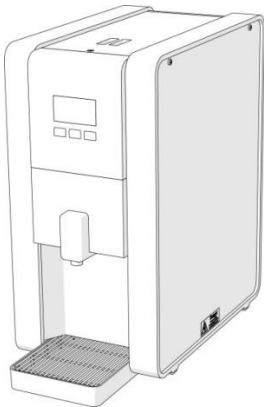
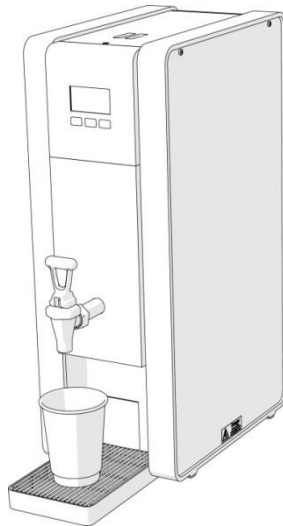


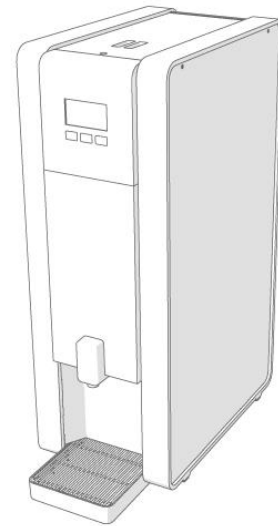
# MIX Boiler & Font Range – Service Manual



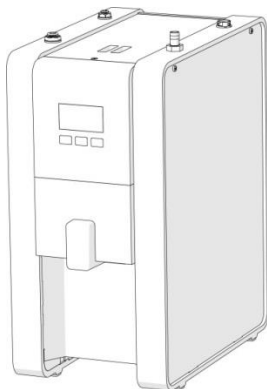
**1000870#**



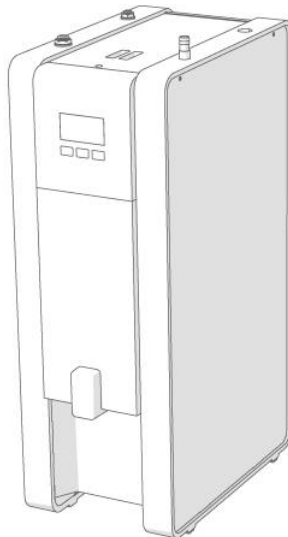
**1000871#**



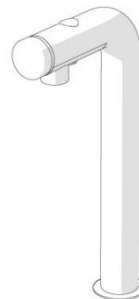
**1000875#**



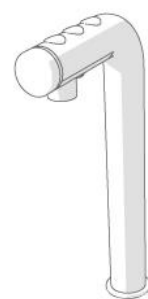
**1000880#**



**1000887#**



**1000878**



**1000879**



**2300268**



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## 1. INTRODUCTION

The information provided in this manual is intended to assist in the installation and maintenance of the Marco Mix Boiler range. Please read the instructions carefully to prevent accidents and ensure an efficient installation.

This manual is not a substitute for any safety instructions or technical data affixed to the machine or its packaging. All information in this manual is current at the time of publication and is subject to change without notice.

Only technicians or service providers authorised by Marco should carry out installation and maintenance of these machines.

Marco accepts no responsibility for any damage or injury caused by incorrect or unreasonable installation and operation.

## 2. SAFETY INSTRUCTIONS

**When using electrical appliances, basic safety precautions should always be followed to prevent the risk of fire, electric shock, burns, or other injuries or damages.**

- **Read all operating and safety instructions carefully.**
- **This appliance must be placed/installed on a horizontal flat stable surface.**
- **The ambient temperatures this appliance should operate within are 5 °C - 35 °C.**
- **This appliance may be placed in self-service areas if attended to by trained personnel.**
- **Risk of flooding, the hose supplied with the boiler is non-toxic food quality tested to 190psi. However, a hose is not a permanent connection. It is, therefore, advisable to switch off boiler and close the stopcock valve when boiler is not in use, e.g. overnight etc.**
- **The utmost care has been taken in the manufacture and testing of this machine. Failure to install, maintain and / or operate this machine according to the manufacturer's instructions may result in conditions that can cause injury or damage to property. If in any doubt about the serviceability of the machine always contact the manufacturer or your own supplier for advice.**
- **This machine is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.**
- **Children should be supervised to ensure that they do not play with the machine.**
- **In the event any wires are damaged, such wires can only be replaced by experts or professional after service staff from the manufacturer after service department or similar function departments.**
- **CAUTION - Risk of fire and electric shock. Only to be used with manufacturer's specified power cord set. Marco p/n 1501487 (USA), 1501488 (EU), 1501489 (UK/Ire).**
- **This appliance should not be installed in an area where a water jet could be used to clean it.**
- **Access to the service area of the appliance is restricted to persons having knowledge and practical experience of the appliance and the relevant safety and hygiene requirements.**



### 3. SPECIFICATIONS

#### **BOILERS:**

		MIX PB3 - 1000870	MIX T8 – 1000871	MIX PB8 – 1000875	MIX UC3 - 1000880	MIX UC8 – 1000887
<b>Performance</b>	<b>Immediate Draw Off (L)</b>	3L	8L	8L	3L	8L
	<b>Total Hourly output (L/hr)</b>	28	28	28	28	28
<b>Electrical</b>	<b>Mains Connection</b>	Earthed Mains Plug to IEC 230vac (UK – 3-Pin Plug, BS1363) (EU – CEE7 Schuko) (US/Canada - NEMA L6-20P)				
	<b>Rating</b>	@230V 2.8kW 12.15A				
<b>Plumbing</b>	<b>Fittings</b>	0.75” BSP (or 3/8” NPT for US versions) food grade inlet hose supplied.				
	<b>Required Pressure</b>	5-50 psi (35-345 kPa)				
<b>Dimensions</b>	<b>Height (mm)</b>	420	590	590	440	610
	<b>Width (mm)</b>	210	210	210	210	210
	<b>Depth (mm)</b>	440	505	440	385	385

#### **FONTS:**

		MIX Single Button Font - 1000870	MIX Three Button Font - 1000870	Drip Tray
<b>Dimensions</b>	<b>Height (mm)</b>	242	242	35
	<b>Width (mm)</b>	38	38	125
	<b>Depth (mm)</b>	132	132	170

## 4. INSTALLATION

### 4.1 Mix Boiler Installation

#### Electrical Installation:

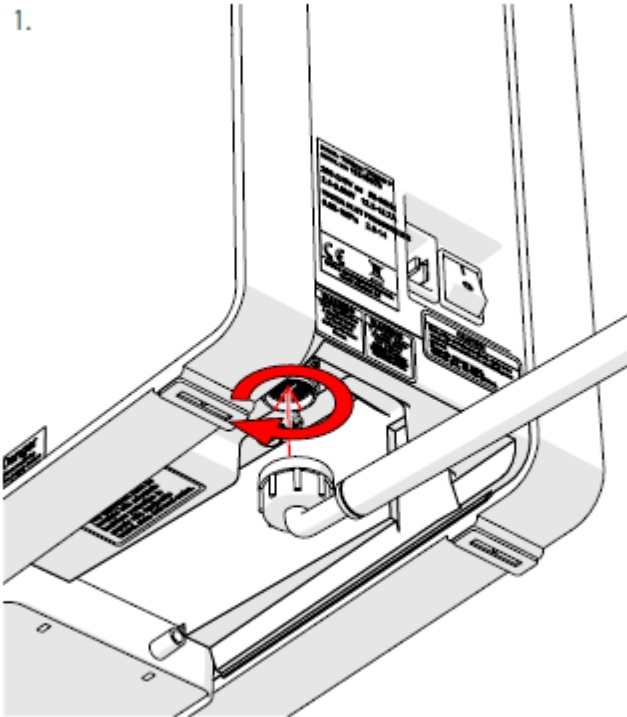
- Electrical specification: 2.8kW-230VAC-50/60Hz
- A moulded 13A IEC power cord is provided. This should be plugged into the IEC connection on the rear of the boiler and plugged into a suitable 13A power outlet.
- When installing the machine, always observe the local regulations and standards.

#### Plumbing Installation:

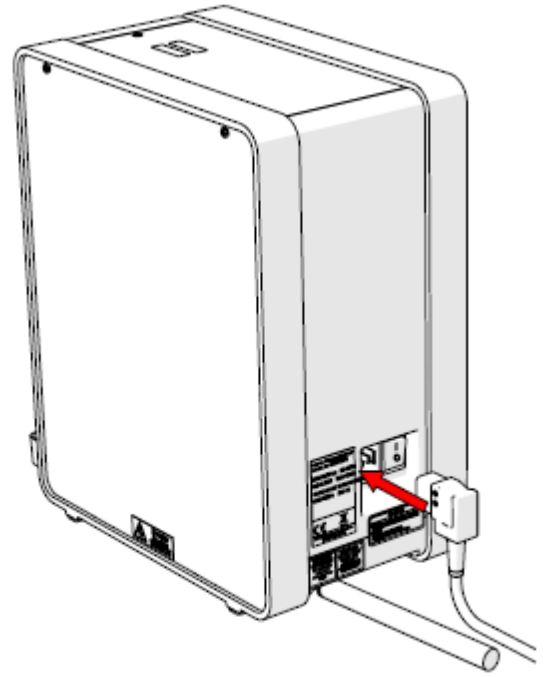
- Mains water pressure required (limits): 5-50psi (35-345kPa) 0.5 – 5.0 bar
- Fit a stop Valve on a cold water line and attach a 3/4" BSP male fitting, (e.g. 3/4" x 1/2" 311 or washing machine type stop valve).
- For US versions use 3/8" NPT male fitting.
- Connect straight tailpiece of the hose to the stop valve fitting. Make sure that the pre-attached sealing washer is fitted.
- Turn on the water to flush any impurities, dust etc. from the inlet hose and water pipe. Allow several litres through.
- Connect right-angled tailpiece of the hose to the inlet valve of the boiler (3/4" BSP). Make sure the sealing washer is fitted here also.
- Turn on water and check for leaks.

### 4.1 Mix Boiler Installation (cont.)

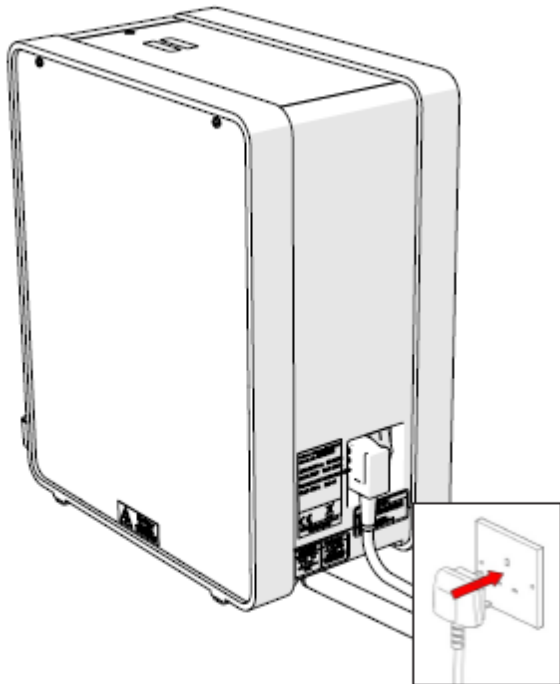
1.



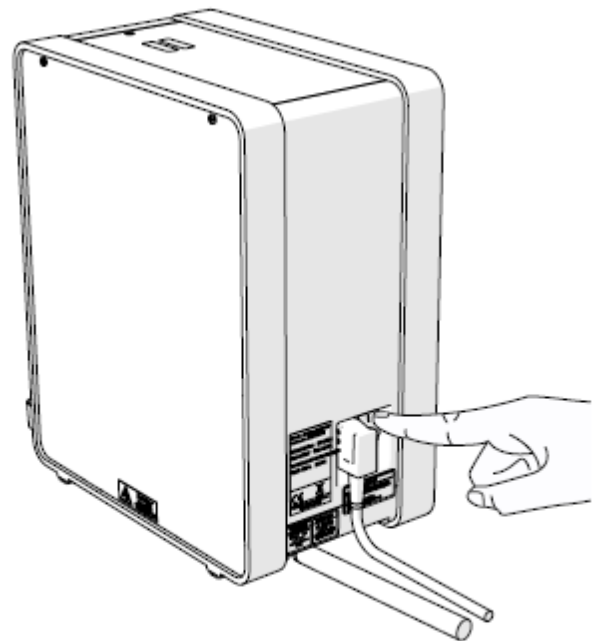
2.



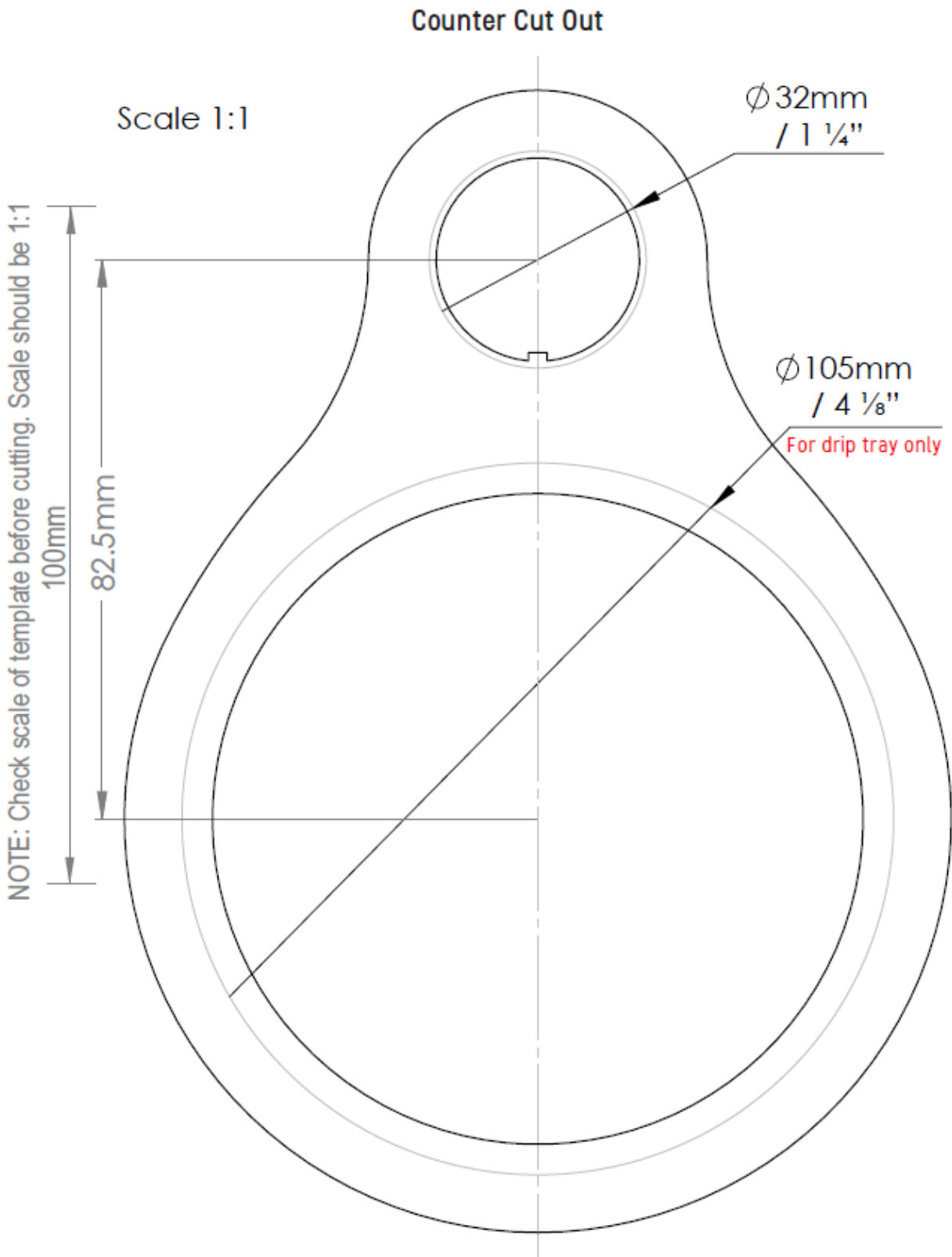
3.



4.

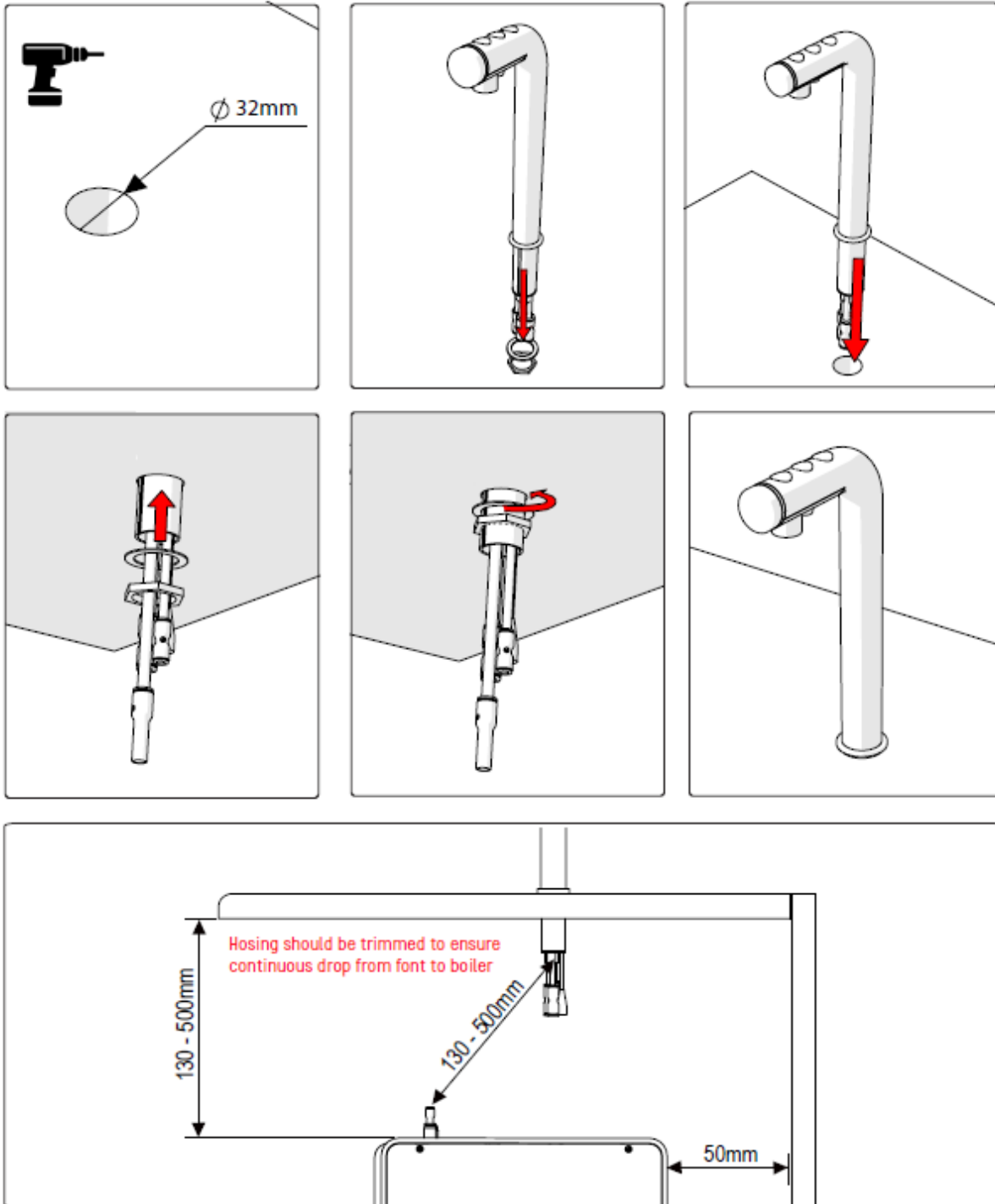


## 4.2 Mix Font Installation



## 4.2 Mix Font Installation (cont.)

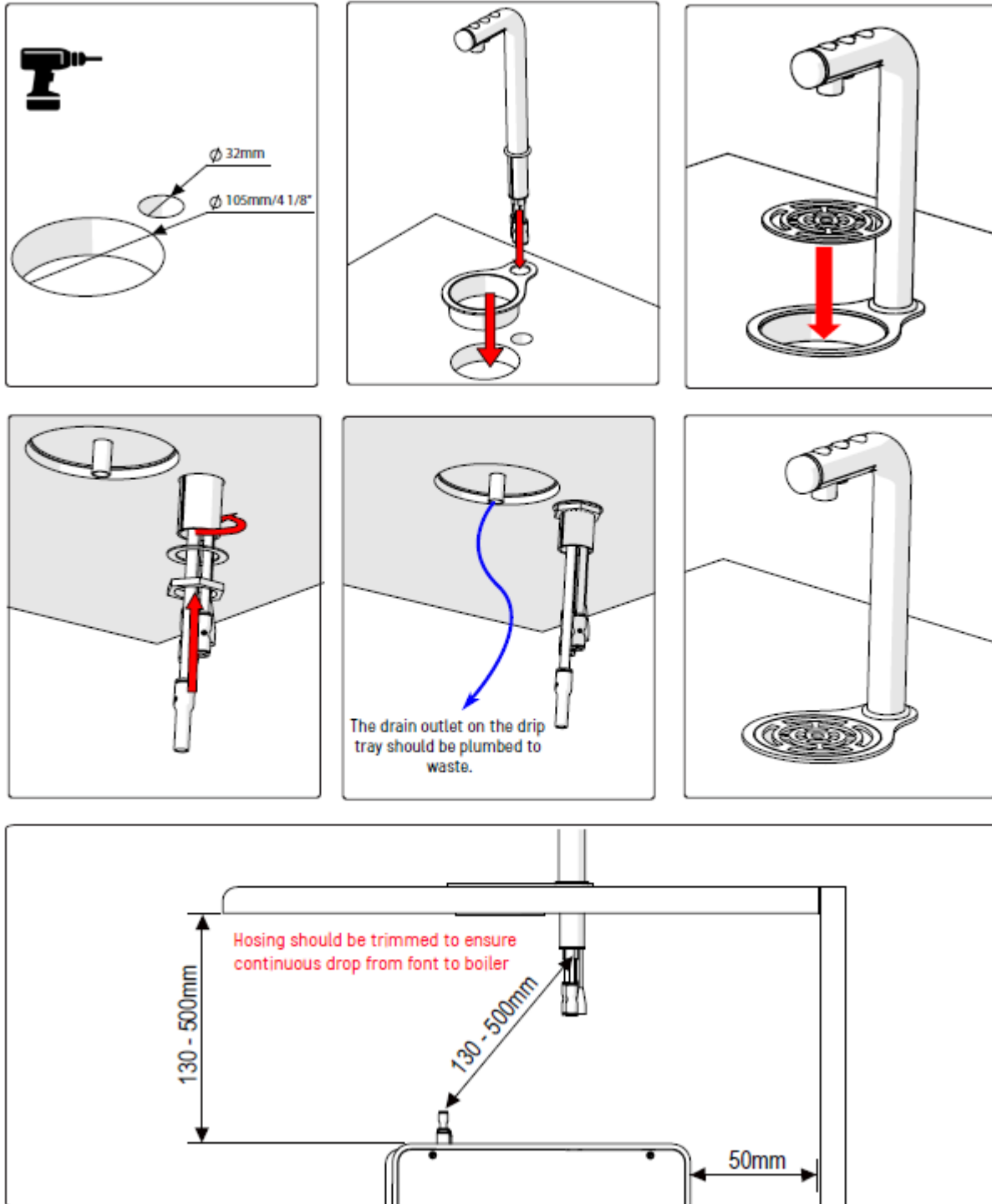
### 1. No Drip Tray





## 4.2 Mix Font Installation (cont.)

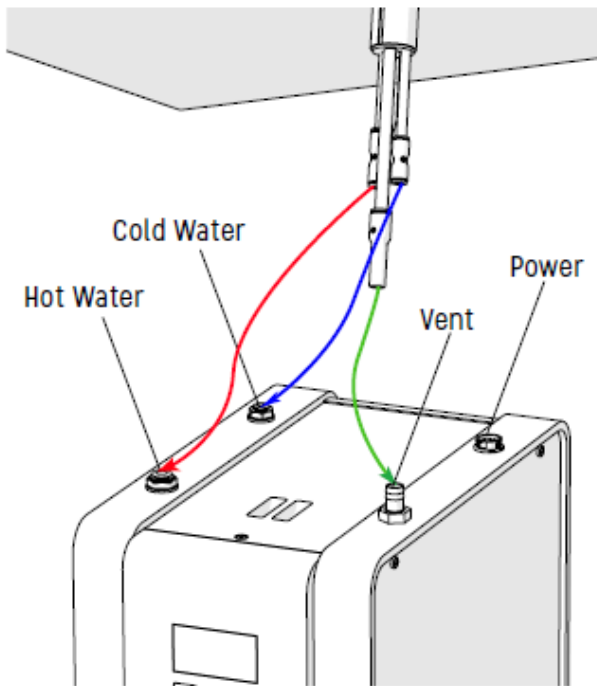
### 2. Drip Tray (sold separately p/n. 2300268)



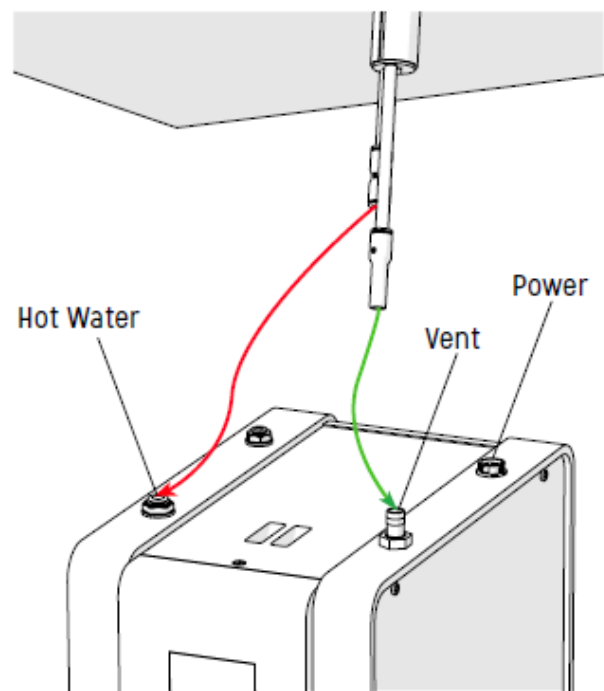
## 4.2 Mix Font Installation (cont.)

### Connecting Hoses

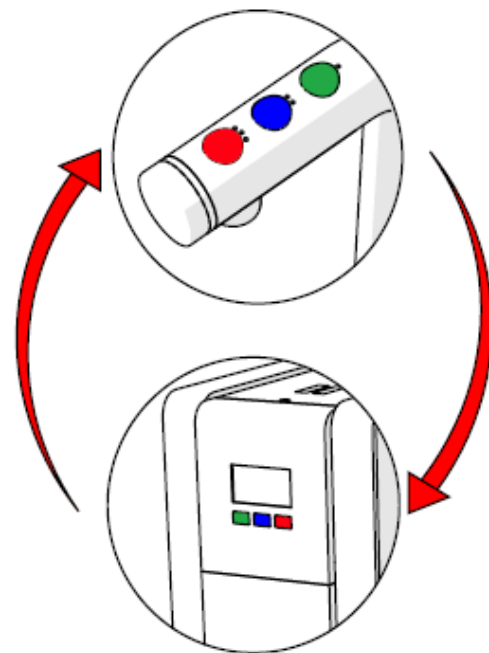
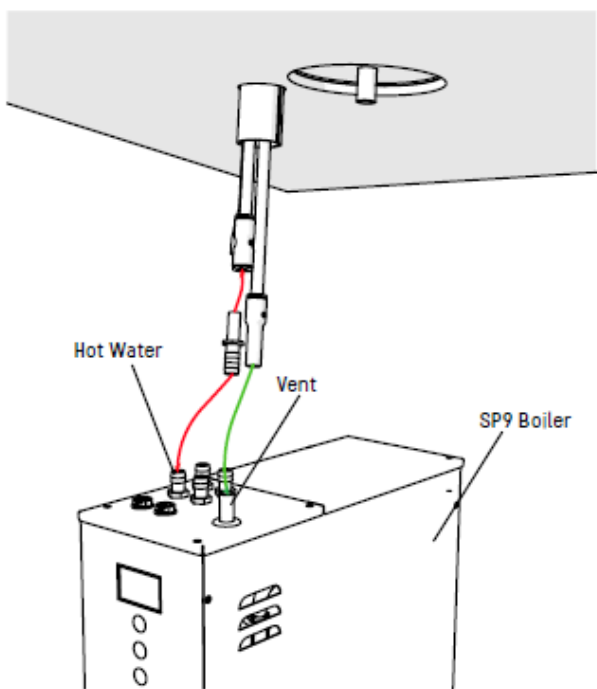
Three Button Font Connections



Single Button Font Connections



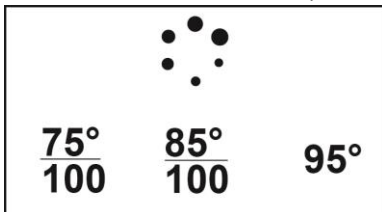
SP9 Boiler Connection



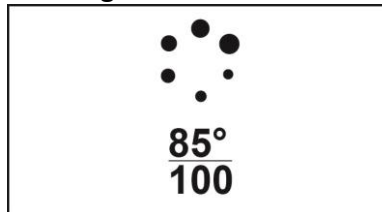
## 5. BOILER SETUP

### 5.1 Operating Boiler for the First Time

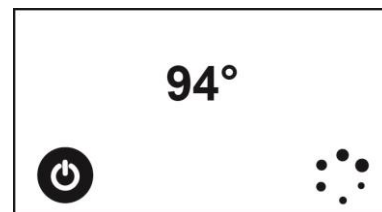
- Check that all installation procedures have been carried out.
- Ensure water valve is on.
- Plug boiler into suitable socket.
- Turn on the power switch.
- The “wait” progress circle will be visible on the screen and the machine will fill to a safe level, above the elements, before heating.



Multi Temp versions

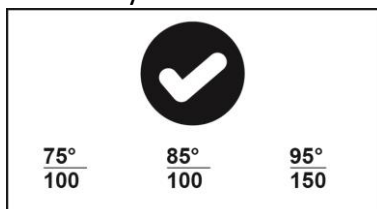


Single Temp versions

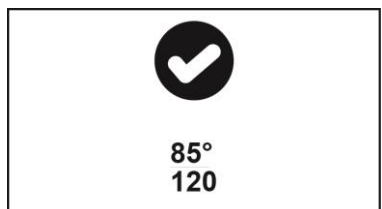


Tap Versions

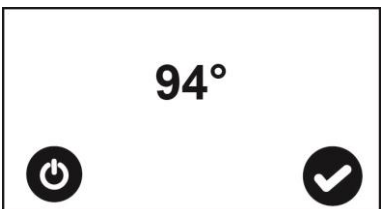
- The “Ready” tick with come up on screen when the machine is full and up to normal operating temperature – typically 6 mins for 3L and 16 mins for 8L versions respectively.
- The boiler is now ready for use – the display will show the Water Temperature and the “Ready” status tick.



Multi Temp versions



Single Temp versions



Tap Versions

- The Boiler may now be used to dispense hot water to the pre-set factory settings.
- NOTE: Because the boiler is electronically controlled no priming is necessary.
- The element cannot switch on until a safe level of water is reached.

## 6. OVERVIEW & OPERATION

### 6.1 PB Boiler – Multi-temp Operation

#### Operation: Multi Temp

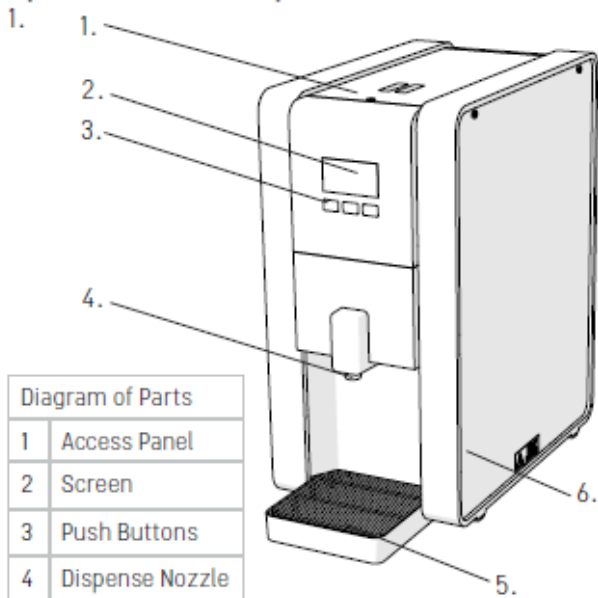
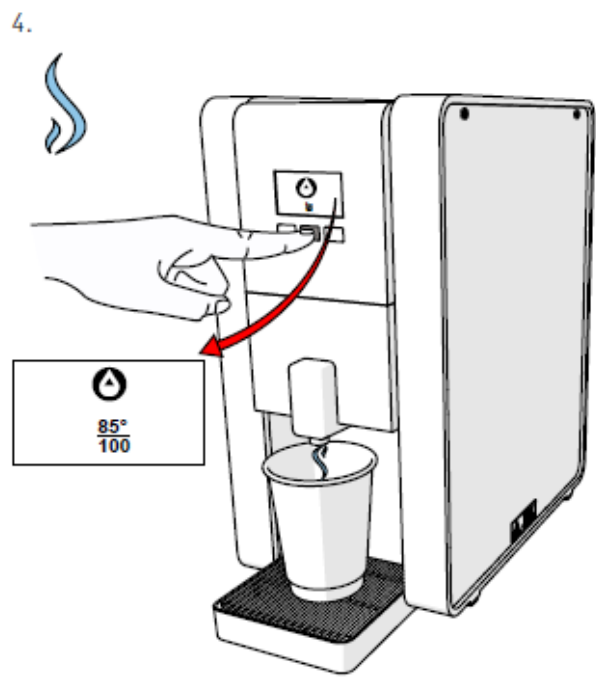
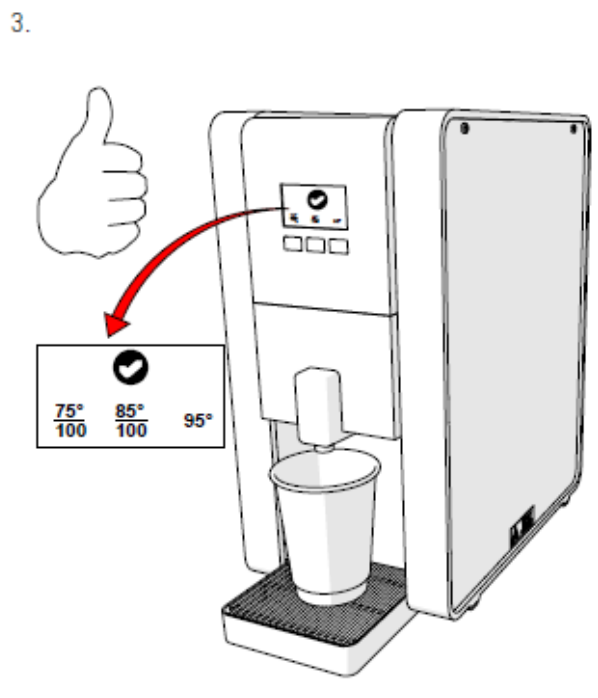
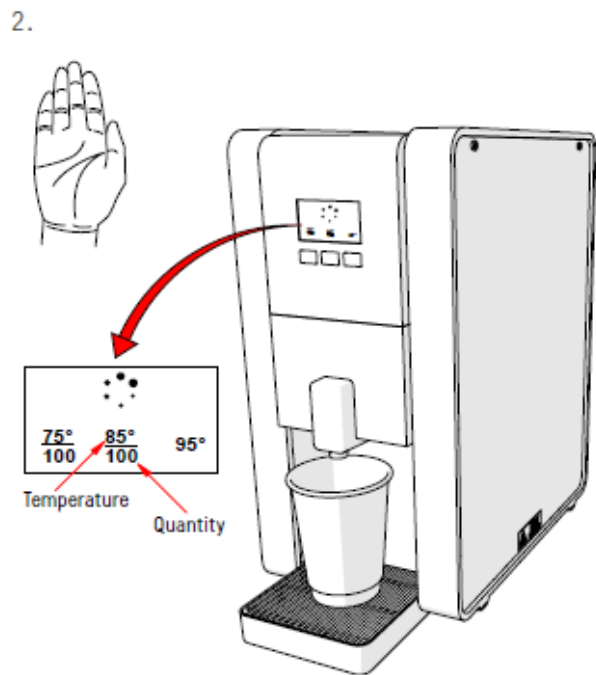
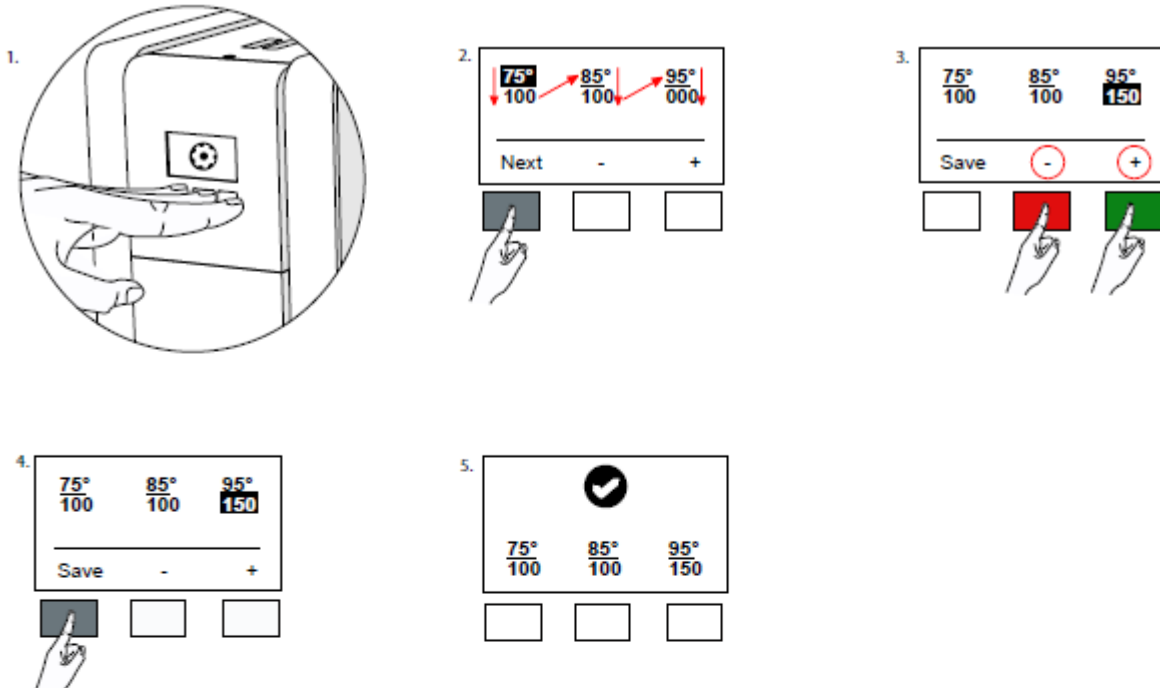


Diagram of Parts	
1	Access Panel
2	Screen
3	Push Buttons
4	Dispense Nozzle
5	Drip Tray
6	Service Panel

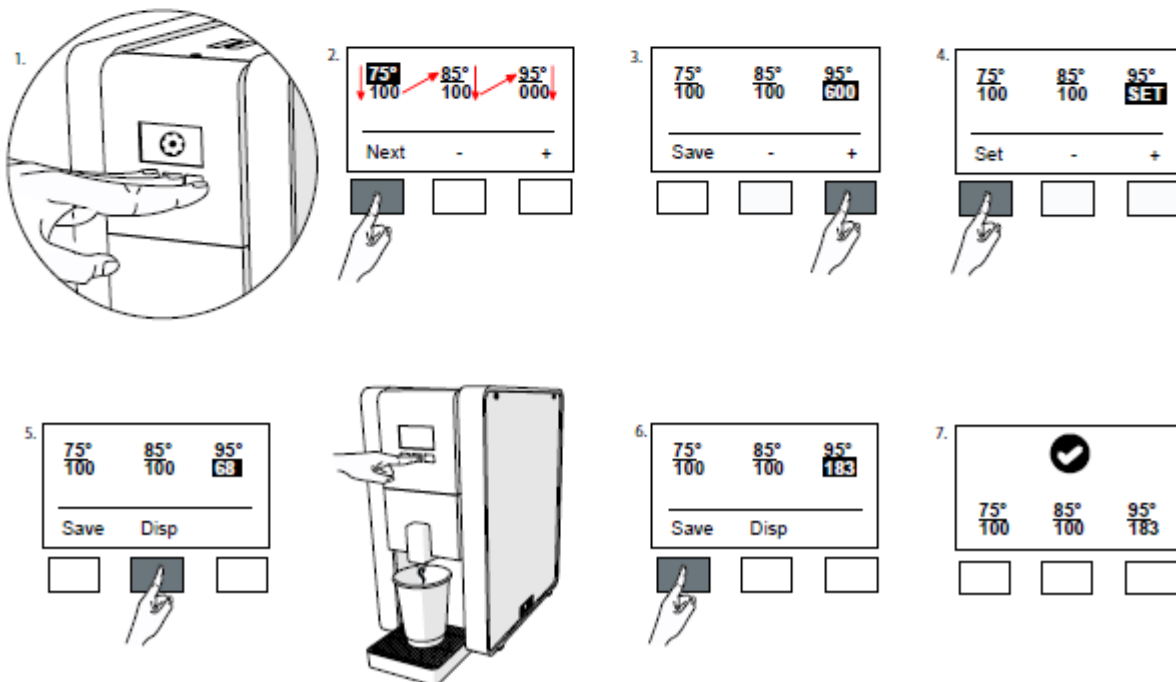


## 6.1 PB Boiler – Multi-temp Operation (cont.)

### Programming: Multi Temp – Method 1

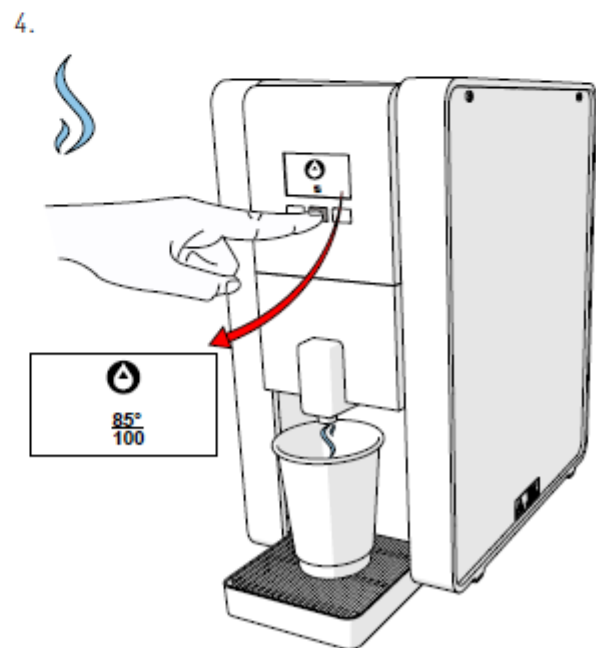
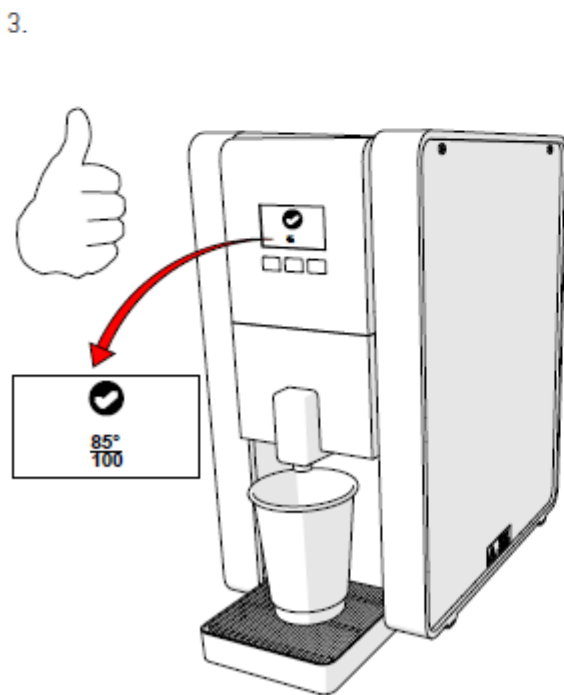
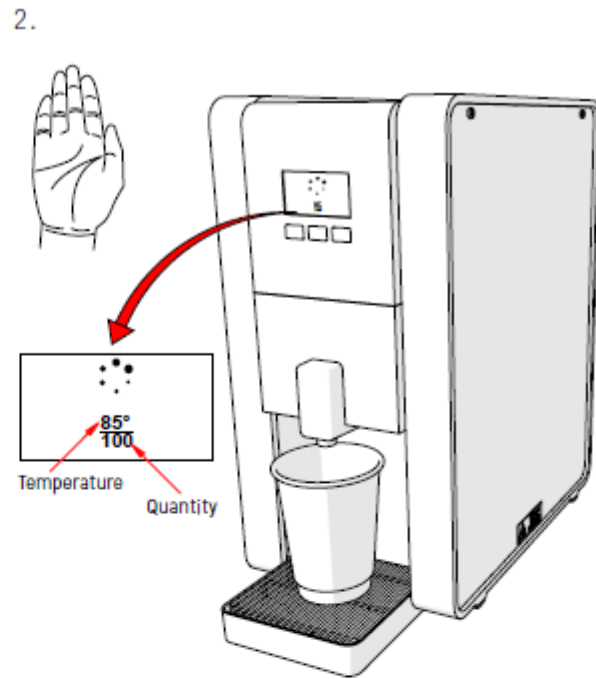
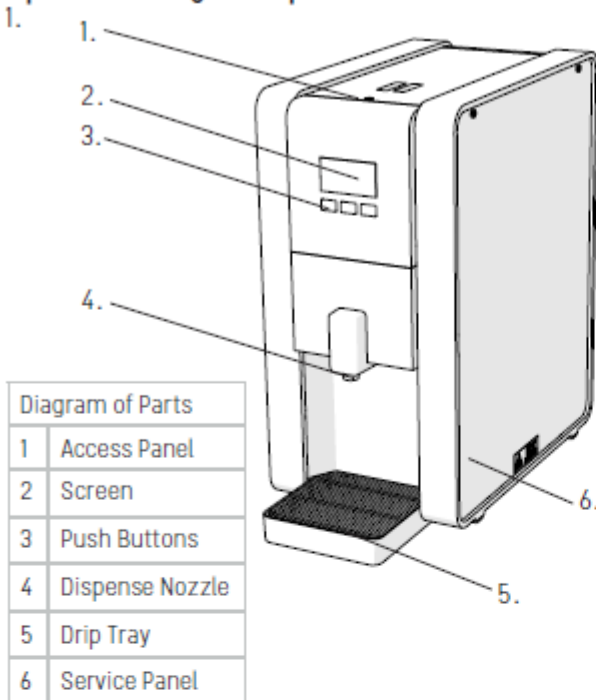


### Programming: Multi Temp – Method 2



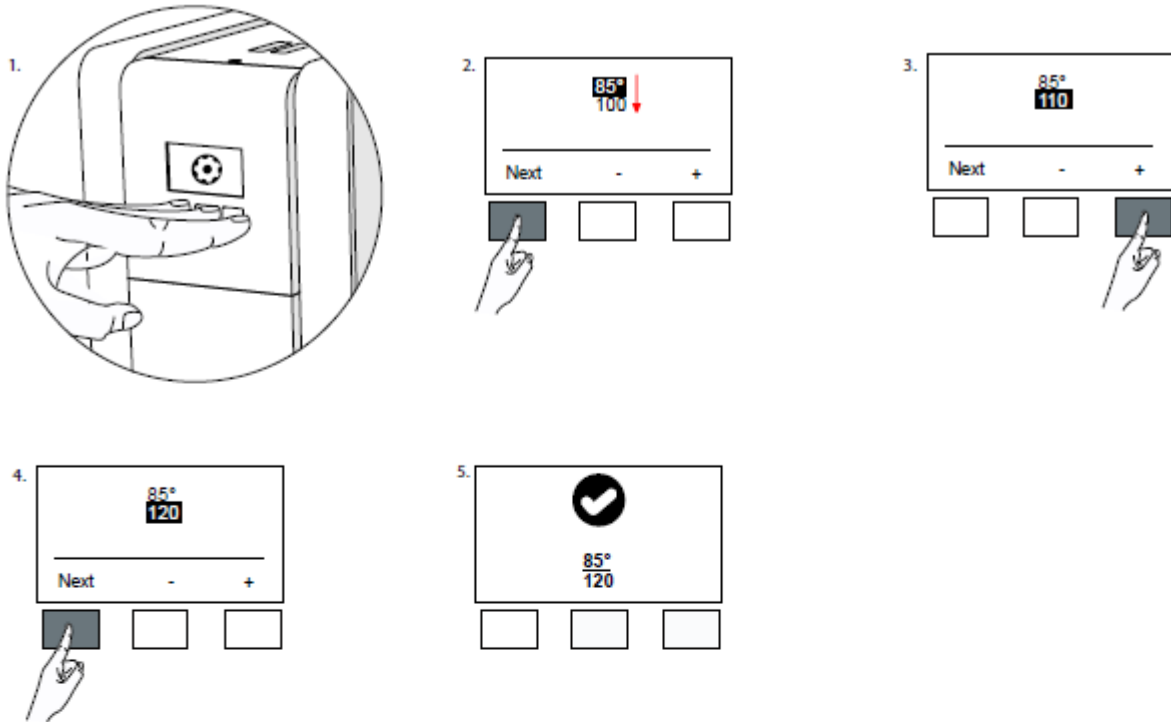
## 6.2 PB Boiler – Single Temp Operation

### Operation: Single Temp

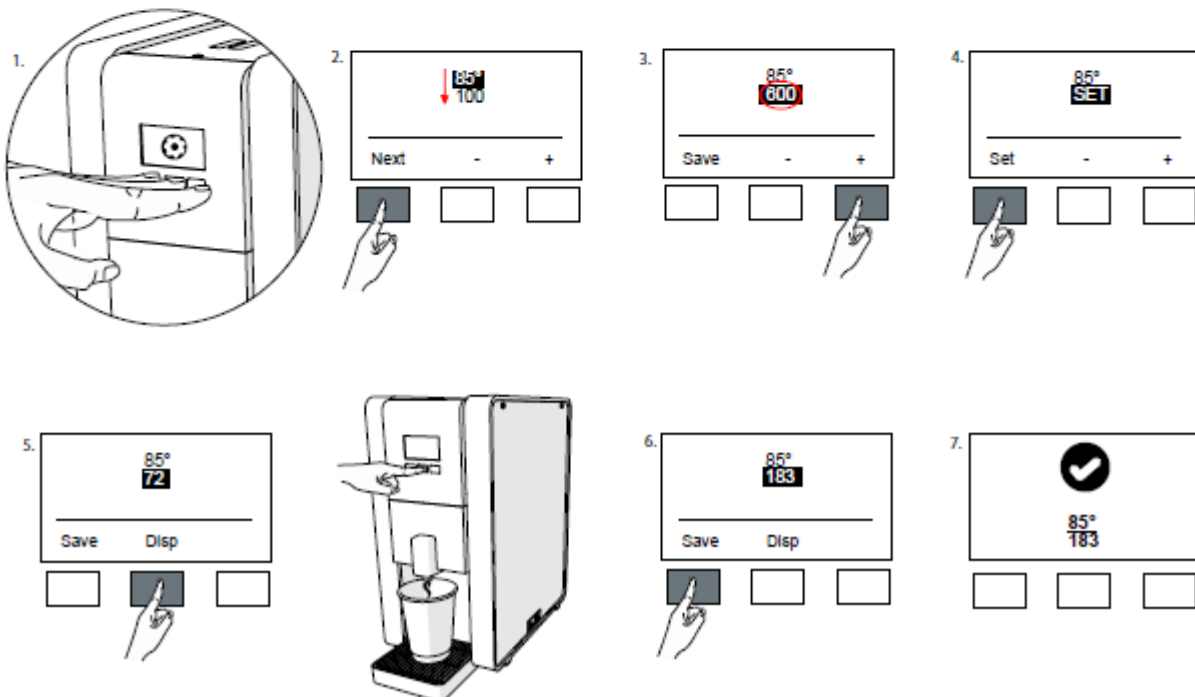


## 6.2 PB Boiler – Single Temp Operation (cont.)

### Programming: Single Temp - Method 1

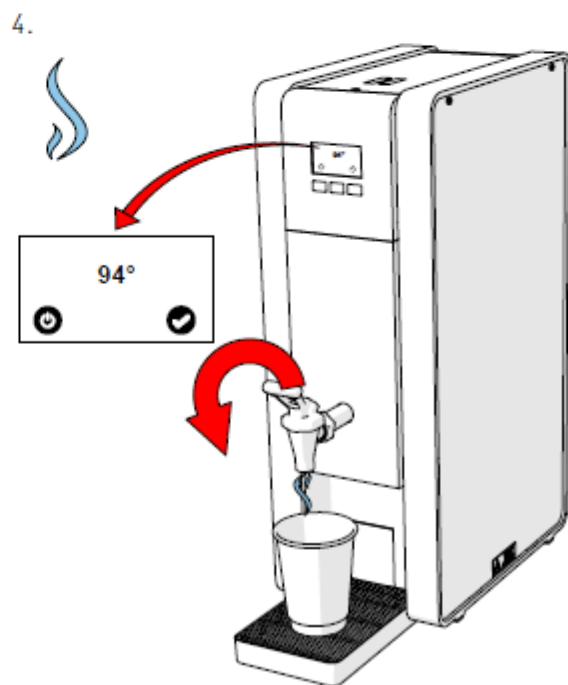
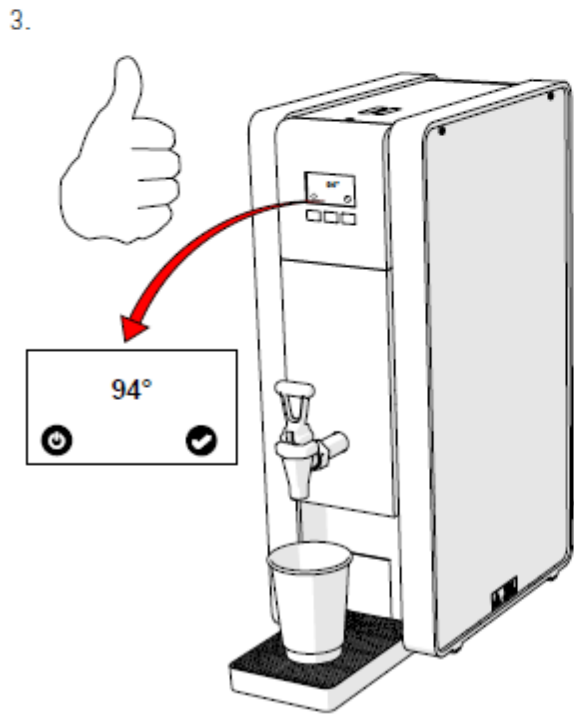
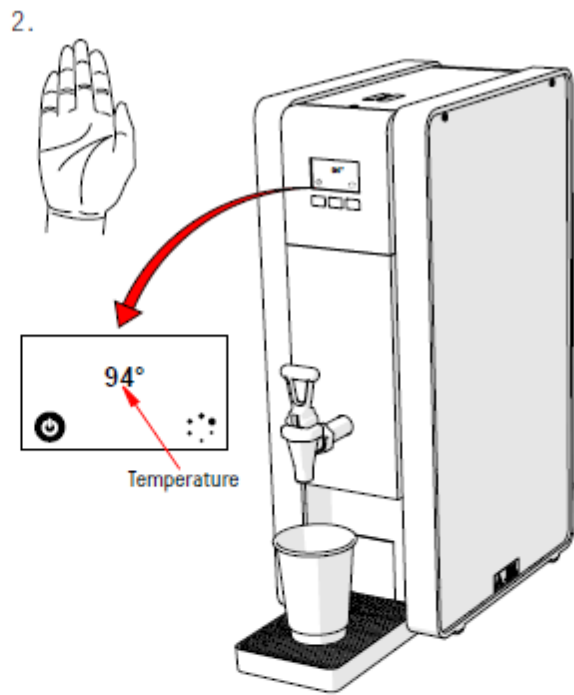
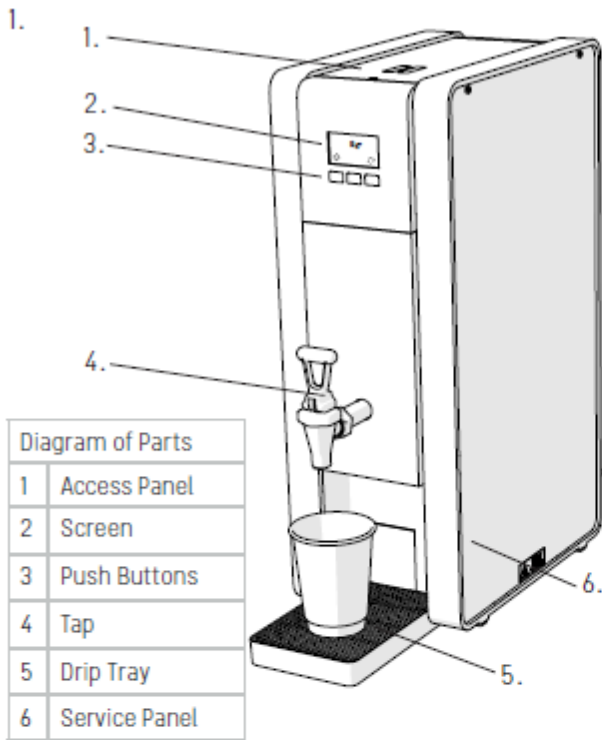


### Programming: Single Temp - Method 2



## 6.2 Tap Boiler – Operation

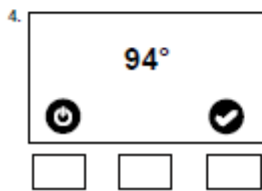
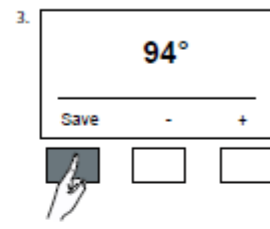
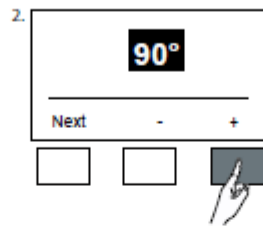
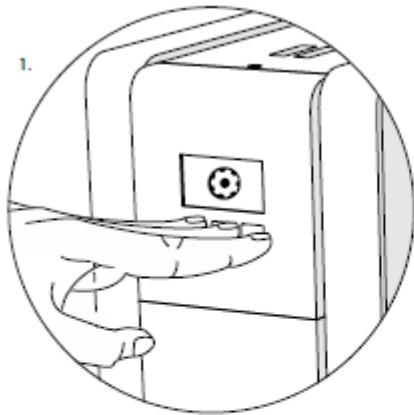
Operation: Tap





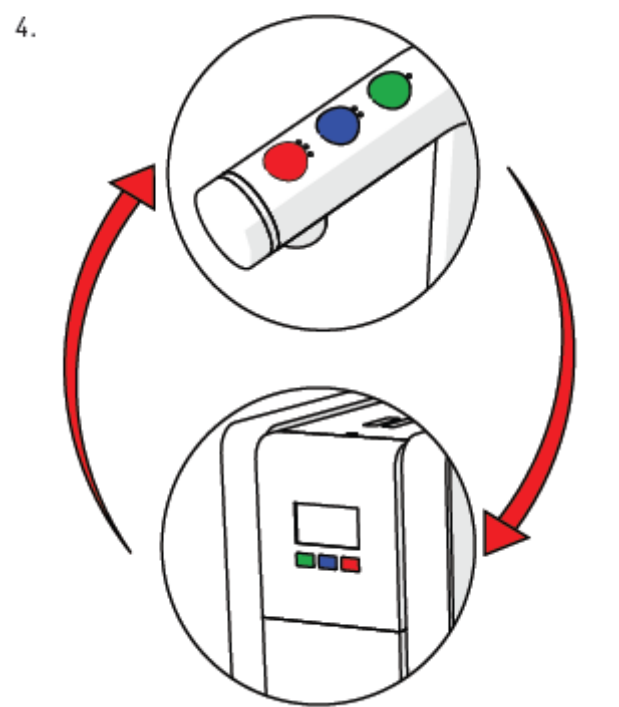
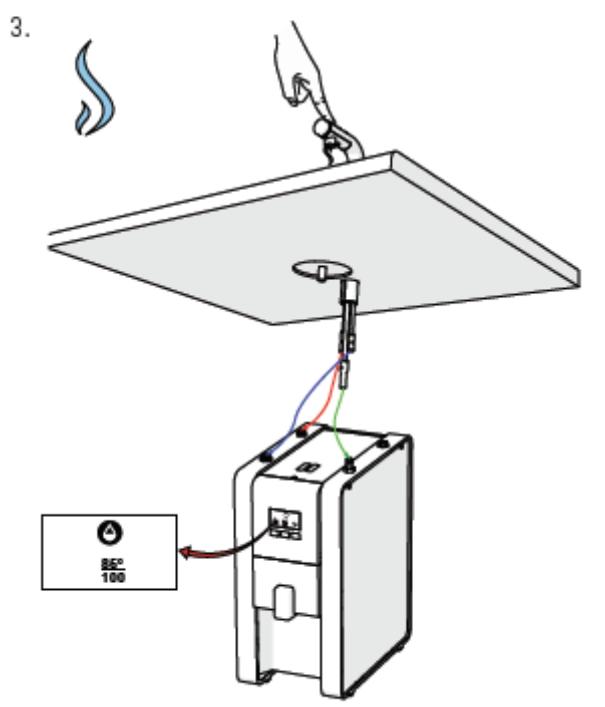
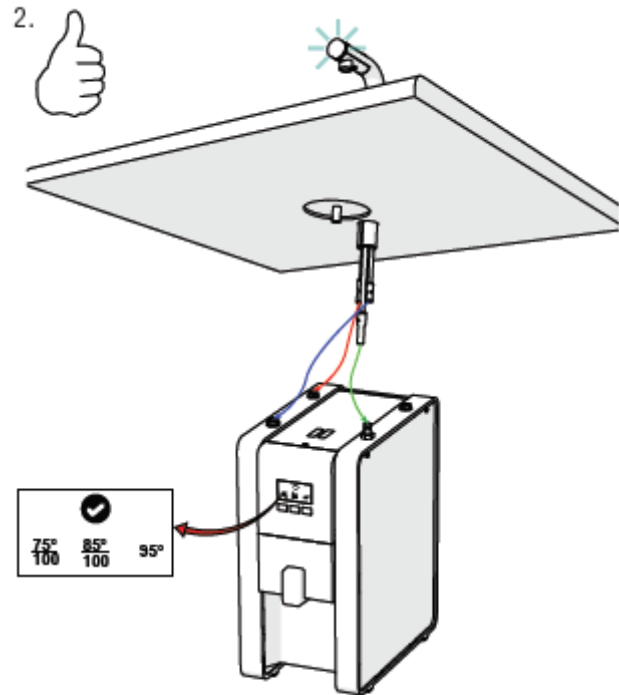
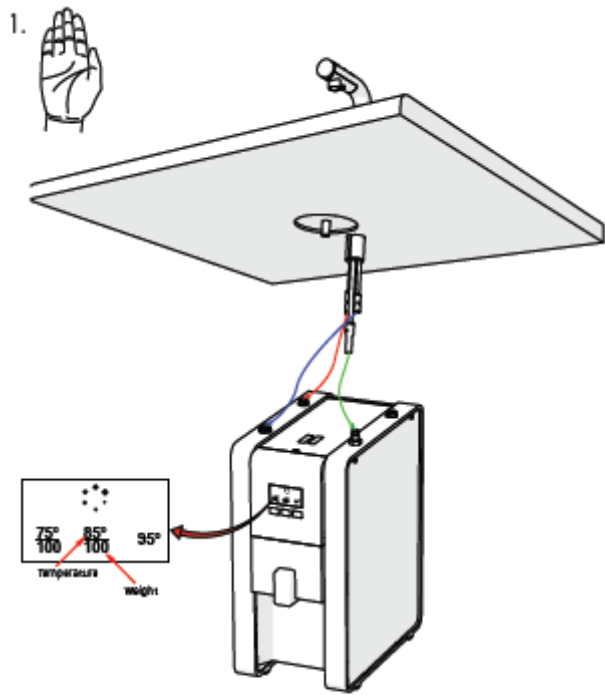
## 6.2 Tap Boiler – Operation (cont.)

Programming: Tap



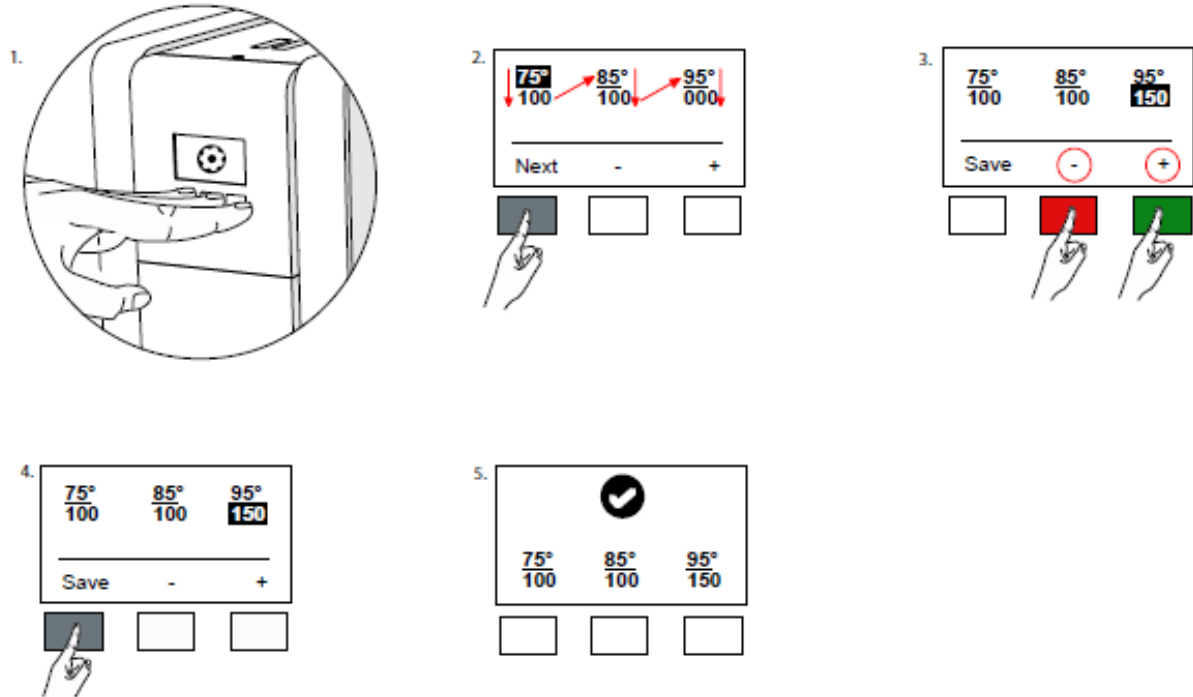
### 6.3 UC Boiler – Operation

Operation: Under Counter

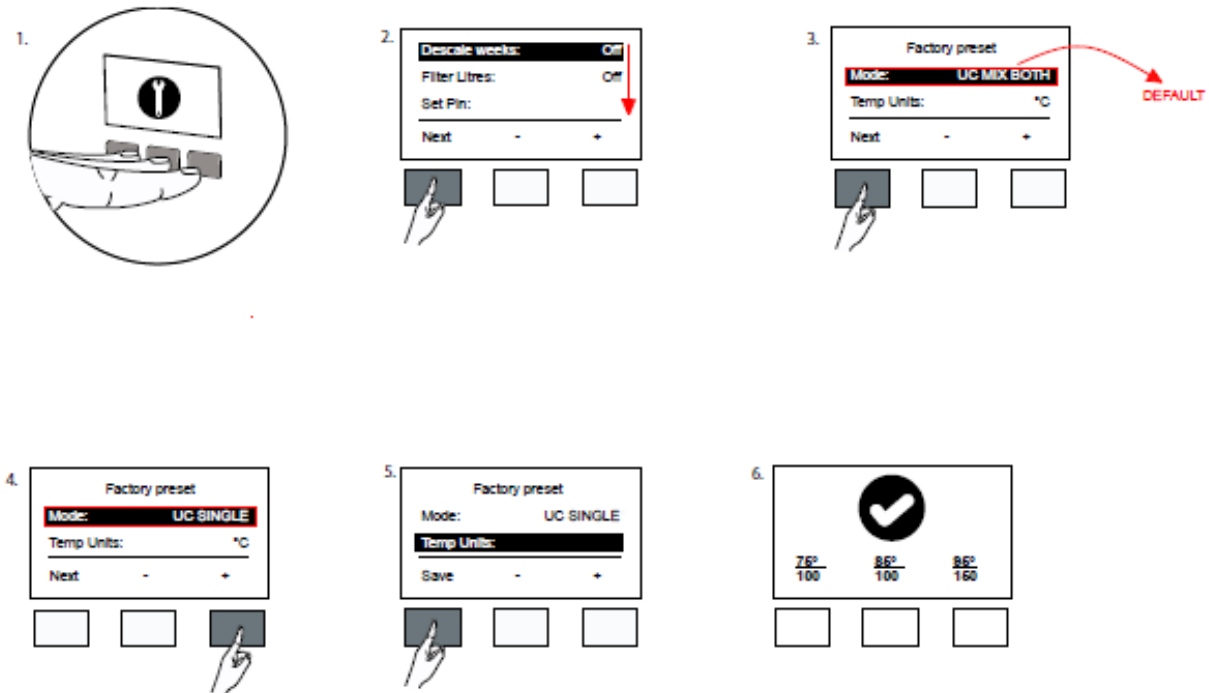


### 6.3 UC Boiler – Operation (cont.)

#### Programming: Under Counter

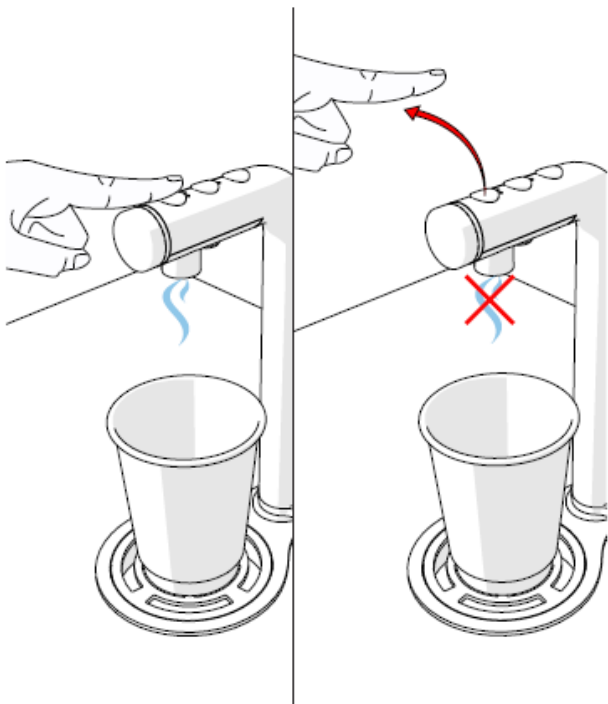


#### Set Up Single Button Font (default is 3 button font)

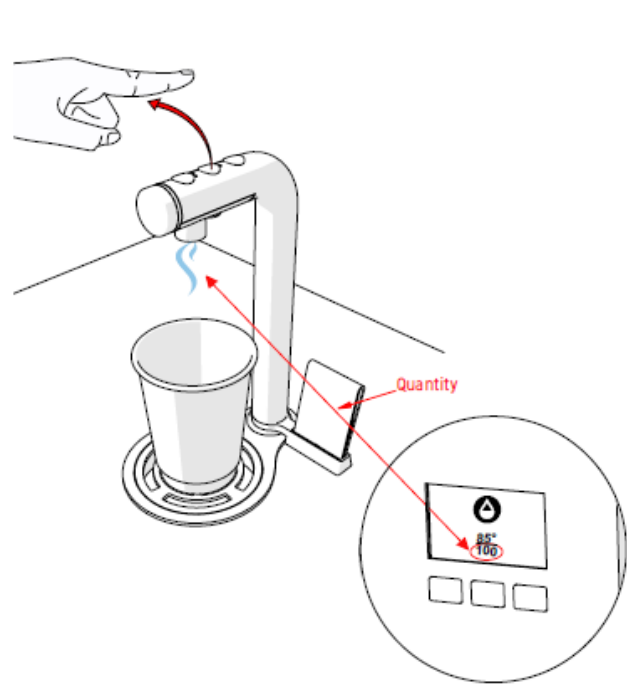


## 6.4 Mix Font – Operation

### 1. Push & Hold



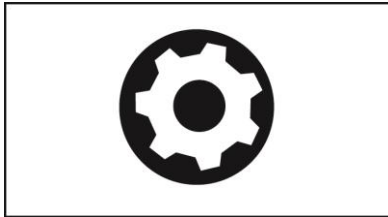
### 2. Push & Release



## 7. MENU NAVIGATION

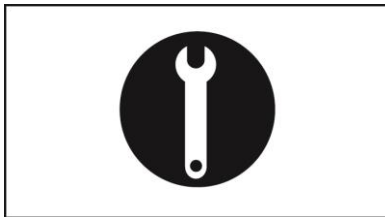
There are 3 menu 'levels' to the Mix Boiler settings.

### Level 1 – User Settings



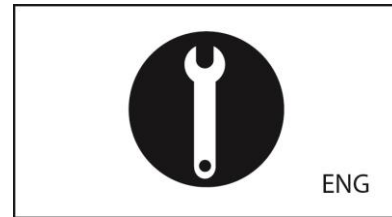
Enter by pressing all 3 buttons simultaneously

### Level 2 – Advanced Settings



Enter by pressing all 3 buttons simultaneously for > 3 < 6 seconds

### Level 3 – Engineering Settings

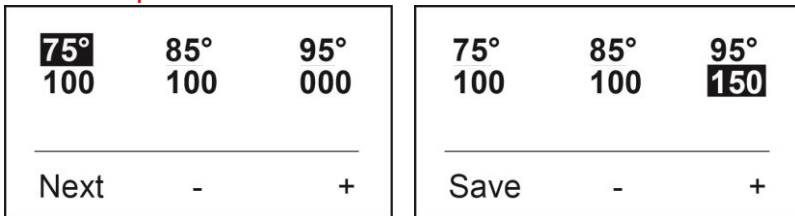


Enter by pressing all 3 buttons simultaneously for > 6 seconds

### 7.1 User Settings

The screens displayed to the User depend on which machine type the software has been set to.

#### Multi-temp PB and UC versions:



The Top row sets the desired dispense temperature of the corresponding button on the Boiler (or the Mix dispense font in the case of a UC version).

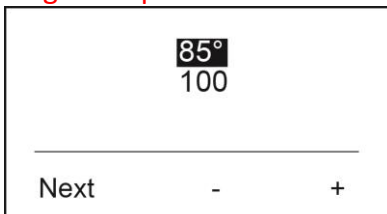
The second row shows the desired dispense volume – a volume of '000' sets the dispense button to 'Push & Hold' mode.

Press **'NEXT'** to cycle through each value shown on the screen.

Press **+** or **-** to adjust a value.

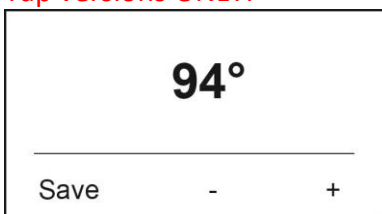
Press **SAVE** to store values and return to normal operation.

#### Single temp PB and UC versions:



**(NOTE: in single temp mode ONLY the middle dispense button is enabled – the buttons to either side as dis-abled.)**

#### Tap versions ONLY:



## 7.2 Advanced Settings (Hold all 3 buttons simultaneously for >3 <6 seconds)

<b>Descal weeks:</b>	<b>Off</b>
Filter Litres:	Off
Set Pin:	
Next	- +

Screen 1

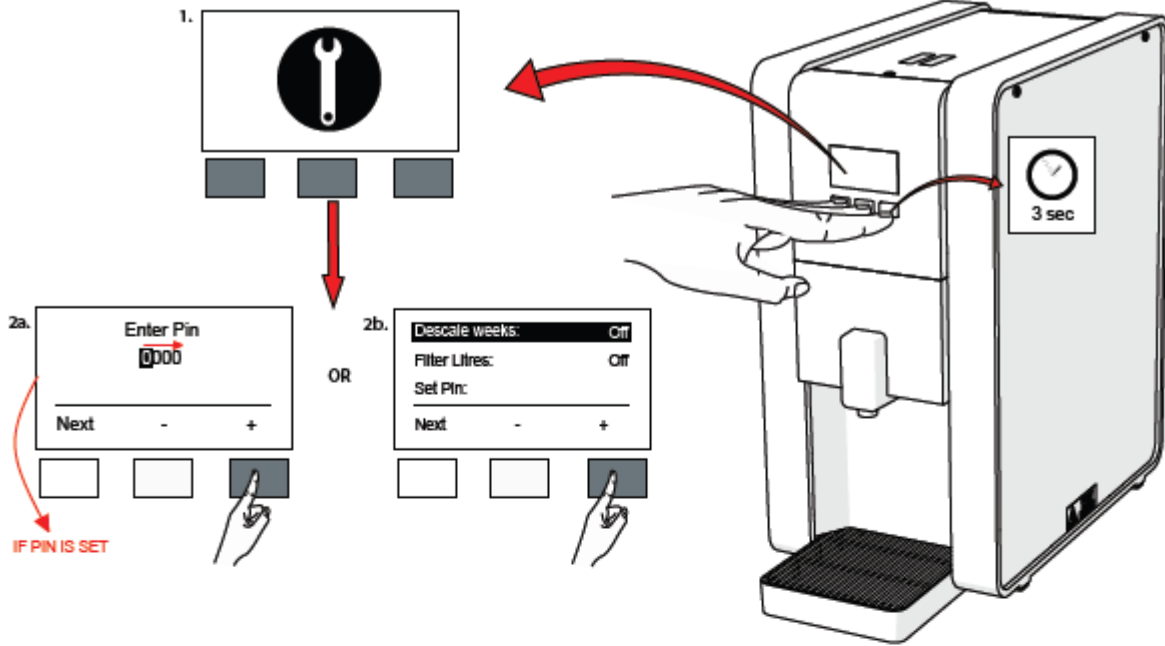
<b>Factory preset</b>	
Mode:	MIX BOTH
Temp Units:	°C
Next	Go!

Screen 2

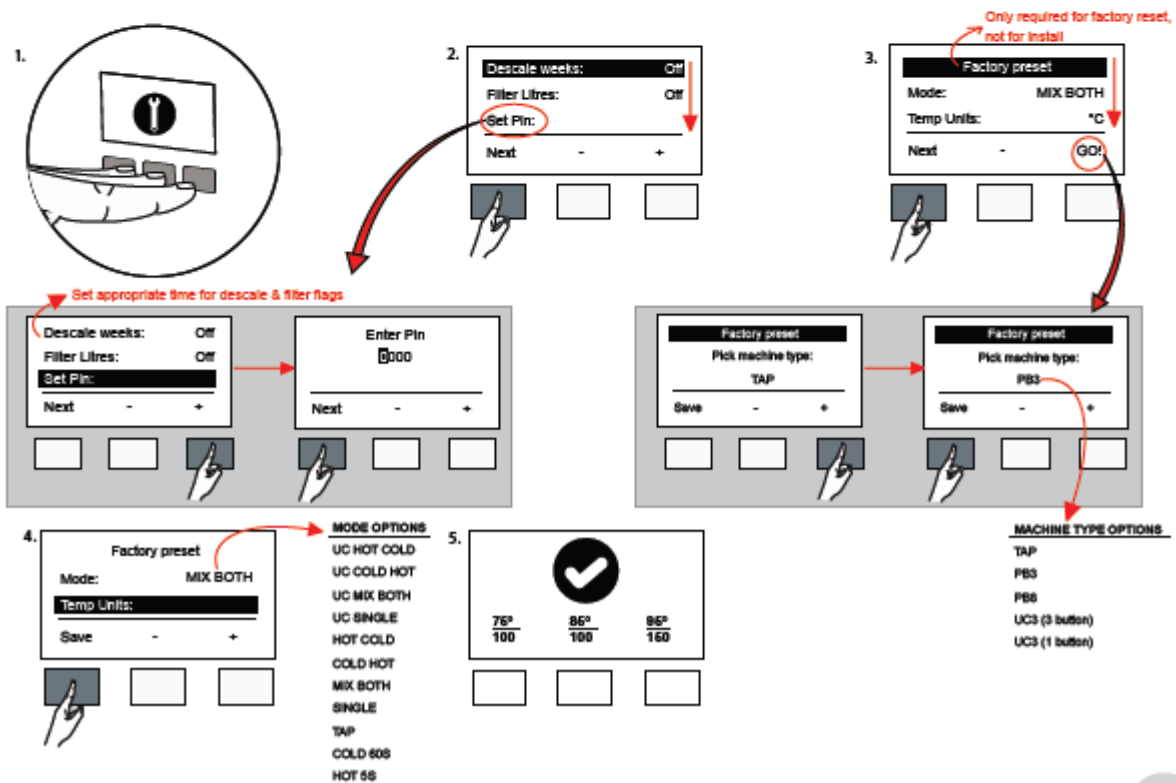
Setting	Options																				
<b>Descal Weeks</b>	OFF, 1-60 weeks – When set to a week period, a message will appear on screen to descale after that time period has elapsed.																				
<b>Filter Litres</b>	OFF, 500 – 15000L – When set to a Litre amount, a message will appear on screen to replace the filter after that amount of water has been used.																				
<b>Set Pin</b>	<p>Setting the PIN to any number other than '0000' will restrict access to the Advanced and Engineering Level settings.</p> <p>Blank, any 4-digit combination.</p> <div data-bbox="483 887 873 1104" data-label="Form"> <table border="1"> <tr> <td colspan="2">Enter Pin</td> </tr> <tr> <td colspan="2">0000</td> </tr> <tr> <td>Next</td> <td>- +</td> </tr> </table> </div> <p>(Back door PIN in the event of forgotten PIN is: 1793)</p>	Enter Pin		0000		Next	- +														
Enter Pin																					
0000																					
Next	- +																				
<b>Factory Preset</b>	<p>Resets a number of Engineering Level settings specific to a machine type. Allows selection of machine type from:</p> <p>TAP PB3 PB8 UC (3 button) UC (1 button)</p>																				
<b>Mode</b>	<p>Allows selection of mode types from:</p> <table border="1"> <thead> <tr> <th>Mode Type</th> <th>To be used for:</th> </tr> </thead> <tbody> <tr> <td>UC COLD HOT</td> <td rowspan="3">UC version connected to 3 button font</td> </tr> <tr> <td>UC HOT COLD</td> </tr> <tr> <td>UC MIX BOTH</td> </tr> <tr> <td>UC SINGLE</td> <td>UC version connected to a single button font</td> </tr> <tr> <td>COLD HOT</td> <td rowspan="3">PB version in Multi-temp operation</td> </tr> <tr> <td>HOT COLD</td> </tr> <tr> <td>MIX BOTH</td> </tr> <tr> <td>SINGLE</td> <td>PB version in single-temp operation</td> </tr> <tr> <td>TAP</td> <td>Tap versions</td> </tr> <tr> <td>COLD 60S</td> <td>for calibration and diagnostic purposes only</td> </tr> <tr> <td>HOT 5S</td> <td>for calibration and diagnostic purposes only</td> </tr> </tbody> </table>	Mode Type	To be used for:	UC COLD HOT	UC version connected to 3 button font	UC HOT COLD	UC MIX BOTH	UC SINGLE	UC version connected to a single button font	COLD HOT	PB version in Multi-temp operation	HOT COLD	MIX BOTH	SINGLE	PB version in single-temp operation	TAP	Tap versions	COLD 60S	for calibration and diagnostic purposes only	HOT 5S	for calibration and diagnostic purposes only
Mode Type	To be used for:																				
UC COLD HOT	UC version connected to 3 button font																				
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COLD HOT	PB version in Multi-temp operation																				
HOT COLD																					
MIX BOTH																					
SINGLE	PB version in single-temp operation																				
TAP	Tap versions																				
COLD 60S	for calibration and diagnostic purposes only																				
HOT 5S	for calibration and diagnostic purposes only																				
<b>Temp Units</b>	°C or °F																				

## 7.2 Advanced Settings (cont.)

1.



2.



### 7.3 Engineering Settings (Hold all 3 buttons simultaneously for >6 seconds)

The options available in the Engineering settings are usually only required during factory assembly and are mainly related to the functionality of the multi-temp software control.

In the instance where some install locations differ wildly from normal (eg extremely hot or cold incoming mains water), or if a component such as a PCB or inlet solenoid has been changed, this set of options will allow for corrections to be made so that the control software functions properly.

Dispense Calibration	
Cal weight:	600
Inlet flow:	1200
Next	Go!

Screen 1

Tank factor		5.0
Cold temp:		15.0
Cold flow:		1200
Next	-	+

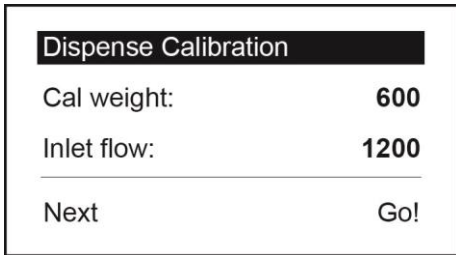
Screen 2

Setting	Option
Dispense Calibration	Pressing ' <b>Go!</b> ' – Initiates the calibration procedure for PB or UC versions.
Cal weight	User measured amount of water dispensed during calibration process.  Default values (depend on machine type): PB3 = 600 PB8 = 1050 UC (3 button) = 600 UC (1 button) = 600
Inlet Flow	The software calculated amount of water through the inlet solenoid into the boiler tank during the calibration process. NOTE: should not be edited once calibration process completed.  Default value = 1200
Tank Factor	Is a constant used in the software calculations related to the size of the tank and whether the water is pumped or fed by gravity – default settings are:  Default values (depend on machine type): PB3 = 5.0 PB8 = 8.8 UC (3 button) = 1.5 UC (1 button) = 1.5
Cold Temp	The temperature of the incoming mains water supply as seen at the boiler.  Default Value = 15.0
Cold Flow	The measured amount of water dispensed through the inlet solenoid fed to the cold water dispense nozzle in 60 seconds for PB or UC versions.  Default value = 1200.

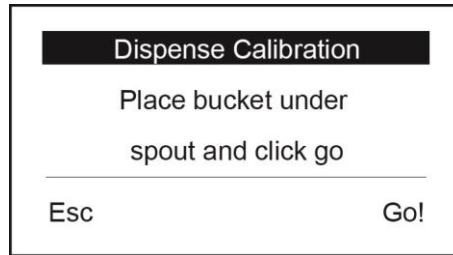


### 7.4 Dispense Calibration Procedure (in Engineering Settings)

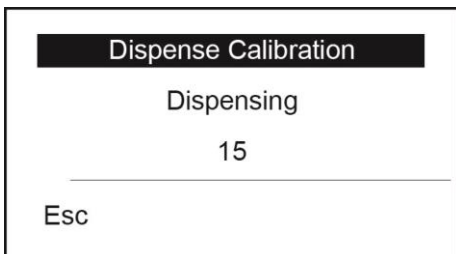
The Dispense Calibration procedure should only be run if the machine has had major component change, such as PCB or inlet solenoid that requires calibration settings to be re-done.



1. Default settings for a PB3. Press **Go!**



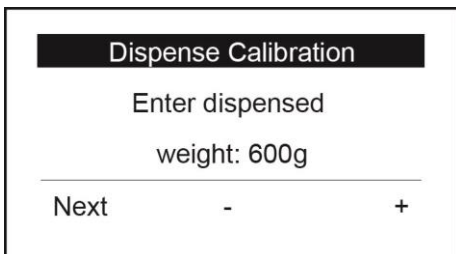
2. Place bucket. Press **Go!**



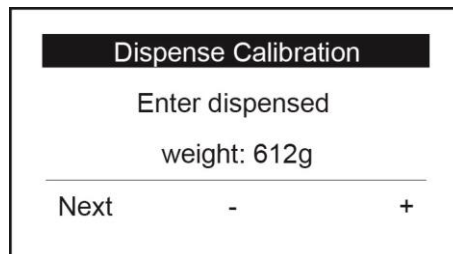
3. Machine will dispense for 15 seconds



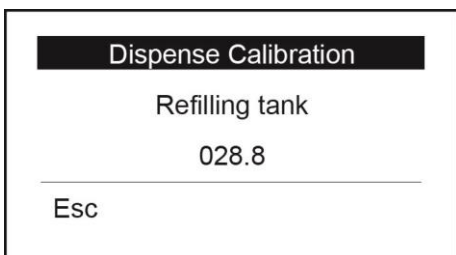
4. Weigh output



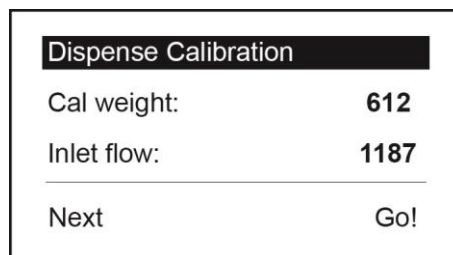
5. Screen will show the above



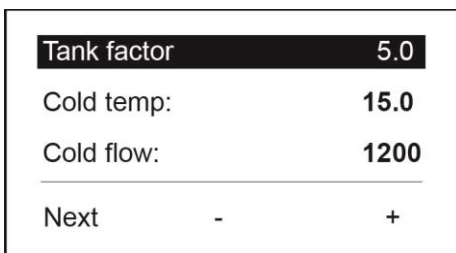
6. Enter Weight using +/- . Press **Next**



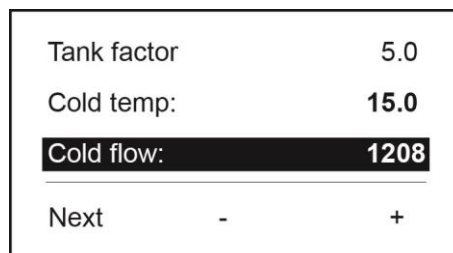
7. Machine will refill to the high level  
Time to refill is displayed on screen.



8. Screen will show entered CAL WEIGHT and software calculated INLET FLOW. Press **Next**



9. The second Engineering settings screen will show the above.



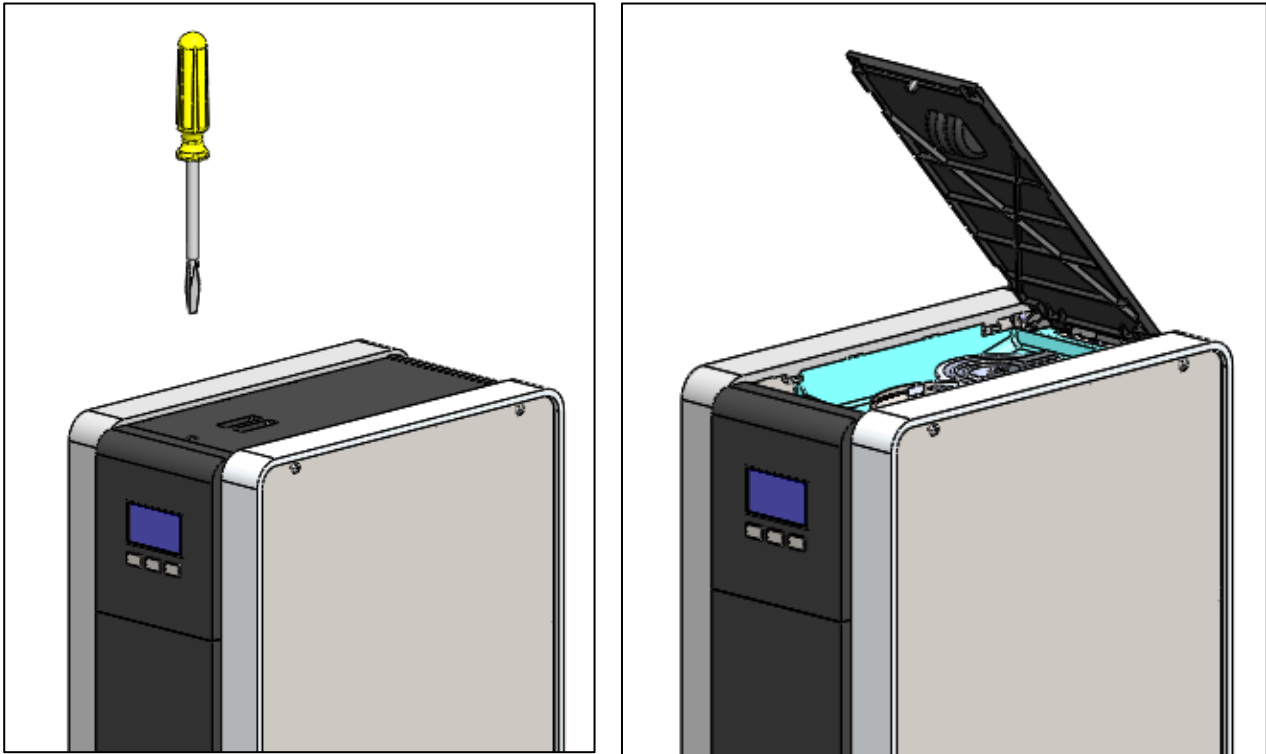
10. If the COLD 60S mode test has been performed, This value can be entered here in COLD FLOW.

## 8. ROUTINE MAINTAINENCE/INTERNAL ACCESS

Maintenance should be carried out by Marco approved technicians only.

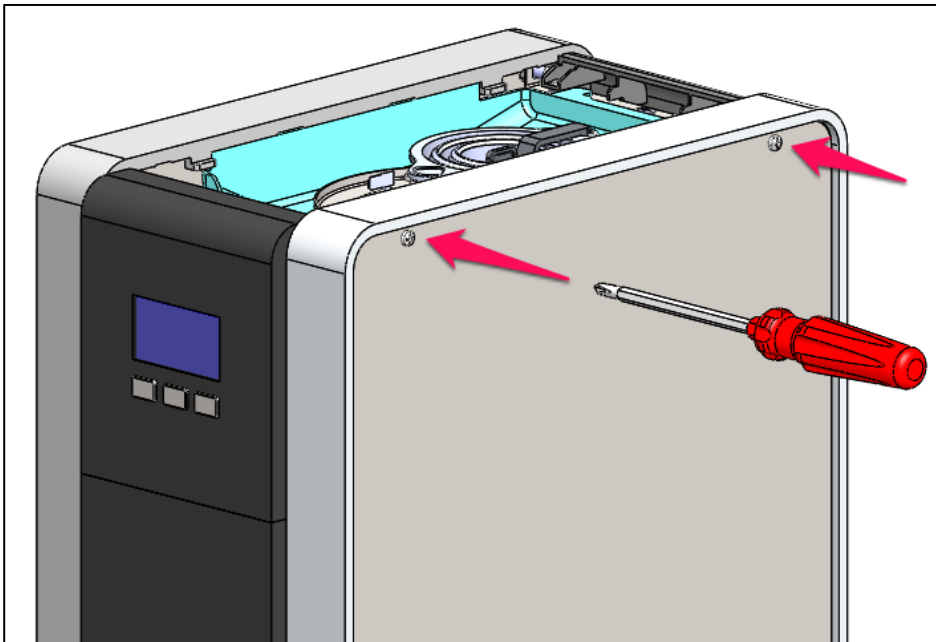
### 8.1 Top Lid Removal:

1. Remove the screw in the top lid with a suitable slotted screwdriver.
2. Rotate lid from the front edge upwards and remove.



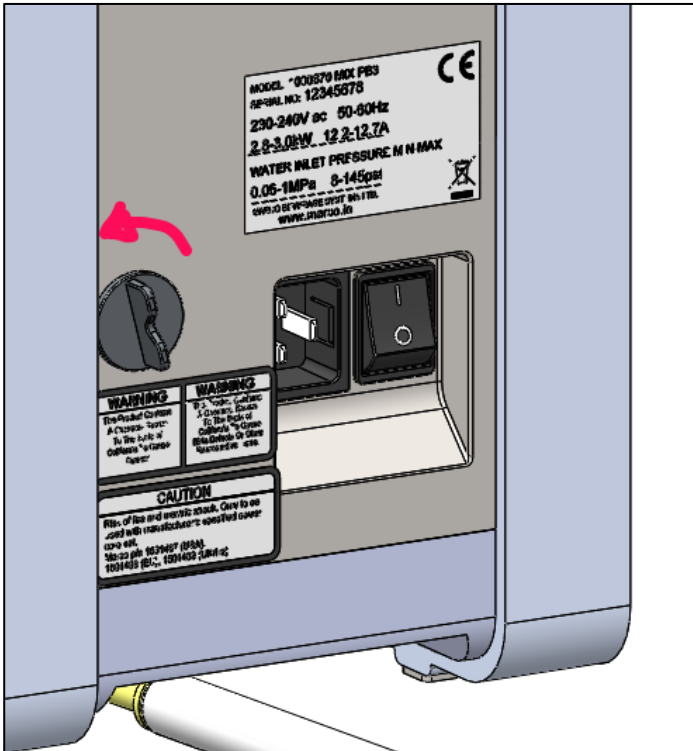
### 8.2 Side Panel Removal:

For maintenance requiring deeper internal access, both side panels can be removed by using a suitable cross headed (phillips) screwdriver.

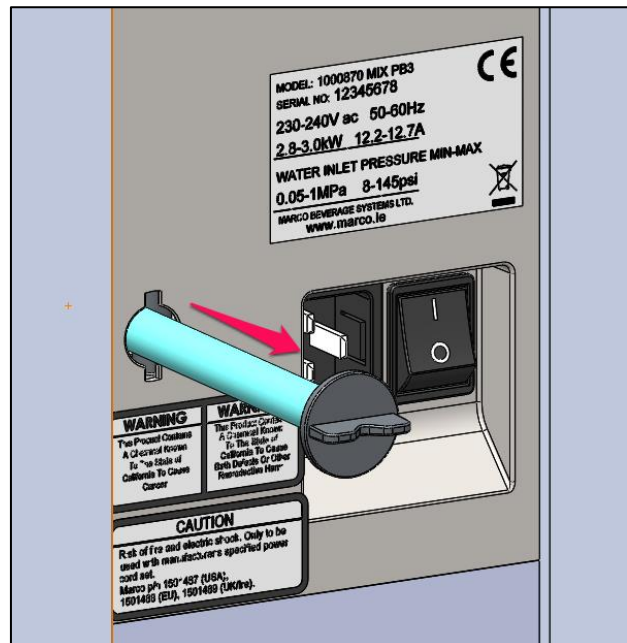
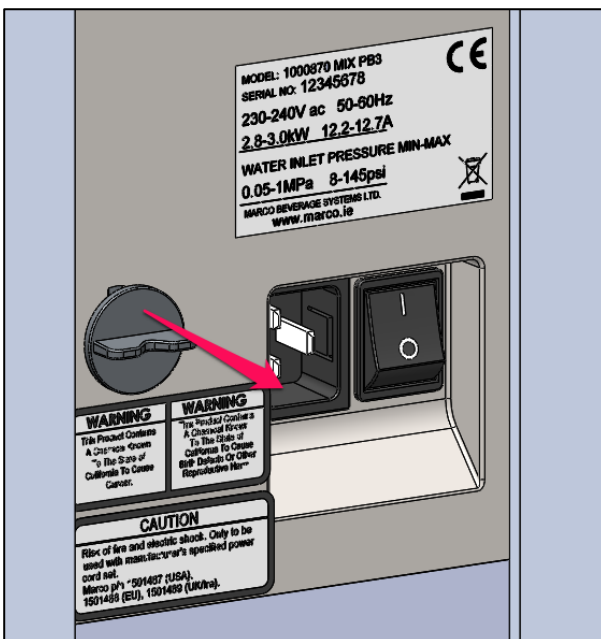


### 8.3 Draining the tank:

1. Turn off machine and disconnect from mains power.
2. Allow to cool sufficiently to avoid burn risk.
3. Place machine so that the rear of the machine is located next to a sink or a bucket large enough to hold the full contents of the tank.
4. Unclip drain hose plug from rear panel by rotating anti-clockwise 90°.



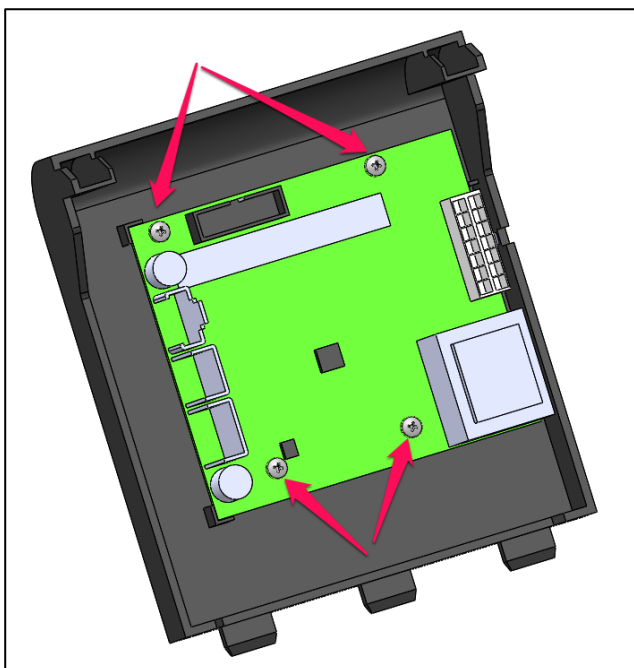
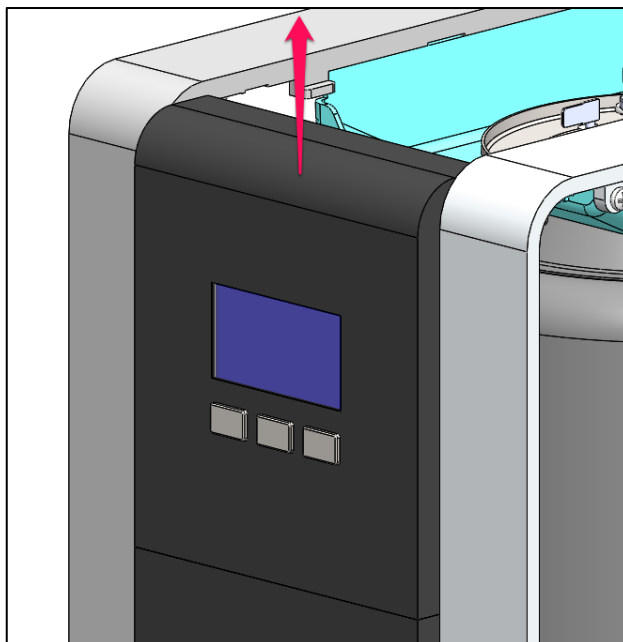
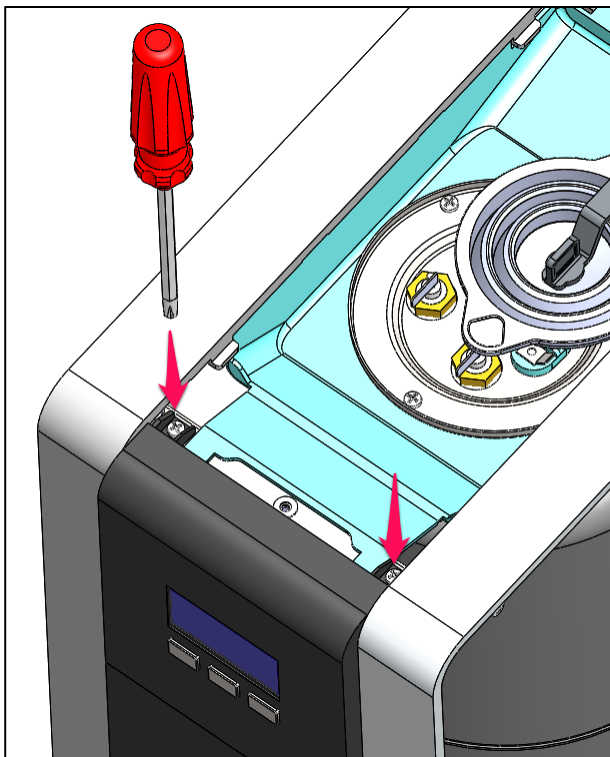
5. Gently pull silicone hose from the inside of the machine.



6. Remove drain plug from the end of the silicone hose and empty into sink or bucket.
7. Replace drain plug fully into silicone hose and push silicone hose gently back into the machine.
8. Re-clip the drain plug to the rear plastic enclosure panel by rotating 90° clockwise.

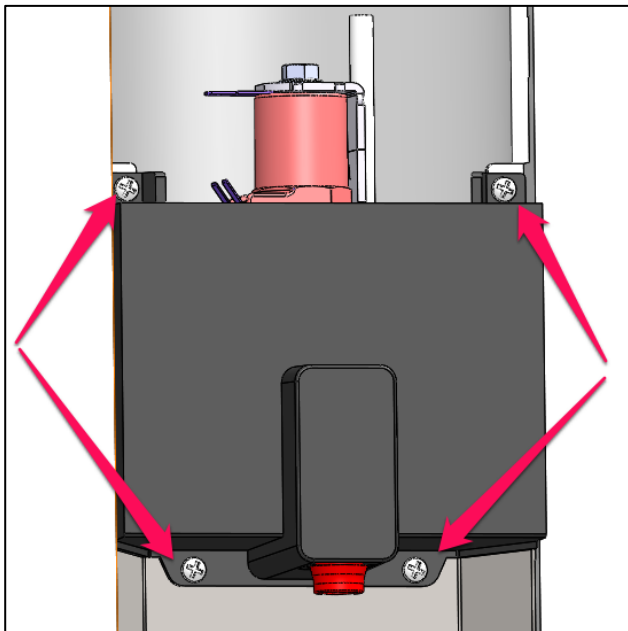
#### 8.4 PCB replacement:

1. Remove Top Lid & Side panels as per sections 8.1 and 8.2.
2. Disconnect all wiring connected to the PCB.
3. Remove two cross headed screws with a suitable screwdriver shown in the picture below.
4. Pull Upper front Fascia Panel upwards to remove from the machine.
5. Remove 4 screws to release PCB from Front Fascia panel.



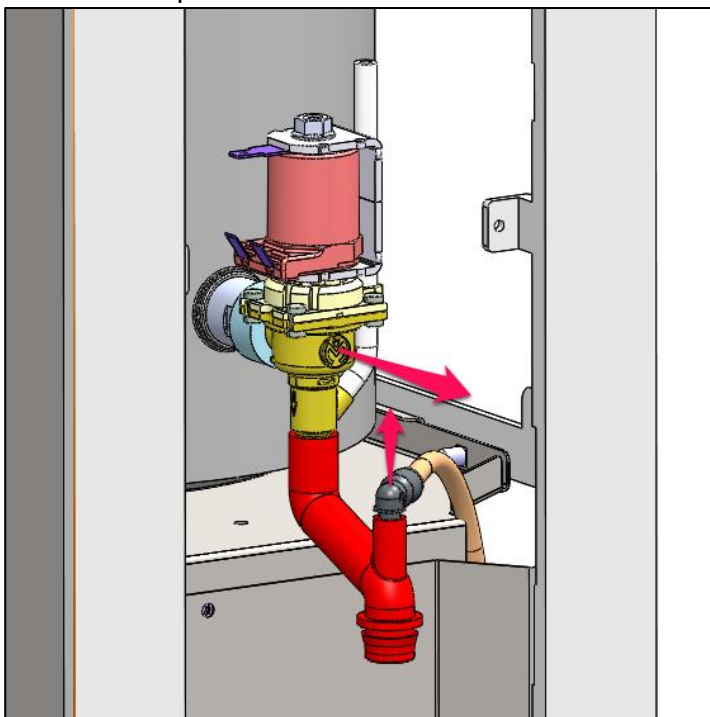
### 8.5 Dispense Solenoid or Pump replacement:

1. Remove Upper Fascia Panel as per section 8.4.
2. Undo 4 retaining screws as shown in picture below.
3. Then pull the plastic panel directly outwards from the machine. (For PB versions, push the silicone dispense nozzle through the hole – the nozzle will need to be squeezed slightly).



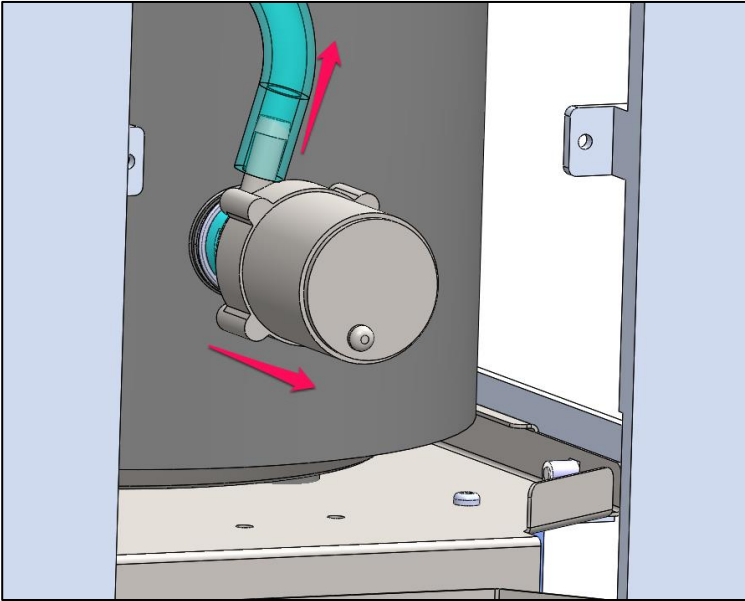
To remove the dispense solenoid in a PB version: **(CAUTION - make sure tank is drained fully first as per section 8.3!)**

1. Disconnect all wires connected to solenoid.
2. Disconnect cold water feed in to the Silicone dispense nozzle by pulling upwards.
2. Pull dispense solenoid out of the silicone mounting grommet. If the grommet is damaged it may need to be replaced.



To disconnect a pump in a UC version: **(CAUTION - make sure tank is drained fully first as per section 8.3!)**

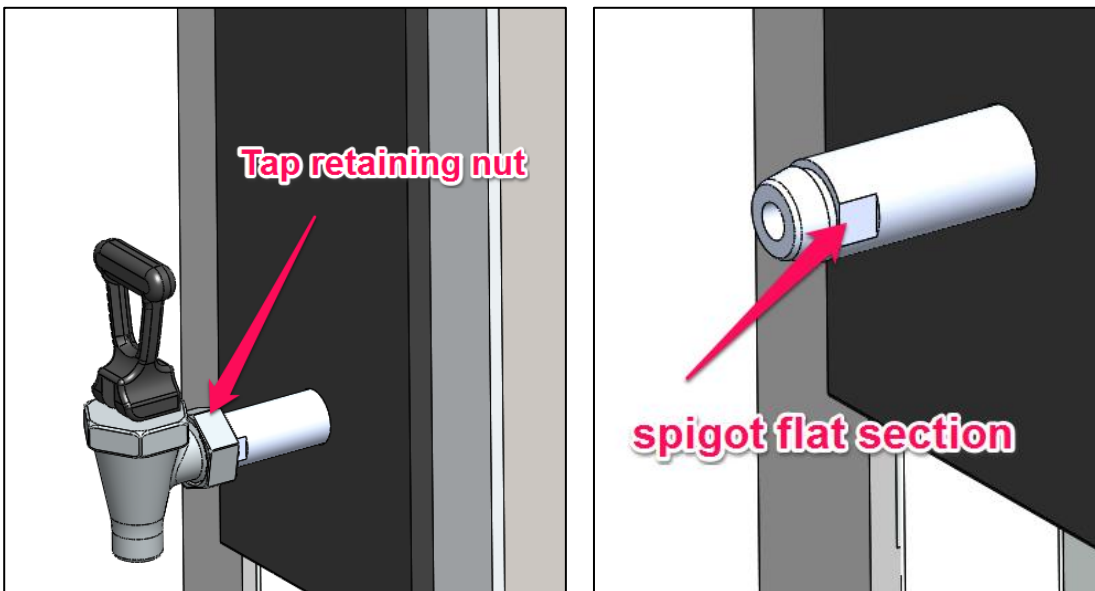
1. Disconnect all wires connected to the pump
2. Pull the silicone hose off the outlet side of the pump.
3. Pull the pump out of the silicone mounting grommet.



### 8.6 Dispense Tap removal

To remove the dispense tap in any Tap version boiler: **(CAUTION - make sure tank is drained fully first as per section 8.3!)**

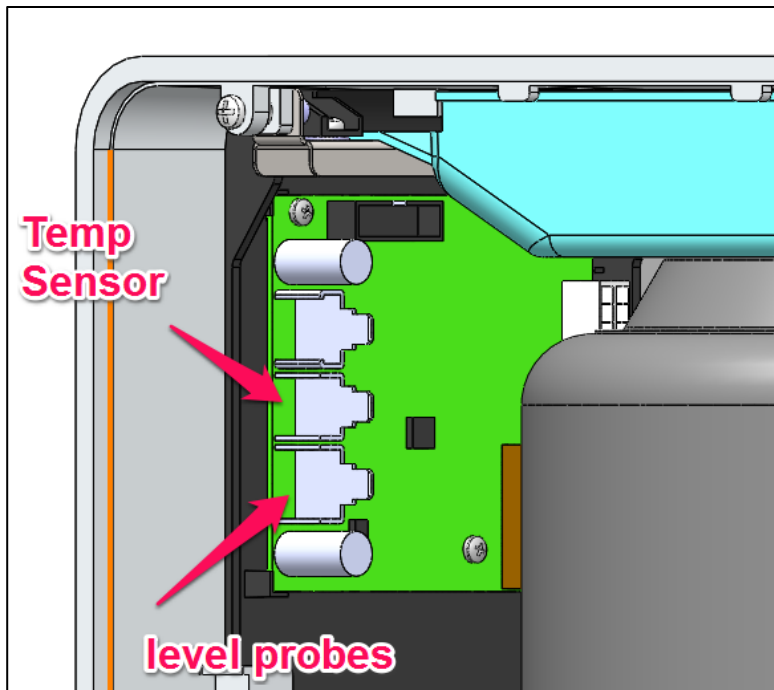
1. Loosen Tap retaining nut by turning clockwise.
2. When tightening the nut, the spigot should be gripped and held in place by a 19mm spanner at the flat sections.



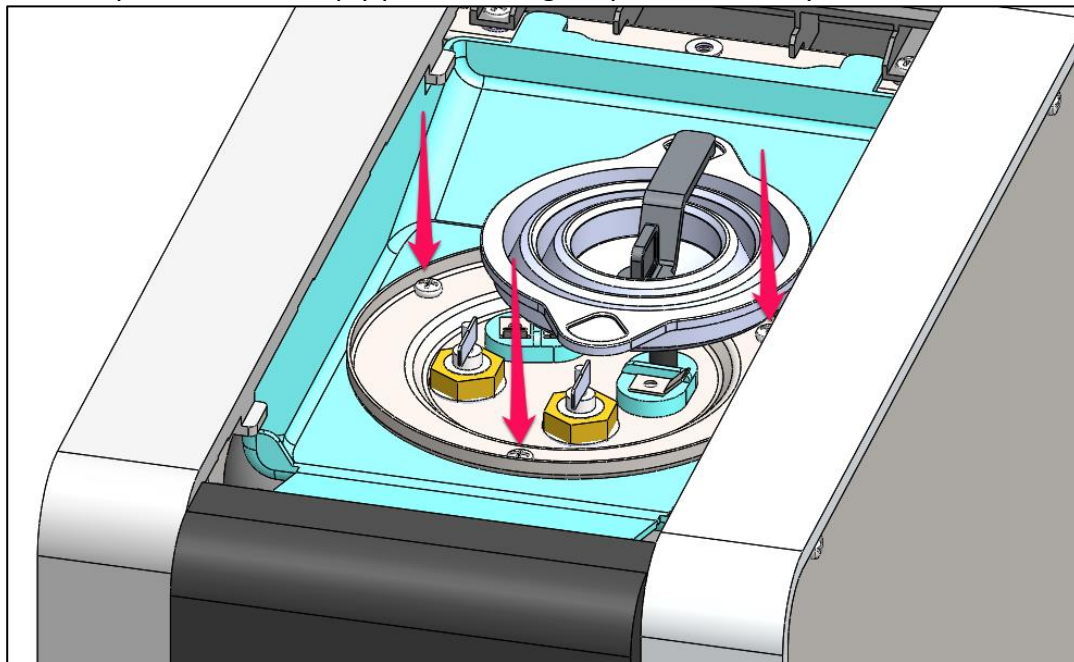
### 8.7 Tank Lid Sub-Assembly Removal

To remove the Tank Lid sub-assembly (with element, thermistor & level probes attached):

1. Disconnect machine from mains power and allow to cool!
2. Remove Outer Lid as per section 8.1 and right hand side panel as per section 8.2.
3. Disconnect heating element wires as well as disconnecting the level probe connector and thermistor connectors at the PCB.

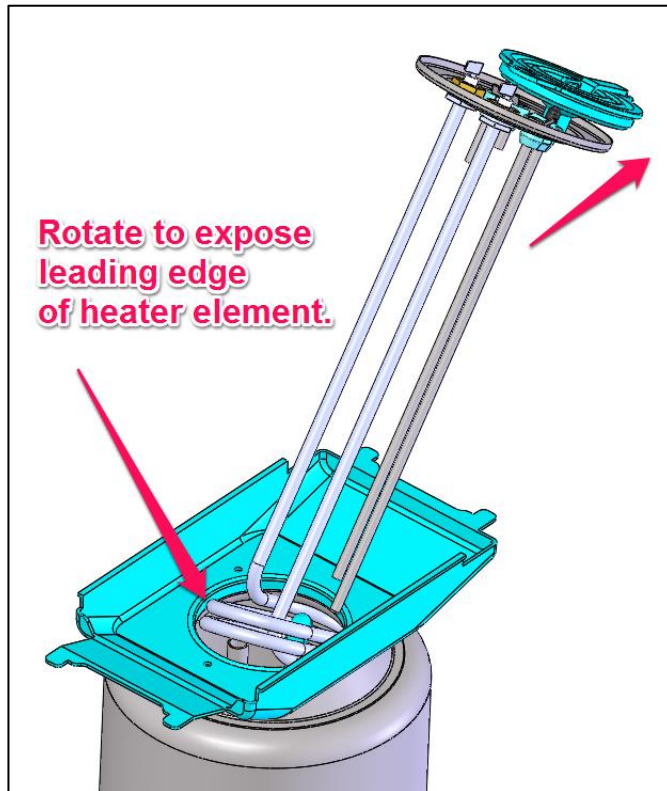
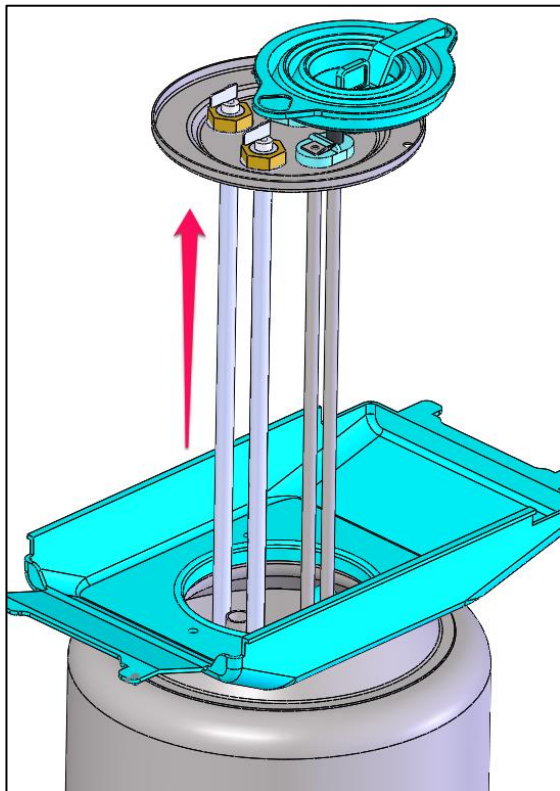


4. Undo the 3 Tank Lid retention screws located in the picture below. For the screw underneath the collapsible funnel simply push funnel gently out of the way to access the screw.

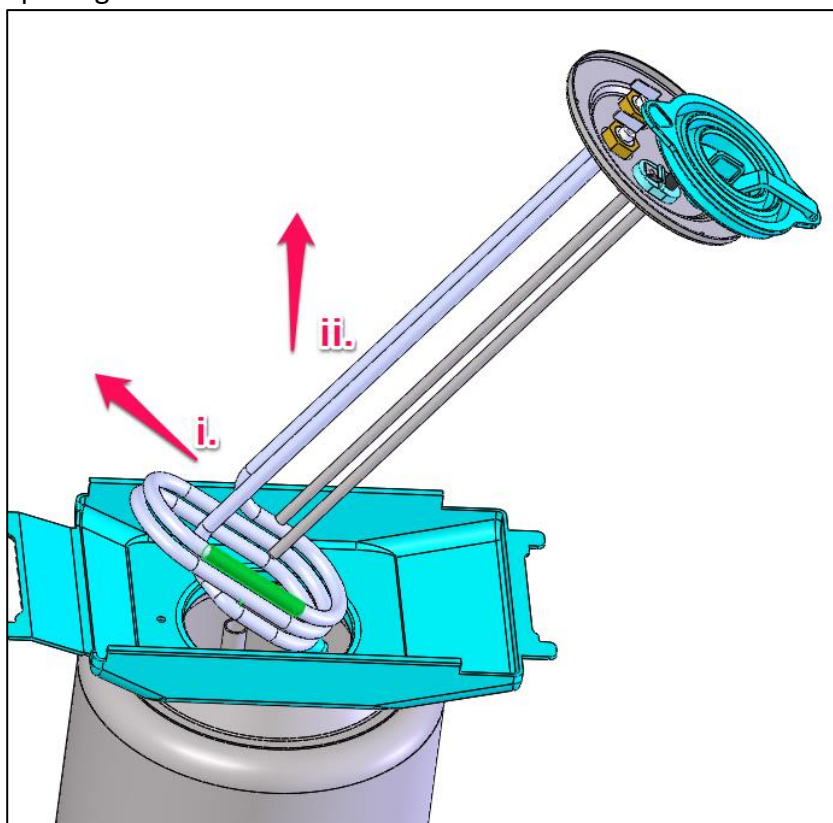


5. Gently pull the Tank Lid sub-assembly upwards initially – ensure wiring does not get caught as sub-assembly is pulled upwards.

6. Once the heater element is just over half way out of the tank, start to angle the sub-assembly towards the rear of the machine, and begin to pull the forward bent section of the heating element out of the tank opening.



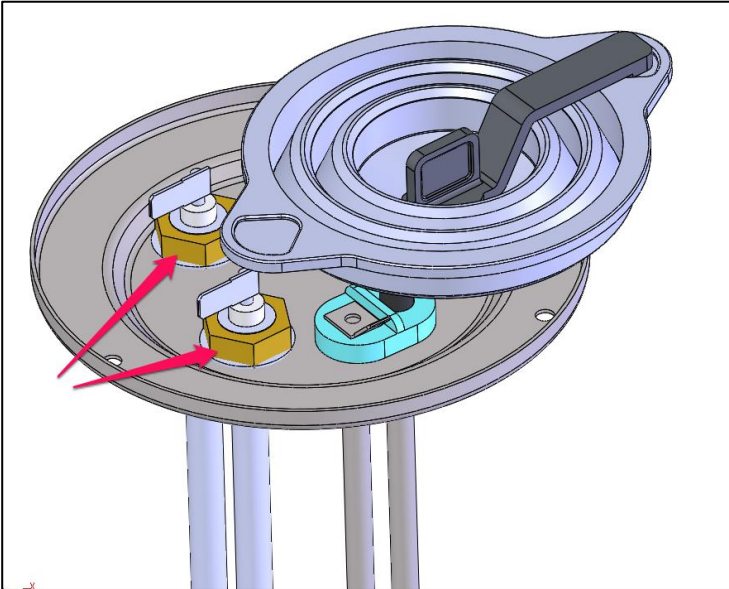
7. Finish removal by then sliding the sub-assembly forwards and upwards to disengage from Tank opening.





### 8.8. Heater Element Removal

1. Remove Tank Lid sub-assembly as per section 8.6
2. Undo the two 18mm lock nuts and slide the heater element tabs through the holes in the lid.



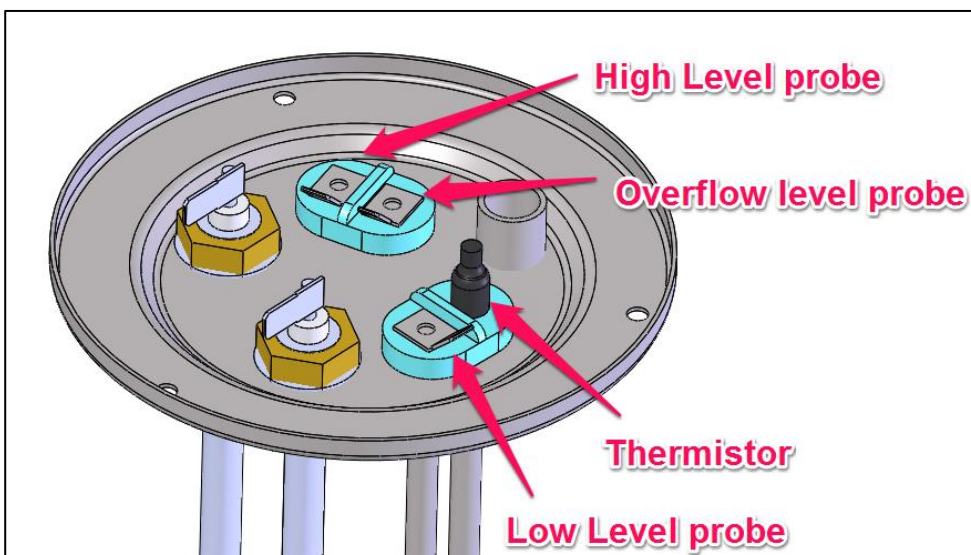
### 8.9 Thermistor & Level Probes - Cleaning & replacement

There are 3 probes (low level, high level and descale/overflow) on the Mix Boiler range.

Each probe is 'push-fit' mounted into a silicone mounting grommet.

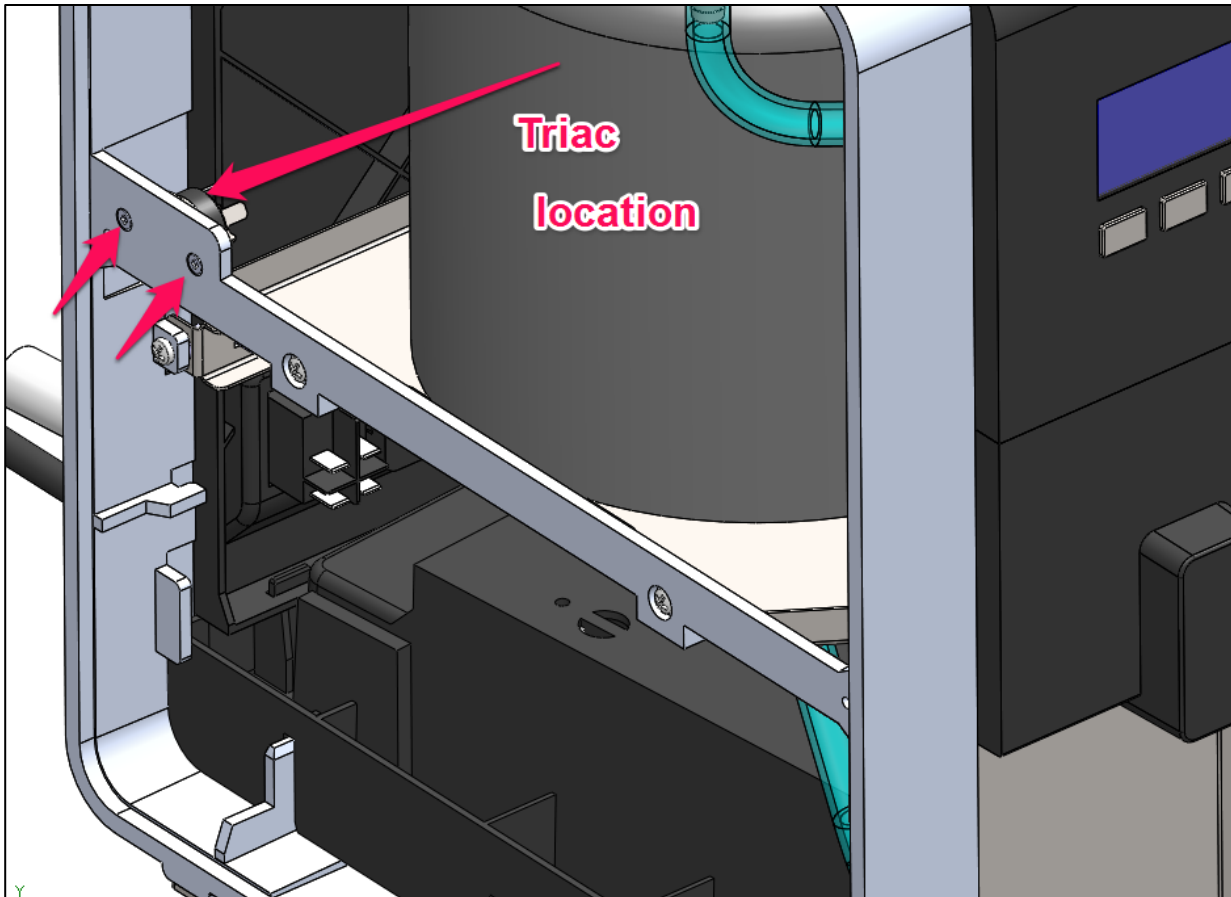
The low level and thermistor are paired together in one grommet and the high level and overflow level probes are paired together in the other.

The Tank lid sub-assembly does not need to be removed to access the level probes as they can be pulled from the silicone mounting grommet by the metal electrical tab – the descale funnel can be pushed gently out of the way to access. The thermistor can be pulled directly from the mounting grommet using a suitable set of pliers.

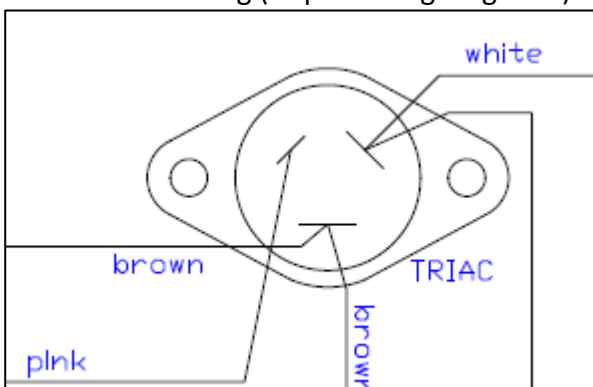


## 8.10 Triac Replacement

1. Disconnect the machine from mains power.
2. Remove the left hand side panel as per section 8.2.
3. Disconnect all wires to the Triac – **making note of the correct wiring terminal connections**
4. Undo two retaining screws as located in the picture below.

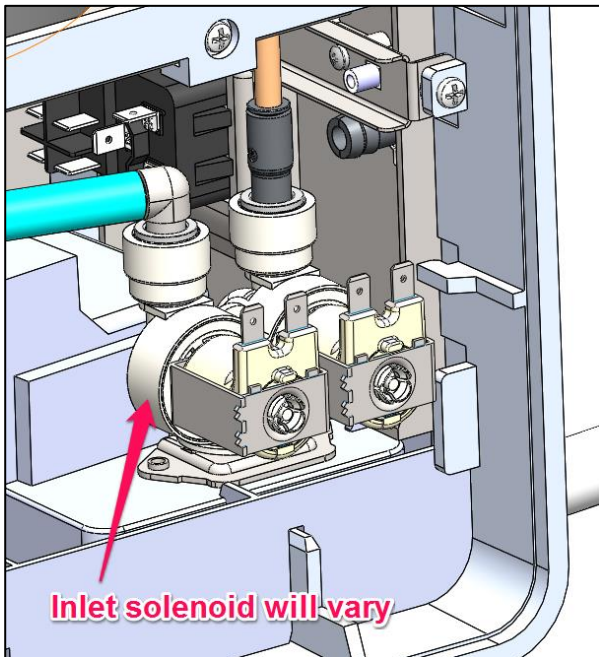


Correct triac wiring (as per wiring diagrams):

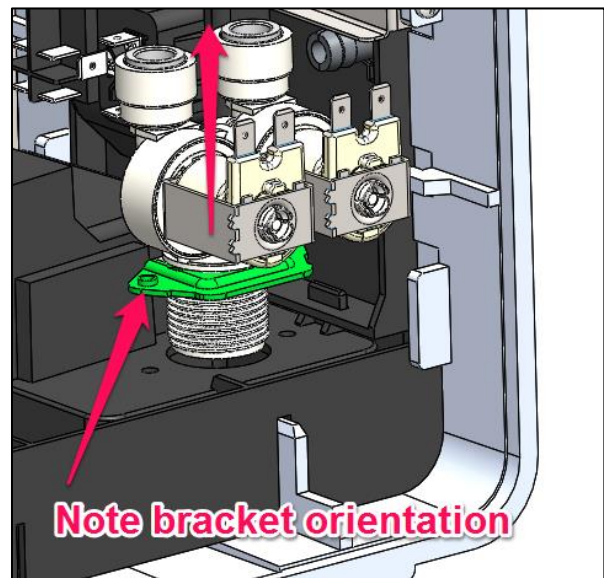
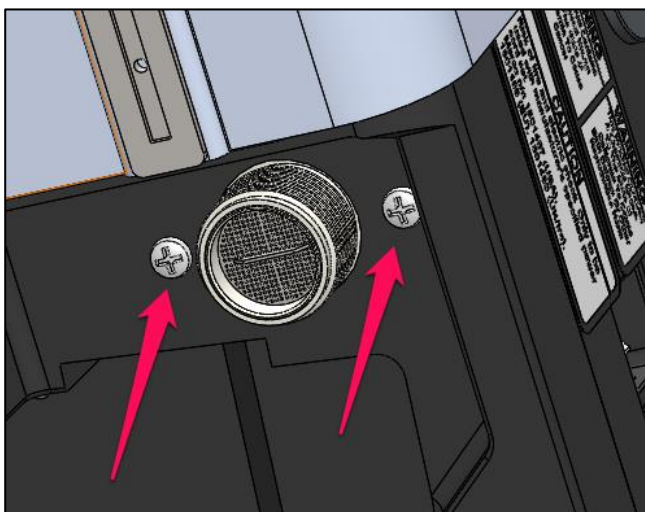


### 8.11 Inlet solenoid Replacement

1. Disconnect machine from mains power and allow to cool completely.
2. Drain tank fully as per section 8.3.
3. Remove right hand side panel as per section 8.2



4. Disconnect all wires and hoses to the inlet solenoid.
5. Remove two solenoid retaining screws located on the base of the machine.
6. Remove solenoid by pulling upwards (**NOTE:** if replacing solenoid, observe the orientation of the mounting bracket of the solenoid being removed. If orientation is NOT correct the solenoid will not fit)



### 8.12 Pump Power Supply (UC versions only)

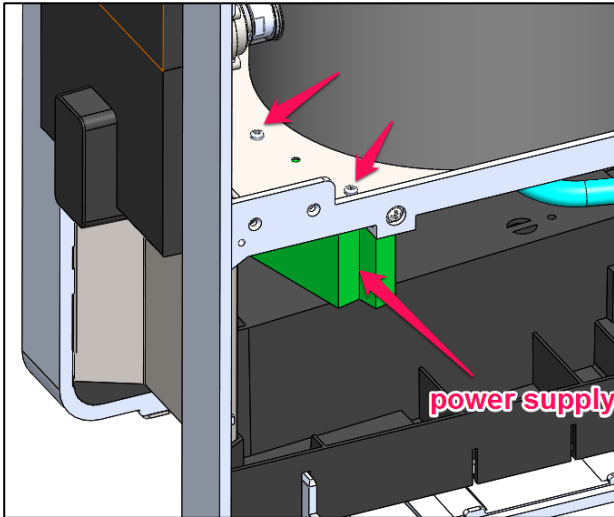
The power supply for the pump is mounted underneath the Tank Support.  
There are two possible versions of power supply fitted in slightly different locations.

**Power supply 1** is fitted to UC3's with serial number <0517xxxxxx.

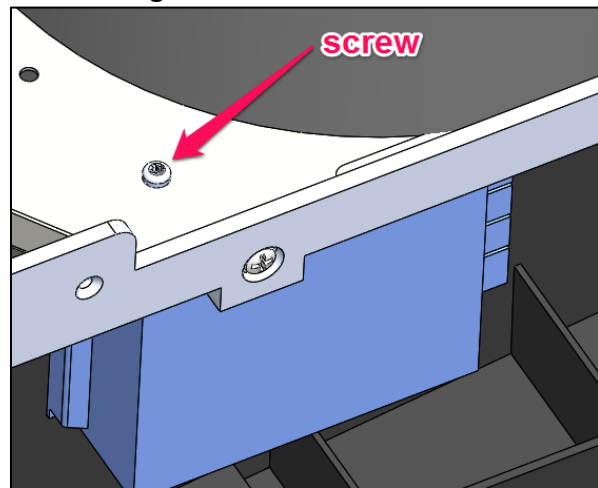
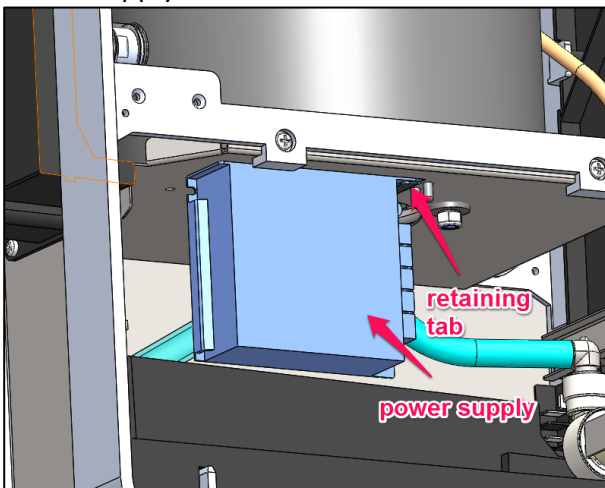
**Power supply 2** is fitted to UC3's with serial number >0517xxxxxx.

Power supply 1 has been obsoleted so all spare parts requests will be supplied with the power supply 2.

Power supply 1 location:



Power supply 2: shown below is mounted with one retaining tab and one M3x6mm screw.

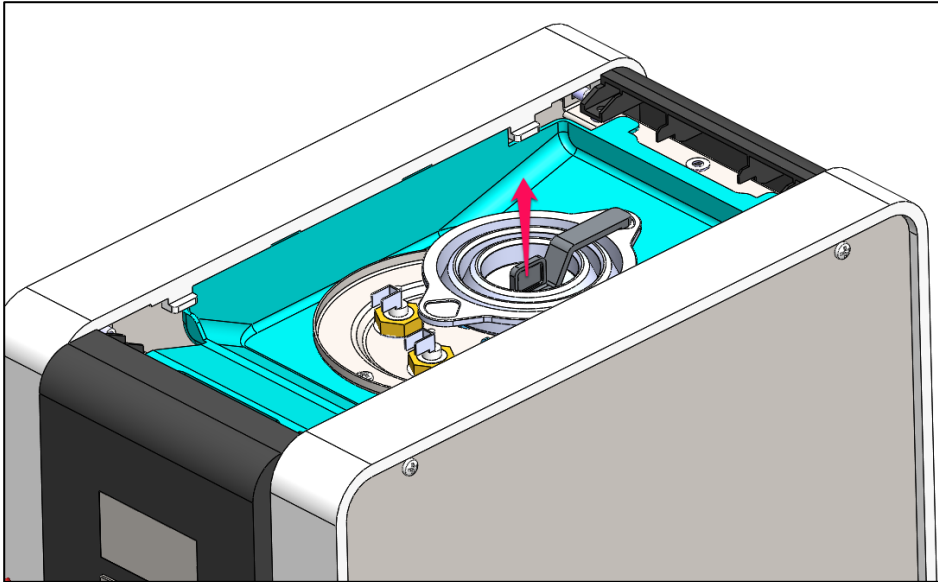


If a UC3 unit with a **power supply 1** fitted needs replacing, simply remove and refit with **power supply 2**. The retaining tab is not present on the early model tank supports so the single m3x6 screw should be used to mount the power supply 2 in place.

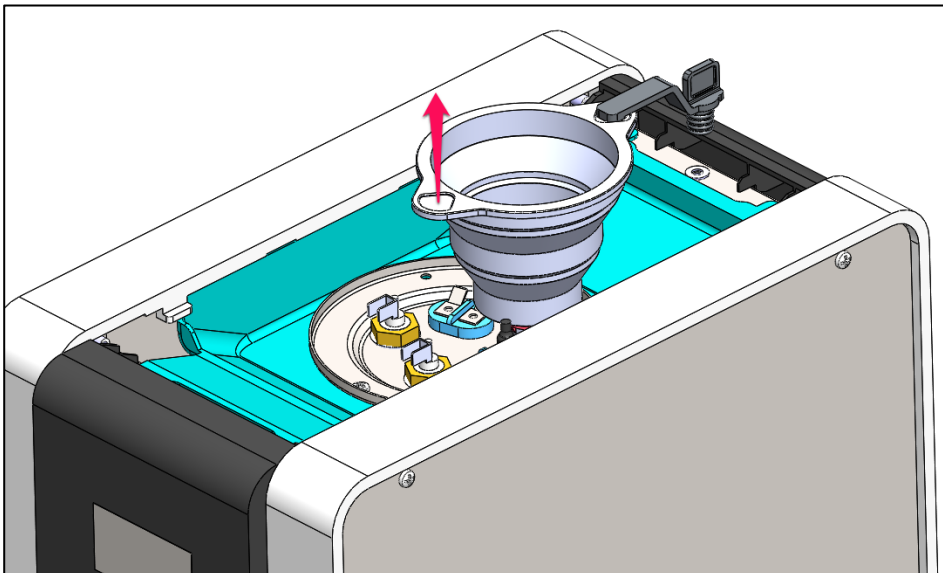
### 8.13 De-scaling the tank:

Descaling the tank in the Mix range is a little different to other water boilers as the boiler now includes a collapsible funnel for pouring in the pre-mixed descale solution.

1. Disconnect machine from mains power supply and water supply.
2. Allow machine **to cool**.
3. Remove Top Lid as per section 8.1
4. Drain off a sufficient amount water from the boiler that will be replaced by the descale solution, through the drain hose – see section 8.3.
5. Remove the descale funnel bung.



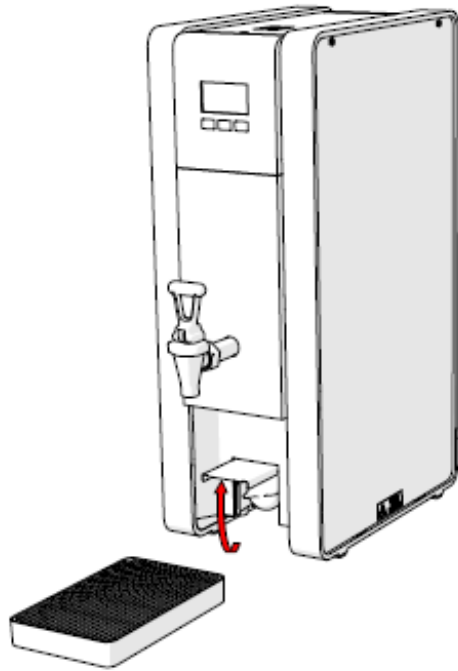
6. Pull funnel into raised position.



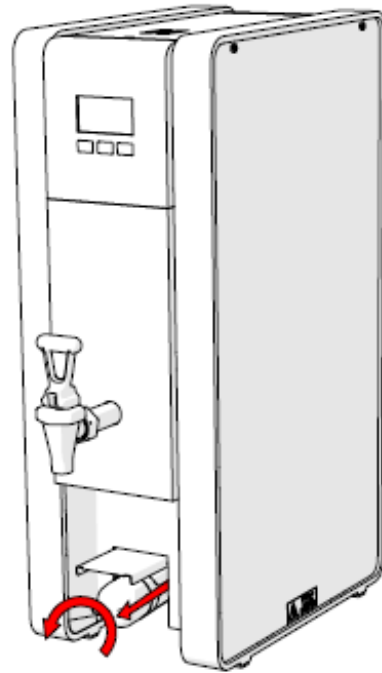
7. Pour in descale solution slowly into funnel.
8. Allow descale solution to work for required time to dissolve scale – as per descale product instructions.
9. Flush tank thoroughly to flush out limescale and descale solution through the drain hose before re-use at least 4 times.
10. If limescale build up is severe, the Tank Lid Sub-assembly may need to be removed and large deposits of scale removed by hand.

### 8.14 Changing the Filter:

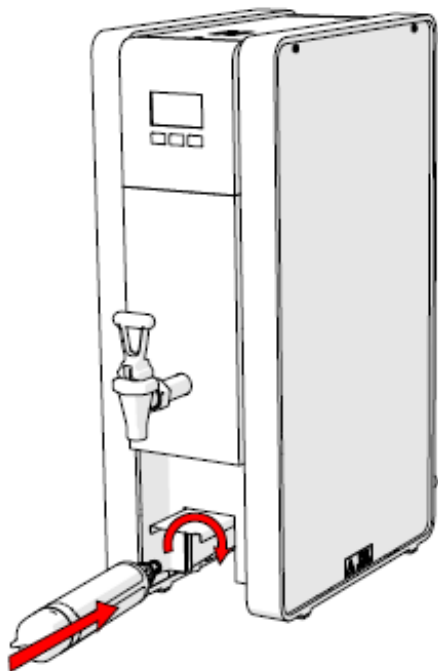
1.



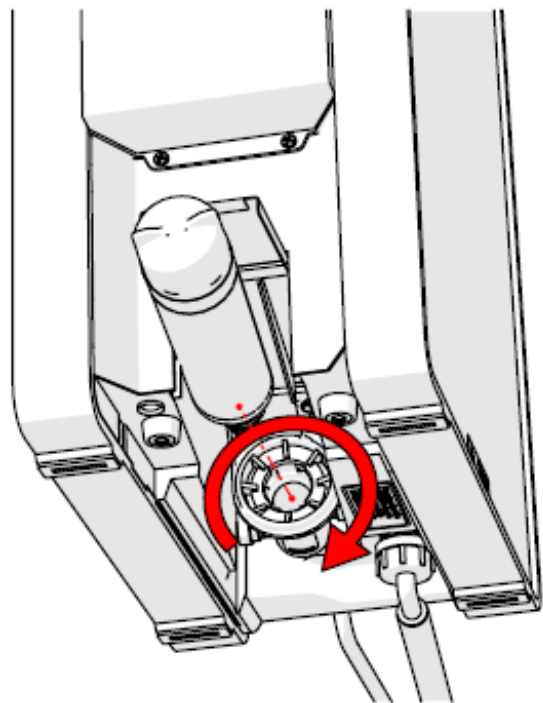
2.



3.



4.



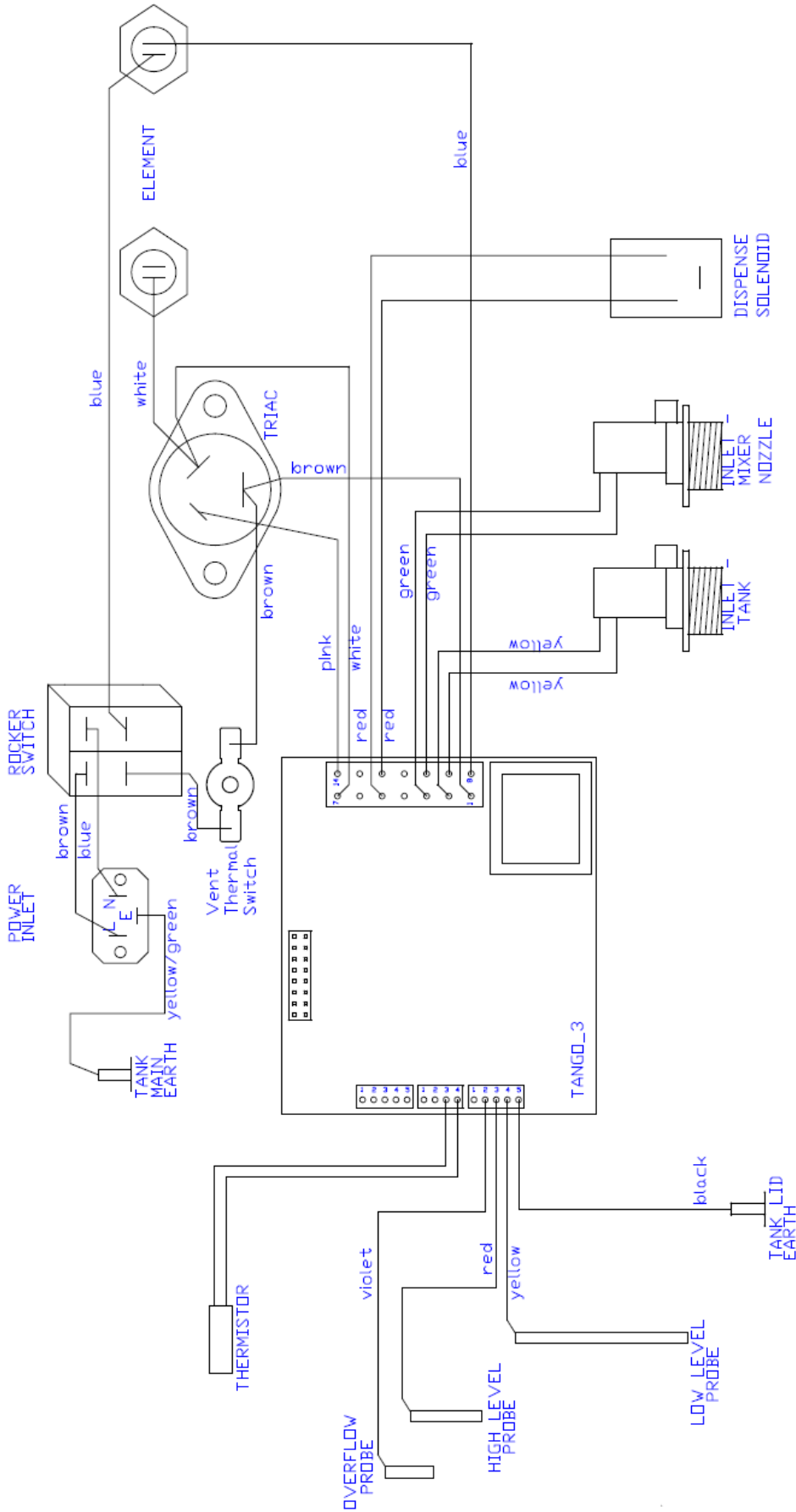
## 9. DIAGNOSTICS

### TROUBLESHOOTING – DIAGNOSTIC GUIDE:

Reported issue	Component	Check
Not heating	Heating element PCB Triac	<ul style="list-style-type: none"> <li>• Check resistance of heating element while machine is powered off. Good element will measure 18 to 22 Ohms, if ok, check</li> <li>• Check power from board to Triac. 230V supply. If no voltage within range/ replace PCB. If ok next</li> <li>• Replace Triac</li> </ul>
Level probes Error.	Level probes	<ul style="list-style-type: none"> <li>• Remove earth from Main PCB. If inlet solenoid opens and you hear water entering the tank,</li> <li>• Check for limescale. Power down unit and remove the tank lid to check for scale. If scale present,</li> <li>• Remove probes and clean with Scotch brite/ descale tank.</li> </ul>
Not heating/ No water	PCB Inlet solenoid	<ul style="list-style-type: none"> <li>• Check incoming water supply. If OK, go to below</li> <li>• Check voltage from PCB. If 230 v supply, PCB ok, replace solenoid</li> <li>• Good solenoid will measure between range 4-5k <math>\Omega</math> with no power to unit</li> </ul>
Not dispensing water	Dispense Solenoid <b>PB version</b>	<ul style="list-style-type: none"> <li>• Check power supply from PCB/ 230V OK</li> <li>• If 230V supply from PCB replace dispense solenoid</li> </ul>
Not dispensing water	Pump <b>UC version</b> PCB Power supply	<ul style="list-style-type: none"> <li>• Check power from PCB. If 230 v, PCB ok, move to</li> <li>• Regulated power supply. Check output to pump. 24v DC. If outside the 24v, replace Power supply, if ok</li> <li>• Replace the pump.</li> </ul>
Filter error	Filter	<ul style="list-style-type: none"> <li>• Remove filter and check operation</li> <li>• <b>Note, machine will operate without filter</b></li> <li>• If ok/ Replace filter</li> </ul>

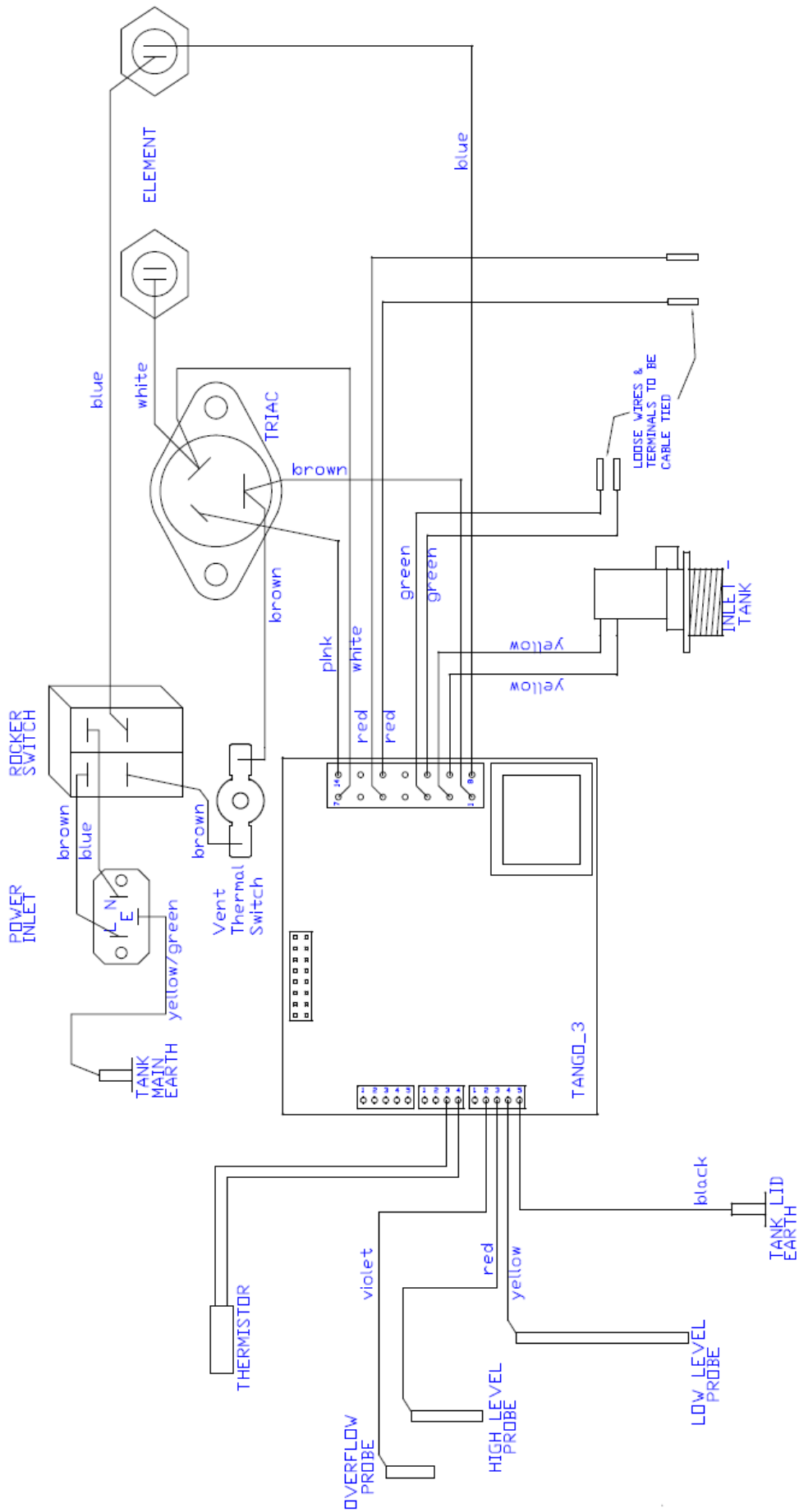
## 10. ELECTRICAL SCHEMATICS

### 10.1 Wiring Diagram - PB Versions

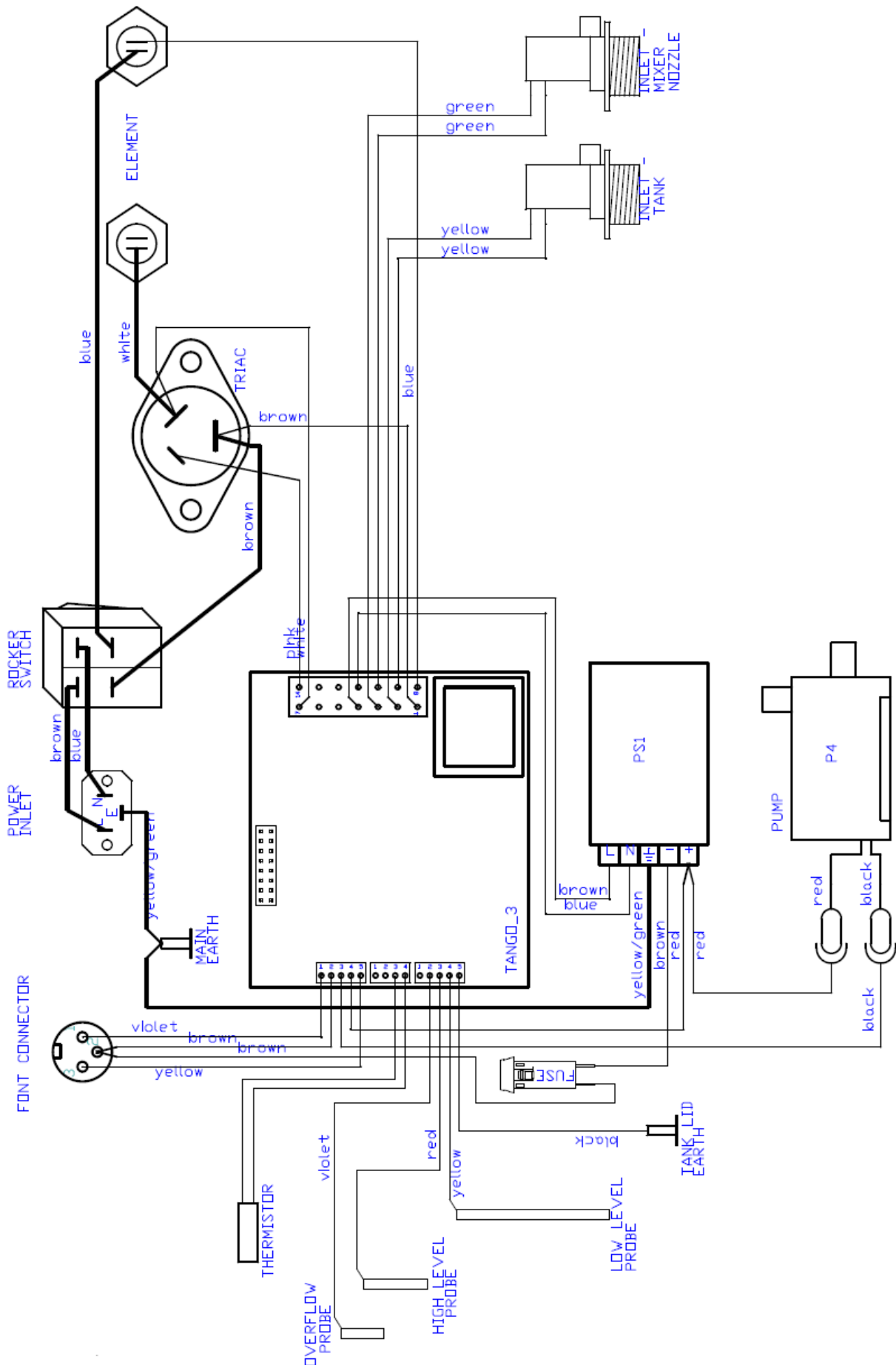




## 10.2 Wiring Diagram - Tap Versions

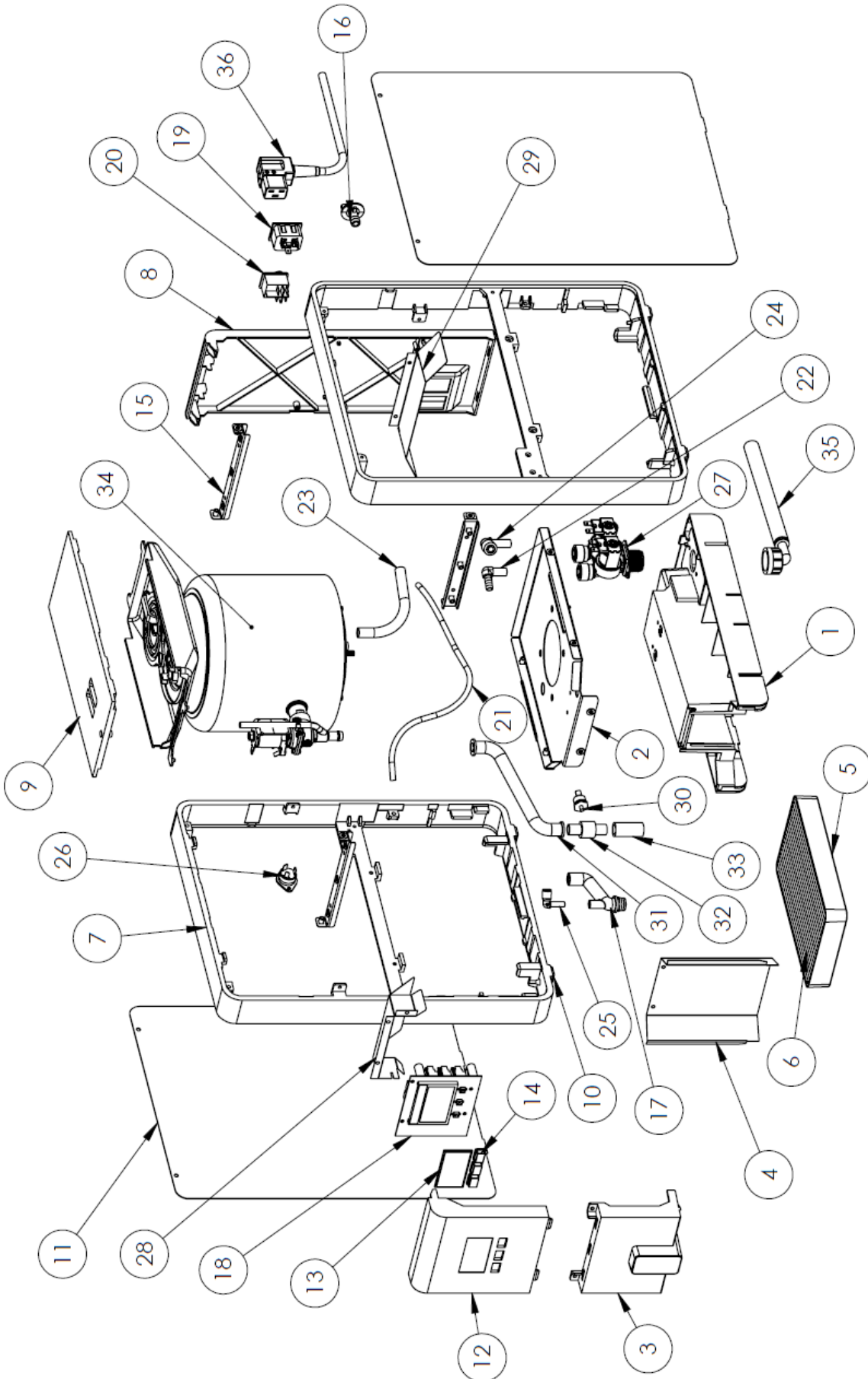


### 10.3 Wiring Diagram - UC Versions



# 11. PART DIAGRAMS & LISTS

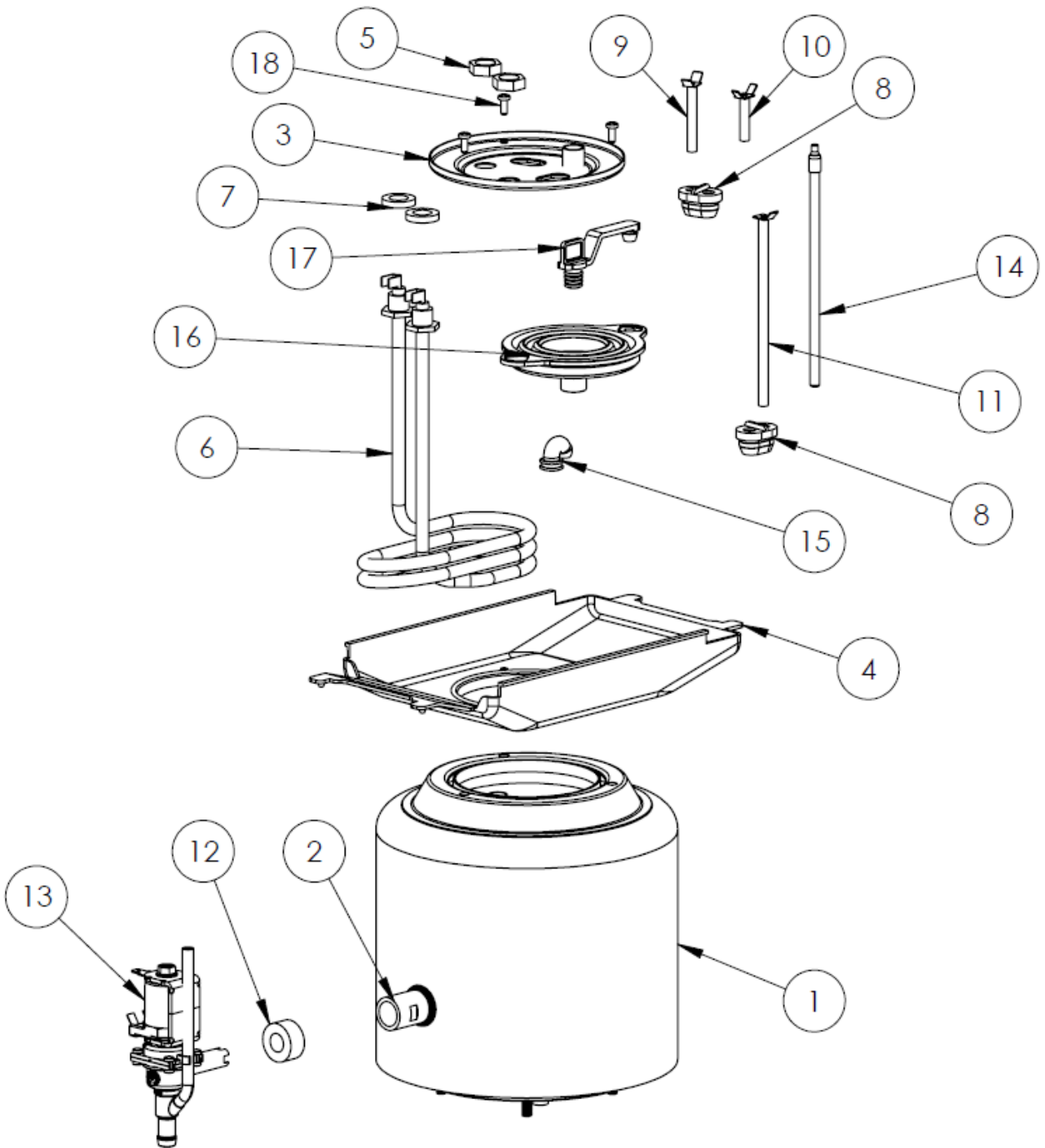
## 11.1 Mix PB3 parts



### 11.1 Mix PB3 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860324	Mix Base - no Filter	1
2	1860316	Mix Tank Support Assy	1
3	1860308	Mix Fascia Middle PB3	1
4	1860315	Mix Cup Well - No Filter	1
5	1860301	Mix Drip Tray	1
6	1860303	Mix Drip Tray Insert	1
7	1860314	Mix Side 3L	2
8	1860309	Mix Rear Panel PB3	1
9	1860302	Mix Top Lid	1
10	1860307	Mix Rubber Foot	4
11	1860318	Mix Side Panel PB3	2
12	1860304	Mix Fascia Upper	1
13	1860306	Mix Clear Screen	1
14	1860305	Mix Button	3
15	1860317	Mix Brace Assy	3
16	1860337	Mix Drain Plug	1
17	1860311	Hose Silicone Dispense Mix	1
18	1600387	PCB Control Mix	1
19	1501156	Socket IEC C20	1
20	1501216	Dual Pole Rocker Switch	1
21	1800637	Hose LDPE - 1/4"	430mm
22	1400772	Elbow Barbed Connector - ATEB 0605	1
23	1800630	Silicone Hose 8mmID x 12mm OD	200mm
24	1400817	Elbow Push Fit 3/8" - 1/4" - ATEU 0406	1
25	1400816	Elbow Push Fit 1/4" - 1/4" - ATEU 0404	1
26	1600455	Triac ST-BTA25	1
27	1502193	Valve Inlet Solenoid Dual - 3/8" Push Fit	1
28	1860342	Mix Deflector Shield - Front	1
29	1860343	Mix Deflector Shield - Rear	1
30	1502071	Thermal Switch 90deg, M4 Stud Mount - Mix	1
31	1800696	Hose Vent Mix	1
32	1502072	Thermal Switch Mount Brass	1
33	1800620	Silicone Hose 12mm ID x 17mm OD	35mm
34	-	Mix Vacc Tank 3L Assembly	1
35	1800690	Hose Water Inlet 3/4" WRC	1
	1800692	Hose Water Inlet 3/8 NPT	1
36	1501489	Cord set IEC C19 BS1363 UK	1
	1501488	Cord set IEC C19 CEE7 EU	1
	1501487	Cord set IEC C19 NEMA L6-20P US	1

### 11.1 Mix PB3 parts (cont.)

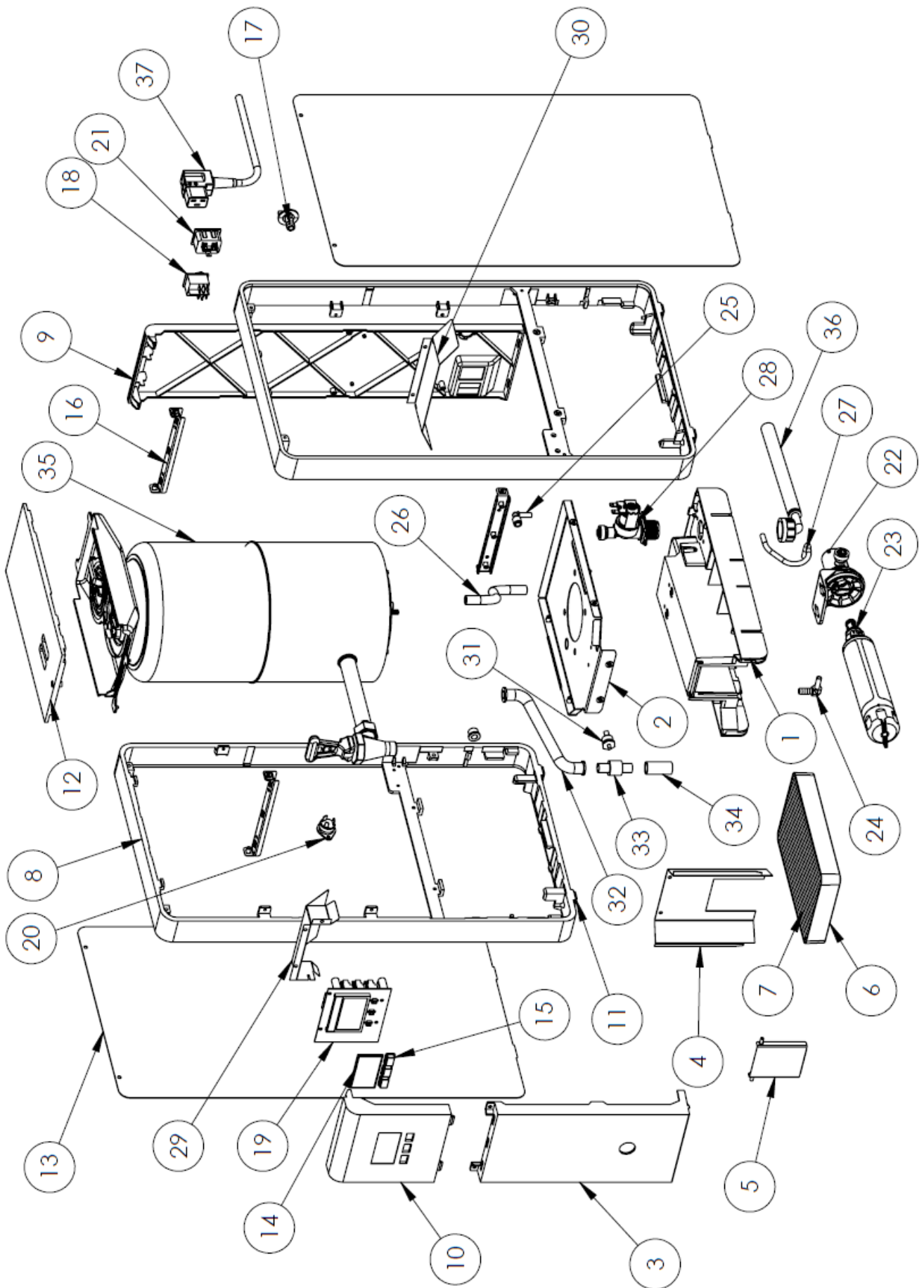




### 11.1 Mix PB3 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2300731	Vacuum Tank 3L	1
2	1401902	Spigot Stub Threaded 26mm	1
3	1860319	Mix Vacuum Tank Lid	1
4	1860310	Mix Tank Gasket	1
5	1401000	LOCKNUT 1/4" BSP BRASS	2
6	1500991	Mix Element 3L	1
7	1801375	Silicone Washer 21x12x4mm	2
8	1860326	Mix Level Probe Grommet	2
9	2300455	Probe High Level - Mix	1
10	2300458	Probe Overflow - Mix	1
11	2300456	Probe Low Level 3L Tank - Mix	1
12	1502147	Valve Dispense Solenoid Plug M00849	1
13	1502148	Valve Dispense Solenoid Muller	1
14	1600693	Thermistor Assembly Mix 3L	1
15	1800672	Jet Basket Syphon	1
16	1860338	Mix Descale Funnel	1
17	1860339	Mix Descale Funnel Bung	1
18	1401760	Screw M4 X 10mm Pozi Pan S/S	3

### 11.2 Mix T8 parts



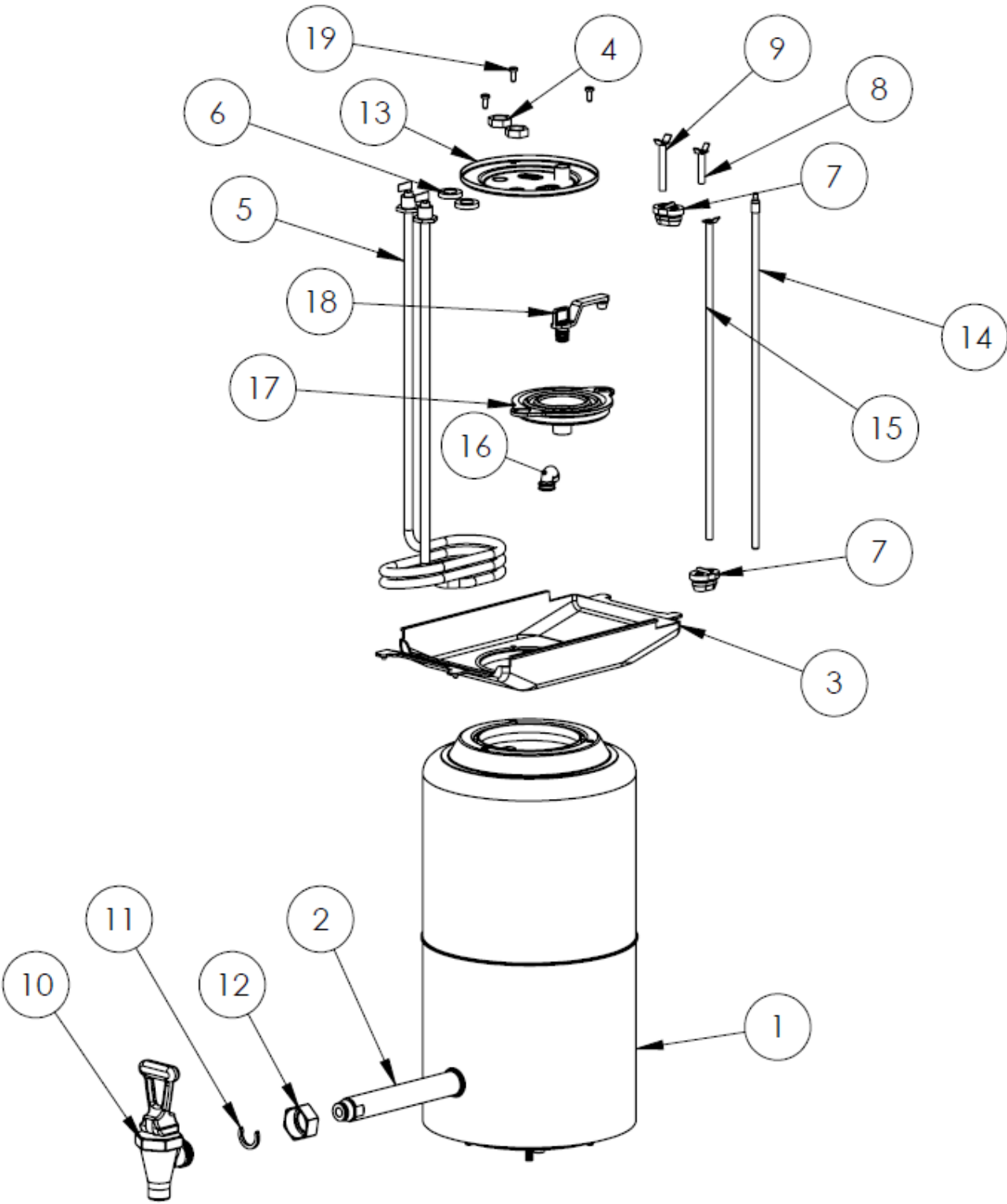


## 11.2 Mix T8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860300	Mix Base	1
2	1860316	Mix Tank Support Assy	1
3	1860312	Mix Fascia Middle T8	1
4	1860322	Mix Cup Well	1
5	1860323	Mix Filter Access Door Assy	1
6	1860301	Mix Drip Tray	1
7	1860303	Mix Drip Tray Insert	1
8	1860321	Mix Side 8L	2
9	1860313	Mix Rear T8	1
10	1860304	Mix Fascia Upper	1
11	1860307	Mix Rubber Foot	4
12	1860302	Mix Top Lid	1
13	1860320	Mix Side Panel T8	2
14	1860306	Mix Clear Screen	1
15	1860305	Mix Button	3
16	1860317	Mix Brace Assy	3
17	1860337	Mix Drain Plug	1
18	1501216	Dual Pole Rocker Switch	1
19	1600387	PCB Control Mix	1
20	1600455	Triac ST-BTA25	1
21	1501156	Socket IEC C20	1
22	8000422	Filter Head 3M AP2	1
23	8000421	Filter Cartridge 3M AP2-C402-SG	1
24	1400771	Elbow Barbed Connector - ATEB 0405	1
25	1400816	Elbow Push Fit 1/4" - 1/4" - ATEU 0404	1
26	1800630	Silicone Hose - 8mm ID x 12mm OD	200mm
27	1800637	Hose LDPE - 1/4"	160mm
28	1502196	Valve Inlet Solenoid - 1/4" push fit	1
29	1860342	Mix Deflector Shield - Front	1
30	1860343	Mix Deflector Shield - Rear	1
31	1502071	Thermal Switch 90deg, M4 Stud Mount - Mix	1
32	1800696	Hose Vent Mix	1
33	1502072	Thermal Switch Mount Brass	1
34	1800620	Silicone Hose - 12mm ID x 17mm OD	35mm
35	-	Mix Vacc Tank 8L Assembly	1
36	1800690	Hose Water Inlet 3/4" WRC	1
	1800692	Hose Water Inlet 3/8 NPT	1
37	1501489	Cord set IEC C19 BS1363 UK	1
	1501488	Cord set IEC C19 CEE7 EU	1
	1501487	Cord set IEC C19 NEMA L6-20P US	1



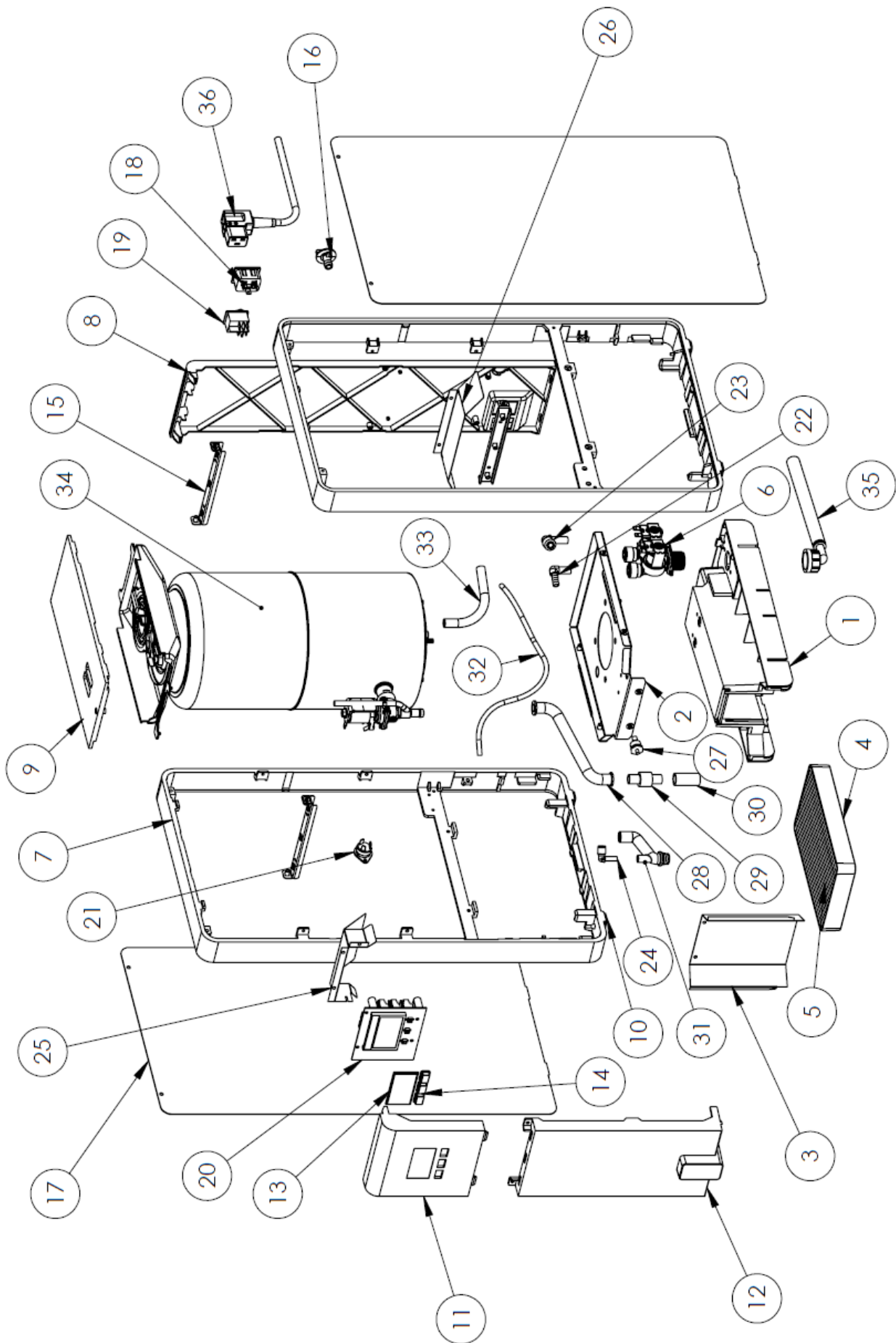
11.2 Mix T8 parts (cont.)



## 11.2 Mix T8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2300732	Vacuum Tank 8L	1
2	1401903	Spigot Threaded 140mm	1
3	1860310	Mix Tank Gasket	1
4	1401000	LOCKNUT 1/4" BSP BRASS	2
5	1500992	Mix Element 8L	1
6	1801375	Silicone Washer 21x12x4mm	2
7	1860326	Mix Level Probe Grommet	2
8	2300458	Probe Overflow - Mix	1
9	2300455	Probe High Level - Mix	1
10	2100290	TAP TOM BLACK COFFEE	1
11	1400550	CIRCLIP FOR SPIGOT	1
12	1401170	NUT CP 3/4" BSP CHROMED	1
13	1860319	Mix Vacuum Tank Lid	1
14	1600694	Thermistor Assembly Mix 8L	1
15	2300457	Probe Low Level 8L Tank - Mix	1
16	1800672	Jet Basket Syphon	1
17	1860338	Mix Descale Funnel	1
18	1860339	Mix Descale Funnel Bung	1
19	1401760	Screw M4 X 10mm Pozi Pan S/S	3

### 11.3 Mix PB8 parts

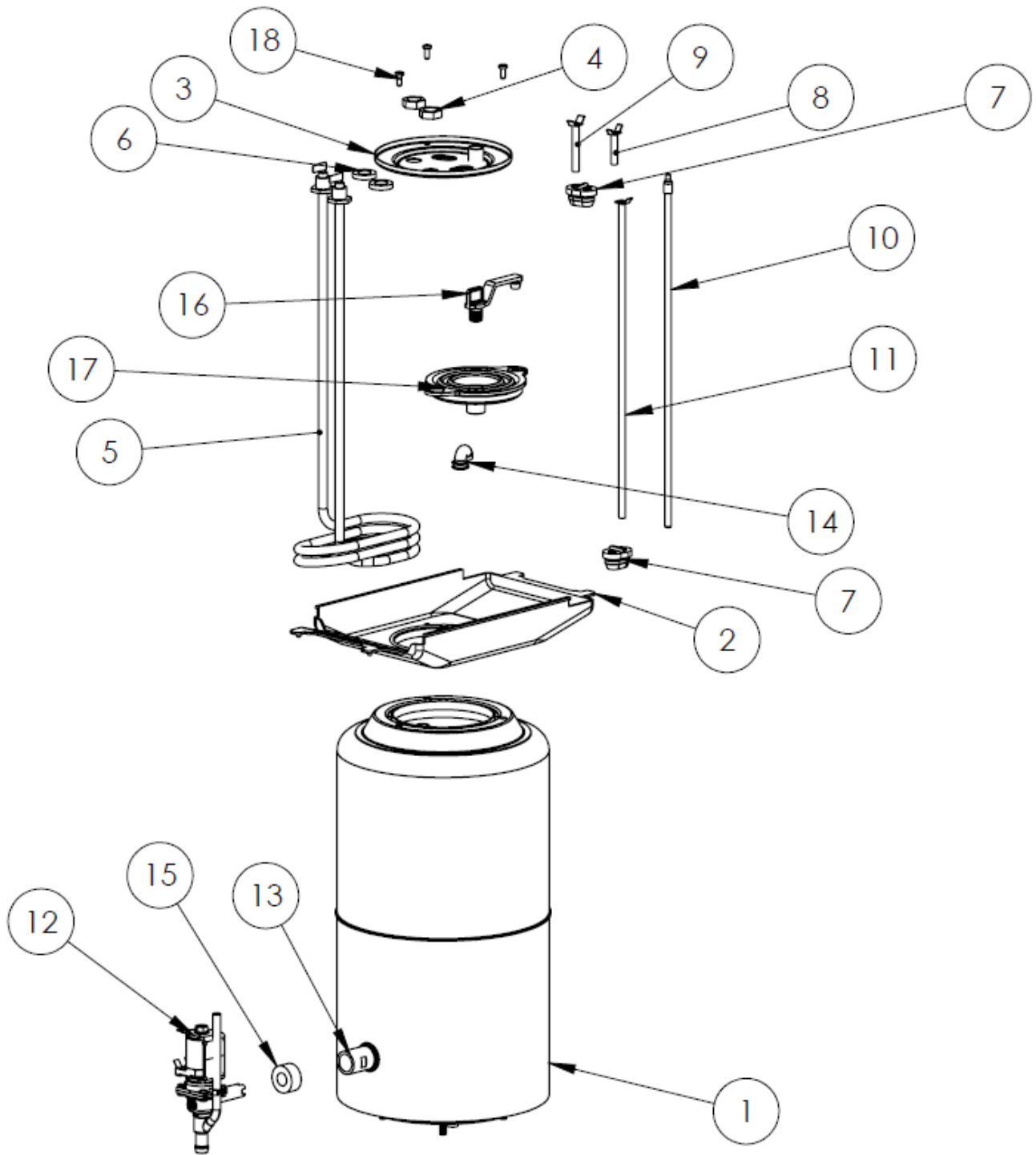




### 11.3 Mix PB8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860324	Mix Base - no Filter	1
2	1860316	Mix Tank Support Assy	1
3	1860315	Mix Cup Well - No Filter	1
4	1860301	Mix Drip Tray	1
5	1860303	Mix Drip Tray Insert	1
6	1502193	Valve Inlet Solenoid Dual - 3/8" Push Fit	1
7	1860321	Mix Side 8L	2
8	1860313	Mix Rear T8	1
9	1860302	Mix Top Lid	1
10	1860307	Mix Rubber Foot	4
11	1860304	Mix Fascia Upper	1
12	1860330	Mix Fascia Middle PB8	1
13	1860306	Mix Clear Screen	1
14	1860305	Mix Button	3
15	1860317	Mix Brace Assy	3
16	1860337	Mix Drain Plug	1
17	1860320	Mix Side Panel T8	2
18	1501156	Socket IEC C20	1
19	1501216	Dual Pole Rocker Switch	1
20	1600387	PCB Control Mix	1
21	1600455	Triac ST-BTA25	1
22	1400772	Elbow Barbed Connector - ATEB 0605	1
23	1400817	Elbow Push Fit 3/8" - 1/4" - ATEU 0406	1
24	1400816	Elbow Push Fit 1/4" - 1/4" - ATEU 0404	1
25	1860342	Mix Deflector Shield - Front	1
26	1860343	Mix Deflector Shield - Rear	1
27	1502071	Thermal Switch 90deg, M4 Stud Mount - Mix	1
28	1800696	Hose Vent Mix	1
29	1502072	Thermal Switch Mount Brass	1
30	1800620	Silicone Hose - 12mm ID x 17mm OD	35mm
31	1860311	Hose Silicone Dispense Mix	1
32	1800637	Hose LDPE - 1/4"	430mm
33	1800630	Silicone Hose - 8mmID x 12mm OD	200mm
34	-	Mix Vacc Tank 8L Assembly	1
35	1800690	Hose Water Inlet 3/4" WRC	1
	1800692	Hose Water Inlet 3/8 NPT	1
36	1501489	Cord set IEC C19 BS1363 UK	1
	1501488	Cord set IEC C19 CEE7 EU	1
	1501487	Cord set IEC C19 NEMA L6-20P US	1

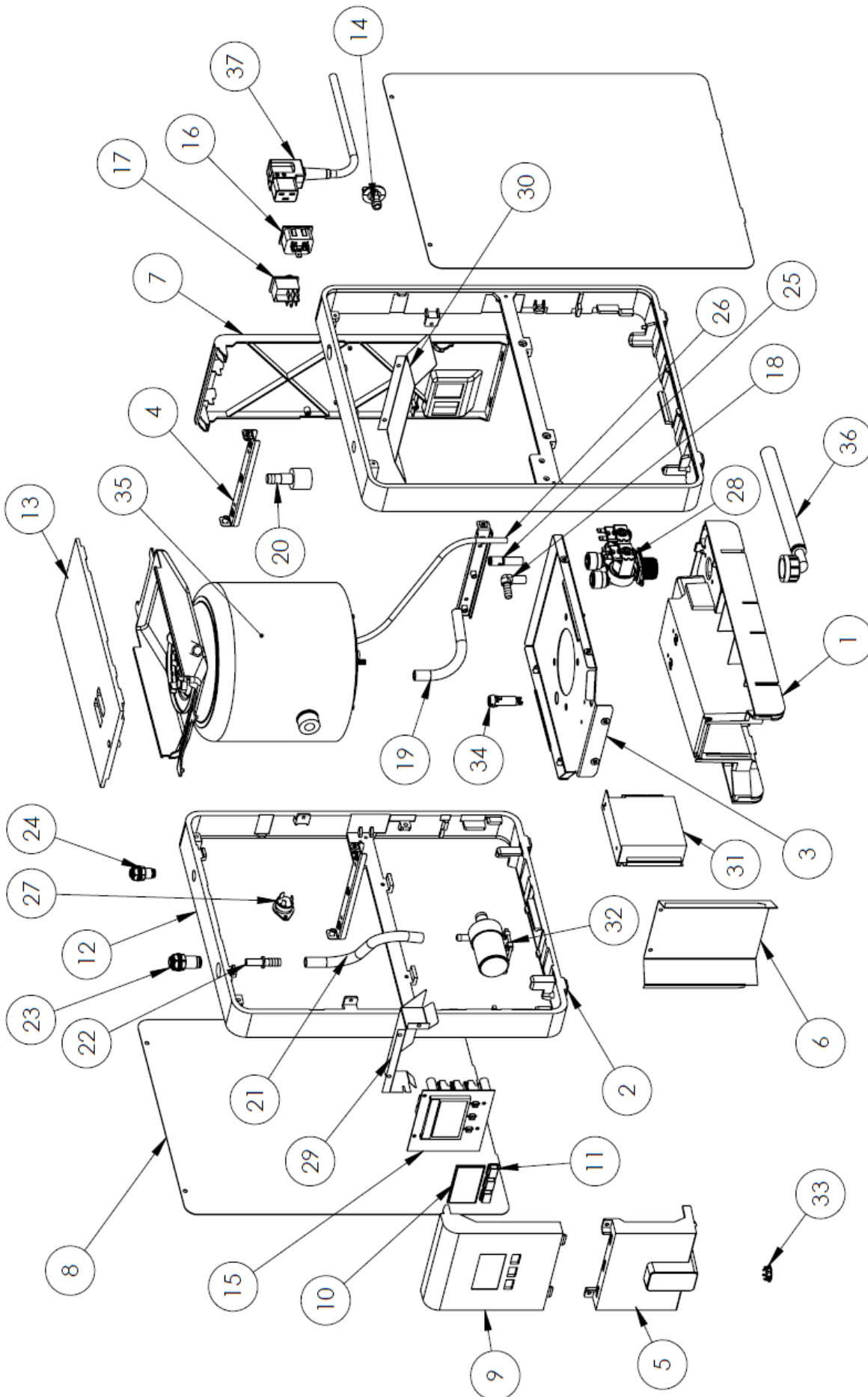
### 11.3 Mix PB8 parts (cont.)



### 11.3 Mix PB8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2300732	Vacuum Tank 8L	1
2	1860310	Mix Tank Gasket	1
3	1860319	Mix Vacuum Tank Lid	1
4	1401000	LOCKNUT 1/4" BSP BRASS	2
5	1500992	Mix Element 8L	1
6	1801375	Silicone Washer 21x12x4mm	2
7	1860326	Mix Level Probe Grommet	2
8	2300458	Probe Overflow - Mix	1
9	2300455	Probe High Level - Mix	1
10	1600694	Thermistor Assembly Mix 8L	1
11	2300457	Probe Low Level 8L Tank - Mix	1
12	1502148	Valve Dispense Solenoid Muller	1
13	1401902	Spigot Stub Threaded 26mm	1
14	1800672	Jet Basket Syphon	1
15	1502147	Valve Dispense Solenoid Plug M00849	1
16	1860339	Mix Descale Funnel Bung	1
17	1860338	Mix Descale Funnel	1
18	1401760	Screw M4 X 10mm Pozi Pan S/S	3

### 11.4 Mix UC3 parts



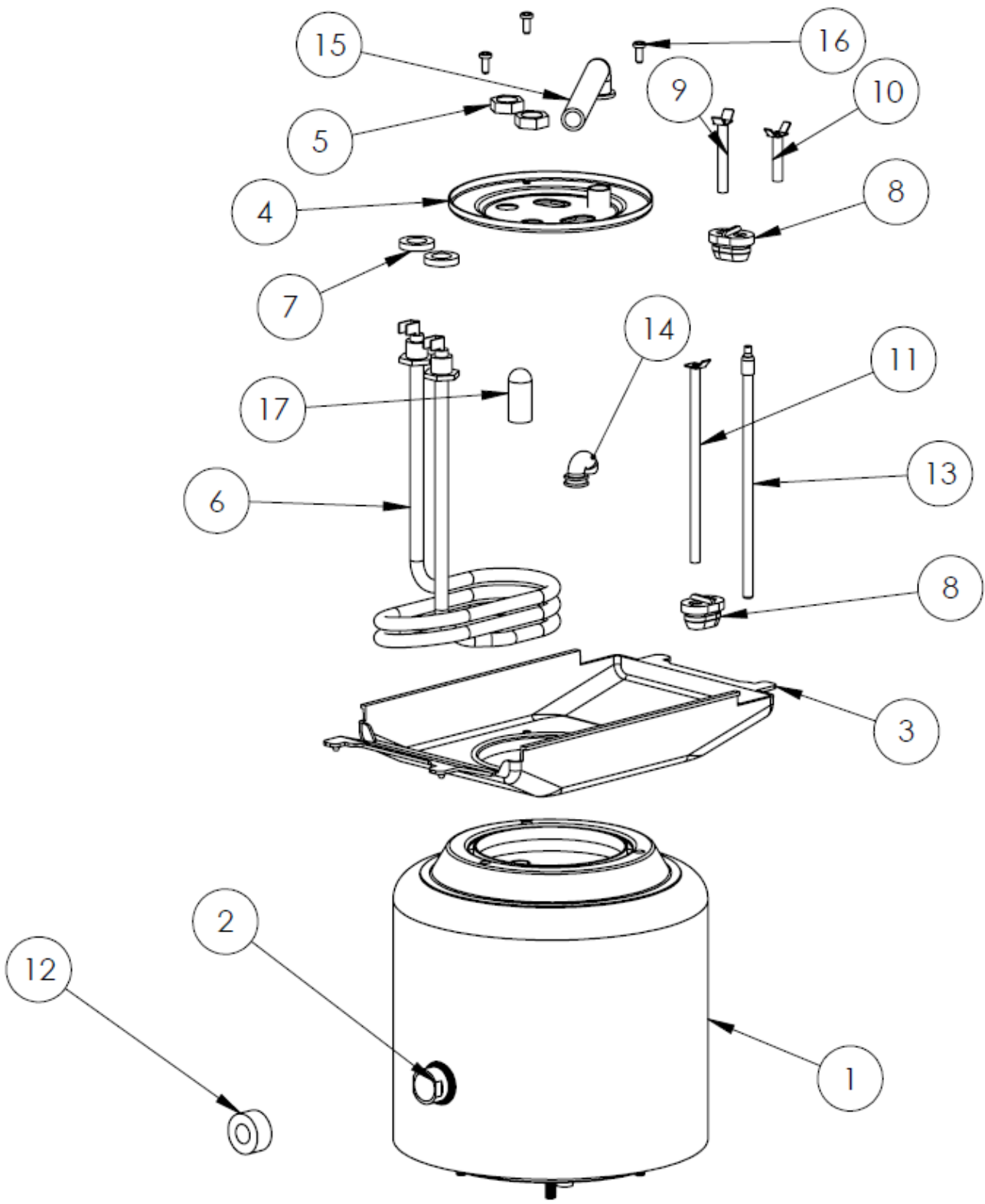


#### 11.4 Mix UC3 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860324	Mix Base - no Filter	1
2	1860307	Mix Rubber Foot	4
3	1860316	Mix Tank Support Assy	1
4	1860317	Mix Brace Assy	3
5	1860341	Mix Fascia Middle UC3	1
6	1860315	Mix Cup Well - No Filter	1
7	1860309	Mix Rear Panel PB3	1
8	1860318	Mix Side Panel PB3	2
9	1860304	Mix Fascia Upper	1
10	1860306	Mix Clear Screen	1
11	1860305	Mix Button	3
12	1860340	Mix Side UC3	2
13	1860302	Mix Top Lid	1
14	1860337	Mix Drain Plug	1
15	1600387	PCB Control Mix	1
16	1501156	Socket IEC C20	1
17	1501216	Dual Pole Rocker Switch	1
18	1400772	Elbow Barbed Connector - ATEB 0605	1
19	1800630	Silicone Hose 8mm ID x 12mm OD	200mm
20	1402162	Tailpiece Hose Elbow 1/4" BSP Fem x 12mm	1
21	1800630	Silicone Hose 8mm ID x 12mm OD	200mm
22	1400773	Barbed Connector - ATBC 0605	1
23	1400437	Bulkhead Connector 8mm (Legris)	1
24	1400436	Bulkhead Connector 1/4" (Legris)	1
25	1401658	Reducer Connector 3/8" - 1/4" - ARD 0406	1
26	1800637	Hose LDPE - 1/4"	350mm
27	1600455	Triac ST-BTA25	1
28	1502193	Valve Inlet Solenoid Dual - 3/8" Push Fit	1
29	1860342	Mix Deflector Shield - Front	1
30	1860343	Mix Deflector Shield - Rear	1
31	1601000	Power Supply 24V Dc	1
32	1501559a	Pump Topsflo 24V DC	1
33	1401449	Plug Blanking Metal - 7604	1
34	1501121	Fuse Holder Snap Fit	1
35	-	Mix Vacc Tank 3L Assembly	1
36	1800690	Hose Water Inlet 3/4" WRC	1
	1800692	Hose Water Inlet 3/8 NPT	1
37	1501489	Cord set IEC C19 BS1363 UK	1
	1501488	Cord set IEC C19 CEE7 EU	1
	1501487	Cord set IEC C19 NEMA L6-20P US	1



### 11.4 Mix UC3 parts (cont.)

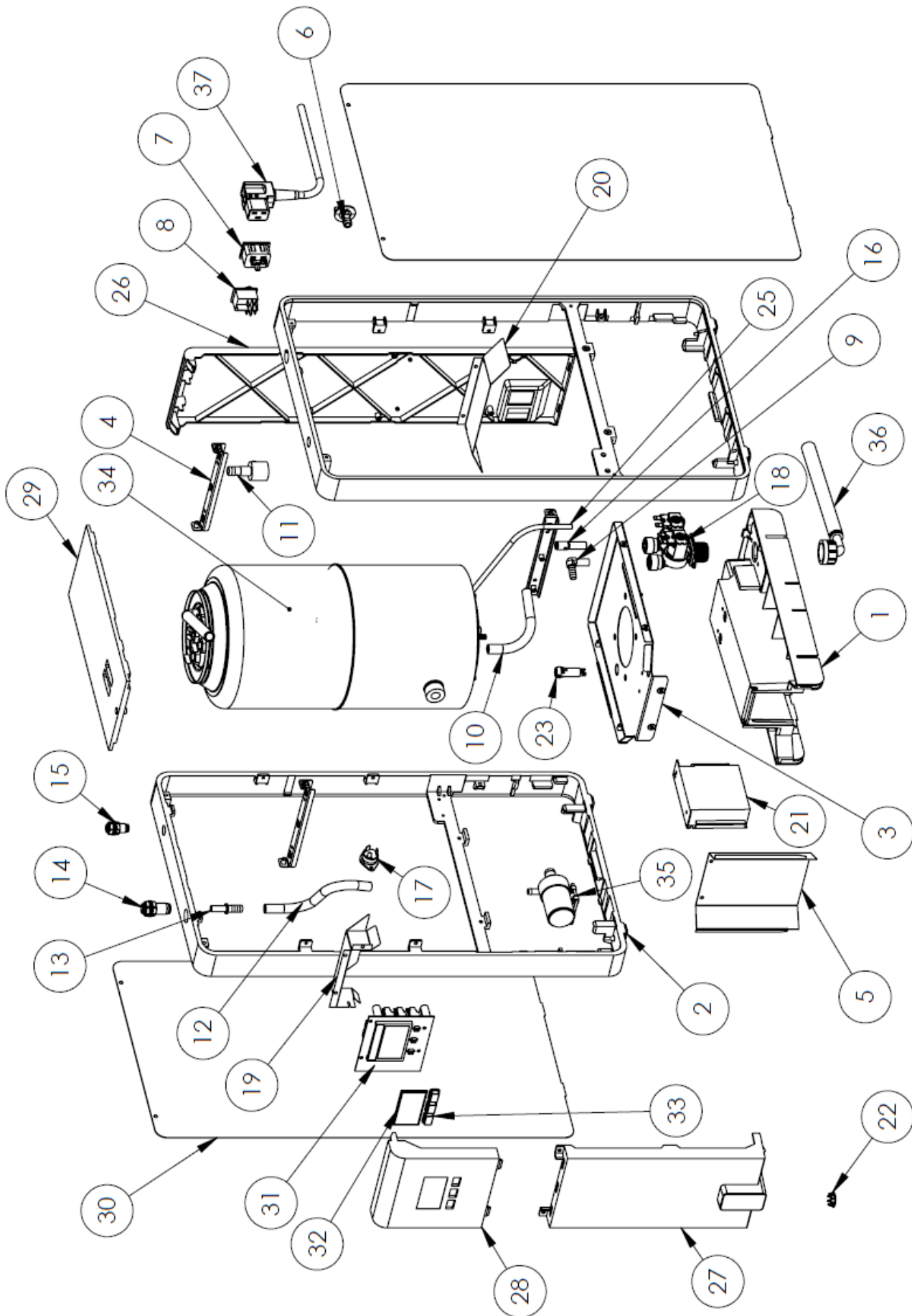




#### 11.4 Mix UC3 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2300731	Vacuum Tank 3L	1
2	1401904	Spigot Stub Threaded 20mm for pump	1
3	1860310	Mix Tank Gasket	1
4	1860319	Mix Vacuum Tank Lid	1
5	1401000	LOCKNUT 1/4" BSP BRASS	2
6	1500991	Mix Element 3L	1
7	1801375	Silicone Washer 21x12x4mm	2
8	1860326	Mix Level Probe Grommet	2
9	2300455	Probe High Level - Mix	1
10	2300458	Probe Overflow - Mix	1
11	2300456	Probe Low Level 3L Tank - Mix	1
12	1502147	Valve Dispense Solenoid Plug M00849	1
13	1600693	Thermistor Assembly Mix 3L	1
14	1800672	Jet Basket Syphon	1
15	1800695	Hose Vent Mix UC	1
16	1401760	Screw M4 X 10mm Pozi Pan S/S	3
17	1800668	Silicone Closure	1

11.5 Mix UC8 parts (cont.)

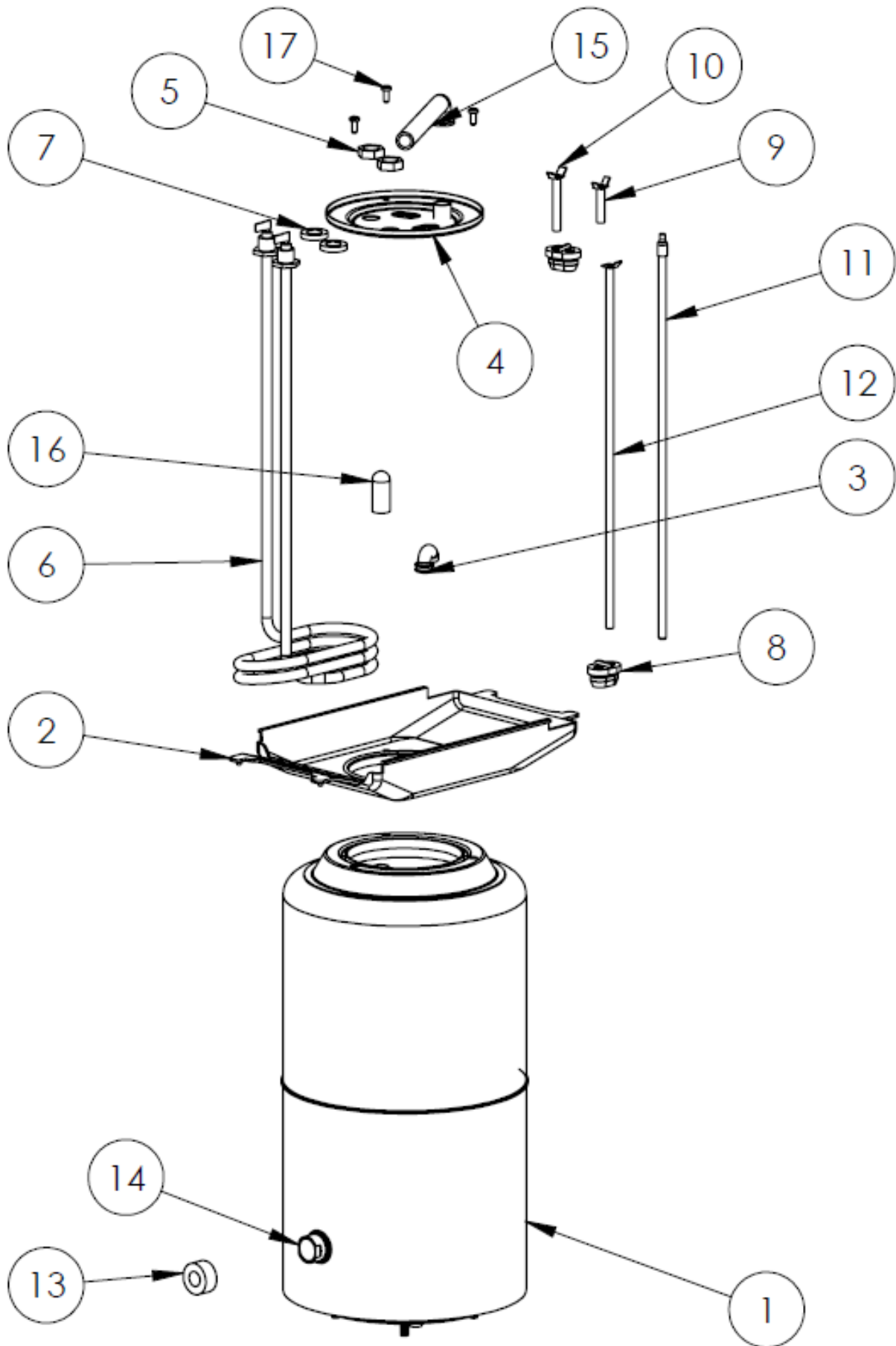




### 11.5 Mix UC8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860324	Mix Base - no Filter	1
2	1860307	Mix Rubber Foot	4
3	1860316	Mix Tank Support Assy	1
4	1860317	Mix Brace Assy	3
5	1860315	Mix Cup Well - No Filter	1
6	1860337	Mix Drain Plug	1
7	1501156	Socket IEC C20	1
8	1501216	Dual Pole Rocker Switch	1
9	1400772	Elbow Barbed Connector - ATEB 0605	1
10	1800630	Silicone Hose 8mm ID x 12mm OD	200mm
11	1402162	Tailpiece Hose Elbow 1/4" BSP Fem x 12mm	1
12	1800630	Silicone Hose 8mm ID x 12mm OD	200mm
13	1400773	Barbed Connector - ATBC 0605	1
14	1400437	Bulkhead Connector 8mm (Legris)	1
15	1400436	Bulkhead Connector 1/4" (Legris)	1
16	1401658	Reducer Connector 3/8" - 1/4" - ARD 0406	1
17	1600455	Triac ST-BTA25	1
18	1502193	Valve Inlet Solenoid Dual - 3/8" Push Fit	1
19	1860342	Mix Deflector Shield - Front	1
20	1860343	Mix Deflector Shield - Rear	1
21	1601000	Power Supply 24V Dc	1
22	1401449	Plug Blanking Metal - 7604	1
23	1501121	Fuse Holder Snap Fit	1
24	1860346	Mix Side UC8	2
25	1800637	Hose LDPE - 1/4"	520mm
26	1860313	Mix Rear T8	1
27	1860330	Mix Fascia Middle PB8	1
28	1860304	Mix Fascia Upper	1
29	1860302	Mix Top Lid	1
30	1860320	Mix Side Panel T8	2
31	1600387	PCB Control Mix	1
32	1860306	Mix Clear Screen	1
33	1860305	Mix Button	3
34	-	Mix Vacc Tank 8L Assembly	1
35	1501559a	Pump Topsflo 24V DC	1
36	1800690	Hose Water Inlet 3/4" WRC	1
	1800692	Hose Water Inlet 3/8 NPT	1
37	1501489	Cord set IEC C19 BS1363 UK	1
	1501488	Cord set IEC C19 CEE7 EU	1
	1501487	Cord set IEC C19 NEMA L6-20P US	1

11.5 Mix UC8 parts (cont.)

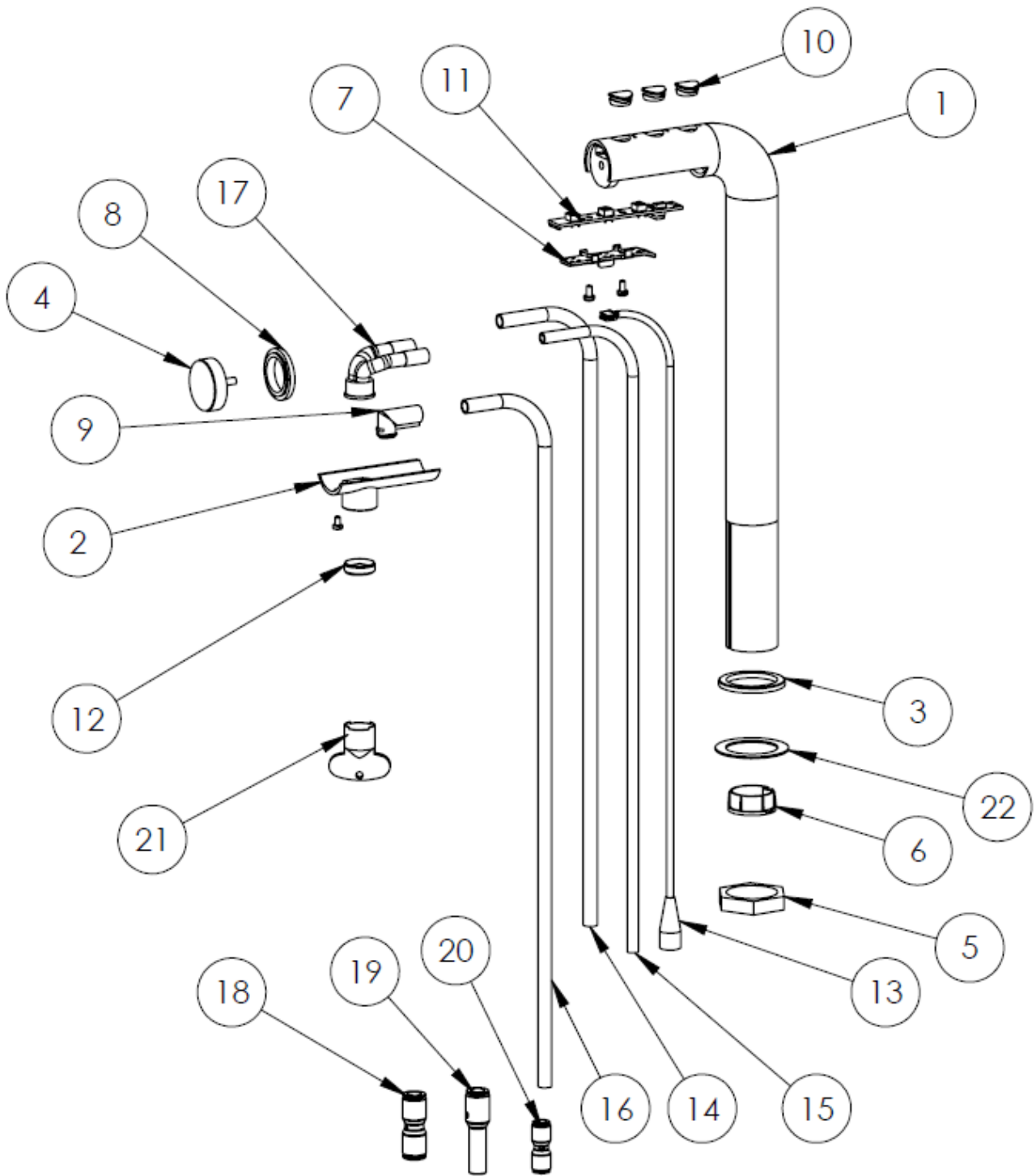




### 11.5 Mix UC8 parts (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2300732	Vacuum Tank 8L	1
2	1860310	Mix Tank Gasket	1
3	1800672	Jet Basket Syphon	1
4	1860319	Mix Vacuum Tank Lid	1
5	1401000	LOCKNUT 1/4" BSP BRASS	2
6	1500992	Mix Element 8L	1
7	1801375	Silicone Washer 21x12x4mm	2
8	1860326	Mix Level Probe Grommet	2
9	2300458	Probe Overflow - Mix	1
10	2300455	Probe High Level - Mix	1
11	1600694	Thermistor Assembly Mix 8L	1
12	2300457	Probe Low Level 8L Tank - Mix	1
13	1502147	Valve Dispense Solenoid Plug M00849	1
14	1401904	Spigot Stub Threaded 20mm for pump	1
15	1800695	Hose Vent Mix UC	1
16	1800668	Silicone Closure	1
17	1401760	Screw M4 X 10mm Pozi Pan S/S	3

### 11.6 Mix Font – 3 Button

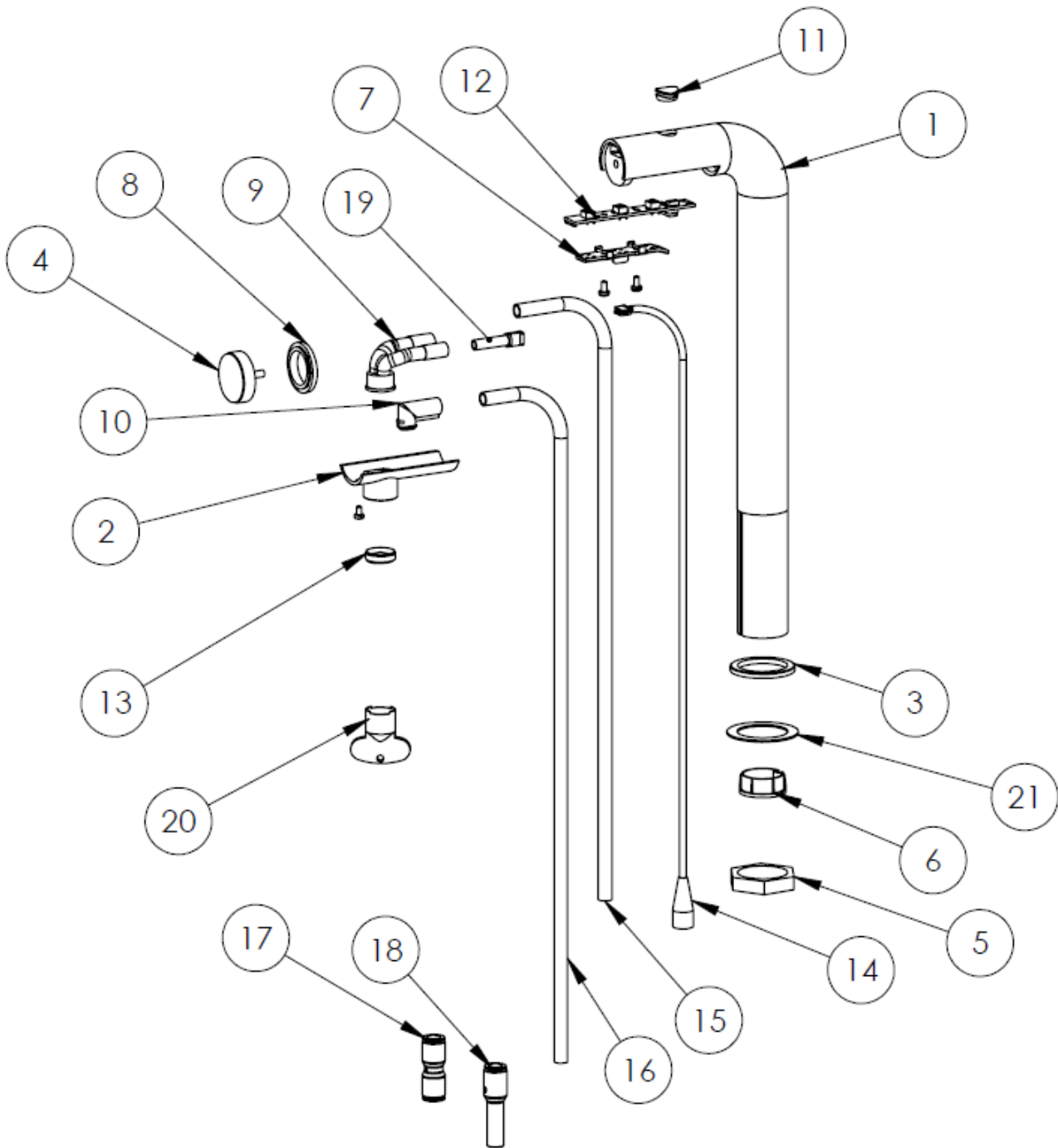


### 11.6 Mix Font – 3 Button (cont.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860351	Mix Font Tube - 3 button	1
2	1860352	Mix Font Upper Access Panel	1
3	1860353	Mix Font Flange Collar	1
4	1860354	Mix Font End Cap	1
5	1860355	Mix Font Clamping Nut	1
6	1860356	Mix Font Base Cap	1
7	1860357	Mix Font PCB Mount	1
8	1860358	Mix Font LED Ring	1
9	1860360	Mix Font Vent Outlet	1
10	1860361	Button Mix Font	3
11	1600386	PCB Mix Font	1
12	2100011	Flow Straightner Mix Font	1
13	1501175	Harness Mix Font	1
14	1860371	Mix Font Hot Water Pipe	1
15	1860372	Mix Font Cold Water Pipe	1
16	1860373	Mix Font Vent Pipe	1
17	1860359	Mix Font Dispense Hose	1
18	1400819	Straight Union 8mm - 8mm	1
19	1401659	Reducer Connector 8mm - 10mm	1
20	1400818	Straight Union 1/4" - 1/4"	1
21	1700198	Flow Straightener - Removal Tool	1
22	1402396	Washer S/S 30x42x1 mm	1



### 11.7 Mix Font – 1 Button



**11.7 Mix Font – 1 Button (cont.)**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1860350	Mix Font Tube - 1 button	1
2	1860352	Mix Font Upper Access Panel	1
3	1860353	Mix Font Flange Collar	1
4	1860354	Mix Font End Cap	1
5	1860355	Mix Font Clamping Nut	1
6	1860356	Mix Font Base Cap	1
7	1860357	Mix Font PCB Mount	1
8	1860358	Mix Font LED Ring	1
9	1860359	Mix Font Dispense Hose	1
10	1860360	Mix Font Vent Outlet	1
11	1860361	Button Mix Font	1
12	1600386	PCB Mix Font	1
13	2100011	Flow Straightner Mix Font	1
14	1501175	Harness Mix Font	1
15	1860371	Mix Font Hot Water Pipe	1
16	1860373	Mix Font Vent Pipe	1
17	1400819	Straight Union 8mm - 8mm	1
18	1401659	Reducer Connector 8mm - 10mm	1
19	1401482	Plug Legris 6mm	1
20	1700198	Flow Straightener - Removal Tool	1
21	1402396	Washer S/S 30x42x1mm	1

