replacement value
Clean brewer (*02*)	227	The set alarm value has been reached (number of cups/days/week day)	Clean the brewing unit with cleaning agent according to the prescribed procedure
Rinse machine (*01*)	228	The set alarm value has been reached (number of cups/days/week day)	Rinse the machine according to the prescribed procedure

5.1.2 Selection panel in programming mode

When the programming mode is used, the selection panel has the following functions:

- **+ or -**, these keys are used to navigate the menu, or to increase or decrease values.
- **ENTER**, this key confirms the value that is set.
- **#** (on the service panel), this key is used to navigate back through the menu.



5.1.3 User menu (Operator)

Press the PIN code on the service panel.

The standard PIN code for the user menu is **#4321#**

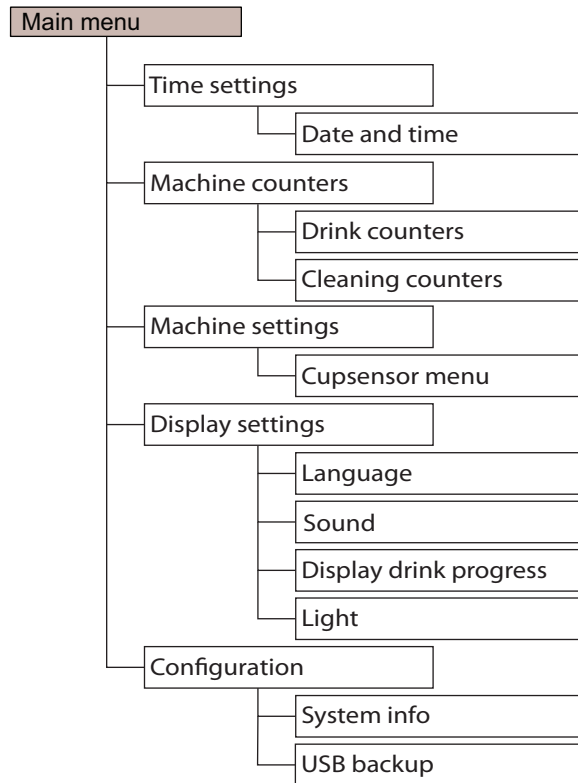


Figure 5-1

5.1.4 Service code

Machine service codes Dorado firmware v0.19d

Boot codes, at start-up (before logo)

Function	Code	Machines
Display board firmware update	# (hold pressed)	Boot loader since v1.3
Display board firmware update	# en 7 (hold pressed)	All

Service codes, during normal operation (after logo) with *

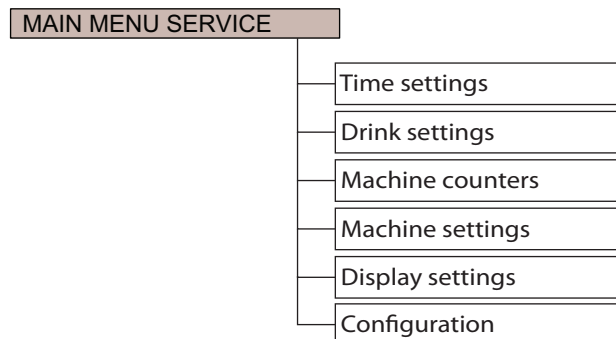
Function	Code	Machines
Machine rinse	*0*	All
Machine rinse + waste bin reset	*1*	All
Machine cleaning	*2*	FB and ES
Brewer positioning	*4*	FB and ES
Payment system toggle	*5*	All
Waste bin reset	*6*	FB and ES
Daily drink counters	*7*	All
Fill liquid pump	*8*	LI and LES
Change cup-LEDs colour	*10*	All
Change touch-LEDs colour	*11*	Cap touch
Clean / empty grinder	*20*	ES
Reset daily drink counters	*21*	All unless disabled)
Skip heat up	*22*	FB and IN
Language to English (until reset)	*23*	All
Show machine-info (screen 1)	*27*	All
show machine-info (screen 2)	*28*	All
Show connected MDB devices	*29*	All
Fill boiler	*30*	ES
Empty boiler	*31*	ES
Show actual temperature	*51*	All
Show actual water flow	*52*	ES
Total drink counters	*57*	All
Update configuration and main board firmware	*72*	All
Copy recipes to USB	*73*	All
Copy recipes from USB	*74*	All
Copy settings to USB	*75*	All
Copy settings from USB	*76*	All
Update main board firmware	*80*	All

Master codes ,during normal operation (after logo) with

Function	Code	Machines
Open service menu	#4231#	All
Open operator menu	#4321#	All
Reset counters (cleaning, rinsing and waste bin)	#8100#	All
Show configuration barcode	#8123#	All
Make vendor settings	#8173#	Red PCB
Use vendor settings	#8174#	Red PCB
Use factory settings	#8176#	Red PCB
Format first SPI disk	#8181#	All
Format second SPI disk	#8184#	Red PCB
Update display board firmware	#8192#	Boot loader since v1.3

Thu, 17 Mar 2016

5.2 Service menu diagram



- 1 Time settings, see par. 7.2.
- 2 Drink settings, see par. 7.3.
- 3 Machine counters, see par. 7.4.
- 4 Machine settings, see par. 7.5.
- 5 Display settings, see par. 7.6.
- 6 Software settings, see par. 7.7.

5.3 Electric diagram

Electrical Circuit Diagram Cabinet
Compact Espresso
Nr: 86968100 Rev.0

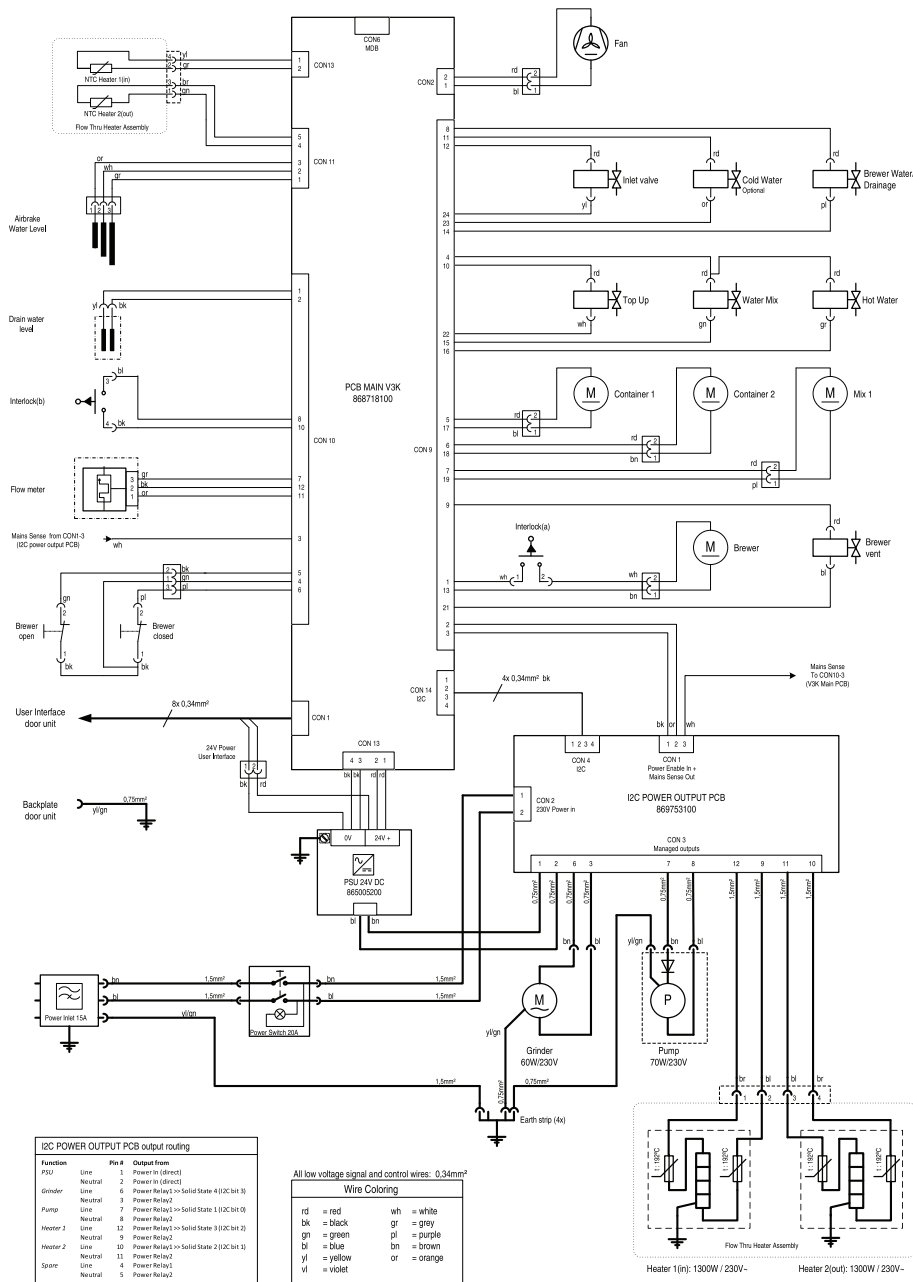
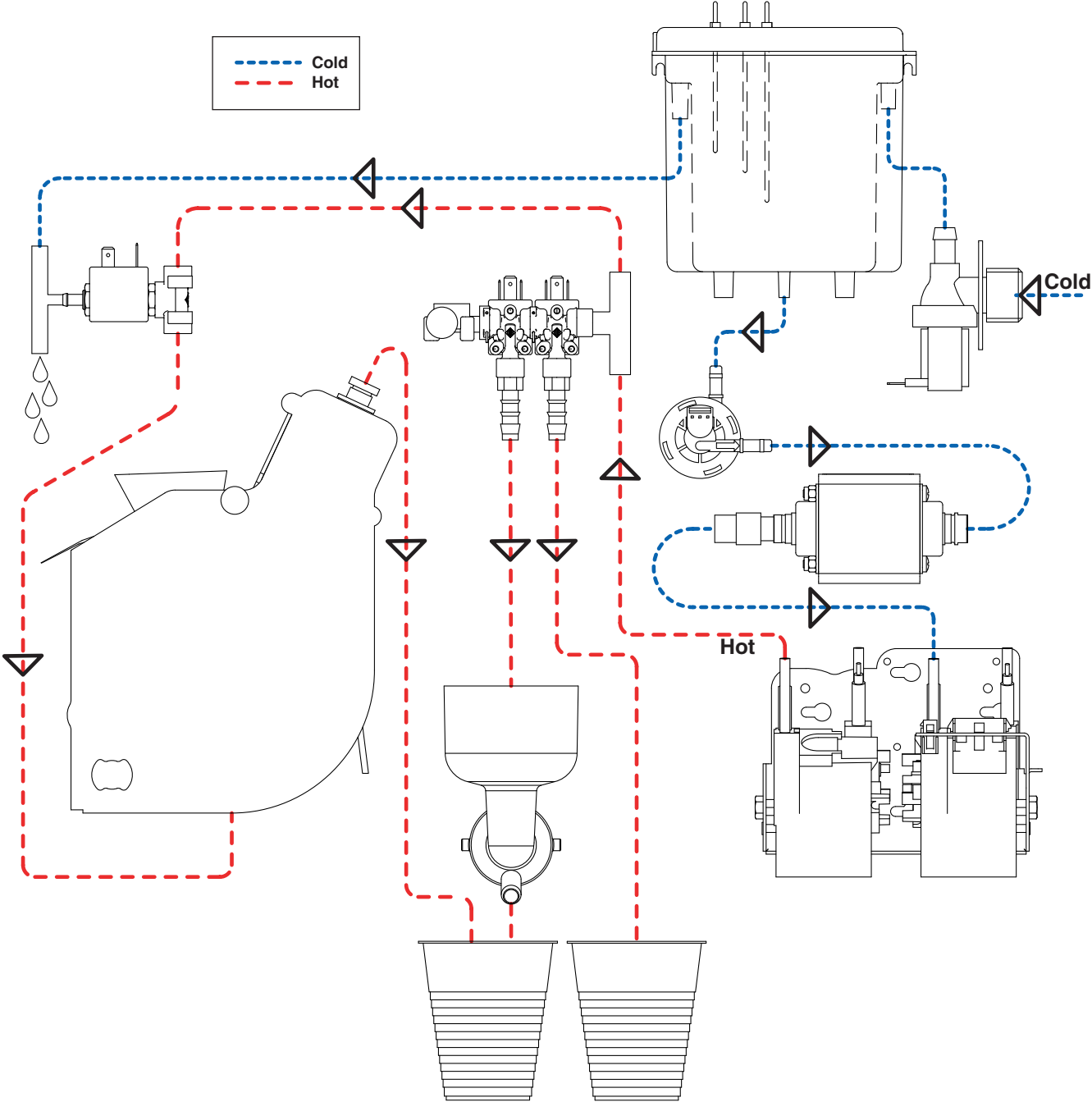


Figure 5-2

5.4 Water flow diagram



6 TECHNICAL SPECIFICATIONS

6.1 Electrical system



Refer to the machine type plate for the correct configuration of your machine, see Chapter 1: Machine identification.

Description	Value
Main voltage	230 V
Frequency	50 Hz
Capacity	3 kW

6.2 Water system

Description	Value
Water connection	G 3/4" - outer ring
Minimum water pressure	1.5 bar (150 kPa)
Maximum permitted water pressure	8 bar (800 kPa) ¹

1. If the pressure is higher, a pressure reducer must be installed.

6.3 Sound level

Description	Value
In operation	max. 70 dB(A)



Measurements according to DIN 45635, with normal use.

6.4 Ambient conditions

Description	Value
Ambient temperature	5 - 40 °C



Never place the machine in a room in which the temperature may drop below 0°C. This is to keep the water in the machine from freezing.

6.5 Dimensions and weight

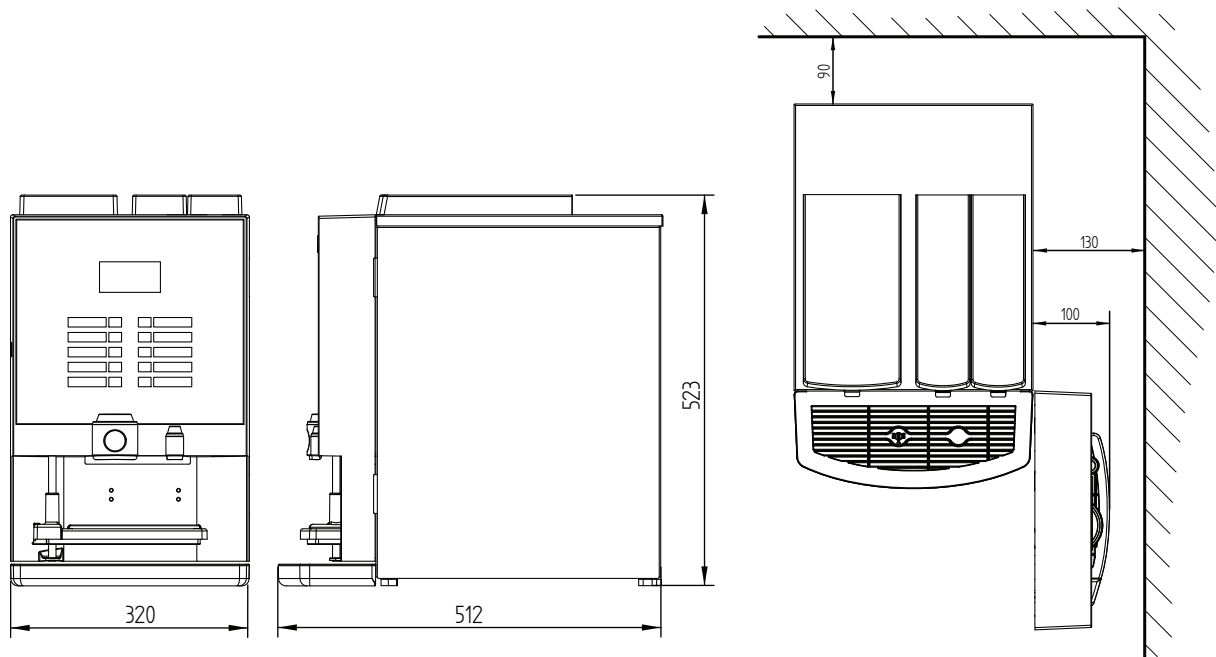


Figure 6-1

Description	Value
Height	523 mm
Width	320 mm
Depth	512 mm
Weight when empty	25 kg

7 SOFTWARE

7.1 Levels

The software in the machines has two levels:

- User
- Service engineer

Each level has its own specific choices and options. The standard pin codes for the operator and service engineer are:

Level	Pin code
User	#4321#
Service engineer	#4231#

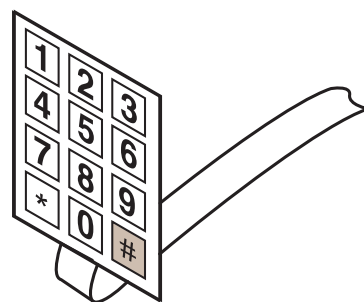
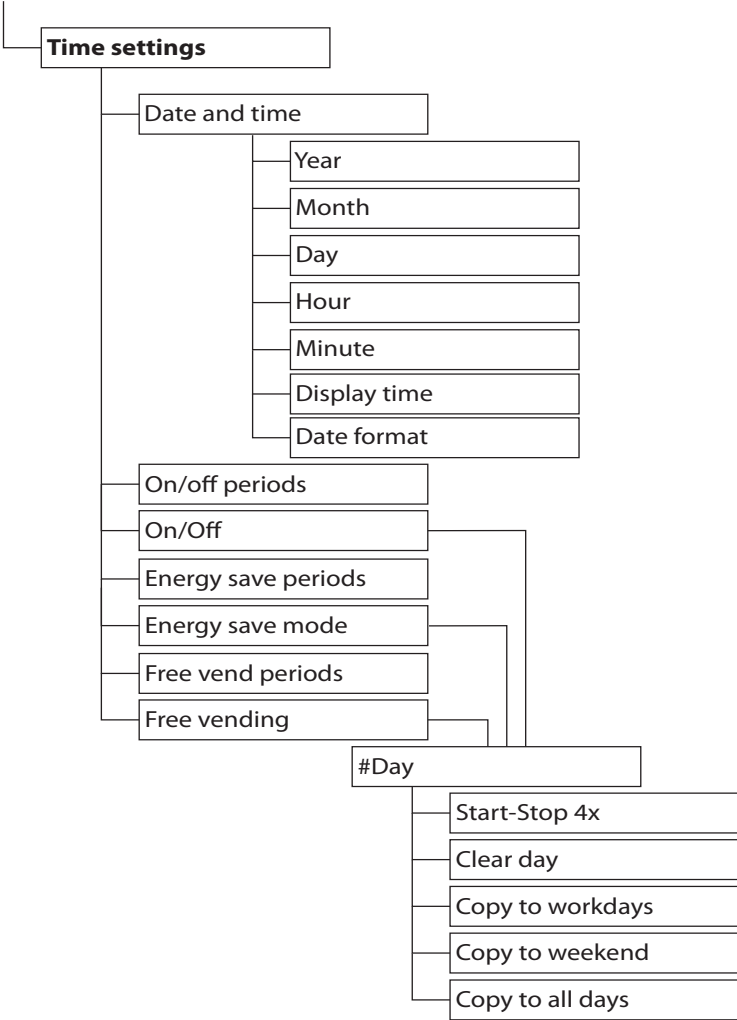
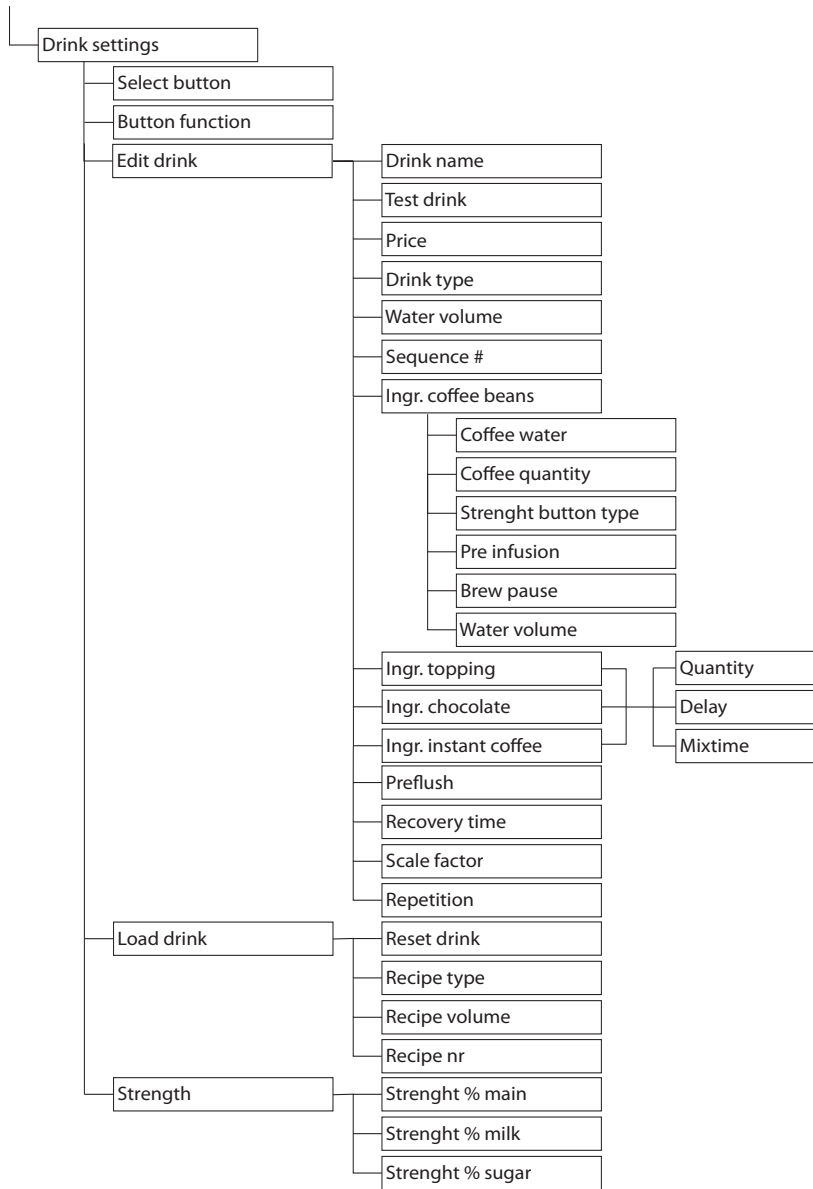


Figure 7-1

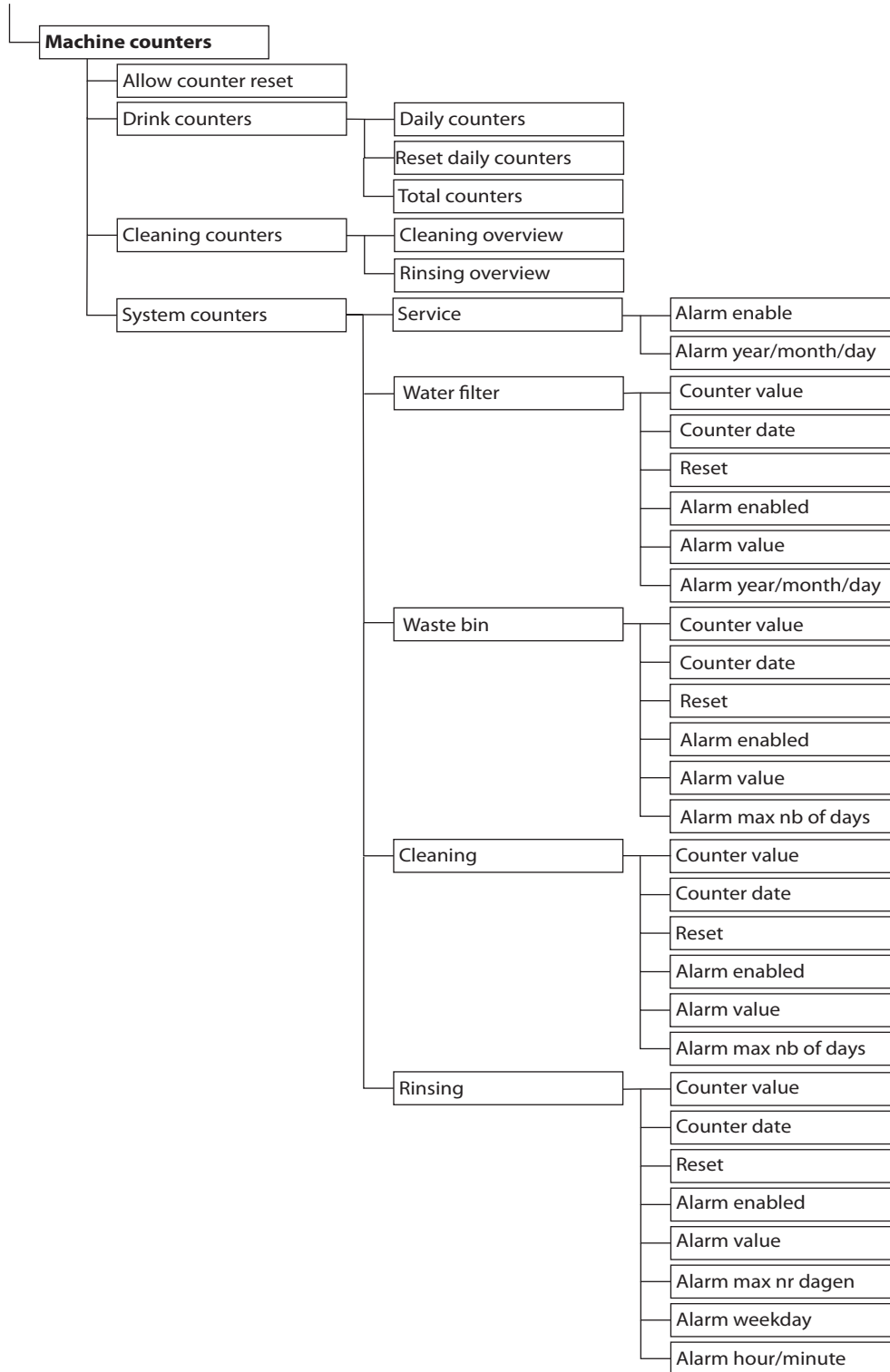
7.2 Time settings



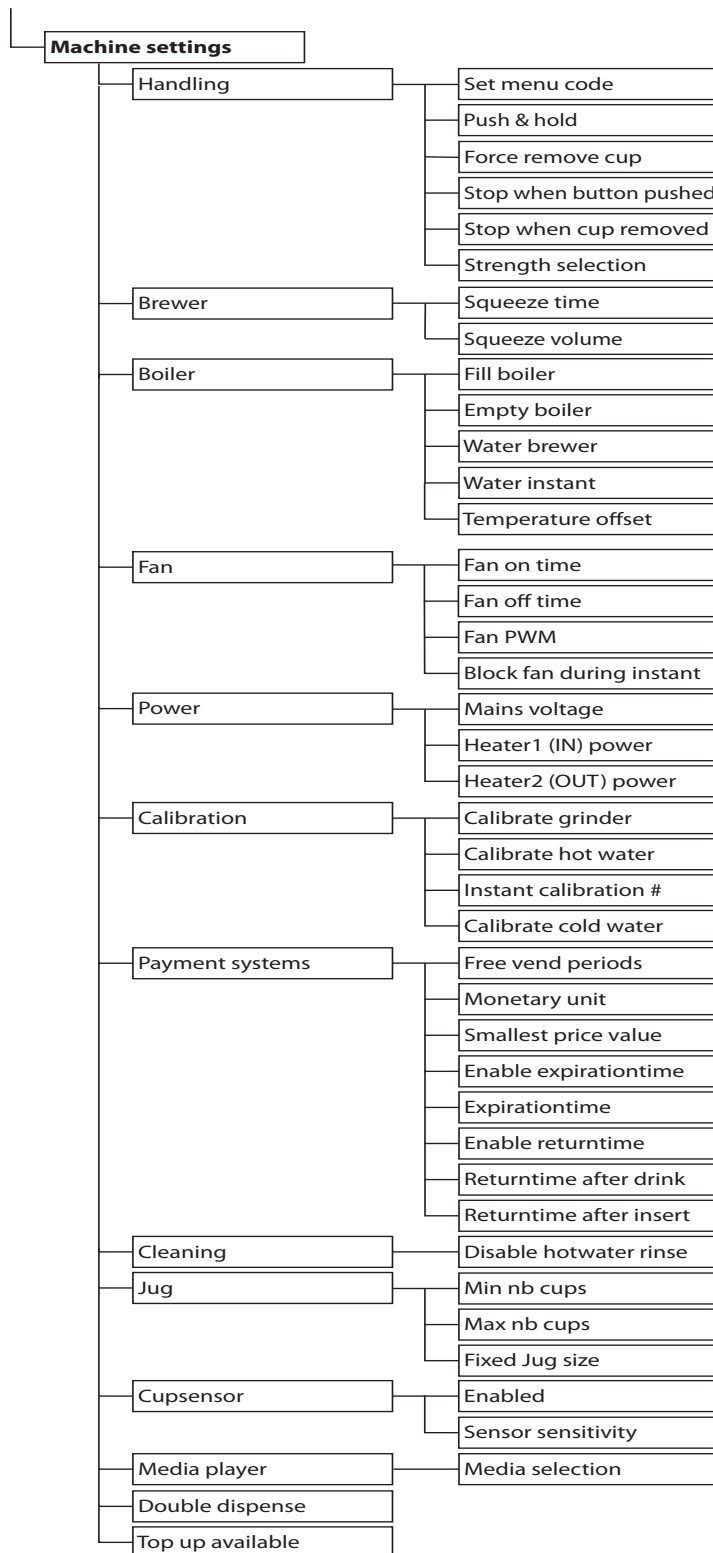
7.3 Drink settings



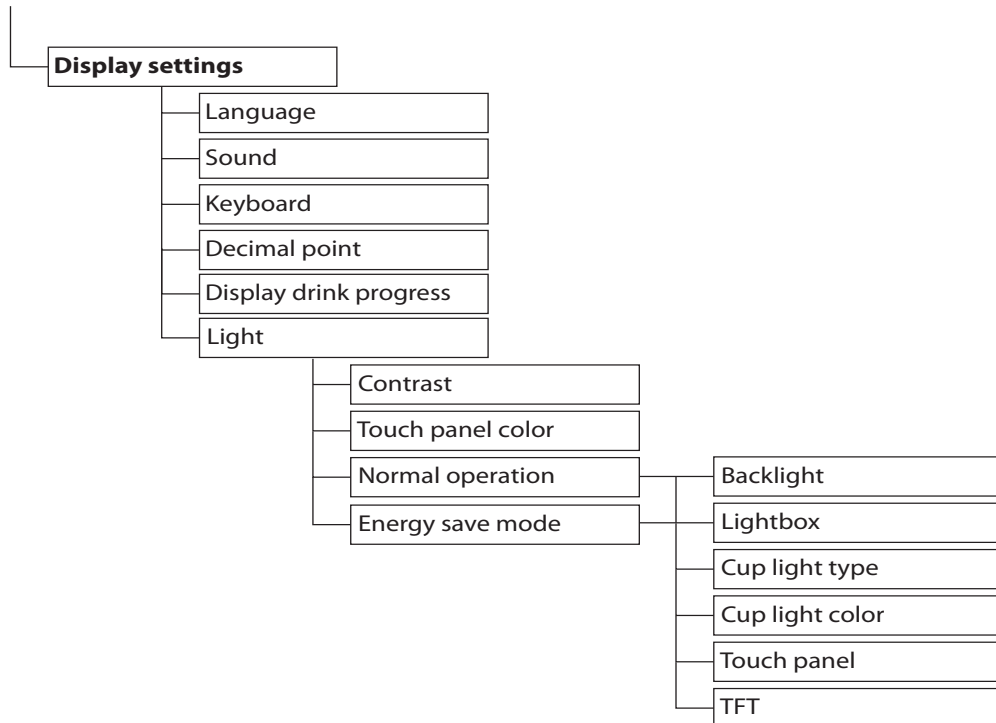
7.4 Machine counters



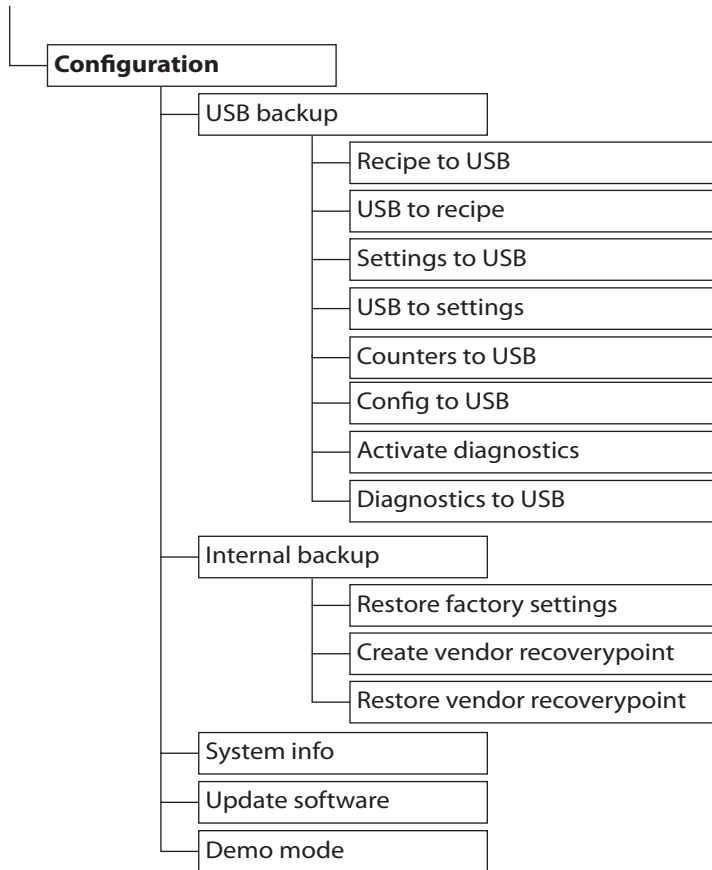
7.5 Machine settings



7.6 Display settings



7.7 Software settings



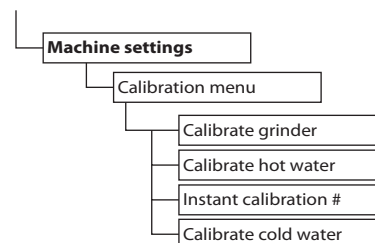
7.8 Calibrate the machine



The following is required to calibrate the machine:

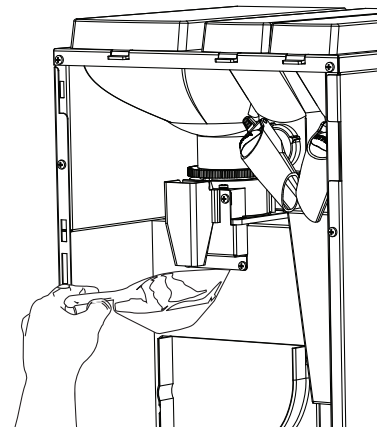
- 0.5 l cup / jug
- scale, accuracy 0.1 g
- spoon, for scooping up ground coffee

- 1 Open the door.
- 2 Use the service key (if available).
- 3 Remove the dispensing spout from the container.
- 4 Place the cup / jug under the dispenser holder.
- 5 On the service panel, press **#4231**, you are now in the Service Engineer menu.
- 6 Go to Machine settings.
- 7 Go to Calibration menu, press ENTER.
- 8 Run through these items in sequence:



Calibrate grinder

- Remove the brewer *9.17*.
- Select the “calibrate grinder”, press ENTER and select yes and ENTER. The brewer group goes to the lowest position so that there is room to put the scoop in place and scoop up the ground coffee.
- Hold the scoop properly under the coffee guide.
- Display shows “calibrate grinder”. Press any key to continue.
- Check that no coffee falls next to the spoon.
- Empty the spoon. The bean grinder is now properly filled.
- Repeat the dispensing procedure 2 more times.
- Weigh the quantity dispensed.
- Divide the weighed amount by 2, this is the average value.
- Select ‘Grinder calibration’ and enter the measured value in using the + and - button, press ENTER.
- Empty the spoon and go back, press ESC. 3 times
- Restart the machine, see restart procedure par. 9.4.



Calibrate hot water

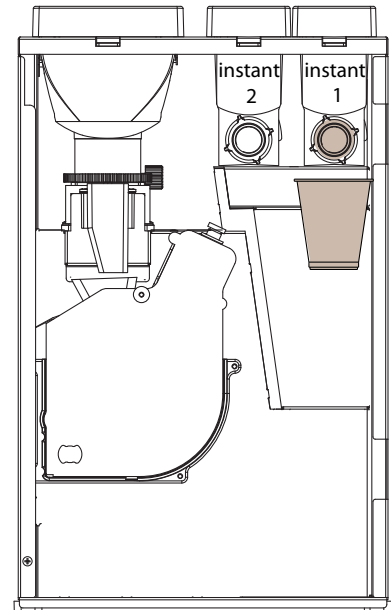
- Select the “calibrate hot water”, press ENTER and select yes and ENTER
- Hold the cup / jug under the hot water dispenser.
- Display shows “calibrate hot water”. Press any key to continue.
- Empty the cup / jug and repeat the dispense procedure 2 times.
- Weigh the quantity dispensed.
- Divide the weighed amount by 2, this is the average value.
- Select ‘Hot water calibration’ and enter the measured value in using the + and - button, press ENTER.
- Empty the cup and go back, press ESC. 3 times
- Restart the machine, see restart procedure par. 9.4.

Calibrate instant

- Go to Instant calibration, press ENTER.
- Select the “calibrate instant #”, press ENTER and select yes and ENTER
- Holds the cup / scoop under the instant cannister.
- Display shows “calibrate instant #”. Press any key to continue.
- Empty the cup / scoop and repeat the dispense procedure 2 times.
- Weigh the quantity dispensed.
- Divide the weighed amount by 2, this is the average value.
- Select ‘Instant # calibration’ and enter the measured value in using the + and - button, press ENTER.
- Empty the cup and go back, press ESC. 3 times
- Restart the machine, see restart procedure par. 9.4.

'Optional' Calibrate cold water

- Select the “calibrate cold water”, press ENTER and select yes and ENTER
- Holds the cup / jug under the hot water dispenser.
- Display shows “calibrate cold water”. Press any key to continue.
- Empty the cup / jug and repeat the dispense procedure 2 times.
- Weigh the quantity dispensed.
- Divide the weighed amount by 2, this is the average value.
- Select ‘cold water calibration’ and enter the measured value in using the + and - button, press ENTER.
- Empty the cup and go back, press ESC. 3 times
- Restart the machine, see restart procedure par. 9.4.



7.9 Calibrate the water tank

The water tank contains ~ 3,0 L water and is fully integrated in the machine.

In the calibration menu an option is added for calibration of the water tank, which makes it possible for the machine to detect a full and empty water tank. The calibration has already been done at our factory, so during installation calibration is not necessary. Whenever calibration needs to be performed this can be done in the menu:

- Enter the menu #4231#
- Select "Machine settings"
- Select "Calibration"
- Select "Calibrate water tank"



Calibration with empty water tank needs to be performed with a completely dry water tank.

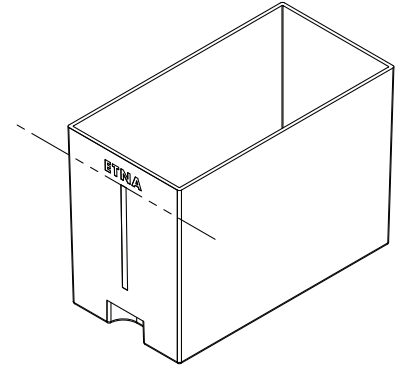


Figure 7-2 The vertical strip indicates the desired water level for the water tank.

Transport;

Before transport we strictly recommend to empty the machine. This can be done with code *31* on the service panel inside the door or in the menu:

- Enter the menu #4231#
- Select "Machine settings"
- Select "Boiler"- Select "Empty boiler"

8 INSTALLATION

8.1 Connect the machine

1. Place the machine on a stable and dry surface.
2. Connect the machine to the tap with a water hose using the appropriate size screw thread (3/4 inch BSP) and turn on the tap. Ensure that there are no leaks.
3. Electrical safety can only be ensured when a properly earthed wall socket is used, as prescribed in the electrical safety instructions.
4. The supplier cannot be held responsible if the wall socket does not meet the set safety requirements.
In case of doubt with respect to earthing of the wall socket, contact a specialist.
If the plug cannot be used with the wall socket, the wall socket must be replaced.
5. The machine must be installed. This requires a password. Your supplier will take care of this.
6. Close the door.
 - Wait until the software is ready.
 - The display shows the message when this status is reached.



The supplier is not liable for damage to the machine resulting from improper or incorrect use.

9 REPLACEMENT OF PARTS

9.1 Safety requirements - replacing parts



Remove the plug from the wall socket before repairing or replacing any part.

- See also par. 3.1.
- Check the wiring for damage before beginning the repair work.
- Do not re-use self-locking materials and hose clips.
- Ensure everything is clean and dry again after the repair work.

9.2 Repairs



Disconnect the plug from the wall socket before repairing anything.

Close the water tap and disconnect the water supply hose, where applicable.

Position the machine so that there is easy access to the left and right sides and the rear.

9.2.1 Access to the machine



Be careful when moving the machine. The machine is heavy, see par. 6.5.

- 1 Read the safety instructions, see par. 3.1.
- 2 Remove the plug from the socket.

9.2.2 Removing the plating



All boiler parts and the water from the boiler are hot.

- 1 Access the machine; see par. 9.2.1.
- 2 Remove the drip tray.

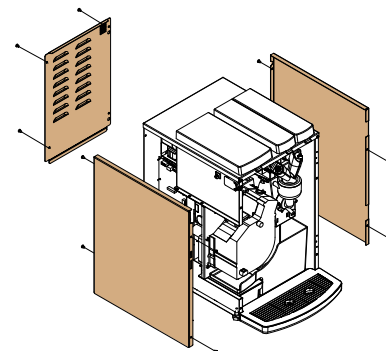


Figure 9-1

Accessing the rear of the machine:

- 1 Remove the 4 screws.
- 2 Lift the rear plate and remove from the machine.

Accessing the left side of the machine:

- 1 Remove the 2 screws at the rear side.
- 2 Remove the 2 screws at the front side.
- 3 Remove the plate from the machine.

Accessing the right side of the machine:

- 1 Remove the 2 screws at the rear side.
- 2 Remove the 2 screws at the front side.
- 3 Remove the plate from the machine.

9.3 Empty/fill the boiler

Empty the boiler:

- 1 Close the mains water supply and place a cup.
- 2 Enter the servicemenu via 'machine-settings' en 'boiler menu' to 'empty boiler'.

Fill the boiler:

- 1 Open the mains water supply and place a cup.
- 2 Enter the servicemenu via 'machine-settings' en 'boiler menu' to 'fill boiler' .

9.4 Restarting

- 1 Check that the wiring has been connected correctly.
- 2 Check if the hoses and valves have been properly connected.
- 3 Put the plates back into their original position.
- 4 Connect the water supply hose again (where applicable) and open the tap.
- 5 Reconnect the mains.

Switch the machine on at the on/off switch or insert the service key.

- 6 Carry out the daily maintenance activities, see par. 4.5.
- 7 Close the door.

Wait until the software is ready.

The text indicating that machine is ready will be displayed.

- 8 Check that nothing leaks.
- 9 The machine is ready for use.

9.5 Drink selection labels



Be careful when moving the machine. The machine is heavy, see 6.5.

- Consult the safety regulations, see 9.1.
 - Remove the plug from the socket.
- 1 Access the machine.
 - 2 Open the door with the key.
 - 3 Remove the cover plate in the door.
 - 4 The drink label is affixed in the door above the dispensing unit.
 - 5 Remove the existing drink label.
 - 6 Put the new drink label in place.
Ensure that all labels have been positioned correctly.
 - 7 Place the cover plate.
 - 8 Close the door.

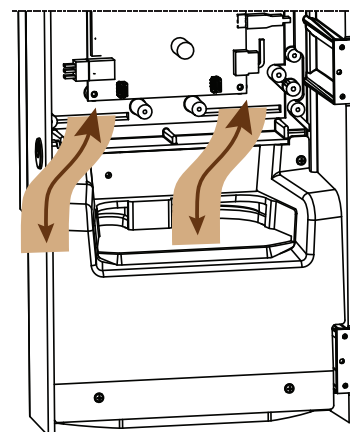


Figure 9-2

9.6 Replacing intake valve

- 1 Empty the boiler, see par. 9.3.
- 2 Remove the plate on the back side, see par. 9.2.
- 3 Disconnect the wiring from the intake valve.
- 4 Disconnect the water hoses from the intake valve.
- 5 Loosen the two screws of the intake valve.
- 6 Replace the intake valve.
- 7 Connect the water hose to the intake valve.
- 8 Connect the wiring to the intake valve.
- 9 Restart the machine, see restart procedure par. 9.4.

Also carry out the filling procedure, par. 9.3.

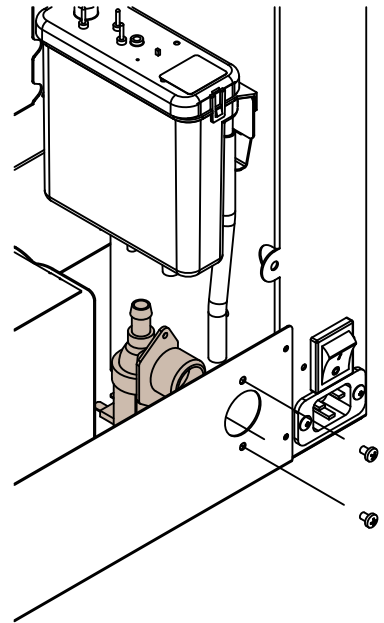


Figure 9-3

9.7 Replace water pump

- 1 Empty the boiler, see par. 9.3.
- 2 Remove the plate on the right side, see par. 9.2.2.
- 3 Disconnect the wiring from the pump.
- 4 Disconnect the water hoses from the pump.
- 5 Take the pump out of the spring.
- 6 Replace the pump.
- 7 Connect the water hoses to the pump.
- 8 Connect the wiring to the pump.
- 9 Restart the machine, see restart procedure par. 9.4.

Carry out the filling procedure, see par. 9.3.

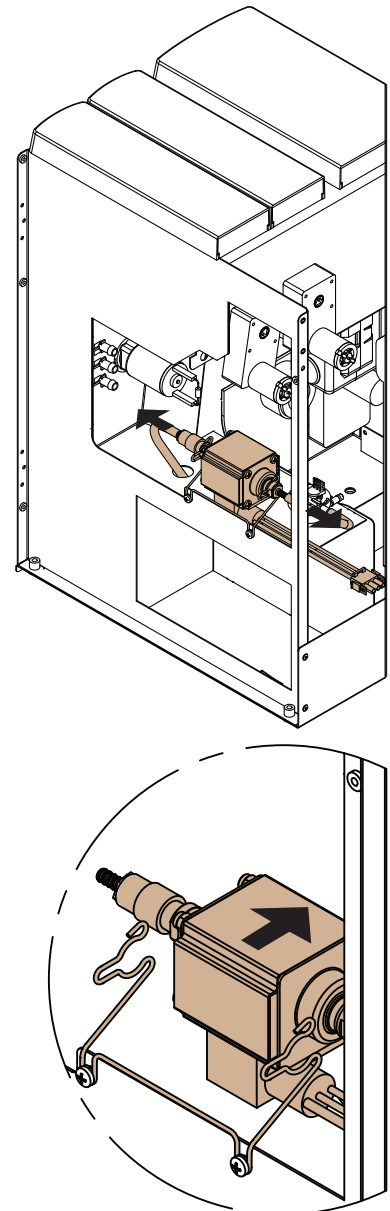


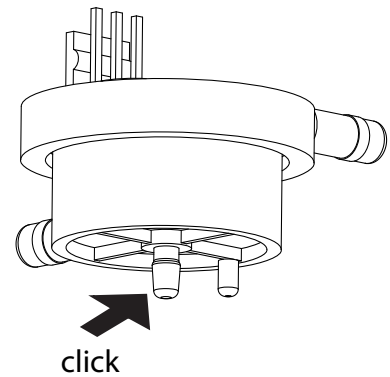
Figure 9-4

9.8 Replace flow meter

- 1 Empty the boiler, see par. 9.3.
- 2 Remove the plate on the rear side, see par. 9.2.
- 3 Disconnect the wiring from the flow meter.
- 4 Disconnect the water hoses from the flow meter.
- 5 Click the flowmeter out of the cabinet.
- 6 Replace the flow meter.
- 7 Connect the water hoses to the flow meter.
- 8 Connect the wiring to the flow meter.
- 9 Restart the machine, see restart procedure par. 9.4.

Also carry out the filling procedure, par. 9.3.

- 10 Calibrate hot water, see par. 7.8.



9.9 Replacing boiler



All boiler parts may be hot, including the water from the boiler.

- 1 Turn off the water tap.
- 2 Access the machine, see par. 9.2.1 and remove the side plate.
- 3 Empty the boiler, see par. 9.3.
- 4 Disconnect the boiler wiring.
- 5 Remove the fixing screws from the boiler.
- 6 Take the boiler out of the machine by pulling it out at the side.
- 7 Replace the boiler and put it back in the machine in the reverse order.
- 8 Carry out the restart procedure, see par.9.4.

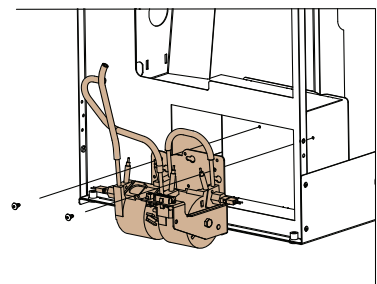


Figure 9-5

9.10 Replace bean grinder

- 1 Access the machine, see par. 9.2.1 and remove the left side plate.
- 2 Disconnect the wiring from the bean grinder.
- 3 Open de door.
- 4 Remove the bean hopper and the brewer.
- 5 Remove bean nozzle and the screws.
- 6 Turn the grinder a quarter and remove it from the machine.
- 7 Replace the bean grinder.
- 8 Connect the wiring to the bean grinder.
- 9 Put the bean hopper in place.
- 10 Restart the machine, see restart procedure par. 9.4.
- 11 Calibrate the bean grinder, see par. 7.8.

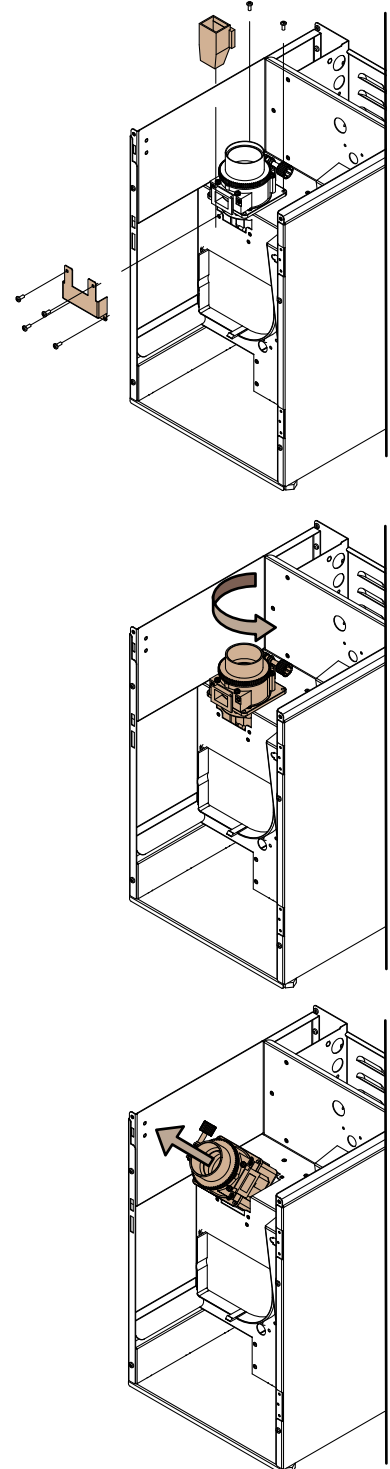


Figure 9-6

9.11 Replacing extraction ventilator

- 1 Remove the plate on the back side and the top, see par. 9.2.
- 2 Disconnect the wiring from the ventilator.
- 3 Remove the vacuum hose.
- 4 Loosen the two screws of the ventilator fastener.
- 5 Replace the ventilator.
- 6 Fix the ventilator fastener in place with the two screws.
- 7 Put the vacuum hoses back in place.
- 8 Connect the wiring.
- 9 Restart the machine, see restart procedure par. 9.4.

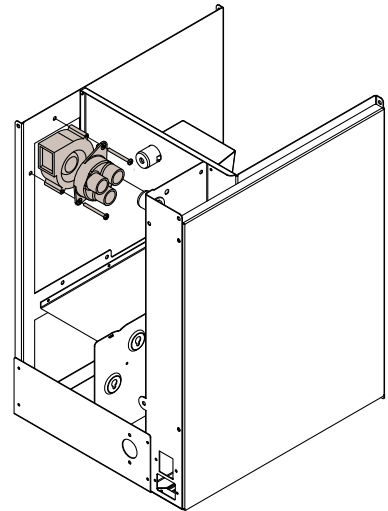


Figure 9-7

9.12 Replacing the mixer engine

- 1 Open the door.
- 2 Access the machine, see par. 9.2.
- 3 Loosen the screws (A) to take out the mixer base and motor.
- 4 Disconnect the wiring.
- 5 Loosen the screws (B) to remove the motor.
- 6 Replace the motor.
- 7 Connect the wiring.
- 8 Fasten everything back in the machine in reverse order.
- 9 9.4Restart the machine, see restart procedure par..

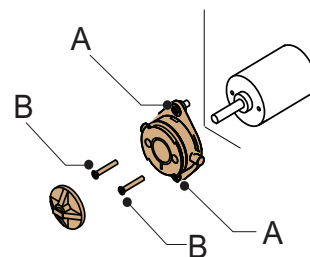


Figure 9-8

9.13 Replace ingredient motor

Remove ingredient motor

- 1 Access the machine, see par. 9.2.
- 2 Remove the plate on the rear side.
- 3 Open the door of the machine.
- 4 Remove the containers.
- 5 Remove the sprocket from the relevant motor shaft.
- 6 Disconnect the connector from the motor.
- 7 Remove the two screws that the motor is attached with.
- 8 Remove the motor.

Fix the ingredient motor in place

- 1 Put the motor in place.
- 2 Screw in the motor with the two screws.
- 3 Put the sprocket on the motor shaft.
- 4 Reconnect the motor connector.
- 5 Put the containers back in place.
- 6 Restart the machine, see restart procedure par. 9.4.

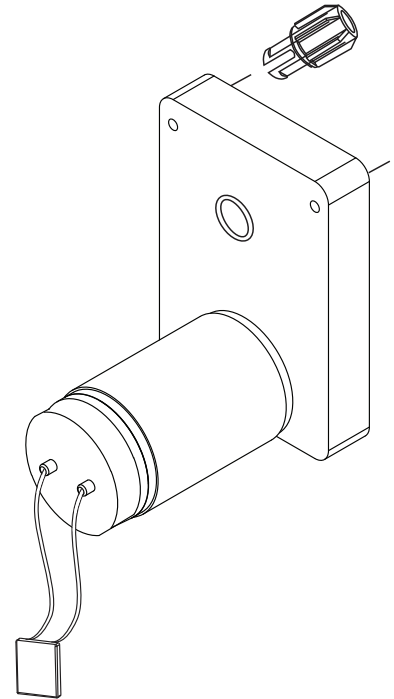


Figure 9-9

9.14 Replacing the drip tray sensor

- 1 Access the machine; see par. 9.2.1.
- 2 Remove the plating on the left side, see par. 9.2.
- 3 Disconnect the wiring from the sensor.
- 4 Unscrew the two screws (A) from the sensor fixing.
- 5 Replace the drip tray sensor (B).
- 6 Connect the wiring.
- 7 Restart the machine; see the restart procedure in par. .9.4

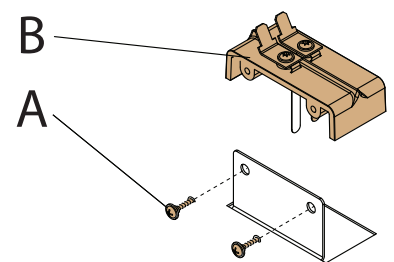


Figure 9-10

9.15 Door plate



Be careful! : PCBs are ESD-sensitive. Put on an ESD wrist strap and connect it to the machine frame.

Be careful when moving the machine. The machine is heavy, see par. 6.5.

- Read the safety instructions, see par. 9.1.
- Disconnect the plug from the wall socket.

Removing door plate top

- 1 Open the door.
- 2 Loosen the plate (A).
- 3 Disconnect the ribbon cable of the service panel from the display PCB (B).
- 4 Remove the plate.

Fixing door plate top in place

- 1 Connect the ribbon cable of the service panel to the display PCB (B).
- 2 Fix the plate (A) in place.
- 3 Test service and selection buttons.
- 4 Restart the machine, see restart procedure par. 9.4.

Removing door plate top

- 1 Open the door.
- 2 Loosen the plate (C).
- 3 Remove the plate.

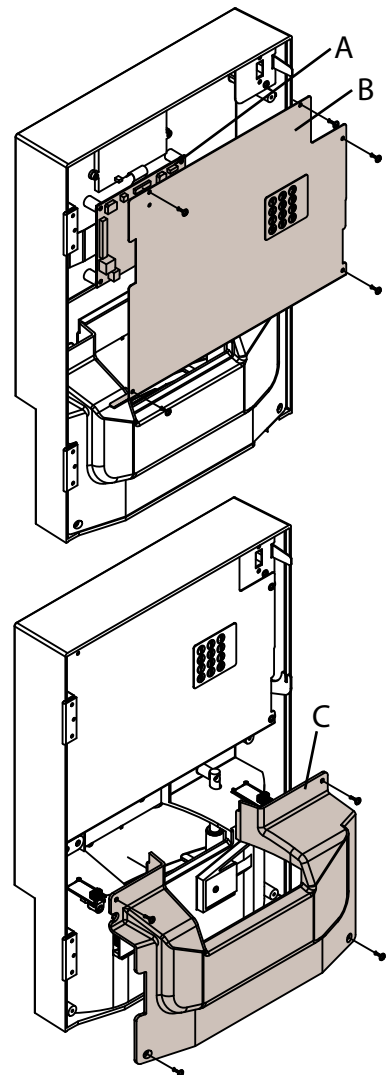


Figure 9-11

9.16 Replacing cup sensor



Be careful! : PCBs are ESD-sensitive. Put on an ESD wrist strap and connect it to the machine frame.

- 1 Remove the door plate, see par. 9.15.
- 2 Loosen the screw of the sensor PCB (1).
- 3 Disconnect the sensor connector (2).
- 4 Replace the whole sensor.
- 5 Connect the sensor connector.
- 6 Fix the sensor fastener in place with the screw.
- 7 Fix the door plate in place, see par. 9.15.

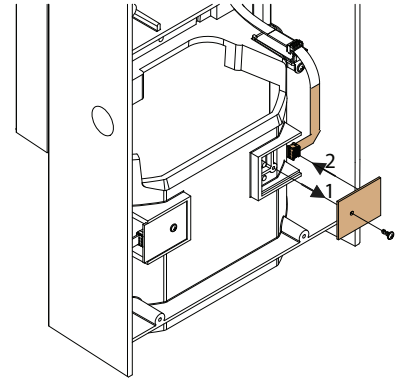


Figure 9-12

9.17 Replace brewer group



Wash your hands before starting on this procedure.

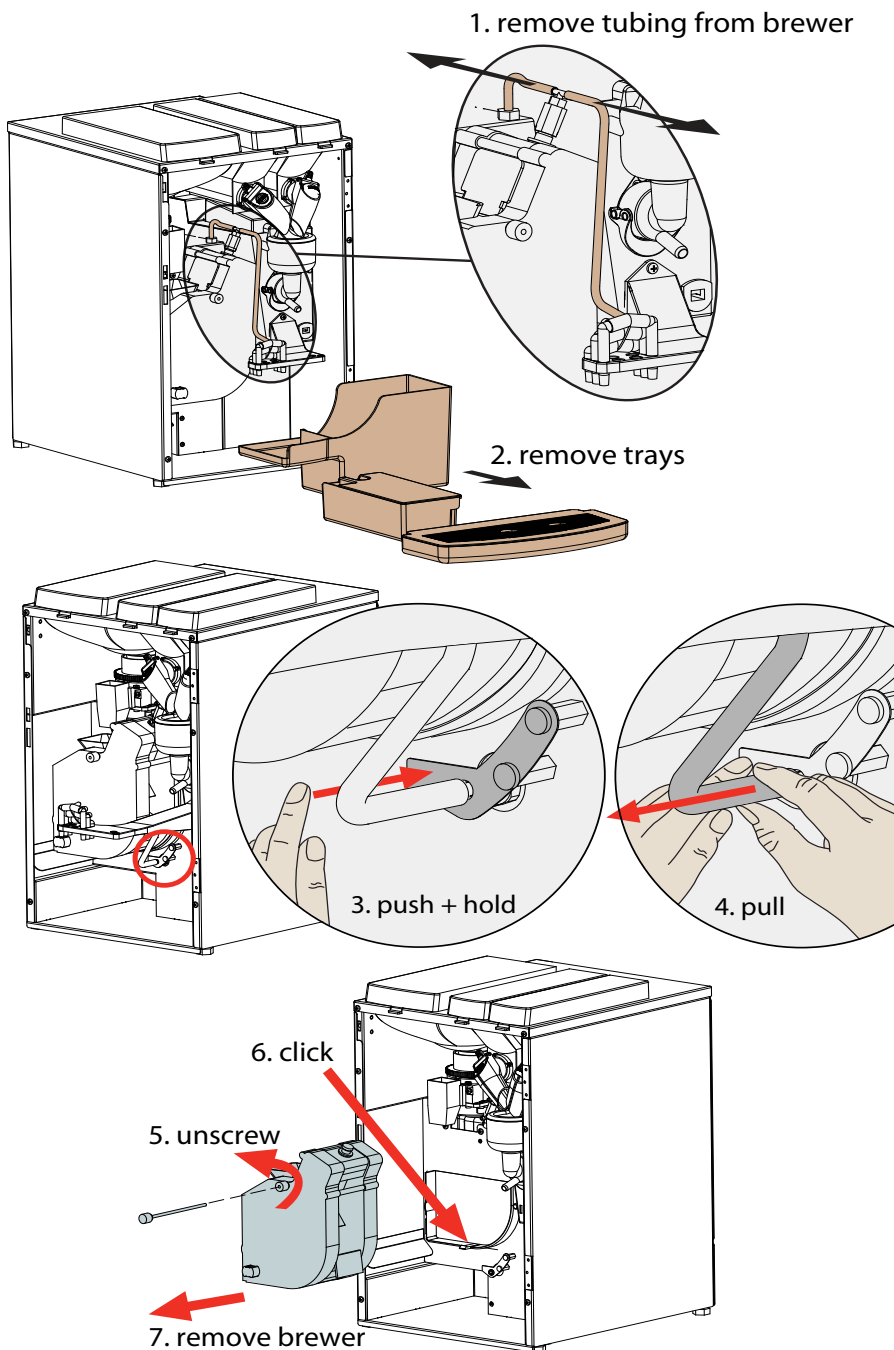


Figure 9-13

1. Open the door.
2. Remove the tubing from the brewer (1).
3. Remove the trays (2).
4. Disconnect the water supply (3+4).
5. Unscrew the brewer (5).
6. Take the brewer group out of the machine (6).
7. Put the new brewer group in place in the reverse order.
8. Restart the machine, see restart procedure (*see paragraph 9.4*)

9.18 LCD display and display PCB



Be careful! : PCBs are ESD-sensitive. Put on an ESD wrist strap and connect it to the machine frame.

Replacing the LCD display

- 1 Remove the door plate, see (*see paragraph 9.15*)
- 2 Remove the 2 screws from the LCD display (C).
- 3 Replace the LCD display.
- 4 Fix the door plate in place.

Replacing the display PCB

- 1 Remove the door plate, see (*see paragraph 9.15*)
- 2 Remove the 4 screws from the display PCB (B).
- 3 Replace the display PCB.
- 4 Connect the connectors to the display PCB (B).
- 5 Fix the door plate in place.

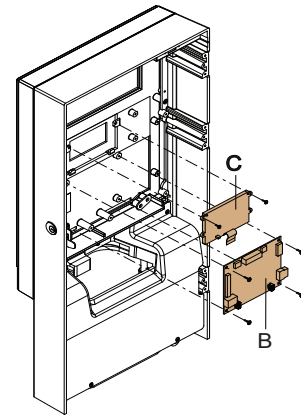


Figure 9-14

9.19 Replacing the control PCB



Note : The printed circuit boards are ESD sensitive. Use ESD protection before working on these parts. Wear an ESD wristband and connect it to the machine frame.

- 1 Access the machine; see par. 9.2.1.
- 2 Remove the plating on the right side, see par. 9.2.2.
- 3 Disconnect the 5 connectors from the control PCB.
- 4 Detach the control PCB from the 5 clamping pins that attach it to the machine.
- 5 Replace the control PCB.
- 6 Position the control PCB by pressing it onto the 5 clamping pins.
- 7 Connect the 5 connectors to the control PCB.
- 8 Restart the machine; see the restart procedure in par. 9.4.

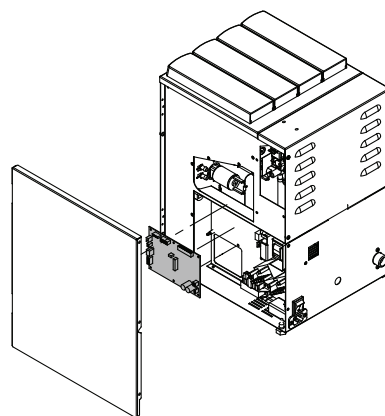


Figure 9-15

9.20 Replacing the power supply



Note : The printed circuit boards are ESD sensitive. Use ESD protection before working on these parts. Wear an ESD wristband and connect it to the machine frame.

- 1 Access the machine; see par. 9.2.1.
- 2 Remove the plating on the left side, see par. 9.2.2.
- 3 Disconnect the 2 connectors from the power supply.
- 4 Remove the 2 fixing screws.
- 5 Detach the power supply from the 2 clamping pins that attach it to the machine.
- 6 Replace the power supply.
- 7 Position the power supply by pressing it onto the 2 clamping pins.
- 8 Connect the 2 connectors to the power supply.
- 9 Restart the machine; see the restart procedure in par. 9.4.

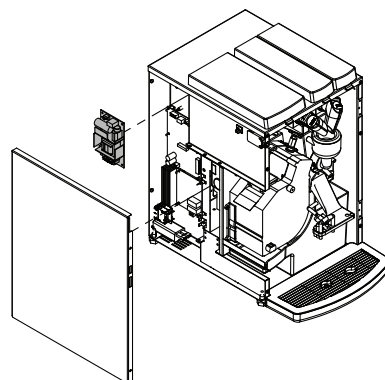


Figure 9-16

9.21 Replacing the on/off switch

- 1 Access the machine; see par. 9.2.
- 2 Remove the connectors from the on/off switch.
- 3 Replace the on/off switch.
- 4 Reconnect the connectors of the on/off switch.
- 5 Restart the machine; see the restart procedure in par. 9.4.

9.22 Service panel



Be careful! : PCBs are ESD-sensitive. Put on an ESD wrist strap and connect it to the machine frame.

- 1 Remove the door plate, see par. 9.15
- 2 Remove the service panel.
- 3 Thoroughly clean and degrease the surface of the door plate.
- 4 Replace the service panel.
- 5 Fix the door plate in place, see par.9.15

