

Data Sheet and Service Manual

EC9255 - LA SPECIALISTA ARTE EVO (INT – AU/NZ)

Revision Date: 01.09.2023



TABLE OF CONTENTS

1. TECHNICAL DATA.....	3
2. HYDRAULIC DIAGRAM	4
3. WIRING DIAGRAM	5
4. WORKING PRINCIPLE.....	7
5. TEST MODE	15
6. TROUBLESHOOTING	19

1. TECHNICAL DATA

Voltage 220 – 240V / 50 - 60Hz

Max. Input Power 1550 W

COMPONENTS

Pump 230V AC - 48W - 15Bar

Grinder motor 230V AC

Solenoid valves EV0 ÷ EV3 230V AC

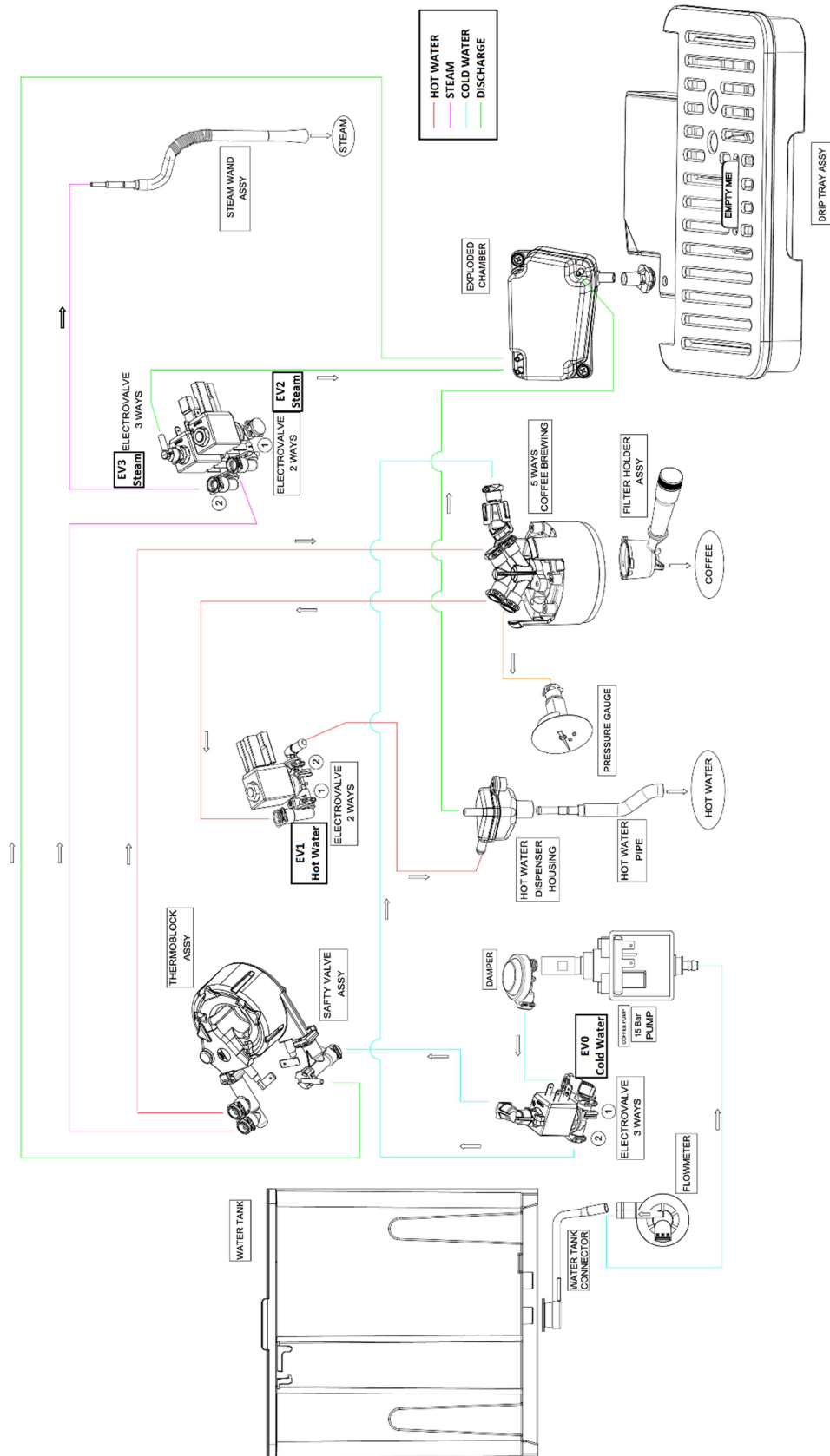
Thermoblock

- Temperature probe NTC sensor
- Thermal fuse TCO 192°C
- Heating element 230V AC – 1400W

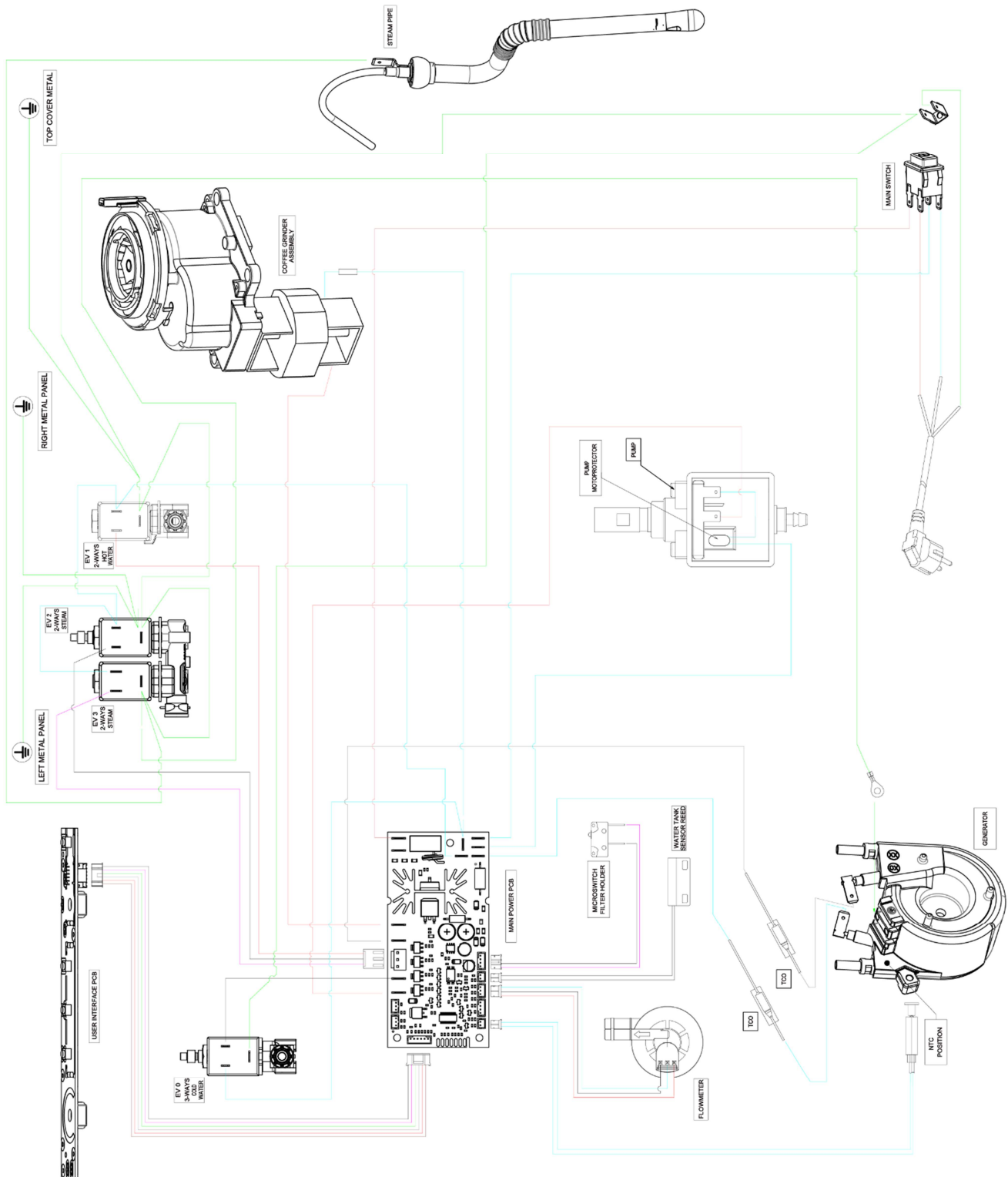
NTC Resistance-Temperature characteristics (Thermoblock)

TEMP. °C	MINIMUM k Ω	NOMINAL k Ω	MAXIMUM k Ω	Temp. Accy $\pm$ °C	Resi. Accy $\pm$ %
0.0	310.0	328.9	348.8	1.17	6.05
20.0	118.6	124.6	130.9	1.10	5.00
40.0	50.75	52.85	55.02	1.01	4.10
60.0	23.82	24.61	25.43	0.92	3.31
80.0	12.09	12.41	12.73	0.81	2.62
100.0	6.557	6.691	6.825	0.60	2.00
120.0	3.664	3.759	3.855	0.94	2.55
140.0	2.161	2.228	2.296	1.22	3.06
160.0	1.327	1.375	1.423	1.51	3.51
180.0	0.8445	0.8781	0.9126	1.82	3.93
200.0	0.5541	0.5783	0.6033	2.14	4.32

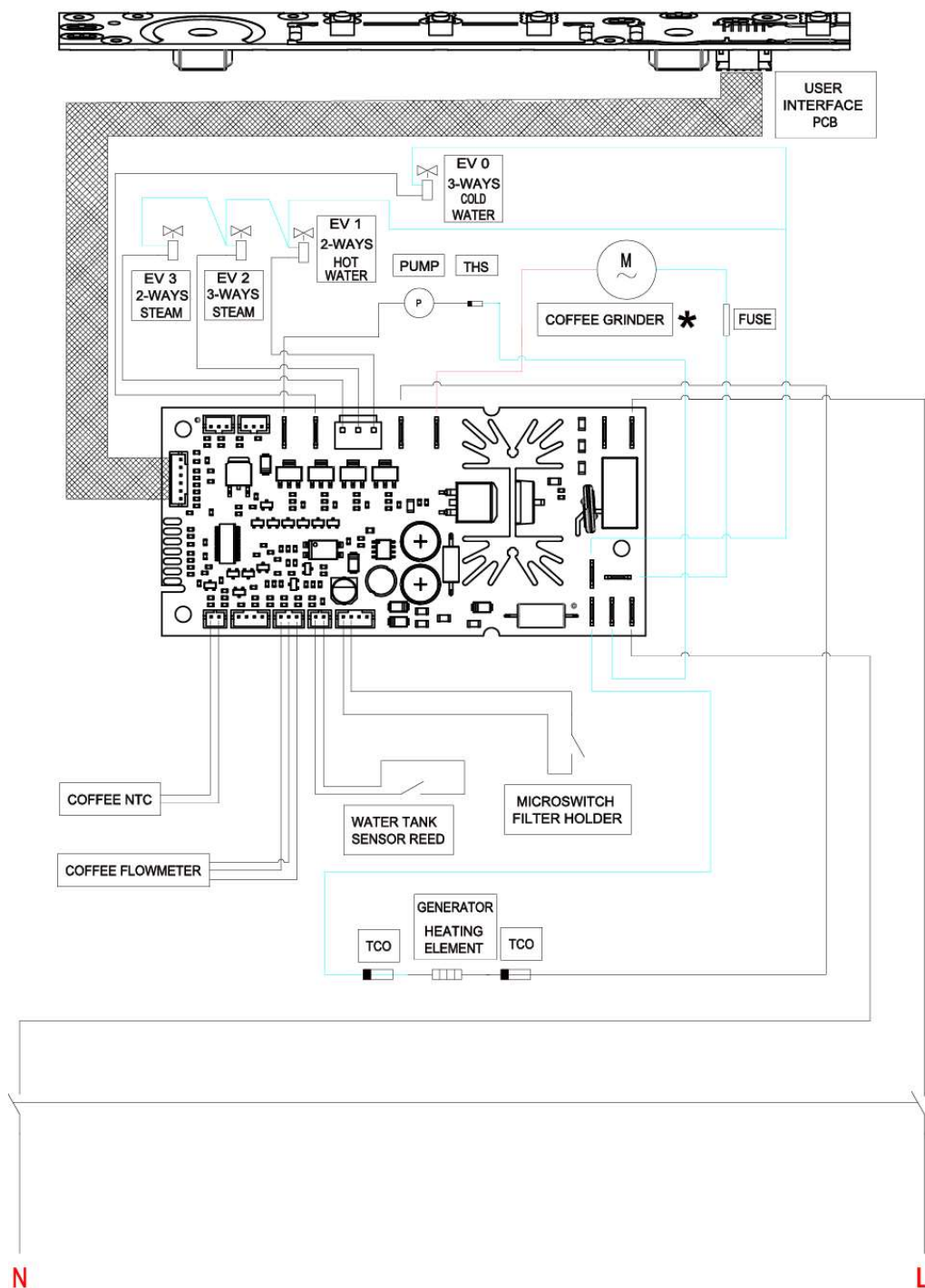
2. HYDRAULIC DIAGRAM



3. WIRING DIAGRAM



CIRCUIT DIAGRAM



4. WORKING PRINCIPLE

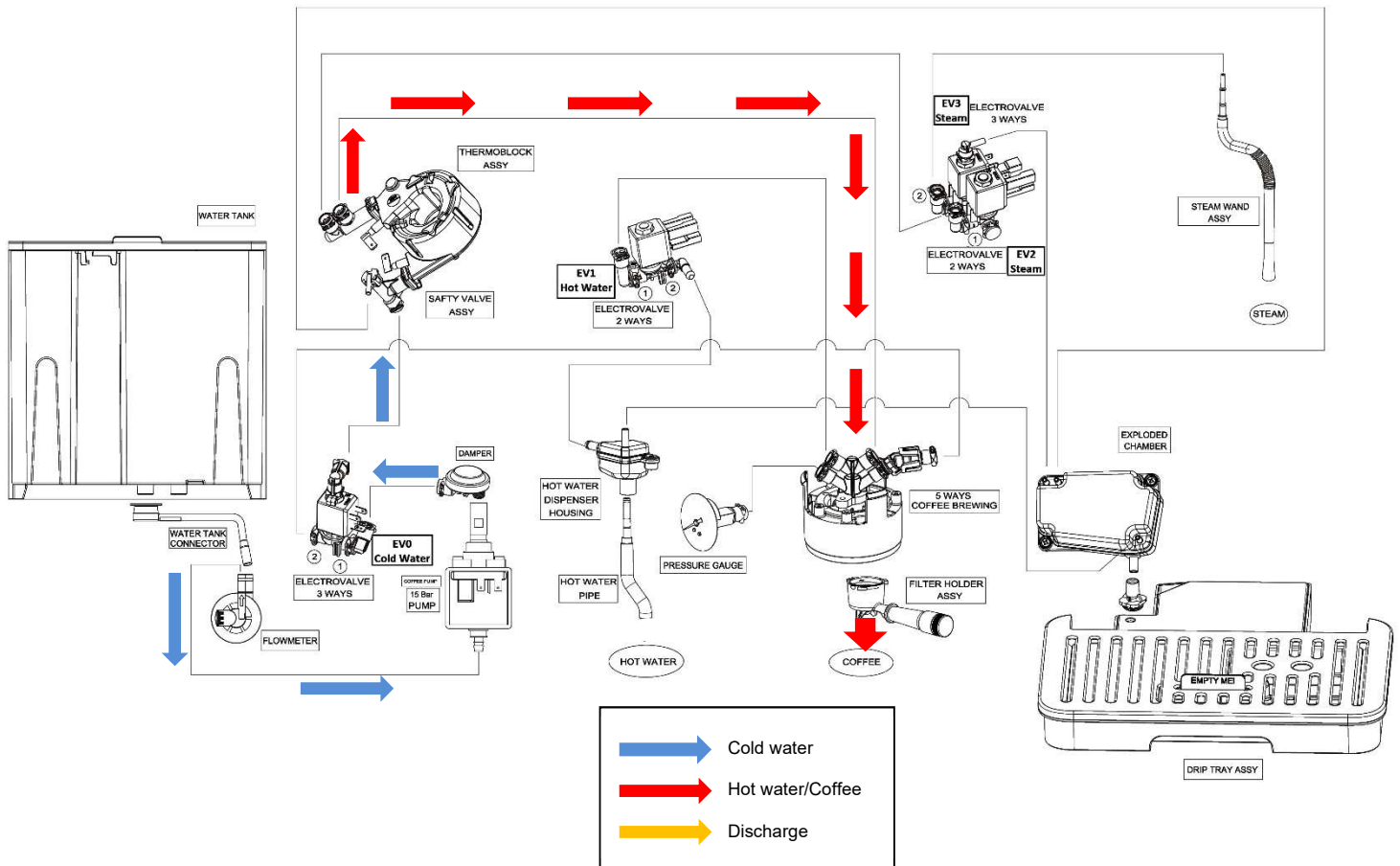
4.1. MICROSWITCHES, SENSORS AND SOLENOID VALVES

MICROSWITCHES	Function	Logic
MICROSWITCH FILTER HOLDER	Detects when the sump is inserted in order to start grinding	NO when the sump is NOT inserted

REED	Function
REED SENSOR WATER TANK	Detects when the water level is at minimum

ELECTROVALVES	Function
EV0 = 3 ways COLD WATER solenoid valve	Allows the COLD water flow going to Thermoblock (through the 3 rd way) OR directly to brewing valve during the cold brew preparation
EV1 = 2 ways HOT WATER solenoid valve	Allows the hot water flow going to the hot water pipe
EV2 = 3 ways STEAM solenoid valve	First, allow steam to flow to the EV3. When steam flow stops, it closes the way to EV3 and opens the 3 rd way to discharge residual steam pressure on the expansion chamber (then to the drip tray)
EV3 = 2 ways STEAM solenoid valve	Allows steam from EV2 to flow up to the steam pipe

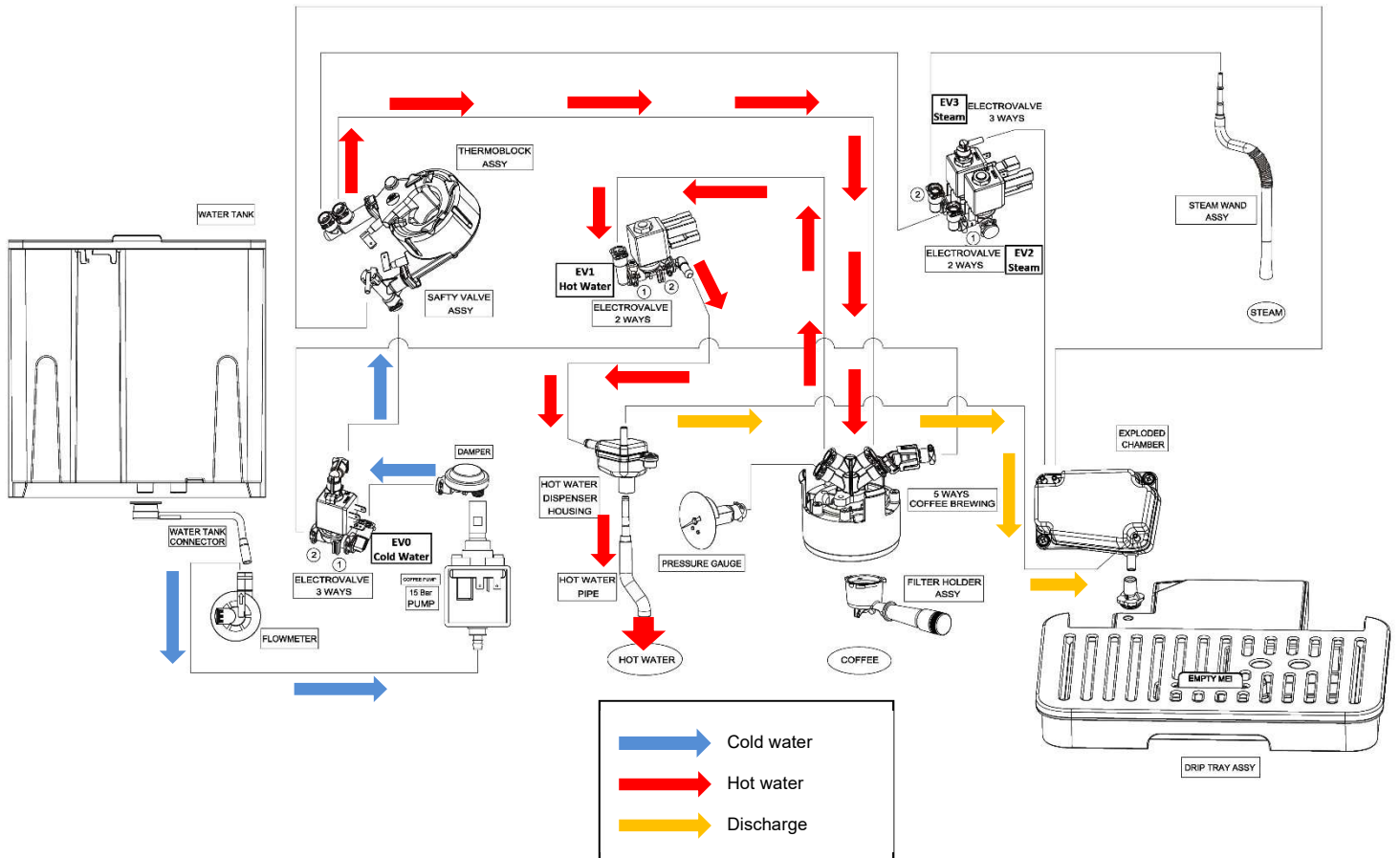
4.2. HOT COFFEE PREPARATION



Coffee Preparation Steps:

- The Thermoblock is activated, EV0 solenoid valve is deactivated to enable the hot branch and forces the water to flow towards the Thermoblock.
- The EV1 solenoid valve is deactivated.
- The pump is activated in continuous mode for the coffee delivery.
- At the end of delivery, the pump and the Thermoblock stop.

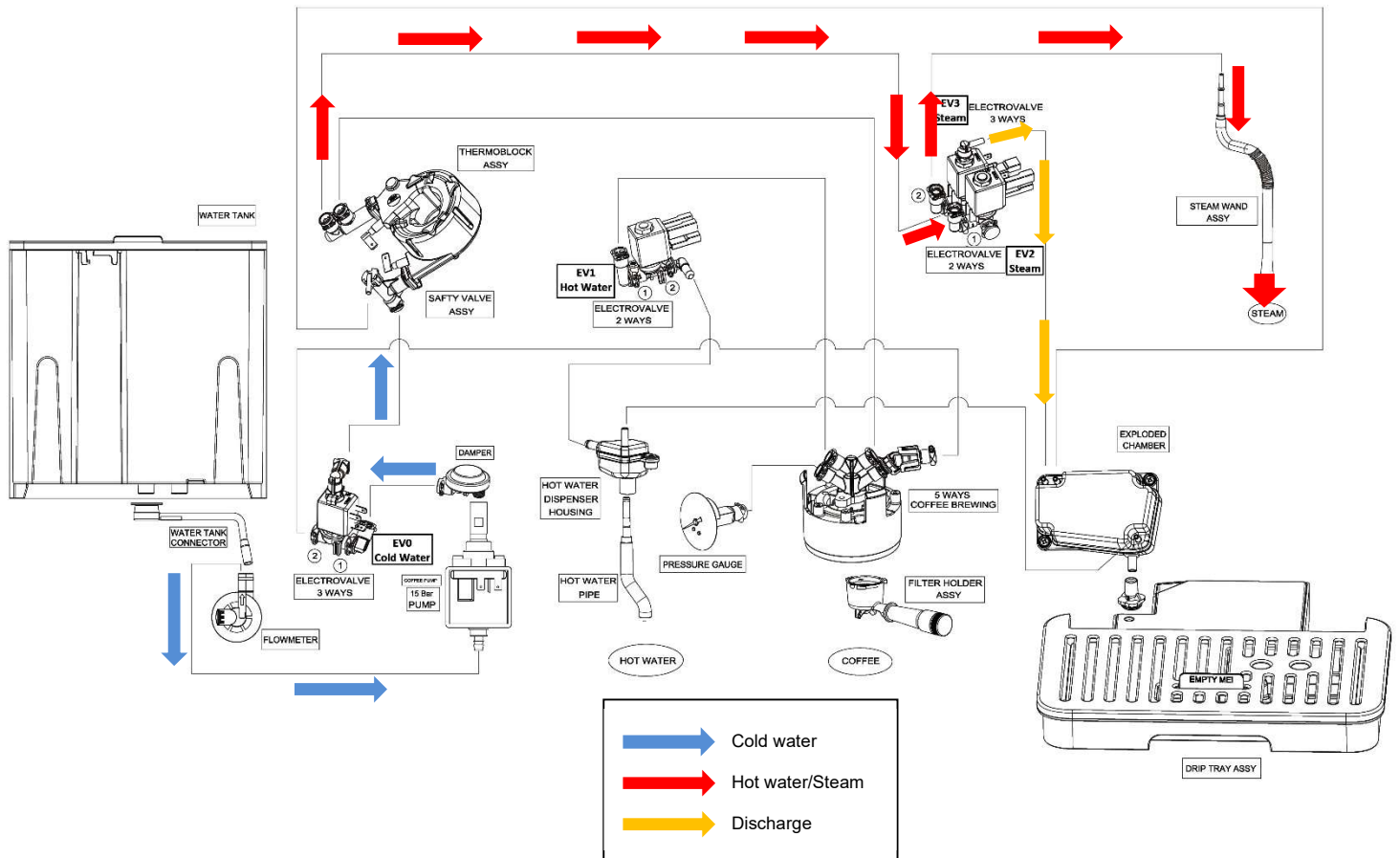
4.3. HOT WATER DELIVERY



Hot Water Delivery Steps:

- The Thermoblock is activated, EV0 solenoid valve is deactivated to enable the hot branch and forces the water to flow towards the Thermoblock.
- The pump is activated in fast pulsing mode.
- The EV1 solenoid valve is activated to deliver hot water.
- At the end of delivery, the pump and the Thermoblock stop. EV1 solenoid valve is deactivated.

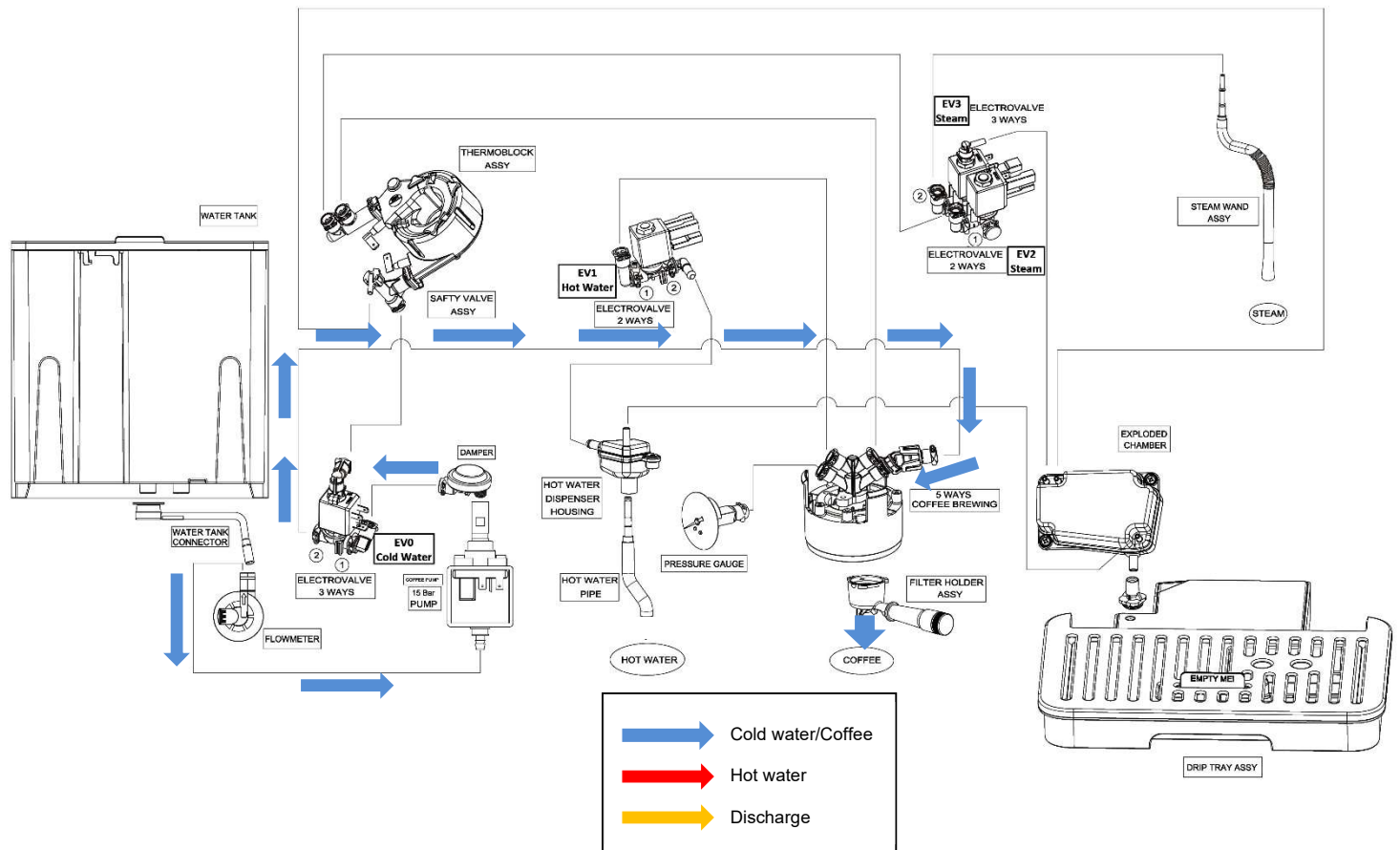
4.4. STEAM DELIVERY



Steam Delivery Steps:

- The Thermoblock is activated, EV0 solenoid valve is deactivated to enable the hot branch and forces the water to flow towards the Thermoblock.
- The pump is activated in slow pulsing mode.
- The EV2 solenoid valve is activated.
- The EV3 solenoid valve is activated to deliver steam from the wand.
- At the end of delivery, the pump and the Thermoblock stop. EV2 and EV3 solenoid valves are deactivated.
- The residual pressure is discharged from the steam outlet branch towards the expansion chamber.

4.5. COLD BREW DELIVERY



Cold Brew Preparation Steps:

- The Thermoblock is deactivated, EV0 solenoid valve is activated to enable the cold branch.
- The EV1 solenoid valve is deactivated.
- The pump is activated in slow pulsing mode for the cold brew delivery.
- At the end of delivery, the pump and EV0 solenoid valve are deactivated.

4.6. BEVERAGES QUANTITIES

ESPRESSO				
Selected Coffee	Quantity	Program. Qty.	Pre-Inf.	Filter
ESPRESSO	35 ml	25-90 ml	Yes	Single
ESPRESSO X2	70 ml	50-180 ml	Yes	Double

COLD BREW				
Selected Coffee	Quantity	Program. Qty.	Pre-Inf.	Filter
COLD BREW	110 ml	90-130 ml	No	Single
COLD BREW X2	180 ml	160-220 ml	No	Double

AMERICANO/LONG BLACK (*)						
Selected Coffee	Quantity (Coffee + Water)	Pre-Inf.	Filter	Program. Coffee Qty.	Program. Water Qty.	Sequence
LONG BLACK	100 ml (35-65)	Yes	Single	25-60 ml	25-120 ml	1. Water 2. Coffee
LONG BLACK X2	200 ml (70-130)	Yes	Double	50-120 ml	50-240 ml	1. Water 2. Coffee
AMERICANO	120 ml (35-85)	Yes	Single	25-60 ml	25-120 ml	1. Coffee 2. Water
AMERICANO X2	240 ml (70-170)	Yes	Double	50-120 ml	50-240 ml	1. Coffee 2. Water

(*) Long Black recipe will be available only on machines produced for the Australian market. The appliances of the other markets will have the Americano beverage.

OTHER FUNCTIONS		
Selected Function	Quantity	Programming
STEAM	120 s	No
HOT WATER	250 ml	No

4.7. DESCALING LEVELS

WATER HARDNESS	IMPULSE VALUE	WATER LITERS (*)
SOFT WATER	312.000	156 lt.
MEDIUM WATER	168.000	84 lt.
HARD OR VERY HARD WATER	96.000	48 lt.

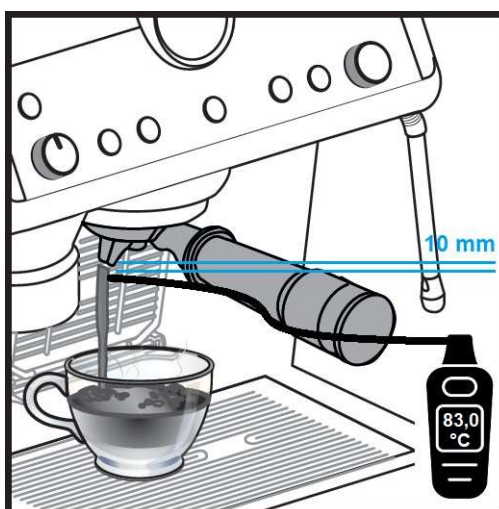
(*) Please note that these values consider the usage of machine only for coffee delivery.
Hot water production counts 3 times the value and steam counts for 6 times.
For example, at value medium, 18 lt. for coffee and 10 lt. for hot water correspond to the descaling alarm target (i.e. $18 + 10 \times 3 = 48$ lt.).

4.8. TEMPERATURE TEST

Hot Coffee Temperature Test

To perform a coffee temperature test, follow in sequence the below steps:

- Turn the appliance ON.
- Make sure the ECO mode is deactivated (refer to the user manual for more details).
- Simulate the preparation of four 2x ESPRESSO beverages in a row, by keeping the filter holder with the empty 2-cup filter connected to the coffee outlet, to warm up the entire coffee circuit.
- Set the appliance to prepare a **2x ESPRESSO** beverage (refer to the user manual for more details).
- Start the **2x ESPRESSO** beverage preparation into a unique cup.
- Wait until at least 20cc of coffee have been delivered into the cup.
- Measure the coffee flow temperature at about 2÷10mm from the coffee spout, as shown in the below picture:



- The **optimal indicative temperature measurement** for coffee for **each of the 3 available temperature settings** of the appliance is resumed in the below table:

TEMPERATURE SETTING	TEMPERATURE MEASUREMENT
1	84°C±3°C
2	86°C±3°C
3	88°C±3°C

Hot Water Temperature Test

To perform a hot water temperature test, follow in sequence the below steps:

- Turn the appliance ON.
- Make sure the **ECO** mode is deactivated (refer to the user manual for more details).
- Press the **TEA** button to deliver hot water, to warm up the hot water circuit.
- Once the warm-up delivery is completed, press again the **TEA** button to start the hot water delivery into a cup.
- Wait until at least 20cc of hot water have been delivered into the cup.
- Measure the hot water flow temperature at about 2÷10mm from the hot water outlet, as shown in the below picture:



The **optimal indicative temperature measurement** for hot water should be **93°C± 2°C**.

5. TEST MODE

5.1. HOW TO ENTER IN THE VARIOUS TEST MODES/STATISTICS

NOTE: To access properly the test modes, make sure the appliance is ON from both the main back switch and from the front ON/STAND-BY switch. Then, turn the appliance OFF from the main back switch and follow the below steps.

- a. Set the position of the taste knob and keep the switch as follow:

TEST	DOSE KNOB	BEVERAGES KNOB
USER INTERFACE TEST	MIN	ESPRESSO
FUNCTIONAL TEST	MIN	AMERICANO/LONG BLACK
LOAD TEST	MIN	HOT WATER
INPUT TEST	MIN	DESCALING
STATISTICS	MAX	--

- b. Turn on the coffee machine by the main switch while holding the X1/X2 button pressed for more than 5 s. Do not release at the first blinking but wait for the 5 seconds. This will allow the unit to access the corresponding test mode indicated in the first column.
- c. To exit from the test mode switch off the coffee machine by the main switch.

5.2. USER INTERFACE TEST

In this mode while the button is pressed, the correspondent led switch on, the potentiometer knobs need to be rotated on the most anti-clockwise position, in order to not create interference. When the potentiometer knob will be rotated clockwise (only one at a time) the leds switch on according to the next tables.

DISPLAY BUTTONS

PRESSED BUTTON	LEDS STATE			
	X1/X2	OK (WHITE/BLUE)	TEMP 1/2/3	STEAM
X1/X2	ON ALTERNATING	OFF	OFF	OFF
OK	OFF	ON ALTERNATING	OFF	OFF
TEMPERATURE	OFF	OFF	ON ALTERNATING	OFF
STEAM	OFF	OFF	OFF	ON

TASTE POTENTIOMETER

KNOB POSITION	LEDS STATE		
	DESCALE	TANK	X2
≥ 180	OFF	OFF	ON
$120 \leq \text{ADC} < 180$	OFF	ON	OFF
$60 \leq \text{ADC} < 120$	ON	OFF	OFF
$\text{ADC} < 60$	OFF	OFF	OFF

BEVERAGE POTENTIOMETER

KNOB POSITION	LEDS STATE			
	ESPRESSO	HOT WATER	AMERICANO	COLDBREW
DESCALE	OFF	OFF	OFF	OFF
HOT WATER	OFF	ON	OFF	OFF
AMERICANO/LONG BLACK	OFF	OFF	ON	OFF
ESPRESSO	ON	OFF	OFF	OFF
COLDBREW	OFF	OFF	OFF	ON

5.3. FUNCTIONAL TEST

TEST STEP	LOAD STATE								LED
	SWITCH STATE	PUMP	3WAY VALVE	WATER EV	STEAM EV	COLD EV	HEATER	GRINDER	
"STEAM" HYDRAULIC CIRCUIT	STEAM	ON	ON	OFF	ON	OFF	OFF	OFF	STEAM FLASH, Others OFF
"COFFEE" HYDRAULIC CIRCUIT	OK PUSHED	ON	OFF	OFF	OFF	OFF	OFF	OFF	OK White Flash, Others OFF
"HOT WATER" HYDRAULIC CIRCUIT	X2 PUSHED	ON	OFF	ON	OFF	OFF	OFF	OFF	X1 Flash, Others OFF
"COLD BREW" HYDRAULIC CIRCUIT	OK PUSHED + BEV. KNOB ON COLD BREW	ON	OFF	OFF	OFF	ON	OFF	OFF	OK Blue Flash, Others OFF
EMPTYING HYDRAULIC CIRCUIT	TEMP PUSHED	Emptying procedure							OK Flash on execution, BLINK TEST and OK ON at the end
FACTORY RESET	TEMP PUSHED + BEV. KNOB ON DESCALING	Reset parameters to default and to first trigger. Reset relative counters to zero.							OK Flash few times

5.4. LOAD TEST

LOAD	SWITCH STATE	LOAD STATE							LED STATE
		PUMP	3WAY EV	WATER EV	STEAM EV	COLD EV	HEATER	GRINDER	
3WAY VALVE	X1/X2	OFF	ON	OFF	OFF	OFF	OFF	OFF	X1 ON, Others OFF
PUMP	OK	ON	OFF	OFF	OFF	OFF	OFF	OFF	OK White ON, Others OFF
HEATER	TEMP	OFF	OFF	OFF	OFF	OFF	ON 110 °C	OFF	TEMP low ON, Others OFF
WATER EV	X1/X2+ STEAM	OFF	OFF	ON	OFF	OFF	OFF	OFF	X2 ON, Others OFF
STEAM EV	STEAM	OFF	OFF	OFF	ON	OFF	OFF	OFF	Steam ON, Others OFF
COLD CIRCUIT EV	OK+ STEAM	OFF	OFF	OFF	OFF	ON	OFF	OFF	OK Blue ON, Others OFF
GRINDER	GRIND SWITCH	OFF	OFF	OFF	OFF	OFF	OFF	ON	

5.5. INPUT TEST

INPUT	LED STATE	
FILTER HOLDER (GRINDER SIDE)	DESCALING LED ON IF SWITCH RELEASED	DESCALING LED OFF IF SWITCH PRESSED
TANK REED	TANK ALARM LED ON IF REED OPEN (NO MAGNET)	TANK ALARM LED OFF IF REED CLOSED (MAGNET PRESENT)

5.6. STATISTICS

- Turn the beverage knob to select the correct statistics you would like to display, then press OK to visualize it.
- The number of blinks specifies the units, tens, hundreds, thousands and tens of thousands of every statistic.
- Every digit is separated from the others switching off all LEDs for 2 s.

DIGIT	LED
UNITS	STEAM
TENS	TEMP LOW
HUNDREDS	OK
THOUSANDS	X1
TENS OF THOUSANDS	TANK

BEVERAGE/FUNCTION	STATISTIC	INPUT STATE FOR SELECTION
ESPRESSO	WATER LITERS ON COFFEE	BEVERAGES KNOB ON ESPRESSO
AMERICANO/LONG BLACK	WATER DECILITERS ON STEAM	BEVERAGES KNOB ON LONG BLACK
HOT WATER	WATER LITERS ON WATER	BEVERAGES KNOB ON COFFEE
DESCALING	NUMBER OF DESCALINGS PERFORMED	BEVERAGES KNOB ON DESCALING
COLD BREW	NUMBER OF COLD BREW	BEVERAGES KNOB ON COLD BREW

6. TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
There is water in the drip tray (A19)	It is normal: due to the internal water circuits operations	Regularly empty and clean the drip tray
No espresso coffee is delivered	No water in the tank (A7)	Fill the tank
	Only the OK light (B6) is on to indicate that the coffee or steam circuit is empty	Press the button corresponding to the OK light to fill the circuit
	The coffee filter (C3) or (C4) is blocked	Rinse the filters under abundant running water.
	Coffee grind too fine or too much coffee	Adjust coffee dose and grinding (refer to Quick Guide)
	The tank (A7) has been inserted incorrectly and the valves on the bottom are not open	Press the tank down lightly to open the valves on the bottom
	Scale in the water circuit	Descale as described in section "9. Descaling"
The portafilter (C1) cannot be attached to the appliance	The ground coffee has not been pressed or is too much	Repeat grinding with new settings. Reduce the powder quantity: check if the filter (single or double filter) is the same size as the selector of grinding quantity (2x (B5) selected or not)
The espresso coffee drips from the edges of the portafilter (C1) rather than the holes	The portafilter is inserted incorrectly	Attach the portafilter correctly and rotate firmly as far as it will go
	The espresso boiler gasket has lost elasticity or is dirty	Have the espresso boiler gasket replaced by Customer Services
	The coffee filter is clogged	- Rinse the filters under abundant running water. - Reduce the grinding thickness
The coffee crema is too light (delivered from the spout too fast)	The appliance settings need reviewing	Refer to Quick Guide for suggestions
The coffee crema is too dark (delivered from the spout too slowly)	The appliance settings need reviewing	Refer to Quick Guide for suggestions
The coffee is cold	A Cold Brew has been delivered	Keep in mind that the "OK" blue light corresponds to the selection of "Cold Brew"
The Cold Brew is warm	A hot coffee has been delivered before Cold Brew	It is recommended to deliver a "Cold Brew" for a few seconds to make a cool rinse before preparing the drink
	The water in the water tank is not fresh	Empty the water tank and fill it with fresh water
	No ice in the glass	Add 3-4 ice cubes as suggested for Cold Brew
At the end of descaling, the appliance requests a further rinse	During the rinse cycle, the water tank (A7) has not been filled to the MAX level	Complete the rinse cycle from point (8) of section "9. Descaling"
...→		

PROBLEM	CAUSE	SOLUTION
The appliance does not grind the coffee	There is foreign matter that cannot be ground in the coffee grinder	Turn the grinder selector (A2) to 8, vacuum all the beans and particles in the beans container (A3). If the problem persists, address to Customer Service Centre.
If you want to change the type of coffee	You must remove all the beans present in the machine	• Empty the beans container (A3) (if necessary, operate the coffee mill without beans or use a vacuum cleaner to remove any remaining beans) • Attach the portafilter (C1) and operate the coffee mill a number of times without beans to free the grinder. Attach the portafilter to the outlet of the grinder (A13). Push the portafilter to start grinding: it stops automatically. Repeat until the filter is empty • Place the new coffee in the beans container • If the amount of coffee ground is not enough to reach the perfect dose, proceed setting the appliance as for the first use
After grinding, the coffee filter is empty	The coffee grinder funnel is clogged	See section "6. Cleaning the grinder".
After grinding, the ground coffee in the filter (C3) or (C4) does not reach the "perfect dose"	The quantity of ground coffee needs adjusting	Adjust the quantity of coffee with the dial (B4). If the dial is already in the max. position, select the second range of grinding adjustment (see "3. Menu settings" - "Extra grinding adjustment").
	You are using the 2 cup filter (C4)	Make sure the 2X light is on
	Over time the burrs wear down	Address to a Customer Service Centre to change burrs.