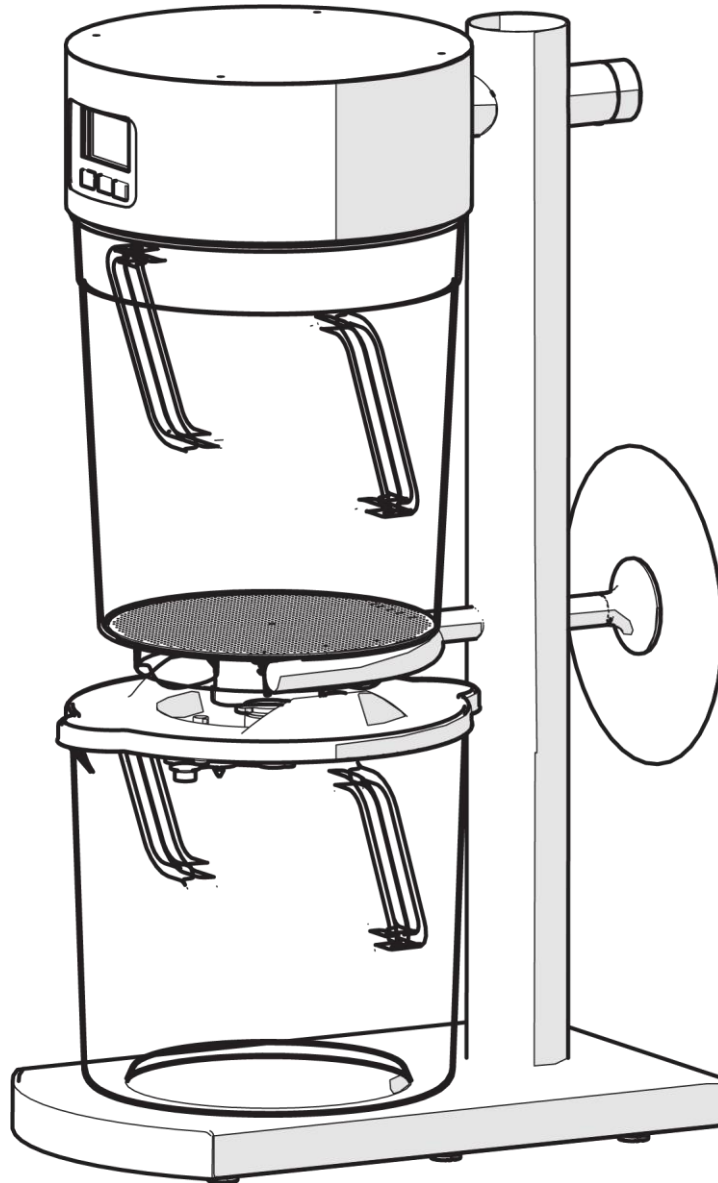


ColdBRU – Service Manual



1000950, 1000950EU & 1001950US

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1. INTRODUCTION

The information provided in this manual is intended to assist in the installation and maintenance of the Marco ColdBRU. 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 ColdBRU is non-toxic food quality tested to 190psi. However, a hose is not a permanent connection. It is, therefore, advisable to switch off the machine and close the stopcock valve when the machine 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

ColdBRU 1000950, 1000950EU, 1001950US		
Performance	The maximum dispense of the ColdBRU is 10.5L / 2.75 Gallons (US)	
Electrical	Mains Connection	Earthed Mains Plug to IEC 230vac (UK – 3-Pin Plug, BS1363) (EU – CEE7 Schuko) (US (120v – NEMA 5-15)
	Rating	@230V 15W 0.07A @120v 15W 0.125A
Plumbing	Fittings	0.75" BSP (or 3/8" compression for US versions) food grade inlet hose supplied.
	Required Pressure	14.5 – 145psi (0.1-1 MPa)
Dimensions	Height (mm/inches)	702/27.7
	Width (mm/inches)	325/12.8
	Depth (mm/inches)	428/16.8

4. INSTALLATION

4.1 ColdBRU Installation

Electrical Installation:

- Electrical specification: 15W-230VAC-50/60Hz
15W-120VAC-60Hz
- A moulded 13A IEC power cord is provided. This should be plugged into the IEC connection on the rear of the ColdBRU and plugged into a suitable 13A power outlet.
- When installing the machine, always observe the local regulations and standards.

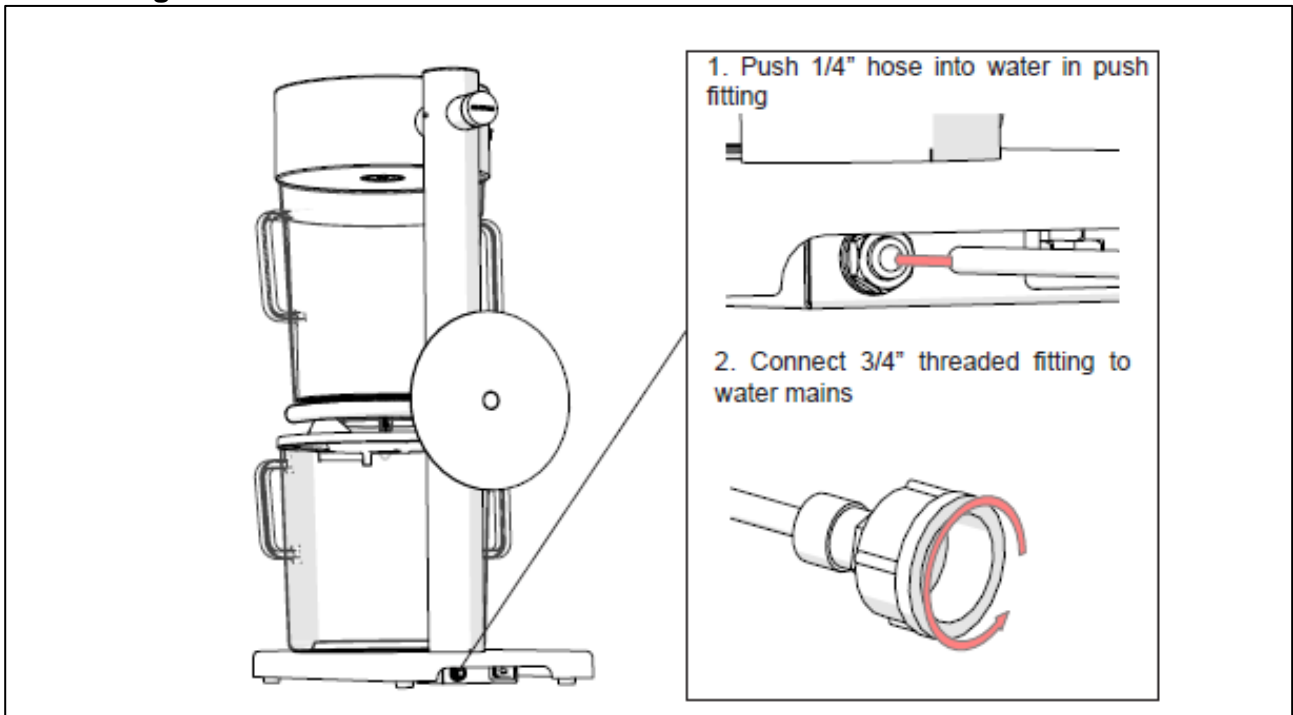
Plumbing Installation:

- Mains water pressure required (limits): 14.5 – 145psi (0.1 -1 1 MPa)
- Fit a stop Valve on a cold water line and attach a 3/4" BSP male fitting, e.g. 3/4" x 1/2" or washing machine type stop valve (3/8" compression US).
- 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 1/4" hose to the Bulkhead connector of the ColdBRU (1/4" pushfit). Make sure the 1/4" hose is pushed in fully.
- Turn on water and check for leaks.

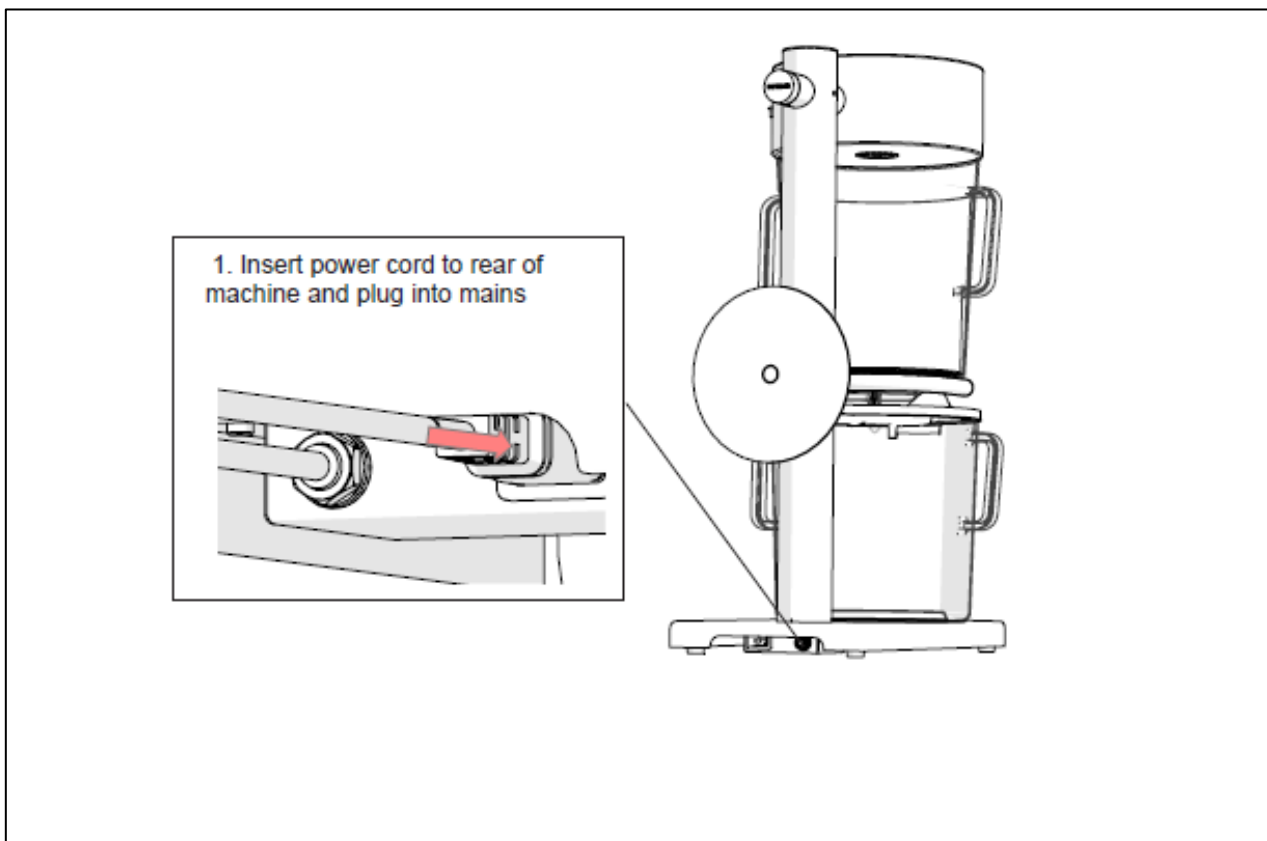
4.1 ColdBRU Installation (cont.)

- Check that all installation procedures have been carried out.
- Ensure water valve is on.
- Plug ColdBRU into suitable socket.

Connecting ColdBRU to water



Connecting ColdBRU to power



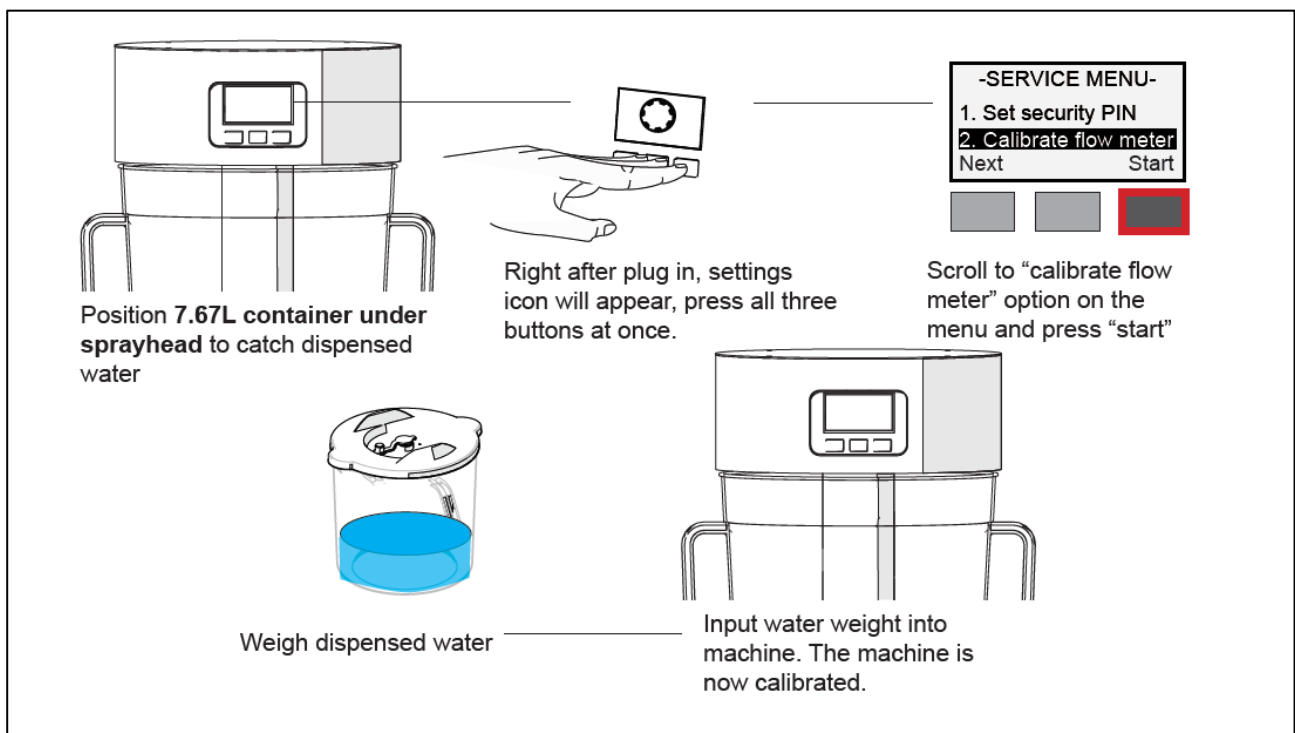
5. ColdBRU SETUP

5.1 Operating ColdBRU for the First Time

- Check that all installation procedures have been carried out.
- Ensure water valve is on.
- Plug ColdBRU into suitable socket.

5.2 Dispense Calibration Procedure (Required to be completed on initial startup)

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, or there has been a change in the mains water pressure. Calibration option only remains on the screen for 5 seconds after power up. If you miss this window, power off the machine and try again.

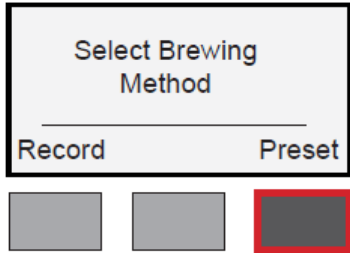
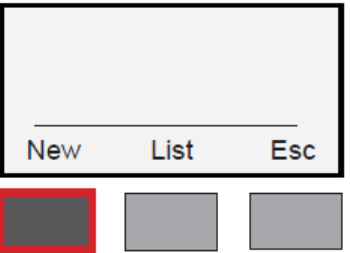
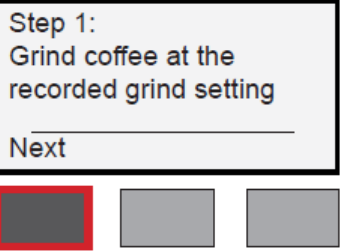
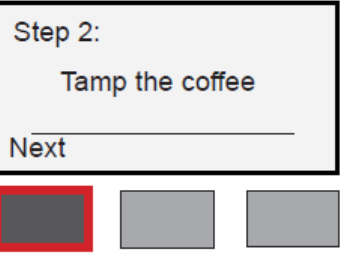
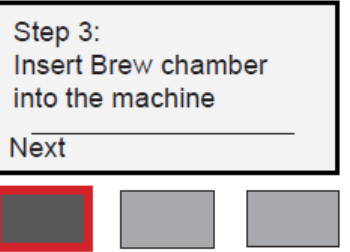


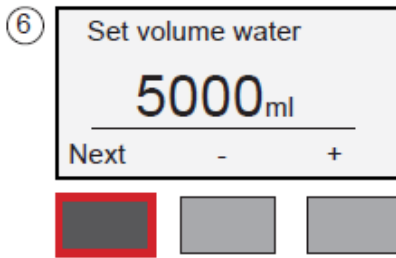
Once the water weight has been input into the machine, a dispense operation can be performed to check the accuracy of dispense.

6. OVERVIEW & OPERATION

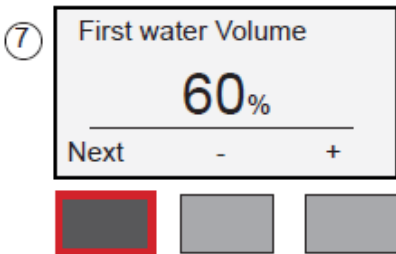
6.1 ColdBRU – Operation

When performing this operation, use the 7.67L container to catch dispensed water. This can then be weighed to confirm the machine is within spec

<p>①</p> 	<p>Select “Preset” mode.</p>
<p>②</p> 	<p>If you want to create a brew different to those saved in memory select “New”.</p>
<p>③</p> 	<p>Follow on-screen prompt.</p>
<p>④</p> 	<p>Follow on-screen prompt.</p>
<p>⑤</p> 	<p>Follow on-screen prompt.</p>

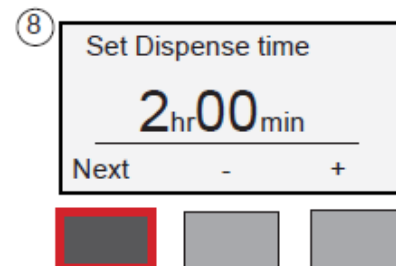


Press +/- to dial in required volume of water for this brew and press “Next” when done.



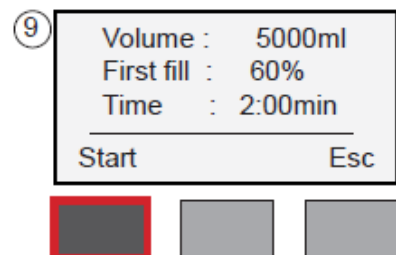
Use the +/- buttons to dial in the % of the total water that will be dispensed in the first pulse.

For medium brews (800g coffee + 5ltrs of water) we would not recommend going over 60% in case of overflowing. For smaller brews this can be exceeded.



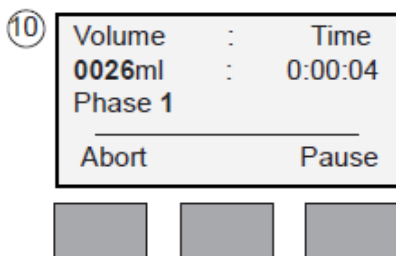
Use the +/- buttons to dial in the dispense time.

Note: This is not the full brew time, brew time may require additional time at the end to ensure all water has filtered through the coffee. Suggested buffer time of 15-30 min

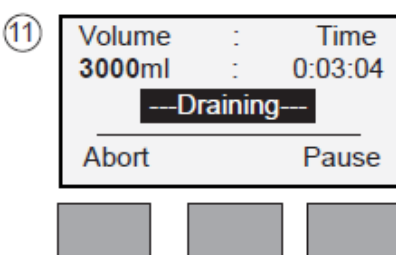


Review the brew settings.

Pressing “Start” will start water dispense.



During the dispense phase, the brew can be paused or aborted.



After the machine has dispensed the designated amount of water for the first phase, it will allow drain time before moving onto the next phase. This cycle will continue until all 6 phases are complete.

12



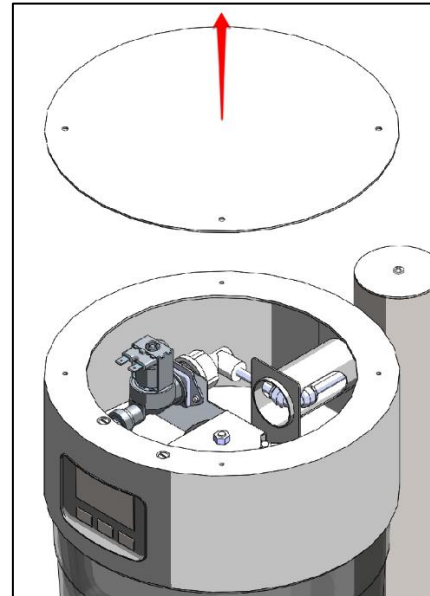
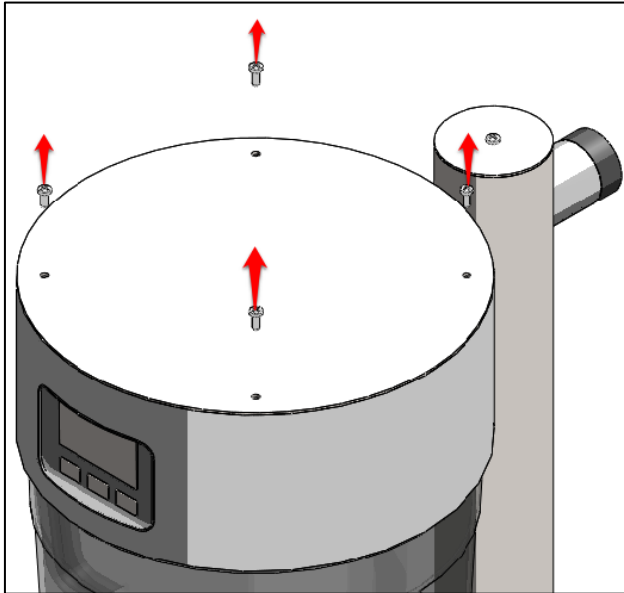
Once all phases of the brew have been completed a message will appear on screen informing the user. Press "Esc" to move to next screen.

7. ROUTINE MAINTAINENCE/INTERNAL ACCESS

Maintenance should be carried out by Marco approved technicians only. Before undertaking routine maintenance on ColdBRU disconnect machine from mains power and water supply.

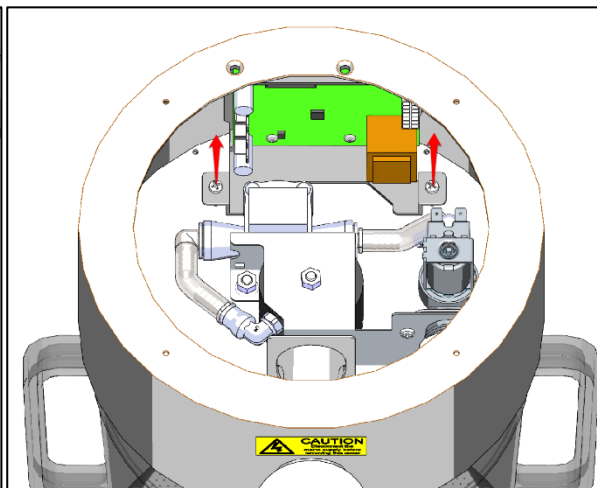
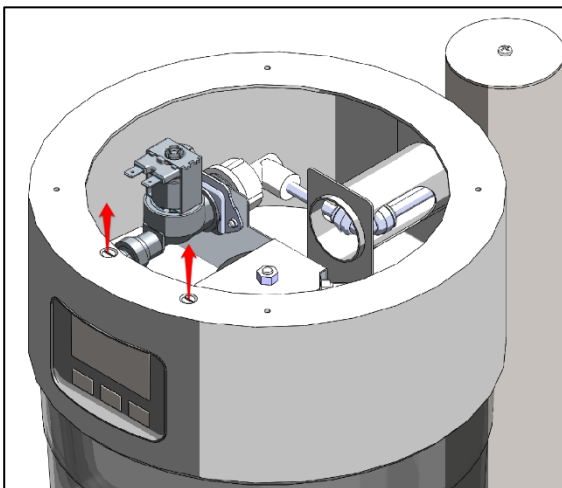
7.1 Top Lid removal:

1. Remove the screws in the top lid with a suitable screwdriver.
2. Lift lid upwards and remove.

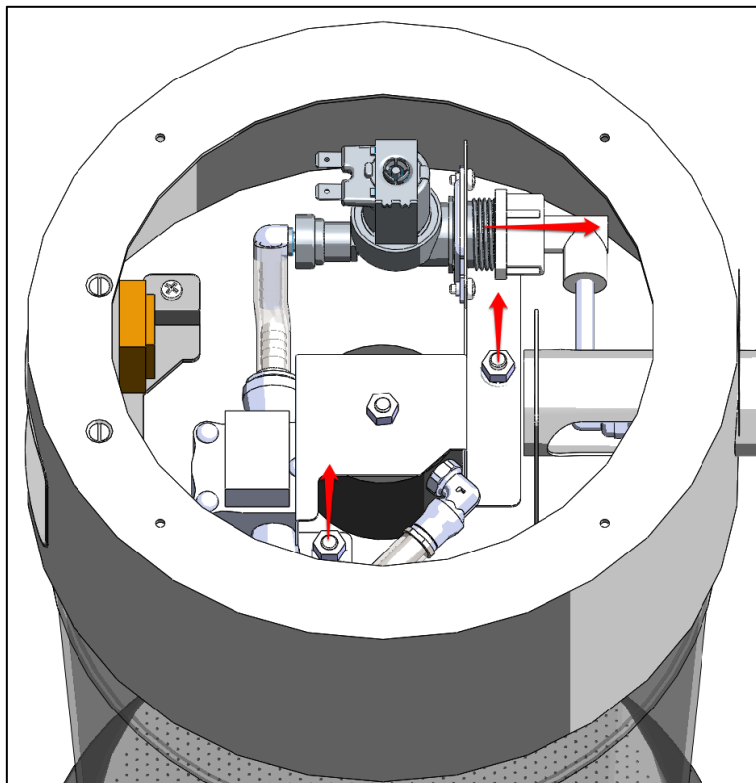


7.2 PCB removal (1600387 / 1600391(US)):

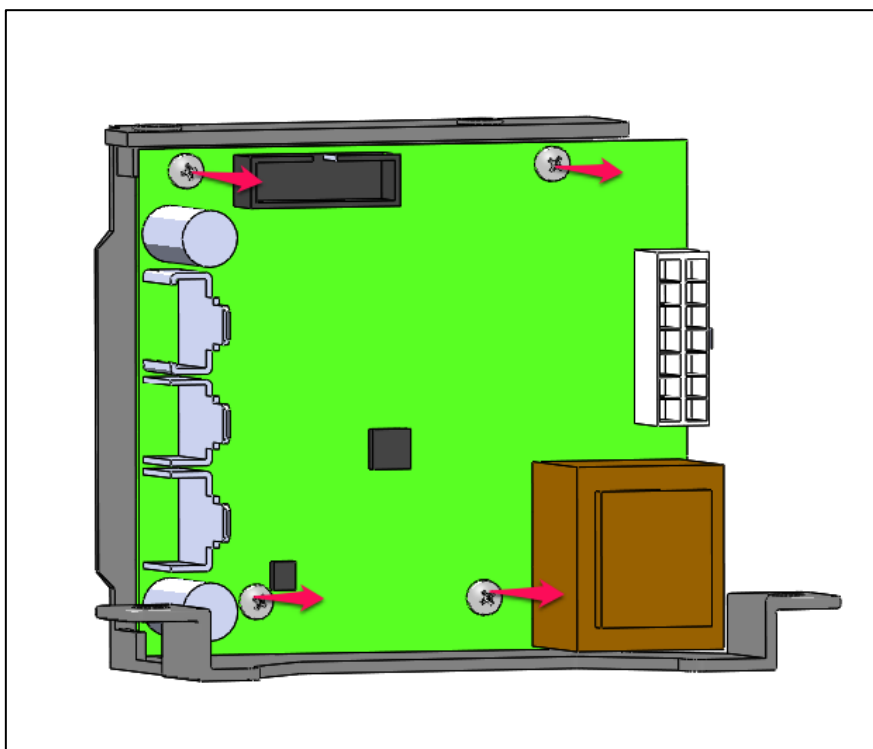
1. Disconnect machine from mains power.
2. Remove Top Lid as per section 7.1
3. Disconnect all wiring connected to the PCB.
4. Remove two countersink screws and the two screws attaching the PCB bracket inside the head of the machine with a suitable screwdriver shown in the picture below.



6. Remove the two nuts attaching the Sprayhead bracket to the Head assembly. This will allow you to move the components attached to the Sprayhead bracket and give enough room to remove the PCB bracket. Remove the PCB bracket with the PCB still attached.

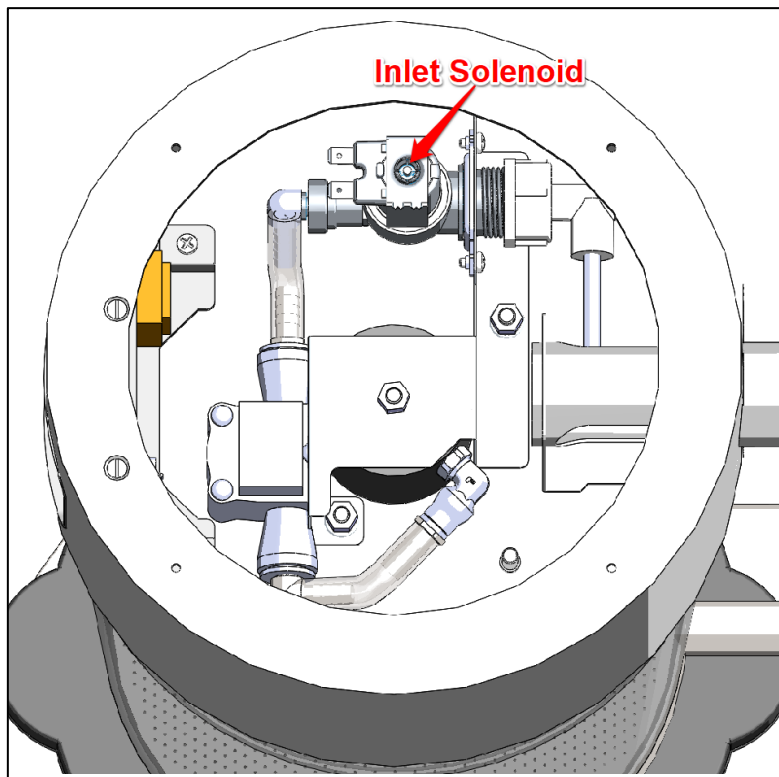


7. Remove 4 screws to release PCB from PCB bracket.

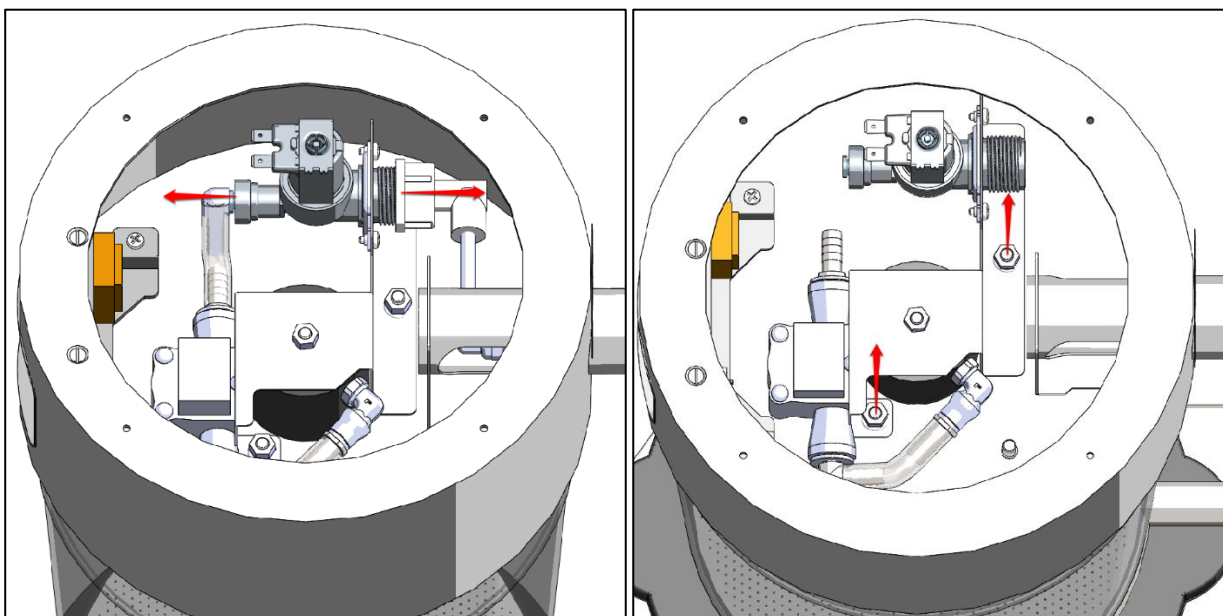


7.3 Inlet solenoid removal (230V – 1502196 / 120V - 1502198)

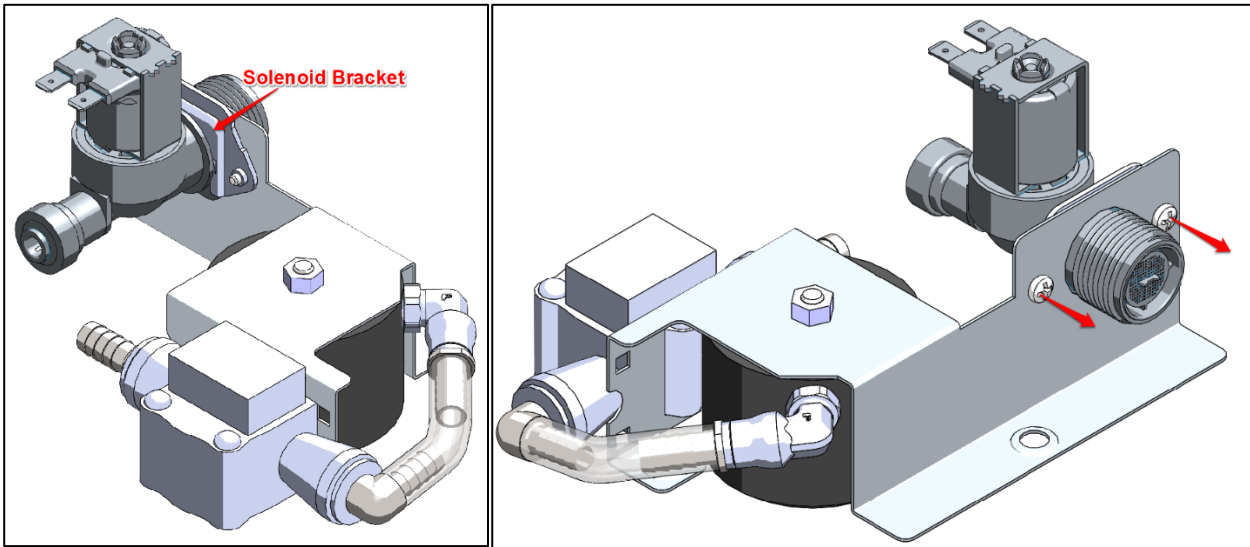
1. Disconnect machine from mains power.
2. Disconnect all wiring connected to the PCB.
3. Close water supply valve at the source and remove 1/4" hose from the bulkhead connector at the back of the machine. **Note: Water already in the machine and 1/4" hose coming from the mains water supply will drain upon removal.**
4. Remove Top lid side panel as per section 8.1



5. Disconnect all wires and hoses to the inlet solenoid. Remove the Sprayhead bracket from the head assembly by removing the two m6 nuts as shown below.

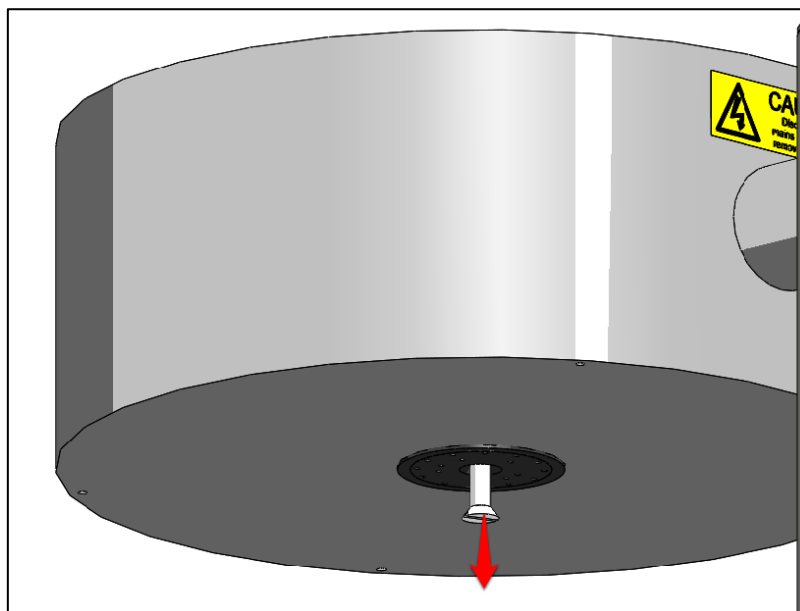


6. Once the Sprayhead bracket and all attached parts have been removed from the head assembly you will have access to the two solenoid retaining screws. Remove these to detach the inlet solenoid. **Note: orientation of solenoid mounting bracket.**

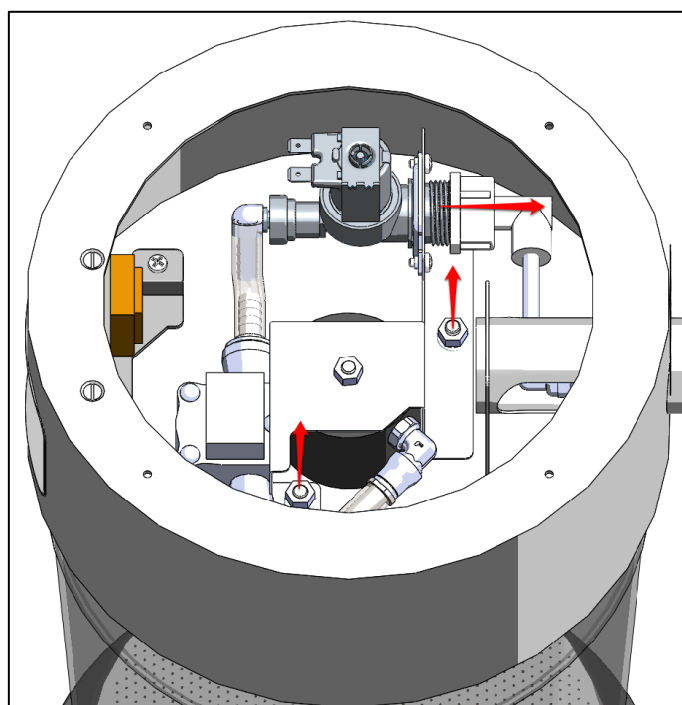


7.4 Sprayhead and Sprayhead disc removal

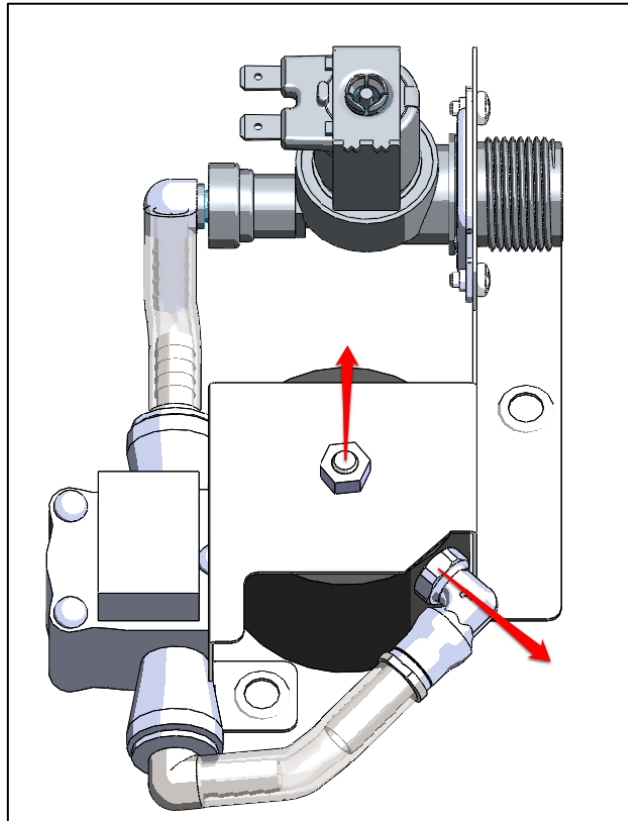
1. Disconnect machine from mains power.
2. Close water supply valve at the source and remove 1/4" hose from the bulkhead connector at the back of the machine. **Note: Water already in the machine and 1/4" hose coming from the mains water supply will drain upon removal.**
3. If only replacing the Sprayhead disk, you can access and remove the m6 x 50mm screw from the underside of the Welded head assembly as shown below. **Note: If removal of the entire Sprayhead is required, skip this step and continue to step 4.**



4. Remove Top lid side panel as per section 8.1
5. Disconnect all wires from the PCB.
6. Disconnect the Valve Elbow adaptor and remove the two nuts that hold the Sprayhead bracket in place. Lift the Sprayhead bracket with all attached parts out of the machine.

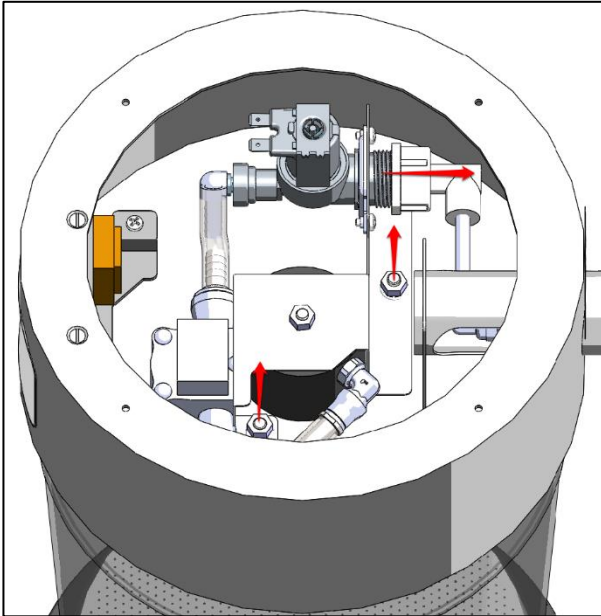


7. Remove the Sprayhead from the Sprayhead bracket by unscrewing the m6 nut shown below. Using an appropriately sized wrench, remove the elbow from the Spray head

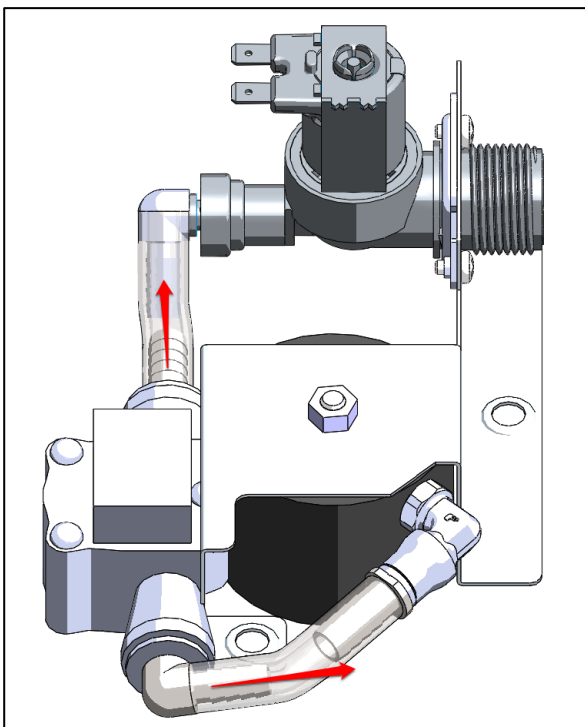


7.5 Flow meter replacement (2301183)

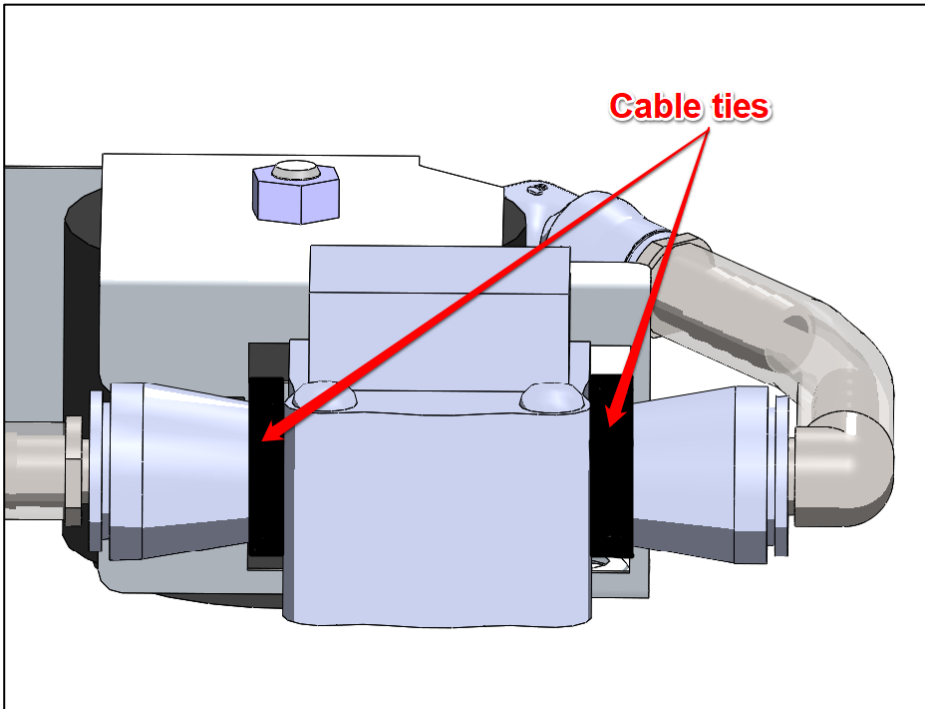
1. Disconnect machine from mains power.
2. Disconnect all wiring connected to the PCB.
3. Close water supply valve at the source and remove 1/4" hose from the bulkhead connector at the back of the machine. **Note: Water already in the machine and 1/4" hose coming from the mains water supply will drain upon removal.**
4. Remove Top lid side panel as per section 8.1
7. Disconnect the Valve Elbow adaptor and remove the two nuts that hold the Sprayhead bracket in place. Lift the Sprayhead bracket with all attached parts out of the machine.



8. Remove tubing connected to the Flow meter.

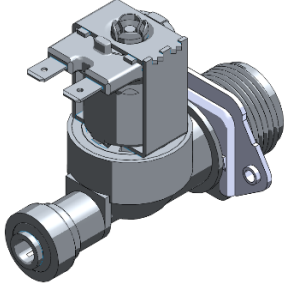
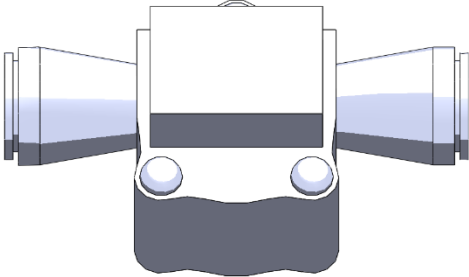
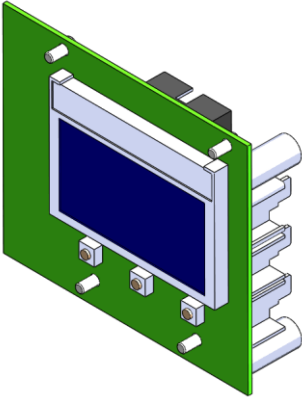


9. Cut cable ties to release Flow meter from the Sprayhead bracket.



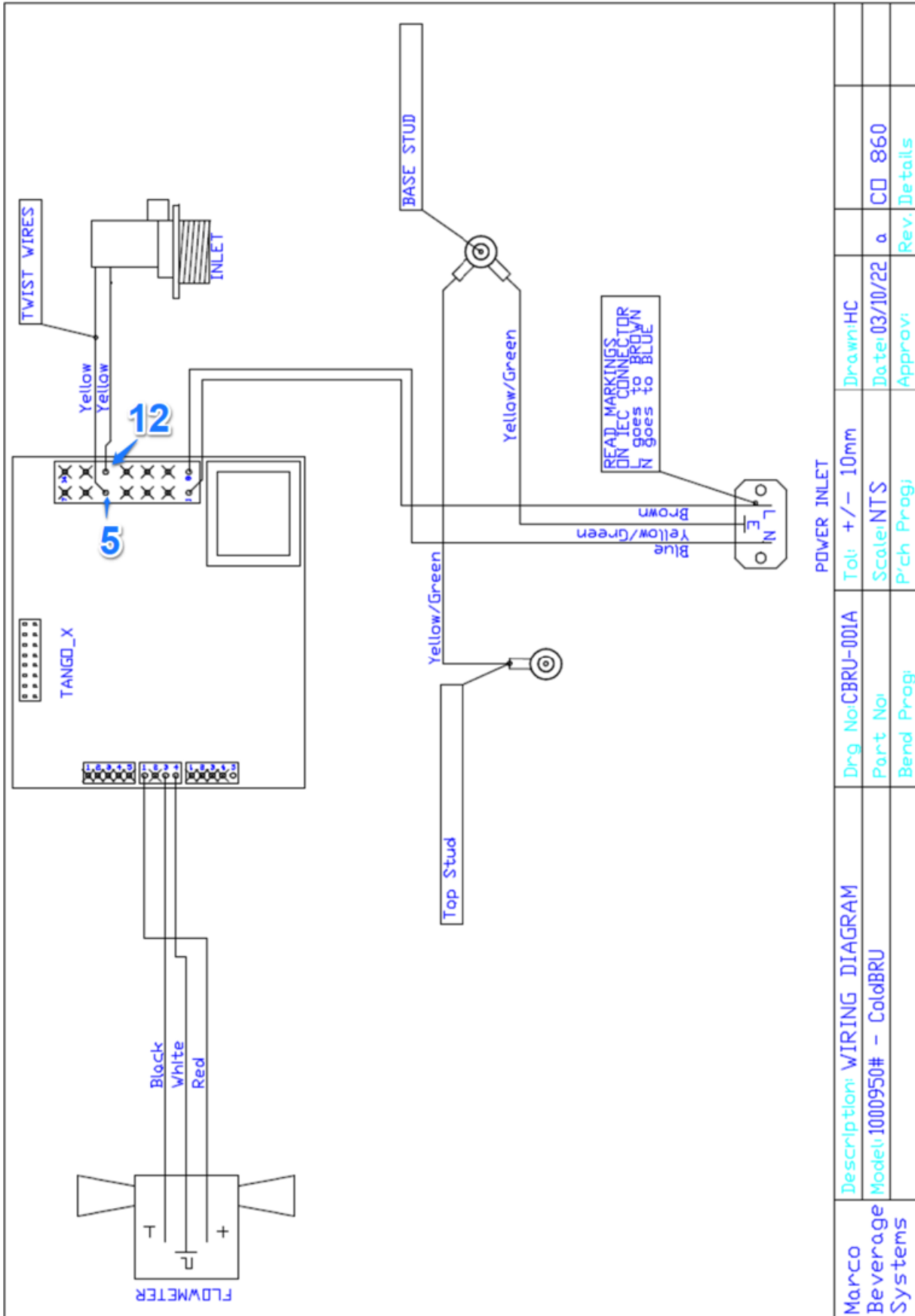
8. DIAGNOSTICS

TROUBLESHOOTING – DIAGNOSTIC GUIDE:

	Reported Issue	Component	Check
1.	Not dispensing water	Valve Inlet Solenoid 1/4" push fit (230V – 1502196 / 120V - 1502198) 	<ul style="list-style-type: none"> • Check power supply from PCB/230V ok. • Choose a brew in the MENU. While the brew is operating, check the Power to the solenoid is within range, 220-240v AC. If there is no Power, change the PCB. • If there is power and the solenoid fails to operate, replace the Solenoid valve
2.	Inaccurate water volumes	Digimesa Flow Meter (2301183) 	<ul style="list-style-type: none"> • Recalibrate the machine as per section 5 “ColdBRU Setup”. • If issue persists check power supply from PCB/230V ok. • If 230V from PCB replace Flow Meter.
3.	Not dispensing water	PCB Control Mix 230V / PCB Control Mix 110V (1600387 / 1600391) 	<ul style="list-style-type: none"> • Check power supply from 230V ok. • Select a brew and begin brew program. Check power between PCB and components/ • If components not receiving power, replace PCB

9. Wiring Diagram

9.1 Wiring Diagram



10. Plumbing Drawing

10.1 Plumbing Drawing

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	2301183	Digimesa Flow Meter	1
2	1801190	Sprayhead Nylon (Gemini)	1
3	1502196	Valve Inlet Solenoid - 1/4" push fit	1
4	1400436	Bulkhead Connector 1/4" (Legris)	1
5	1400731	Elbow 1/8 BSP M x 8mm Push Fit Swivel	1
6	1400771	Elbow Barbed Connector 1/4"	1
7	1400772	Elbow Barbed connector 3/8"	1
8	1400773	Barbed Connector 5/16" - 3/8"	1
9	1400816	Elbow Union 1/4"-1/4"	1
10	1400829	Valve Elbow Adaptor 3/4F -1/4 JG	1
11	1400831	Elbow Union 1/4"x1/4" Pushfit	2
12	1400836	Valve Adaptor 3/4F - 1/4 JG	1
13	1400776	Connector Stem 3/8" OD to Barbed 3/8" ID	1

NOT LISTED
 4 x cable ties for silicone hose (I don't think we stock suitable clips but should)
 2 x cable ties for flow meter

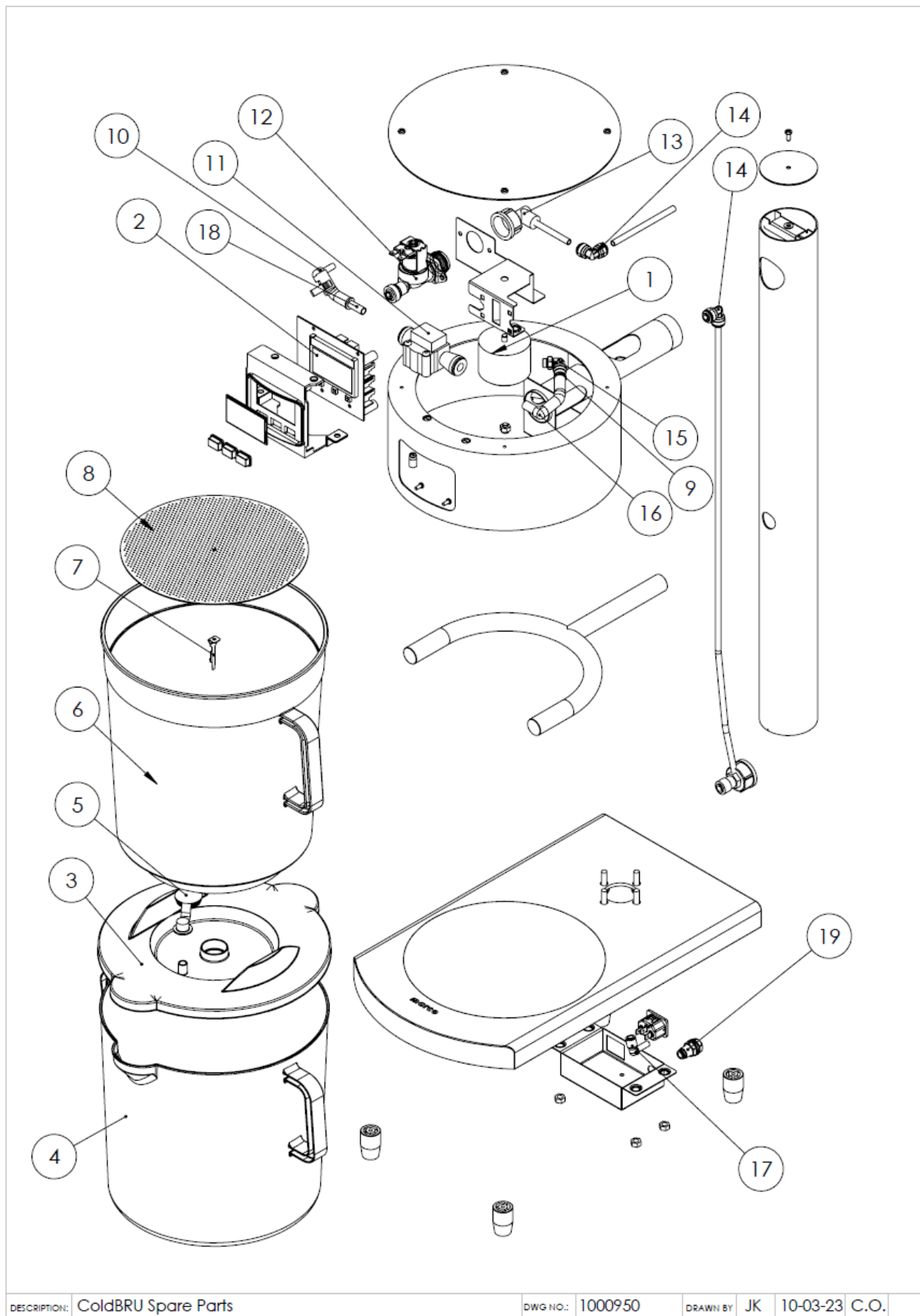
110mm silicone tubing -
 1800630 Hose Silicone 8mm I.D. X 12mm O.D

2250mm tube, internal and external (good estimate)
 1800637 Hose LDPE 1/4"
 (in MBS that hose may be blue which I do not think is acceptable, I would prefer white or natural/clear)

DESCRIPTION:	ColdBRU Plumbing components	DWG NO.:	1000950 plumbing	DRAWN BY:	PJT	15-07-22	C.O.:	-
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11. PART DIAGRAMS & LISTS

11.1 Spare Parts diagram



DESCRIPTION: ColdBRU Spare Parts

DWG NO.: 1000950

DRAWN BY JK

10-03-23 C.O.



11.2 Spare Parts list

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1801195	Sprayhead Nylon (Gemini)	1
2	1600387 / 1600391	PCB Control Mix 230V / PCB Control Mix 110V	1
3	1801487	Container Lid ColdBRU	1
4	1801486	Container 7.67 L ColdBRU	1
5	1800111	Silicone Plug ColdBRU	1
6	1801489	Brew Chamber ColdBRU	1
7	2200634	Filter Plate Retention Clip S/S ColdBRU	1
8	2200635	Filter Plate 1.2mm S/S Holes 1.2mm ColdBRU	1
9	1400773	Barbed Connector 5/16" - 3/8"	1
10	1400771	Elbow Barbed Connector 1/4"	1
11	2301183	Digimesa Flow Meter	1
12	1502196	Valve Inlet Solenoid 1/4" push fit	1
13	1400829	Valve Elbow Adaptor 3/4F -1/4 JG	1
14	1400831	Elbow Union 1/4"x1/4" Pushfit	2
15	1400731	Elbow 1/8 BSP M x 8mm Push Fit Swivel	1
16	1400772	Elbow Barbed Connector - ATEB 0605	1
17	1400816	Elbow Push Fit 1/4" - 1/4" - ATEU 0404	1
18	1400776	Connector Stem 3/8" OD to Barbed 3/8" ID	1
19	1400436	Bulkhead connector 1/4" (Legris)	1

DESCRIPTION: ColdBRU Spare Parts DWG NO.: 1000950 DRAWN BY JK 10-03-23 C.O.

