G·E·N·E·S·I·S

Technical Manual

Including Spare Parts Information

Part No. PR10351000

New 03/04

This manual is to be used by authorised personnel involved in installing, commissioning and servicing **Genesis** instant and double freshbrew table top beverage vending machines. The technical information contained within this document is for information only and may be changed without prior notice. Crane Merchandising Systems accepts no responsibility for any damage caused to the machine through misinterpretation or misuse of the information contained in this document.

Upon receipt, carefully examine the machine checking for any damage or missing/incorrect parts. Any discrepancy must be reported to Crane Merchandising Systems in writing within three working days.

In accordance with the food hygiene regulations and in compliance with local Public Health Authorities, it is the responsibility of the operator to keep the machine in a thoroughly clean condition.

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The following symbol is used throughout this Technical Manual:

Safety First! Take care, risk of personal injury.

Important Safeguards

When installing or servicing the **Genesis**, always have this manual available for quick and easy reference and always follow these basic safety precautions:

1. Ensure that the machine is situated on a strong horizontal surface (see specifications table), at a convenient height and in a position where it is not likely to be knocked off.
2. The mains lead should never trail from the machine and should always be kept away from hot surfaces and sharp edges.
3. Allow the machine to cool before handling or moving.
4. Ensure that the mains electricity supply is isolated before removing any of the protective panels or undertaking any major servicing. Working on live equipment should only be undertaken when there is no practical alternative.
5. When servicing the heater tank. The water can reach a temperature of approximately 96° C. Water at this temperature can cause severe burns!
6. Never immerse the machine in water, or any other liquid. This machine must not be installed in an area where a water jet may be used. Never use a water jet to clean this machine.
7. In normal operating conditions the machine should not freeze-up. In the unlikely event of the machine freezing, turn off the mains water supply, disconnect the machine from the mains electricity supply and contact Crane Merchandising Systems for assistance.
8. Ensure that you are conversant with the 'Health and Safety at Work and Electricity at Work Regulations 1989'.

ALWAYS DISCONNECT THE MACHINE FROM THE MAINS ELECTRICITY SUPPLY BEFORE CLEANING AND SERVICING.

This machine is for indoor use only and because it is a beverage machine, should be sited in a clean, hygienic area.

It is the policy of Crane Merchandising Systems to continue developing its range of beverage equipment. The information presented within this document is for information only and may be changed without prior notice.

Crane Merchandising Systems accepts no responsibility for damage caused to the equipment through misinterpretation or misuse of the information contained in this manual.

Section 1 - Machine Specifications

1.1 Specifications Table

	Instant	Freshbrew
Height	756 mm	756 mm
Depth	597 mm	597 mm
Width	544 mm	544 mm
Weight	70 kg	70 kg
Cup Capacity	230	230
Number of Canisters	7	6
Electrical Requirements (i) Voltage (ii) Current (iii) Frequency	220 - 240V ac 13 Amp fused 50Hz	
Water Services (i) Pressure (ii) Stopcock	100 Kpa (1 Bar) - 800 Kpa (8 Bar) 15 mm BSP from rising main	

All weights and dimensions are approximate and are for guidance only.

1.2 Canister Capacities

Canister Capacities (Approximate)	
Freshbrew Coffee	1.8 kg - 260 cups
Freshbrew Tea	0.73 kg - 200 cups
Instant Coffee	0.67 kg - 420 cups
Instant Tea	0.365 kg - 830 cups
Chocolate	2.25 kg - 130 cups
Milk/Topping	1.4 kg - 180 cups
Soup	2.25 kg - 270 cups
Lemon Tea	2.25 kg - 230 cups
Sugar	2.8 kg - 1075 cups

1.3 Water Filter

Genesis machines fitted with a paperless freshbrew brewer must be connected to the water supply via a scale inhibiting water filter. Crane Merchandising Systems recommend and supply the **Brita AquaQuell Compact** water filter.

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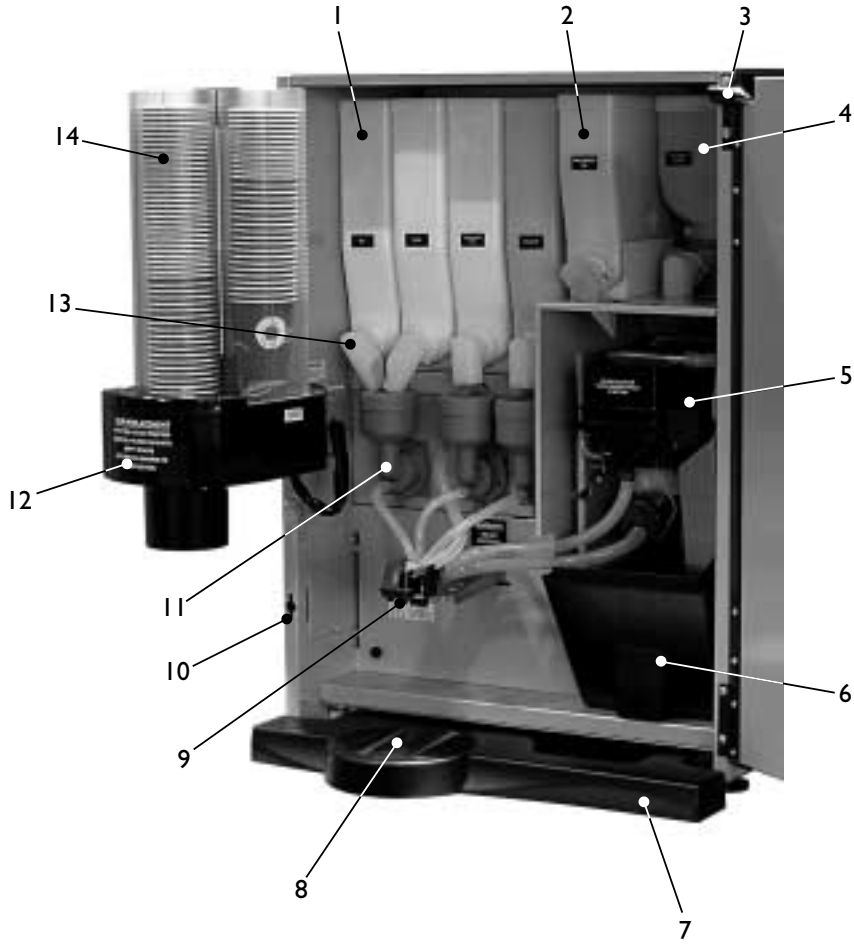
1.4 External Features

Key:

1. Coin Entry
2. Coin Reject Button
3. LCD Display
4. Drink Selection Keypad
5. Selection Decals
6. Coin Return
7. Foot
8. Door Lock
9. Graphic Panel
10. Door

1.5 Internal Features



N.B. Photograph shows Genesis double freshbrew machine

Key:

1. Instant Ingredient Canister
2. Freshbrew Tea Canister
3. Main Loom
4. Freshbrew Coffee Canister
5. Paperless Dual Brewer
6. Brewer Waste Bucket
7. Waste Tray
8. Waste Tray Grille
9. Moving Dispense Head
10. Door Switch
11. Mixing System
12. Cup Drop Unit
13. Canister Outlet
14. Cup Turret

1.6 Drinks Choice - Instant Models

Ingredients:

Option 1 - 7 Canisters
1. Milk
2. Sugar
3. Cappuccino Topping
4. Chocolate
5. Instant Tea
6. Instant Coffee
7. Instant Decaf. Coffee

Option 2 - 7 Canisters
1. Milk
2. Sugar
3. Cappuccino Topping
4. Chocolate
5. Instant Tea
6. Instant Coffee
7. Soup

Genesis - Instant Option 1

Drink Selections	Option 1 7 Canisters	Option 2 7 Canisters
Instant Coffee	●	●
Instant Coffee Decaf.	●	
Instant Tea	●	●
Chocolate	●	●
Cappuccino	●	●
Caffe Mocha	●	●
Caffe Latte	●	●
Chocomilk	●	●
Hot Milk	●	●
Espresso	●	●
Soup		●
Hot Water	●	●

1.7 Drinks Choice - Double Freshbrew Models

Ingredients:

Option 1 - 6 Canisters
1. Milk
2. Sugar
3. Cappuccino Topping
4. Chocolate
5. Freshbrew Tea
6. Freshbrew Coffee

Option 2 - 6 Canisters
1. Milk
2. Sugar
3. Instant/Decaf. Coffee
4. Chocolate
5. Freshbrew Tea
6. Freshbrew Coffee

Option 1: All speciality drinks made with freshbrew coffee. Cappuccino made with cappuccino topping.

Option 2: Cappuccino made with coffee, milk and chocolate.

Drink Selections	Option 1 6 Canisters	Option 2 6 Canisters
Freshbrew Coffee	●	●
Instant/Decaf. Coffee		●
Freshbrew Tea	●	●
Chocolate	●	●
Cappuccino	●	●
Caffe Mocha	●	●
Caffe Latte	●	●
Chocomilk	●	●
Hot Milk	●	
Espresso	●	●
Hot Water	●	●

Section 2 - Installation Procedure

Important! It is essential that personnel responsible for installing, commissioning and servicing the machine understand the following:

1. The installation and commissioning of the machine should only be carried out by trained and authorised service engineers.

2. All water and electrical services must be correctly and safely connected.

3. All covers should be replaced correctly and securely and the machine left in a safe condition.

2.1 Locating the Machine

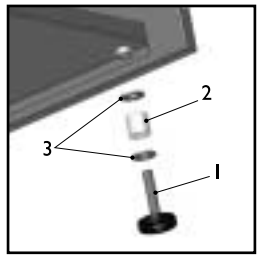
1. The machine is suitable for indoor use only, sited in an area with a recommended ambient temperature not below 10° C and not exceeding 30° C. The machine should be located near the appropriate water and electrical services as detailed in the specification table.

2. Prior to moving the machine to its location, ensure that there is sufficient access space available via passageways, stairs, lifts, etc and that the table/counter where the machine is to be located is strong enough to safely support its weight. (Refer to Specifications Table).

3. To ensure adequate ventilation, 100 - 150 mm (4 - 6 inches) clearance must be allowed between the back of the cabinet and the wall.

4. Open the cabinet door using the key provided. Remove all transit packing and the installation kit from the machine. Check for visual signs of damage which may have occurred during transit. If the machine is damaged or any parts are missing, you must contact the supplier immediately.

5. Referring to the diagram opposite, fit the four feet (1) to the machine. Ensure that the spacer (2) is fitted between the washers (3) as shown. Using a 12 mm spanner, adjust the feet until the machine is levelled in both front to back and side to side planes.



6. Fit the door switch bracket to the door using the two screws provided. Ensure that the bracket operates the door switch when the door is closed.

2.2 Connecting the Water Supply

1. The machine should be situated within 1 metre of a drinking water supply from a rising main, terminating with a W.R.C. approved 15mm compression stop-tap.

2. The water supply should comply with both the Statutory Instrument No.1147 - "Water, England and Wales" and The Water Supply (Water Quality) Regulations 1989. Water pressure at the stop-tap must be within the limits 1 - 8 Bar (100 Kpa - 800 Kpa) or as specified by the filter manufacturer when a water filter is fitted.

3. Connect the flexi-hose supplied with the machine to the stopcock ensuring that the seal supplied is fitted correctly. Flush the system (several gallons) before connecting the machine.

4. Connect the hose to the inlet valve located on the rear of the machine. Ensure that the seal is correctly fitted. Ensure that all water supply fittings are tight.

5. **Freshbrew Machines**: Genesis machines fitted with the paperless freshbrew brewer ***must*** be connected to the water supply via a water filter. This filter must be of food grade quality and able to remove temporary hardness (scale), heavy metals (lead, copper, iron, cadmium), chlorine and any organic pollutant's/discolouration. Crane Merchandising Systems recommend and supply the **Brita AquaQuell Compact** water filter.

   Note! If the machine is connected to the water supply and used without a water filter as specified above, the warranty will be void.

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6. Turn on the water supply at the stop tap and check for leaks. Prime the water filter (where fitted) following the instructions supplied by the filter manufacturer.

2.3 Connecting the Electricity Supply

Safety First! The machine ***must*** be earthed. On no account should it be earthed ***only*** to the water supply pipe.

The machine must be connected to a 240 Volt 50Hz 13 amp fused switched socket outlet, installed to the latest edition of the IEE regulations, using a 3 pin BS approved 13 amp fused plug.

Important: If the mains lead becomes damaged in any way it must be replaced by a special lead available from the manufacturer.

2.4 Commissioning Procedure

The following procedure must be carried out by a trained installation engineer before the machine can be used for the first time.

1. Ensure that the electrical and water services to the machine are connected correctly and turned on. Ensure that the waste tray is fitted correctly to the machine. Open the front door of the machine and swing the cup turret assembly out of the machine.

2. Rotate canister outlets to upright position and remove the ingredient canisters - DO NOT place ingredient canisters on the floor. Remove the lids from the ingredient canisters.

   Fill the canisters with the correct ingredients, re-fit the lids and re-fit canisters into machine ensuring that they are returned to their correct positions. Rotate the canister outlets to their correct operating positions.

   Freshbrew Models: Fill freshbrew ingredient canisters with freshbrew tea and coffee ingredient and refit to machine.

3. Load the cup turret. Fill the tubes with the correct size cups for the type of cup catcher fitted to the machine. Allow the cups to drop into the tubes directly from the packaging. DO NOT TOUCH THE CUPS WITH YOUR HANDS.

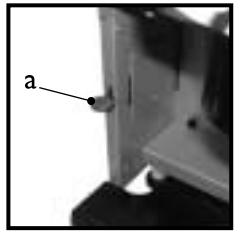
   

   Important: Do not fill the tube directly above the cup dispense position. Allow the cup turret motor to rotate a full tube to the cup dispense position. Rotating the cup turret by hand will damage the mechanism.

   Note: If paper cups are being loaded, each pack of cups must first be inspected for damage to the cup rims. Discard top cup from each stack. Damaged cups ***must not*** be used.

4. Swing the cup turret assembly back to its operating position. Ensure that the unit is held securely by the magnetic catch.

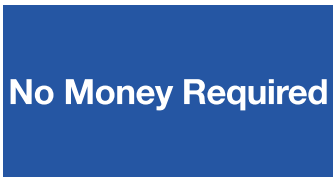
5. Insert the safety key (a) supplied with the machine into the door switch as shown. The machine is now ***on***. The water inlet valve will open and the heater tank will start to fill. The cup turret mechanism will index the first available full cup stack to the dispense position and drop the cup stack into the cup drop mechanism. Fill the remaining empty cup stack with cups.

6. While the machine is powering up, the LCD will display the message as shown opposite. As the water heats, ensure that no water overflows from the heater tank overflow pipe into the waste tray. Check the system for leaks.

Important: Should the machine fail to fill correctly or leak, turn off the stopcock and the power to the machine before investigating the fault.

7. Check the LCD display on the front of the machine to ensure that the water has heated to the correct temperature and that the machine is in standby mode. A machine set to free vend mode will alternate the messages:



N.B. Messages displayed in standby mode will change depending upon the monetary device fitted and set up during programming.

8. Ensure that the cup drop mechanism operates correctly. Press the **Cup Test** switch (7), located in the Service Keypad on the rear of the door (see page 49) and ensure that a cup is ejected cleanly from the cup drop unit.

9. **Freshbrew Models:** Ensure the brewer guard and brewer waste container are fitted correctly. Slide the container into position directly under the brewer with its lip outside the brewer cover.

10. If fitted, check that the coin mechanism and cash box operate correctly. Fill the coin tubes with correct coinage. Ensure coin return mechanism functions correctly.

11. Operate the machine through its complete range of selections to ensure that each vend is correctly dispensed. Follow the instructions detailed on page 48 for making a vend using the **Test Vend** switch (6) located on the Service Keypad.

12. Remove the safety key and close the cabinet door. Ensure that the machine is left in a clean and safe condition.

Section 3 - Programming Mode

3.1 Drink Selection Keypad

Programming mode utilises the drink selection keypad, as defined in the illustration below, and allows the engineer to view and alter stored data within the machines memory. During programming the keys are used as follows:

Keys 0-9 Used for entering numerical data

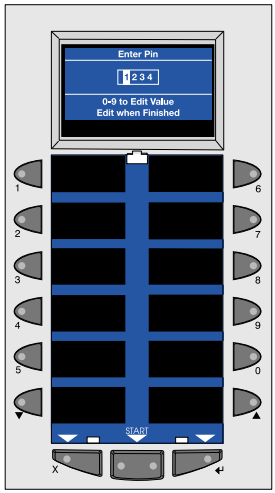
▲ For indexing up in a program, or incrementing data

▼ For indexing down in a program, or incrementing data

↵ (Enter/Edit) Used to select and enter the highlighted menu and to save data to machines memory

X (Exit) To return to the previous menu screen

START Press to 'set all' or 'clear all' data or begin a test sequence.



3.2 Menu Display

The **Genesis** features our new interactive menu display. The multi line LCD display helps to make navigating the programming menu structure easy and intuitive. It is used to display programming information and will change according to the type of data being updated.

1. The top line of the screen is the Menu title.

2. Selected items are highlighted in white. Press the up (▲) or down (▼) keys on the drink selection keypad to highlight an item.

3. Press the ↵ (Enter) key to select the item. In this example, pressing the the ↵ (Enter) key will display the **Mug Discount** screen.

4. The bottom line of the screen will often show important information. In certain configuration menus it will display the current value for the selected item. In the

example shown the screen is showing that the current **Mug Discount** is set at 0.05p. This is a useful way to quickly check stored settings and also confirm that a value has been altered correctly.

5. To return to the **Main Menu** from any screen, simply press the '**X**' (Exit) key until you reach the **Main Menu**.

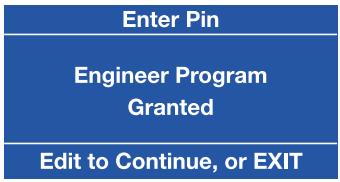
3.3 Accessing the Programming Mode

1. Open the front door of the machine and insert the safety key to restore power to the machine. The machine is now ***on***.

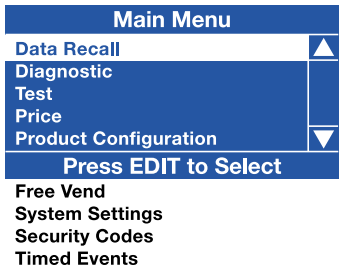
2. Press the **Program Entry** key (1) on the service keypad, located inside the door (see page 45 for details). The LCD will display the screen as shown opposite.

3. Enter the 4 digit engineers entry pin code by pressing the sequence 1-1-1-1 using the drink selection keypad.

4. Press the ↵ (Enter) key. Providing the engineer has entered the code correctly, the LCD will display the screen as shown opposite. Press the ↵ (Enter) key to access the engineers program or '**X**' (Exit) key to return the machine to standby mode.



5. The LCD display on the front of the machine will display the top level programming menu screen - **Main Menu** - which contains 9 sub menus. The first available menu, **Data Recall** is highlighted indicating that it can be selected. To move to a different menu press the up (▲) or down (▼) keys on the drink selection keypad until the required menu is highlighted.



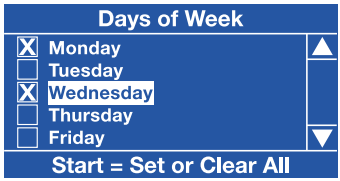
6. With the required menu highlighted, press the ↵ (Enter) key to select it. Using the **Price** menu as an example, the LCD will display the following sub menus contained within the menu.

7. Using the up (▲) or down (▼) keys, the ↵ (Enter/Edit) key and the '**X**' (Exit) key it is possible to easily navigate through all of the menus contained within the Engineers Program.

8. To update numerical data, key in the actual digits of the number required using the selection keys 0-9. Once the correct parameter has been entered, press the ↵ (Enter) key to overwrite the previous value and save the new parameter in the machines memory. Pressing the '**X**' (Exit) key will move back to the previous screen.

Certain programming functions require that the engineer chooses either one or multiple parameters within a sub program. These can take the form of either **Check Boxes** or **Radio Buttons**.

9. **Check Boxes:** The example opposite shows the **Days of Week** screen accessed via the Sanitation Events Menu which allows the engineer to choose multiple days of the week on which a specific function will take place.



10. Using the up (▲) or down (▼) keys, scroll through until the required day is highlighted as shown. Pressing the ↵ (Enter) key will select the day, indicated by an X appearing in its adjacent box.

    Continue until all required days have been selected. Pressing the '**X**' (Exit) key will move back to the previous screen and save the new settings to the machines memory.

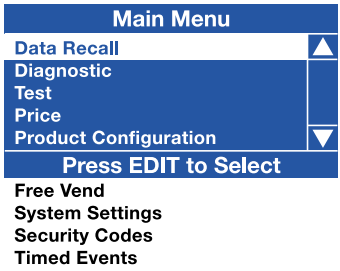
    N.B. Pressing the START key on the drink selection keypad will check all boxes if empty or clear all boxes if checked.

11. **Radio Buttons:** The example opposite shows the '**State**' screen accessed via the Timed Events Menu which requires the engineer to select one of the parameters shown. Use the up (▲) or down (▼) keys to set the required parameter followed by the ↵ (Enter) key to save/store it (indicated by the filled radio button).

All programming for the Genesis range follows the procedures as described above. Specific program actions are described fully in the following section.

Section 4 - Engineers Program

To access the Engineers Program, enter the programming mode as described in section 3. Once in the Engineers Program the LCD display on the front of the machine will display the top level programming menu screen - **Main Menu**. There are nine top level menu items as shown opposite.



Using the up (▲) and down (▼) keys, ↵ (Enter) key and '**X**' (Exit) key on the drink selection keypad the engineer can navigate quickly and easily through the engineers program menus as described in section 3.

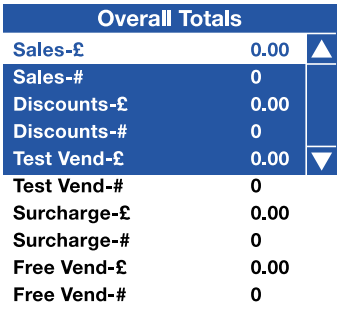
4.1 Data Recall Menu

Entry into this menu allows the engineer to view Non-Resettable and Resettable Sales Data, view data relating to the number of Mug Vends and (if feature enabled) view SureVend™ assisted vend information. The Resettable Sales Data, Mug Data and SureVend™ Data menus all contain an extra menu which allows the engineer to delete the current data from the machines memory.

1. **Non Resettable Sales Data:** This menu allows the engineer to view and record monetary and sales values. This data cannot be reset and will remain intact for the service life of the controller board.

1. From the **Data Recall** screen highlight **Non Resettable Sales Data** and press the ↵ (Enter) key. The LCD will display the screen as shown opposite. From this menu the engineer can view data for the **Overall Totals** (highlighted) or **By Product**.

2. To view the **Overall Totals** screen, press the ↵ (Enter) key on the drink selection keypad. This menu displays both the total £ amount and total vend counts for the following data:
   - Sales
   - Discount
   - Test Vend
   - Surcharge
   - Free Vend



For example:

Sales-£	Displays the total machine sales in £ - p
Sales-#	Displays the total number of machine vends. This value includes normal, discount and surcharge vend totals).
Discount-£	Displays the total monetary value of all discounts in £
Discount-#	Displays the total number of discounted vends
Test Vend-£	Displays the total monetary value of all test vends in £
Test Vend-#	Displays the total number of test vends
Surcharge-£	Displays the total monetary value of all surcharges in £
Surcharge-#	Displays the total number of surcharge vends
Free Vend-£	Displays the total monetary value of all free vends in £
Free Vend-#	Displays the total number of free vends

N.B. All sales data is presented in a format required by the latest European Vending Association Data Transfer Standards (EVA DTS).

N.B. Surcharge data fields are not supported by Genesis machines.

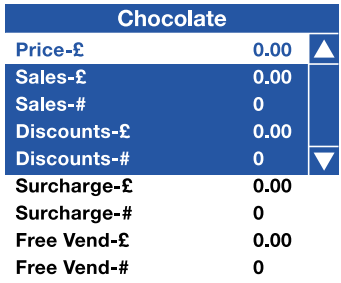
3. Scroll through the list displayed using the up (▲) and down (▼) keys on the front panel and log the audit data. When complete, press the '**X**' (Exit) key on the drink selection keypad to return to the **Non Resettable Sales Data** menu screen.

4. The engineer can also view and log audit data by individual product. Press the down (▼) key on the drink selection keypad to highlight **By Product** on the **Non Resettable Sales Data** menu screen.

5. Press the ↵ (Enter) key on the keypad to enter the **By Product** menu screen. This menu contains all of the drink selections available from the machine. Use the up (▲) and down (▼) keys on the drink selection keypad to scroll through the menu until the required selection is highlighted.

6. Press the ↵ (Enter) key on the keypad to enter the highlighted selection e.g. chocolate. The LCD will display the screen as shown opposite. This menu displays both the total £ amount and total vend count as previously described.

   The engineer can then scroll through the list displayed using the up (▲) and down (▼) keys on the drink selection keypad and log the audit data.

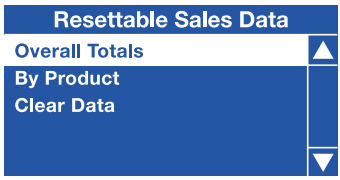


7. When complete, press the '**X**' (Exit) key on the drink selection keypad to return the machine to the previous screen. The engineer can then access further selections using the procedure described above.

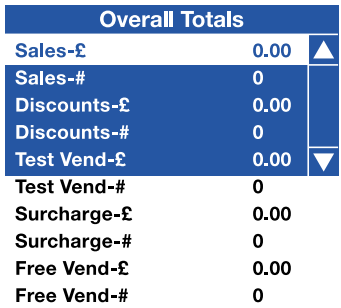
8. To return the machine to standby mode, press the '**X**' (Exit) key repeatedly until the LCD displays the standby screen.

2. Resettable Sales Data: This menu contains similar data to the Non Resettable Sales Data menu and allows the engineer to view and record monetary and vend counts. However, once viewed and recorded, data from this menu can be cleared from the machines memory.

1. From the **Data Recall** screen, highlight **Resettable Sales Data** and press the ↵ (Enter) key. The LCD will display the screen as shown opposite. From this menu the engineer can view data for **Overall Totals** (highlighted) or **By Product**. The menu also allows the engineer to delete all resettable data via the **Clear Data** menu.



2. To view the **Overall Totals** screen, press the ↵ (Enter) key on the drink selection keypad. This menu displays both the total £ amount and total vend amount (since the last time it was cleared) for the following data:
   - Sales
   - Discount
   - Test Vend
   - Surcharge
   - Free Vend



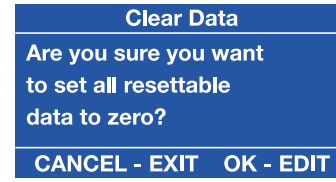
N. B. Please see page 17 for detailed descriptions of these data fields.

3. Scroll through the list displayed using the up (▲) and down (▼) keys on the front panel and log the audit data. When complete, press the '**X**' (Exit) key on the drink selection keypad to return to the **Resettable Sales Data** menu screen.

4. The engineer can also view and log resettable monetary and vend data by individual product. Press the down (▼) key on the drink selection keypad to highlight **By Product** on the **Resettable Sales Data** menu screen. Follow the procedure as described previously to view data for individual drink selections.

5. Once the engineer has viewed and recorded required information from the **Resettable Sales Data** menu, this data can be deleted via the **Clear Data** sub menu.

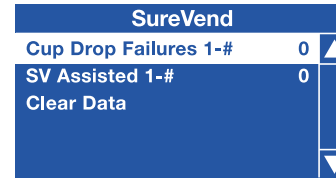
6. From the **Resettable Sales Data** screen, highlight the **Clear Data** sub menu using the down (▼) key and press the ↵ (Enter) key. The LCD on the front of the machine will display the screen as shown opposite, warning the engineer that all data will be deleted.



Either press the ↵ (Enter) key to clear the data or press the '**X**' (Exit) key to exit the menu without clearing the data.

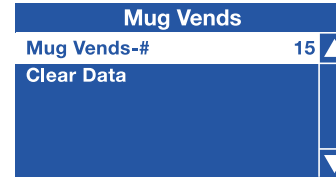
3. SureVend: This menu becomes available when SureVend is enabled by the engineer via the **Product Configuration** menu (see page 30).

1. From the **Data Recall** menu scroll down and highlight **SureVend** then press the ↵ (Enter) key. The LCD will display the screen as shown opposite. From this menu screen the engineer can view and record the number of cup drop failures that SureVend has logged and also the number of SureVend assisted vends.



2. Once the engineer has viewed and logged the data it can be cleared via the **Clear Data** menu as described previously.

4. Mug Vends: This menu displays the number of vends that the machine has made without dropping a cup. Once the engineer has viewed and logged the data it can be cleared via the **Clear Data** menu as described previously.

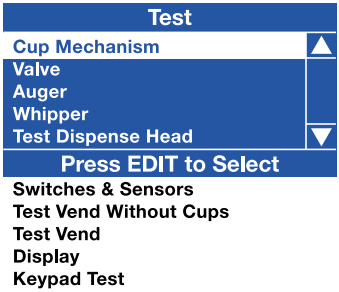


4.2 Diagnostic Menu

1. Should a fault occur within the machine, the LCD will display a fault message and in some cases the machine may become inoperable. The **Diagnostic** menu displays error messages relating to faults that may occur, enabling the engineer to easily locate and repair the problem, bringing the machine quickly back into service.

2. Tables detailing the error messages displayed on the LCD, diagnostic messages displayed via this menu and fault descriptions are included on pages 84 - 86 of this manual.

4.3 Test Menu



This menu allows the engineer to test individual components and switch inputs to ensure correct operation. On entry into the **Test** menu the LCD will display the screen as shown.

There are 10 sub menus accessible by the engineer from within the test menu.

1. **Cup Mechanism:** This sub menu allows the engineer to test the operation of the cup drop unit and replicates the function assigned to switch 7 on the service keypad (see page 49).

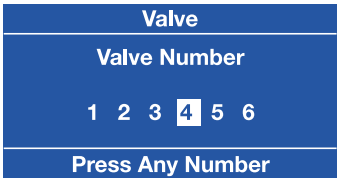
   Press the ↵ (Enter) key twice (x2) to display the test screen followed by the START button on the drink selection keypad. The cup drop unit will dispense a cup indicated by the screen opposite.

   Pressing the '**X**' (Exit) key twice (x2) will move back to the main test menu screen.

2. **Valve:** This sub menu allows the engineer to test for correct operation of each individual dispense valve fitted to the machine. Press the ↵ (Enter) key to display the test screen which indicates the number of valves fitted to the machine. The dispense head will also move to its fully extended position.

   N.B. Place a water tight container on the waste tray grille under the dispense position. Keep hands away from the dispense area while the test is in operation.

   To test a valve, e.g. number 4, press the corresponding button on the drink selection keypad. The selection will be highlighted as shown and the valve will operate for a pre-determined time. Repeat this operation to test additional valves.



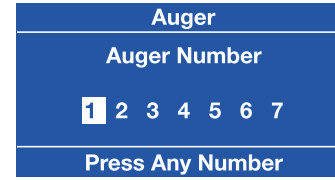
   Press the '**X**' (Exit) key to return to the main test menu screen. The dispense head will return to its home position. Empty the contents of the container.

   N.B. After carrying out the valve test on a freshbrew machine, the engineer ***must*** run the brewer flush sequence as described on page 46 (5.4). This is to ensure that all water is flushed from the brewer chamber.

3. **Auger:** This sub menu allows the engineer to test for correct operation of each individual ingredient motor fitted to the machine. Press the ↵ (Enter) key to display the test screen which indicates the number of motors fitted to the machine.

   N.B. Testing the ingredient motor causes the ingredient canister auger to turn. Remove canisters before carrying out this test sequence. DO NOT place ingredient canisters on the floor.

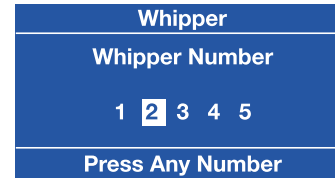
   To test an ingredient motor, e.g. number 1, press the corresponding button on the drink selection keypad. The selection will be highlighted as shown and the motor will operate for a pre-determined time. Repeat this operation to test additional ingredient motors.



   Press the '**X**' (Exit) key to return to the main test menu screen.

4. **Whipper:** This sub menu allows the engineer to test for correct operation of each individual whipper assembly fitted to the machine. Press the ↵ (Enter) key to display the test screen which indicates the number of whippers fitted to the machine.

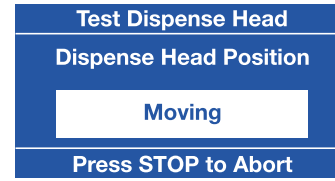
   To test a whipper, e.g. number 2, press the corresponding button on the drink selection keypad. The selection will be highlighted as shown and the whipper will run for a pre-determined time. Repeat this operation to test additional whipper units.



   Press the '**X**' (Exit) key to return to the main test menu screen.

5. **Test Dispense Head:** This sub menu allows the engineer to test the operation of the dispense head mechanism.

   Press the ↵ (Enter) key to display the test screen followed by the START button on the drink selection keypad. The dispense head mechanism will move to its first dispense position indicated by the screen opposite.



   When the head reaches its first dispense position, it will stop and the LCD screen will show the message **Dispense Head Position - Extended**. Press the START

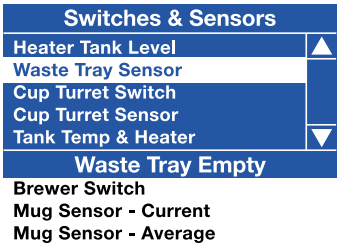
key a second time to move the head to its second dispense position. Press the START key again to move the head to its fully extended dispense position.

To return the dispense head to its "home" position and complete the test, press the START key. The dispense head mechanism will return to its rest position as indicated by the screen opposite.

When the head reaches its "home" position, it will stop and the LCD screen will show the message **Dispense Head Position - Idle** indicating that the test has been completed successfully.

Press the '**X**' (Exit) key to return to the main test menu screen.

6. **Switches & Sensors:** This sub menu displays the switches/sensors that can be tested. For most of the items displayed the status line at the bottom of the screen indicates the current state of the highlighted sensor/switch. In the example opposite, the status line indicates that the **Waste Tray Sensor** is detecting that the waste tray is empty.

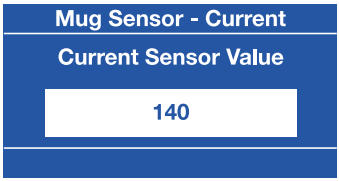


N.B. The **Brewer Switch** menu will only be displayed on freshbrew models.

Press the up (▲) or down (▼) keys to highlight the other switch/sensor inputs and view their status.

Mug Sensor - Current: This menu gives the engineer an indication as to the efficiency of the SureVend™ sensor.

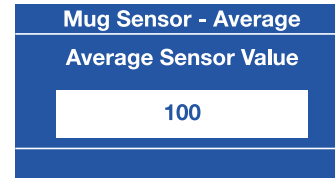
Highlight **Mug Sensor - Current** from the **Switches & Sensors** menu and press the ↵ (Enter) key. The LCD will display the screen as shown opposite. The numerical value shown indicates the current mug sensor value.



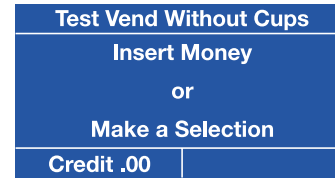
The Mug Sensor value can be any number between 0 and 255 and represents the most recent value read from the sensor. The engineer can test the mug sensor by blocking the SureVend™ sensors located in the drink dispense area. The value displayed in the status line should drop as the sensors are blocked. The lower the number indicated the greater the sensor blockage.

Mug Sensor - Average: This menu gives the engineer an indication as to overall efficiency of the SureVend™ sensor.

Highlight **Mug Sensor - Average** from the **Switches & Sensors** menu and press the ↵ (Enter) key. The LCD will display the screen as shown. The value displayed represents the average sensor calibration value. The range for correct operation should be 51 - 254.



7. **Test Vend Without Cups:** This menu allows the engineer to test vend a selection without dropping a cup. Highlight **Test Vend Without Cups** in the main **Test** menu and press the ↵ (Enter) key. The LCD will display the screen as shown opposite.

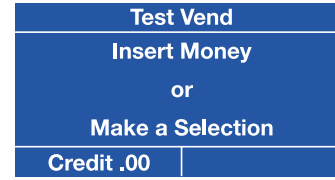


Make a selection using the drink selection keypad and press the START button. The machine will dispense the selection without dropping a cup.

N.B. Ensure that an empty cup is placed under the dispense position to receive the vend.

Press the '**X**' (Exit) key to return to the main test menu screen.

8. **Test Vend:** This menu allows the engineer to make a test vend in order to verify that the dispensed vend is not to short or too long for the type of cup loaded into the machine. Highlight **Test Vend** in the main **Test** menu and press the ↵ (Enter) key. The LCD will display the screen as shown opposite.



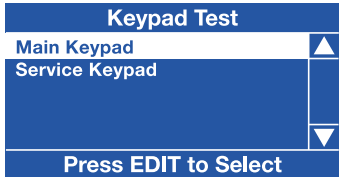
Make a selection using the drink selection keypad and press the START button. The machine will drop a cup before dispensing the selection.

Press the '**X**' (Exit) key to return to the main test menu screen.

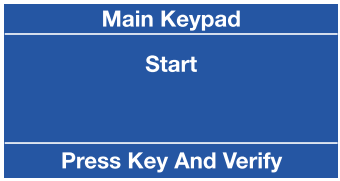
9. **Display:** Entry into this menu allows the engineer to test the LCD display screen. Highlight **Display** in the **Test** menu and press the ↵ (Enter) key. Press the START key repeatedly to cycle through the different test patterns. The test patterns will reveal any flaw in the display.

Press the '**X**' (Exit) key to return to the main test menu screen.

10. **Keypad Test:** This menu enables the engineer to test each key on both the drink selection keypad and internal service keypad to ensure correct operation.
Highlight **Keypad Test** in the **Test** menu and press the ↵ (Enter) key. The LCD will display the screen with **Main Keypad** highlighted as shown.



To test the **Main Keypad**, press the ↵ (Enter) key to access the test screen. Press any key on the drink selection keypad and verify that it is displayed correctly. Example; pressing the START key on the drink selection keypad will display the screen as shown opposite.



Press the '**X**' (Exit) key to return to the **Keypad Test** menu screen. Use the down (▼) key to highlight **Service Keypad** and press the ↵ (Enter) key to access its test screen. Follow the procedure described above to test the service keypad.

N.B. Pressing either the ↵ (Enter) key or '**X**' (Exit) key (or 1 and 2 on the service keypad) will return to the **Keypad Test** menu screen.

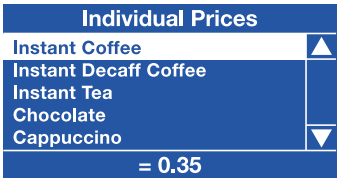
4.4 Price Menu

Entry into this menu allows the engineer to enter individual prices for each drink selection available, one price for all drink selections and set a discount to be applied for customers who use their own cup/mug. The menu also contains a sub menu which allows the engineer to view the highest and lowest price set in the machines memory.

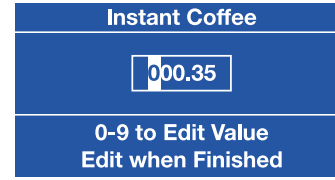
N.B. Values entered via this menu are only applicable to machines fitted with a coin/card system.

1. **Individual Prices:** This sub menu allows the engineer to set an individual price for each drink selection available from the machine. With **Individual Prices** highlighted as shown opposite, press the ↵ (Enter) key to access the menu.

2. Upon entry into this sub menu, all drink selections available from the machine are listed along with the current drink price for the highlighted selection. The example shown illustrates an Instant Coffee selection with a price set currently at 35p.



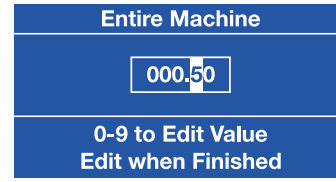
To change the price of the highlighted selection, press the ↵ (Enter) key. The LCD will change and display the screen as shown. To update the price, e.g. increase to 45p, press the sequence 0-0-0-4-5 using the appropriate number keys on the drink selection keypad.



Press the ↵ (Enter) key to return to the **Individual Prices** screen and verify that the new price displays in the status line along the bottom of the display. Use the up (▲) or down (▼) keys to highlight further selections.

2. **Entire Machine:** This sub menu allows the engineer to set a single price for all selections available from the machine. When highlighted from within the Price menu, the LCD will display the screen, with the current value (e.g. 40p), as shown.

Press the ↵ (Enter) key to access the **Entire Machine** sub menu. To update the value, e.g. set a price of 50p, press the sequence 0-0-0-5-0 using the appropriate number keys on the drink selection keypad. Press the ↵ (Enter) key to return to the **Price** menu screen and verify that the new price displays in the status line along the bottom of the display.



Tip: If most selections are to be sold at the same price, use this menu to quickly set the entire machine to this price, then access the **Individual Prices** menu to adjust prices for individual selections.

N.B. Entering a single price for the entire machine will override any individual prices previously programmed.

3. **Mug Discount:** This sub menu allows the engineer to program a discount value against all drink selections for customers who use their own cup/mug.

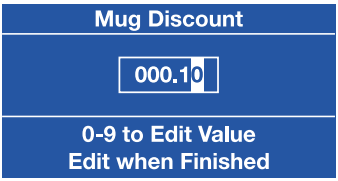
When a customer places their own cup into the dispense area and selects a drink, the **SureVend™** product delivery sensors will detect the cup and disable the cup drop mechanism. The price set for **Mug Discount** is then subtracted from the price of the drink selected and the appropriate change/credit returned to the customer.

N.B. It is important to ensure that any value entered for a mug discount is supported by the coin mechanism fitted to the machine, e.g. if a mug discount is

set at 2p but the lowest coin available from the coin mechanism is 5p, the machine will not return the discount to the customer.

Highlight the **Mug Discount** sub menu from within the **Price** menu. The LCD will display the screen, with a current value in the status line (e.g. 5p), as shown. Press the ↵ (Enter) key to access the **Mug Discount** sub menu.

To enter a discount value, e.g. 10p, press the sequence 0-0-0-1-0 using the appropriate number keys on the drink selection keypad. The LCD will change and display the screen as shown. Press the ↵ (Enter) key to return to the **Price** menu screen and verify that the new price displays in the status line along the bottom of the display.



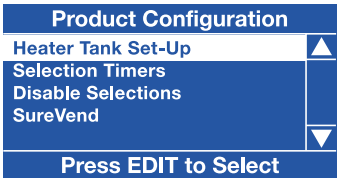
4. **View High/Low Price:** This sub menu allows the engineer to view the highest and lowest values in force, programmed via the Individual Prices sub menu.

N.B. If a single price is currently in force, this value will be displayed in both fields.

4.5 Product Configuration Menu

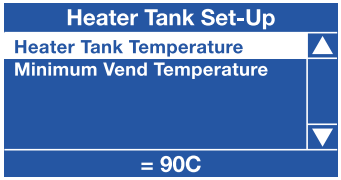
Entry into this menu allows the engineer to set heater tank temperature settings, configure the selection timers for the drink selections, disable drink selections and turn SureVend™ **On** or **Off**.

Upon entry into the **Product Configuration** menu the LCD will display the screen as shown.



1. Heater Tank Set-Up: This sub menu allows the engineer to set values relating to the maximum temperature that the water will be heated and maintained at and the minimum temperature at which the machine will vend a drink.

1. **Heater Tank Temperature:** From the **Product Configuration** menu, highlight **Heater Tank Set-Up** and press the ↵ (Enter) key. The Heater Tank Temperature menu is highlighted and displays the default temperature - factory set to 90°C - in the status line at the bottom of the screen.

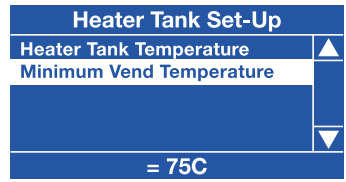


To set a new maximum temperature press the ↵ (Enter) key. The LCD will display the screen as shown. Enter the new temperature value, e.g. press 0-8-5 using the drink selection keypad to set a maximum temperature of 85°C.

Press the ↵ (Enter) key to return to the Heater Tank Set-Up menu screen and verify that the new value is displayed in the status line.

N.B. The acceptable temperature values range from 75°C to 98°C unless a lower value is set for the minimum vend temperature.

2. **Minimum Vend Temperature:** The machine will suspend vending if the water in the heater tank falls below a certain value. This value is factory set to 75°C as displayed in the status line at the bottom of the screen when **Minimum Vend Temperature** is highlighted.

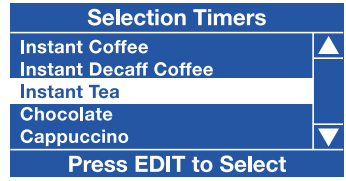


To set a new Minimum Vend Temperature press the ↵ (Enter) key. The LCD will display the screen as shown. Enter the new temperature value, e.g. press 0-7-0 using the drink selection keypad to set a minimum vend temperature of 70°C.

Press the ↵ (Enter) key to return to the Heater Tank Set-Up menu screen and verify that the new value for the minimum vend temperature is displayed in the status line.

2. Selection Timers: Genesis Instant and Freshbrew machines are supplied pre-programmed with carefully tested default recipes for each drink selection. These recipes will be suitable for most applications. Each selection can, however, be adjusted to accommodate different ingredient types or operator/customer preference. These recipes can be quickly and easily changed from within the **Selection Timers** menu.

1. From the **Product Configuration** menu, press the down (▼) key to highlight **Selection Timers** then press the ↵ (Enter) key to access the menu. The menu contains all of the drink selections available from the machine. Scroll down using the (▼) key to highlight a selection and press the ↵ (Enter) key to configure it.

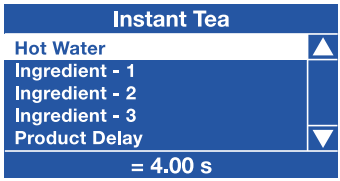


2. The following example describes how to adjust the Instant Tea recipe. With Instant Tea highlighted as shown above, press the ↵ (Enter) key to access the **Instant Tea Timers** menu. This menu, shown opposite, contains the three ingredients which may be involved in an Instant Tea selection plus an end of vend delay time.

3. Press the ↵ (Enter) key to access the **Instant Tea** menu. The status line at the bottom of the screen shows the current value of the highlighted timer. In the example shown, the Hot Water value is configured to be ***on*** for 4 seconds.

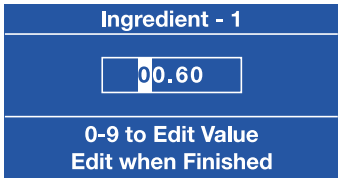
The default Instant Tea timers are:

Hot Water	=	4.00 s
Ingredient 1	=	0.50 s
Ingredient 2	=	0.75 s
Ingredient 3	=	0.35 s
Product Delay	=	1.00 s



N.B. Ingredient 1, 2 and 3 shown relate to default normal, strong and mild timings.

4. To strengthen the flavour of the normal tea selection, lengthen the time of the product throw. Press the (▼) key to highlight **Ingredient -1**. The status line at the bottom of the screen will display the current value, e.g. 0.50 s. Press the ↵ (Enter) key to access the screen as shown. Enter a value for a stronger normal selection, e.g. 0.60 s. Press the sequence 0-0-6-0 using the drink selection keypad.



Press the ↵ (Enter) key to return to the **Instant Tea** menu and verify that the new timing value is displayed at the bottom of the screen.

N.B. When in this screen with the ingredient highlighted, pressing the START key will run the ingredient motor for the programmed time, allowing the engineer to collect and weigh the ingredient to determine gram throw if required.

5. Adjust the other timers within the **Instant Tea** menu as desired. The Instant Tea recipe also contains menus for Milk and Sugar timers. If necessary adjust the timings for these ingredients. Once all timings have been entered and verified, vend the selection to ensure that the new recipe is satisfactory and that the cup does not under or over-fill.

6. Each drink selection available from the machine will be made up with different selection timers, for example the **Cappuccino** recipe will contain timers for Cappuccino Topping, Instant Coffee and Sugar and will also contain whipper timers which control how the selection is mixed and presented in the cup.

7. The menu also allows the engineer to set an **End Of Vend Delay Time** between the end of the vend and the machine informing the customer that their drink can be removed from the dispense area. The default is set to 0.00 s but can be increased if required. This will however increase the vend time and is not recommended for Genesis machines.

Product and Whipper Delays

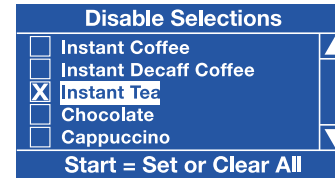
Product Delay - This determines the time interval between the water valve start and the start of the product ingredient motor.

Whipper Delay - This determines the time interval between the water valve start and the start of the product whipper motor.

N.B. The sugar whipper delay will always take precident over the milk whipper delay if both are selected.

3. Disable Selections: This sub menu allows the engineer to disable individual or all drink selections if necessary. With **Disable Selections** highlighted from within the **Product Configurations** menu, press the ↵ (Enter) key to access the menu.

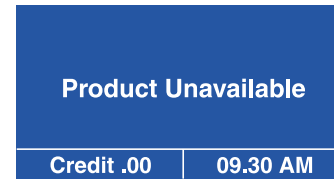
1. Upon entry into the menu the LCD will display the screen as shown. Using the up (▲) or down (▼) keys, scroll through the menu until the required drink selection is highlighted. Pressing the ↵ (Enter) key will select the drink, indicated by an X appearing in its adjacent box.



2. If necessary continue until all required drink selections have been checked. Pressing the '**X**' (Exit) key will move back to the **Product Configuration** screen and save the new parameters to the machines memory.

N.B. Pressing the START key on the drink selection keypad will check all boxes if empty, disabling all drink selections or clear all boxes if previously checked.

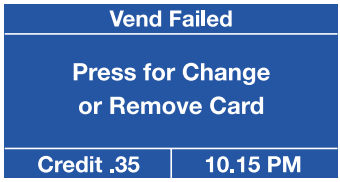
3. Once the machine is returned to standby mode, should a customer press for a selection that has been disabled, the machine will display the following screen before returning to standby mode.



4. SureVend: Entry into this menu allows the engineer to turn the SureVend™ product delivery sensor ***on*** or ***off***.

SureVend™ Overview: SureVend™ ensures that a cup is always available in the cup station before any money is collected or product delivered. The sensing system is a beam of infra-red light across the cup station that is broken by a cup as it falls into position from the cup drop unit, or by a customer placing their own mug in the dispense area.

The SureVend™ software monitors the cup station sensor during the time that the cup ring is operated and for three seconds afterwards. If a cup is not detected the software will then attempt to drop a cup a second and if necessary, a third time. After three failed vend attempts the cup ring is placed temporarily out of service. The machine will beep once and the LCD will display the message opposite (if set to Pay Vend mode).



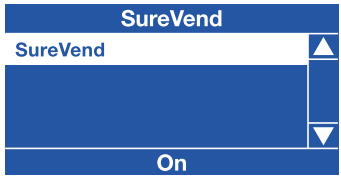
The customer can now get their money back by pressing the coin return button. The LCD will change and display the message opposite. The machine remains in service but will not vend a cup from the cup drop unit.

To clear the message and return to standby mode, enter the Diagnostic menu (see page 19) and press the start key twice (x2) to clear each SureVend error displayed.

N.B. Check cup drop unit and ensuse correct operation before leaving the machine.

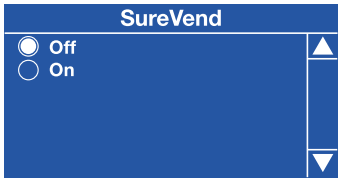
To configure SureVend™, proceed as follows:

1. From the **Product Configuration** menu highlight **SureVend** and press the ↵ (Enter) key. By default SureVend™ is factory set to **On** as indicated by the status line at the bottom of the screen.



2. To disable SureVend™, press the ↵ (Enter) key to enter the **SureVend On/Off** screen.

   Use the up (▲) key to select **Off** (indicated by the filled radio button).



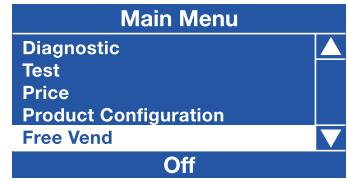
3. Press the ↵ (Enter) key to confirm the selection and return to the **SureVend** screen. Verify that the status line at the bottom of the screen displays Off when **SureVend** is highlighted.

4. Pressing the '**X**' (Exit) key will move back to the **Product Configuration** screen and save the new parameter to the machines memory.

4.6 Free Vend Menu

This menu allows the engineer to turn free vend on or off when the machine is fitted with a coin/card mechanism.

1. From the **Main Menu** screen use the down (▼) key to scroll through the menu until **Free Vend** is highlighted. By default, Free Vend is set to ***Off*** as indicated by the status line at the bottom of the screen.



2. To set Free Vend to On, press the ↵ (Enter) key to access the screen as shown. Press the down (▼) key to select ***On*** (indicated by the filled radio button). Press the ↵ (Enter) key to confirm the selection and return to the **Main Menu** screen.

3. Verify that the status line at the bottom of the Main Menu screen displays ***On*** when **Free Vend** is highlighted.

   N.B. When the machine is set to Free Vend, the standby screen will display the message **No Money Required**.

4.7 System Settings Menu

This menu contains six sub menus as listed below:

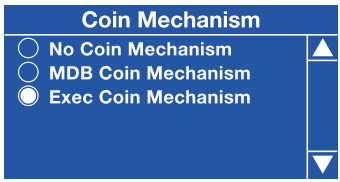
1. Monetary
2. Clock
3. Language Setup
4. Screen Contrast
5. Software Version

1. Monetary: From this menu the engineer can select the type of coin/card mechanism or note reader fitted to the machine, select the coin set and configure values for low change, multiple vends, credit for failed vends etc. The **Monetary** menu can display up to 11 sub menus, depending on machine configuration, as listed below:

- Coin Mechanism
- Bill Validator
- Card Reader
- Bill Stack Option
- Multiple Vend Mode
- Change Without Purchase
- Low Change Message
- Accept On Low Change
- Credit for Failed Vend (Only if MDB mech. selected)
- Card Re-Value (Only if MDB mech is selected)
- Display Coin Set

1. Select The Coin Mechanism

1. From the **Monetary** menu highlight **Coin Mechanism** and press the ↵ (Enter) key. The Coin Mechanism screen allows the engineer to select one the options shown. Using the up (▲) or down (▼) keys, select the desired coin mechanism option (indicated by the filled radio button).



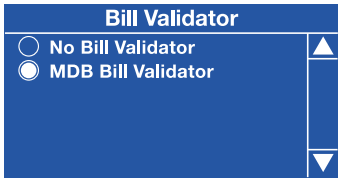
2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen coin mechanism option is displayed in the status line at the bottom of the display.

   N.B. An Executive Card/Key system (when fitted) is enabled when **Exec Coin Mechanism** is selected.

2. Select The Bill Validator

N.B. It is unlikely that a Bill Validator will be used on a Genesis machine. The following description is for information only.

1. From the **Monetary** menu press the down (▼) key to highlight **Bill Validator** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired bill validator option (indicated by the filled radio button).

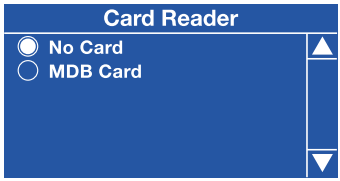


2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen Bill Validator option is displayed in the status line at the bottom of the display.

3. Select The Card/Key Reader (MDB Systems Only)

N.B. An Executive protocol card/key system emulates an Executive coin mechanism and is selected via the **Coin Mechanism** menu (see page 32).

1. From the **Monetary** menu press the down (▼) key to scroll down and highlight **Card Reader** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired card reader option (indicated by the filled radio button).



2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen option is displayed in the status line at the bottom of the display.

4. Configure Bill Stack Option

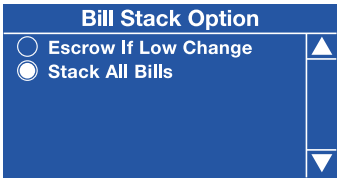
N.B. It is unlikely that Bill Stack Option will required for Genesis machines. The following description is for information only.

The Bill Stack Option specifies how the machine accepts notes and returns change. The engineer can set one of two options:

(i) **Escrow If Low Change:** Change will be returned to the customer when the coin return is pressed even if no purchase has been made.

(ii) **Stack All Bills:** With this option selected, any notes tendered will be stacked and the customer will have to make a purchase in order to receive change.

1. From the **Monetary** menu press the down (▼) key to highlight **Bill Stack Option** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired bill stack option (indicated by the filled radio button).



2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen bill stack option is displayed in the status line at the bottom of the display.

5. Configure Multiple Vend Mode

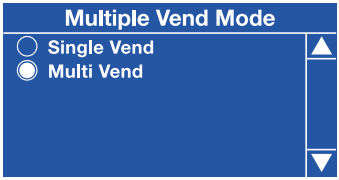
The Multiple Vend Mode option specifies how the machine will dispense change to the customer once a purchase is made. The engineer can set one of two options:

(i) **Single Vend:** Change will be returned to the customer automatically as soon as a valid selection is made.

(ii) **Multi Vend:** With this option selected the customer can make multiple vends as long as there is sufficient credit entered. In order to get change, the customer must press the coin return.

N.B. These options are only applicable when an MDB coin mechanism is fitted and configured from within the **Coin Mechanism** menu.

1. From the **Monetary** menu press the down (▼) key to highlight **Multiple Vend Mode** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired multiple vend option (indicated by the filled radio button).



2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen option is displayed in the status line at the bottom of the display.

6. Configure Change Without Purchase Value

The Change Without Purchase value specifies how and when the machine returns change to a customer. If the customer deposits credit into the machine which is less than or equal to the value set in the Change Without Purchase menu, change will be returned without a purchase. However, if the credit is larger, the customer must make a purchase before change will be given.

N.B. This option is only applicable when an MDB coin mechanism is fitted and configured from within the **Coin Mechanism** menu.

Examples:

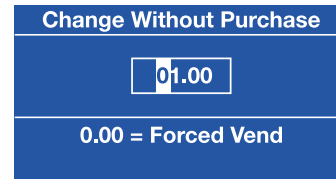
Value set to 01.00: Non-escrowed coins less than or equal to £1.00 will be changed without purchase. All escrowed coins are returned.

Value set to 00.00: Forced Vend. This value forces the customer to make a selection. No change will be returned without a purchase.

N.B. Each coin denomination for which the coin mechanism has a tube is called an ***Escrowed*** coin because it can be returned.

To configure this value:

1. From the **Monetary** menu press the down (▼) key to highlight **Change Without Purchase** and press the ↵ (Enter) key. Enter the required value, e.g. press 0-1-0-0 using the drink selection keypad to set a change without purchase value of £1.00. To specify Force Vend, set a value of 00.00.



2. Press the ↵ (Enter) key to save the new value and return to the **Monetary** menu. Verify that the entered value is displayed in the status line at the bottom of the display when **Change Without Purchase** is highlighted.

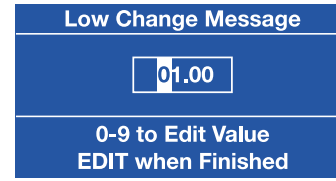
7. Configure Low Change Message Value

N.B. This option is only applicable when an MDB coin mechanism is fitted and configured from within the **Coin Mechanism** menu.

When the total value of the coins in the coin mechanism falls below the value set in the Low Change Message menu, the standby message displayed on the LCD will read **'Use Exact Change'**.

To configure this value:

1. From the **Monetary** menu press the down (▼) key and highlight **Low Change Message** and press the ↵ (Enter) key. Enter the required value, e.g. press 0-1-0-0 using the drink selection keypad to set a low change message value of £1.00.



2. Press the ↵ (Enter) key to save the new value and return to the **Monetary** menu. Verify that the entered value is displayed in the status line at the bottom of the display when **Low Change Message** is highlighted.

N.B. The machine will still accept money with this value set, but may short change the customer if there is insufficient coinage in the coin mechanism. Set the **Low Change Message** and the **Accept on Low Change** values (see below) to the same figure to eliminate any chance that the customer will be short changed.

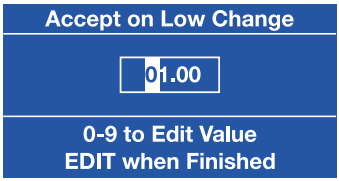
8. Configure the Accept on Low Change Value

N.B. This option is only applicable when an MDB coin mechanism is fitted and configured from within the **Coin Mechanism** menu.

When the total value of the coins in the coin mechanism falls below the value set in the Accept on Low Change menu, the machine will stop accepting coins and notes for which it cannot return change. For example, if the engineer sets a value of £1.00, the machine will not accept £1 coins if there is less than £1 value of coins in the coin mechanism.

To configure this value:

1. From the **Monetary** menu press the down (▼) key to scroll down and highlight **Accept on Low Change** and press the ↵ (Enter) key. Enter the required value, e.g. press 0-1-0-0 using the drink selection keypad to set a value of £1.00.



2. Press the ↵ (Enter) key to save the new value and return to the **Monetary** menu. Verify that the entered value is displayed in the status line at the bottom of the display when **Accept on Low Change** is highlighted.

9. Configure Credit For Failed Vend Option

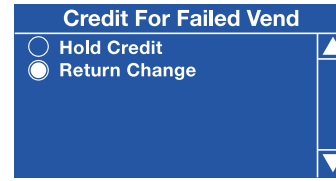
N.B. This menu is only available when an MDB coin mechanism is fitted and configured from within the **Coin Mechanism** menu.

This option specifies how the machine will react when a vend fails. The engineer can set one of two options:

(i) **Hold Credit:** With this option selected the customers credit is retained, allowing them to either make an alternative selection or press the coin return.

(ii) **Return Change:** With this option selected the customers change is immediately returned after a failed vend.

1. From the **Monetary** menu press the down (▼) key and highlight **Credit For Failed Vend** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired option (indicated by the filled radio button).



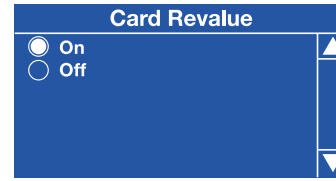
2. Press the ↵ (Enter) key to save the selection and return to the **Monetary** menu. Verify that the chosen option is displayed in the status line at the bottom of the display when **Credit For Failed Vend** is highlighted.

10. Configure Card Revalue

N.B. This menu is only available when both an MDB card reader and coin mechanism are fitted and configured from within the **Card Reader** menu. This is not available on Genesis machines and is for information only.

To configure this value:

1. From the **Monetary** menu press the down (▼) key to highlight **Card Revalue** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired revalue option (indicated by the filled radio button).



2. Press the ↵ (Enter) key to save the new option and return to the **Monetary** menu. Verify that the chosen option is displayed in the status line at the bottom of the display when **Card Revalue** is highlighted.

11. Configure Display Coin Set

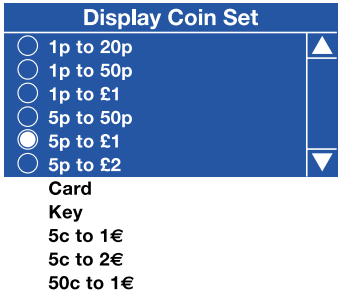
The Display Coin Set menu enables the engineer to configure the coin set to suit the coin/card mechanism or bill validator fitted to the machine. This ensures that the message displayed in standby mode, correctly indicates to the customer which coins (or card/key) may be entered.

The available coin sets are:

1. 1p to 20p
2. 1p to 50p
3. 1p to £1
4. 5p to 50p
5. 5p to £1
6. 5p to £2
7. Card
8. Key
9. 5c to 1€
10. 5c to 2€
11. 50c to 1€

To configure the coin set:

1. From the **Monetary** menu press the down (▼) key to highlight **Coin Set** and press the ↵ (Enter) key. Using the up (▲) or down (▼) keys, select the desired coin set, card or key (indicated by filled radio button).



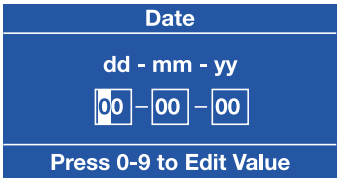
2. Press the ↵ (Enter) key to save the new coin set and return to the **Monetary** menu. Verify that the chosen set is displayed in the status line at the bottom of the display when **Coin Set** is highlighted.

2. Clock: From this menu the engineer can set the current date and time. The machine displays the time in either 12 or 24 hour format.

1. From the **System Settings** menu, scroll down using the down (▼) key to highlight the **Clock** sub menu and press the ↵ (Enter) key. This menu allows the engineer to set the date and the time via 2 separate sub menus.

   N.B. The current date (when highlighted) and time (when highlighted) held in the machines memory are displayed in the status line at the bottom of the screen.

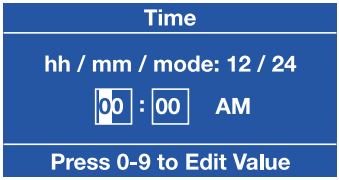
2. Press the ↵ (Enter) key to access the **Date** menu. The date is displayed in day, month, year format. To set the date, e.g. 27th January 2004, press the sequence 2-7-0-1-0-4 using the appropriate number keys on the drink selection keypad.



   N.B. The text '**Press 0-9 to Edit Value**' displayed in the status line at the bottom of the screen will alternate with the text '**Press Start To Change Mode**'. Pressing the START button on the drink selection keypad allows the date to be displayed in month, day, year format.

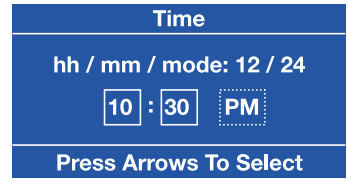
3. Pressing the ↵ (Enter) key will move back to the **Clock** menu screen and save the date to the machines memory. Confirm that the status line at the bottom of the screen displays the correct date when **Date** is highlighted.

4. From the **Clock** menu screen press the down (▼) key to highlight the **Time** menu followed by the ↵ (Enter) key. The LCD will display the screen as shown opposite.



5. By default the time is displayed in 12 hour format. To enter a time of 10:30 PM press the sequence 1-0-3-0 on the drink selection keypad.

6. As the engineer enters the final number, the AM value will appear within a dotted box and the text at the bottom of the LCD will now read '**Press Arrows To Select**'. Press the up (▲) or down (▼) key until PM appears in the box.

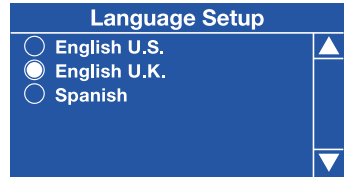


7. Pressing the ↵ (Enter) key will move back to the **Clock** menu screen and save the new time to the machines memory. Confirm that the status line at the bottom of the screen displays the correct time when **Time** is highlighted.

   N.B. When set to 12 hour format, the program will only allow the operator to set the numbers 0 or 1 in the first field. Once the number 24 has been entered via the up (▲) or down (▼) keys to indicate 24 hour format, the operator can reset the first two values to reflect 10:30 PM in 24 hour format e.g. 22:30.

3. Language Setup: From this menu the engineer can specify the language that the machine will use to display messages, programming information etc. The default language for the machine is set to English U.K. To change the language setting:

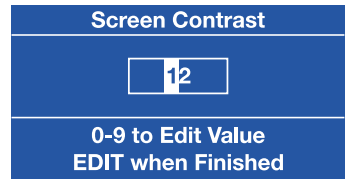
1. From the **System Settings** menu, use the down (▼) key to highlight the **Language Setup** menu and press the ↵ (Enter) key. The LCD will display the screen as shown opposite. Using the up (▲) or down (▼) keys, select the desired language option (indicated by the filled radio button).



2. Press the ↵ (Enter) key to save the language option and return to the **System Settings** menu. Verify that the chosen language is displayed in the status line at the bottom of the display when **Language Setup** is highlighted.

4. Screen Contrast: Genesis machines are factory set with a default screen contrast setting of 12 which should be suitable for most installations. For installations with special considerations, e.g. very low or high ambient light levels, the engineer can adjust the screen contrast via this menu to improve screen legibility.

1. From the **System Settings** menu, scroll down using the down (▼) key to highlight the **Screen Contrast** menu and press the ↵ (Enter) key. The LCD will display the screen as shown opposite. Enter a new value between 05



- 20 using the drink selection keypad.

2. Press the ↵ (Enter) key to save the new value and return to the **System Settings** menu. Verify that the number is displayed in the status line at the bottom of the display when **Screen Contrast** is highlighted.

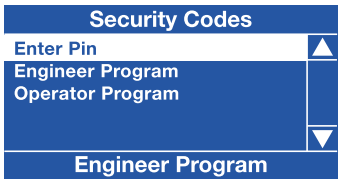
5. Software Version: This menu displays the version number of the software installed and is for information only. This information will be required should the engineer need to phone the Crane Merchandising Systems helpdesk for advice.

4.8 Security Codes Menu

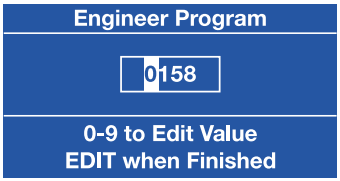
This menu allows the engineer to change both the operator and engineer program entry codes for the machine. These factory default codes are 1-1-1-1 (engineers) and 2-2-2-2 (operators). If either code is changed ensure that the new code is recorded and kept in a secure place.

To change either engineer or operator program entry codes, proceed as follows:

1. From the **Main Menu** screen press the down (▼) key until **Security Codes** is highlighted then press the ↵ (Enter) key to access the menu screen. The LCD will display the screen as shown.



2. To change the engineer entry code, press the down (▼) key to highlight **Engineer Program** then press the ↵ (Enter) key. The LCD will display the **Edit Pin** screen as shown. Enter a new pin number using the drink selection keypad and press the ↵ (Enter) key.



N.B. This security number is not displayed. Be sure to record the new pin code and keep it in a safe place.

3. Highlight **Operators Program** and follow the above procedure to change the operator code. Ensure that all operators who use the machine are given the new code.

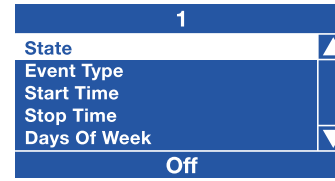
4.9 Timed Events Menu

1. Time of Day Events: From this menu the engineer can set up inhibited vend periods, free vend periods and discounted vend periods. The following example describes how to program the machine to free vend between 10.30 am and 2:30 pm on week days.

1. From the **Main Menu** press the down (▼) key until **Timed Events** is highlighted then press the ↵ (Enter) key twice (x2) to access the **Time of Day** menu screen. The LCD will display the screen as shown.

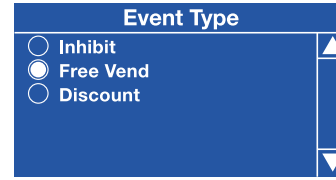
2. Although event 1 is shown as **Inhibit**, it is possible for the engineer to set event 1 as the first **Free Vend** period.

3. Press the ↵ (Enter) key to access the menu. The LCD will display the screen as shown. By default the current **State** is set to **Off** as indicated by the status line at the bottom of the screen.

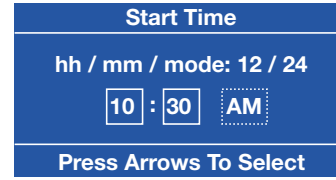


4. Press the ↵ (Enter) key to access the **State** sub menu. Using the down (▼) key, set the state to **On** (indicated by the filled radio button). Press the ↵ (Enter) key to return to the **Event 1** screen. Verify that the status line confirms the State is set to On.

5. Press the down (▼) key to highlight **Event Type** and press the ↵ (Enter) key to access the menu. Using the down (▼) key, set the Event Type to **Free Vend** (indicated by the filled radio button). Press the ↵ (Enter) key to return to the **Event 1** screen. Verify that the status line confirms the Event Type is set to Free Vend.

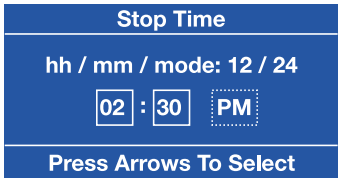


6. Press the down (▼) key to highlight **Start Time** and press the ↵ (Enter) key. From this menu the engineer sets the time at which the free vend period will start. Press the sequence 1-0-3-0, using the drink selection keypad, to set the time. If necessary use the up (▲) or down (▼) key until **AM** appears in the dotted box.



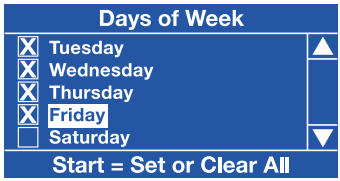
7. Press the ↵ (Enter) key to return to the **Event 1** screen. Verify that the correct start time is displayed in the status line at the bottom of the screen.

8. Press the down (▼) key to highlight **Stop Time** and press the ↵ (Enter) key. From this menu the engineer sets the time at which the free vend period will end. Press the sequence 0-2-3-0, using the drink selection keypad, to set the time. If necessary use the up (▲) or down (▼) key until **PM** appears in the dotted box.



9. Press the ↵ (Enter) key to return to the **Event 1** screen. Verify that the correct stop time is displayed in the status line at the bottom of the screen.

10. Press the down (▼) key to highlight **Days Of Week** and press the ↵ (Enter) key. The engineer can now set the days on which the free vend period will take place. Upon entry to the sub menu, the first day, Monday will be highlighted with an empty box. Pressing the ↵ (Enter) key will select the day, indicated by an X appearing in its adjacent box. Using the down (▼) key and the ↵ (Enter) key, highlight and select additional days of the week that the free vend period will take place.

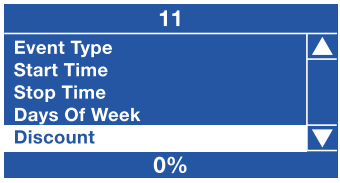


Tip: To set the required days quickly, press the START key to check all boxes, then using the down (▼) key, scroll and highlight the days not required (e.g. Saturday and Sunday) and press the ↵ (Enter) key to remove the X from the corresponding box.

11. Press the '**X**' (Exit) key three times (x3) to return to the **Timed Events Menu**. Using the sequence described above the engineer can quickly and easily set up additional free vend periods and inhibit vend and/or discount vend periods if required.

12. When setting up a discount price period it is necessary for the engineer to enter a value for the discount. Follow the procedure as described above to enter a discount vend period and set the state, start time, stop time and days of the week that the discount event will occur.

15. The engineer can now enter a **Discount** menu in order to enter a discount value. The LCD will display a screen similar to the one shown opposite. With **Discount** highlighted, press the ↵ (Enter) key to access the Discount screen.



16. To enter the discount value, e.g. 50%, press the sequence 5-0 using the appropriate number keys on the drink selection keypad. Press the ↵ (Enter) key to return to the **Event** screen and verify that the status line displays the discount percentage value entered.

N.B. When machine is fitted with a coin mechanism, please ensure that discount value entered can be supported by the coin tubes.

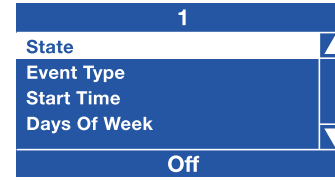
17. Press the '**X**' (Exit) key three times (x3) to return to the **Main Menu** screen.

2. Sanitation Events Menu: This sub menu allows the engineer to select periods when the machine will automatically flush through the water system via the 6 timed flush periods available. The default setting for all flush periods is **Off**.

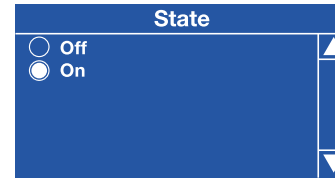
1. From the **Main Menu** press the down (▼) key until **Timed Events** is highlighted then press the ↵ (Enter) key. Once in the **Timed Events** menu press the down (▼) key to highlight **Sanitation Events Menu** then press the ↵ (Enter) key. The LCD will display the screen as shown.

2. The following example describes how the engineer can program the machine to flush the water system at 07.00 am, everyday.

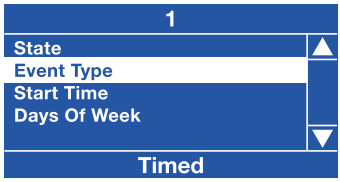
3. To set up the first timed flush, press the ↵ (Enter) key to access the **1 Timed** sub menu. The LCD will change and display the screen as shown. By default the current **State** is set to **Off** as indicated by the status line at the bottom of the screen.



4. Press the ↵ (Enter) key to access the **State** sub menu. Using the down (▼) key, set the state to **On** (indicated by the filled radio button). Press the ↵ (Enter) key to return to the **1** (Timed) screen. Verify that the status line confirms the State is set to On.



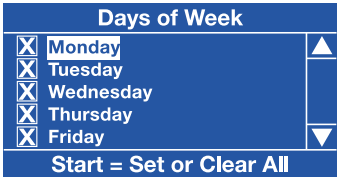
5. Press the down (▼) key to highlight **Event Type**. By default the event is set to Timed as indicated by the text displayed in the status line at the bottom of the screen. Therefore it is not necessary for the engineer to enter this sub menu.



6. Press the down (▼) key to highlight **Start Time** and press the ↵ (Enter) key. From this menu the engineer sets the time at which the the sanitation event will start. Using the drink selection keypad, press the sequence 0-7-0-0 to set the time. If necessary use the up (▲) or down (▼) key until **AM** appears in the dotted box.

7. Press the ↵ (Enter) key to return to the **1** (Timed) screen. Verify that the correct start time is displayed in the status line at the bottom of the screen.

8. Press the down (▼) key to highlight **Days Of Week** and press the ↵ (Enter) key. From this menu the engineer can set the days on which the sanitation event will take place. To select everyday (Monday - Sunday), press the START key on the drink selection keypad. The program automatically places an X in every box indicating that each day is selected.

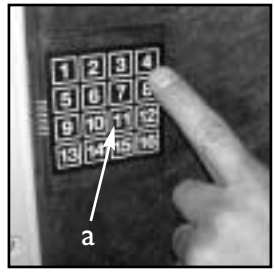


N.B. To select individual days, scroll through the menu using the up (▲) or down (▼) keys until the required day is highlighted. Press the ↵ (Enter) key to select the day, indicated by an X appearing in its adjacent box.

9. Press the '**X**' (Exit) key three times (x3) to return to the **Timed Events Menu**. Using the sequence described above the engineer can quickly and easily set up additional sanitation event periods for the machine.

N.B. A sanitation event dispenses water into the drip tray. If the tray reaches its full limit the machine will be 'Out Of Service'.

Section 5 - Service Keypad Functions



Genesis machines are fitted with a service keypad (a) mounted on the rear of the door. This keypad contains the **Engineers Program** entry key and also allows an engineer/operator to carry out specific functions during routine cleaning and maintenance.

N.B. During certain operations e.g. **View Counters** it is necessary for the engineer to utilise the selection keypad and LCD mounted on the front of the door to access data. Please refer to Section 3 - Programming Mode for details of selection keypad layout and functions.

When the safety key is inserted into the door switch and the machine is switched ***on***, the service keypad allows the engineer to carry out the following functions:

5.1 Switch 1 - Program Entry

This switch allows the engineer to access the Engineers Program (Section 4, page 16).

5.2 Switch 2 - Brewer Open (Freshbrew Models)

1. This switch operates the brewer fitted to freshbrew machines and allows the brewer chamber(s) to be removed for cleaning or maintenance.

2. When the **Brewer Open** switch (2) is pressed and released, the brewer will index to its fully open position and stop. The engineer can then safely lift the latch, remove the chambers and carry cleaning or maintenance. Pressing and releasing the switch again will cause the brewer chamber(s) assembly to return to its closed position.

5.3 Switch 3 - Rinse/Flush

1. The flush sequence operates automatically and rinses the mixing bowls. Before the sequence begins, the system waits until the water in the boiler is at the correct temperature determined by the thermistor.

2. In order to guarantee the highest standards of cleanliness, the boiler fill valve is disabled, ensuring that the water used in the sequence is delivered at the optimum temperature to kill any micro-organisms. Each hot water valve and the corresponding whipper is switched on in sequence for a pre-set flush time.

3. Once the flush cycle is complete, the boiler refills and when the water is at the correct temperature, the machine returns to standby mode, ready to vend.

4. To flush the machine:

   a. Open the front door of the machine and insert the safety key.

   Caution: Ensure that a water tight container is placed under the dispense position. Keep hands away from the dispense area whilst the flushing cycle is in operation.

   b. Press and release the **Flush** switch (3). The flush sequence begins.

   c. Empty the waste water container when complete.

5.4 Switch 4 - Brewer Clean (Freshbrew Models)

1. The brewer flush switch allows the brewer to be flushed independently. In order to guarantee the highest standards of cleanliness, the boiler fill valve is disabled, ensuring that the water used is delivered at the optimum temperature to kill any micro-organisms.

2. The brewer unit is filled with hot water and then operated through four complete brew cycles.

3. Once the flush cycle is complete, the boiler refills and when the water is at the correct temperature, the machine returns to standby mode, ready to vend.

4. To flush the brewer:

   a. Open the front door of the machine and insert the safety key.

   Caution: Ensure that a water tight container is placed under the dispense position. Keep hands away from the dispense area whilst the flushing cycle is in operation.

   b. Pour the recommended amount of destaining fluid directly into the top of both brewer chambers.

   c. Press and release the **Brewer Flush** switch (4). The sequence will begin and the LCD will display the messages:

   d. Empty the waste water container when complete.

5.5 Switch 5 - View Counters

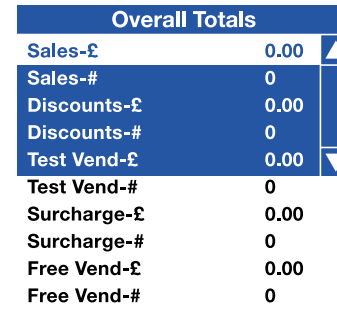
Internal counters within the machine software monitor audit data for each individual drink type along with the total audit data for the machine. When accessed via this switch, these counters can be viewed but cannot be reset.

To view the data:

1. Open the front door of the machine and insert the safety key.

2. Press and release the **View Counters** switch (5). The LCD will display the **Resettable Sales Data** screen as shown opposite. From this menu the engineer can view data for the 'Overall Totals' (highlighted) or 'By Product'.

3. To view the **Overall Totals** screen, press the ↵ (Enter) key on the drink selection keypad. This menu displays both the total £ amount and total vend amount (since the counters were last reset) for the following data:



- Sales
- Discount
- Test Vend
- Surcharge
- Free Vend

For example:

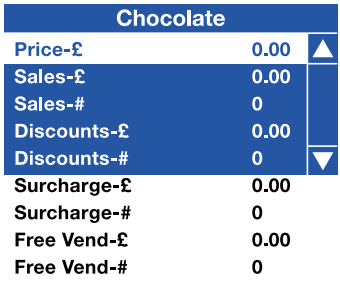
Sales-£	Displays the total machine sales in £ - p
Sales-#	Displays the total number of machine vends. This value includes normal plus discount and surcharge vend totals)
Discount-£	Displays the total monetary value of all discounts in £
Discount-#	Displays the total number of discounted vends
Test Vend-£	Displays the total monetary value of all test vends in £
Test Vend-#	Displays the total number of test vends
Surcharge-£	Displays the total monetary value of all surcharges in £
Surcharge-#	Displays the total number of surcharge vends
Free Vend-£	Displays the total monetary value of all free vends in £
Free Vend-#	Displays the total number of free vends

4. Scroll through the list displayed using the up (▲) and down (▼) keys on the front panel and log the audit data. When complete, press the '**X**' (Exit) key on the drink selection keypad to return to the **Resettable Sales Data** menu screen.

5. It is also possible to view and log audit data by individual product. Press the down (▼) key on the drink selection keypad to highlight **By Product** on the **Resettable Sales Data** menu screen.

6. Press the ↵ (Enter) key on the keypad to enter the **By Product** menu screen. This menu contains all of the drink selections available from the machine. Use the up (▲) and down (▼) keys on the drink selection keypad to scroll through the menu until the required selection is highlighted.

7. Press the ↵ (Enter) key on the keypad to enter the highlighted selection e.g. chocolate. The LCD will display the screen as shown opposite. This menu displays both the total £ amount and total vend amount as previously described.



N.B. Individual **By Product** screens also display the price set for the selection as shown.

The engineer can then scroll through the list displayed using the up (▲) and down (▼) keys on the drink selection keypad and log the audit data.

8. When complete, press the '**X**' (Exit) key on the drink selection keypad to return the machine to the previous screen. It is possible to access further selections using the procedure described above.

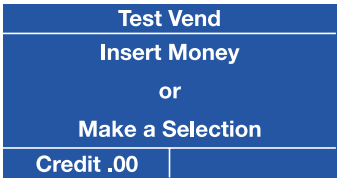
9. To return the machine to standby mode, press the '**X**' (Exit) key continuously until the LCD displays the standby screen.

N.B. In order to view and then clear data from the Resettable Sales Data menu, it is necessary for the engineer to access the menu via the Engineers Program.

5.6 Switch 6 - Test Vend

The **Test Vend** switch allows the engineer to vend a drink from the machine to ensure correct operation after cleaning or maintenance.

1. When the switch is pressed and released the LCD will display the screen as shown opposite. The engineer then presses a drink selection button followed by the '**Start**' button to start the vend sequence.



2. Ensure that the selection is correct, has not under/overfilled the cup and most importantly, tastes good!

3. Press the '**X**' (Exit) key on the drink selection keypad to exit from the Test menu and return to stand-by mode.

5.7 Switch 7 - Cup Test

This switch allows the engineer to test the operation of the cup drop unit after refilling the cup stacks. When the switch is pressed the cup drop solenoid is operated and a cup is ejected from the cup drop unit. This function ensures that the mechanism is working correctly.

5.8 Switch 8 - Park Head

When this switch is pressed, the dispense head moves to its fully extended position and stops. Press the switch again to return the dispense head to its correct (homed) position.

N.B. It is necessary for the engineer to wait for a few seconds between each key press to allow the machine to respond accordingly.

Section 6 - The Vend Cycle

6.1 Standby Mode

In standby mode the machine is idle, awaiting input from the drink selection keypad. The LCD will display to the customer one of a number of messages indicating the credit mechanism of the machine, the coin set, the time and if appropriate, which alternative tariff is in force. The messages displayed are determined by the type of coin system which has been programmed via the **System Settings** menu (Section 4, page 32).

The credit mechanism is indicated by one of the following prompts:

1. **'Free Vend'** - indicates that a free vend tariff is in force.
2. **'Please Insert Card'** - indicates that a card system is attached.
3. **'Please Insert Coins'** - indicates that a coin mechanism is connected.
4. **'Please Insert Key'** - indicates that the machine is fitted with a key system.

In addition, the prompts 'Exact Change Please' or 'No Change Given' inform the customer whether change is available.

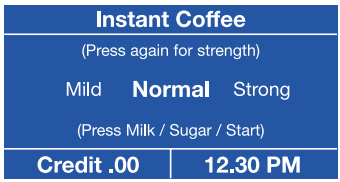
If the mechanism is set to acceptor, the 'No Change Given' message will always be displayed. If the mechanism is set to change-giver, the prompt will depend upon how full the change tubes are. For more information please refer to the manual supplied with the change-giver.

The coin set accepted by the coin mechanism is also displayed. This is pre-set in the controller and outlined in the section covering the programming of the coin set in the engineer's program. The alternative tariff will be indicated by either the "Alternative Prices" or "Free Vend" messages.

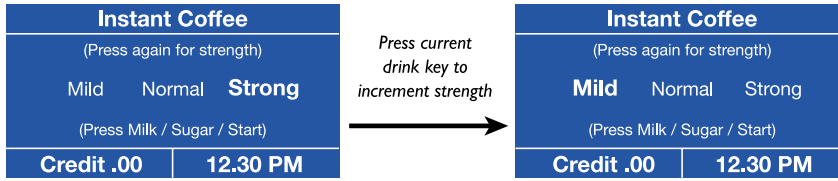
6.2 Selecting A Drink

Drink selections are made by pressing the appropriate selection button on the keypad and then utilising the keypad selection buttons and the LCD display to alter the drink strength and add milk/sugar to suit the customers personal preference. The following example shows an instant coffee selection from an instant machine set to 'Free Vend'.

1. Press selection button 1, **Instant Coffee** on the keypad. The machine exits the standby mode and the LCD will display the screen as shown opposite. The default strength setting for this drink selection is **Normal** as shown.

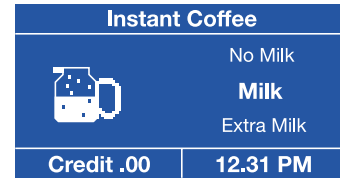


2. To obtain a **Strong** or **Mild** beverage it is necessary to press the current drink selection button. Pressing once will increment to the **Strong** option selection. Pressing the button again will increment to the **Mild** option selection.

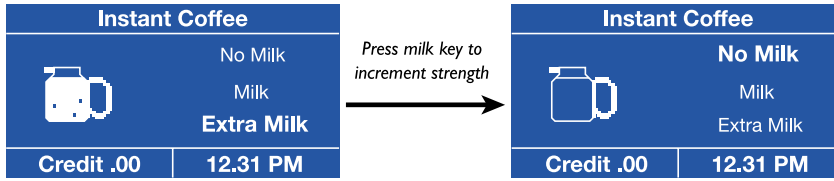


Pressing the current drink selection button again will revert to the default selection.

3. If milk and/or sugar is required, it is necessary to press the corresponding button on the keypad for each selection. When the **Milk** button is pressed the LCD changes and displays the default screen as shown opposite.

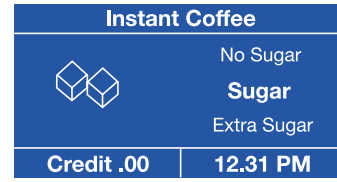


4. If **Extra Milk** is required the customer presses the milk button a second time. A third press will display the **No Milk** selection.

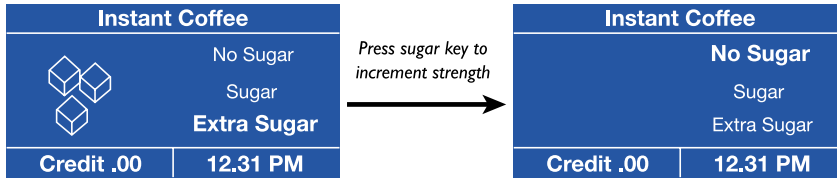


Pressing the milk button again will revert to the default milk selection.

5. If the customer requires sugar it is necessary to press the sugar button. The LCD changes and displays the default screen shown opposite.



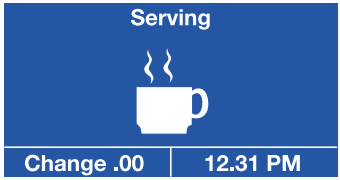
6. If **Extra Sugar** is required the customer presses the sugar button a second time. A third press will display the **No Sugar** selection.



Pressing the sugar button again will revert to the default sugar selection.

7. Once the required drink has been selected, press the **Start** button on the keypad.

Unless the customer has placed their own cup into the dispense area, a cup will automatically be ejected from the cup drop unit into the dispense area and the drink selection will be delivered into the cup. Whilst this operation is in progress the LCD will display the screen shown opposite.

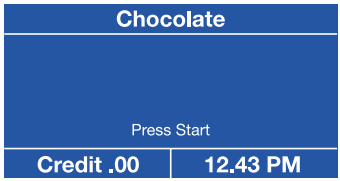


8. After the beverage has been dispensed the LCD will display the message **Thank You** and the machine will beep once before returning to standby mode.

The drink can then be carefully removed from the dispense area.

9. Certain drink selections do not allow the strength option to be selected or milk added. For example, if the customer presses the **Cappuccino** selection button the LCD will display the screen opposite. The customer can either press the start button to vend the drink or press the sugar button in order to add sugar to their taste as described above.

10. Other drink choices do not allow the strength option or milk/sugar to be selected. For example, if the customer presses the **Chocolate** selection button the LCD will display the screen opposite.



The customer simply presses the start button and the machine will vend their drink.

6.3 Replacing/Updating Drink Selection Decals

Drink selection and pricing decals are mounted onto a paper backing sheet which is secured behind a transparent clip-in cover.

To update drink pricing or replace drink description decals, proceed as follows:

1. Carefully unclip the transparent decal cover from the door using the snap fit clip at the top. Remove the decal sheet from its holder as shown opposite.

2. **Updating pricing:** Carefully remove the previous price decals from the drink selection decals. Update the prices where necessary using new self adhesive decals (Refer to Spare Parts Section for part numbers).

3. **Updating drink selections and pricing:** When updating selection decals and prices it will be necessary to use a new backing sheet. These are available as spares from the manufacturer. To order quote part no GR10236000 (Aqua Blue) or GR10237000 (Slate Red).

   Peel the relevant drink selection decals from their backing sheet (part no. PR10233000) and apply to the backing sheet using the printed guides as shown opposite.

   Apply price decals as described above.

4. Place the decal carrier behind the transparent decal cover and refit complete assembly to the door. Ensure decal cover locating lugs are correctly located before pushing the snap fit clip into place.

Section 7 - Technical Information

7.1 Water Services

The mains water supply provides water for the boiler. Water enters at the rear of the machine through a solenoid operated inlet valve operating at 24v DC, which opens or closes the water supply as required.

1. Hot Water System

1. Water is heated in the boiler to the required temperature by a heating element rated at 2.4 Kilowatts. The mains voltage required for the element is switched by a solid state relay, controlled by the vending machine controller via an analogue signal transmitted by the thermistor probe.

2. The water level inside the boiler is controlled by a water level probe. When the water drops below the required level, the controller board operates the mains water inlet valve until the required water level is restored.

3. A series of 24v DC control valves are mounted on the outside of the boiler. These supply heated water to each of the mixing stations where ingredients are added to make the drink.

N.B. An illustration showing the parts breakdown for the Heater Tank is included in Section 12 - page 116.

2. Water Supply

1. Should the inlet valve fail (or mains water supply be disabled), the controller board will detect a fault after the inlet valve 'open' signal has been active for 2 minutes or the required water level has not been reached.

2. At this point the keypad will be disabled, all outputs from the controller board (including the heater element) will be switched off and the LCD will show the message opposite.

7.2 Ingredient Dispense

1. The ingredients required for making up a drink are contained in ingredient canisters and are dispensed by means of a motor driven auger located in the base of each canister.

2. The amount of product dispensed by each canister is controlled by the vending machine controller and may be adjusted via the **Selection Timers** menu in the engineers program - see page 28 for further details.

3. The required ingredients for each vend are delivered to a mixing bowl, where they are blended with hot water by a high speed whipper prior to discharge at the dispense head.

4. To ensure a free flow of ingredient powder and granules, it is essential that they are kept completely dry. This is achieved by extracting steam from the mixing system using an extract fan.

   N.B. The fan runs continuously whilst the cabinet door switch is in the ***on*** position.

5. The electrical supply for the extract fan is 230v AC**.**

7.3 Mixing System

1. The mixing system utilises a 24v DC 13,000 RPM motor assembly and mixes ingredient with hot water from the heater tank to make a drink.

2. The mixing units are front mounted and secured by a single fixing screw. For servicing, the complete unit can be quickly and easily removed from the front of the machine.

   N.B. An illustration showing the parts breakdown for the Mixing System is included in Section 12 - page 118.

7.4 Moving Dispense Head

1. Genesis machines are fitted with a moving dispense head mechanism. This allows for a quicker and more direct cup drop and also helps to prevent cross contamination of drinks. The head features three separate dispense positions depending upon the drink being dispensed.

2. The mechanism is operated by a 24v DC 50 RPM motor. The motor is connected to a pinion which engages with a rack on the dispense arm. This mechanism is used to move the dispense head backwards and forwards.

3. A micro switch, fitted to the rear of the dispense head chassis detects the home position (head withdrawn/not dispensing). An optical sensor is also fitted and this works in conjunction with a decoder bracket attached to the rack to determine the position of the dispense head.

4. A moulded dispense head mounted at the front of the unit connects the tubes from the various mixing systems, and hot water, to separate dispense nozzles.

   N.B. An illustration showing the parts breakdown for the Moving Dispense Head is included in Section 12 - page 114. Dispense pipe lengths are shown on pages 81 to 83.

7.5 Cup Dispense Unit

1. Cups (either paper or plastic) are stored in tubes which are located above the cup dispense unit. The unit incorporates a 24v DC motor for Indexing the correct turret over the cup drop unit as required.

2. When a selection is made the Main Controller checks that the cups are not sold out, a 230v AC solenoid is energised and a cup is dispensed.

3. The cups are separated and 'dropped' by a cup ring. The cup ring comprises six separator cams operated by a solenoid, which is controlled by the vending machine controller.

4. The cup level is monitored by an electronic system. An infrared LED (cup sensor transmitter) is positioned in the cup assembly above the cup splitter, with an infrared detector (cup sensor receiver) mounted directly opposite.

5. The light emitted by the LED is detected when NO CUPS are present. With a stack of cups present, the beam is broken. As the cups drop below the LED, transmitted light is detected. If this is the case, the controller will index the cup tubes until a full stack is located. A turret location micro-switch ensures that the cup tubes stop centrally over the cup ring.

   N.B. The turret motor will run until the next stack is deposited into the cup splitter, which breaks the LED beam, and the cup stack micro switch returns to its normally open state. The motor will run until it either finds the next stack or all the turret extrusions have been checked.

6. The cup stack index motor is protected by a time-out feature. The cup stack will rotate for a maximum period of 60 seconds. If all of the cup tubes are empty at the end of this period, the machine will display the message as shown opposite. Customers may then use their own cup/mug in order to make and receive a vend.

N.B. An illustration showing the parts breakdown for the Cup Drop Unit is included in Section 12 - page 106.

7.6 Waste Level Probes

1. The waste level probes, fitted to the underside of the machine, detect the water level in the waste tray.

2. The system consists of two springs set at different levels. When the water level is high enough that both of the springs are immersed in the water a message is displayed on the machine saying the waste tray is full and the machine is disabled.

   N.B. The springs are set at two different levels in order to lessen the chance that movement of water in the drip tray could accidentally disable the machine.

7.7 Brewer Unit - (Freshbrew Models)

1. The dual brewer unit provides both freshly brewed coffee and tea vends. The coffee and tea ingredients are dispensed into the brewer unit via separate canisters.

2. A 24v DC, 3.5 RPM motor, controlled by an index cam fitted to the drive shaft, operates the brewer unit. The cam operates a switch which sends a logic signal to the controller when the brewer is in the correct position.

Coffee Brewing

3. Water and coffee grounds are dispensed into the coffee brewing chamber. The motor drives the piston up and mixes the coffee and water.

4. The motor drives the piston down and the resulting vacuum pulls filtered coffee through the filter mesh. As the piston passes the coffee outlet adaptor, coffee flows to the dispense head. The piston remains in this position for a while to allow the coffee to drain away.

   N.B. There are 4 programmable delay positions which can be set via the freshbrew coffee selection timers. These delays could be set to zero to speed up the vend cycle.

5. A separate mechanism, operated via the brewer drive pin, removes the coffee grounds. The coffee wipe arm wipes the grounds from the filter mesh. They then drop, via a deflector tray, into a waste bucket. The motor returns the piston to its parked position.

Tea Brewing

6. Water and tea are dispensed into the tea brewing chamber. The brewer stays shut until the required amount of water has passed through the system. When the tea chamber is empty, the motor operates the wiper arm and the used tea cake is removed from the tea filter mesh.

7.8 Power Supply Unit

1. The power supply unit (PSU) provides power to the machine. It is mounted on the floor of the machine and can be accessed by removing the lower front panel.

2. The PSU converts 230v AC to 24v DC to run the valves, whipper motors, ingredient motors, brewers, etc. fitted to the machine. The solid state relay, mounted on the PSU chassis, uses a 24v DC switching circuit to provide 230v AC for the heater element.

3. The Input/Output (I/O) board, mounted on the PSU chassis, utilises signals from the main controller in order to operate valves, whipper motors, the dispense head motor, ingredient motors, brewer motors, etc.

4. The PSU houses three fuses. These are as follows.

   - Heater, 12 amp T (ceramic)
   - 240v System, 4 amp (glass)
   - 240v PSU, 4 amp (glass)

   N.B. An illustration showing the parts breakdown for the PSU is included in Section 12 - page 120.

7.9 16 Amp Filter

A 16 Amp filter, mounted on the rear panel, prevents spurious voltages reaching the power supply, I/O board, controller boards and other sensitive components within the machine. It also prevents spurious voltages generated by the machine from reaching the mains supply.

7.10 Coin Mechanism Transformer

The coin mechanism transformer converts 230v AC to 24v AC for Executive protocol type coin mechanisms. The 24v AC supply contains an in-line 4 amp, glass fuse.

7.11 Coin and Card/Key Systems

The Genesis may be equipped with coin or card/key validation systems using either Mars protocol 'A' or alternatively an MDB system. The coin or card/key system informs the vending machine controller of the amount of credit which has been deposited into the vending machine.

7.12 Change Giver

1. The Change Giver communicates with the vending machine controller through a serial communication interface. It will validate a coin and if accepted, send a signal to the vending machine controller indicating the total amount of money which has been tendered since the last vend.

2. Once sufficient credit has been accumulated a vend will be permitted. The vending machine controller will communicate to the change giver the actual price of the drink dispensed. The change giver will return any change due to the customer, provided the change tubes contain coinage above a pre-set level.

7.13 Coin Blocker

For Genesis machines fitted with a change-giver, a logic 'low' level from the vending machine controller will disable any coin acceptance.

7.14 Card/Key System

1. The card system fitted to the machine communicates with the vending machine controller using the same principle as the change giver.

2. The card system informs the vending machine controller of the amount of credit on the customer's card. If there is sufficient credit for the selected drink, the vending machine controller permits a vend and informs the card system of the amount of credit to be taken from the card. The new balance will then be re-written onto the customer's card.

   N.B. For full information and programming instructions for all of these systems, please refer to the user manual supplied with the validation system.

Section 8 - Pre-Set Drink Timings

The tables on the following pages illustrate the pre-set timings for all drink selections with which the machine leaves the factory. These values may be changed from within the **Product Configuration Menu**, accessed via the engineers program.

8.1 Instant - Option 1 (Two Coffee Selections)

Coffee	Preset	Coffee (Decaff)	Preset	Tea	Preset
Hot Water (Coffee)	4	Hot Water (Coffee)	4	Hot Water (Tea)	4
Ingredient - 1	1	Ingredient - 1	1	Ingredient - 1	0.5
Ingredient - 2	1.5	Ingredient - 2	1.5	Ingredient - 2	0.75
Ingredient - 3	0.75	Ingredient - 3	0.75	Ingredient - 3	0.35
Product Delay	1	Product Delay	1	Product Delay	1
Whipper Time	4.5	Whipper Time	4.5	Hot Water (Milk)	2
Whipper Delay	0.5	Whipper Delay	0.5	Ingredient - 1	0.4
Hot Water (Milk)	2	Hot Water (Milk)	2	Ingredient - 2	0.6
Ingredient - 1	0.75	Ingredient - 1	0.75	Product Delay	1
Ingredient - 2	1.1	Ingredient - 2	1.1	Whipper Time	0
Product Delay	1	Product Delay	1	Whipper Delay	0
Whipper Time	2.5	Whipper Time	2.5	Hot Water (Sugar)	2
Whipper Delay	0.5	Whipper Delay	0.5	Ingredient - 1	0.6
Hot Water (Sugar)	2	Hot Water (Sugar)	2	Ingredient - 2	0.75
Ingredient - 1	1.1	Ingredient - 1	1.1	Product Delay	1
Ingredient - 2	1.5	Ingredient - 2	1.5	Whipper Time	0
Product Delay	1	Product Delay	1	Whipper Delay	0
Whipper Time	2.5	Whipper Time	2.5		
Whipper Delay	0.5	Whipper Delay	0.5		
Latte	**Preset**	**Cappuccino**	**Preset**	**Caffe Mocha**	**Preset**
Hot Water (Coffee)	2.5	Hot Water (Milk)	3.5	Hot Water (Choc.)	3.25
Ingredient	1	Ingredient	2	Ingredient	2.75
Product Delay	1	Product Delay	1	Product Delay	1
Whipper Time	3	Whipper Time	4	Whipper Time	3.75
Whipper Delay	0.5	Whipper Delay	0.5	Whipper Delay	0.5
Hot Water (Milk)	3.5	Hot Water (Sugar)	2	Hot Water (Milk)	1.8
Topping Ingredient	3	Ingredient - 1	1	Ingredient	0.85
Product Delay	1	Ingredient - 2	1.5	Product Delay	1
Whipper Time	4	Product Delay	1	Whipper Time	2.3
Whipper Delay	0.5	Whipper Time	2.5	Whipper Delay	0.5
Hot Water (Sugar)	2	Whipper Delay	0.5	Hot Water (Sugar)	1.5
Ingredient - 1	1	Hot Water (Coffee)	2	Ingredient	1
Ingredient - 2	1.5	Ingredient	2	Product Delay	1
Product Delay	1	Product Delay	1	Whipper Time	2
Whipper Time	2.5	Whipper Time	3	Whipper Delay	0.5
Whipper Delay	0.5	Whipper Delay	0.5		

Chocomilk	Preset
Hot Water (Coffee)	4.25
Ingredient	2.75
Product Delay	1
Whipper Time	4.75
Whipper Delay	0.5
Hot Water (Choc)	2.75
Ingredient	0.85
Product Delay	1
Whipper Time	3.25
Whipper Delay	0.5

Espresso	Preset
Hot Water (Coffee)	3.25
Ingredient	1.5
Product Delay	1
Whipper Time	3.75
Whipper Delay	0.5
Hot Water (Sugar)	1.75
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	2.25
Whipper Delay	0.5

Chocolate	Preset
Hot Water	7.5
Ingredient	2.75
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Milk	Preset
Hot Water	7.5
Ingredient	1.5
Product Delay	1
Whipper Time	8.5
Whipper Delay	0.5

Hot Water	Preset
Water	8

8.2 Instant - Option 2 (Soup and Instant Coffee)

Coffee	Preset
Hot Water (Coffee)	4
Ingredient - 1	1
Ingredient - 2	1.5
Ingredient - 3	0.75
Product Delay	1
Whipper Time	4.5
Whipper Delay	0.5
Hot Water (Milk)	2
Ingredient - 1	0.75
Ingredient - 2	1.1
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1.1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

Tea	Preset
Hot Water (Tea)	4
Ingredient - 1	0.5
Ingredient - 2	0.75
Ingredient - 1	0.35
Product Delay	1
Hot Water (Milk)	2
Ingredient - 1	0.4
Ingredient - 2	0.6
Product Delay	1
Whipper Time	0
Whipper Delay	0
Hot Water (Sugar)	2
Ingredient - 1	0.6
Ingredient - 2	0.75
Product Delay	1
Whipper Time	0
Whipper Delay	0

Cappuccino	Preset
Hot Water (Milk)	3.5
Ingredient	2
Product Delay	1
Whipper Time	4
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5
Hot Water (Coffee)	2.5
Ingredient	2
Product Delay	1
Whipper Time	3
Whipper Delay	0.5

Latte	Preset
Hot Water (Coffee)	2.5
Ingredient	1
Product Delay	1
Whipper Time	3
Whipper Delay	0.5
Hot Water (Milk)	3.5
Topping Ingredient	3
Product Delay	1
Whipper Time	4
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

Caffe Mocha	Preset
Hot Water (Choc.)	3.25
Ingredient	2.75
Product Delay	1
Whipper Time	3.75
Whipper Delay	0.5
Hot Water (Milk)	1.8
Ingredient	0.85
Product Delay	1
Whipper Time	2.3
Whipper Delay	0.5
Hot Water (Sugar)	1.5
Ingredient	1
Product Delay	1
Whipper Time	2
Whipper Delay	0.5

Espresso	Preset
Hot Water (Coffee)	3.25
Ingredient	1.5
Product Delay	1
Whipper Time	3.75
Whipper Delay	0.5
Hot Water (Sugar)	1.75
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	2.25
Whipper Delay	0.5

Chocomilk	Preset
Hot Water (Choc)	4.25
Ingredient	2.75
Product Delay	1
Whipper Time	4.75
Whipper Delay	0.5
Hot Water (Choc)	2.75
Ingredient	0.85
Product Delay	1
Whipper Time	3.25
Whipper Delay	0.5

Chocolate	Preset
Hot Water	7.5
Ingredient	2.75
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Soup	Preset
Hot Water	7.5
Ingredient	1.5
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Milk	Preset
Hot Water	7.5
Ingredient	1.5
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Water	Preset
Water	8

8.3 Freshbrew - Option 1

Speciality drinks made with freshbrew coffee.

F/B Coffee	Preset
Hot Water (Coffee)	4
Ingredient - 1	2.5
Ingredient - 2	3.5
Ingredient - 3	1.9
Product Delay	1
Brewer Delay - 1	1
Brewer Delay - 2	1
Brewer Delay - 3	1
Brewer Delay - 4	1
Hot Water (Milk)	2
Ingredient - 1	0.75
Ingredient - 2	1.1
Product Delay	1
Whipper Time	0
Whipper Delay	0
Hot Water (Sugar)	2
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	0
Whipper Delay	0

F/B Tea	Preset
Hot Water (Tea)	4
Ingredient - 1	1.5
Ingredient - 2	2
Ingredient - 3	0.9
Product Delay	1
Hot Water (Milk)	2
Ingredient - 1	0.25
Ingredient - 2	0.5
Product Delay	1
Whipper Time	0
Whipper Delay	0
Hot Water (Sugar)	2
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	0
Whipper Delay	0

F/B Cappuccino	Preset
Hot Water (Milk)	2.5
Ingredient	1.5
Product Delay	1
Whipper Time	3
Whipper Delay	0.5
Hot Water (Sugar)	1.25
Ingredient - 1	0.5
Ingredient - 2	0.75
Product Delay	1
Whipper Time	1.75
Whipper Delay	0.5
Hot Water (Coffee)	3.75
Ingredient	2
Product Delay	1
Brewer Delay 1	1
Brewer Delay 2	1
Brewer Delay 3	1
Brewer Delay 4	1

F/B Latte	Preset
Hot Water (Coffee)	2.5
F/B Coffee Ing.	1.5
Product Delay	1
Brewer Delay - 1	1
Brewer Delay - 2	1
Brewer Delay - 3	1
Brewer Delay - 4	1
Hot Water (Milk)	3.5
Ingredient	2
Product Delay	1
Whipper Time	4
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

F/B Mocha	Preset
Hot Water (Choc)	3.25
Ingredient	2.75
Product Delay	1
Whipper Time	3.75
Whipper Delay	0.5
Hot Water (Milk)	1.8
Ingredient	0.85
Product Delay	1
Whipper Time	2.3
Whipper Delay	0.5
Hot Water (Coffee)	1.5
Ingredient	1
Product Delay	1
Brewer Delay - 1	1
Brewer Delay - 2	1
Brewer Delay - 3	1
Brewer Delay - 4	1

F/B Espresso	Preset
Hot Water (Coffee)	3.25
Ingredient	2.5
Product Delay	1
Brewer Delay - 1	1
Brewer Delay - 2	1
Brewer Delay - 3	1
Brewer Delay - 4	1
Hot Water (Sugar)	1.75
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	2.25
Whipper Delay	0.5

Chocomilk	Preset
Hot Water (Choc)	4.25
Ingredient	2.75
Product Delay	1
Whipper Time	4.75
Whipper Delay	0.5
Hot Water (Milk)	2.75
Ingredient	0.85
Product Delay	1
Whipper Time	3.25
Whipper Delay	0.5

Chocolate	Preset
Hot Water	7.5
Ingredient	2.75
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Milk	Preset
Hot Water	7.5
Ingredient	1.5
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Water	Preset
Water	8

8.4 Freshbrew - Option 2

Speciality selections made with instant coffee.

F/B Coffee	Preset
Hot Water (Coffee)	4
Ingredient - 1	2.5
Ingredient - 2	3.5
Ingredient - 3	1.9
Product Delay	1
Brewer Delay - 1	1
Brewer Delay - 2	1
Brewer Delay - 3	1
Brewer Delay - 4	1
Hot Water (Milk)	2
Ingredient - 1	0.75
Ingredient - 2	1.1
Product Delay	1
Whipper Time	0
Whipper Delay	0
Hot Water (Sugar)	2
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	0
Whipper Delay	0

F/B Tea	Preset
Hot Water (Tea)	4
Ingredient - 1	1.5
Ingredient - 2	2
Ingredient - 3	0.9
Product Delay	1
Hot Water (Milk)	2
Ingredient - 1	0.25
Ingredient - 2	0.5
Product Delay	1
Whipper Time	0
Whipper Delay	0
Hot Water (Sugar)	2
Ingredient - 1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	0
Whipper Delay	0

Cappuccino	Preset
Hot Water (Milk)	2.5
Ingredient	1.5
Product Delay	1
Whipper Time	3
Whipper Delay	0.5
Hot Water (Sugar)	1.25
Ingredient - 1	0.5
Ingredient - 2	0.75
Product Delay	1
Whipper Time	1.75
Whipper Delay	0.5
Hot Water (Coffee)	4
Ingredient	0.75
Product Delay	1
Whipper Time	4.5
Whipper Delay	0.5
Hot Water (Choc)	1.75
Ingredient	1
Product Delay	1
Whipper Time	2.25
Whipper Delay	0.5

Instant Coffee	Preset
Hot Water (Coffee)	4
Ingredient - 1	0.7
Ingredient - 2	1.05
Ingredient - 3	0.53
Product Delay	1
Whipper Time	4.5
Whipper Delay	0.5
Hot Water (Milk)	2
Ingredient - 1	0.75
Ingredient - 2	1.1
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1.1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

Latte	Preset
Hot Water (Coffee)	1.5
Ingredient	1
Product Delay	1
Whipper Time	2
Whipper Delay	0.5
Hot Water (Milk)	4.5
Ingredient	3.5
Product Delay	1
Whipper Time	5
Whipper Delay	0.5
Hot Water (Sugar)	2
Ingredient - 1	1
Ingredient - 2	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

Caffe Mocha	Preset
Hot Water (Choc)	4
Ingredient	2.75
Product Delay	1
Whipper Time	4.5
Whipper Delay	0.5
Hot Water (Milk)	2
Ingredient	1.5
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5
Hot Water (Coffee)	2
Ingredient	1
Product Delay	1
Whipper Time	2.5
Whipper Delay	0.5

Chocomilk	Preset
Hot Water (Coffee)	4.25
Ingredient	2.75
Product Delay	1
Whipper Time	4.75
Whipper Delay	0.5
Hot Water (Choc)	2.75
Ingredient	1.5
Product Delay	1
Whipper Time	3.25
Whipper Delay	0.5

Espresso	Preset
Hot Water (Coffee)	4
Ingredient	1
Product Delay	1
Whipper Time	4.5
Whipper Delay	0.5
Hot Water (Sugar)	1.25
Ingredient -1	0.5
Ingredient - 2	1
Product Delay	1
Whipper Time	1.75
Whipper Delay	0.5

Chocolate	Preset
Hot Water	7.5
Ingredient	2.75
Product Delay	1
Whipper Time	8
Whipper Delay	0.5

Hot Water	Preset
Water	8

8.5 Grammes/Second Information

All the ingredient presets shown in the previous tables are shown as seconds. The table below shows the approximate gramme throw dispensed per product.

Product	Grammes/Second	Product	Grammes/Second
Inst. Coffee (90 rpm)	0.9	Capp. Topping	3.9
Inst. Coffee (130 rpm)	1.7	Sugar	4.1
Instant Tea	0.5	F/B Coffee	1.8
Chocolate	5.6	F/B Tea	2.3
Milk (NDC)	3.2	Soup	N/A

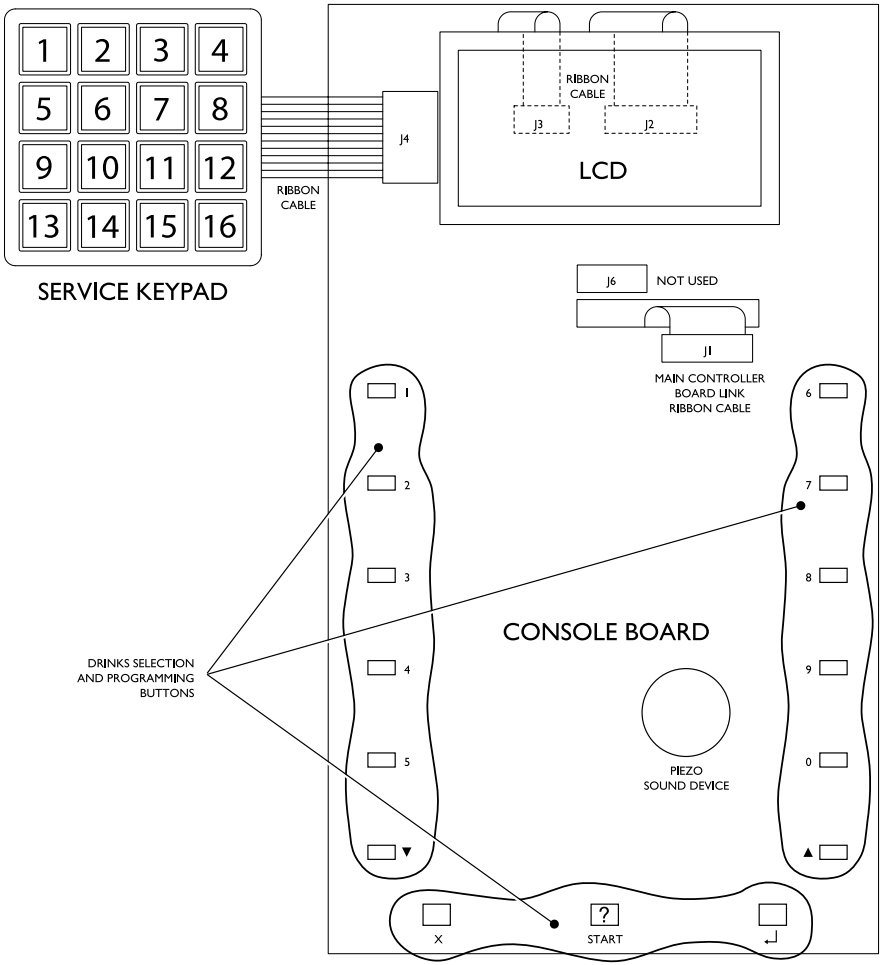
N.B. Instant coffee 130rpm motor fitted to freshbrew, option 2 machines.

Section 9 - Electrical/Electronic Diagrams

The diagrams shown on the following pages illustrate the layout of, and the connections between, the electrical and electronic components within Genesis machines.

N.B. Instant and Freshbrew machines are equipped with very similar wiring arrangements. The following diagrams are common to both machines except where stated.

9.1 Console Board/Service Keypad

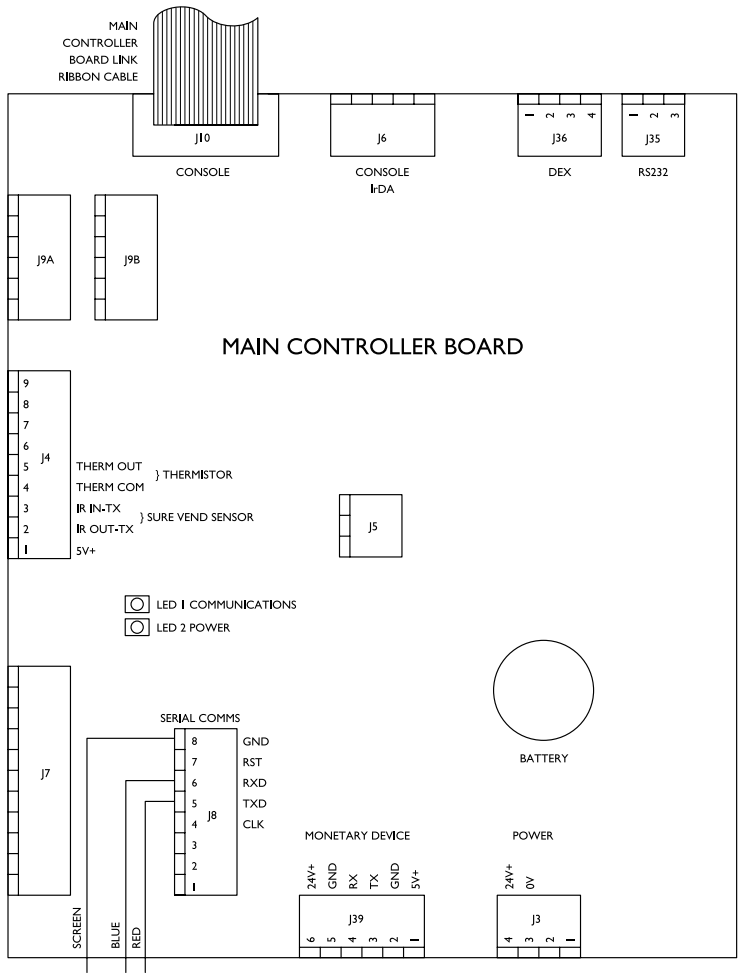


9.2 Control Board

The Control Board is the main controller for all of the machines functions. The board is located inside the door behind the monetary cover. To gain access to the board:

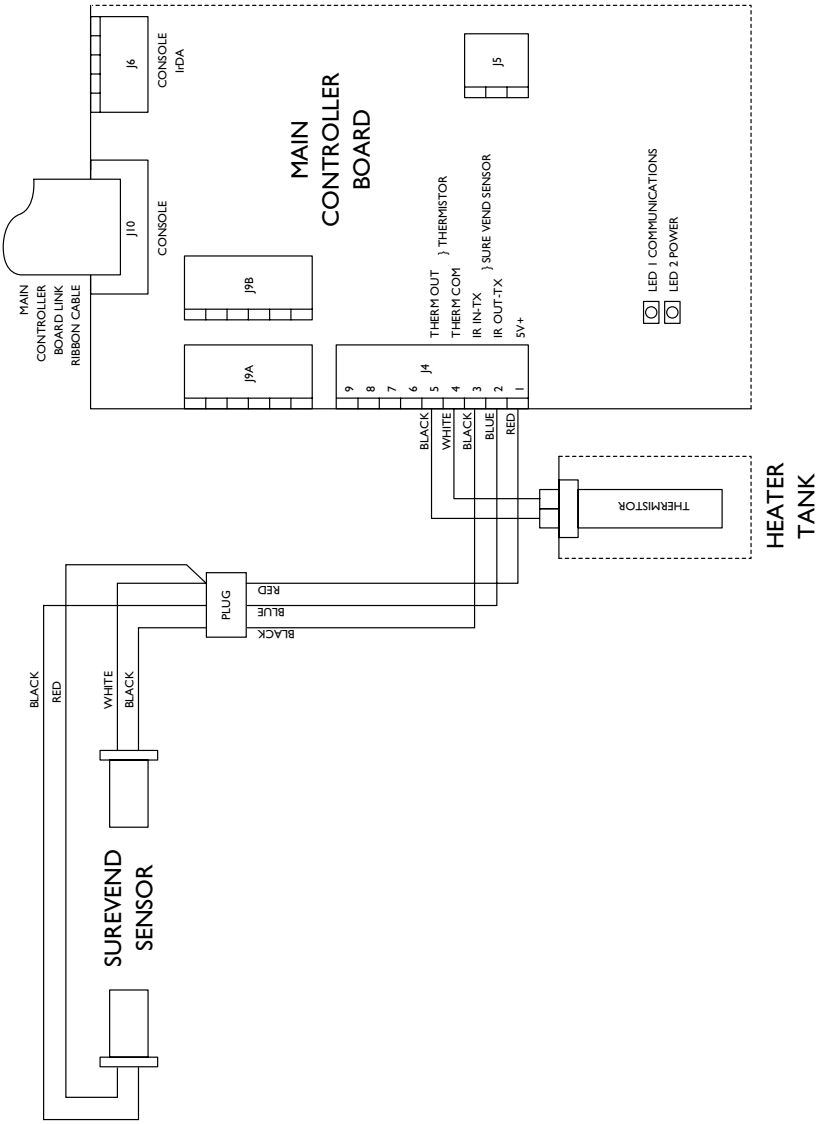
1. Switch off the power to the machine and open the front door. Unscrew and remove the two knurled thumbscrews securing the monetary cover.

2. Open the monetary cover. Loosen the four screws securing the control board cover and remove.



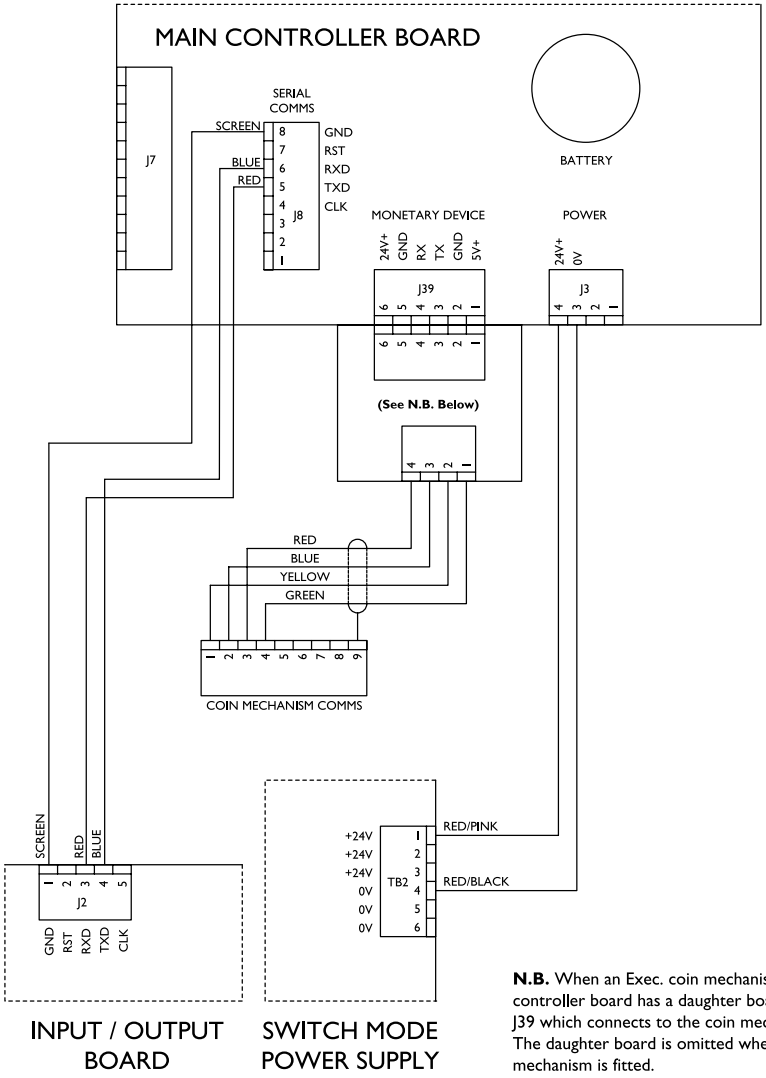
9.3 Control Board Connections - 1

The diagram below illustrates the connections between the control board and the console board, SureVend™ sensor and heater tank thermistor.



9.4 Control Board Connections - 2

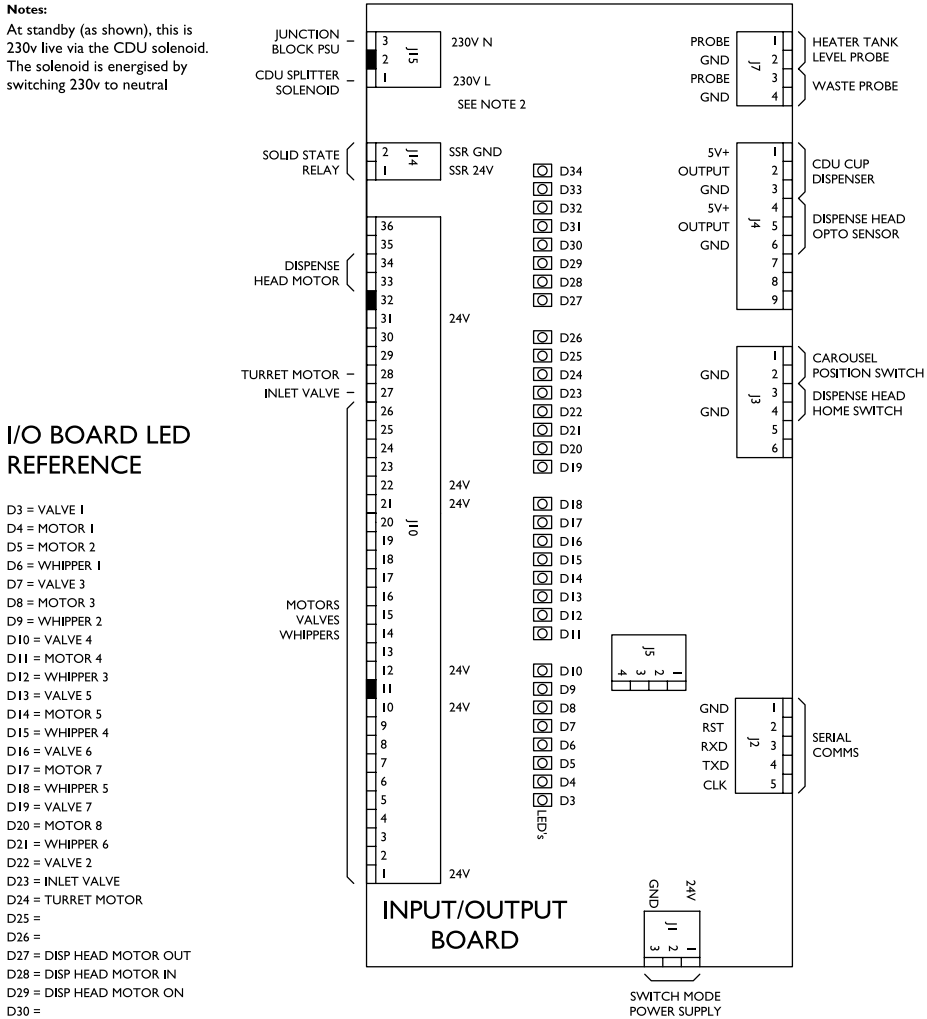
The diagram below illustrates the connections between the control board and the input/output board, coin mechanism communications and the switch mode power supply.



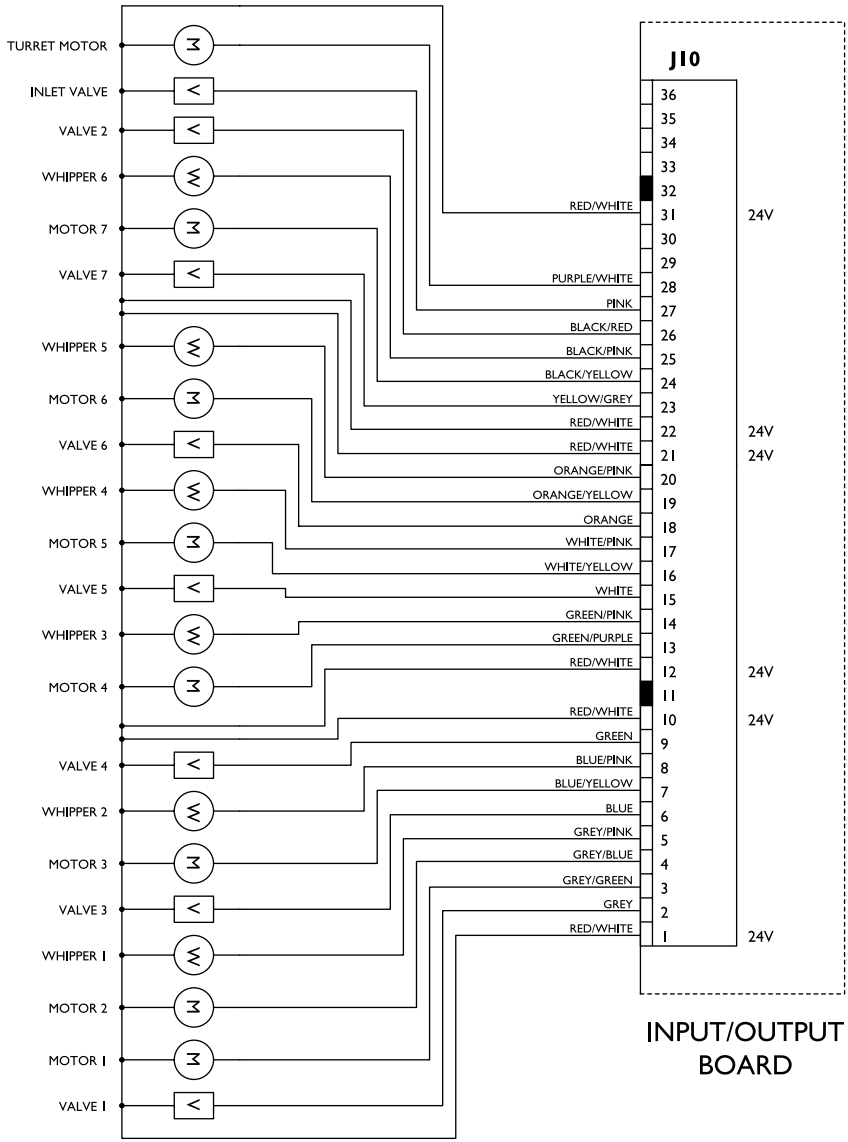
N.B. When an Exec. coin mechanism is fitted, the controller board has a daughter board attached at J39 which connects to the coin mechanism comms. The daughter board is omitted when an MDB mechanism is fitted.

9.5 Input/Output Board - Instant Machines

The Input/Output Board is mounted onto the power supply chassis. This is located on the floor of the machine and can be accessed by removing the lower front panel.



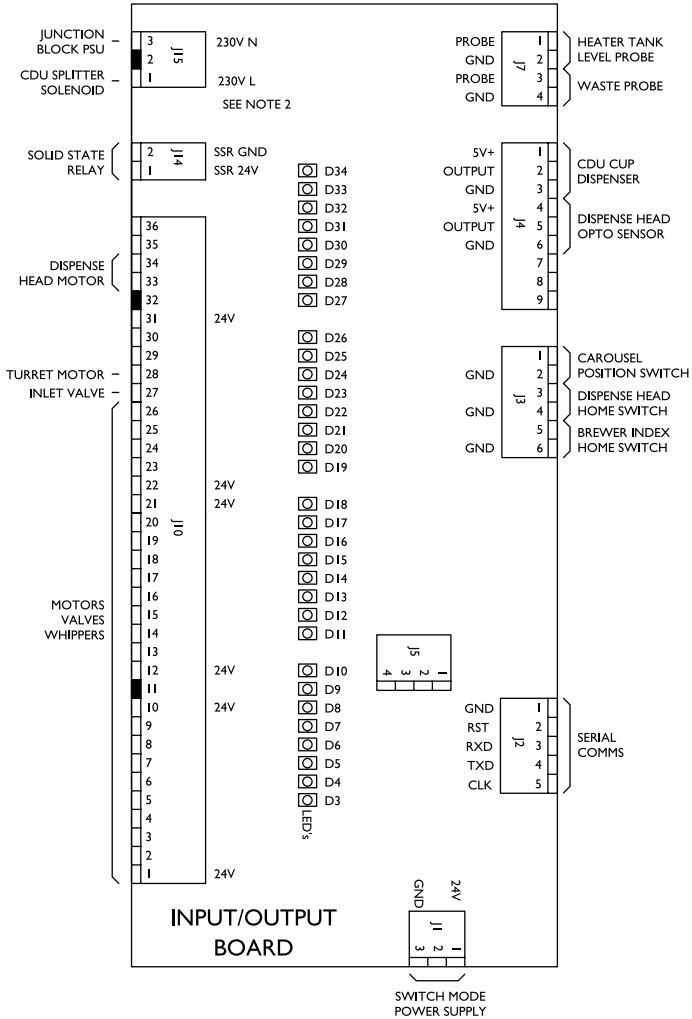
9.6 Output Circuit - Instant Machines



9.7 Input/Output Board - Freshbrew Machines

The Input/Output Board is mounted onto the power supply chassis. This is located on the floor of the machine and can be accessed by removing the lower front panel.

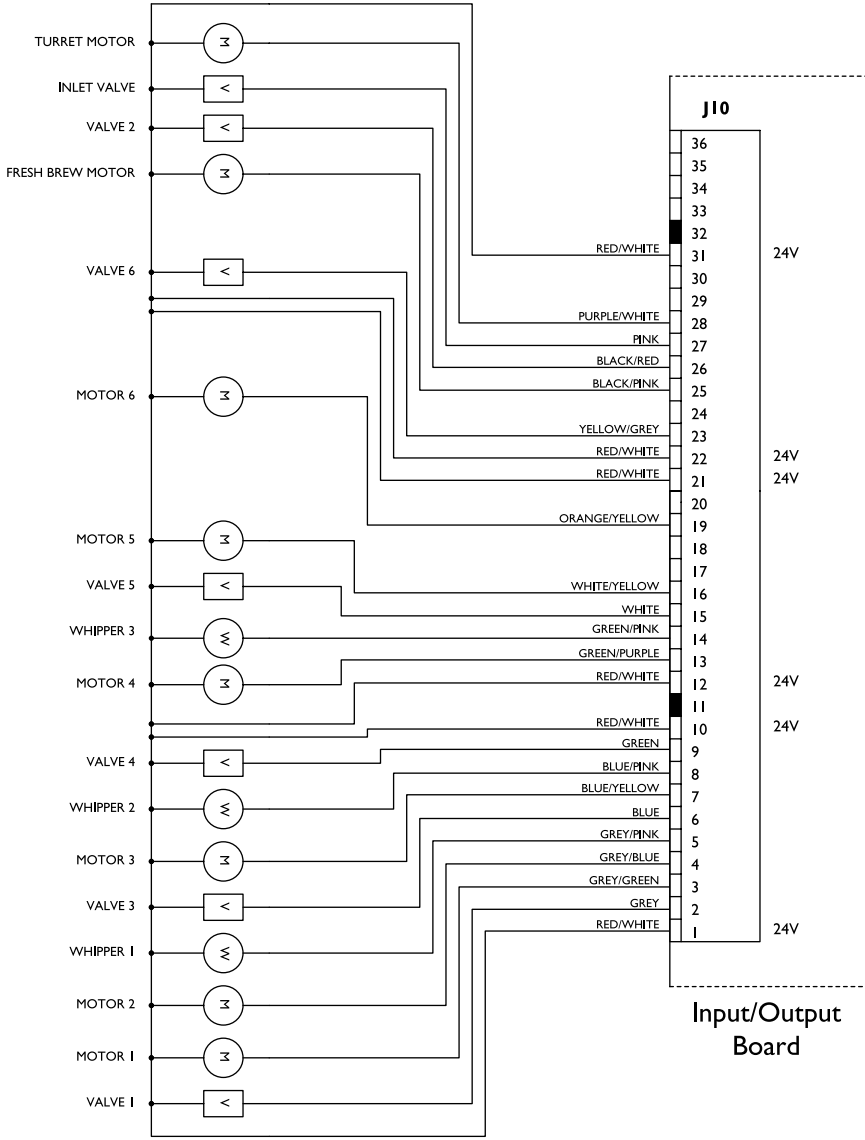
Notes:
At standby (as shown), this is 230v live via the CDU solenoid. The solenoid is energised by switching 230v to neutral



I/O Board LED Reference

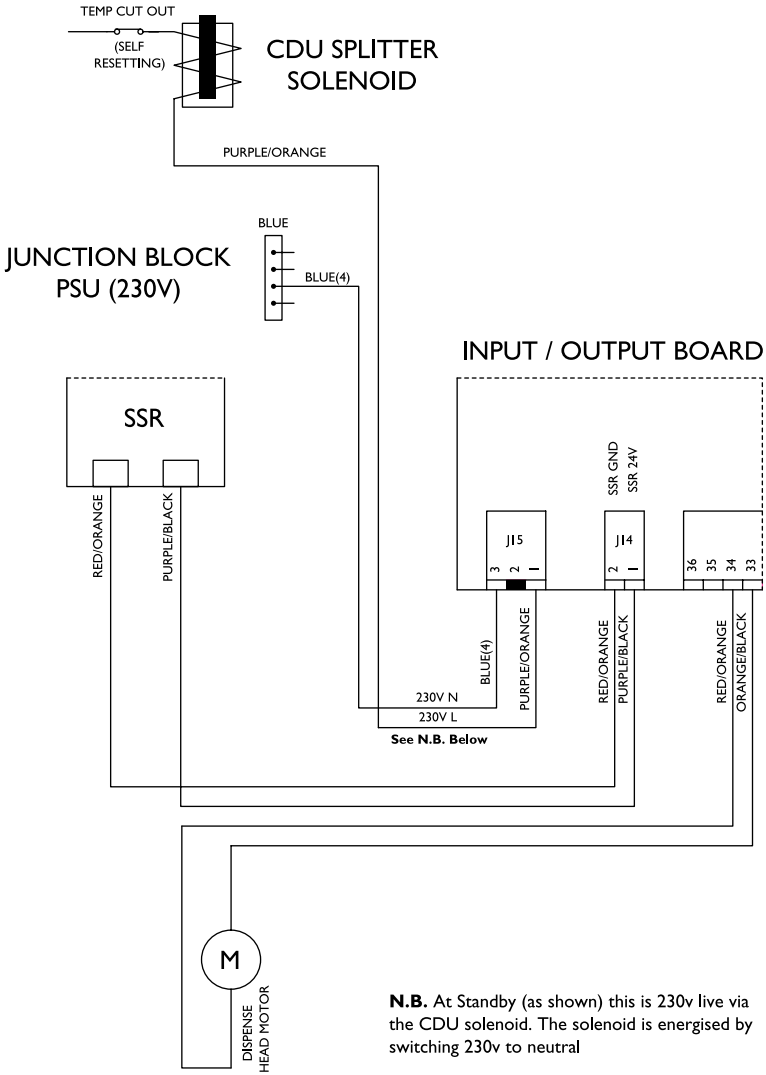
D3 = VALVE 1
D4 = MOTOR 1
D5 = MOTOR 2
D6 = WHIPPER 1
D7 = VALVE 3
D8 = MOTOR 3
D9 = WHIPPER 2
D10 = VALVE 4
D11 = MOTOR 4
D12 = WHIPPER 3
D13 = VALVE 5
D14 = MOTOR 5
D15 =
D16 =
D17 = MOTOR 6
D18 =
D19 =
D20 =
D21 = FRESH BREW MOTOR
D22 = VALVE 2
D23 = INLET VALVE
D24 = TURRET MOTOR
D25 =
D26 =
D27 = DISP HEAD MOTOR OUT
D28 = DISP HEAD MOTOR IN
D29 = DISP HEAD MOTOR ON
D30 =
D31 =
D32 =
D33 = HEATER
D34 = CDU SOLENOID

9.8 Output Circuit - Freshbrew Machines



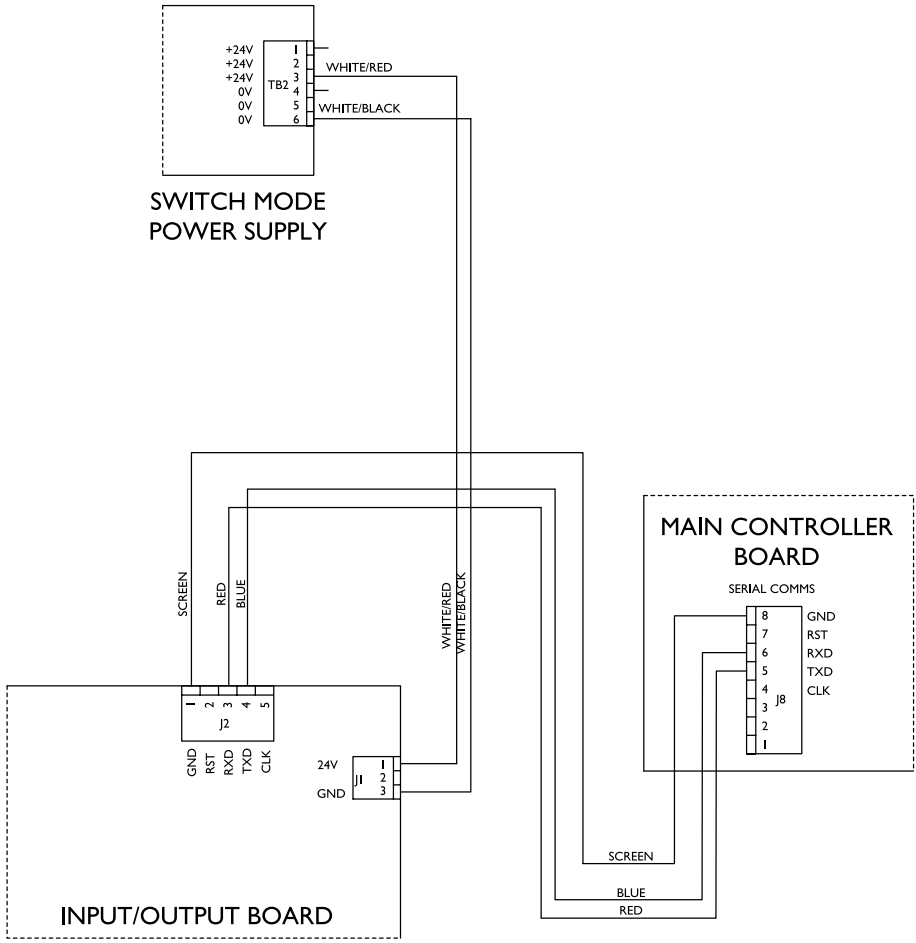
9.9 Input/Output Board Connections - Common 1

The diagram below illustrates the connections between the I/O board and the junction block PSU, CDU cup splitter solenoid, solid state relay and dispense head motor.



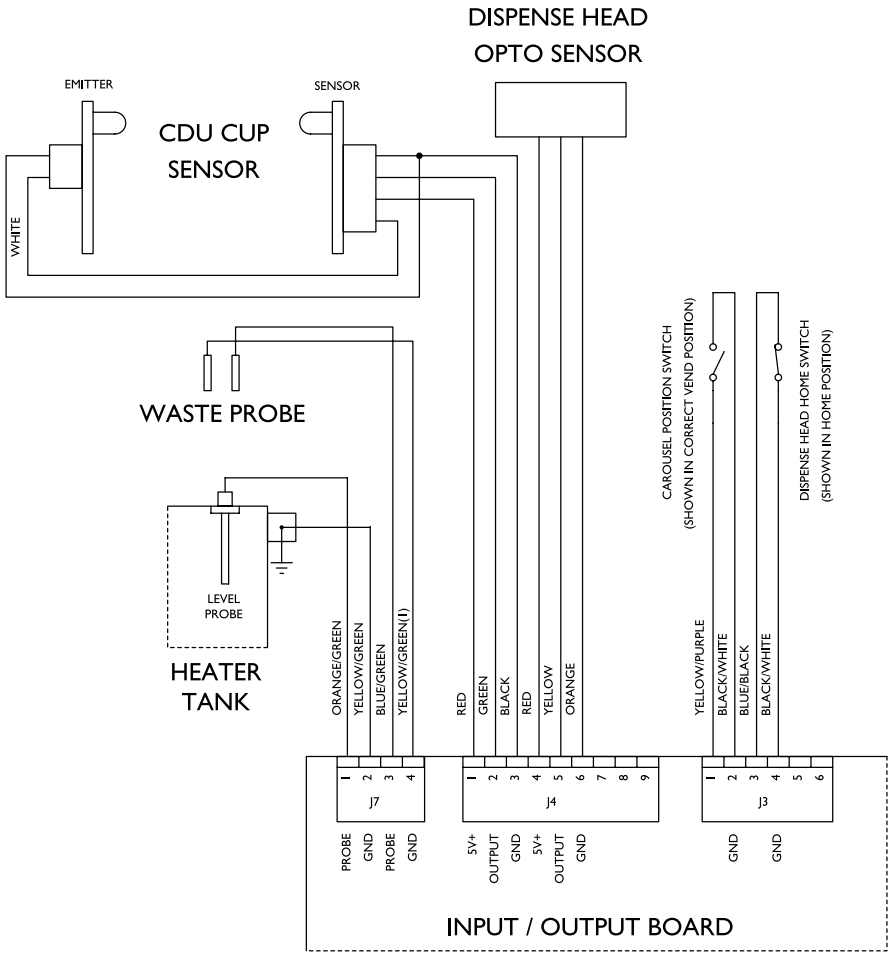
9.10 Input/Output Board Connections - Common 2

The diagram below illustrates the connections between the I/O board and the main controller board serial comms link and switch mode power supply.



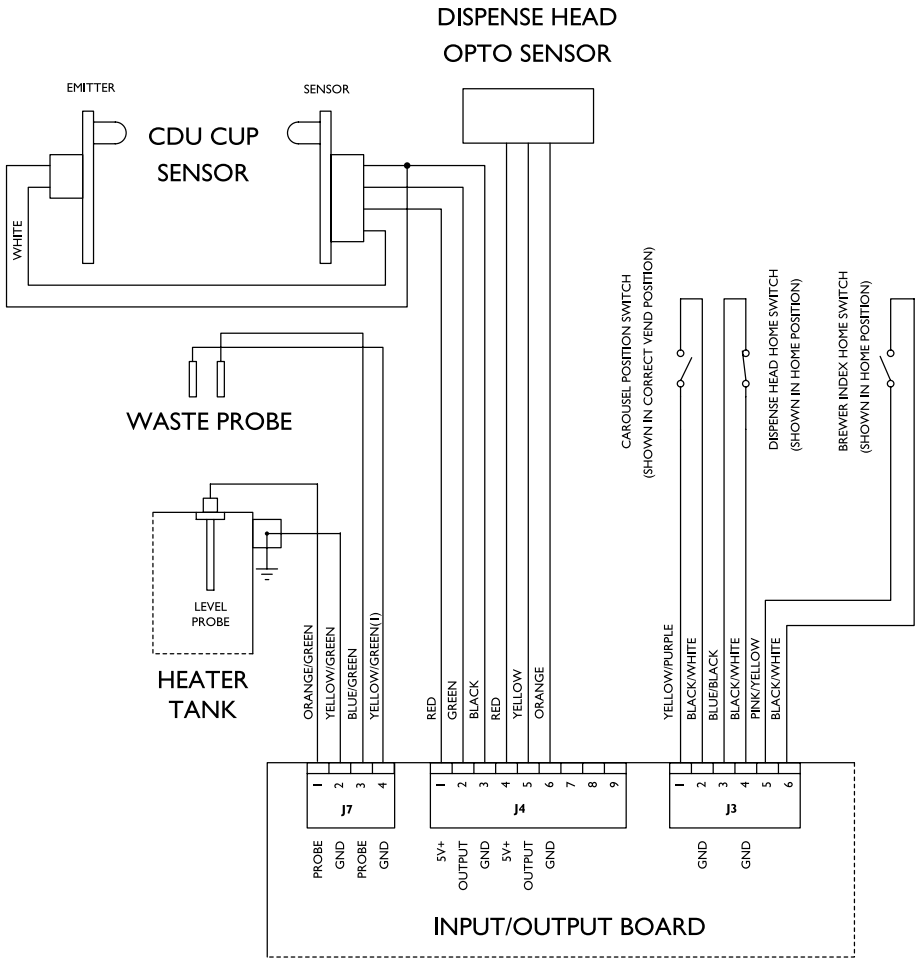
9.10 Input/Output Board Connections - Instant Machines

The diagram below illustrates the connections between the I/O board and the CDU cup sensor, dispense head OPTO sensor, carousel position switch and dispense head home switch.

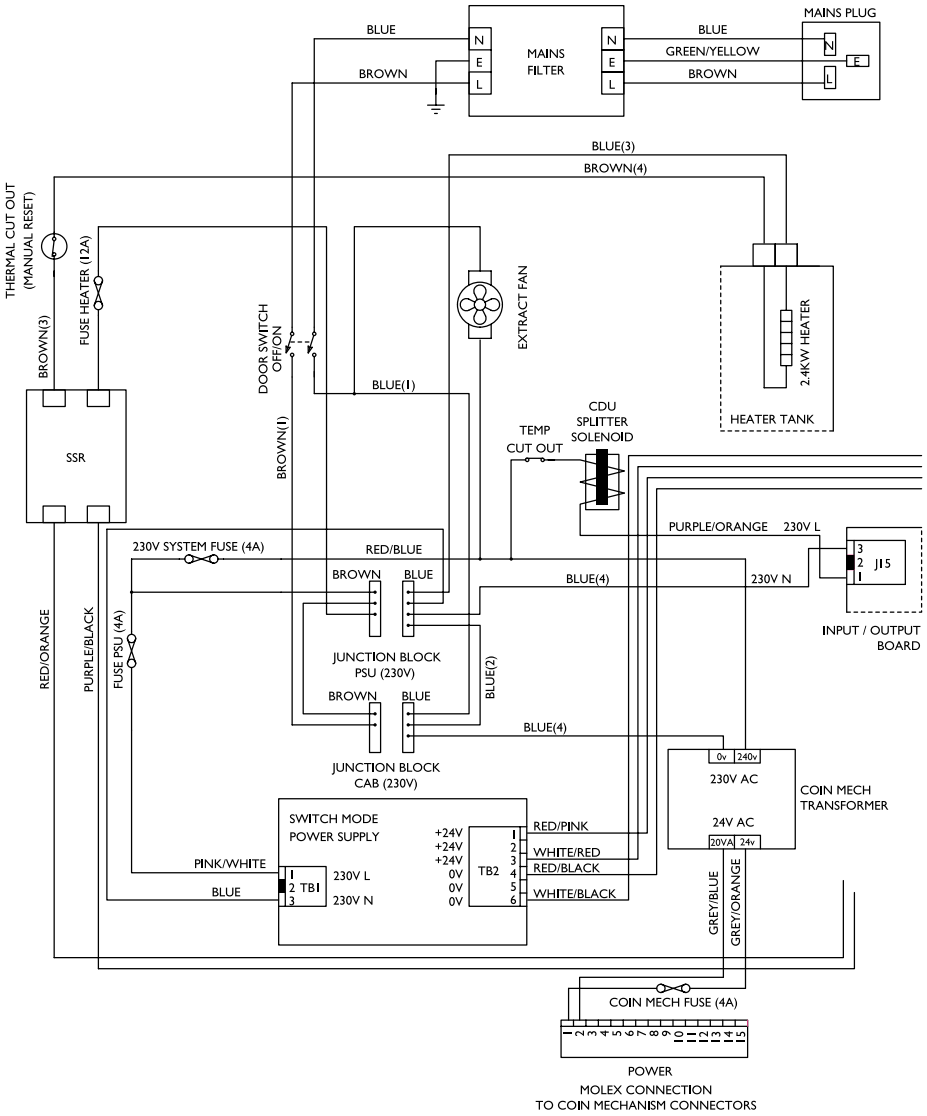


9.11 Input/Output Board Connections - Freshbrew Machines

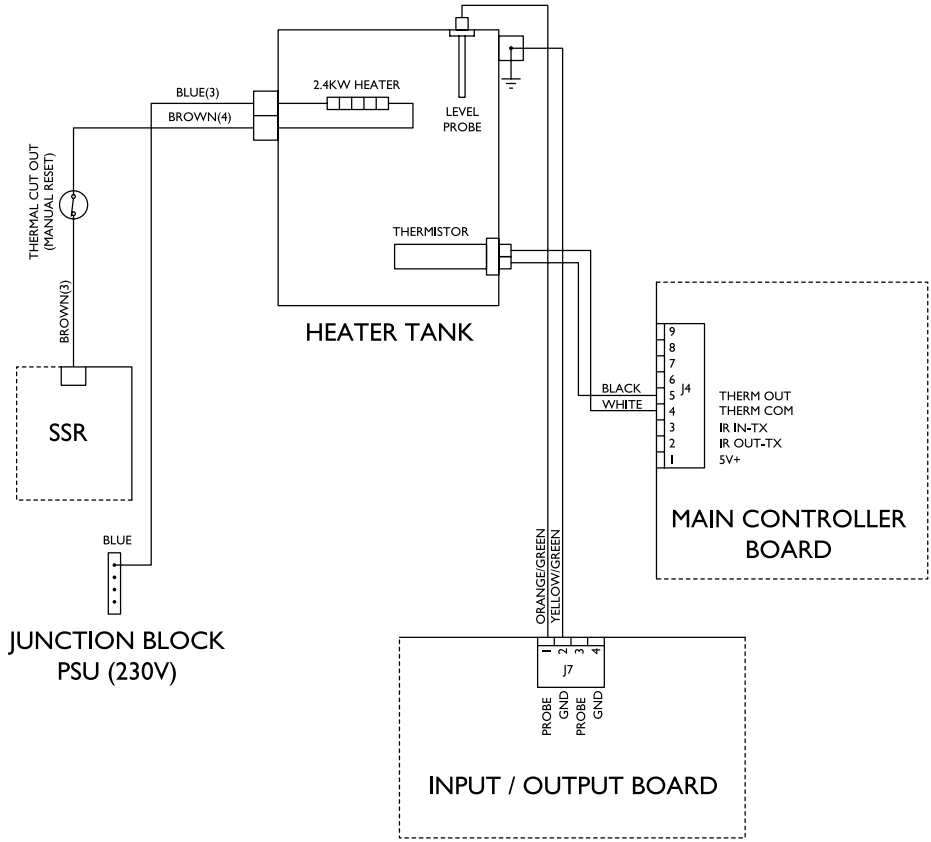
The diagram below illustrates the connections between the I/O board and the CDU cup sensor, dispense head OPTO sensor, carousel position switch, dispense head home switch and brewer index home switch.



9.12 Power Circuit



9.13 Heater Circuit



The water temperature in the heater tank is controlled by a thermistor probe. The thermistor has a variable resistance; when cold it has a high resistance and when hot it has a low resistance.

1. The thermistor probe sits directly in the water and continuously senses the water temperature. The resistance of the thermistor is interpreted by the controller as a temperature reading.

   N.B. The resistance of the thermistor when at ambient (room) temperature should read about 3000 ohms, when hot (96°C) it should read approximately 220 ohms.

2. If the water needs to be heated, a signal from the controller is sent down the Comms. link to the I/O board (heater on signal). The I/O board then switches a 24 volt negative output to the solid state relay (SSR). The solid state relay then switches a 240 volt supply to the heater element. The element then starts to heat up the water.

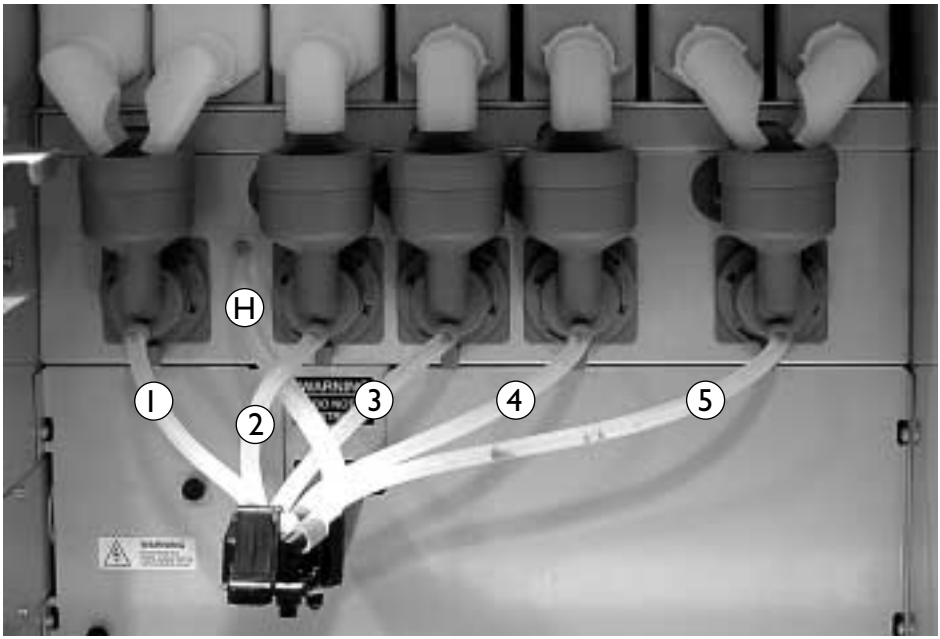
3. This process continues until the water has reached the temperature which has been set in the temperature configuration program.

   N.B. If the water should boil over, a high temperature cut out, positioned in the overflow pipe, should cut off the mains supply to the heater at approximately 90°C within 60 seconds.

4. When the maximum 'set' temperature has been reached the 'heater on signal' is removed from the Comms. link, switching off the 24 volt negative output from the I/O board and switching off the solid state relay and the heater element.

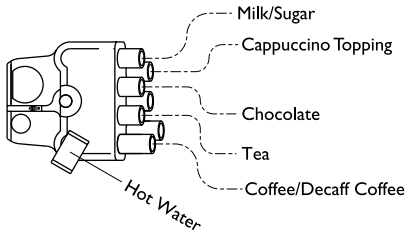
Section 10 - Dispense Pipe Lengths

10.1 Instant Option 1 Machines

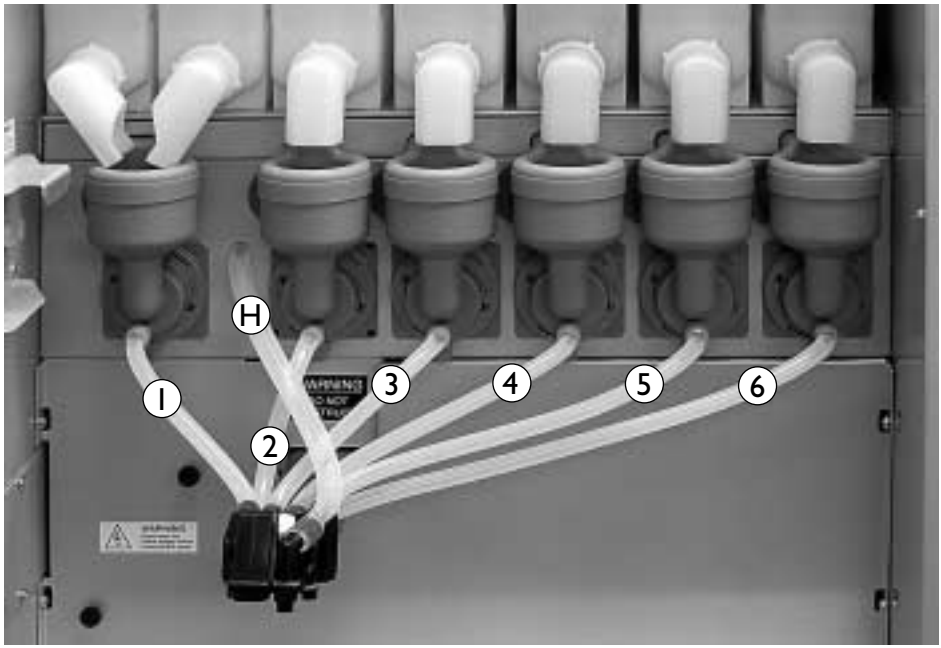


Pipe No	Diameter	Length
1	6 mm I.D. x 10 mm O.D.	170 mm
2	6 mm I.D. x 10 mm O.D.	160 mm
3	6 mm I.D. x 10 mm O.D.	170 mm
4	6 mm I.D. x 10 mm O.D.	210 mm
5	6 mm I.D. x 10 mm O.D.	300 mm

H = Hot Water Dispense Pipe

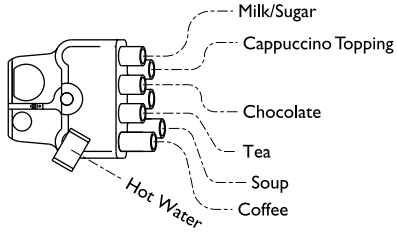


10.2 Instant Option 2 Machines

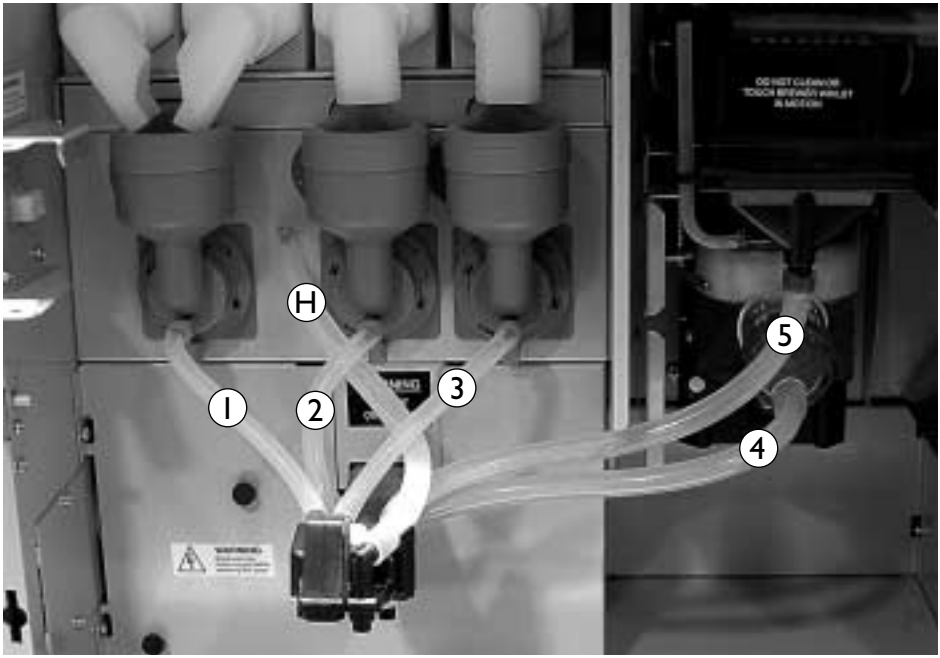


Pipe No	Diameter	Length
1	6 mm I.D. x 10 mm O.D.	170 mm
2	6 mm I.D. x 10 mm O.D.	160 mm
3	6 mm I.D. x 10 mm O.D.	170 mm
4	6 mm I.D. x 10 mm O.D.	210 mm
5	6 mm I.D. x 10 mm O.D.	270 mm
6	6 mm I.D. x 10 mm O.D.	340 mm

H = Hot Water Dispense Pipe

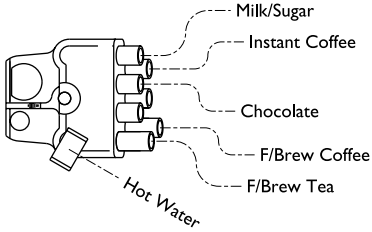


10.3 Freshbrew Machines

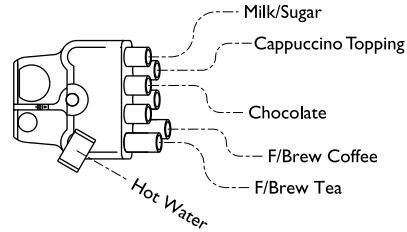


Pipe No	Diameter	Length
1	6 mm I.D. x 10 mm O.D.	170 mm
2	6 mm I.D. x 10 mm O.D.	160 mm
3	6 mm I.D. x 10 mm O.D.	170 mm
4	8 mm I.D. x 13 mm O.D.	250 mm
5	8 mm I.D. x 13 mm O.D.	280 mm

H = Hot Water Dispense Pipe



Freshbrew - Option 1



Freshbrew - Option 2

Section 11 - Diagnostics and Simple Maintenance

11.1 Diagnostics

The following pages list the error messages that may be displayed, diagnostics messages accessed via the engineers program and fault descriptions. For further help and advice please contact the Crane Merchandising Systems Technical Support Helpline on 01249 667323.

Error Message	Diagnostics Screen Text	Fault Description
Sorry Out of Service Head Not Homed	Head Not Homed	Dispense head has not returned to home position in expected time
Sorry Out of Service Head Not Extended	Head Not Extended	Dispense head has not fully extended in the expected time
Sorry Out of Service Waste Tray Full	Waste Tray Full	Waste tray full
Temporarily Out of Service	Init Failed Restart	Machine failed on initialisation
Sorry Out of Service No IO Comm	No IO Comm	Comms error detected between mpu and I/O board
Sorry Out of Service No Selections Available	No Selections Available	No valid selection recipe was found
Temporarily Out Of Service	All Selections Disabled	All drink selections have been disabled
Sorry Out of Service Rinsing	Rinsing	Automatic or manual rinse cycle in progress
Temporarily Out Of Service		Machine searching for cups on power up
Sorry Out of Service Out Of Cups Please Insert Mug	Cup Turret/No Cups ***or*** No Cups/Mug Only	Unable to find cup stack. Cup turret has timed-out on initialisation
Sorry Out of Service No Cups	No Cups and Mug Sensor Failure	Machine is out of cups and mug sensor is faulty
Out Of Cups Please Insert Mug	Mug Only	No cups are available but the mug sensor is working.
Temporarily Out Of Service	No Cup Delivered SV On	Non fatal error detected with SureVend cup mechanism
Temporarily Out Of Service	SureVend Jackpot Non Fatal	SureVend Jackpot error status changed
Sorry Out of Service Mug Sensor - Fatal	Mug Sensor - Fatal	No cups remaining and fault with mug sensor
Sorry Out of Service Please Remove Cup	Mug Sensor Failure SV On	Cup not removed from dispense area after vend completed

Error Message	Diagnostics Screen Text	Fault Description
Sorry Out of Service Please Insert Mug	Mug Only	Problem with CDU (cup jam). No more cups being dispensed
Sorry Out of Service Low Water	Low Water	Low water level in heater tank
Sorry Out of Service Water Tank Heating	Water Tank Heating	Water in the heater tank is below the minimum vend temperature
Sorry Out of Service Fill Timeout	Fill Timeout	Machine has been filling for 2 minutes and not reached optimum level.
Sorry Out of Service Temp Probe Fault	Invalid Temperature Ref	The temperature device is disconnected or faulty
Sorry Out of Service Brewer Jam	Brewer Jam	Brewer has not moved from its home position and may be jammed
Sorry Out of Service Brewer Not Homed	Brewer Not Homed	Brewer has not returned to its home position and may be jammed
Sorry Out of Service Coin Mech Comm	Coin Mech Comm	Communication error detected between monetary device and machine
Sorry Out of Service No Monetary Device	No Monetary Device	Machine is configured for an incorrect monetary device, or the device is not responding
Temporarily Out Of Service	Coin Mech ROM	MDB coin mech ROM checksum test failed (fatal error)
Temporarily Out Of Service	Coin Mech Accept Unplugged	MDB coin mech is unplugged or faulty
Temporarily Out Of Service	Coin Mech Accept Jam	Coin jam detected in coin acceptor
Temporarily Out Of Service	Coin Mech Payout Jam	Coin jam detected in coin tube
Temporarily Out Of Service	Coin Mech Tube Sensor	Coin tube sensor fault detected
Temporarily Out Of Service	Coin Mech All Tubes Err	No useable coin tubes. Machine unable to pay out
Temporarily Out Of Service	Coin Mech Tube Err	Problem with coin tube. Tube indicates full, but coin count is zero
Temporarily Out Of Service	Card Reader Comm	Fatal error. Cannot communicate with the card reader
Temporarily Out Of Service	Single Card Reader Error	Transient error with card reader, but card reader in service. Unable to communicate with the card reader
Temporarily Out Of Service	Card Reader Requests Servicing	Card reader needs servicing

Error Message	Diagnostics Screen Text	Fault Description
Temporarily Out Of Service	Card Reader Reports A Comm Error	Repeatable error with card reader, but card reader in service. Unable to communicate with card reader
Temporarily Out Of Service	Card Reader Error	Problem with card reader. Manufacturing error detected
Temporarily Out Of Service	Card Reader Failed OOS Err	Card reader is out of service
Temporarily Out Of Service	Card Reader Reports Comm Error & is OOS	Comm error with card reader. Out of service
Temporarily Out Of Service	Card Jammed in Card Reader	Card Jam
Temporarily Out Of Service	Card Reader Failure	Problem with card reader. Manufacturing error detected
Temporarily Out Of Service	Bill Validator Comm	Unable to communicate with the bill validator
Temporarily Out Of Service	Bill Validator Motor	Bill validator motor defective
Temporarily Out Of Service	Bill Validator Sensor	Bill validator sensor defective
Temporarily Out Of Service	Bill Validator ROM	Checksum test failed on bill validator ROM
Temporarily Out Of Service	Bill Validator Accept Jam	Bill validator jammed
Temporarily Out Of Service	Bill Validator Stacker is open	Cash box not present
Temporarily Out Of Service	Bill Validator Stacker is full	Bill stacker is full

11.2 Heater Tank De-Scale Procedure

To maintain correct water levels and water temperature the heater tank must be inspected regularly and, if necessary, be de-scaled. To ensure long and trouble-free operation, Crane Merchandising Systems recommend that all machines have a water filter fitted. We recommend and supply the **Brita AquaQuell Compact** water filter.

There are a number of ways of de-scaling the heater tank. The tank can be removed and scraped out with a blunt tool but it can also be left inside the machine and a de-scaling agent introduced into the tank. This eliminates the need to remove the thermistor, water level probe and all the outlet valves from the tank, saving time and money.

N.B. Always remember to fit a new water filter and boiler seal after de-scaling.

Use the following steps as a guideline only and always refer to the instructions supplied with the de-scaling agents regarding dosage and de-scaling time.

1. Switch ***off*** the machine and open the door. Remove all canisters and back covers.

2. Using the drain hose fitted to the tank, remove the bung and drain the water from the heater into a suitable water tight container.

Safety First! Allow the water in the tank to cool before draining.

3. Once all of the water has drained from the tank, replace the bung into the drain hose. Introduce the de-scaling solution in the recommended dosage into the heater tank.

4. Switch ***on*** the machine and allow the heater tank to fill.

5. Turn ***off*** the machine and leave for approximately 40 minutes before draining the tank again following the sequence described above.

6. Fit a new water filter and switch ***on*** the machine. Fill the tank and drain again until all traces of the de-scaler are removed (at least 3 times).

7. Switch ***on*** the machine and allow the heater tank to fill and to heat up. Drain and fill one more time. The machine is now ready to be put back in service.

11.3 Brewer Maintenance - Freshbrew Machines Only

Freshbrew machines are fitted with a dual brewer unit which produces freshbrew coffee and tea beverages from the same unit. Routine cleaning and maintenance instructions for this unit can be found in the Genesis Operators Manual - Part No. PR1035000.

1. Removing The Brewer

Periodically it may be necessary to remove the brewer from the machine.

1. Open the door and insert the safety key. The machine is now ***on***.

2. Using the service keypad mounted inside the door (see page 45), press switch 2 (brewer open). The brewer will index to its fully open position and stop. Remove the safety key to turn the power off. Remove the brewer guard to gain access to the brewer unit.

3. Carefully remove both the coffee and tea water inlet pipes from the brewer. Remove the dispense pipe from the tea brewer and dispense pipe complete with

outlet adaptor from the coffee brewer. Pull down the spring loaded brewer release pin and carefully remove the brewer unit from its locating bracket.

2. Removing The Filter Mesh Assemblies

Both the coffee brewer and tea brewer contain fine screen mesh assemblies which ensure coffee and tea vends are produced to the highest standards. To remove the mesh assemblies, proceed as follows:

1. Remove the brewer unit from the machine as previously described and place on a flat surface. Lift the latch bar and remove the brewer chambers/wipe arms assembly.

2. **Removing the coffee filter mesh:** Using the coffee filter extractor tool, part no. ME10385000, insert the tool into the output spout of the coffee brewer chamber with the tip pointing upwards.

3. With the tool to the rear of the chamber, gently push up on the rear of the filter assembly to unseat it. Remove the filter assembly from the brewer.

4. **Removing the tea filter mesh:** Using a small flat bladed screwdriver or similar, insert the tool up through the tea outlet and carefully push the filter assembly up and out of its location.

5. If necessary, soak the filter mesh assemblies in a correctly diluted cleaning solution for a maximum of 30 minutes. Rinse the filters with clean water before refitting to the brewer unit.

6. Replacement filters are available from the manufacturer.
   Coffee Filter - Part No. PL07155000
   Tea Filter - Part No. ME1038000

3. Refitting The Filter Mesh Assemblies

The following description applies to both the coffee and tea filter assemblies.

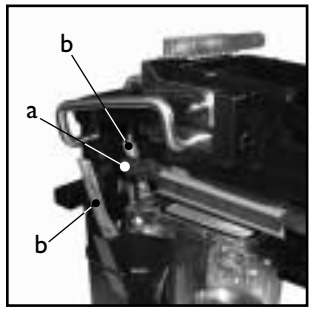
1. Ensuring that the gauze screen is to the top, align the filter assembly with its locating position above the brewer chamber. Ensure that the locating lip on the filter assembly lines up with its corresponding slot in the chamber.

2. Push down on the filter assembly to secure it in its locating position.

4. Re-assembling The Brewer To The Machine

1. Carefully slide the brewer chamber/wipe arms assembly into the brewer unit.

   Important: The wiper arm lug (a) must be located between the stainless steel arms (b) as shown.



2. Line up the brewer unit with its mounting bracket ensuring that the drive shaft correctly engages with the brewer motor drive dog. Push the brewer unit into place and secure with the sprung pin.

3. Refit the coffee dispense pipe/outlet adaptor to the coffee brewer outlet and the tea dispense pipe to the tea brewer outlet. Re-assemble the coffee and tea water inlet pipes to their locating brackets.

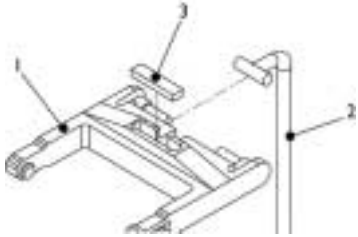
4. Refit the brewer guard and close the front door of the machine. The machine will power up and the brewer will index to its home position.

5. Brew Chamber Tension Adjustment

If a leak develops between the brew chamber and the filter screen assembly during a brew cycle, it may be necessary to adjust the brew chamber tension arm. The leaking is an indication that the brew chamber is not closing correctly. Proceed as follows:

1. Open the door and insert the door switch safety key. The machine is now ***on***. Press the **Brewer Open** switch (2) located in the service keypad on the rear of the door. The brewer will index to its fully open position and stop. Remove the safety key.

2. Lift the latch bar and remove the brewer chambers/wipe arms assembly. Push down on the 'H' frame (1) and remove the T-bar (2) from the recess. Add one full shim or half shim (3) into the recess and replace the T-bar.



   Important: Do not add several shims at once as assembly may become over tensioned, causing damage to the brewer bearings and vertical rod housings.

3. Re-install the brew chambers/wipe arms assembly into the brewer unit. Insert the door switch safety key and allow the machine to power up. Test vend several freshbrew drinks through the brewer to ensure that the brew chambers assembly

closes correctly and does not leak.

N.B. In most cases this procedure is enough to stop the leaking. Should the brewer still leak, repeat the above procedure, adding one more shim. If the problem still persists, remove all of the shims and turn the T-bar one complete revolution clockwise. Re-insert the T-bar into the H frame and test vend as above.

4. If the tension is adjusted correctly but the brewer is still leaking, do not increase the brew chamber tension further. Check the brewer to ensure there is no loss of vacuum, usually caused by a cracked, worn or scored cylinder, or a worn teflon piston seal.

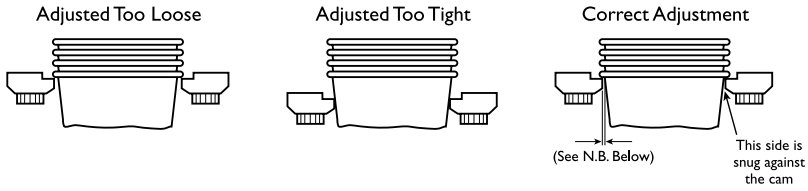
11.4 Adjusting The Cup Drop Mechanism

When changing the type or size of cup vended from the machine, it may also be necessary to adjust the cup drop mechanism to accommodate the new cups.

Proceed as follows:

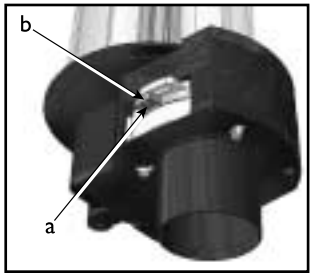
1. Open the front door and swing the cup turret assembly out of the machine. Carefully lift and remove the four transparent cup sleeves from the cup drop unit. Discard any cups that may be left over.

2. Place a minimum of 4 new cups into the cup splitter. Observe the clearance as shown in the illustration below.



N.B. Clearance indicated in Correct Adjustment diagram should be no more than half the diameter of the cup lip (maximum) but just enough to allow for smooth cup ejection.

3. If necessary adjust the cup ring to obtain the clearance as shown. Loosen the adjustment arm screw (a) and move the adjustment arm (b) until the correct clearance is achieved. Hold adjustment arm in place and retighten the adjustment screw.



N.B. Move the arm clockwise if adjusting for larger diameter cups and anti-clockwise for smaller cups.

4. Switch ***on*** the power to the machine using the door switch safety key. Using the service keypad located in the rear of the door, press the cup test switch (7) and check that a cup is ejected correctly. Repeat this test several times to confirm that the mechanism is functioning correctly.

5. Refit the transparent cup sleeves to the cup drop mechanism ensuring that the flat on the turret motor lines up with the flat in the turret spigot moulding. Fill the cup sleeves with cups. DO NOT touch cups with your hands. Allow the cups to drop into the cup sleeves directly from the packaging.

6. Rotate the cup turret assembly back into its operating position, ensuring that the unit 'locks' into place. Remove the safety key and close the door.

Section 12 - Spare Parts

The following section details the spare parts that are available for the Genesis. Use of these components when servicing or repairing the machine will significantly increase the working life of the machine.

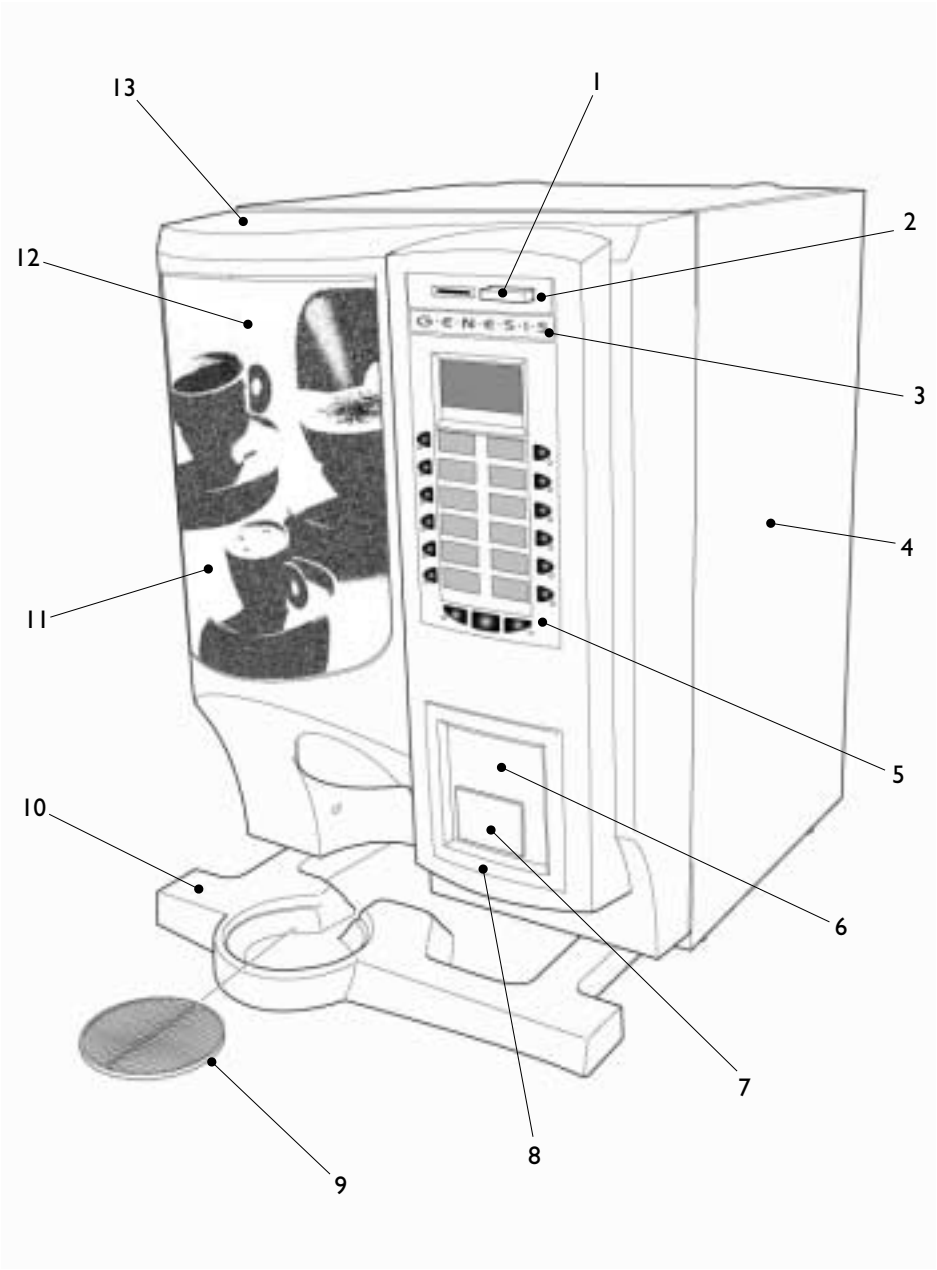
For all spare parts sales and enquiries:

Telephone: 01249 667321

Fax: 01249 461508

Email: spares@cranems.co.uk

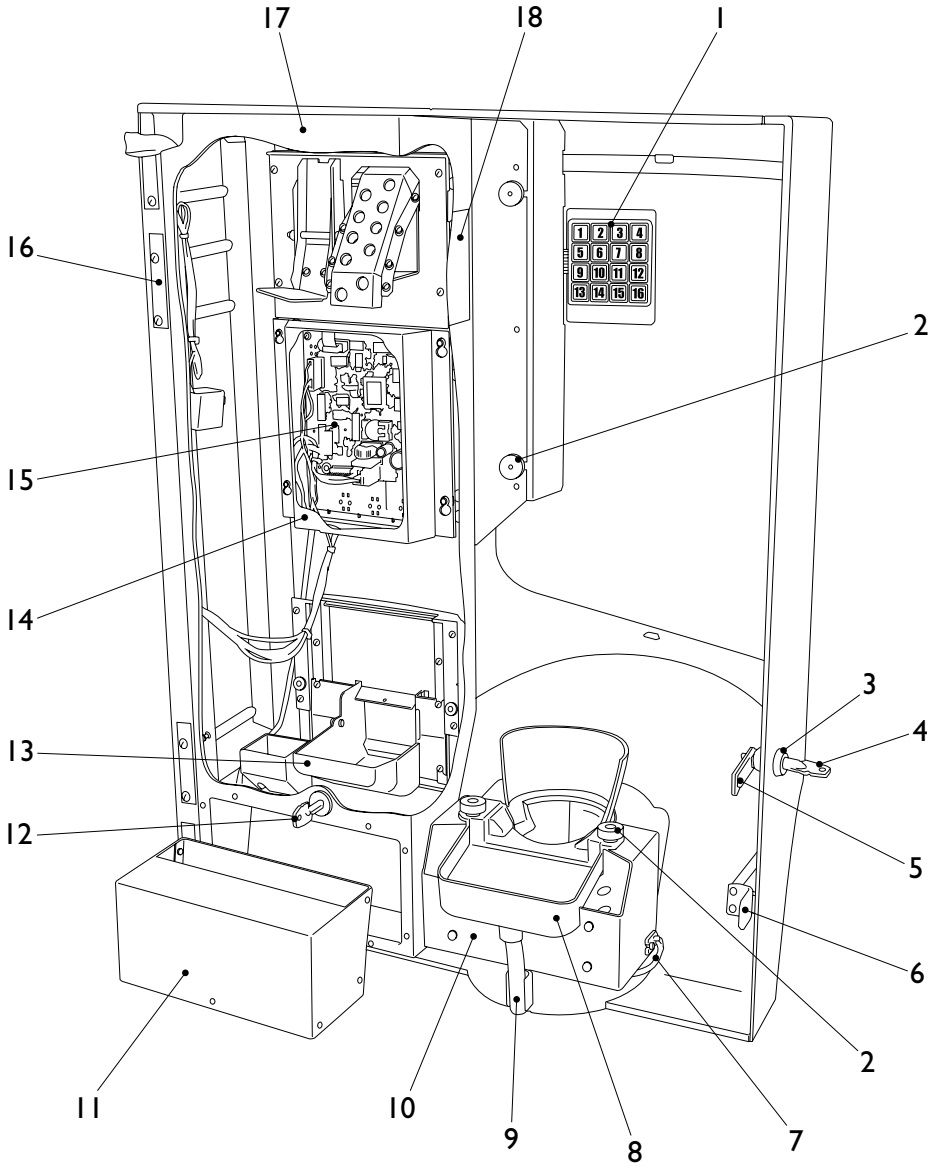
Exterior View



Exterior View

Ref No.	Part No.	Item Description
1	PL10005250	Coin Reject Button
2	(a) PL10003250	Coin Entry Moulding
	(b) PL10004250	Blank Moulding - Free Vend
3	PR10224000	Genesis Name Badge
4	(a) MT10091000	Side Panel - L.H.
	(b) MT10092000	Side Panel - R.H.
5		Console Assembly - See Page 97
6	(a) MT10168250	Coin Return Plate
	(b) MT10178250	Blank Plate - Free Vend
	(c) MT10353250	Digicard Mounting Plate
	(d) MT10359250	Fage Giotto Mounting Plate
	(e) MT10179250	Girovend Sapphire Mounting Plate
	(f) MT10361250	Mars Smartcard Mounting Plate
	(g) MT10180250	VMC Mounting Plate
	(h) MT10360250	Zip Mounting Plate
7	MT10169250	Coin Return Flap
8	PL10007250	Coin Return Moulding
9	PL10014000	Waste Tray Grille
10	PL10008000	Waste Tray
11	PL10010000	Graphic Panel Cover - Transparent
12	(a) GR10240000	Graphic Panel - Aqua Blue
	(b) GR10241000	Graphic panel - Slate Red
13	PL10001310	Door Moulding

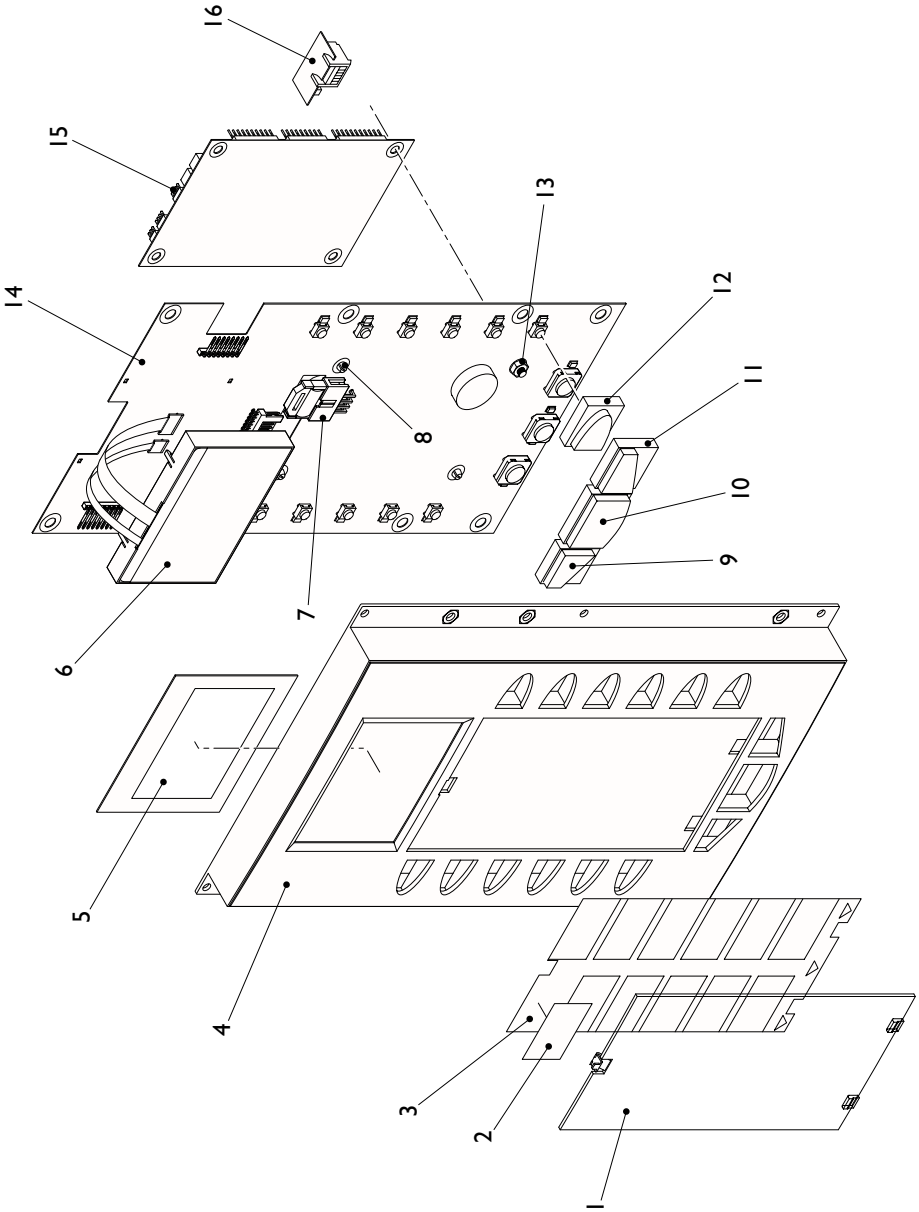
Door Interior



Door Interior

Ref No.	Part No.	Item Description
1	EL10025000	Service Keypad
2	FA01416000	Knurled Thumb Nut - M5
3	ME02857000	Door lock
4	ME00933000	Key - No. 2101
5	MT05222000	Door Lock Cam
6	MT07119000	Door Switch Actuator
7	PH10264000	SureVend Cup Sensor Harness
8	(a) PH04863000	Cup Catcher Moulding - Squat Cup
	(b) PH04864000	Cup Catcher Moulding - Tall Cup
9	SI01142960	Silicon Pipe
10	MT10177000	Cup Chute Mounting Bracket
11	MT10172000	Cashbox
12	(a) ME01859000	Cashbox Lock
	(b) MT06635000	Cashbox Lock Cam
	(c) ME03333000	Cashbox Key - No. 300245B
13	PL10006000	Coin Return Bowl Moulding
14	MT10175000	Control Board Cover
15		Control Board - See Page 97
16	WO07022000	Door Hinge
17	(a) MT10389000	Inner Door Assembly - Coin Mech.
	(b) MT10181000	Inner Door Assembly - Free vend/Cashless
18	(a) PR10239000	Internal Decal Set - English
	(b) PR10311000	Internal Decal set - German
	(c) PR10313000	Internal Decal set - French

Console Assembly

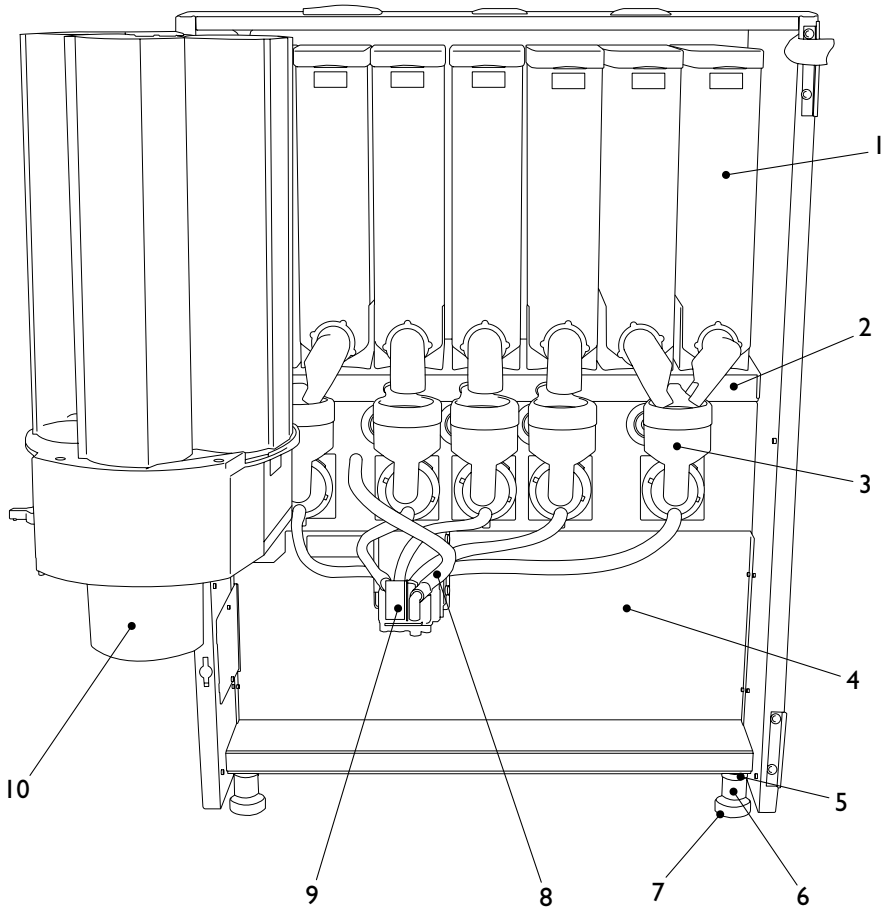


Console Assembly

Ref No.	Part No.	Item Description
1	PL10011000	Selection Cover Moulding - Transparent
2	(a) PR10233000	Selection Decals - English
	(b) PR10234000	Price Decal Sheet - U.K.
	(c) PR10235000	Price Decal Sheet - Euro's
3	(a) GR10236000	Selection Backer - Aqua Blue
	(b) GR10237000	Selection Backer - Slate Red
4	PL10002250	Console Moulding
5	PL10040000	LCD Cover
6	EL10024000	LCD Display
7	LO10225000	Link Loom Console (To MPU PCB)
8	FA10222000	PCB Stand Off
9	PL10031000	Milk Selection Button
10	PL10032000	Start Button
11	PL10033000	Sugar Selection Button
12	PL10012000	Selection Button
13	(a) FA10223000	PCB Mount - Brass
	(b) FA01506000	Nut - M4
14	EL10039000	Console PCB
15	EL10256000	Genesis MPU PCB
16	EL10266000	Executive Interface PCB*

* Required if Executive protocol coin mechanism or cashless system is fitted

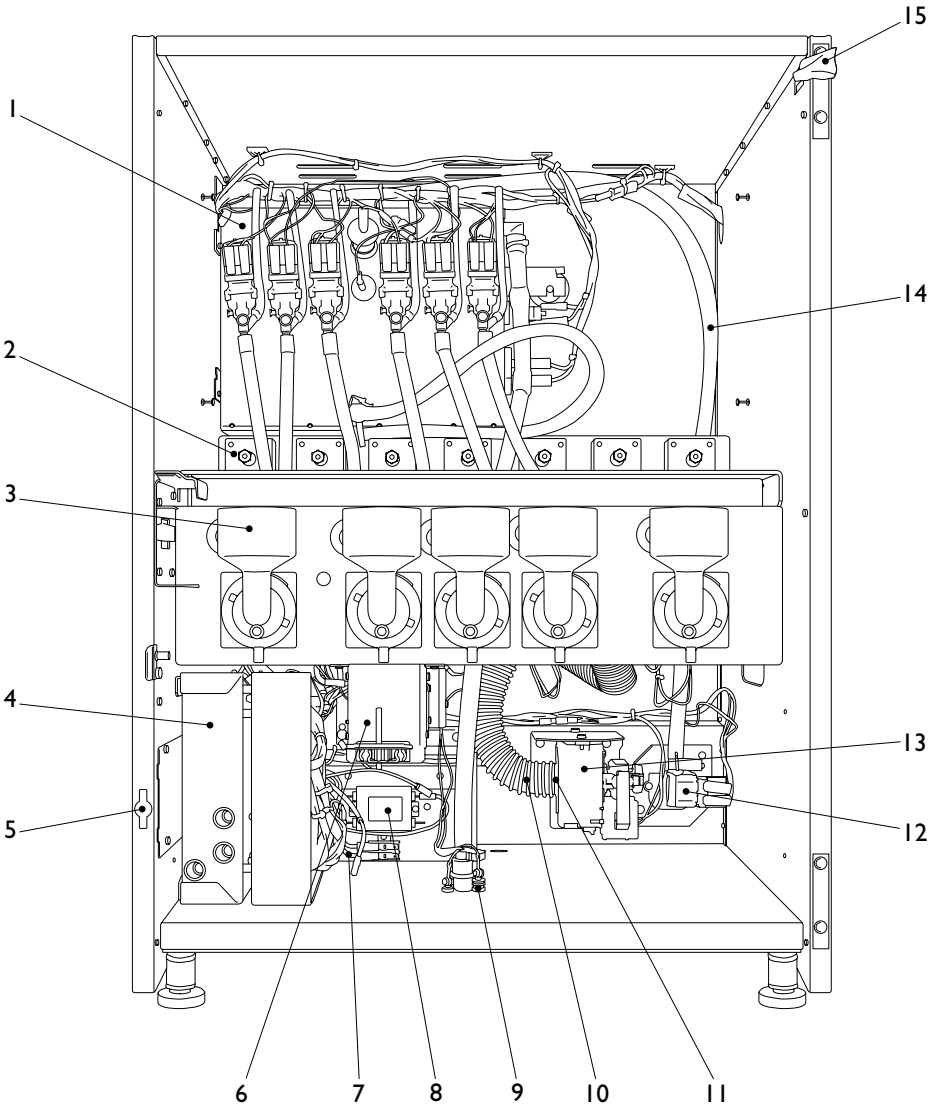
Interior View - Instant Machines



Interior View - Instant Machines

Ref No.	Part No.	Item Description
1		Tall Canister Assembly - See Page 109
2	(a) MT10076250	Extract Tray - Five Whippers
	(b) MT10075250	Extract Tray - Six Whippers
3		Mixing System - See Page 119
4	MT10078000	Cover Panel - Lower
5	FA10255000	Washer - M10
6	FA07112000	Spacer - M10 x 20
7	ME05281001	Foot - M10 x 45
8	SI01171960	Silicon Pipe - Hot Water
9		Dispense Head Assembly - See Page 115
10		Cup Drop Assembly - See Page 107

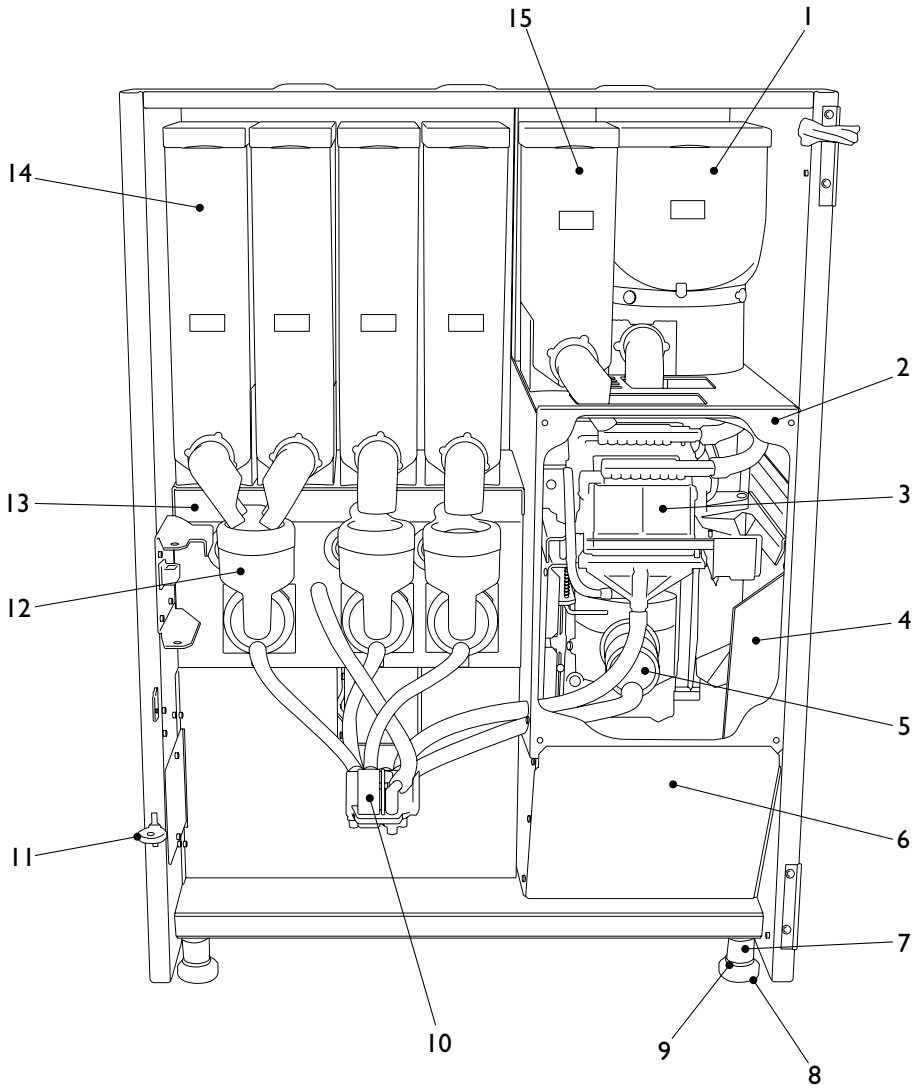
Interior View - Instant Machines (Covers Removed)



Interior View - Instant Machines (Covers Removed)

Ref No.	Part No.	Item Description
1		Boiler Assembly - See Page 117
2	(a) MO10151000	Ingredient Motor, 24v DC - 90 rpm
	(b) MO10152000	Ingredient Motor, 24v DC - 130 rpm
3		Mixing System - See Page 119
4		Power Supply Assembly - See Page 121
5	EL01157000	Door Interlock Switch
6		Dispense Head Assembly - See Page 115
7	LO10113000	Loom 240v Power
8	(a) EL01154000	Mains Filter
	(b) EL10193000	Connector Block
	(c) EL10194000	End Plate
	(d) MT10106000	Filter Mounting Bracket
9	(a) FA05209000	Grommet - Red Silicone
	(b) FA05208000	Float Detector Spring
10	HO01139000	Hose
11	PL03083000	Hose Adaptor
12	(a) VA10147000	Inlet Valve 24v DC
	(b) HO02445000	Hose c/w Non-Return Valve
13	ME10182000	Extract Fan
14	HO06632000	Aquavend 10 Hose - 1 Metre
15	LO10111000	Main Loom

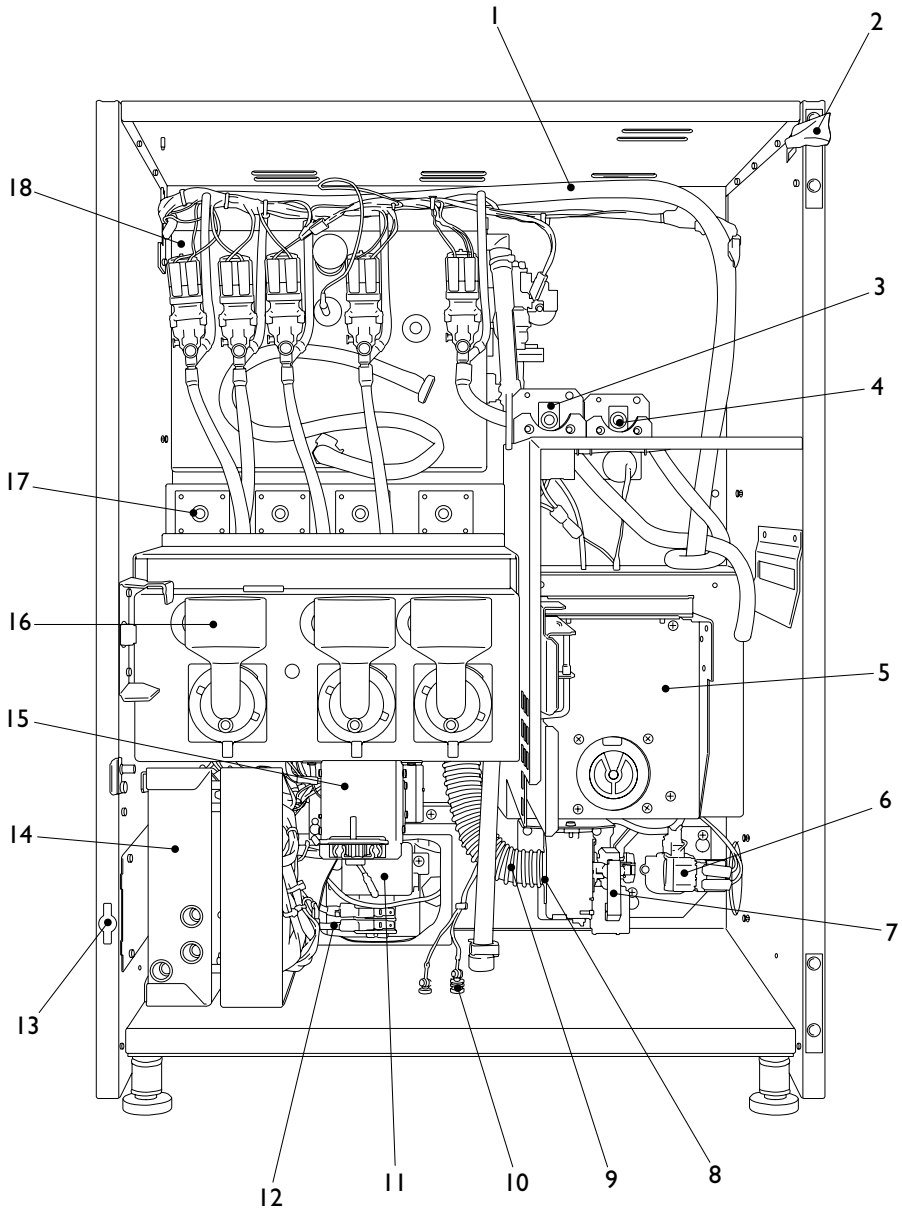
Interior View - Freshbrew Machines



Interior View - Freshbrew Machines

Ref No.	Part No.	Item Description
1		Freshbrew Coffee Canister - See Page 113
2	MT10090000	Brewer Cover
3	(a) ME01002200	Double Freshbrew Brewer
	(b) ME07000000	Single Freshbrew Brewer
4	MT10110000	Brewer Side Tray
5	SA06075000	Outlet Adaptor Kit
6	PL10280000	Freshbrew Waste Container
7	FA07112000	Spacer - M10 x 20
8	ME05281001	Foot - M10 x 45
9	FA10255000	Washer - M10
10		Dispense Head Assembly - See Page 115
11	PL06334000	Safety Key
12		Mixing System - See Page 119
13	MT10083000	Extract Tray - Freshbrew
14		Tall Canister Assembly - See Page 109
15		Freshbrew Tea Canister - See Page 111

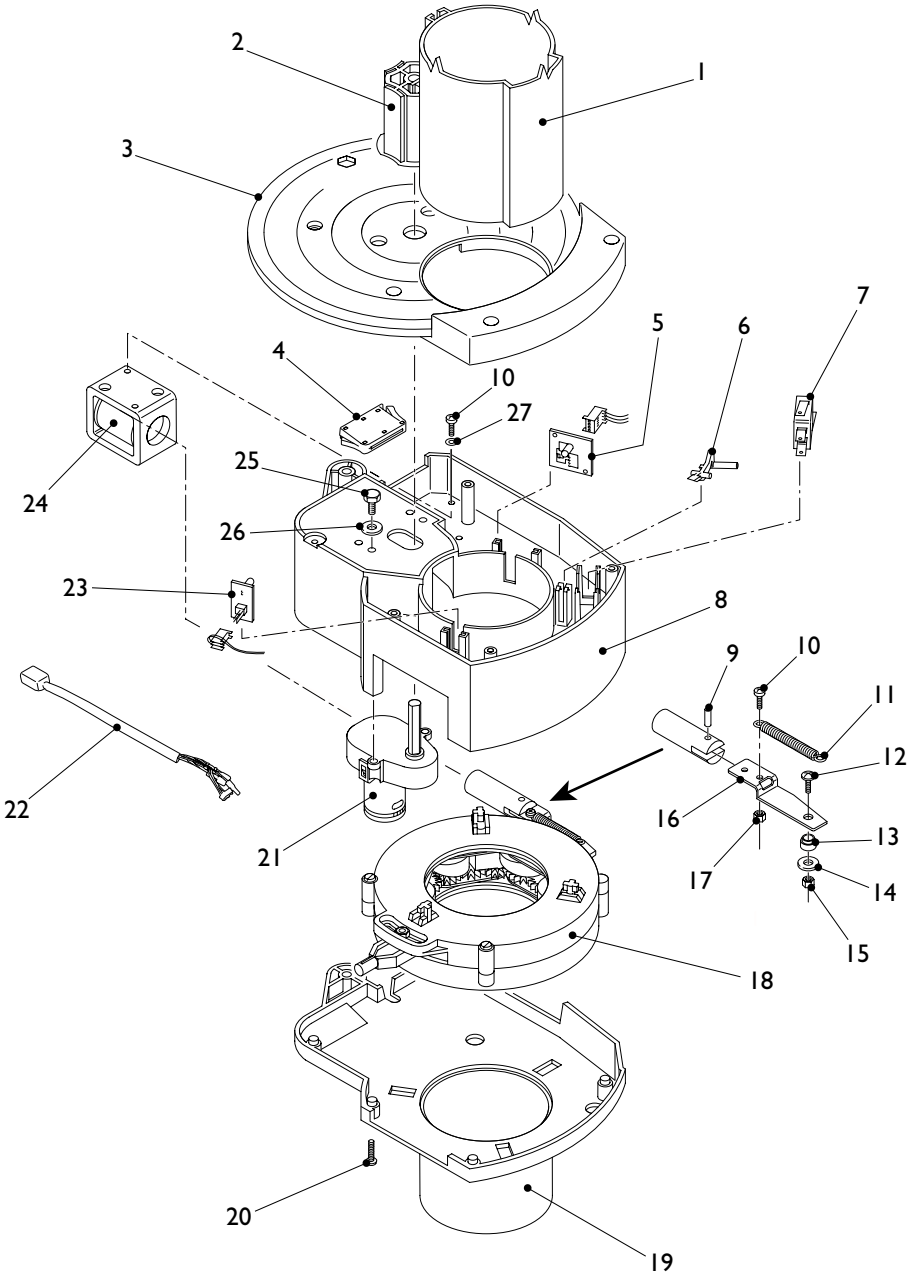
Interior View - Freshbrew Machines (Covers Removed)



Interior View - Freshbrew Machines (Covers Removed)

Ref No.	Part No.	Item Description
1	HO06632000	Inlet Hose - Aquavend 10
2	LO10111000	Main Loom
3	MO10151000	Motor - 90 rpm, 24v DC (F/B Tea)
4	MO10265000	Motor - 90 rpm, 24v DC (F/B Coffee)
5		Brewer Motor assembly - See Page 123
6	(a) VA10147000	Inlet Valve, 24v DC
	(b) HO02445000	Hose c/w Non-Return Valve
7	ME10182000	Extract Fan
8	PL03083000	Hose Adaptor
9	HO01139000	Hose
10	(a) FA05209000	Grommet - Red Silicone
	(b) FA05208000	Float Detector Spring
11	(a) EL01154000	Mains Filter
	(b) EL10193000	Connector Block
	(c) EL10194000	End Plate
	(d) MT10106000	Filter Mounting Bracket
12	LO10113000	Loom 240v Power
13	EL01157000	Door Interlock Switch
14		Power Supply Assembly - See Page 121
15		Dispense Head Assembly - See Page 115
16		Mixing System - See Page 119
17	(a) MO10151000	Ingredient Motor, 24v DC - 90 rpm
	(b) MO10152000	Ingredient Motor, 24v DC - 130 rpm
18		Boiler Assembly - See Page 117

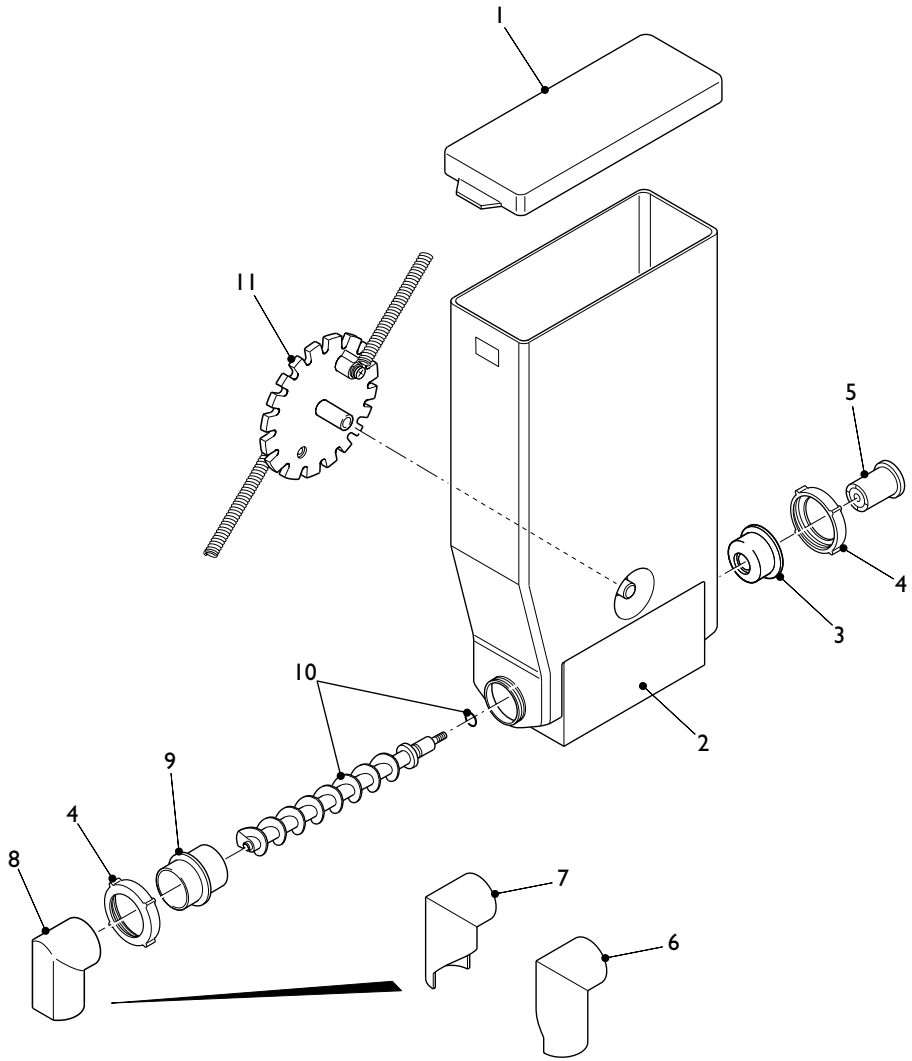
Cup Drop Unit Assembly



Cup Drop Unit Assembly

Ref No.	Part No.	Item Description
1	PL10020000	Turret Extrusion
2	PL10019000	Turret Spigot
3	PL10015000	Top Moulding
4	ME10067000	Magnetic Catch
5	EL10038000	PCB Cup Detector
6	PL10018000	Microswitch Arm Moulding
7	EL04920000	Micro Switch
8	PL10016000	CDU Moulding
9	FA10204000	Spirol Pin, M4 x 14 mm
10	FA10205000	Screw, M3 x 10
11	ME05208000	Spring
12	FA03217000	Screw, M4 x 10
13	ME10201000	Spacer
14	FA01554000	Shakeproof Washer, M4
15	FA01506000	Locknut, M4
16	MT10066000	Bracket
17	FA10203000	Nyloc Nut, M3
18	PA10262000	Cup Splitter Assembly
19	PL10017000	Bottom Moulding
20	FA10202000	Screw, M3.5 x 20
21	MO10149000	Turret Motor, 1.7 rpm
22	LO10114000	Loom
23	EL10038000	PCB Cup Detector
24	EL10037000	Solenoid
25	FA02155000	Screw, M5 x 12
26	FA02142000	Shakeproof Washer, M5
27	FA10206000	Shakeproof Washer, M3

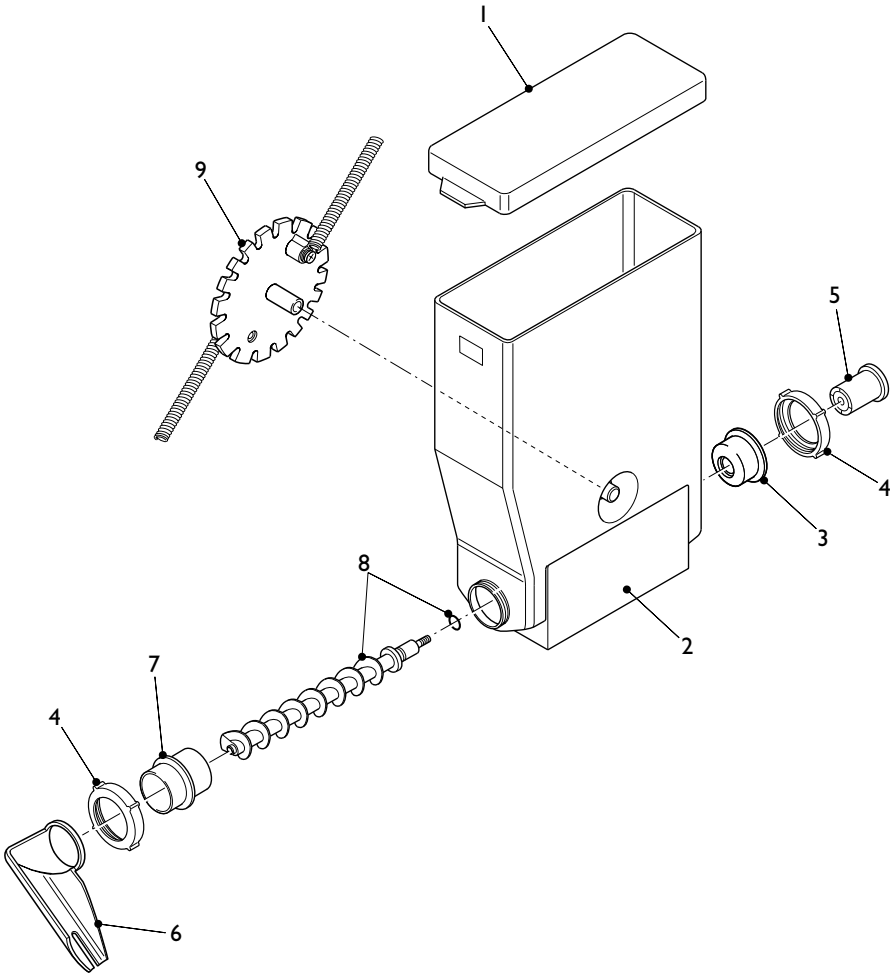
Tall Canister Assembly



Tall Canister Assembly

Ref No.	Part No.	Item Description
	PL10153000	Canister Assembly - c/w Agitator
	PL10154000	Canister Assembly - No Agitator
1	PL07138000	Canister Lid
2	PL10390000	Canister Base
3	PL10358000	Flange - Rear
4	PL10356000	End Cap
5	PL02711000	Canister Drive
6	PL01442000	Canister Chute, RH - Long
7	PL01441000	Canister Chute, LH - Long
8	PL01128000	Canister Chute - Central
9	PL10357000	Flange - Front
10	(a) ME02706000	Auger c/w 'O' Ring
	(b) SI02705000	'O' Ring
11	ME10388000	Agitator Assembly

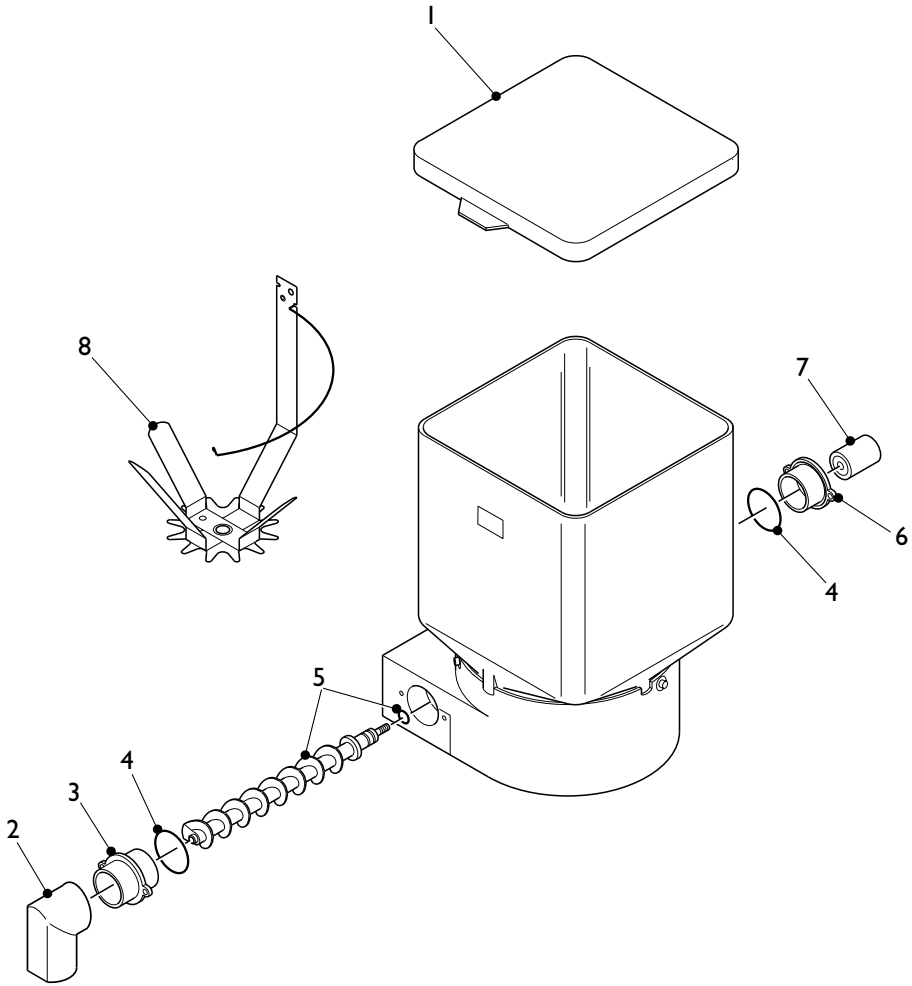
Freshbrew Tea Canister Assembly



Freshbrew Tea Canister Assembly

Ref No.	Part No.	Item Description
	PL10155000	Canister Assembly
1	PL07138000	Canister Lid
2	PL10390000	Canister Base
3	PL10358000	Flange - Rear
4	PL10356000	End Cap
5	PL02711000	Canister Drive
6	PL10297000	Extended Chute
7	PL10357000	Flange - Front
8	(a) ME02706000	Auger c/w 'O' Ring
	(b) SI02705000	'O' Ring
9	ME10388000	Agitator Assembly

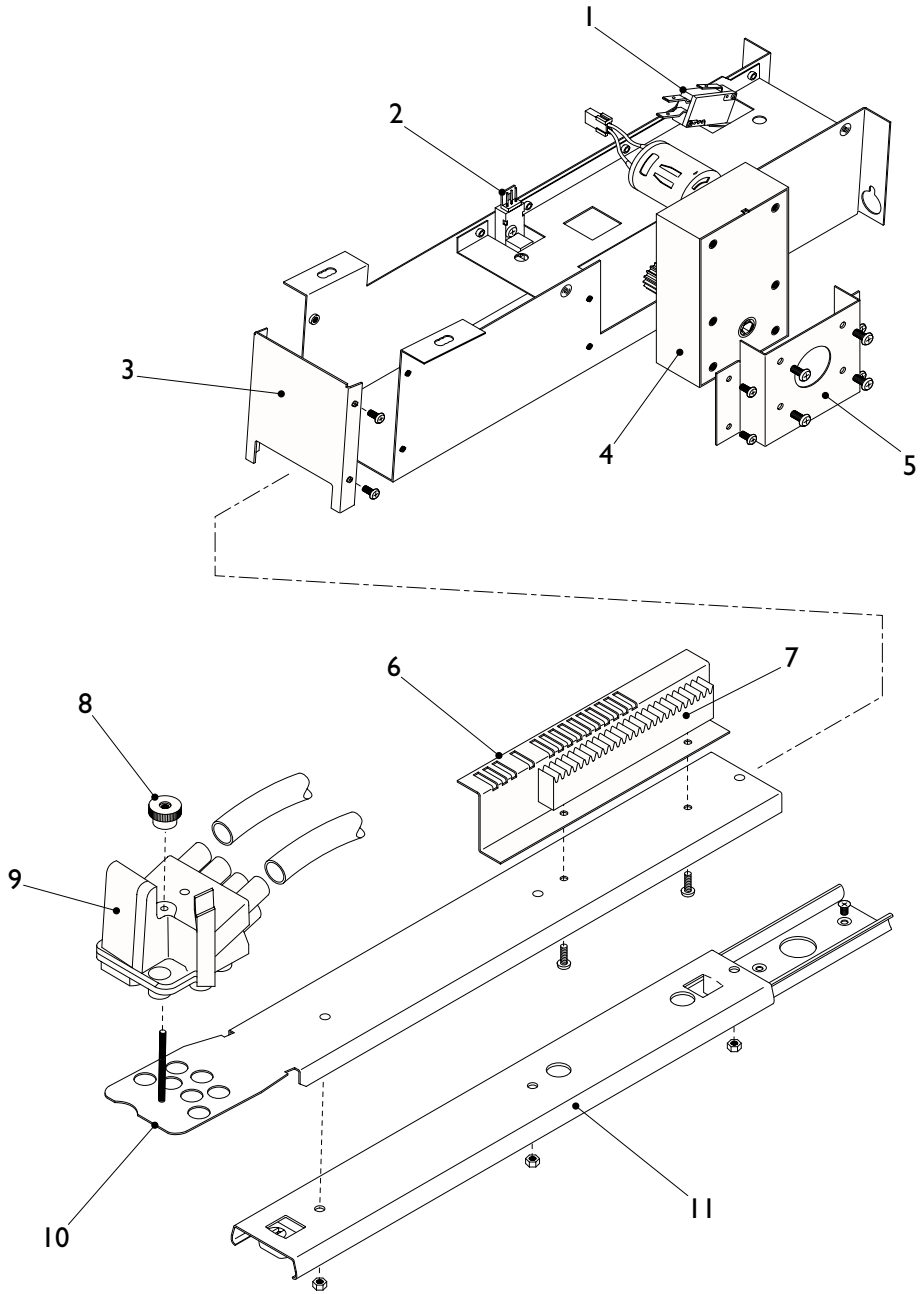
Freshbrew Coffee Canister Assembly



Freshbrew Coffee Canister Assembly

Ref No.	Part No.	Item Description
	PL10156000	Freshbrew Canister Assembly
1	PL07137000	Canister Lid
2	PL01128000	Canister Chute - Central
3	PL02709000	Flange - Front
4	SI04697000	'O' Ring
5	ME10386000	Auger c/w 'O' Ring
6	PL02710000	Flange - Rear
7	PL02711000	Canister Drive
8	ME10387000	Agitator Assembly

Dispense Head Assembly

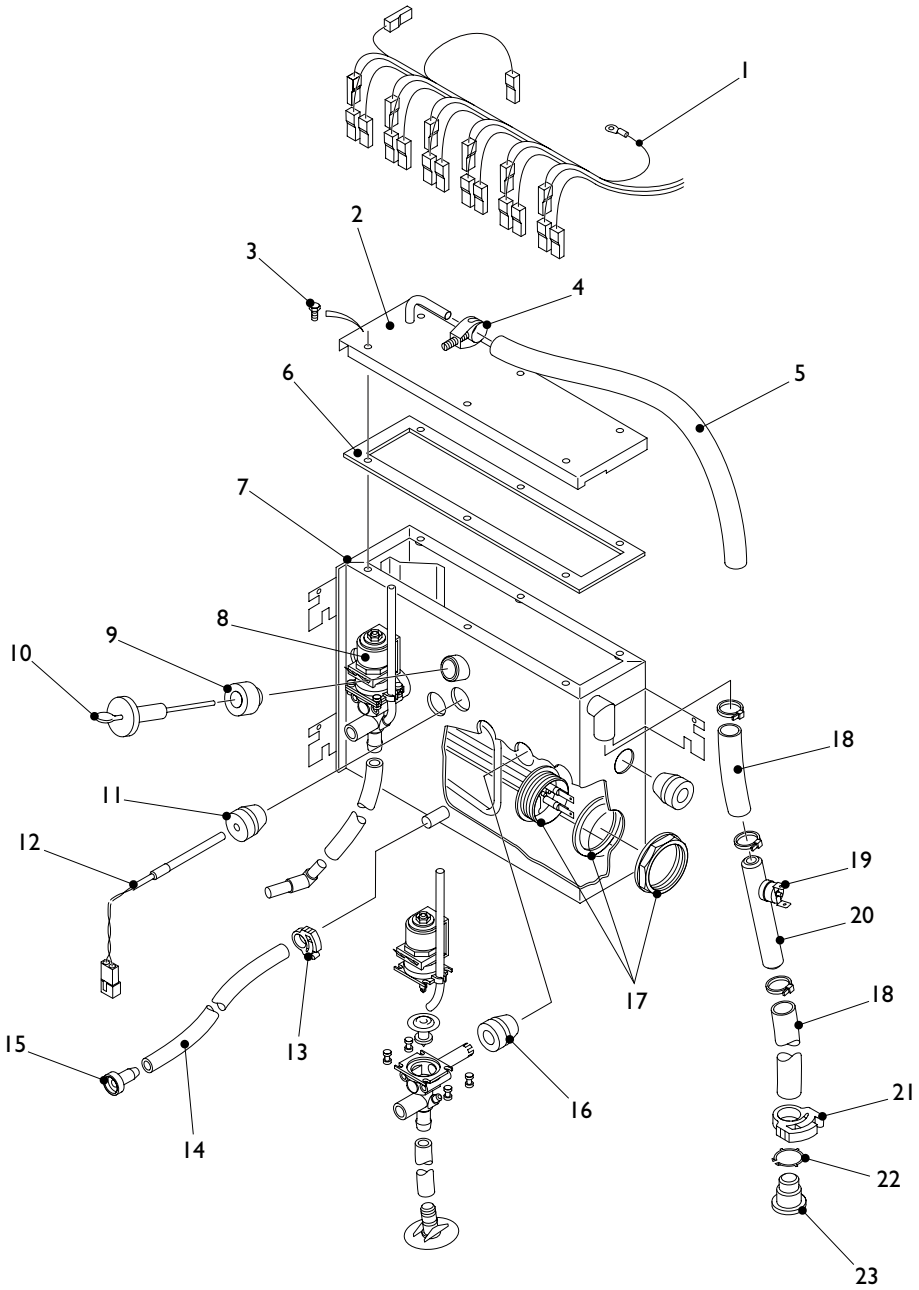


Dispense Head Assembly

Ref No.	Part No.	Item Description
1	EL04920000	Micro Switch
2	EL10036000	Dispense Head Opto Sensor
3	MT10099000	Cover Plate
4	MO10150000	Motor, 24v DC, 50rpm c/w Drive Pinion
5	MT10098000	Motor Bracket
6	MT10101000	Decoder Bracket
7	PL10035000	Rack Moulding
8	FA01416000	Knurled Thumb Nut, M5
9	PL05496000	Dispense Head Moulding
	PH05501000	Nozzle Set c/w Hot Water Nozzle*
10	MT10100000	Dispense Head Arm
11	ME04063000	Dispense Head Slide

* Not Illustrated

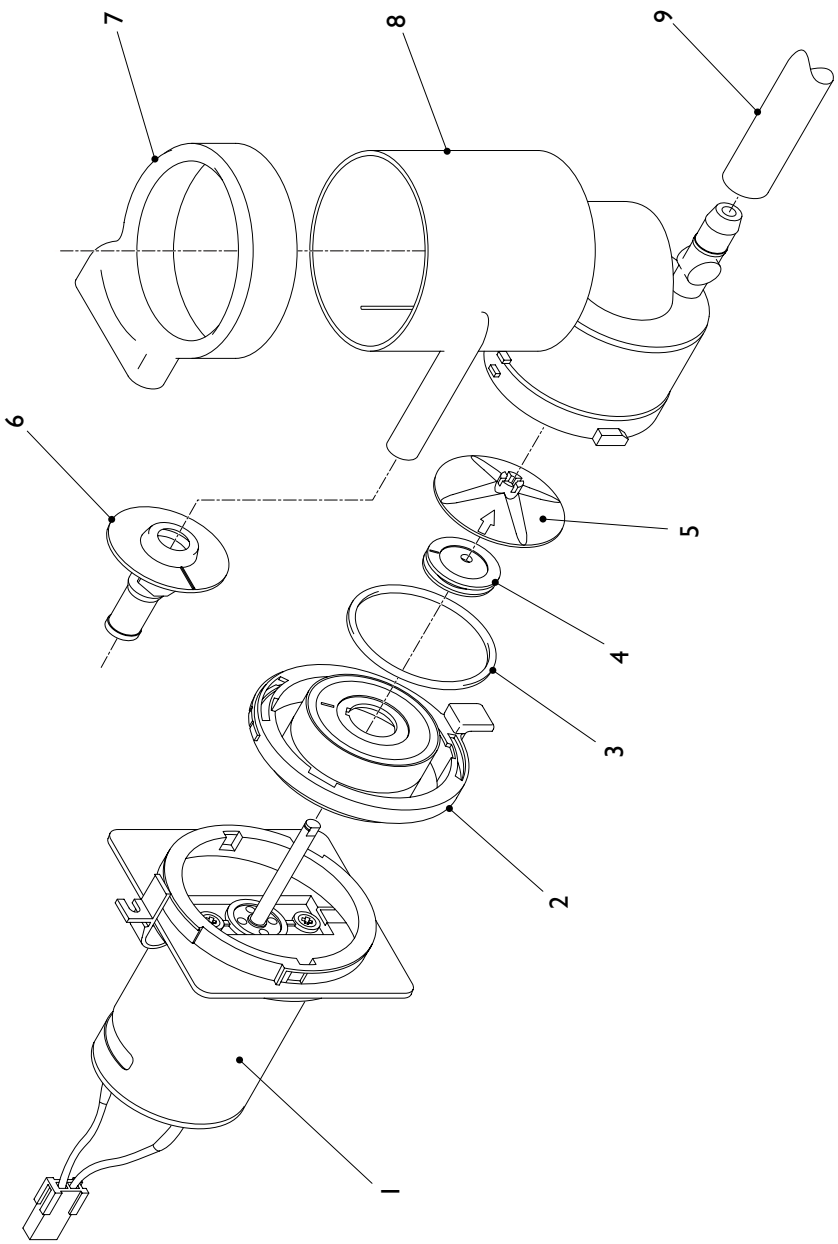
Boiler Assembly



Boiler Assembly

Ref No.	Part No.	Item Description
1	LO10111000	Main Loom
2	MT10054000	Boiler Lid
3	FA01143000	Screw, M4 x 10
4	FA03227000	Unex Clip - 19mm
5	HO06632000	Inlet Hose
6	SI10056000	Boiler Seal
7	BA10050000	Boiler Assembly c/w Lid and Seal
8	VA10148000	Dispense Valve, 24v DC
9	VA01141000	Level Probe Seal
10	ME04550000	Level Probe
11	SI06340000	Thermistor Seal
12	PH03112000	Thermistor Assembly
13	FA01185000	Snapper Clip, 30
14	SI01171960	Silicone Pipe - 8mm i.d.
15	PL00718000	Drain Pipe Bung
16	VA03377000	Dispense Valve Seal
17	EL02876003	Element - 2375w
18	SI01142960	Silicone Pipe - 12mm i.d.
19	EL03378000	Temperature Cut Out
20	ME00043000	Temperature Cut Out Holder
21	FA01186000	Snapper Clip, 38mm
22	FA01135000	Circlip
23	PL00066000	Bowl Adaptor

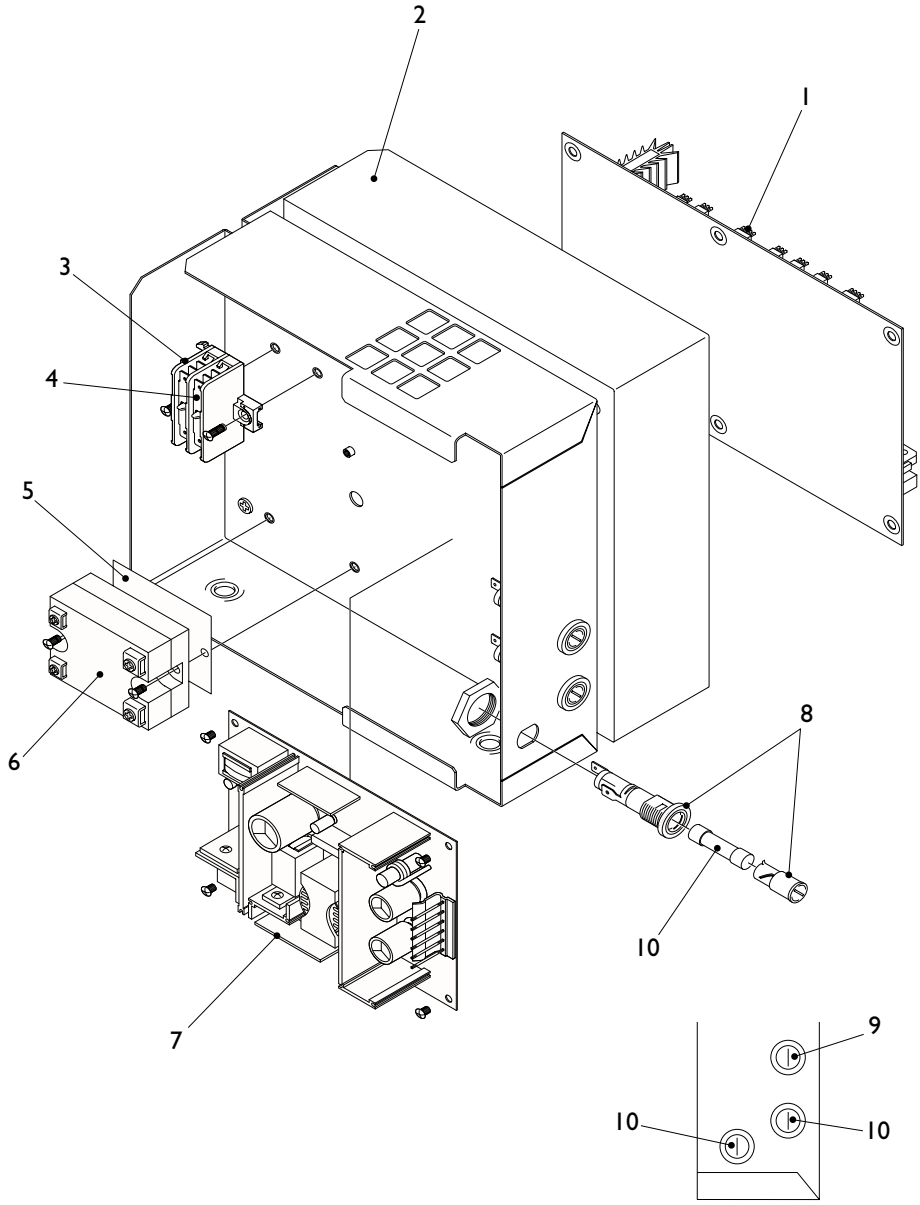
Mixing System



Mixing System

Ref No.	Part No.	Item Description
1	MO10184000	Whipper Motor c/w Fixing Plate
2	PL10188000	Whipper Base
3	SI10343000	Whipper Base 'O' Ring
4	SI10344000	Whipper Base Seal
5	PL10185000	Impeller
6	PL10183000	Bowl Adaptor
7	PL10187000	Steam Trap
8	PL10186000	Mixing Bowl Chamber
9	SI04345960	Silicone Pipe - 10mm o.d.

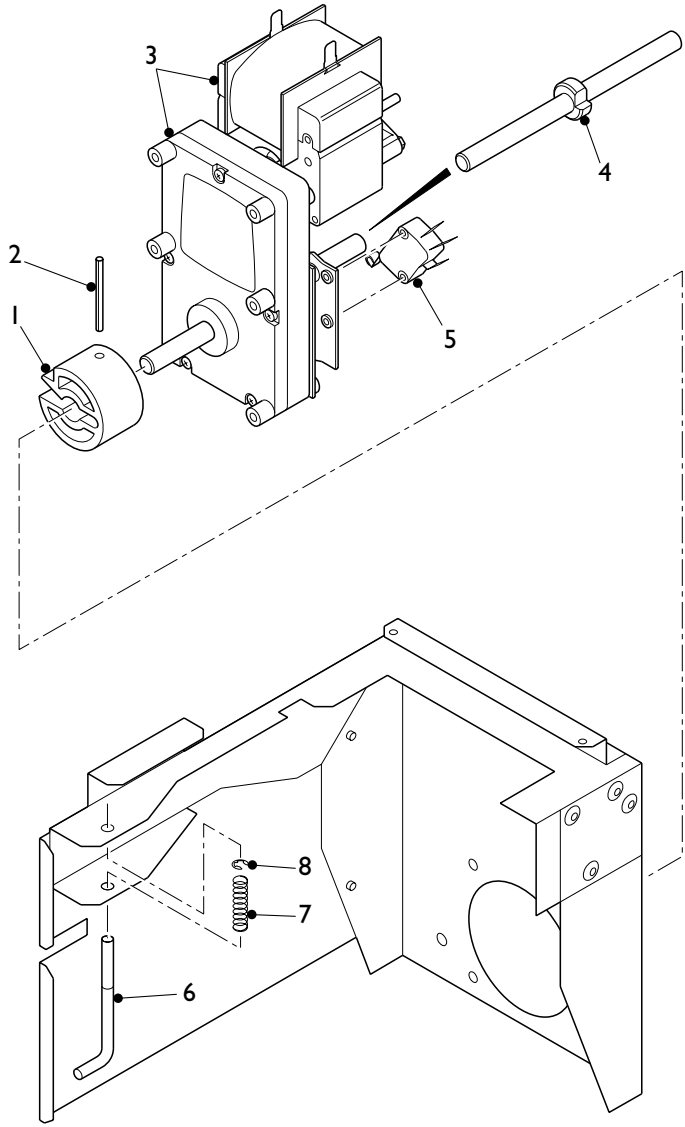
Power Supply Assembly



Power Supply Assembly

Ref No.	Part No.	Item Description
1	EL08977000	Genesis I/O PCB
2	MA10252000	Power Supply Chassis
3	EL10193000	Connector Block
4	EL10194000	End Plate
5	EL01815000	Thermal Pad
6	EL01152000	Solid State Relay
7	EL10021000	Switch Mode Power Supply
8	EL01994000	Fuse Holder Assembly
9	EL01995000	Fuse - 12A, 250v
10	EL01227000	Fuse - 4A, Anti-surge
	LO10112000	Power Supply Loom (Not Illustrated)

Brewer Motor Assembly



Brewer Motor Assembly

Ref No.	Part No.	Item Description
1	PL03297000	Drive Dog
2	ME08734000	Roll Pin - 36 x 3mm
3	MO10023000	Freshbrew Motor
4	ME00979000	Cam c/w Grub Screw
5	EL01148000	Micro Switch
6	ME04926000	Brewer Retaining Pin
7	ME01162000	Spring
8	FA01136000	'E' Clip

Notes

G·E·N·E·S·I·S

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