



Philips Consumer Lifestyle

Service Manual

Product information

- This product meets the requirements regarding interference suppression on radio and TV.
- After the product has been repaired, it should function properly and has to meet the safety requirements as officially laid down at this moment.

Technical information

- Voltage : 220 - 240 V
- Frequency : 50 Hz
- Power consumption : 1400 W
- Stand-by power consumption : <0,5 W
- Color setting : Titanium
- Cups at the same time : 2 to 7
- Brewing time one cup : 30 sec
- Capacity water tank : 1 L
- Cord length : 0.8 m
- Max.cup height : 130 mm
- Pump pressure : 1 bar
- Brewing time for a jug : 8.5 min
- Dimensions (W x D x H)
 - Packaging : 466 x 242 x 322 mm
 - Product : 150 x 400 x 270 mm
- Weight
 - Incl. packaging : 2.4 kg
 - Product : 1.75 kg
- Functions
 - Crema improvement
 - Strength select (only for HD6592, HD6596)

• Materials

- Podholder : Stainless steel
- Podholder handle : PP
- Top collector, Podholder spouts : POM
- Housing, Driptray cover, Back plate : ABS
- Driptray cover : Stainless steel (only for HD6596)
- Water container : SAN
- Water container lid, Driptray : PP
- Brewchamber bottom : PA
- Lid cover, Baseplate : ABS
- Buttons : TPE
- Lever : PC

• Consumer Replaceable Parts

- CP9068/01 Insulated jug
- CP9069/01 Insulated juglid
- CP0397/01 Podholder assy Switch 1-cup Deep black
- CP0398/01 Podholder assy Switch 2-cup Deep black
- CP0399/01 Top collector, Deep black
- CP0400/01 Driptray cover, Deep black
- CP0686/01 Driptray cover, Metal (only for HD6596)
- CP0401/01 Driptray, Deep black
- CP0402/01 Filter holder + Lid
- CP0403/01 Coffee spoon
- CP0404/01 Water container transparent + Lid Deep black

Optional (accessories)

- No specific issues

General coffee specifications:

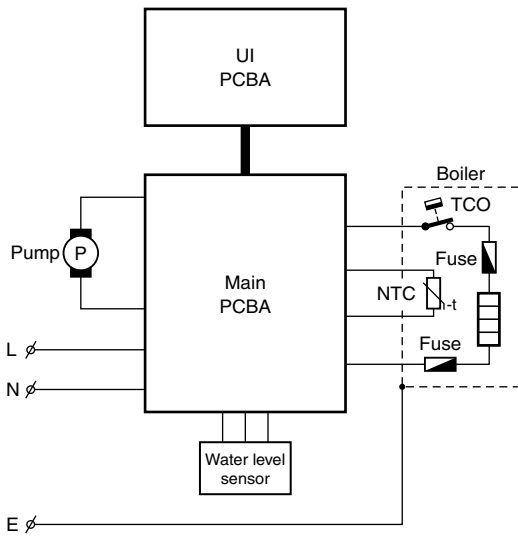
In-cup volume (mL) Coffee	1 - cup (ml)	1 - cup Strength select (ml)
General version	122	60
French, Spanish version	100	60

Temperature indication (°C)	1 st cup temperature	2 nd and further cup temperature
General version (122 ml)	>74 °C	>76 °C
French, Spanish version (100 ml)	>69 °C	>73 °C

Jug temperature specification (°C)	Directly after brew	Keep warm 30 minutes after brew
Measured in full Jug (7 cups)	≥78 °C	≥74 °C

Water specification in (mL) (without coffee pod)	1 - cup (ml) (with 1 - cup pod holder)	2 - cup (ml) (with 1 - cup pod holder)
General version (normal cup 122 ml)	133 ± 10	266 ± 10
French, Spanish version (normal cup 100 ml)	109 ± 20	218 ± 20
All countries (short cup 60 ml)	71 ± 10	142 ± 10
Difference between left/right volume:	<10 ml	<10 ml

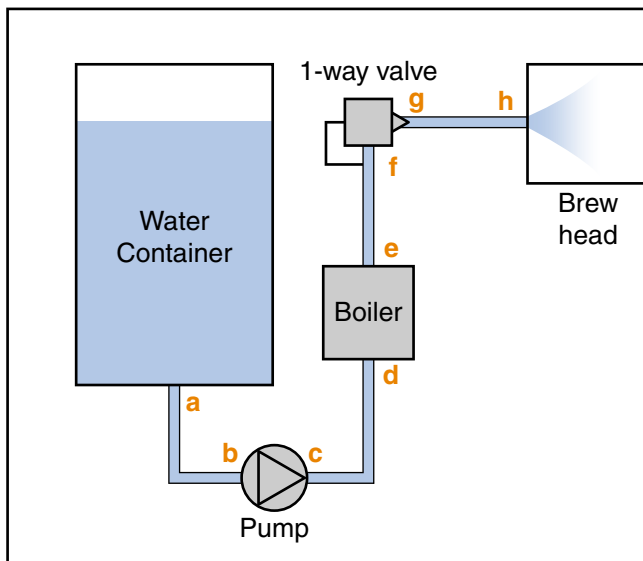
Electrical diagram



User interface layout



Functional diagram



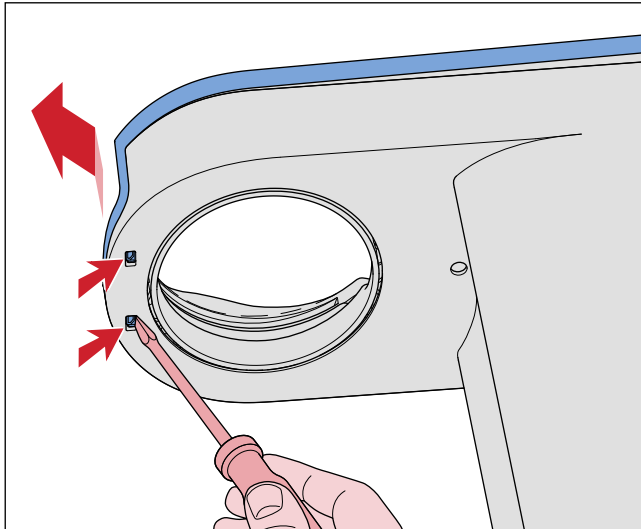
Make sure the appliances cordset is disconnected from the mains!

To open the appliance, remove all detachable parts: Water container, driptray and cover, pod holder and collector.

1. To reach the brew chamber.

1.1. Open the top cover.

To open the top cover the brew chamber needs to be unlocked. Start at the back side of the top cover, using a plastic tool, and trace along the parting line of the top cover, undoing all the snaps. There are two small snaps on the front lower side of the brew chamber, undo them with a small flathead screwdriver (No. 0)



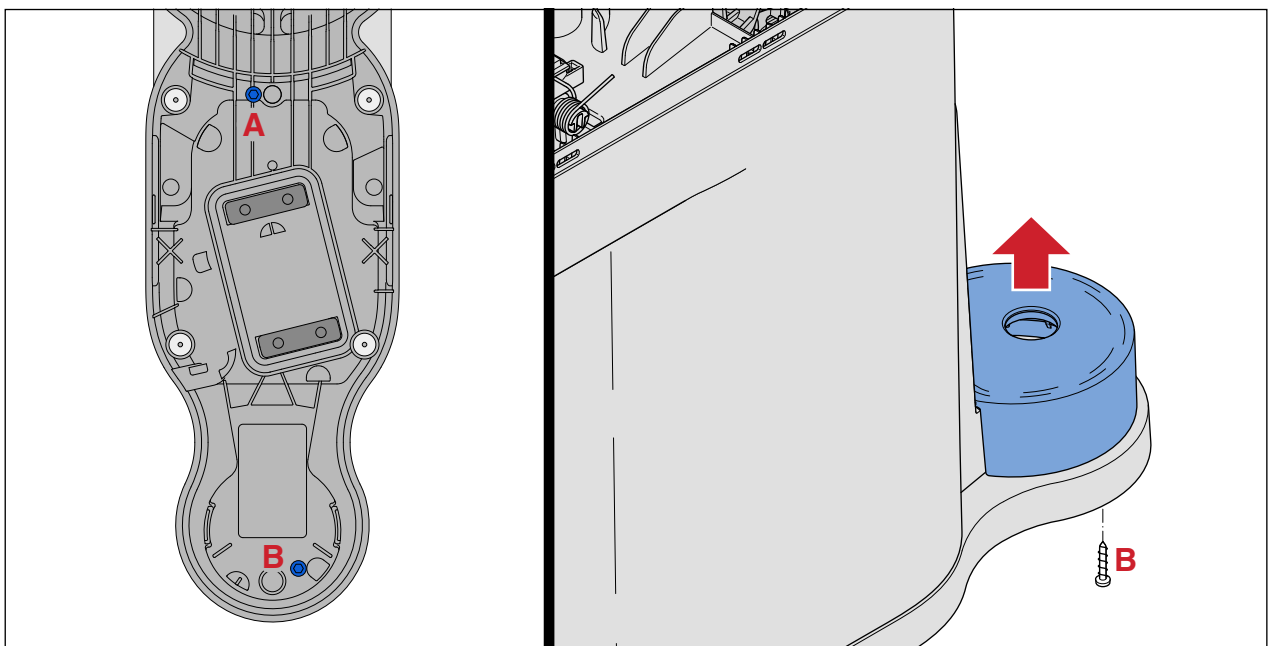
The top cover needs to be tilted forward to be removed. The flat cable **W** from the main PCBA to the UI PCBA is still attached to the User Interface panel, and can easily be unplugged.

The brew chamber can now be removed by unscrewing the two screws (**C**, T15), and undoing the hose connection (**g**) from the one way valve.

2. To reach internal components like Boiler or Pump.

2.1. Remove the screw (**A**, T15) from the bottom side of the appliance.

2.2. Remove the screw (**B**, T15) from the bottom side of the appliance to remove the back plate and undo the hose connection (**g**) from the one way valve (if not done so already).

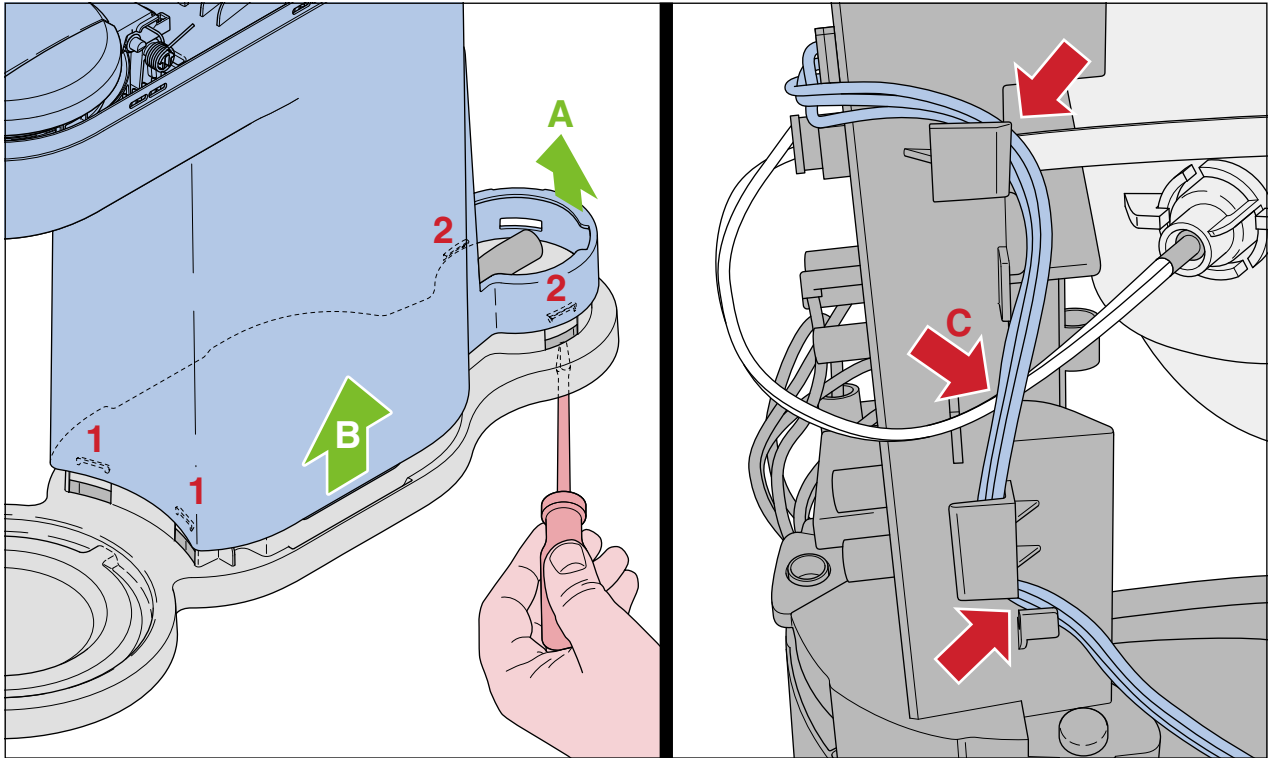


The socked tube (**a**) is still connected to the water container socket, and can easily be pulled off.

2.3. Remove the housing.

To remove the housing, start at the front side of the housing and undo the clicks (1) on both sides. Next undo the snaps on the back site of the housing (2), undo them with a flathead screwdriver. Make sure that none of the snaps snap back.

To avoid damaging the capacitor on the PCBA circuit be very gentle and start to remove the housing upwards first lift from position A for approx. 1 or 2 cm and then gently lift the housing upwards in the direction of the arrow B. But mind the flat cable running through the guide on the inside of the housing and the water level sensor still connected to the inside of the housing.



You can now access the Boiler and Pump, to remove them, undo the electrical connections and hoses, and reinstall in the reverse order.

Make sure before placing the housing part back, that the Hall sensor (WLI) cable is routed correctly. Therefore when re-assembling, make sure the routing of the WLI cable is according to the picture, see red arrows for the attention points how to dress the cable.

Arrow C make sure the white NTC cable is pushed inside by the WLI sensor cable.

Place back the housing:

Gently place the housing downwards and make sure you first click the snap locks on the front side housing position (1) and then snap back the housing snaps on position (2).

Any Ty-wrap that has been removed needs to be replaced by a new one, and tightened with the specified forces.

3. To replace the PCBA.

3.1. Unscrew the inner frame.

Unscrew the two screws (D, T15) holding the inner frame in place, take special care to note the proper wire routing, and make sure reinstalling the PCBA will be done in an identical way.

Descaling

Scale builds up inside the machine during use. It is essential to descale the SENSEO® coffee machine when the CALC light starts flashing. If the descaling procedure is not performed correctly, scale residue remains behind in the machine. This causes scale to build up more quickly and may cause permanent and irreparable damage to the machine.

Use the correct descaling agent (HD7011, HD7012 only). It has been developed to ensure better machine performance and operation. Never use a descaling agent based on mineral acids such as Sulphuric acid, Acetic acid (vinegar) or Hydrochloric acid. These descaling agents may damage your SENSEO® coffee machine.

For detailed instructions, please refer to the Directions For Use, chapter CALC.

Note: HD659x the descaling routine has changed to 2x descale cycles and 2x flushing cycles.

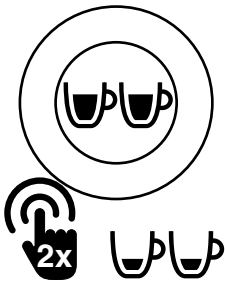
Intensity select

The new PCBA (03 - 2018 onwards) has an extra feature onboard "Intensity select", which need to be enabled for the following type numbers (HD6592 & HD6596).

Intensity select how does that work:



- Select the strong short coffee recipe by double tap on the 1 - cups button for 1 cup of strong short coffee.
- Press the 1 - cup button once for one large mild cup of coffee.



- Select the strong short coffee recipe by double tap on the 2 - cups button for a double cup of strong short coffee.
- Press the 2 - cup button once for two large mild cups of coffee.

Selecting the right PCBA modus.

Enable/Disable the “Intensity select” feature.

The PCBA is standard delivered with the “Intensity select” feature **disabled**, this for easy servicing the existing SENSEO® Switch HD7892/xx /G range with plastic OPR Boiler installed.

The “Intensity select” function can be simple enabled/disabled:

1. Keep the 1 -cup and 2 -cup button pressed while connecting the appliance to the mains.
2. Release the buttons when the 1 -cup and 2 -cup LEDs have switched on.
3. Press and release the 1 -cup and 2 -cup button at the same time, the 1 -cup and 2 -cup LEDs blink rapidly 3 times.
4. Repeat step 3 once more.
5. Depending if the “intensity select” feature is enabled or disabled the 1 -cup or 2 -cup LED is switched on.
See table below:

Intensity select disabled (HD7892 & HD6591)	1 -cup LED is on	2 -cup LED is off
Intensity select enabled (HD6592 & HD6596)	1 -cup LED is off	2 -cup LED is on

6. Press the desired button following the table for the desired state the appliance should be in.
7. Press and release the 1 -cup and 2 -cup button at the same time to store the value, the 1 -cup and 2 -cup LEDs blink rapidly 3 times.
8. If the “Intensity selection” is disabled (1 -cup LED) has being selected in step 6 LED’s will switch off.
If the “Intensity selection” is enabled (2 -cup LED) has being selected.
Press and release the 1 -cup and 2 -cup button at the same time once more, the 1 -cup and 2 -cup LEDs blink rapidly 3 times.

Volume adjustment

Note: *Volume adjustment may only be carried out in case there is no underlying cause (e.g. User programmable volume, leakage, incorrect voltage setting, etc.) for the deviation in volume from the factory default.*

Every time a PCBA is replaced for whatever reason the 1 -cup & 2 -cup setting both need to be separately adjusted/calibrated!

There is no country selection option therefore adjust both 1 -cup & 2 -cup recipes within the right volumes following the table page 2.

If the Intensity selection is enabled, also make sure to adjust the scale factor.

For the correct procedure on Volume measurement, please refer to the SENSEO® Repair process.

How to adjust the volume output:

1 -cup:

1. Make sure the boiler is properly filled; otherwise perform the Flush before first use procedure, according to the instructions in the DFU.
2. Make sure the top collector and 1 -cup pod holder, without a coffee pod are installed in the appliance.
Calibrate the scale you are going to use for the measurement, by placing the empty cup and switching it on.
3. Press the 1 -cup coffee button to start a regular coffee brewing process. When finished also pour the leftover water in the pod holder into the cup.
4. Measure the output and compare to the specifications table “Water specification” you find on page 2.
5. Determine the deviation from the specification if any, the deviation can be adjusted in steps of 3,5 ml.
The calculated deviation divided by 3,5 will tell you how many steps (times you need to actuate the button) you need to in-, or decrease the memory value.
6. Follow the steps as mentioned under Service modes - “Manual pump adjustment” to recalibrate the pump.
7. Measure the newly calibrated volume, and repeat steps 4 -6 if necessary.

2 -cup:

Repeat steps 1 to 7 to calibrate/adjust for the 2 -cup recipe. (you can continue using the 1 -cup podholder)

Manual pump adjustment

1. Keep the 1-cup and 2-cup button pressed while connecting the appliance to the mains.
2. The buttons can be released when the 1-cup and 2-cup LEDs are switched on.
You entered automatically the 1-cup pump time adjusting step.
3. **1-cup adjustment:**
 - a. Press and release the 1-cup button to decrease the calibration value.
The 1-cup and 2-cup LEDs blink one time.
 - b. Press and release the 2-cup button to increase the calibration value.
The 1-cup and 2-cup LEDs blink one time.
4. Store new **1-cup** pump time values:
Press and release the 1-cup and 2-cup buttons to store the calibration value.
The 1-cup and 2-cup LEDs blink rapidly 3 times.
You enter automatically the 2-cup pump time adjusting step, 1-cup and 2-cup buttons are on.
5. **2-cup adjustment:**
 - a. Press and release the 1-cup button to decrease the calibration value.
The 1-cup and 2-cup LEDs blink one time.
 - b. Press and release the 2-cup button to increase the calibration value.
The 1-cup and 2-cup LEDs blink one time.
6. Store new **2-cup** values:
Press and release the 1-cup and 2-cup buttons to store the calibration value.
The 1-cup and 2-cup LEDs blink rapidly 3 times.

Intensity select (scale factor calibration)

Depending if the “intensity select” feature is enabled or disabled the 1-cup or 2-cup LED is switched on.
See table below:

Intensity select disabled (HD7892 & HD6591)	1-cup LED is on	2-cup LED is off
Intensity select enabled (HD6592 & HD6596)	1-cup LED is off	2-cup LED is on

7. Check/press the desired button following the above table for the desired state.
8. Press and release the 1-cup and 2-cup button at the same time to store the value, the 1-cup and 2-cup LEDs blink rapidly 3 times.
9. If the “Intensity selection” is disabled (1-cup LED) has being selected in step 6, LED’s will switch off.
go to step 12.
10. If the “Intensity selection” is enabled (2-cup LED) has being selected the scale factor for the 60 ml setting need to be checked/adjusted.

Adjusting the scale factor for the strong/short cup volume (both cups).

11. Depending if the volume has to de- or increase you have to push the one- or two-cup button.
Every time you push the 1- or 2-cup button, the LED will turn off for 0.5 second (feedback to user) and the scale factor will be shortened or lengthened depending which button was pushed.

Pushing 1-cup button, scale factor will be **shorten** approximately - 1 cc/ml (less coffee)

Pushing 2-cup button, scale factor will be **lengthen** approximately + 1 cc/ml (more coffee)

The new value will be stored when you press and release the 1-cup and 2-cup button at the same time, the 1-cup and 2-cup LEDs blink rapidly 3 times.

12. Turn appliance on again and brew one normal coffee and check according specification.
13. Brew one strong coffee cup by pressing the 1-cup button twice, measure the volume.
14. In case the volume is not within specification repeat steps 1 – 11.
15. **End of procedure.**

Example table, switching from WEU to French/Spain specification or vice versa, you need to execute below:

Change volume setting	Adjusting normal 1 - cup volume step 1 – 3	Adjusting normal 2 - cup volume step 5 - 6	Adjusting short/strong scale factor step 11
WEU → French/Spain	Push 7x 1 -cup button	Push 14x 1 -cup button	Push 16x 2 -cup button
French/Spain → WEU	Push 7x 2 -cup button	Push 14x 2 -cup button	Push 16x 1 -cup button

Boiler reset

1. Keep the 1 -cup button pressed while connecting the appliance to the mains.
2. Button can be released when the 2 -cup LED blinks rapidly.

Test procedure:

The test procedure allows you to check the basic functions of the appliance.

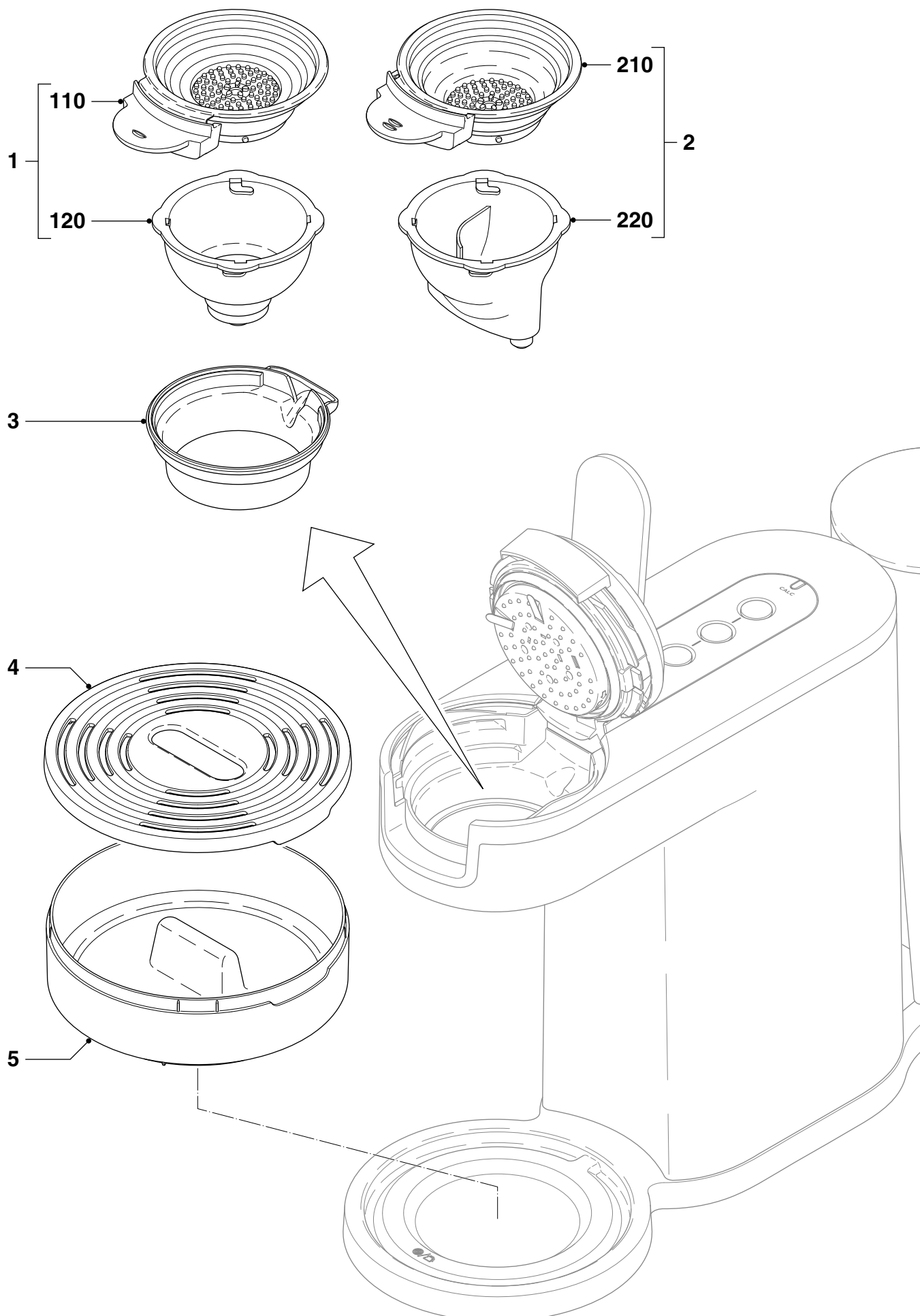
1. Test step 1: Enter the test procedure:
 - a. Keep the 2 -cup button pressed while connecting the appliance to the mains.
 - b. The button can be released when the 1 -cup, 2 -cup and jug LED are switched on. Heater and pump should be off.
2. Test step 2: 1 -cup button, 1 -cup LED and heater
 - a. Press the 1 -cup button and hold it.
 - b. 1 -cup LED and heater turn on. Other LEDs and the pump are off. Heater is on for a maximum of 3 seconds or if 1 -cup button is released.
 - c. Release the 1 -cup button.
 - d. Heater turns off, 1 -cup LED remain on.
3. Test step 3: 2 -cup button, 2 -cup LED and pump
 - a. Press the 2 -cup button and hold it.
 - b. 2 -cup LED and pump turn on. Other LEDs and the heater are off.
 - c. Release the 2 -cup button.
 - d. Pump turns off, 2 -cup LED remain on.
4. Test -step 4: Test temperature sensor and descale LED
 - a. Press the 1 -cup button and hold it.
 - b. The descale LED turns on. Other LEDs and the heater are off.
 - c. If the temperature sensor is connected and has the right value (approx. 1.5 kOhm) the pump turns on.
 - d. Disconnect the temperature sensor and the pump turns off.
 - e. Release the 1 -cup button, CALC LED remain on.
5. Test -step 5: Test water level sensor
 - a. Press the 2 -cup button and hold it.
 - b. The 2 -cup LED turns on. Other LEDs and the heater are off.
 - c. Hold a magnet for the water level sensor and the pump turns on.
 - d. Remove the magnet and the pump turns off.
 - e. Release the 2 -cup button.
6. To proceed to the final test step shortly push the 1 -cup button.
(Pump starts shortly, 1 -cup and CALC LED remain on)
7. Test -step 7: Test Jug button
 - a. Press the jug button and hold it.
 - b. All LEDs and the heater are off.
 - c. The pump turns on after ± 300 ms.
 - d. Release the jug cup button.
 - e. Descale LED and jug button LED turn on and the pump turns off.
8. End of test procedure.
Unplug appliance from the mains to exit test procedure.

Pos	Service code	Description	Remark
1	4222 259 69591	Padholder assy 1 -cup Crema+	Deep black
110		Padholder 1 -cup	
120		Coffee spout 1 -cup	Deep black
2	4222 259 69601	Padholder assy 2 -cup Crema+	Deep black
210		Padholder 2 -cup	
220		Coffee spout 2 -cup	Deep black
3	4222 247 75762	Top collector	Deep black
4	4222 240 02331	Drip tray cover	Metal
5	4222 247 75772	Drip tray	Deep black
6	4222 259 67511	Filter holder assy	
610		Filter holder lid	
620		Filter holder	
7	4222 259 63771	Jug assy	Deep black
8	9965 100 70806	Jug lid	Deep black
9	4222 247 75141	Coffee spoon	
10	4222 259 65932	Water container assy incl. Lid	
1010		Water container lid	
1020		Valve seal	
1030		Valve spring	
1040		Valve rod	
1050		Float spring	
1060		Float assy	
1070		Water container	Transparent
11	4222 259 60072	Check valve assy	
12	4222 259 69631	Housing	Beluga
13	4222 247 59473	Sensor housing	
14	4222 259 69661	Top cover assy SS printed	Deep black
1410		Top cover	Deep black
1420		Buttons rubber	
1430		Buttons plastic	
1440		UI house top	
1450		UI PCBA	
1460		UI house bottom	
15	4222 259 65892	Back plate assy	Deep black
1510		WC Sealing	
1520		Filter	
1530		WC Socket	
16	4222 247 72692	Lid cover	Deep black
17	4222 259 69651	Brew chamber assy	Deep black/Silver
1710		Lid hinge cover	

Pos	Service code	Description	Remark
1720		Lid spring	
1730		Hose	
1740		Lever	Deep black
1750		Lever frame	
1760		Rod (2x)	
1770		Slider left	
1780		Slider right	
1790		Slider spring	
17100		Lid frame	
17110	4222 240 05991	Ejector pin	
17120	4222 247 08121	Brew chamber seal	
17130	4222 247 72611	Distribution disk	
17140		Brewchamber bottom	Black
18	4222 247 76641	Inner frame OPR	
19	4222 259 70342	Main PCBA Switch OPR/IS	220 - 240 V
20	4222 247 08101	L-bend	
21	4222 240 02041	Hose clamp	D 9.1 mm
22	4222 259 61291	Pressure hose assy	
23	4222 247 75502	Base plate	Fusion black
24	4222 247 72551	Suspension bracket	
25	4222 244 50693	Tie wrap Boiler	
26	4222 259 37244	Pump ULKA HF	230 V -50 Hz
27	4222 247 43690	Boiler pin cover	
28		Hose valve assy	
29	4222 247 75271	TCO cover OPR	
30	4222 259 65481	Boiler assy OPR	230 V
3020	4222 247 05134	O-ring	
3040	4222 259 68161	Switch NTC assy OPR	
31	4222 247 08252	Hose socket	
32	4213 247 05256	Foot	
33	4222 247 06301	Pump damper	
34	4222 247 07541	Anti vibration foam	
100	4222 244 50680	Tie wrap	

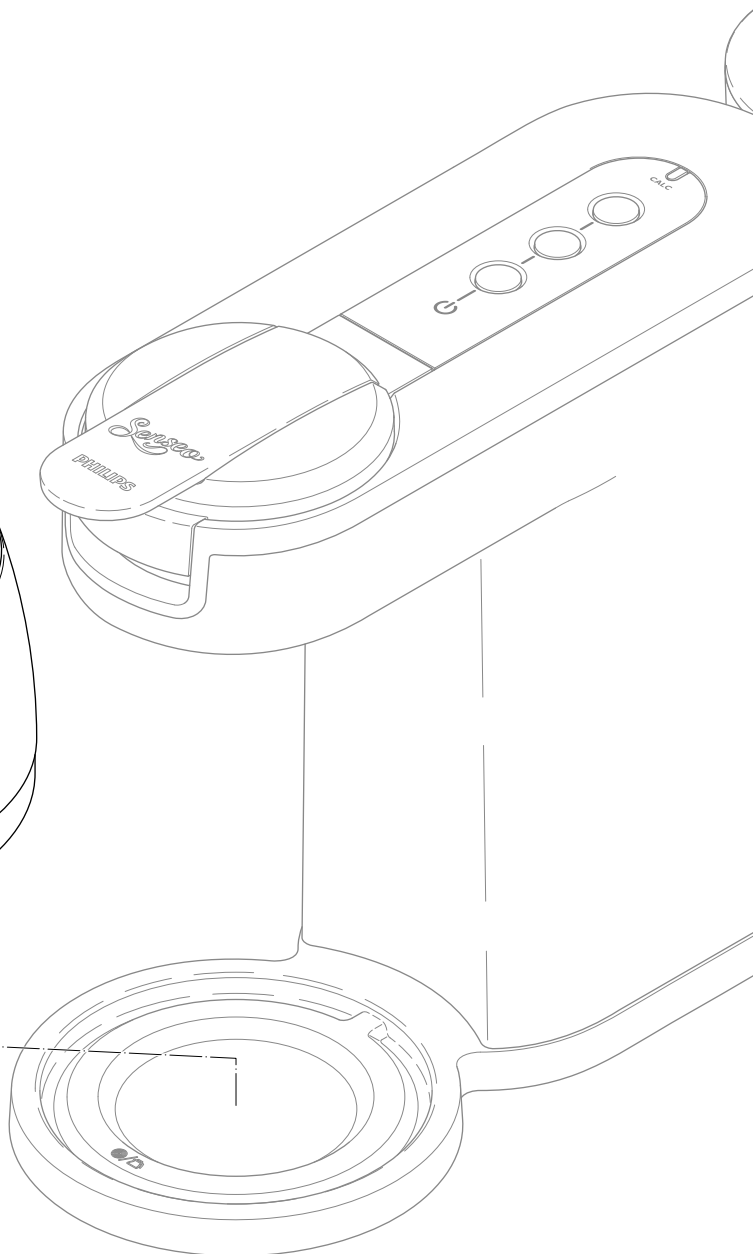
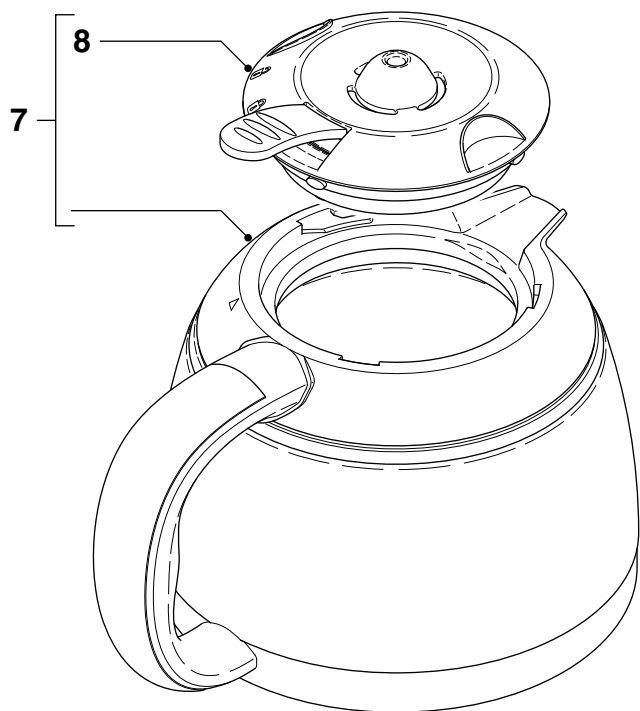
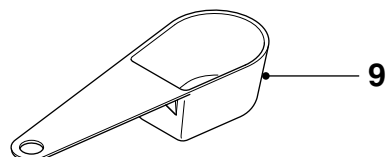
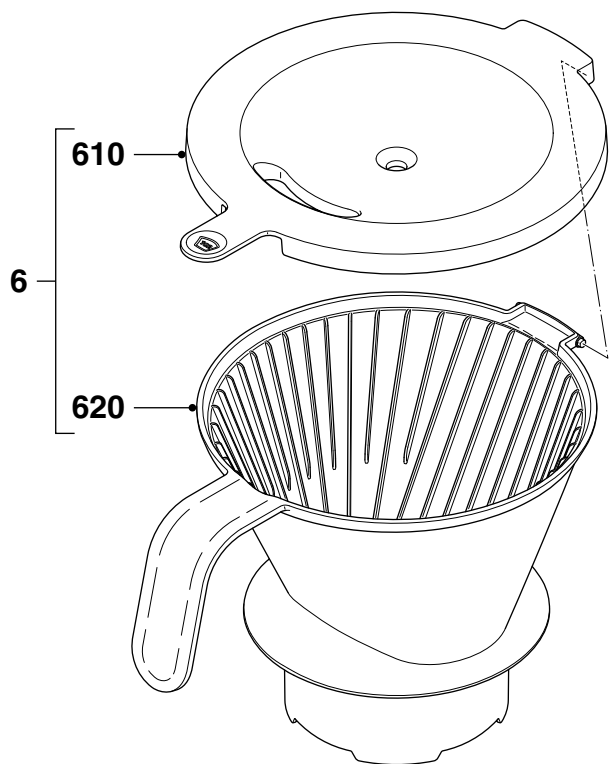
Exploded view

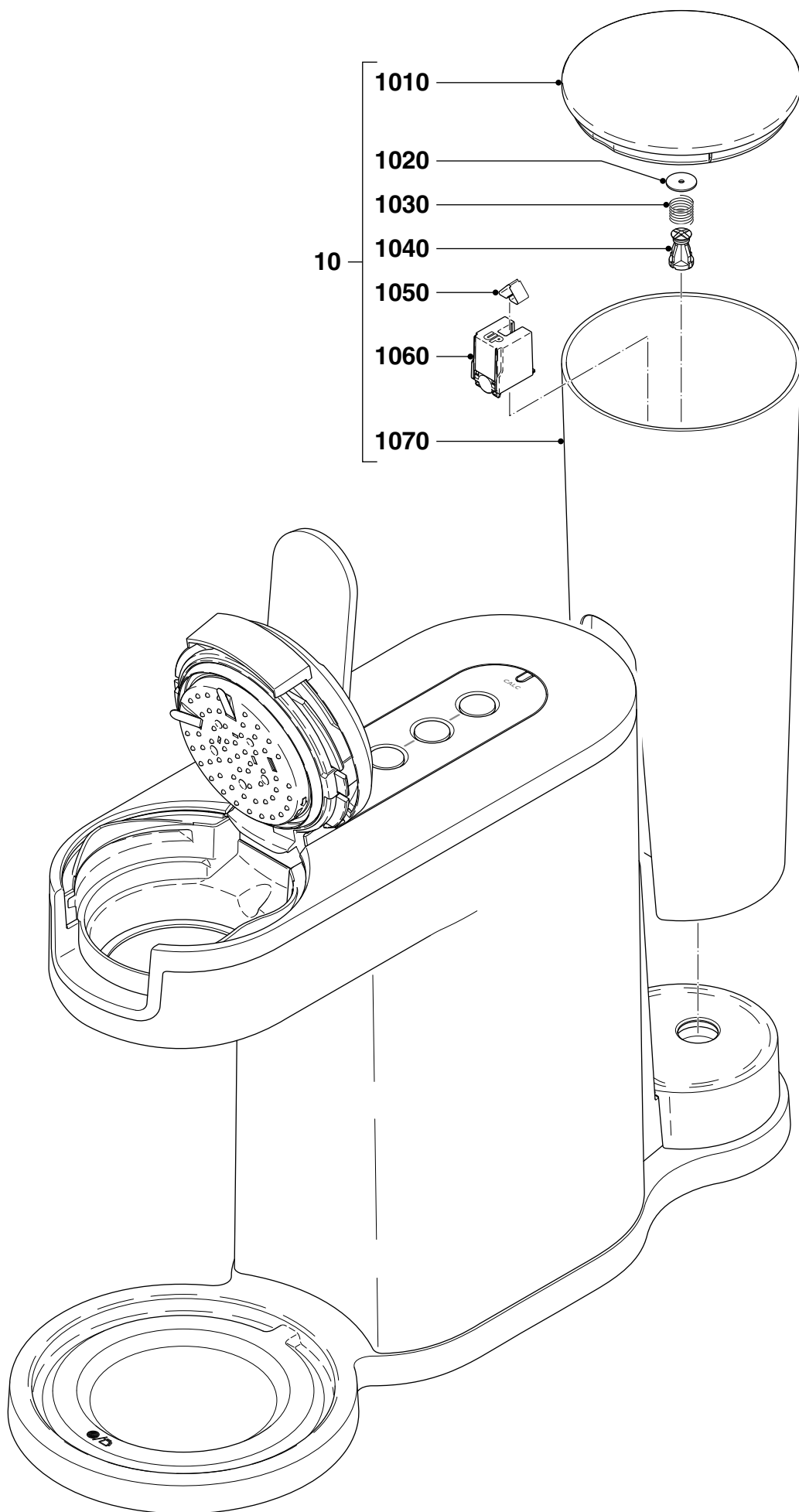
HD6596/50/G /51/G

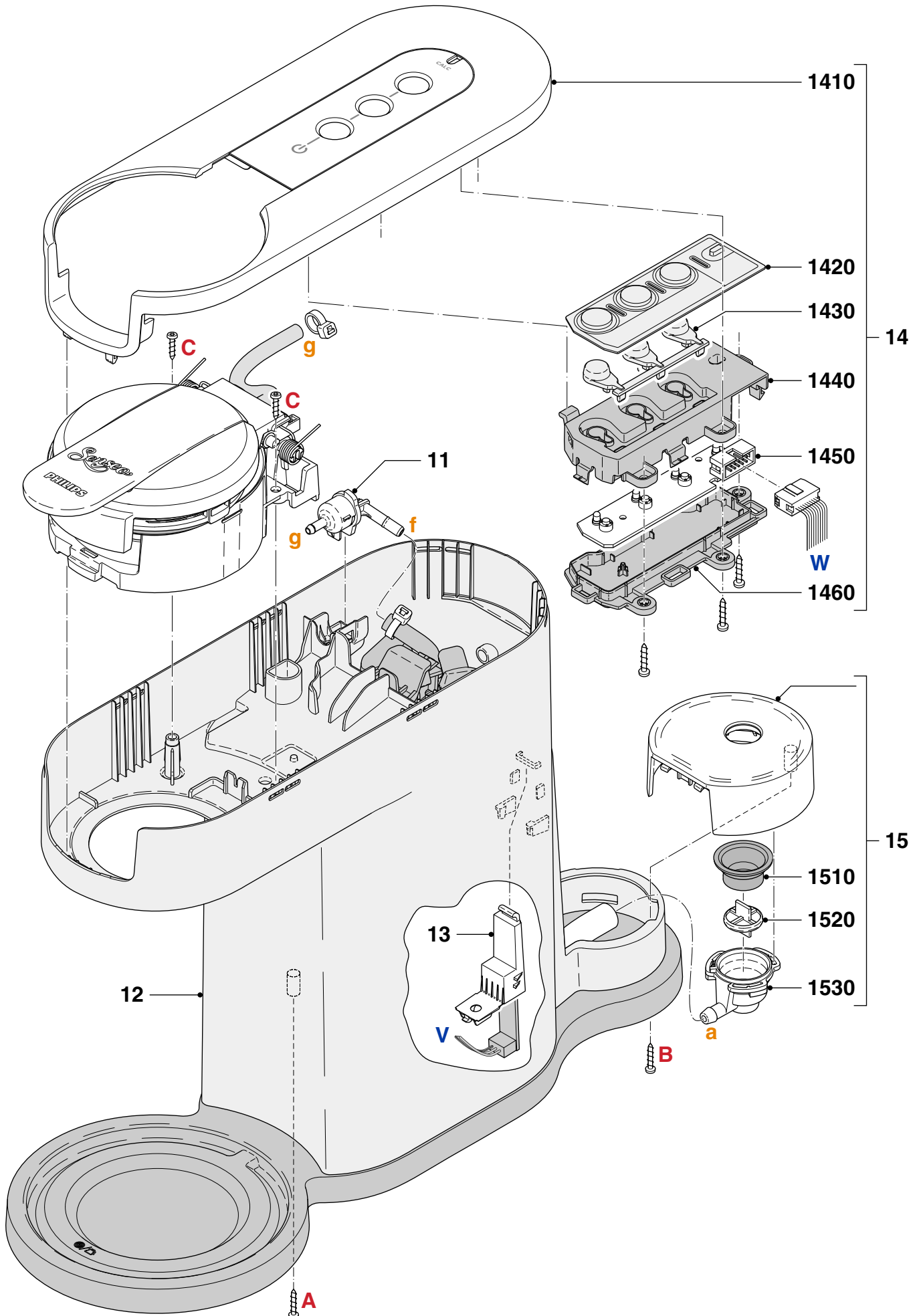


Exploded view

HD6596/50/G /51/G

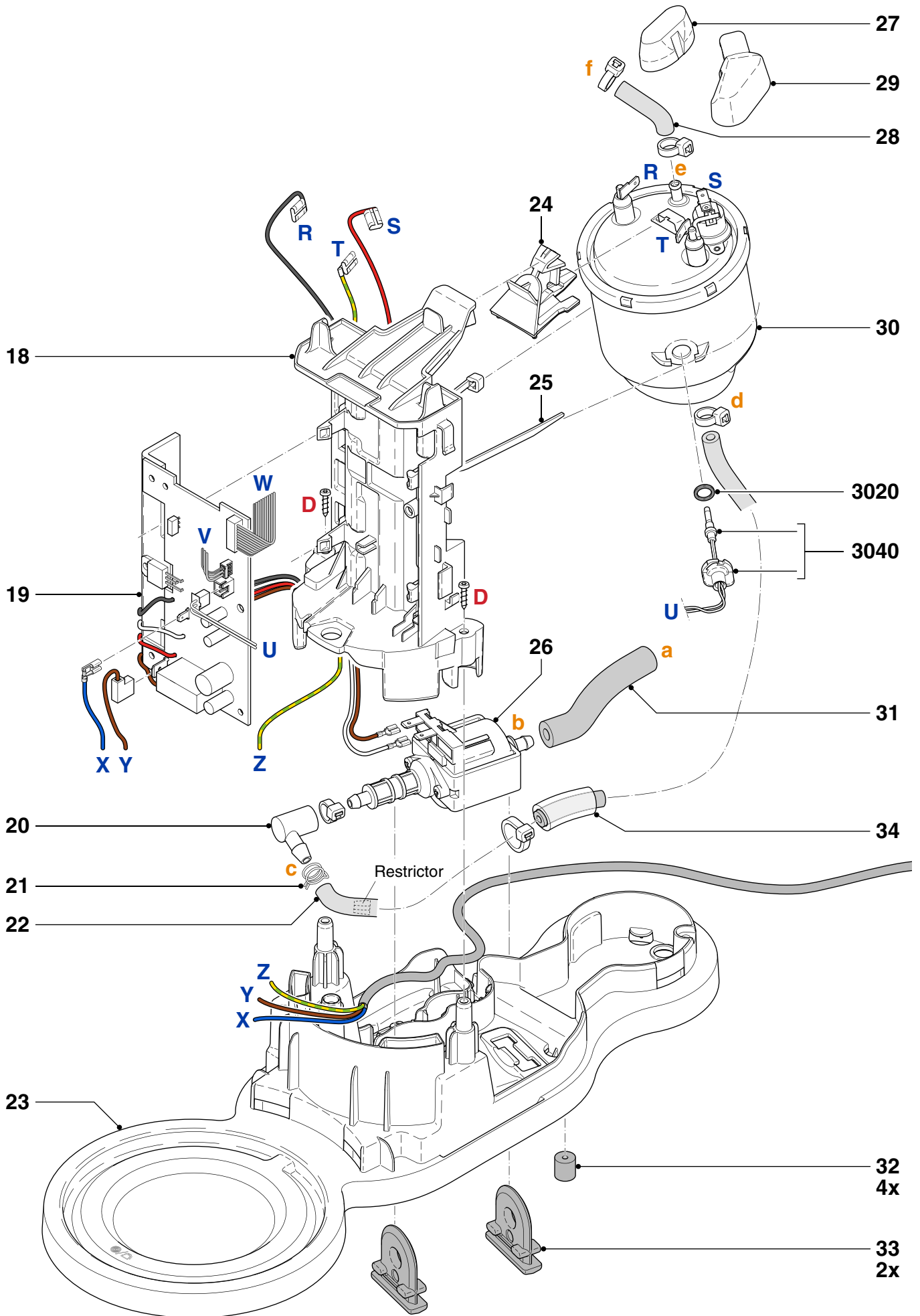






Exploded view

HD6596/50/G /51/G



Version history

18/02 Version 1.1 : HD6596/50/G / HD6596/51/G initial release.