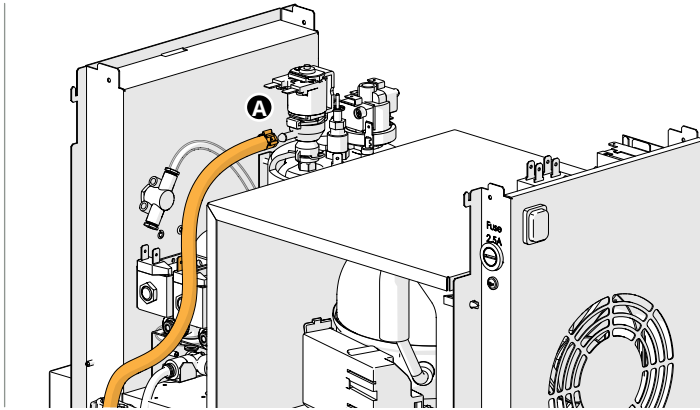


4.12.2 Remove the steam valve



Step 1

- drain the steam boiler as in [section 4.12.1](#)

Step 2

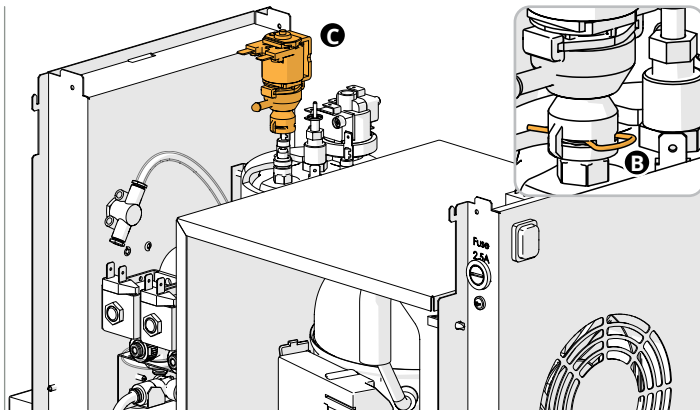
- remove both side panels as in [Step 1](#) of [section 4.3](#)

Step 3

- remove the top panel as in [Step 2](#) of [section 4.3](#)

Step 4

- disconnect the hose **A** from the steam valve



Step 5

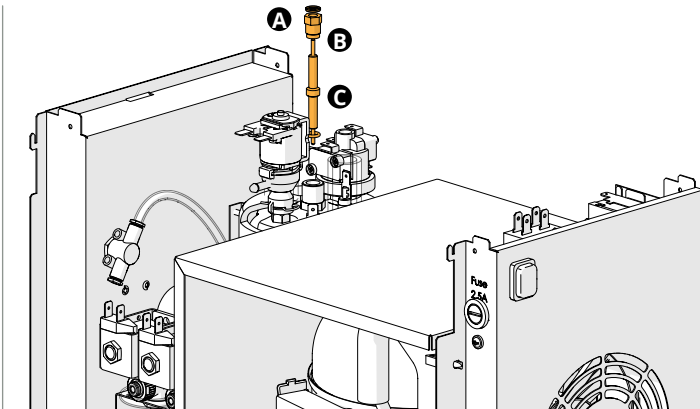
- disconnect the wiring from the steam valve

► **Before removing the retaining pin and steam valve make sure that the steam boiler is empty, see [section 4.12.1](#).**

- remove the retaining pin **B**
- remove the steam valve **C**

► **Consider to exchange the O-rings.**

4.12.3 Remove water detection sensor



Step 1

- drain the steam boiler as in [section 4.12.1](#)

Step 2

- remove both side panels as in [Step 1](#) of [section 4.3](#)

Step 3

- remove the top panel as in [Step 2](#) of [section 4.3](#)

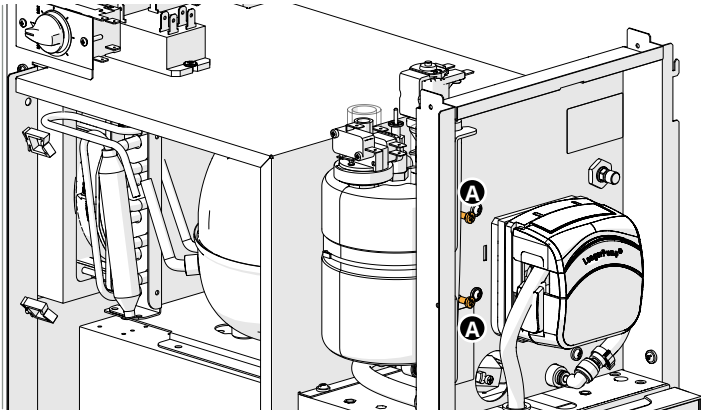
► **Before removing the water detection sensor fasteners and the sensor itself, make sure the steam boiler is empty, see [section 4.12.1](#).**

Step 4

- disconnect the wiring from water detection sensor
- remove the push-on fastener **A**
- remove the nipple **B**
- take out the water detection sensor **C**

► **Consider to exchange the O-ring.**

4.12.4 Remove complete steam boiler



Step 1

- drain the steam boiler as in [section 4.12.1](#)

Step 2

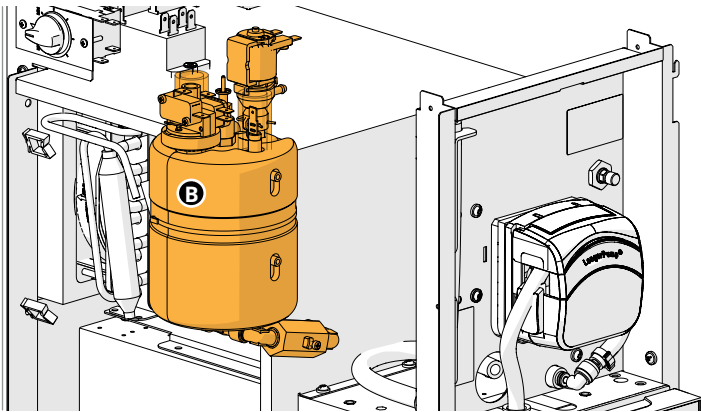
- remove both side panels as in [Step 1](#) of [section 4.3](#)

Step 3

- remove the top panel as in [Step 2](#) of [section 4.3](#)

Step 4

- open the pump door as [Step 1](#) in of [section 4.1](#)



- *Before removing the hoses and steam boiler make sure that the steam boiler is empty, see [section 4.12.1](#).*

Step 5

- remove all the hoses from the steam boiler
- remove all the wiring from the steam boiler
- remove the 2 screws **A** (see previous image)
- remove the complete steam boiler **B**

- *Consider to exchange the O-rings.*

5. Smart Brew

SmartBrew is an umbrella name for a number of systems that work together with each other and the improved horizontal brewer. Experience with the existing Esprecious has shown that setting drinks is often considered complicated and requires extensive knowledge of coffee. Previously, more than nine parameters had to be set for each recipe, each of which had a different effect on the brewed beverage. It is also necessary to adjust these recipes regularly. To improve adjustability and consistency, SmartBrew takes over many of these tasks. The operator/person setting the recipes only needs to enter three parameters:

1. Beverage volume
2. Grams of ground coffee
3. Extraction time

SmartBrew will take these values as a starting point and, during calibration of the recipe in question, look for the ideal parameters (pressure force, emphasis force, etc.) to achieve the desired recipe settings. The operator no longer needs to make frequent test sets and adjust many parameters iteratively. Nor is extensive knowledge of the brewing process and coffee necessary.

Besides mechanical changes to the brewer and grinders to increase consistency, Active Quality Guard has also been implemented under SmartBrew. This is a control system that watches every brew and monitors various aspects of the brew. If it appears that the desired settings/quality are not being achieved during a brew, this system can intervene by compressing the coffee pill more or less. This guarantees the optimum extraction time and quality at all times.

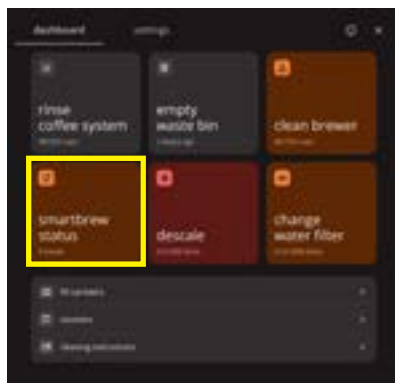


Fig. 1

Finally, Active Quality Guard monitors variations over multiple brewings. If the system detects a variation in the coffee used, wear of the grinder blades or other deviations, it will continuously adjust the brewing parameters to ensure the desired settings and quality even over longer periods of time. Should changing the parameters fall outside the machine's control range, and quality can no longer be guaranteed, the 'SmartBrew status' tile will light up orange.



Fig. 2

You can see in the menu under this tile which drinks can no longer be brewed as desired and can take action accordingly.

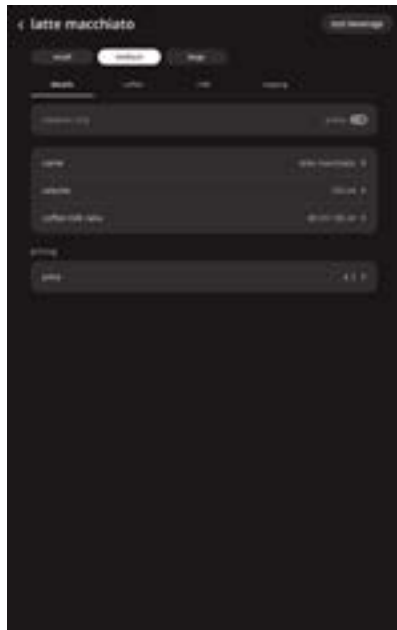


Fig. 3

When you press 'edit' at one of the beverages in the beverage setting menu. Figure 3 is displayed. You can also choose between these by pressing one of the three volumes. Small, medium and large all have their own settings menu in which the same can be set separately. Under 'details' you find name, image, price, drink volume. For drinks consisting of several ingredients, the coffee/ingredient ratio can also be set.



Fig. 4

Selecting the tab next to 'details' takes you to 'coffee'. It is clearly indicated that SmartBrew is active which means that only the number of grams and the contact time need to be entered next to the previously set drink volume. For the dosing weight, the previously selected drink volume is displayed behind the selected number of grams, so those who want to work with ratios do not have to remember the drink volume itself. After entering the desired settings, you can press calibrate at the bottom of the page. The machine will then start searching for the required brewing parameters itself to prepare the desired drink according to set values. This calibration is done through a test brew.



Fig. 5

The start screen for calibrating a drink is shown here. This can take one to two minutes and produce a maximum of 500ml of (non-drinkable) coffee. Prior to a calibration, a measuring cup must be placed.

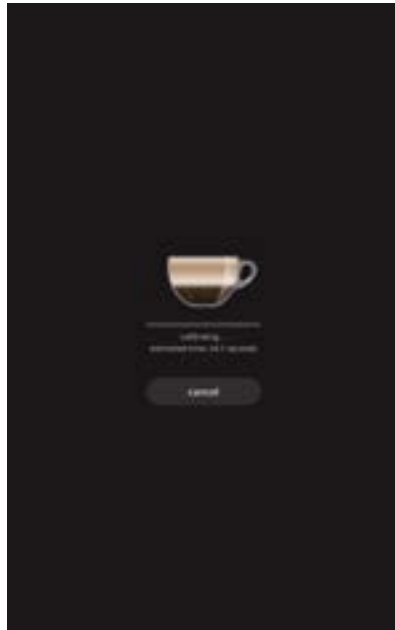


Fig. 4

During calibration of a beverage, the user is given some feedback on the process. If the desired set values are within the machine's control range, a confirmation will be displayed after calibration indicating that the calibration was successful.



Fig. 5

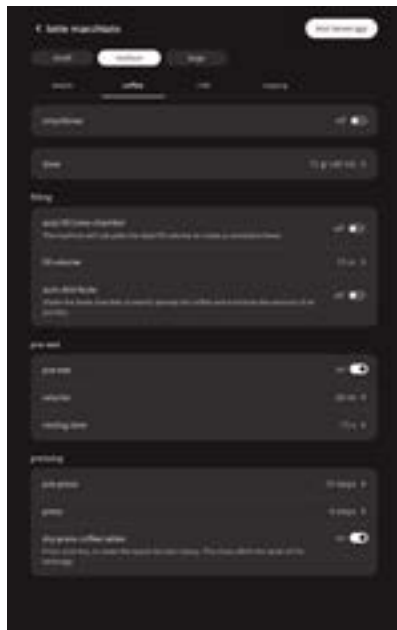
If the desired settings are outside the machine's control range and cannot be achieved, the above message will be displayed. If the maximum or minimum achievable extraction time differs from the recipe, the achievable time is displayed with the question whether this time should be included in the recipe. Alternatively, you can choose to adjust the grinder's grind level to make the desired recipe feasible after all.



Fig. 6

When the recipe does fall within the machine's control range and the calibration has been performed successfully.

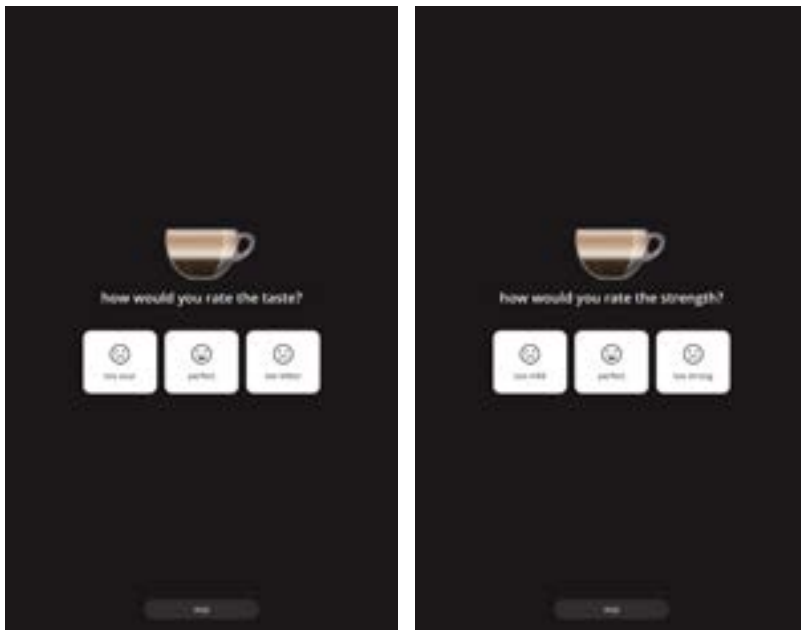
5.1 Expert mode (advanced settings)



In addition to SmartBrew, which takes the adjustment of the machine out of the operator's hands, the machine can also be set to the so-called 'Expert mode'. When the toggle at SmartBrew in the 'coffee' tab in the recipe menu is turned off, the Expert mode settings are displayed. These settings give the operator the freedom to set all brewing parameters manually without interference from the SmartBrew control system. Active Quality Guard is also ineffective when recipes are set with Expert mode. This function is intended for coffee lovers and connoisseurs who want full control over the brewing process.

Within Expert mode, a number of new features have been added which were not previously available in the Esprecious. These functions are the result of research into improving consistency and in-cup quality and are automatically applied by SmartBrew. Within Expert mode, you can choose to use some of these features. The 'filling' category contains settings related to (correctly) filling the brewing chamber with coffee grinds. You can choose to leave this entirely up to the machine by activating 'auto fill brew chamber'. The other settings under this category are then no longer adjustable. If this function is not activated, you can manually set the filling chamber volume in cubic centimetres (cc's) under 'fill volume'. The size of this chamber determines whether the set amount of coffee occupies the entire filling volume and whether a homogeneous coffee pill can be built up. Finally, under this category 'auto distribute' can be made active. This function shakes the brewing chamber to distribute the coffee more homogeneously. Under the 'pre-wet' category, you can find the functions related to pre-wetting the coffee pill. Wetting the coffee boosts extraction and allows the coffee to swell. This swelling gives better homogeneity of the coffee pill. Below, you can turn the pre-wet off completely, set how big the pre-wet volume should be, and finally how long the pre-wet period should last. Finally, you can set the necessary under the 'pressing' category. The 'pre-press' is the pressure force applied to the coffee pill before the pre-brew. After the pre-wet, the pill can be compressed one last time, the value of this 'main/end press' can be set under 'Press'. The press values are set in steps of the brewing motor. Finally, you can choose not to press the coffee pill dry in the coffee cup. Some customers do not wish to have the pill emptied into their cup as this may release some unwanted flavours.

6. Test beverage & Smart Barista



+ 4 seconds (max. 32 seconds)



- 4 seconds (min. 16 seconds)



+ 2 grams (max. 20 grams)



- 2 grams (min. 7 grams)

7. Security levels

Security level	Role	Access	Description
1	End user	-	Beverage consumer
2	Basic operator	Door key + Service Key	Daily maintenance, basic menu functions (canteen employee)
3	Technical operator	Door key + Service Key + PIN code1	Machine configurator, beverages and settings (facility management)
4	Service operator	Door key + Service Key + PIN code 2	Installs and services machine, deeper menu level (service engineer)
5	Dealer	Door key + Service Key + Special PIN code	Machine owner, access to hidden functions (reset PIN code / reset total machine counter)

► The master PIN code can be used when the set security PIN code is forgotten.

- The master PIN code to overrule the security PIN code is **1948**.

The table below shows the minimal authorization levels for each item. E.g. level 1 means all levels are authorized.

Subject	Function availability	Sub	Security level
Operations	Beverage dispensing		1
	Cup selection		1
	Strength adjustment		1
	Volume controle		1
	Suppress warnings/recoverable errors		1
	Quick rinsing (when on)		1
Tiles	Rinse coffee system		2
	Empty waste bin		2
	Rinse Brewer		2
	Smart brew status		2
	Descale		2
	Change water filter		2
	Clean milk system		2
	Descale milk system		2
Information	Filll canisters		2
	Counter		2
	Cleaning instructions		2
	Online information		2
	Counters	Day	3
		Total	4
		Reset total counters	4
		Reset machine counter	5

Subject	Function availability	Sub	Security level
System	General	Set system language	3
		Set date	3
		Set Time	3
		Functionalities (on/off)	3
		Edit error messages	3
		Edit audio volume	3
		Restore factory settings	4
	Customisation	Set background colour/image	3
		Set display brightness	3
		Logo	3
		Screensaver	3
		Activate banner functionality	3
		Moodlights	3
		Set moodlight colour	3
		Set moodlight brightness	3
	External storage	Import settings	4
		Export settings	4
		Export counters	4
		Install software updates	4
	Software info		3
Beverage	Ingredients	Select canister ingredients	3
		Rename grinder(s)	3
		Rename ingredient(s)	3
	Beverage selection	Add/remove beverages	3
		Edit beverages	3
		Calibrate beverages	3
		Preview beverage selection screen	3
	Strength controls (On/Off)		3
	Volume controls (On/Off)		3
	Ultra-fresh (On/Off)		3
Machine	Calibrate	Calibrate boiler	4
		Calibrate grinder	4
		Calibrate pump (high pressure)	4
		Calibrate pump (low pressure)	4
	Water hardness	Water hardness settings	3
		Water filter On/Off	3
	Waste bin		3
	Cleaning management		3
	Energy saving		3
	Automatic flush		3
	Activity log	Maintenance log	3
		Errors/warnings log	3
		Update log	3
		Export	3
	Fan speed		3
	I/O test		4

8. Trouble shooting

8.1 Esprecious machine errors

code	description	detection	suspected components
00000	communication error bus system	the bus systems circuit is interrupted	• all bus cables • canister motor • mixer motor • mainboard • touch screen
00001	canister motor runs insufficiently	no rotation of the canister motor detected by the software	• resistance in canister too high due to much powder in canister • canister motor • mainboard
00101	mixer motor runs insufficiently	no rotation of the mixer motor detected by the software	• mix system clogged • mixer motor • mainboard
00201	low-pressure pump runs insufficiently	light sensor receives not enough pulses for too long a time	• low pressure pump • blockage (scale) low pressure pump • encoder blocked • wiring • mainboard
00401	grinder runs insufficiently	the software has not received pulses from the hall sensor for too long a time	• grinder blocked, something between the grinder discs • grinder motor • hall sensor • wiring • mainboard
00402	grinder is incorrectly controlled	if a semiconductor on the mainboard gets defect the grinder runs unjustified	• mainboard • coffee (static) around the hall sensor
02001	filling process takes too long	the water inlet valve was open for 20 seconds in succession and the float did not rise	• water tap not opened • water supply hose kinked • water pressure too low • water flow too low • inlet valve • wiring • float
02002	fill up 3 times without selection	float is activated 3 times and no drink is selected	• leakage in the water system • machine is moved • water is boiling • mainboard • float
02101	break temperature sensor boiler	a NTC measures a resistance that is higher than normal	• temperature sensor • wiring • mainboard