

D5 RATIO CONVERSION PROCEDURE

- 1 If the machine is in service remove the coffee, disconnect from power source and empty the water tank.
- 2 Remove the top cover.
- 3 Unplug the door loom from the control PCB.
- 4 Remove the M4 nut that secures the earth wire to the inside of the door. Support the weight of the door and remove the two screws that secure the door to the chassis. Remove door.
- 5 Remove the two screws securing the PCB support tray, and then unplug all the looms that are still connected to the control PCB. Remove cable tie securing the monitor loom to PCB tray.
- 6 Pivot the PCB support tray upwards and remove by sliding the silicone tube out of hinge, then lift the cooler free from the machine. (Lifting the body of the cooler NOT the door).
- 7 Fit new PCB support plate assembly to machine. Cable tie the monitor loom to PCB plate.
- 8 Unscrew the thumbscrews and remove the 3 mixing nozzles from the nozzle support plate.
- 9 Pull off the elbow retaining silicon from under the nozzle support plate to release the 3x14mm blue elbows.
- 10 Push the stainless steel elbows from the kit into valve 1, valve 2 and valve 3 silicon tubes. Insert the stainless steel elbow from valves through their respective holes in the nozzle support plate. Secure the stainless steel elbows with the 3 x 12mm silicon tubes provided.
NOTE: The silicon tube run from the valves to the metal elbows must not have any kinks and be positioned so that there is always a downward run from the valve to the elbow. The tube lengths can be cut down to aid fitment.
- 11 Fit the new door to the machine and connect the earth loom. Do not refit cooler at this point.

Connect all looms as shown in figure 1 below.

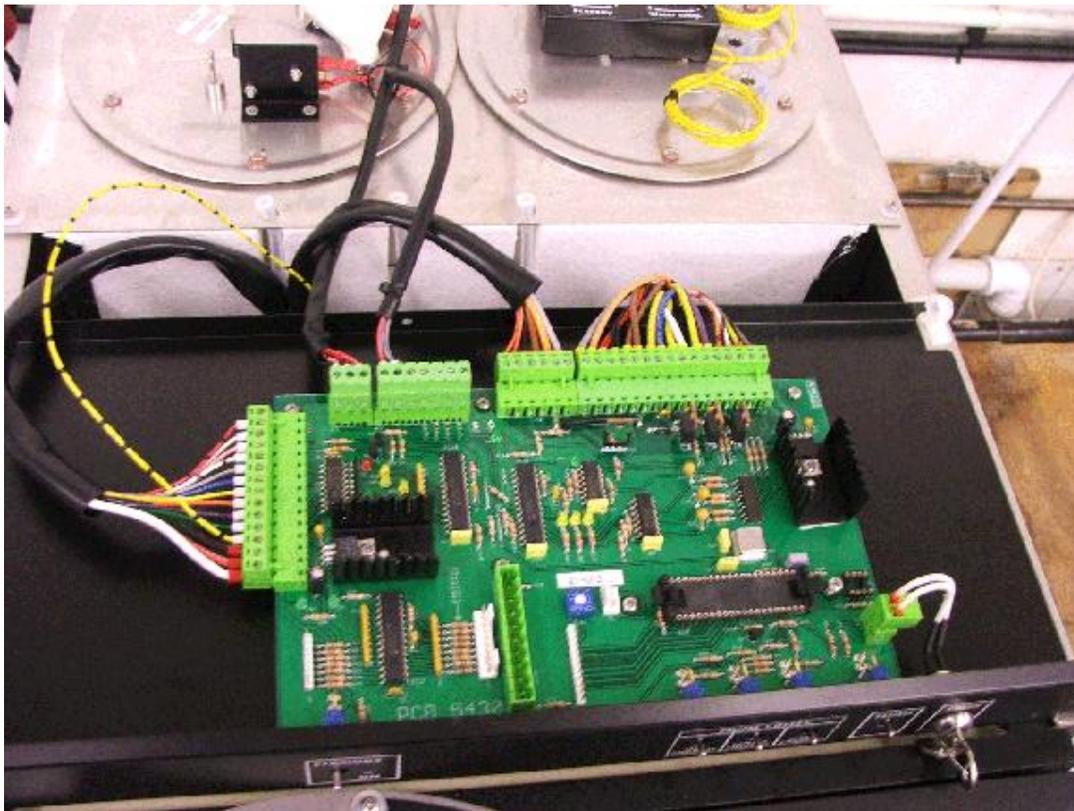


Figure 1: Loom connections

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Now fit the looms from the door, there are two Molex connectors of an 8-way and a 12 way, which fit into their respective, 8 and 12-way pin headers. There will be a spare 10 way molex connector next to the location for the green door connector.

NOTE: The molex connectors have tabs on one side. These must face to the right as viewed from the front of the machine. See figure 2 below.



Figure 2: Door loom connections

Tabs facing right

12 Calibrating the machine.

Familiarise yourself with the Up , Down and Enter buttons on the door to the right of the display.

Also familiarise yourself with the Standby , Prime and Flush switches, also the Mode key switch that are located on the panel above the cooler.

Connect the machine to the mains AC supply and plumb the machine to the mains water supply, refer to instructions in the User handbook.

Turn on machine; check that the display reads Maxwell house on the top line and Filling on the bottom line. When the boiler is full the readout should change to "Heating".

If it reads, Stand by then flick the Standby switch to on, if it reads Set up Mode then turn the Mode key switch counter clockwise.

Check the boiler valves for leaks.

Let the boiler heat up. At 168 deg F the display will show Ready . This Ready temperature is adjustable via the Economy thermostat on the right hand boiler lid. The elements will turn off at 194 deg F; again this temperature is adjustable via the Water temp thermostat on the right hand boiler lid.

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There are diagnostic LEDs built into the Control electronics board, once the machine is at its maximum temperature of 194 deg F (the green elements on LED will turn off (see figure 3 below) then the flow rates can be calibrated.

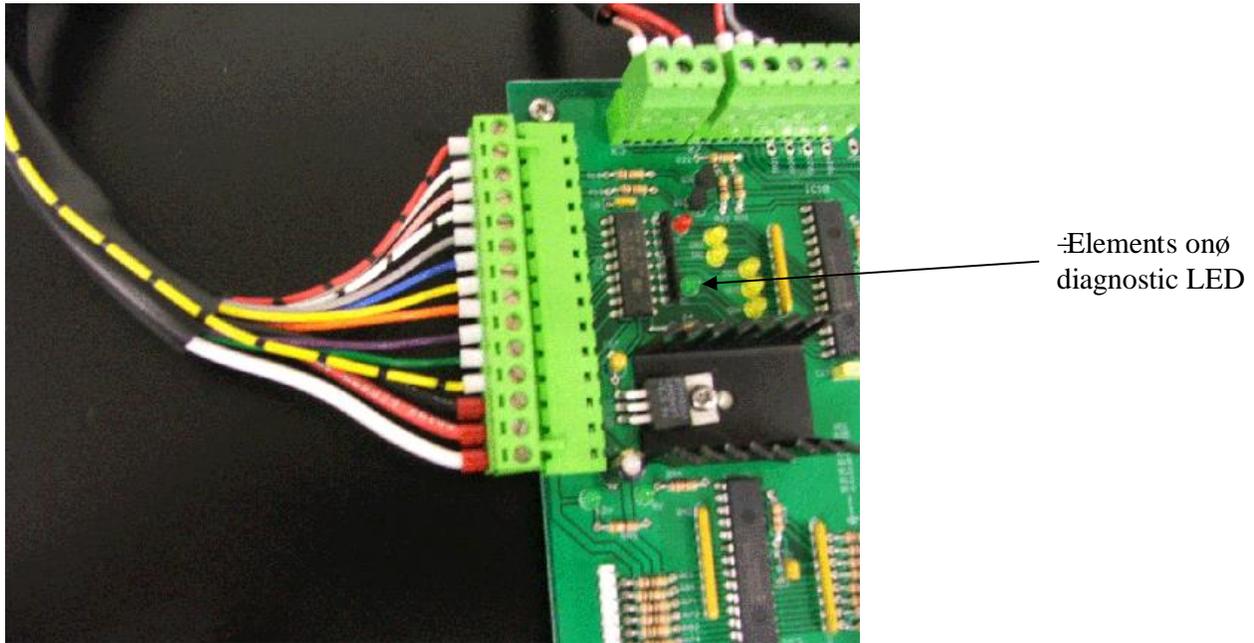


Figure 3: Diagnostic LEDs position

These kits have preset selections to aid calibration. You will need a calibrated measuring beaker that can measure a 500ml dispense, plus a measuring cylinder that can measure up to 15 ml.

All three selections (Regular, Decaf and Hot water) are preset to give a 6 second dispense and will not stop dispensing if the tap is released during the 6 second dispense.

If for any reason the selections do not give a 6 second dispense, please refer to section 16 of this guide.

Place the measuring beaker under the Regular coffee nozzle and make a Regular selection. 500ml should be dispensed (flow rate to be set = 5 litres per minute = 500ml in 6 seconds) Adjust the flow restrictor in outlet valve 1 (see figure 1) until the figure is met.

Place the measuring beaker under the Decaf coffee nozzle and make a WATER selection. 500ml should be dispensed from the Decaf nozzle. Adjust the flow restrictor in outlet valve 2 (see figure 1) until the figure is met.

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Now swap the yellow and brown outlet valve signal wires on valves 2 and 3, as shown in Figure 4.

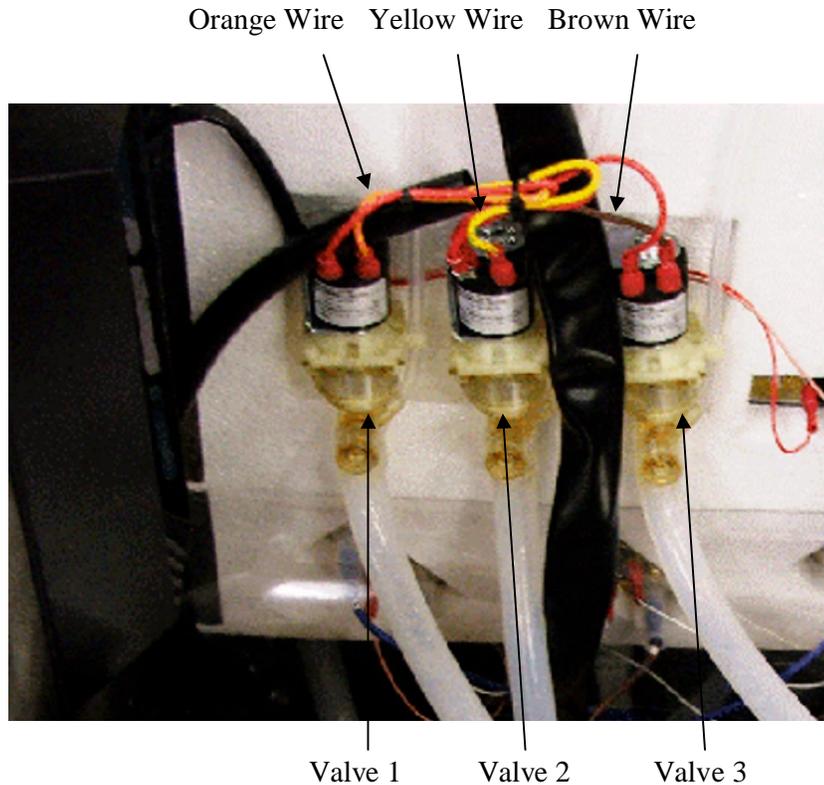


Figure 4: Outlet Valve loom positions.

Place the measuring beaker under the water nozzle and make a water selection. 500ml should be dispensed, adjust the restrictor on valve 3 to set this figure.

- 13 Turn off the machine and fit the cooler back into the machine making sure not to trap the water elbows or the coffee pump outlets under the cooler. Secure the PCB support tray down, plug the cooler loom into the Control board and switch the machine back on.

14 **Calibrating the cooler peristaltic pumps.**

Go into Engineer mode ó to do this:

- Turn the Mode switch clockwise ¼ of a turn, the display will say "Set up Mode"
- Press Prime left hand coffee channel ó release then,
- Press Prime centre coffee channel and release.

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The display will read "Engineer mode" and press Enter

You need to press the "Enter" button to scroll through the engineer menus. These are the water flow rate calibration settings and are, in order:

- Machine type D4 3 Product
- Coffee Enabled
- Water Enabled
- Peris 1 speed offset = 0
- Peris 2 speed offset = 0
- Peris 3 speed offset = 0
- Product Sensors Disabled
- Leak detect Enabled
- Elements on with Inlets = Yes
- Elements on with Selection = Yes

Scroll through to the "Water enabled" menu and press the "down" button to disable the water. This stops water being dispensed from the boiler to enable measurement of the coffee pumps. The display should now say "Water disabled".

Scroll through the rest of the menus until the display returns to Selection mode, then turn the Mode key switch counter clockwise ¼ of a turn.

Prime the left hand coffee channel with cold water (NOTE not hot water from the boiler) until you see the water dispensing from the Regular coffee nozzle.

Place the measuring cylinder under the Regular coffee nozzle and make a Regular selection. 12.5ml of water should be dispensed (the dosage ratio is set to 40:1, so a 500ml dispense of water should give 12.5ml of coffee concentrate). To adjust the pump speed, go into Engineer mode and scroll through to "Peris 1 speed" and use the "up" and "down" button to change the offset number. A higher number will increase the dispense, a lower number will decrease the dispense. Come out of engineer mode and repeat the process.

Once set, prime cold water through the right hand pump and make a Decaf selection. Again, 12.5ml should be dispensed. To adjust this pump, change the offset for "peris 3 speed" in engineer mode. Now the pumps are calibrated.

15 Selection setup for calibration.

This section is for machines that do not already give a 6 second preset dispense. If you have already set the machine flow rates and have calibrated the pumps, please skip this section and go to section 17.

The machine should be set as a "D4 3 product" in engineer mode for calibrating, please refer to section 16 and set the water flow rate calibration settings. Once you have scrolled through and set the engineer settings the machine will then go into "Set up mode".

Pull the Regular faucet, the display will now go into the selection menu, which you need to press enter to scroll through. These should be, in order:

- Selection 8 = Enabled
- Speed = 1
- Selection = preset
- Selection type = coffee
- Set volume = 55
- Strength = 40:1
- Channel = 1

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These are the settings needed for the Regular selection, use the \uparrow and \downarrow buttons to adjust the options in each menu.

Once set, repeat for the Decaf and Hot Water selections. The settings needed for calibrating are as follows:

Selection	Speed	Selection =	Type	Volume	Strength	Channel
Regular (8)	1	preset	coffee	55	40:1	1
Decaf (7)	1	preset	coffee	55	40:1	3
Hot Water (6)	1	preset	water	55	-	-

16 Machine customer Setup

Below is a description of the Engineer options:

- Machine type (Should be \rightarrow D5 faucets \rightarrow or \rightarrow D4 3 product \rightarrow when calibrating)
- Coffee Enabled (can be disabled if the pumps need turning off \rightarrow test only)
- Water Enabled (can be disabled to aid pump calibration \rightarrow test only)
- Peris 1 speed offset = # (used in pump calibration)
- Peris 2 speed offset = #
- Peris 3 speed offset = #
- Product Sensors Disabled (to save coffee wastage when calibrating \rightarrow test only)
- Leak detect Enabled (disable for machine use on ships)
- Elements on with Inlets = Yes (to aid recovery time, not required with pre-heaters)
- Elements on with Selection = Yes (to aid recovery time, not required with pre-heaters)

The machine settings as it leaves for a customer should be

- Machine type = D5 faucets
- Coffee Enabled
- Water Enabled
- Peris 1 speed offset = #
- Peris 2 speed offset = #
- Peris 3 speed offset = #
- Product Sensors Enabled
- Leak detect Enabled
- Elements on with Inlets = No
- Elements on with Selection = No

The reason for the elements NOT being on with selection and inlets is in case the machine is installed on a site with a pre-heater, there are cases that the machine may overheat if element are ON with selection and inlet valves. However, it is best for recovery to enable these options if the site does not have a pre-heater.

17 Empty the coffee pumps of any liquid, turn off machine and drain down and dry tank

18 Fit cup stand and top cover.

19 Repackage machine.