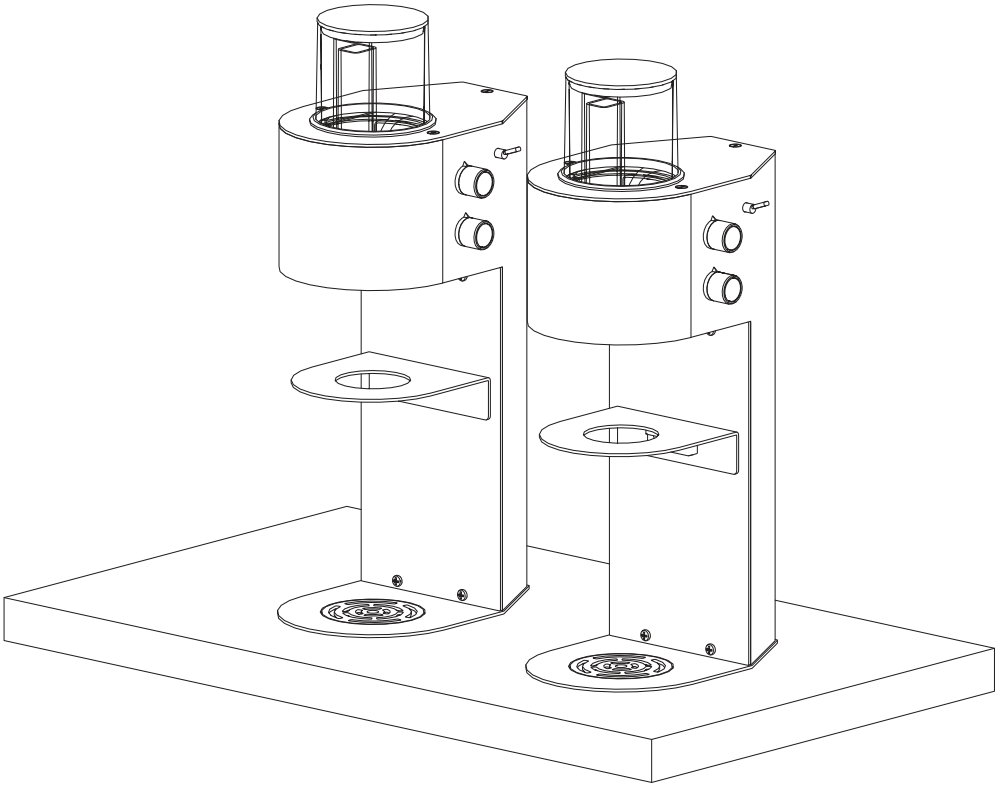


Instruction Manual
Machine P/N: 1000830# & 1000831#

SP9

CONTENTS

1. INFORMATION....3
    1. Introduction....3
    2. Safety....3
    3. Warning Notes....3
    4.Contact....4
    5. Electrical Installation Procedure....4
    6. Plumbing Installation Procedure....4
    7. Maintenance....4
    9. Descaling Procedure....4
    10. Operating the SP9 Head For The First Time....4
    11. Operating the SP9 Boiler For The First Time....5
    12. Dispense Volume Calibration....5
    13. Boiler Modes Of Operation....6
    14. Setup Mode....6
    15. User Set Up Options....6
    16. Service User Set Up Options....6
    17. Display Information Descriptions....8

2. CUTTING TEMPLATE....9

3. INSTALLATION....10

4. DIAGRAM OF PARTS....12

5. CALIBRATION....13

6. BREWING....14

7. 1:1 CUTTING TEMPLATE....16

INFORMATION

Introduction

The information provided in this manual is intended to assist in the installation and maintenance of the SP9 Head & SP9 Boiler. 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. The company accepts no responsibility for any damage or injury caused by incorrect or unreasonable installation and operation.

Safety

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.

Warning Notes

- Boiler: SP9 Boiler MUST be connected to a SP9 Head before use.
- Head: SP9 Head is powered only through the connection of the head to the boiler with the electrical connection provided.
- DO NOT turn on the boiler or engage the brew switch until head and boiler are plumbed together.

INFORMATION

Contact

Marco Beverage Systems Limited, 63d Heather Road, Sandyford Industrial Estate, Dublin 18.
Tel: +353 (0)1 295 2674, email: sales@marco.ie, www.marcobeveragesystems.com

Electrical Installation Procedure

When installing the machine, always observe the local regulations and standards. The appliance is supplied with a moulded power cord. A suitable mains power supply socket should be available within easy access of the appliance so that it can be disconnected easily after install.

Plumbing Installation Procedure

Ensure that the equipment is installed according to local plumbing & water regulations.
Mains water pressure required (limits): 14.5 -145psi (100 -1000kPa, 0.1 - 1MPa).
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).
The SP9 Head has a drip tray attached with a drain outlet which should be plumbed to waste.

Maintenance

This machine has been designed to give many years of trouble free service. The only regular maintenance required is occasional de-scaling.

Descaling Procedure

- Isolate machine from power supply.
- Isolate machine from water supply.
- ALLOW TO COOL COMPLETELY!
- Drain water from machine.
- Remove all lids.
- Remove as much scale as possible by hand, paying particular attention to level probes (White plastic with steel tab). Be very careful not to damage any attachments.
- Use ScaleKleen, Marco part No. 8000270 or similar. Follow instructions carefully.
- Thoroughly clean and flush the machine before re-use.
- Follow installation and first time operation instructions.
- Run the brew cycle a minimum of two times using only water to fully flush the de-scale solution through the SP9 Head.

Operating the SP9 Head for the first time

The SP9 Head is connected to the SP9 Boiler by silicone hoses and a flying lead. The SP9 Head's silicone hoses should be connected to the SP9 Boiler's hose adapters and secured with the supplied hose clips. The connections on both machines are marked "A" & "B", connect "A" to "A" and "B" to "B".

The SP9 Boiler vent should be connected to a hose adaptor marked vent on a SP9 Head.
The SP9 Boiler ideally should be positioned directly below the SP9 Head installed position.
Please refer to installation diagrams on pages 10 and 11 of this booklet.

Once the SP9 Head installation procedure has been carried out calibrate the SP9 Head. The calibration should only be conducted by a trained service engineer, see guideline on the following page.

Operating the SP9 Boiler for the first time

• Check that all installation procedures have been carried out.
• Ensure the water valve is on.
• Plug in the SP9 Boiler to an appropriate electrical supply and press the power button on the front of the machine.
• The light will glow green and the machine will fill to a safe level, above the elements, before heating.
• The “Ready/Status” light will cycle two red flashes while the machine is filling to the safe level.
• After this amount of water has heated to the set point the machine will draw more water in until the temperature drops by 1 or 2 degrees. The machine will then heat again. This heat fill cycle continues until the SP9 Boiler is full.
• Whilst the machine is above the safe level and filling, the “Ready/Status” light will remain blank.
• The “Ready/Status” light will glow green when the machine is both full and up to normal operating temperature.
• Ensure the SP9 Boiler is set to SP9 mode for use with the SP9 Head.
• The SP9 Boiler takes 15 minutes to heat up initially.
• The SP9 Boiler is now ready for use.

NOTE: Because the machine is electronically controlled no priming is necessary.

Dispense Volume Calibration

1. Once all installation procedures are carried out the SP9 Head is ready to be calibrated.
2. Turn the quantity dial to maximum value.
3. Turn time dial to between 2-3 minutes.
4. Place a large container (>1 litre) of known weight under the spray head.
5. Initiate brew by toggling switch.
6. Weigh & record brew output.
7. The output should be 750g + or - 10g.
8. If output is within +/- 10g of 750g further calibration is not necessary.
9. If not, to enter calibration mode, hold down the toggle switch for a minimum of 3 sec.
10. A long beep will emit to confirm that the machine is in calibration mode.
11. Enter the mass recorded via the brew switch using the following example:
    - o If 724g was measured.
    - o The toggle switch is used to input each digit successively.
    - o To enter ‘7’ the toggle switch is toggled 7 times
    - o A long beep will emit.
    - o To enter the ‘2’ toggle the toggle switch 2 times.
    - o A long beep will emit.
    - o To enter the ‘4’ toggle the toggle switch 4 times.
    - o To enter a ‘0’ value simply do not toggle the toggle switch.
    - o If calibration is successful a long beep will emit at the end of the process, if not multiple short beeps will emit.
12. Verify calibration by repeating steps 2 – 5.

INFORMATION

Boiler Modes of Operation

Ensure the boiler is set to SP9 Mode for use with the SP9 Head.



Setup Mode

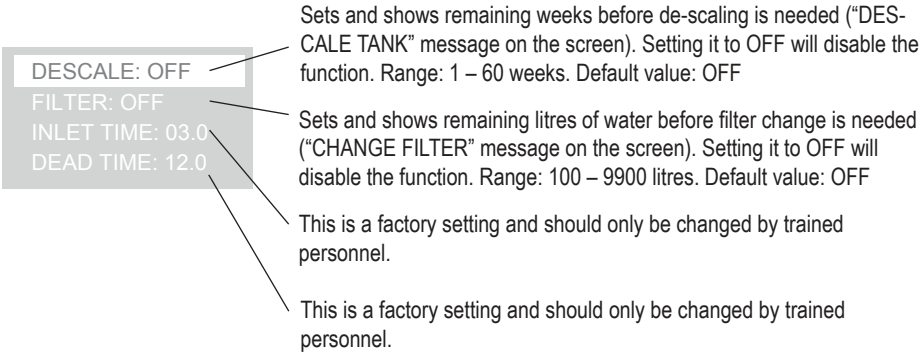
- To enter setup mode press power and set buttons on the front panel at the same time.
- The display will show “USER SETUP” message.
- Release the buttons now to enter the user setup mode.
- To enter advanced settings keep the buttons pressed until the display shows “SERVICE SETUP” message and then release them.
- In both setup modes use front panel buttons to navigate the settings:
    - Power button to scroll through the functions.
    - Set button to increase set value (press and hold for auto-repeat).

User Setup Options

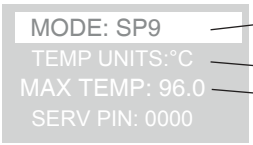
The default temperature in the tank is 95°. The user can set the temperature of the tank. Use the navigation instructions above to change the temperature.

NOTE: Temperature should never be set for more than 96°C because it may cause steam to be generated during low pressure days.

Service Setup Options



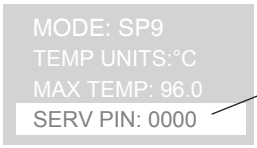
INFORMATION



Sets the mode the machine works in. SP9 mode must be selected for use with the SP9 Head.

Sets temperature units on screen. Default value °C

This sets max limit of the temperature that user can set in USER SETUP; max value is 96 °C.



"SERV PIN" limits access to SERVICE SETUP, setting it to 0000 disables the pin (default). Default value: 0000



PIN entry screen - once PIN is set and user wants to access SERVICE SETUP this screen will pop up; use top button to move through positions and bottom to scroll through the values (0 to 9 and again 0); if PIN is accepted you will gain access to the SERVICE SETUP, if PIN is rejected machine will reset itself.

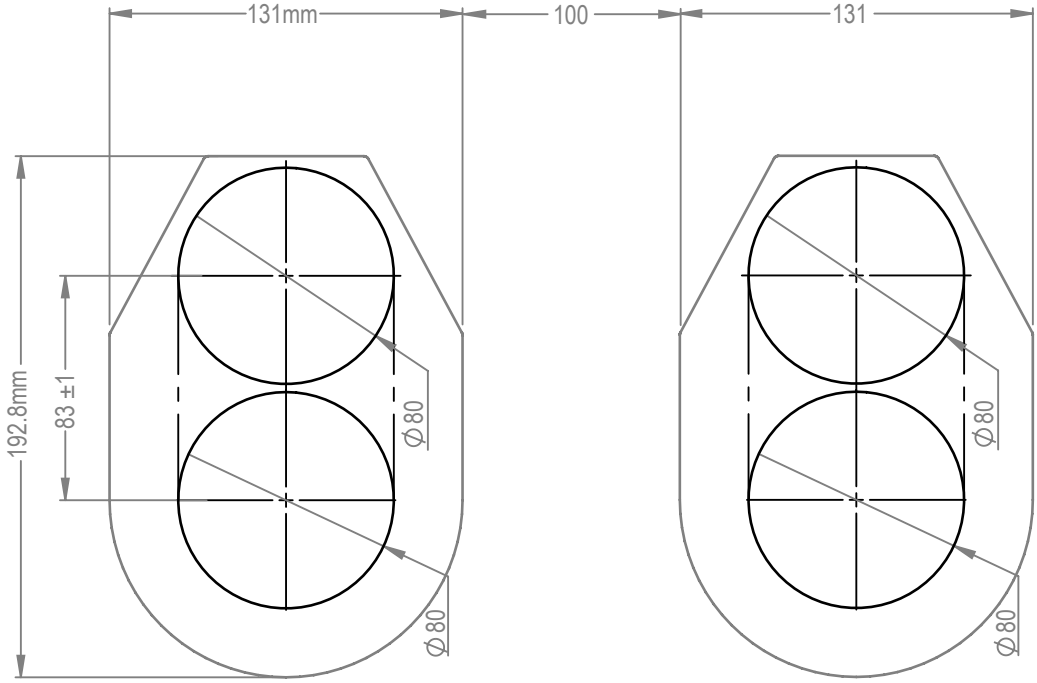


Press the Set button to save all the values and reset the machine.

Display Information Descriptions

Status	Description
Boiler Off	Machine off. Display backlight off but temperature read-out still working.
Filling...	Water level below low level probe. Machine is filling automatically. Status LED – 2 red blinks.
Fill the Tank	Water level below low level probe. Machine has to be refilled manually (shown only in MANUAL mode). Status LED – 2 red blinks.
Wait...	Water is being heated. Dispense valve disabled.
Boiler Ready	Water is up to the temperature and can be used. Note that this only means that the tank is heated and not that it is full. Status LED – green.
Dispense	Water is being dispensed. If machine is set to time dispenses – there will also be a progress bar drawn underneath. Dispense can always be cancelled by clicking the dispense button again.
Cooling...	Machine was set by the user to a lower temperature than the current tank temperature and is trying to cool down by taking in more cold water. This process may take between 20 seconds to a few minutes depending on tank size and temperature difference. Works only in COOL FILL mode.
Dispense water to cool the tank	Machine cannot take more cold water to cool the tank because it is full. Water needs to be dispensed to allow room for more cold water to come in and finish cooling process.
Descale Tank	Descale timer elapsed. Time to descale the tank.
Change Filter	Litres output exceeds set value. Time to change the water filter.
Check Low Probe	Low water level probe broken (disconnected). Machine detects high level probe signal but cannot detect low level one. Filling is disabled. Status LED – 1 red flash.
Thermistor S/C	Temperature sensor (thermistor) is short circuited. Dispense and heater disabled. Status LED – 3 red flashes.
Element Failure	Heating element is broken. Error is triggered when after 20 minutes of heating and not taking in water temperature in the tank fails to increase. Dispense is disabled. Status LED – 4 flashes.
Thermistor O/C	Temperature sensor (thermistor) is disconnected. Dispense and heater disabled. Status LED – 5 red flashes.
Low Pressure	Incoming water pressure too low. The error will be reset after water supply restores.All boiler functions are active. Status LED – 6 flashes.
Comm Error	Display board lost communication with boiler PCB (cannot receive serial data about temperature and probes). All actions cancelled.

CUTTING TEMPLATE



NOT TO SCALE

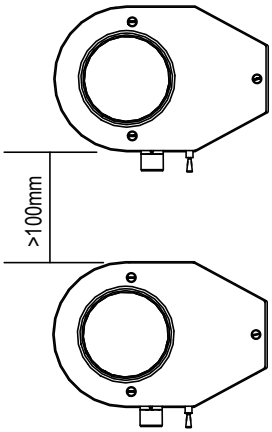
The above drawing illustrates where to position the counter cut outs if two SP9 Heads are being installed.
For a 1:1 scale cutting template please see the back page of this manual.

Option 1:
Using an 80mm hole saw, drill two holes as per the drawing.

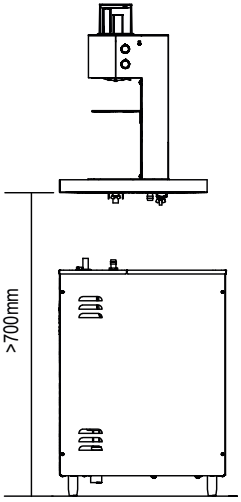
Option 2:
Use a jig saw or similar cutting device to cut out the full obround shape.

INSTALLATION

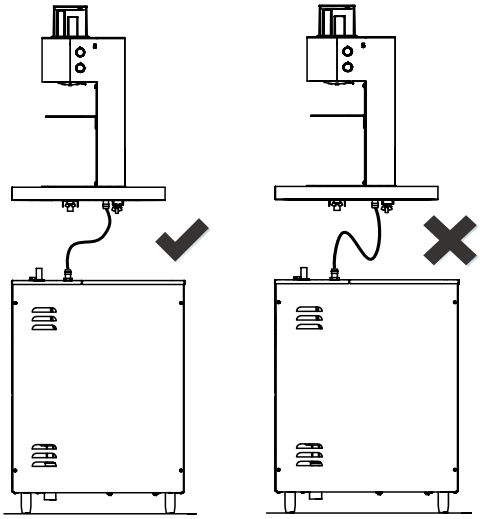
1.



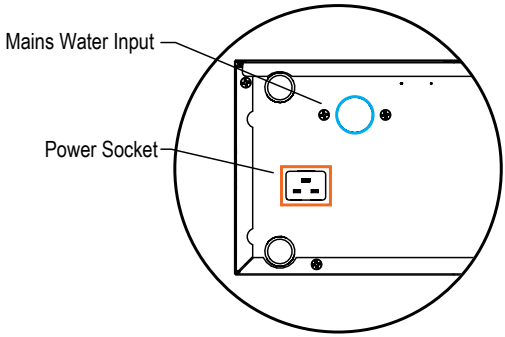
2.



3.

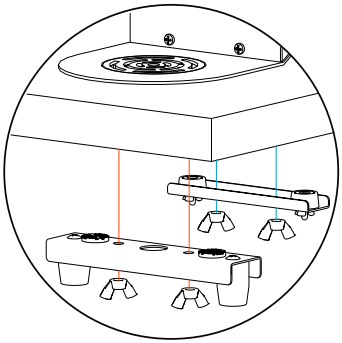


4. Underside of SP9 Boiler

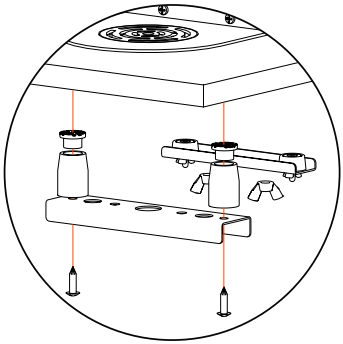


INSTALLATION

5. Attaching SP9 Head to the counter, standard counter thickness 25-40mm.



6. Attaching SP9 Head to the counter, thin counter thickness <25mm.



The 2 standard braces can accommodate counter thicknesses up to 40mm. Where the counter thickness is less than 25mm the hard plastic legs on the front brace must be removed and reattached to the other side of the brace using a screwdriver. The rubber inserts in the brace should be removed and repositioned in the plastic legs as shown above.

7. SP9 Head & Boiler Connections

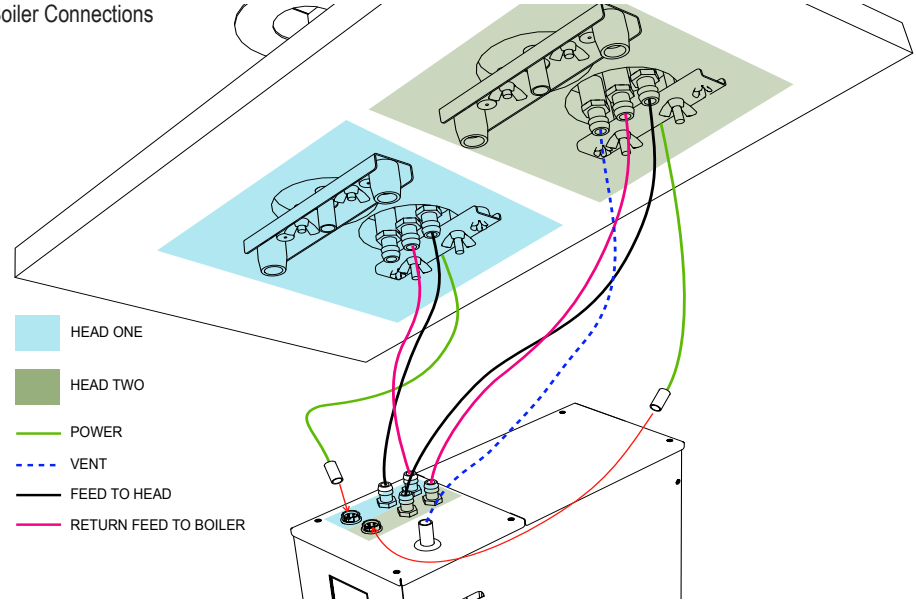
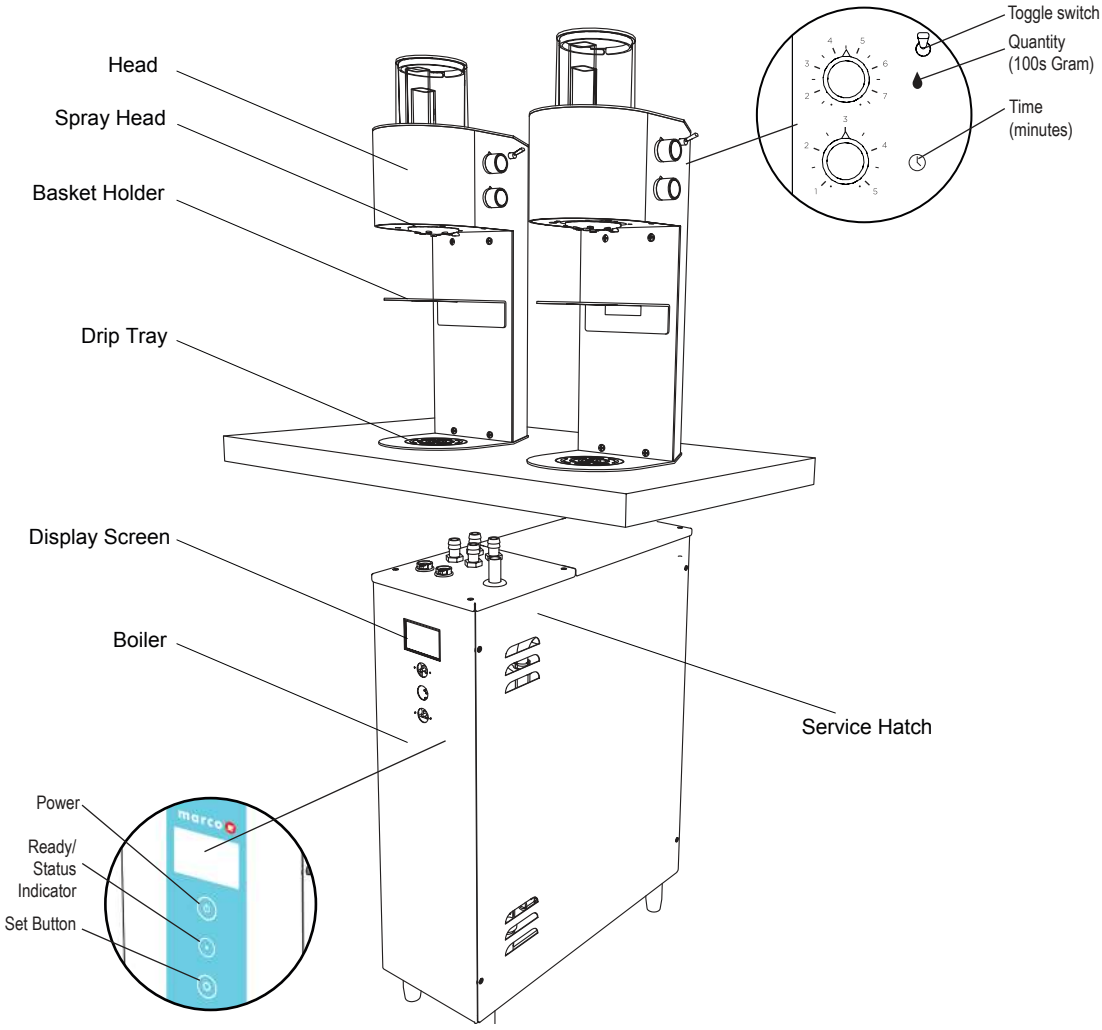


DIAGRAM OF PARTS



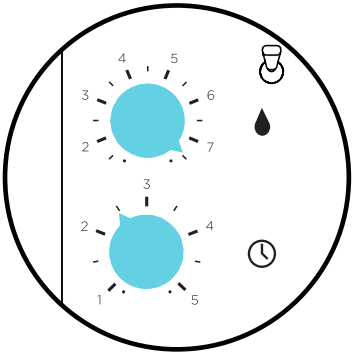
Head Box Contains
- SP9 Head & mounting brackets
- Hosing
- Spray Head 4 hole (factory fitted)*
- Spray Head 7 hole
- Instruction Manual

Boiler Box Contains
- SP9 Boiler
- Power Cord
- Vent Hosing
- Instruction Manual
- Water Inlet Hose

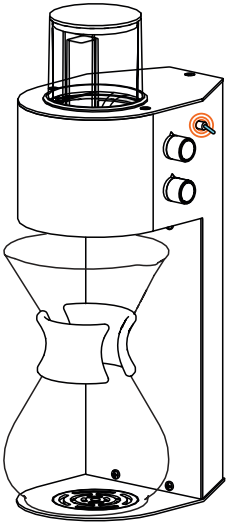
* Note: Alternate spray head not suitable for cup-by-cup swapping. Preferred sprayhead should be selected at install prior to calibration.

CALIBRATION

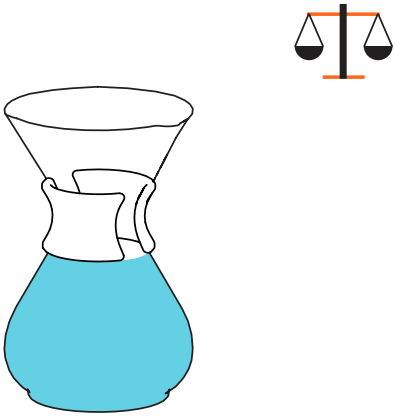
1. Turn quantity to maximum value & time to between 2-3 minutes.



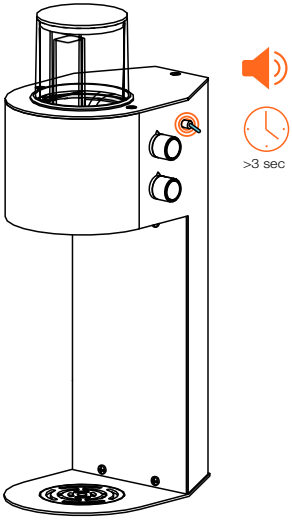
2. Dispense, note not using continuous dispense mode.



3. Weigh output

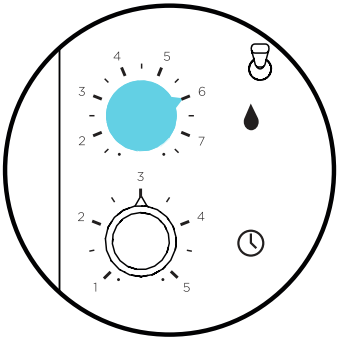


4. Feedback weight (see text on page 5)

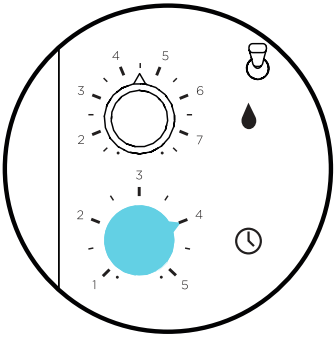


BREWING

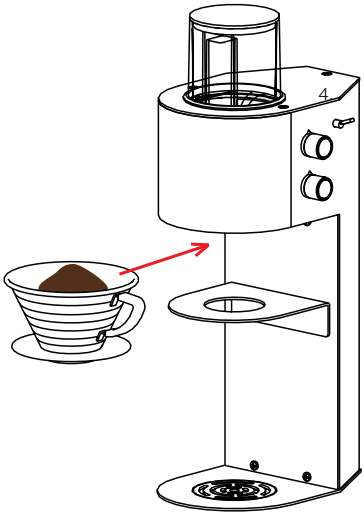
1. Select quantity



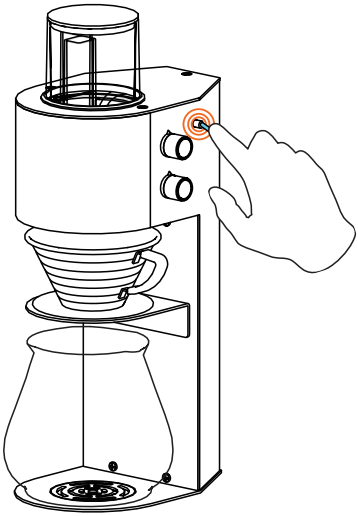
2. Select time



3. Place device with coffee under the spray head



4. Press toggle once



BREWING

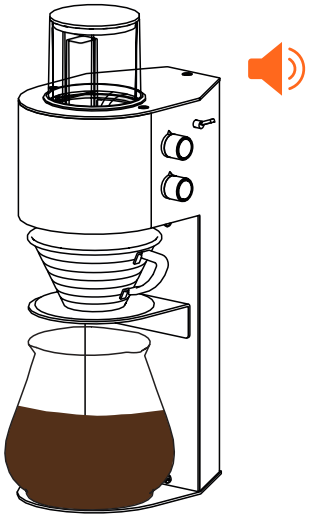
5. For continuious dispense - double click



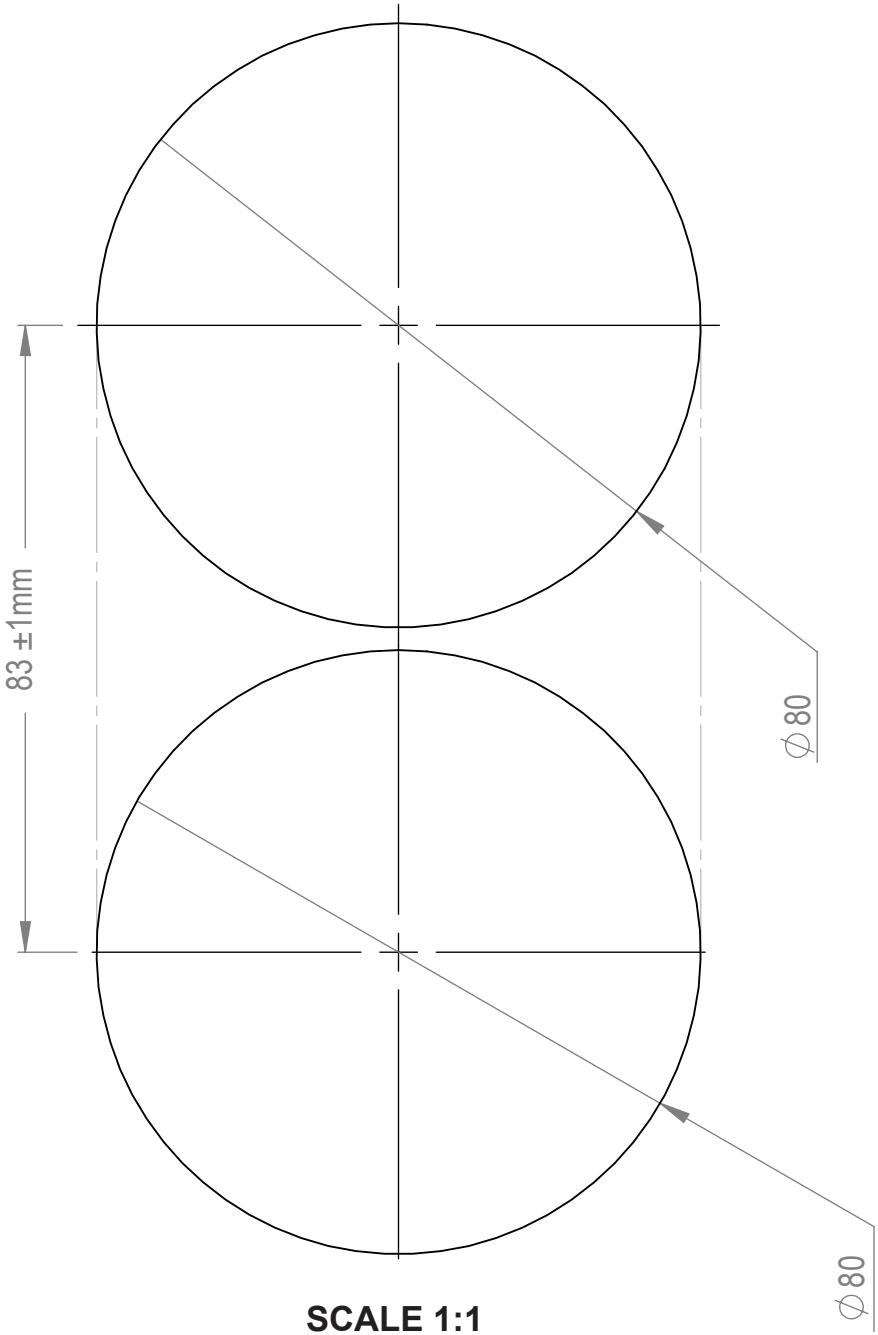
6. To cancel - click mid brew anytime



7. Beeps 3 times once finished



1:1 CUTTING TEMPLATE



SCALE 1:1