COFFETEK

Neo

TECHNICAL MANUAL

Issue 6
81038500

COFFETEK

NEO
TECHNICAL MANUAL

CONTENTS page

FOREWORD

1. The information contained in this manual is applicable to the Neo beverage machine. Six versions are available:

   Instant

   Single Fresh Brew Tea (SFBT)

   Double Fresh Brew (DFB)

   Triple Fresh Brew (TFB)

   B2C + FBT (Low pressure brewer)

   Espresso (High pressure brewer)

2. The machine described in this manual is the Neo SFBT version, which includes features of all models. Due to customer requirements, however, some features may vary from the one described, e.g. extras fitted, variations in programming etc.

3. Maintenance of the beverage machine must only be undertaken by personnel who are authorised and suitably qualified.

4. The Manufacturer reserves the right to make changes without notice to the design of the beverage machine, which may affect the information contained in this manual.

SPECIFICATIION

Dimensions

Height	1830 mm
Depth	710 mm
Width	700 mm
Weight	140Kg

Temperature Range

Temperature 1ºC Min - 40ºC Max

Cup Information

70 mm - 600 cup capacity
73 mm - 500 cup capacity
78 mm - 350 cup capacity

Electrical Services

Supply voltage - 230v Ac, 50Hz, single phase
Current Rating - 16A UK, 10 Amp version available for NZ and Australia.

The fused electrical supply must be terminated at a safety isolator switch, which provides a contact separation of at least 3mm. The isolator should be located within 1m of the beverage machine.

Water Services

Water pressure - 0.1 MPa min 0.8 Mpa max

15mm diameter water mains supply, terminating at a convenient stop tap located within 1m of the beverage machine with an appropriate water blocker mounted between the machine and the water source. A 15 mm double back check valve, with inspection port, should be fitted prior to the flexible hose. The water supply should be fitted with the appropriate water blocker.

Chiller Unit

Weight - 20Kg
Refrigerant - R134A
Refrigerant Weight - 85gms

Carbonator Unit

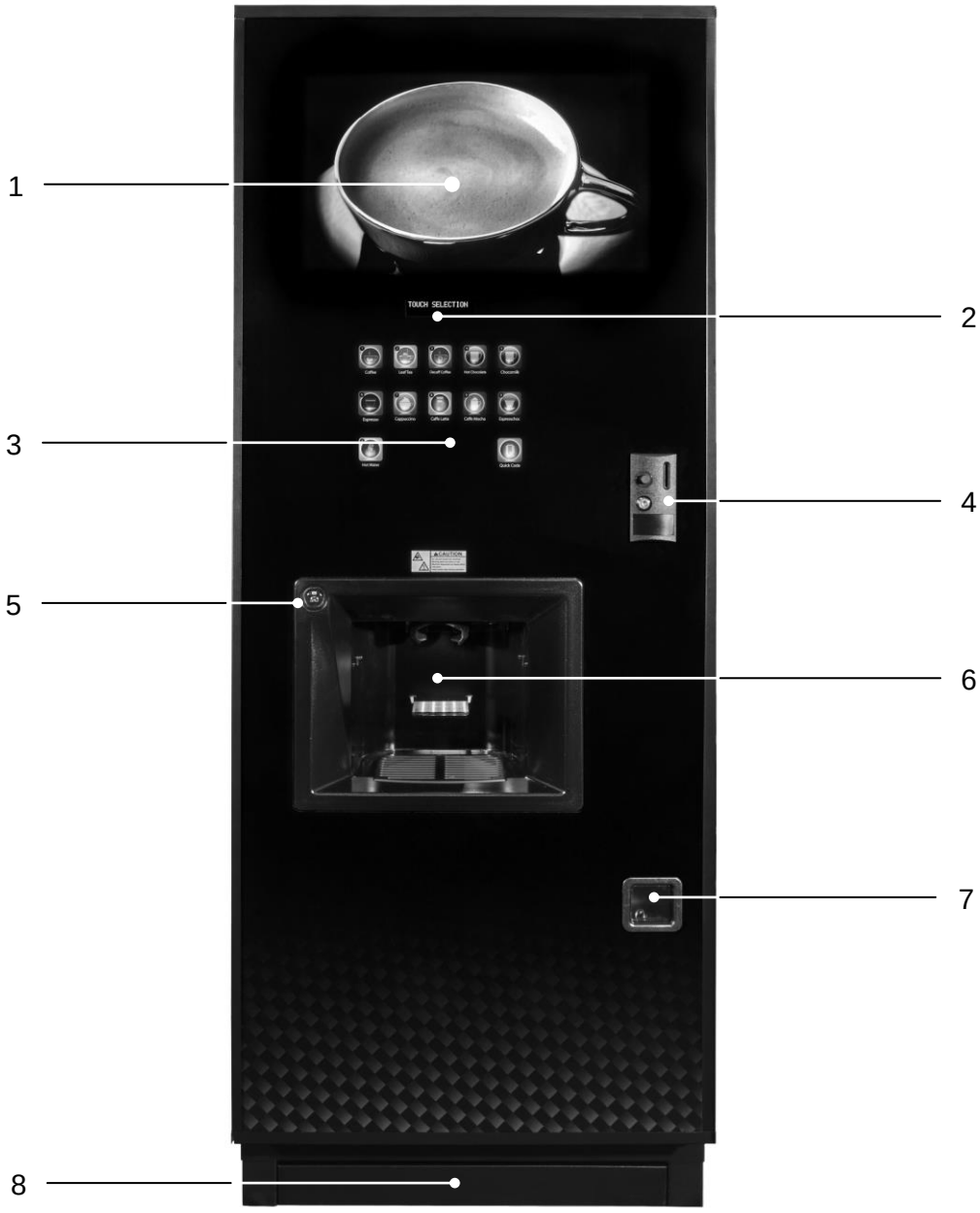
Weight - 26.5Kg
Refrigerant - R134A
Refrigerant Weight - 155gms

SAFETY WARNINGS

1. Maintenance of the beverage machine is only to be undertaken by trained personnel who are fully aware of the dangers involved and who have taken adequate precautions, e.g. ensuring that, whenever possible, the beverage machine is isolated from the mains electrical supply.
2. Lethal voltages are exposed when any panel inside the cabinet is removed and the mains electrical supply is available (i.e. on/off switch is overridden). The mains electrical supply is maintained to the Carbonator even when the door is open.
3. The beverage machine must be earthed.
4. Keep clear of the Brewer Unit when it is indexing.
5. The beverage machine is a heavy item. Ensure that sufficient personnel are available for manoeuvring and transporting the machine. Use proper lifting procedures and equipment.
6. The water in the heater tank, and the tank itself, are hot enough to scald or burn, even some time after the machine has been switched off. The water heater tank must be drained, filled with cold water and drained again before any attempt is made to handle it or any of its associated parts.
7. The water available from the option shower head cleaning attachment is hot enough to scald or burn. Appropriate care must be taken when using this attachment.

   Note: Initially the water flowing from the attachment will be cool, but will rapidly become extremely hot.
8. The Controller Board is fitted with a lithium battery. Abuse of this type of battery can lead to overheating, venting, explosion, release of potentially hazardous materials and spontaneous ignition.
9. The lithium battery must not be charged or connected to any other source of power. The battery must not be short-circuited or forced to discharge its stored energy. The battery must not be subjected to physical damage or overheating. If the Controller Board is to be replaced, it must be handled with care, taking all practical anti-static precautions.
9. Care must be taken to protect the beverage machine from frost. Do not attempt to operate the machine if it becomes frozen. Contact the nearest service agent immediately. Do not restore the machine to operational use until it has been checked and approved for use by the service agent.
10. THE APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, OR MANTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE IT THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE IN A SAFE WAY AND UNDERSTAND THE HAZARDS INVOLVED. CHILDREN SHALL NOT PLAY WITH APPLIANCE. CLEANING AND USER MAITENANCE SHALL NOT BE MADE BY CHILDREN WITHOUT SUPERVISION.
11. Replacement of the Type Y mains cable requires special tools. Should the cable become damaged, a trained person from an approved service agent must only carry out replacement.
12. ENSURE THE MACHINE LOCATION HAS BEEN RISK ASSESSED. IT IS THE RESPONSIBILITY OF THE INSTALLER TO INFORM THE SITE''S HEALTH & SAFETY REPRESENTATIVE OF THE POTENTIAL RISK TO USERS OF THIS EQUIPMENT.

Neo - Exterior



1. Graphics

2. Customer LCD Display

3. “Touch Selection” Keypad

4. Coin Entry and Jug Selection

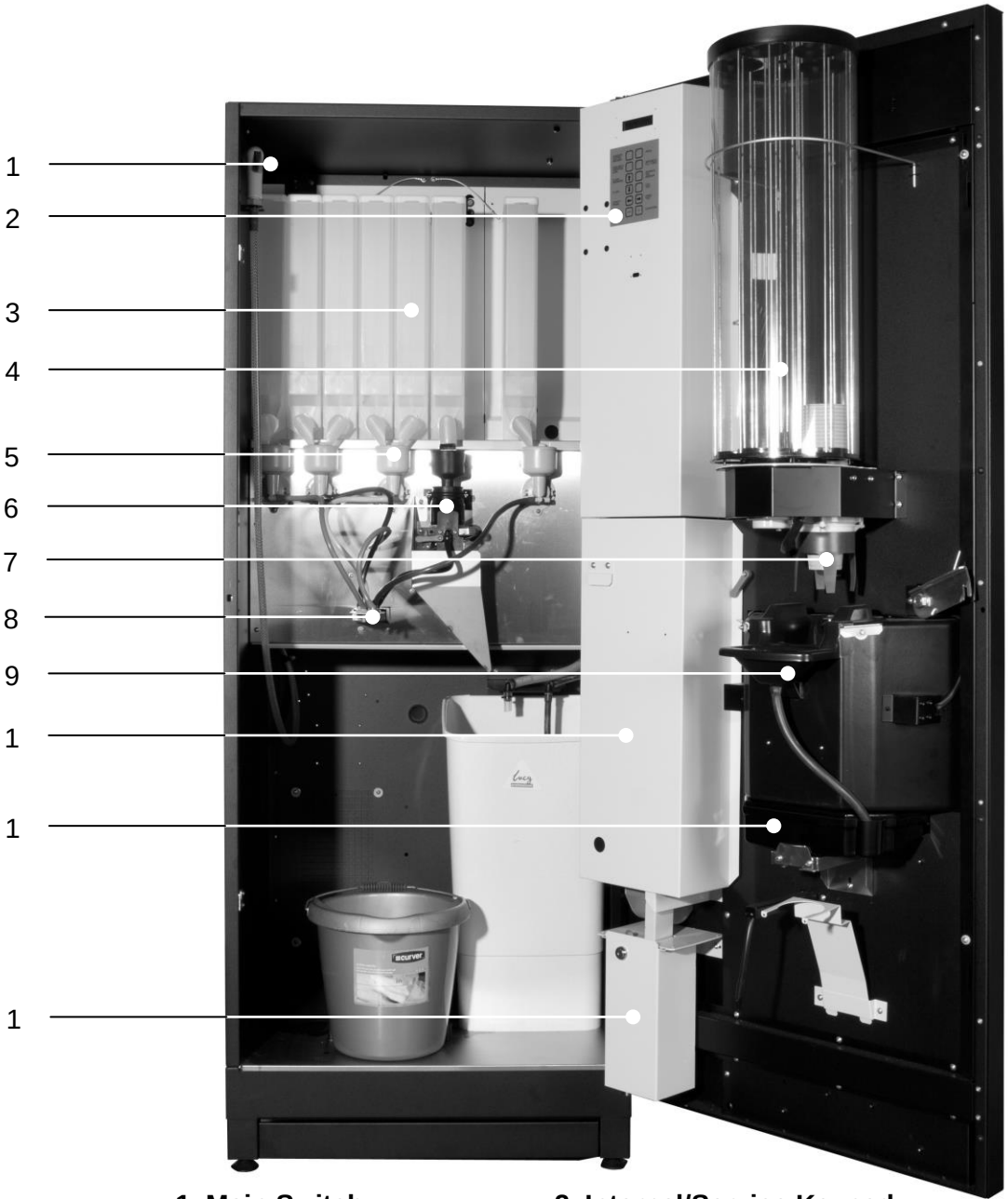
5. Door Lock

6. Cup Station

7. Coin Reject

8. Kick Plate

Neo- Interior



1. Main Switch **2. Internal/Service Keypad**

3. Canisters **4. Cup Turret**

5. Mixing Bowls **6. Tea Brewer**

7. Cup Drop Unit **8. Dispense Head**

9. Cup Catcher **10. Coin Mechanism Cover**

11. Drip Tray and Grill **12. Cash Box**

Section 1
Technical Information

INTRODUCTION

1. The Neo range consists of six basic types of coin-operated, microprocessor controlled beverage machines that dispense a range of hot and cold drinks in response to capacitive touch screen selections. The main difference between the models is the option of either Instant or Fresh Brew drinks with or without a chiller or carbonation unit.
2. This manual uses the SFB version as the basis for examples. Where significant differences between versions exist, this will be highlighted in the main body of the document. Due to customer requirements, however, some features may vary from those described, e.g. extras fitted, variations in programming etc.
3. Three options are available to add a cold drinks capability to machines in the Neo range. An optional chiller allows the addition of a cold water selection. A chiller incorporating a pair of syrup pumps allows for the addition of two flavoured cold drinks, whilst a carbonator provides the option of two flavours of still and carbonated drinks in addition to cold water.
4. Cups from a cup drop mechanism are dispensed to contain the drinks. However, a key-operated jug facility is also provided.
5. Selection is made on a 13 selection capacitive touch screen panel attached to an external LCD display panel that shows status and drink selection information.
6. The status of the machine may be monitored, and the configuration altered, by accessing a menu of program options using the internal keypad. Each option comprises a number of sub-options, the settings of which can be altered.
7. Dependent on software setting, the feature of the Neo beverage machines is the mobile dispense head which moves the head to a parked position away from the cup port after each drink is vended, preventing the possibility of any residue from the previous drink dripping into the next one. The dispense head is fitted with two groups of nozzles, one for hot drinks and one for cold. Upon selection, the required group is moved into place above the cup port. See page 60 for further details.
8. The Neo machines require a single-phase 240V electrical mains supply from a domestic 13A outlet, and a cold water supply from the domestic cold water main. These services enter the machine at the rear of the cabinet.
9. The operational components which form a Neo beverage machine are housed in a metal enclosure, access to which is gained by a swivel door secured by a key operated locking mechanism. Turning the key in the lock releases a door handle, which allows the locking mechanism to move to the unlocked state and the door to be opened. With the door open the mains isolation switch for ON/OFF operation of the machine is visible in the top left corner of the machine.
10. Equipment inside the cabinet is arranged in two sections: front and rear. On opening the door, the Operator is immediately faced with those items of equipment to which he or she requires access, e.g. Ingredient Canisters, Cup Turret, Coin Mechanism, CO_2 Bottle, Waste Trays, etc. The remaining items of equipment, i.e. Water Heater, Valves, Electrical and Electronic components, etc, to which specifically the Engineer requires access (and from which the Operator must be shielded) are located behind the Ingredient Canisters and Whipper Motor and Dispense Head Assembly panel, at the rear of the cabinet.

CABINET FRONT

13. The front of the cabinet door is constructed of one single sheet of smoked glass behind which are located a single board PC attached to a LCD monitor which will show drinks selections when pressed, progress of the vend and can also run standby videos or pictures/branding. There is also a USB connection.

14. The Cup Drop Assembly, Coin Mechanism, Controller Board and Cup Station are fitted to the rear of the cabinet door. The Customer's keypad is fitted behind the front glass panel and is connected to the Controller Board via an intouch control board, group control board and cable assembly.

15. Ingredient canisters are located on a shelf approximately half way up the cabinet. At the front of the shelf is a duct assembly to which an extractor fan is connected. The fan pulls air from the extract duct, which in turn removes steam/moist air from the mixing systems, which are located on a vertical panel below the canister shelf. The moving dispense head protrudes through and is fastened to this vertical panel and in the case of the fresh brew versions this vertical panel also provides the mounting for the fresh brew units.

16. If fitted, the optional cold drinks unit is located in the lower left hand corner of the cabinet. In the case of a carbonated unit, the CO_2 cylinder is placed in the lower right hand corner of the cabinet with the two syrup containers at its side. A gas regulator with associated pressure gauge is fitted to the CO_2 cylinder in addition to an ordinary cylinder pressure gauge. The regulator is set to give an output pressure of 50 psi.

17. On the Fresh Brew versions a large plastic waste bucket is located underneath the Brewer Unit(s), in addition to the smaller one placed at the front of the cabinet, beneath the Cup Station (when the door is closed). Water heater and carbonator overflow pipes, and a waste level probe, are directed into the smaller bucket. When the waste liquid in the bucket(s) reaches the level sensor probe, the water supply inlet is shut off and the machine is rendered inoperable.

CABINET INTERIOR

18. Access to the components and equipment in the rear section of the cabinet is obtained by removing the ingredient canisters and the relevant back panel.

19. Cold water mains supply enters the cabinet through an aperture in the rear panel and connects to a twin chamber inlet valve for the hot water supply. There is also a similar twin chamber inlet valve dedicated to the cold water supply. This is fitted only in the case where a cold drinks system is required.

20. A length of tubing takes the water supply from the inlet valve into the water heater tank, located at the top of the cabinet. Hot water in the correct quantity is then directed from the tank to the appropriate mixing bowl via a solenoid operated dispense valve. A dispense valve is associated with each ingredient. Any overflow from the tank is directed into the waste bucket via an overflow tube. Fitted to this tube is a high temperature cut-out (or two cut-outs, depending on the model) which, when operated, cuts off the electrical supply to the heater in the tank. The cut-out must then be reset to restore the supply. Another length of tubing facilitates draining of the heater.

21. The Carbonator is provided with three inputs: cold water from the inlet valve; two types of syrup, pumped from the syrup containers; and carbon dioxide from the CO_2 cylinder. Still or carbonated water and syrup are taken from the carbonator, via separate tubes, to the dispense head.

22. A level probe is fitted to the rear of the cabinet door and a similar device is located in the fresh brew waste container. When the door is closed these devices act as contact probes allowing the units control system to monitor the liquid level in the waste containers.

23. Two printed circuit boards are fitted to the top right hand side of the cabinet rear panel; the DC Remote Input/Output Board (DC RIO) and the Power Supply Unit (PSU). The DC RIO Board provides the high current drives to operate the output devices (valves, motors, etc.) in response to signals from the Controller Board.

24. A solid-state relay, located beneath the printed circuit boards, pulses current to the heater in response to signals from the DC RIO Board. The DC RIO Board receives signal from the Controller Board via an I^2C link. The temperature of the water in the boiler is measured by the Controller Board using an NTC thermistor mounted at the end of a stainless steel probe immersed in the hot water tank.

WATER SYSTEM

25. The cold water mains supply enters the machine via a double-solenoid operated inlet valve at the rear of the cabinet. This valve controls the flow of water to the unit's hot water tank. If an optional cold drink system is fitted, a separate inlet valve is used to connect it to the mains water supply. In this eventuality a special 'Y' shaped mains water supply hose is required.

26. Fitted to the mains water line to the vending machine should be an appropriate water blocker.

HOT WATER SYSTEM

27. Water is supplied via the Hot Inlet valve to the heater tank where it is heated to the required temperature by a heating element in the tank. Water temperature is controlled by a combined temperature and level probe assembly in the tank which causes the supply to the heater to be removed when the preset temperature is reached. The probe assembly also acts as a level sensor, causing the Hot Inlet valve to open when the water in the tank falls below a preset level. The probe (i.e. the input device) is monitored by the Controller Board, and the water heater and Hot Inlet valve (i.e. the output devices) are controlled by the DC RIO Board in response to signals from the Controller Board.

28. Depending on the type of hot drink selected, hot water from the heater tank is fed via solenoid operated dispense valves to the appropriate mixing bowl or Brewer Unit container. Ingredients and water are mixed in exact quantities in the mixing bowl and then directed to the dispense head. Similarly, water and ingredient are brewed in exact amounts in the Brewer Unit and then directed to the dispense head.

29. The resettable cut-out sensor(s), mounted on the boiler overfill tube, cuts off the electrical supply to the tank heater circuit if the water in the tank starts to boil. Additionally, if the fluid level in the overflow waste bucket rises above a preset level, it is detected by a level probe and reported to the Controller Board, which responds by closing the inlet valve via the DC RIO Board and rendering the machine inoperable.

COLD WATER SYSTEM

30. Water is supplied from the Cold Inlet valve to the chiller or carbonator unit (if fitted) via a pressure regulator. The chiller / carbonator provide either cold still water or cold carbonated water (carbonator only). The selected type of water (still or carbonated) is controlled by solenoid operated dispense valves. Flavoured syrup, if available, is added to the drink by means of oscillating pumps.

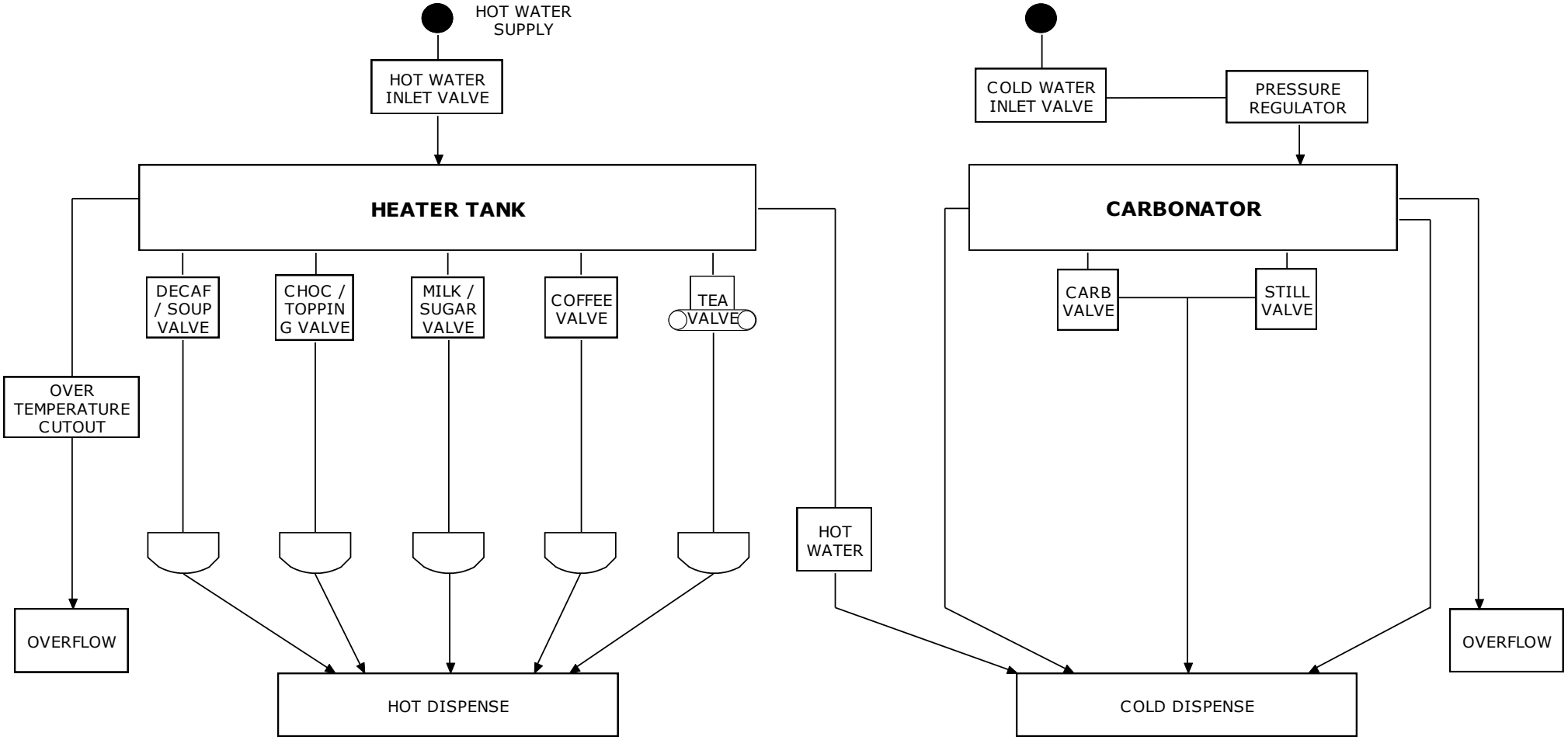


FIG 1.1A WATER SYSTEM FUNCTIONAL DIAGRAM SFBT

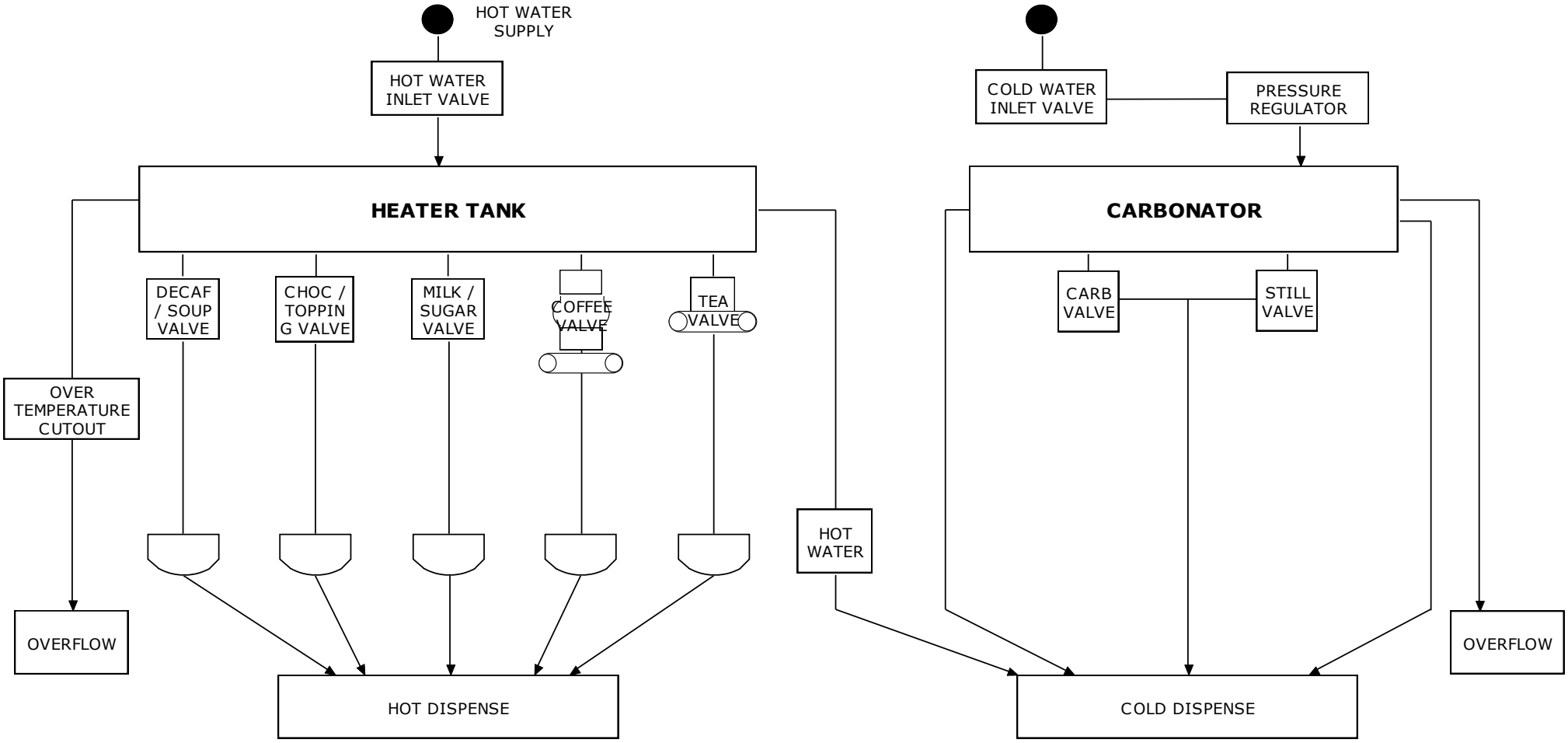
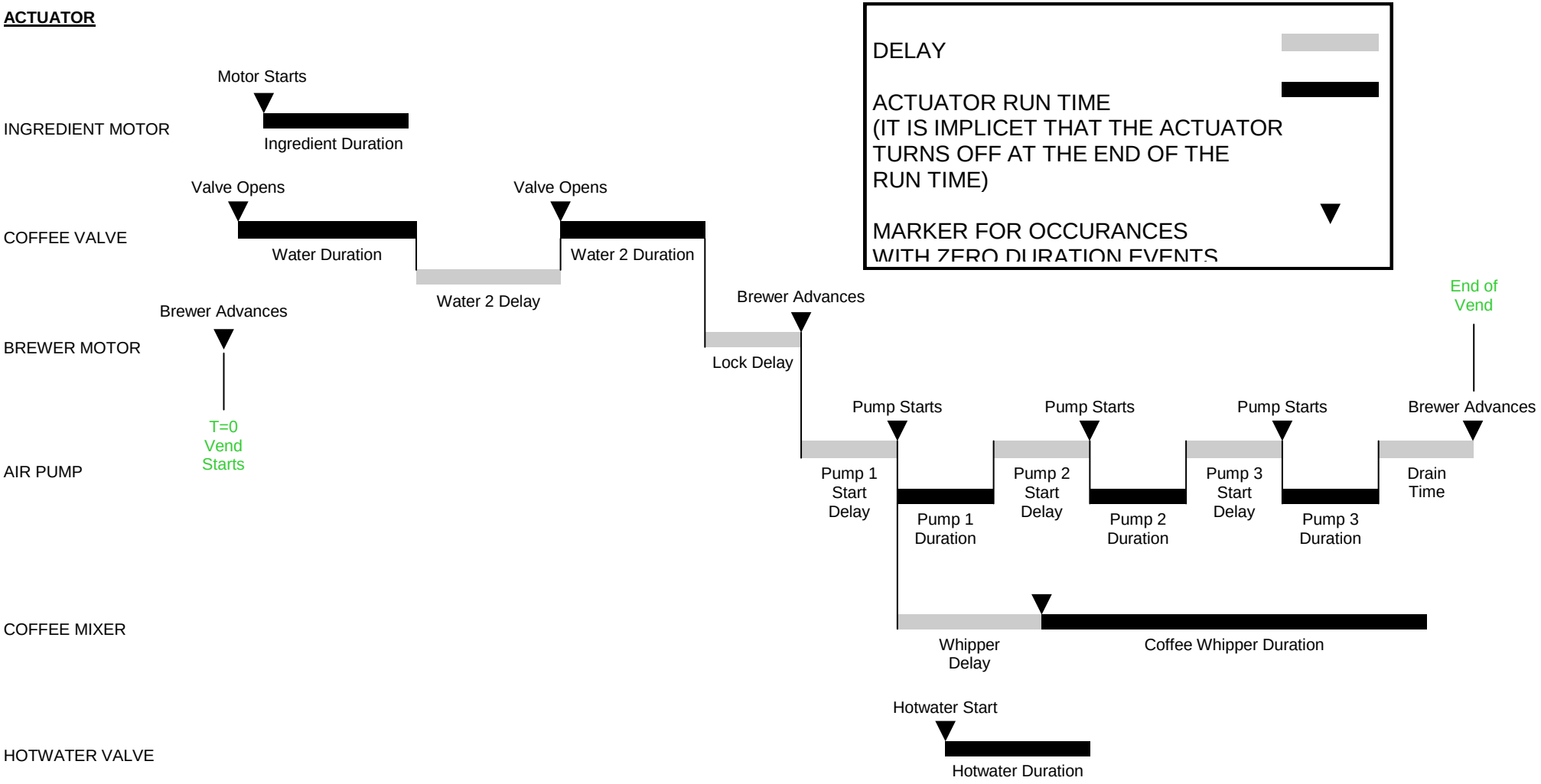
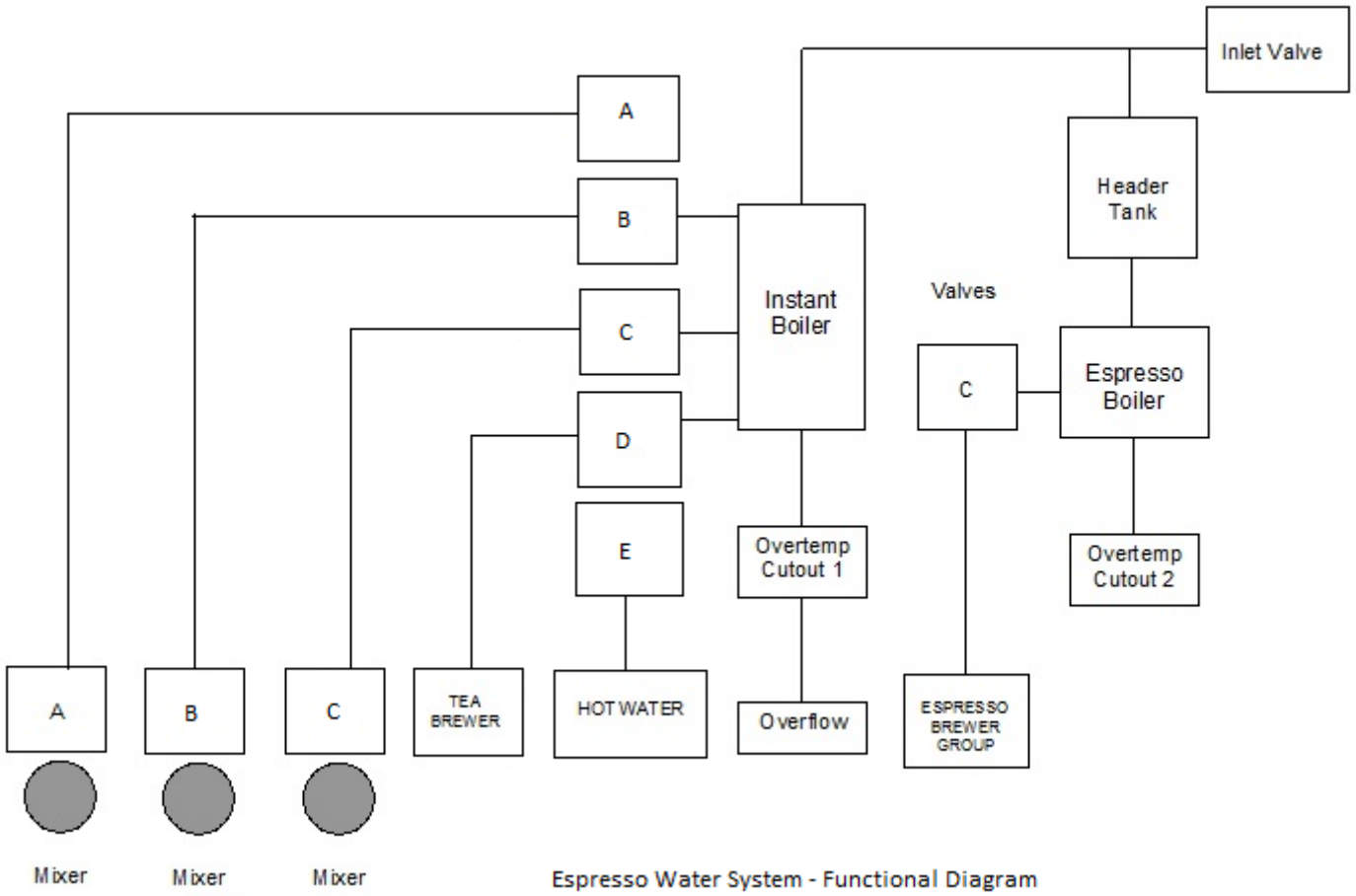


FIG 1.1B WATER SYSTEM FUNCTIONAL DIAGRAM DOUBLE FRESH BREW & BTC+SFBT

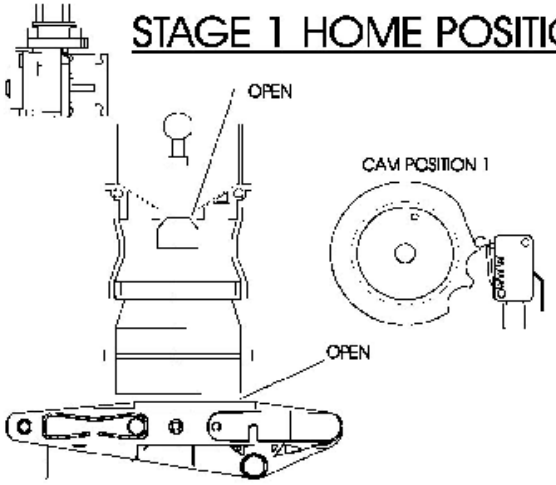
Coffetek Coffee Brewer Timing Relationships



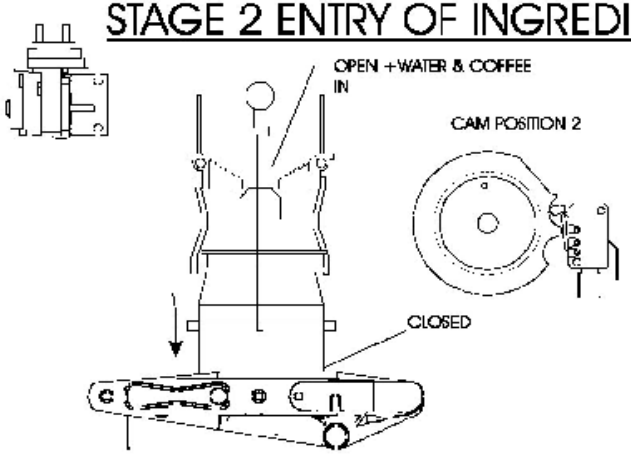


Espresso Water System - Functional Diagram

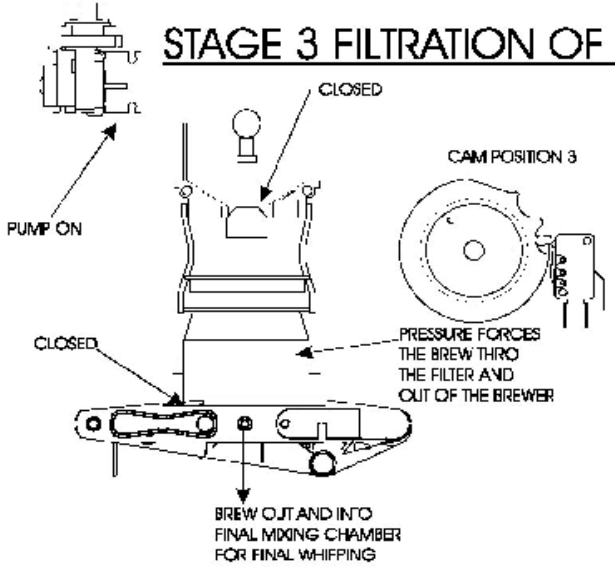
STAGE 1 HOME POSITION



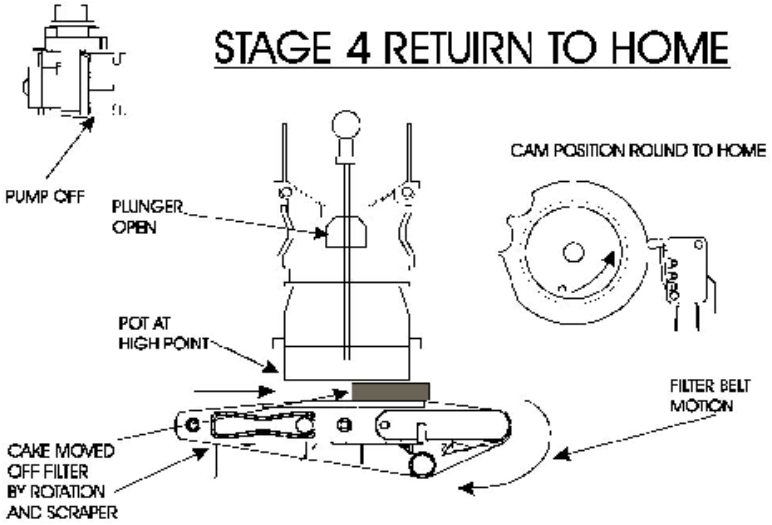
STAGE 2 ENTRY OF INGREDIENTS



STAGE 3 FILTRATION OF INGREDIENTS



STAGE 4 RETUIRN TO HOME



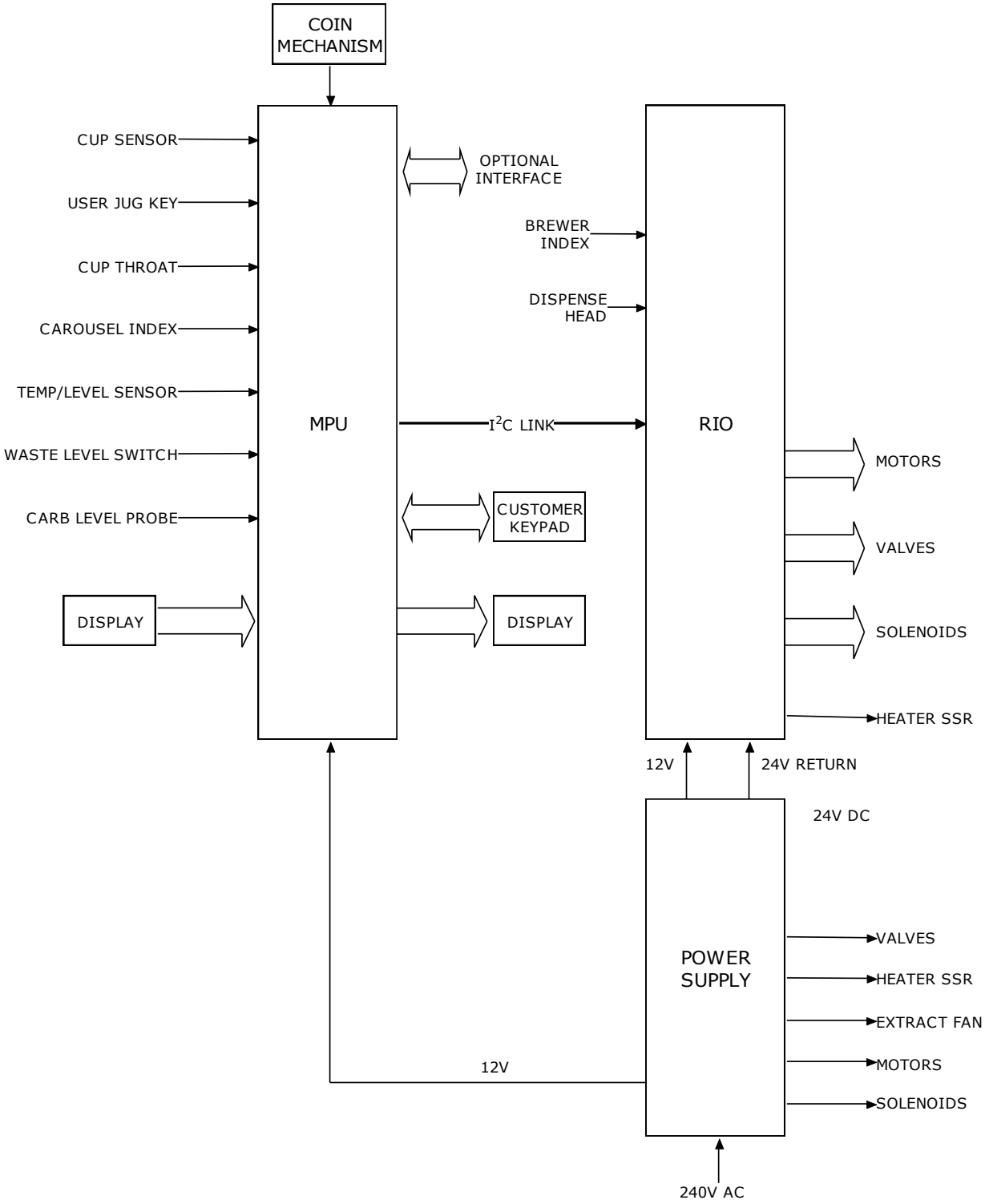


FIG 1.2 ELECTRICAL & ELECTRONIC SYSTEM – FUNCTIONAL DIAGRAM

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Section 2
Internal Keypad Functions

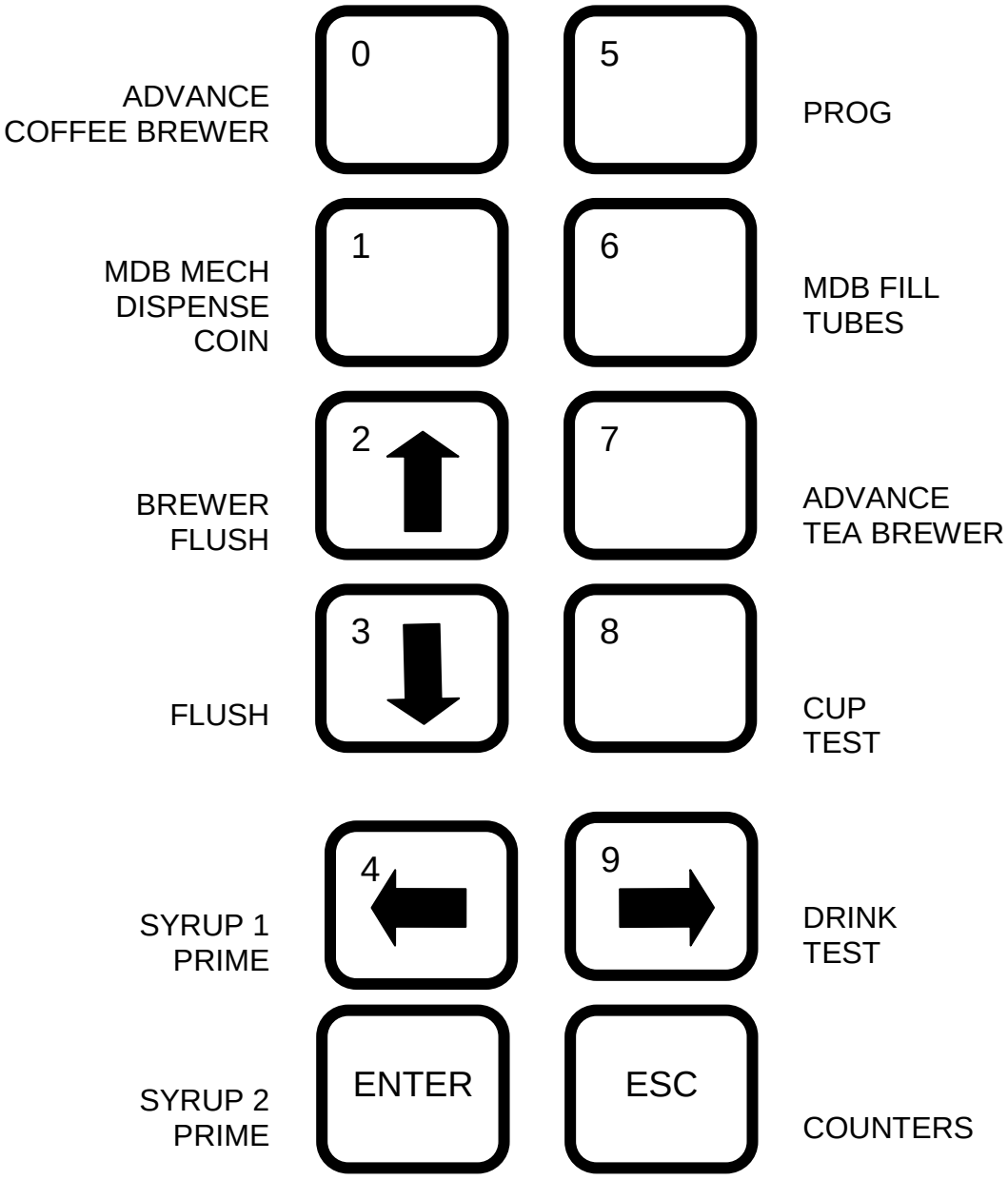


FIG 2.1 NEO INTERNAL KEYPAD

1. The internal keypad provides the facility to carry out a number of frequently required machine functions without the necessity to enter any of the user programs.

2. In most cases a single press of the key initiates the function associated with each button. If a further key press is necessary to end the action, it will be the ESCAPE key.

3. The functions available from the internal keypad are as follows:

(a) Advance Coffee Brewer.

If a coffee brewer is fitted, a single depression of this key will cause the brewer unit to index to its next position in the cycle. The purpose of this function is to allow the brewer to be locked prior to a flush cycle so that cleaning agents can be added.

(b) MDB Mech Dispense Coin.

This key provides a method to empty the change tubes of an MDB coin mechanism, which does not itself possess the necessary buttons to do so. On pressing the key the external display will change to: -

EMPTY TUBE
£0.05 ↑, ↓ ENTER OR ESC

The currency value shown will be that of the lowest value coin tube in the coin mechanism. The function of the EXTERNAL keys will change as described in section **3** to allow actions to be performed on either the internal or external keypad. Pressing ENTER will cause a coin to be dispensed from the currently selected tube. Pressing the ↑ (UP) or ↓ (DOWN) selects the next/previous coin tube. Repeated use of the ↑ (UP), ↓ (DOWN) & ENTER keys enables all tubes to be emptied. Pressing the ESCAPE key ends the process.

(c) Brewer Flush

This key provides the means to initiate a flush cycle of the fresh brew units. A single press of this key will initiate a cleaning cycle for all brewers fitted to the machine simultaneously. In the case of the instant version this function is redundant.

(d) Syrup 1 Prime

Manually controls the pump associated with flavored syrup number 1. The first press turns on the pump; a second press turns it off again. Pressing the ESC key will also turn off the pump.

(e) Syrup 2 Prime

Manually controls the pump associated with flavored syrup number 2. The first press turns on the pump; a second press turns it off again. Pressing the ESC key will also turn off the pump.

(f) Prog

This key activates the code entry sequence required to access the protected levels of the machine control programs. See section 3.

(g) MDB Fill Tubes

If an MDB coin mechanism is fitted, this function allows the change tubes to be filled. On pressing the key the external display will change to:

INSERT FLOAT
£0.00

As coins are inserted the value displayed will reflect the total value of the money inserted. Pressing ESCAPE will cause the machine to return to normal operation and zero the credit.

(h) Advance Tea Brewer.

If a tea brewer is fitted, a single depression of this key will cause the brewer unit to index to its next position in the cycle. The purpose of this function is to allow the brewer to be locked prior to a flush cycle so that cleaning agents can be added.

(i) Cup Test

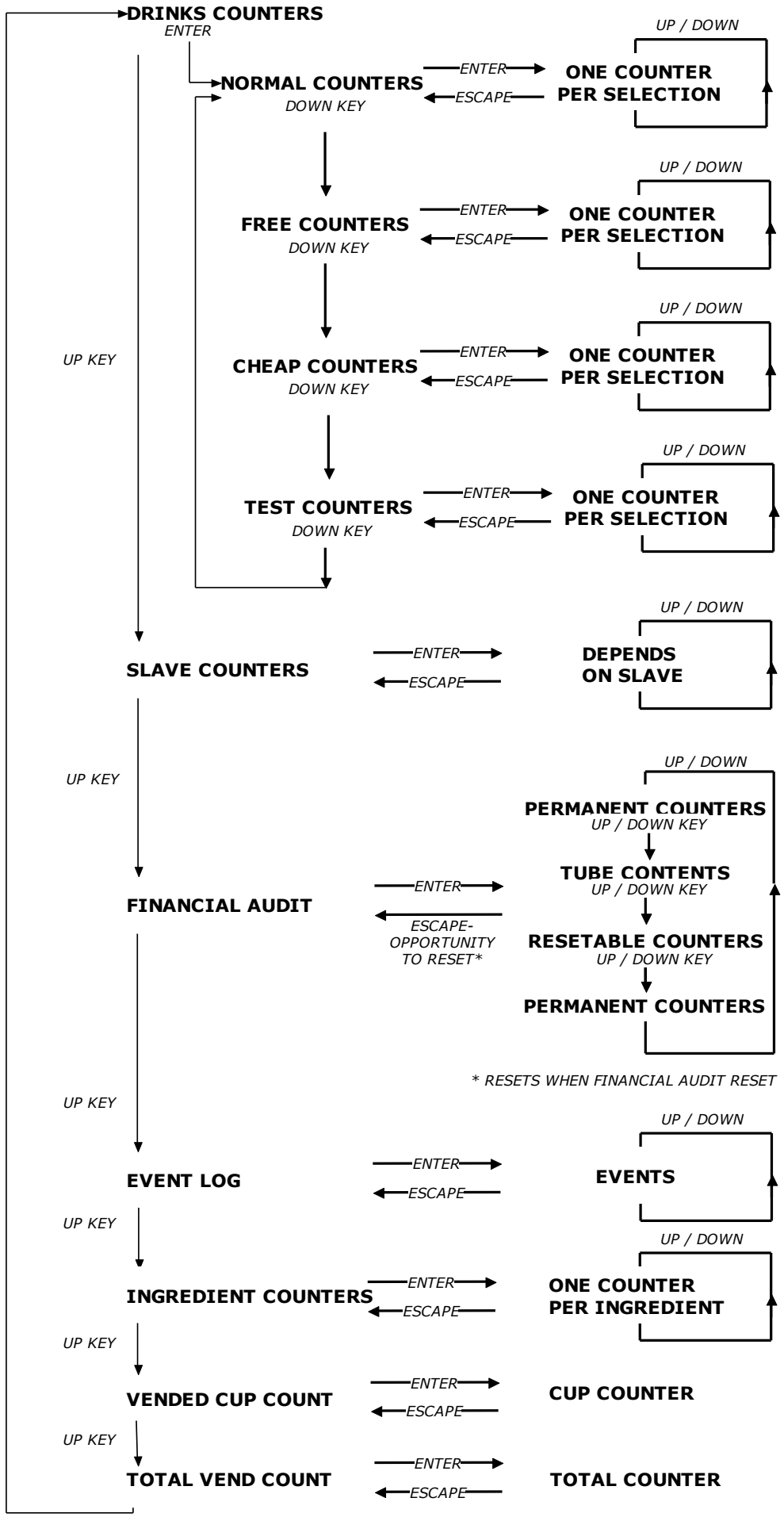
Causes a cup to be dispensed by the cup drop mechanism. The cup carousel will not index, unless a selection is made or a cup test performed. This reduces the possibility of damage; prevents damage to the carousel occurring because the cup stack has been pushed up from below causing a false out of cups signal to the control board.

(j) Drink Test

Allows the next selection to be provided as a free vend.

(k) Counters

Pressing the counters key places the machine in manual audit mode. Audit data is accessed via a series of menus. The chart below shows the menu headings in bold text whilst the key presses required to navigate the menu are shown in *italics*.


DRINKS COUNTERS
ENTER
NORMAL COUNTERS
DOWN KEY
ENTER
ESCAPE
ONE COUNTER PER SELECTION
UP / DOWN
FREE COUNTERS
DOWN KEY
CHEAP COUNTERS
DOWN KEY
TEST COUNTERS
DOWN KEY
UP KEY
SLAVE COUNTERS
DEPENDS ON SLAVE
FINANCIAL AUDIT
ESCAPE- OPPORTUNITY TO RESET*
PERMANENT COUNTERS
UP / DOWN KEY
TUBE CONTENTS
RESETABLE COUNTERS
* RESETS WHEN FINANCIAL AUDIT RESET
EVENT LOG
EVENTS
INGREDIENT COUNTERS
ONE COUNTER PER INGREDIENT
VENDED CUP COUNT
CUP COUNTER
TOTAL VEND COUNT
TOTAL COUNTER

Section 3
Programming

1. The Neo vending machine has a comprehensive configuration program to allow the behaviour and function of the machine to be changed to meet a customer's requirement. There are three levels of access to the configuration functions of the machine. Access each level is protected by means of a four-digit code. The facilities available at each level are shown below:

   (1) Operator level access

   - Access to price related features only
   - Factory default Code 1111

   (2) Manager level access

   - Limited range modification of recipes
   - Access to price related features
   - Set date and time
   - Inhibit selections
   - Set the free drink code
   - Change the name of a selection
   - Change Operator level access code
   - Factory default Code 3333

   (3) Engineer level access

   - Full access to all features
   - Factory default code 4444

ACCESSING THE USER PROGRAMS

2. The programs are accessed by pressing key 5 (PROG) on the INTERNAL keypad. The EXTERNAL display will then prompt for input of a four-digit entry code. The code is input using the numbers printed on the keys of the INTERNAL keypad.

   (4) After pressing the PROG key the display will change to: -

PLEASE ENTER ACCESS CODE

   (5) Use the numbered keys on the INTERNAL keypad to enter the correct code. It is not necessary to press ENTER. The code will be checked on entry of the fourth digit. Three attempts are allowed before the PROG key must be pressed again. On entry of a valid code the display will change to the menu heading appropriate to the level of access.

   (6) In the event that the code has been lost or when fitting an un-programmed replacement board it is necessary to complete the circuit between the two pins of the two pin header labelled ENG LINK on the Control Board. This bypasses the entry of the four-digit code, giving the engineer level access to the bootloader and the engineers mode. **If the ENG LINK is left in place during power up, the machine will start straight into the engineer's program asking whether you want to use the bootloader or bypass straight into the engineers mode.**

NOTE REGARDING POWER UP PROBLEMS

3. The Neo electronics control system has two major elements. These are the Control Board and the DC RIO board. The two boards communicate via a three wire Inter Integrated Circuit bus (I^2C bus). Some faults affecting the I^2C bus or Control Board configuration can result in persistent system resets. To allow recovery / diagnosis from such situations, the control system provides an Access Window to a special 'safe mode' shortly after power is switched on. It is possible to enter the engineer's mode during this window.

   Some configuration faults related to uninitialized boards do not allow the system to get even this far through start up, in which case it is necessary to insert the ENG LINK before switching the power on. In this case the machine will boot straight into the engineer's program.

   In both cases the I^2C bus linking the electronics boards is disabled. Without communication between the DC RIO board and the Control board the OUTPUT TEST facility is ineffective and the state of some inputs will be misreported in the INPUT TEST routines. As a reminder to this effect the sound associated with a key press is truncated to a very short pip rather than a beep.

PROGRAM FUNCTIONS

4. The following table shows the functions available and the access level required to use them within the Neo configuration program:

FUNCTION	ACCESS LEVEL REQUIRED		
	OPERATOR	MANAGER	ENGINEER
INGREDIENT TIMES		• limited	•
SET DATE /TIME		•	•
SET PRICING MODE	•	•	•
CHANGE PRICES	•	•	•
INHIBIT DRINK		•	•
ALTER DRINK NAME		•	•
TIMED ACTIVITIES			•
TEMP SETTINGS			•
OUTPUT TEST			•
INPUT TEST			•
SET PRODUCT CONSTS			•
MACHINE STATUS			•
SET DRY VEND MODE			•
SERIAL NUMBER			•
CONFIGURE MACHINE			•
MDB CONFIG			•
EVA-DTS CONFIG			•
PRODUCT CODES			•
OPERATORS CODE		•	•
MANAGERS CODE			•
ENGINEERS CODE			•
EDITABLE TEXT			•
COUNTERS	•	•	•
USB ACTIONS			•
FREE DRINK CODE		•	•
EDIT DRINK MAP			•
CUP CONFIG			•
ING RESTRICTIONS			•
ECONOMY MODE			•
DEPRESSURISE C' BREWER	•	•	•

PROGRAMMING SEQUENCE OF OPERATIONS

5. The method of navigating the menu structure is consistent throughout the program. The ↑ (UP) and ↓ (DOWN) keys are used to index through the headings in a particular level or increment / decrement a value. Pressing ENTER will select a submenu or confirm a change whilst ESCAPE will reject a change or return to the previous menu level. The sequence for accessing a menu option and then accessing a submenu within that option and finally selecting and changing a parameter's value, is shown diagrammatically in Fig 3.1.

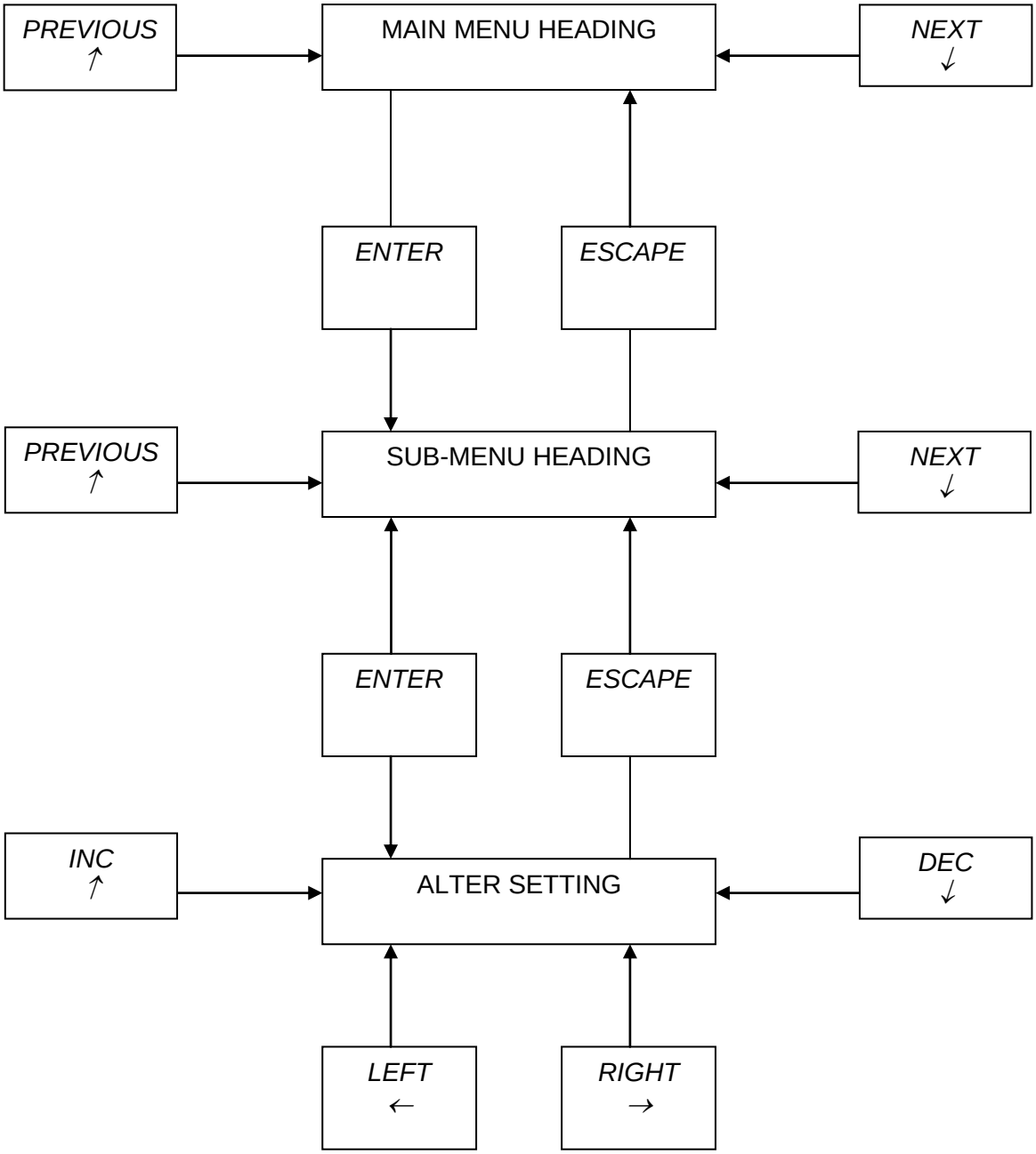


FIG 3.1 ACCESSING AN OPTION SETTING – FLOW DIAGRAM

MENU OPTIONS

Ingredient Times

6. INGREDIENT TIMES provides access to a set of submenus, which allow modification of the parameters controlling the recipe and dispensing of individual drinks. The actual content of the submenu is dependent on the configuration of the machine. That is for example a Neo Instant Hot version will have different drinks in its INGREDIENT TIMES submenu to a Double Fresh Brew version fitted with a carbonator. In general the entries of the INGREDIENT TIMES menu will consist only of the drinks available on that particular configuration of machine. The Neo range has a number of pre-defined configurations. For each configuration each selection button is associated with a particular drink. This association is pre-defined for each configuration, but can be modified within narrow limits using the EDIT DRINK MAP menu. Note: Changes to the menu will lead to initialisation of the machine.

7. For each selection a user with manager level access is granted a limited range adjustment on a subset of the parameters. This allows the site-based personnel to perform minor taste profile modifications without the need to call an engineer. When the Ingredient Times has been selected it will give you the option to select the drink to alter and using the arrow keys you will be able to select your specific drink. The limited range adjustment is implemented as a multiplying scale factor of between 75% and 125%. In the manager's mode the limited range of adjustment permitted is displayed as a signed value between –25% and +25% and can be changed in 5% increments. For example, the limited range strength control for the coffee ingredient of an Espreschoc selection, which has had its coffee ingredient increased by 5% would appear to a manager level user as:

OP: COFFEE MOD **+5%**

When viewed with engineer level access this would appear as:

OP: COFFEE MOD **105**

In each case the same parameter is being viewed.

8. The following tables describe the parameters that can be adjusted for each drink, and indicate the parameters visible at the different access levels. The drinks available in each configuration are described in Table 3.2 later in this Section.

** E indicates engineer access level*
M indicates manager access level

INSTANT COFFEE

Parameter Name	Function	Units	Level See *
COFFEE TIME	Ingredient Control	.1s	E
COFFEE ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
WATER TIME	Coffee water dispense valve open duration	.1s	E
COF MIXER TIME	Coffee whipper motor run duration	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected, e.g. 75 will allocate 75% of the water to the milk valve	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E ,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to COF WATER TIME The actual dispense valve open time will be: COF' WATER TIME x OP: Water Mod /100	%	E,M

CHOCOMILK

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
CHOCOLATE START	Start time for the chocolate components of the drink referenced to t=0	.1s	E
CHOCOLATE TIME	Auger run time for Chocolate ingredient	.1s	E
TOPPING START	Start time for the topping components of the drink referenced to t=0	.1s	E
TOPPING TIME	Auger run time for Topping ingredient	.1s	E
WATER TIME	Topping/chocolate dispense valve open duration	.1s	E
MIXER TIME	Chocolate mixer motor run time	.1s	E
OP: Topping Mod	Manager level control applied to Topping TIME The actual topping auger run time will be: TOPPING TIME x OP: Topping Mod /100	%	E,M
OP: Chocolate Mod	Manager level control applied to CHOCOLATE TIME The actual chocolate auger run time will be: CHOCOLATE TIME x OP: Chocolate Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME The actual dispense valve open time will be: WATER TIME x OP: Water Mod /100	%	E,M

CHOCOLATE

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
CHOCOLATE TIME	Auger run time for Chocolate ingredient	.1s	E
WATER TIME	Chocolate dispense valve open duration	.1s	E
MIXER START	Chocolate mixer start time	.1s	E
MIXER TIME	Chocolate mixer motor run time	.1s	E
OP: Chocolate Mod	Manager level control applied to CHOCOLATE TIME The actual chocolate auger run time will be: CHOCOLATE TIME x OP: Chocolate Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME The actual dispense valve open time will be: WATER TIME x OP: Water Mod /100	%	E,M

DECAF COFFEE (INSTANT)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Decaf ingredient duration control	.1s	E
COFFEE ADJUST	Increment applied to decaf auger run time when strong selected	.1 s	E
WATER TIME	Coffee water dispense valve open duration	.1s	E
MIXER TIME	Coffee whipper motor run duration	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual decaf auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to COF WATER TIME The actual dispense valve open time will be: COF' WATER TIME x OP: Water Mod /100	%	E,M

CAPPUCCINO (INSTANT COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE WTR TIME	Coffee water dispense valve open duration	.1s	E
TOPPING WTR TIME	Topping water dispense valve open duration	.1s	E
SUGAR WATER TIME	Sugar water dispense valve open duration	.1s	E
TOPPING TIME	Auger run time for topping ingredient	.1s	E
COF MIXER TIME	Coffee whipper motor run duration	.1s	E
COFFEE TIME	Auger run time for coffee ingredient	.1s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
COFFEE START	Offset from t=0 applied to all coffee related components. Ensures drink with white head.	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Topping Mod	Manager level control applied to TOPPING TIME The actual topping auger run time will be: TOPPING TIME x OP: Topping Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M

CAFÉ LATTE (INSTANT COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Coffee Ingredient Auger Control	.1s	E
COFFEE ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
WATER TIME	Coffee water dispense valve open duration	.1s	E
COF MIXER TIME	Coffee whipper motor run duration	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected, e.g. 75 will allocate 75% of the water to the milk valve	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Milk ingredient	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
COFFEE DELAY	Time after t=0 that coffee components of drink start	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E ,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M

ESPRESSO (INSTANT COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Coffee Ingredient Auger Control	.1s	E
COFFEE ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
WATER TIME	Coffee water dispense valve open duration	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M

CAFÉ MOCHA (INSTANT COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
CHOCOLATE START	Chocolate ingredient start time referenced to t=0	.1s	E
CHOCOLATE TIME	Chocolate ingredient auger run time	.1s	E
TOPPING START	Topping ingredient start time referenced to t=0	.1s	E
TOPPING TIME	Topping ingredient auger run time	.1s	E
WATER TIME	Total amount of valve opening time for this selection allocation of water to the three bowls is automatic	.1s	E
COFFEE START	Start time for coffee component of this selection. Offset from t=0 for Ingredient, water and mixer	.1s	E
COFFEE TIME	Coffee ingredient auger run time	.1s	E
CHOC MIXER TIME	Chocolate Mixer run time referenced to t=0 other mixer times are calculated automatically	.1s	E
OP: Topping Mod	Manager level control applied to TOPPING TIME The actual topping auger run time will be: TOPPING TIME x OP: Topping Mod /100	%	E,M
OP: Choc Mod	Manager level control applied to CHOCOLATE TIME The actual chocolate auger run time will be: CHOCOLATE TIME x OP: Choc Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual chocolate auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	As engineers mode equivalent however the factor is displayed as a value between –25 and +25 % the increments are 5%	%	E,M

WHIPPED COFFEE (INSTANT)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Coffee Ingredient Auger Control	.1s	E
COFFEE ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
WATER TIME	Coffee water dispense valve open duration	.1s	E
MIXER TIME	Coffee mixer motor run time	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected, e.g. 75 will allocate 75% of the water to the milk valve	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E ,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to COF WATER TIME The actual dispense valve open time will be: COF' WATER TIME x OP: Water Mod/100	%	E,M

WHIPPED DECAF COFFEE (INSTANT)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Decaf Ingredient Auger Control	.1 s	E
COFFEE ADJUST	Increment applied to decaf auger run time when strong selected	.1 s	E
WATER TIME	Coffee water dispense valve open duration	.1 s	E
MIXER TIME	Coffee Mixer motor run time	.1 s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1 s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1 s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1 s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1 s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and coffee valves. If white/sugar drink is bigger than black version decrease, if bigger increase	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual decaf auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to COF WATER TIME The actual dispense valve open time will be: COF' WATER TIME x OP: Water Mod /100	%	E,M

INSTANT TEA

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
TEA TIME	Auger run time for tea ingredient	.1s	E
TEA ADJUSTMENT	Increment applied to Tea auger run time when strong selected	.1s	E
WATER TIME	Tea water dispense valve open duration	.1s	E
WATER SPLIT	Fraction of total water time, above, to be allocated to the milk sugar valve if milk or sugar is selected	%	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1s	E
MILK TIME	Auger run time for Optional ingredient if selected	.1s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1s	E
VALVE FACTOR	Compensating variable to account for differing flow rates between milk/sugar and tea valves. If white/sugar drink is bigger than black version decrease, if bigger increase	8-14	
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Tea Mod	Manager level control applied to TEA TIME The actual tea auger run time will be: TEA TIME x OP: Tea Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME The actual dispense valve open time will be: WATER TIME x OP: Water Mod /100	%	E,M

SOUP

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
SOUP TIME	Auger run time for soup ingredient	.1 s	E
WATER TIME	Soup water dispense valve open duration	.1s	E
MIXER TIME	Soup mixer motor run time	.1s	E
MIXER START	Soup mixer motor start time referenced to t-=0	.1s	E
OP: Soup Mod	Manager level control applied to SOUP TIME The actual soup auger run time will be: SOUP TIME x OP: Soup Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME The actual dispense valve open time will be: WATER TIME x OP: Water Mod /100	%	E,M

LEMON (STILL DRINK 1)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
WATER TIME	Chilled water dispense valve open duration	.1s	E
SYRUP 1 TIME	Syrup pump one operating time	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP: Water Mod /100	%	E,M
OP: Syrup 1 time	Manager level control applied to SYRUP 1 TIME The actual syrup pump run time will be: SYRUP 1 TIME x OP: Syrup 1 time /100	%	E,M

ORANGE (STILL DRINK 2)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
WATER TIME	Chilled water dispense valve open duration	.1s	E
SYRUP 2 TIME	Syrup pump two operating time	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP: Water Mod /100	%	E,M

OP: Syrup 2 time	Manager level control applied to SYRUP 2 TIME The actual syrup pump run time will be: SYRUP 2 TIME x OP: Syrup 2 time /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

COLD WATER

Parameter Name	Function	Units	Level See *
WATER TIME	Chilled water dispense valve open duration	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP:Water Mod /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

COLA (SPARKLING DRINK 1)

Parameter Name	Function	Units	Level See *
WATER TIME	Sparkling water dispense valve open duration	.1s	E
SYRUP 1 TIME	Syrup pump one operating time	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP: Water Mod /100	%	E,M
OP: Syrup 1 time	Manager level control applied to SYRUP 1 TIME The actual syrup pump run time will be: SYRUP 1 TIME x OP: Syrup 1 time /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

ORANGE (SPARKLING DRINK 2)

Parameter Name	Function	Units	Level See *
WATER TIME	Sparkling water dispense valve open duration	.1s	E
SYRUP 2 TIME	Syrup pump two operating time	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP: Water Mod /100	%	E,M
OP: Syrup 2 time	Manager level control applied to SYRUP 2 TIME The actual syrup pump run time will be: SYRUP 2 TIME x OP: Syrup 2 time /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

SPARKLING WATER

Parameter Name	Function	Units	Level See *

WATER TIME	Sparkling water dispense valve open duration	.1s	E
OP: Water Mod	Manager level control applied to WATER TIME The actual valve opening time will be: WATER TIME x OP:Water Mod /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

HOT WATER

Parameter Name	Function	Units	Level See *
HOT WATER TIME	Hot water dispense valve open duration	.1s	E
OP: Hot Water Mod	Manager level control applied to HOT WATER TIME The actual valve opening time will be: HOT WATER TIME x OP:Water Mod /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

FRESH BREW TEA

Parameter Name	Function	Units	Level See *
TEA WATER TIME	Tea water dispense valve open duration	.1s	E
SUGAR WATER TIME	Milk/Sugar dispense valve opening time if optional ingredient selected. This will be deducted from the TEA WATER TIME if so used	.1 s	E
TEA TIME	Auger run time for tea ingredient	.1s	E
TEA ADJUSTMENT	Increment applied to tea auger run time when strong selected	.1 s	E
TEA MIXER START	Mixer start time for the optional milk/sugar component. That is the milk/sugar mixer start time ref t=0	.1 s	E
TEA MIXER TIME	Mixer run time for the optional milk/sugar component	.1 s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1 s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.01 s	E
MILK TIME	Auger run time for Optional ingredient if selected	.01 s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1 s	E
PAUSE TIME	Delay between first dose of water through brew chamber and the second dose	.1s	E,M
DRAIN TIME	Time to allow tea to drain from the brew chamber before allowing the head to move	.1s	E,M
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be:	%	E,M

	MILK TIME x OP: Milk Mod /100		
OP: Tea Mod	Manager level control applied to TEA TIME The actual tea auger run time will be: TEA TIME x OP: Tea Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

FRESH BREW COFFEE

Parameter Name	Function	Units	Level See *
INFUSION TIME	Delay after coffee & water are added to brew chamber before brewer closes	.1s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
WATER TIME	Coffee brewer dispense valve open duration	%	E
M&S WATER TIME	Milk & Sugar valve opening time		E
VALVE FACTOR	Balancing factor to account for difference in flow rate between Milk/Sugar valve and brewer valve. If white / sugar drink is smaller than black version increase VALVE FACTOR and vice versa. Range 8-14	Ratio X 10	E
COFFEE ING TIME	Coffee Ingredient Auger Control	.1 s	E
STRENGTH ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	1. s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.01 s	E
MILK TIME	Auger run time for Optional ingredient if selected	.01 s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1 s	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
HOT WATER TIME	Duration for which hot water valve opens to supplement brewer volume for larger drinks	.1 s	E
BLACK DRAIN TIME	Idle time before head retracts following dispense of selection with no optional components	.1 s	E
WHITE DRAIN TIME	Idle time before head retracts following dispense of selection where milk or sugar have been selected	.1 s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Tea Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME The actual dispense valve open time will be:	%	E,M

	WATER TIME x OP: Water Mod /100		

WHIPPED FRESH BREW COFFEE

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
Note : All other settings for this drink are shared with the normal fresh brew coffee drink			

FRESH BREW DECAF COFFEE

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
INFUSION TIME	Delay after coffee & water are added to brew chamber before brewer closes	.1s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
WATER TIME	Coffee brewer dispense valve open duration	%	E
M&S WATER TIME	Milk & Sugar valve opening time		E
VALVE FACTOR	Balancing factor to account for difference in flow rate between Milk/Sugar valve and brewer valve. If white / sugar drink is smaller than black version increase VALVE FACTOR and visa versa. Range 8-14	Ratio X 10	E
COFFEE ING TIME	Decaf Ingredient Auger Control	.1 s	E
STRENGTH ADJUST	Increment applied to decaf auger run time when strong selected	.1s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	1. s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.01 s	E
MILK TIME	Auger run time for Optional ingredient if selected	.01 s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1 s	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
BLACK DRAIN TIME	Idle time before head retracts following dispense of selection with no optional components	.1 s	E
WHITE DRAIN TIME	Idle time before head retracts following dispense of selection where milk or sugar have been selected	.1 s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual decaf auger run time will be: COFFEE TIME x OP: Tea Mod /100	%	E,M
OP: Water Mod	Manager level control applied to WATER TIME	%	E,M

	The actual dispense valve open time will be: WATER TIME x OP: Water Mod /100		

WHIPPED FRESH BREW DECAF COFFEE

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
Note : All other settings for this drink are shared with the normal fresh brew decaf coffee drink			

ESPRESSO

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
INFUSION TIME	Delay after coffee & water are added to brew chamber before brewer closes	.1s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
WATER TIME	Coffee brewer dispense valve open duration	%	E
M&S WATER TIME	Milk & Sugar valve opening time		E
SUGAR TIME	Auger run time for Optional ingredient if selected	1. s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.01 s	E
MILK TIME	Auger run time for Optional ingredient if selected	.01 s	E
MILK ADJUSTMENT	Increment applied to milk auger run time when extra milk selected	.1 s	E
COFFEE ING TIME	Coffee Ingredient Auger Control	.1 s	E
VALVE FACTOR	Balancing factor to account for difference in flow rate between Milk/Sugar valve and brewer valve. If white / sugar drink is smaller than black version increase VALVE FACTOR and vice versa. Range 8-14	Ratio X 10	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
BLACK DRAIN TIME	Idle time before head retracts following dispense of selection with no optional components	.1 s	E
WHITE DRAIN TIME	Idle time before head retracts following dispense of selection where milk or sugar have been selected	.1 s	E
STRENGTH ADJUST	Increment applied to coffee auger run time when strong selected	.1s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE ING TIME The actual coffee auger run time will be:	%	E,M

	COFFEE ING TIME x OP: Tea Mod /100		
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod/100	%	E,M

CAPPUCCINO (FRESH BREW COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
TOPPING START	Start time topping & sugar components. Referenced to t=0.	.1s	E
INFUSION TIME	Delay after coffee & water are added to brew chamber before brewer closes	.1 s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
WATER TIME	Coffee brewer dispense valve open duration	.1 s	E
TOPPING WATER TIME	Topping dispense valve open duration	.1s	E
MILK MIXER TIME	Topping mixer motor run time	.1s	E
COFFEE ING TIME	Coffee Ingredient Auger Control	1. s	E
COFFEE MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
MILK MIXER TIME	Run time for topping mixer motor	.1 s	E
SUGAR WATER TIME	Sugar valve open time if sugar selected if not water is added to topping water	.1 s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.01 s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1 s	E
TOPPING TIME	Auger run time for Topping Ingredient	.1 s	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to TOPPING TIME The actual topping auger run time will be: TOPPING TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE ING TIME The actual coffee auger run time will be: COFFEE ING TIME x OP: Coffee Mod /100	%	E,M

OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M

** E indicates engineer access level*
M indicates manager access level

CAFÉ LATE (FRESH BREW COFFEE)

Parameter Name	Function	Units	Level See *
COFFEE ING TIME	Coffee Ingredient Auger Control	.1s	E
INFUSION TIME	Delay after coffee & water are added to brew chamber before brewer closes	.1 s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
WATER TIME	Coffee brewer dispense valve open duration	.1 s	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
MILK START	Start time milk & sugar components. Referenced to t=0	.1s	E
MILK TIME	Auger run time for Milk ingredient	.1 s	E
MILK WATER TIME	Milk/Sugar dispense valve open duration	.1 s	E
SUGAR TIME	Auger run time for Optional ingredient if selected	.1 s	E
SUGAR ADJUSTMENT	Increment applied to sugar auger run time when extra sugar selected	.1 s	E
OP: Sugar Mod	Manager level control applied to SUGAR TIME The actual sugar auger run time will be: SUGAR TIME x OP: Sugar Mod /100	%	E,M
OP: Milk Mod	Manager level control applied to MILK TIME The actual milk auger run time will be: MILK TIME x OP: Milk Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE ING TIME The actual coffee auger run time will be: COFFEE ING TIME x OP: Coffee Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP:Water Mod /100	%	E,M

CAFÉ MOCHA (FRESH BREW COFFEE)

** E indicates engineer access level*
M indicates manager access level

Parameter Name	Function	Units	Level See *
COFFEE TIME	Coffee Ingredient Auger Control	1. s	E
WATER START TIME	Time after start that coffee water valve opens	.1s	E
COFFEE WATER	Coffee brewer dispense valve open duration	.1 s	E
COFFEE MIXER TIME	Run time for coffee mixer motor referenced to the beginning of the first air pump activity	.1 s	E
TOPPING TIME	Auger run time for ingredient	.1 s	E
CHOCOLATE TIME	Auger run time for ingredient	.1s	E
CHOC WATER TIME	Choc/Topping dispense valve open duration	.1s	E
CHOC MIXER TIME	Run time for choc/topping mixer motor	.1 s	E
BREWER START	Brewer cycle start time	.1s	E
PUMP 1 DURATION	Duration of first air pump operation	.1 s	E
PUMP 1 DELAY	Inactive period following first air pump operation	.1 s	E
PUMP 2 DURATION	Duration of second air pump operation	.1 s	E
PUMP 2 DELAY	Inactive period following second air pump operation	.1 s	E
OP: Topping Mod	Manager level control applied to TOPPING TIME The actual topping auger run time will be: TOPPING TIME x OP: Topping Mod /100	%	E,M
OP: Choc Mod	Manager level control applied to CHOCOLATE TIME The actual chocolate auger run time will be: CHOCOLATE TIME x OP: Choc Mod /100	%	E,M
OP: Water Mod	Manager level control applied to water times The actual dispense valve open times will be: <TIME> x OP: Water Mod /100	%	E,M
OP: Coffee Mod	Manager level control applied to COFFEE TIME The actual coffee auger run time will be: COFFEE TIME x OP: Coffee Mod /100	%	E,M

Set Date and Time

9. Entering SET DATE & TIME provides access to a submenu consisting of SET DATE and SET TIME.

   (a) Set Date

   The SET DATE option allows the programmer to change the displayed date.

   (b) Set Time

   The SET TIME option allows the programmer to change the displayed time.

   The battery fitted to the 58372 Control Board has an open circuiting link to prevent discharge during extended periods of storage. When commissioning a new board the links labelled CLOCK BAT on the control board must be fitted otherwise the board will not maintain the time when power is removed.

10. The 58372 Control Board contains a lithium battery care should be taken to dispose of this in an appropriate manner should a board be scrapped. The board should not be disposed of by burning.

Set Pricing Mode

11. Entering SET VEND PRICING allows the programmer to select one of the following pricing modes:

   - NORMAL PRICES
   - ALL DRINKS ARE FREE
   - CHEAP DRINKS

   The selected mode becomes the default setting to which the machine will return after any timed activities.

Change Prices

12. Entering CHANGE PRICES provides access to the following submenu:

   - NORMAL PRICES
   - ALL CHEAP PRICES
   - ALL NORMAL PRICES
   - OWN CUP DISCOUNT
   - CHEAP PRICES

   Entering NORMAL PRICES or CHEAP PRICES provides access to a list of drinks with corresponding prices. The price of a displayed drink can be changed by pressing ENTER, altering the value shown, and pressing ENTER again.

   Entering ALL NORMAL PRICES or ALL CHEAP PRICES provides access to a list of drinks with corresponding prices. The price of a displayed drink can be changed by pressing ENTER, altering the value shown, and pressing ENTER again.

   Entering OWN CUP DISCOUNT allows the programmer to select the price of a plastic cup (and is preset at 0 pence). The value entered here is deducted from the normal price of a drink

when there is no requirement for a dispensed plastic cup, i.e. when customers' own cups or mugs are used.

Inhibit Drinks

13. Entering INHIBIT DRINKS provides access to a submenu of drinks, each one suffixed with the drink status (ON/OFF). The status of a displayed drink can be changed by pressing ENTER, altering the status by using the ↑ (UP) or ↓ (DOWN) keys, and pressing ENTER again.

Alter Drink Name

14. The ALTER DRINK NAME menu has two submenus. These are: DRINK NAME and MENU NAME. To change between the two submenus the ↑ (UP) and ↓ (DOWN) keys are used. Pressing ENTER selects the submenu. Pressing ESCAPE returns to the higher-level menu. The function of each of the sub menus is described below:

    (a) The DRINK NAME submenu allows the name displayed when a particular drink is selected to be changed to one of a number of pre-defined alternatives.

    To avoid confusion the drink retains its original name in this submenu. The alternative name will be used to reference that selection for all other display and audit activities. The reason retaining the original reference to the name in this submenu is that, for example, it could be that both syrup drinks are to be orange temporarily. Once the lemon name had been changed to orange, it would not be possible to tell the altered drink from the existing one when it came time to change it back again.

    The list of alternative drink names is as follows:

CHOC-O-CINO	BLACKCURRANT	LEMON
COLA	ORANGE	VEG.SOUP
TOMATO SOUP	BEEF SOUP	CAPPUCCINO
LEMON	PEACH	SOUP
LIME	MUSHR'M SOUP	MILO
CAFE MOCHA	ESPRESCHOC	CAFE CREME
ESPRESSO X 2	CHICKEN SOUP	PEPSI COLA
TROPICAL FRUIT	COCA COLA	DIET COCA COLA
PEPSI-MAX	PEPSI	DIET PEPSI
ORANGE TANGO	LEMON	STILL JUSODA
DIET TANGO LEMON	SPARKLING JUSODA	
IRN-BRU	STILL IRN-BRU	FIZZY IRN-BRU
COFFEE	WHIPPED COFFEE	ELDERFLOWER
VIMTO	COLA	LEMON TEA
SOUP	WHIPPED COFFEE	COFFEE
IMPORIENT TEA	FRESHBEAN COFFEE	FAIRTRADE COFFEE
TETLEY LEAF TEA	TYPHOO LEAF TEA	PG LEAF TEA
GOLD BLEND	NESCAFE COFFEE	KENCO COFFEE
LEMON&LIME	SPARKLING WATER	STILL WATER
COLD WATER	HOTWATER	

NOTE

Changing a drinks name **does not affect** the actual parameters that control the drink. It only affects the name displayed when that selection is chosen or audited. If the name of the chocolate selection is changed to LIME, the chocolate ingredient motor, valves and mixer will still run when that selection is taken. To change the drink rather than the drink name, use the EDIT DRINK MAP facility.

(b) The MENU NAME submenu allows the name displayed when a button is assigned a navigation function. A number of pre-defined alternatives are available as listed below:

- MAIN MENU
- DRINK NAMES

To avoid confusion the menu retains its original name in this submenu. The alternative name will be used to reference that selection for all other display. This is done to rule out the possibility of an engineer inadvertently changing all menus to have the same names.

Timed Activities

15. The TIMED ACTIVITIES option allows the machine to be set to different states on a timed basis. The states currently available are as follows:

(a) Cheap causes the machine to offer drinks at the reduced rate.

(b) Free causes the machine to offer drinks free.

(c) Flush causes the machine to flush it instant components.

(d) Fl'Brew causes the machine to flush its brewers.

(e) Shutdown causes the machine to stop vending.

(f) Unused timed activity slot not used, operate as normal.

(g) Economy causes the machine to temporarily shutdown until a drink is requested. The water in the boiler is maintained at a reduced temperature and a message prompting potential users to press start and so cause the machine to heat and return to operation is displayed. After a period of inactivity the machine returns to low power mode.

(h) Sms-Aud causes the machine to text an sms audit to a desired phone if the addition hardware has been added to the machine

(i) Ibt' Vnd causes the machine to stop vending for the given time period

16. Entering TIMED ACTIVITIES provides access to a submenu consisting of ten timed activities. Two types of timing routine, Daily and Block, are available for each activity.

(a) Daily

```
DAILY 0930 1730
M0N>FRI REDUCED
```

The above display describes a timed activity where, between 9:30am and 5:30pm, Monday to Friday, the machine operates in the reduced prices mode.

(b) Block

```
BL0CK 0930 M0N>
1730 FRI REDUCED
```

The above display describes a timed activity where, between 9:30am on Monday and 5:30pm on Friday, the machine operates continually in the reduced prices mode.

17. When entering a SELF CLEAN state into a daily routine, a comma will appear between the start and end times, indicating that flushing will occur at the two specified times and not between them. Where only one SELF CLEAN per day is required, the time entered in the second slot should be 1 minute later than the first. If both times entered are the same flushing may not take place.

NOTE

The Flush and FL'Brew state must not be entered in a block routine.

18. The displayed activity can be changed by altering the data using the ← (LEFT), → (RIGHT), ↑ (UP) and ↓ (DOWN) keys. With the correct data entered, the ENTER key is pressed to move to the next activity, or ESCAPE pressed to leave.

Temperature Settings

19. Entering TEMP SETTINGS provides access to the following submenu:

- DESIRED TEMP
- MINIMUM TEMPERATURE

(a) Desired Temperature allows the desired water heater temperature to be set.

(b) Minimum Temperature allows the minimum temperature at which vending may commence to be set.

The above values are set in degrees centigrade. The minimum possible temperature the control system can measure is 57ºC, and it is not possible to set a desired temperature below this value. The minimum temperature can be set to zero to allow operation with a cold tank for test purposes. The value read by the analogue to digital converter on the control board corresponding to the temperature set is displayed in parenthesis next to the ºC value.

Output Test

20. The OUTPUT TEST allows any of the output devices to be turned on and off to aid with diagnostics. On entering output test the display will show the device name, a prompt indicating that the ↑ (UP), ↓ (DOWN) and ENTER keys are active and a number indicating the position of the device in the list. The arrow keys are used to scroll through the list of devices whilst the ENTER key will activate and de activate the device.

NOTE 1

It should be noted that some specific devices, specifically the SSR, Carousel Motor and the Inlet Valves may not respond as anticipated to OUTPUT TEST. The software controlling these devices is constantly running and will quickly override the control action of the output test. The output test function for the dispense arm is another special case. If either of the dispense arm actuators (DISPENSE ARM or DISP. ARM FORWARD) is invoked in output test, the arm will advance to the HOT position, and then return to the home position.

NOTE 2

The output test function will not work if the engineers program was entered when the machine was powered up with the ENG LINK in place. See section 3 paragraph 4.

Input Test

21. The INPUT TEST function allows the state of the control board input signals to be examined. The input test menu is common to all versions of the Neo range and as such contains references to all possible input devices. The state of brewer position index inputs will be visible, even if the brewers themselves are not fitted on a particular version.

On entering INPUT TEST, the display will show the device name of the first device in the list and logical state associated with the condition of its input. That is to say the meaning of the state of the input is displayed rather than a simple high or low value. Thus the values displayed for the waste probe are WET or DRY. The screen will dynamically reflect the condition of the input. The ↑ (UP), ↓ (DOWN) keys are used to step through each input in turn. The following input signals can be examined:

INPUT DEVICE	STATE 1	STATE 2
Coffee brewer index	CBREWER HOME	CBREWER NOT HOME
Carousel throat switch	CUPS AVAILABLE	CUPS NOT AVAILABLE
Carousel position switch	CUP DROP IN POS	CUP DROP OUT POS
Dispense arm 'vend position' micro switch	IN V POS i.e. forward and ready to vend	ARM NOT IN V POS
Dispense arm 'HOME position' micro switch	ARM NOT HOME	DISP ARM HOME
Boiler level probe	BOILER IS WET	BOILER IS DRY
Waste tub probe	WASTE IS WET	WASTE IS DRY
Spare level Input	SPARE IS WET	SPARE IS DRY
User cup sensor	CUPSNS:NO CUP	CUPSNS:NO CUP
Tea brewer index switch	TBREWER NOT HOME	TBREWER HOME
Brewer pressure switch	NO PRESSURE	PRESSURE
Jug switch	0 (Normal)	1 (1=jug or free)
Free Input	OFF	ON (To work must be enabled in General Settings)
Security input	OFF	ON (To work must be enabled in General Settings)
PIR SENSOR	OFF (not fitted as standard)	ON (part of economy mode)

Set Product Constants

22. The Neo control system maintains a counter for the amount of each ingredient consumed. For these counters to work correctly the throw rate in grams per second actually dispensed

from each ingredients canister must be input. One way to determine the correct value is to catch the ingredient dispensed during ten vends of a particular type and then divide the weight of ingredients so dispensed by the auger run time figures set for that vend. For this to work all scale factors must be set to 100.

If the ingredient counters are not required this facility can safely be ignored. The values entered are for audit purposes only and do not affect the drink formulations or machine operation in any way.

Machine Status

23. Entering MACHINE STATUS provides access to the status of the following machine features:

- TEMP STATUS
- 1^2C HEALTH
- MEMORY USAGE*
- SOFTWARE VERSION
- FRAM FAULTS

(a) TEMP STATUS

This display provides information relating to the heater control circuit. A power (PWR) level value and a graphical representation of the drive waveform to the heater are displayed. The temperature reading in degrees centigrade derived from the thermistor probe in the water boiler is displayed along with the analogue-to-digital converter value from which the temperature was calculated is parenthesis.

(b) I^2C Health

This display provides information relating to the 1^2C serial link between the Controller and RIO Boards. A percentage 'health' reading is given, indicating the success rate of communication of the link. A reading of less than 100% may indicate the presence of electrical noise. The number of negative acknowledgements (NACKS) is also recorded.

(c) Software Version

These displays indicate the version of the software installed on the Controller Board. (Program + EPROM = Firmware.) The firmware version should be quoted when seeking advice.

(d) FRAM Faults

This checks to see how many times the program has tried to write to the FRAM Memory should always been at (0), this is a program to check for faults that are occurring in the machine.

Set Dry Vends

24. Entering SET DRY VENDS provides access to the following sub-menu:

- VENDS ARE WET

- VENDS ARE DRY

(a) Vends are WET

All vends are dispensed with water as normal.

(b) Vends are DRY

All vends are dispensed without water. This allows ingredients to be weighed. If a multi-ingredient drink is selected, only those ingredients will be vended.

Serial Number

25. Entering SERIAL NUMBER accesses the following submenu:

- M/C SERIAL NUMBER
- C/B SERIAL NUMBER
- M/C AUDIT NUMBER

(a) M/C Serial Number

The machine serial number consists of 8 digits and identifies the machine on audit trails.

(b) M/C Audit Number

The machine audit number indicates the number of audits carried out to date.

Configure Machine

26. Entering CONFIGURE M/C provides access to the following machine configuration submenu headings:

- GENERAL SETTINGS
- SET MACHINE TYPE
- SET CASH SYSTEM
- JUG SETTINGS
- HARDWARE SETTINGS
- CUP LIGHT CONFIG
- GSM MODEM CONFIG

(a) GENERAL SETTINGS

The GENERAL SETTINGS menu provides access to a number of diverse parameters controlling machine operation that do not naturally group with any of the other control variables.

PARAMETER	**POSSIBLE VALUES** (DEFAULT IN BOLD)	
SILENT KEYS	**0** Keys give audible feedback	1 Keys are silent 2 Keys are quieter
TOKEN ONLY	**0** Messages appropriate to coins/card system or free	1 Messages appropriate to token only operation
CHIPPER /CHIPKNIP	**1** Suppress credit display if just card system fitted	0 Normal display of credit

QUIET FLUSH BEEP	**0** Sound load siren while flushing	1 Sound siren quietly while flushing
HIDE PRICES	**0**	1
WATER SHOT START	**10** (Consult factory before changing) Time after a fresh coffee dispense cycle ends that a grout clearing water shot starts	
WATER SHOT DUR	**20** (Consult factory before changing) Duration in 1/100 seconds that the water shot described above lasts	
BELT WARN TIME	**700** Time, in 1/100 seconds, after the pressure sensor should have reported the coffee brew chamber depressurised but has not, that a 'New filter belt' warning is displayed	
BELT FAULT TIME	**2000** Time, in 1/100 seconds, after the pressure sensor should have reported the coffee brew chamber depressurised but has not, that a 'New filter belt' fault occurs	
ROTATION LIMIT	**100** Time, in 1/100 seconds, after the pressure sensor should have reported the coffee brew chamber depressurised but has not, that a flag is set to perform an extra rotation of the brewer at the end of the next brewer drink cycle	
NO BELT WARNING	**1** Do not display information about the state of the filter belt on the user display	0 Display belt warnings on the user display
ENG MODE TIMEOUT	**0** Do not automatically exit engineers mode	30 (recommended**)** Time in 1/10 seconds after which, if no key is pressed exit from the engineers program will commence
MAX EXTRA CUPS	**2** Number of retries at dispensing a cup before a long delay until next cup occurs to deter theft	
CURRENCY	0 Don't display currency symbol **1** Currency symbol is £ 2 Currency symbol is € 3 Currency symbol is $	
FREE INPUT	**0** Ignore free input	1 Monitor free input
SECURITY INPUT	**0** Ignore security input	1 Monitor security input
SCREEN SAVE DELAY	**0** Time, in 1/100 seconds, after the machine display has been inactive till it will revert to a screen saving mode	
CLEAR EVENT LOG	**0**	
ALLOW TANK RESET	**1** The number of times the machine will allow the water tank to reset to fill again, this number can be altered to allow more resets	

SIMPLE MDB CODES	**0** Fully encode products, i.e., send product code for: Cheap+Own cup, Cheap No cup, Normal+Own cup and Normal No cup	1 Go light on product codes. MDB sends just one number per selection regardless of price. N&W card reader fix
GLOBAL SCALING	**170 Size of drink in cc**. Assuming machine default parameters and valves were set up to give 170cc then this variable can be used to scale all drinks together to rapidly accommodate changing cup sizes	
GROUP PRE-GRIND	**0** Grinds after vend so Doser is full for next vend	
F.DOSE COMP 0.1g	**8** The setting the Doser is on	
GRP STRENGTH OPT	**0** Extra strength options on group drinks	
GROUP HI. VOL COMP	**0** Compensation for low flow rate if grind is fine.	
GROUP PREHEAT OP	**1** Extra temperature to pre-heat group boiler	
GRP REST AT BREW	**0** Alternate rest position for group brewer	
GRP CLEAN FAULT	**0** Warning message when machine has done certain number of group brewer vends. This will clear when a flush is done.	
GRP CLEAN WARN	**1000** number of vends needed to trigger above warning message	

(b) SET MACHINE TYPE

The SET MACHINE TYPE menu provides the means by which the control board software is configured to produce the desired menu and work with the appropriate combination of brewers and chillers present in the machine. This operation **must be carried out** when fitting a new or replacement board and can be performed with or without the ENG LNK connected, for a new blank board it is always advised to start with the ENG LNK on. (For performing this with the ENG LNK on please see **Section 5 Setting up a New or Replacement Control Board**)

On selecting this option the display will change to one of the following form:

STEP CONFIGS
↑,↓, ENTER OR ESC

There is only the choice of **STEP CONFIGS**. Pressing ENTER selects the new configuration.

Whilst the set up process takes place the LCD indicates the status of the procedure. On completion the screen reverts to the SET MACHINE TYPE menu. In order to aid understanding the following table contains an explanation of the abbreviations used.

ABBREVIATION	EXPLANATION

C+D+S	Machine has Coffee, Decaf & Soup canisters
E	Machine has a Espresso canister
C&S	Machine has Coffee & Soup canisters
D	Machine has a Decaf canister
S	Machine has a Soup canister
Ds+E	Machine has Decaf speciality vends and a Espresso canister
Ds+D	Machine has Decaf speciality vends and a Decaf canister
Ds+S	Machine has Decaf speciality vends and a Soup canister
Ds	Machine has Decaf speciality vends
HOT	Machine has no cold water capability
HC	Machine has a chiller unit for cold water
HC2	Machine has a chiller unit with two flavoured syrups
HCC2	Machine has a carbonator unit with two flavoured syrups
INST	All drinks made from instant products
SFBT	Tea selections are fresh brew
DFB	Tea and regular coffee are fresh brew
TFB	Tea, regular coffee and decaf coffee are fresh brew

If a configuration with a Fresh Brew Coffee capability is selected, you will be offered the opportunity to select between R & G (Default) and BTC (Optional) configuration. The display will appear as below:

SET BREWER TYPE
ENTER=YES ESC=NO

If ESCAPE=NO is selected, initialisation will be performed using a set of defaults appropriate to R & G ingredients. After pressing ENTER to opt to specify the brewer type, the type can be changed using the ↑ (UP) and ↓ (DOWN) arrow keys:

NO BEAN GRINDER
↑↓, ENTER OR ESC

BEAN GRINDER
↑↓, ENTER OR ESC

Select NO BEAN GRINDER for the R & G case and BEAN GRINDER for the BTC case. Pressing ENTER confirms the selection.

Once the coffee brewer has been set you will be offered the opportunity to select the

extras keys, you can select between Quick Code (Default), Jug Mode, +/- Strength configuration. The display will appear as below:

CHANGE EXTRAS? **ENTER=YES ESC=NO**

If ESCAPE=NO is selected with the ENG LNK connected the machine will default to Quick Code, if the link is not connected the machine will default this to the last extra the machine was set to. After pressing ENTER to opt to specify the brewer type, the type can be changed using the ↑ (UP) and ↓ (DOWN) arrow keys:

QUICK CODE **↑↓, ENTER OR ESC**	**JUG MODE** **↑↓, ENTER OR ESC**	**+/- STRENGTH** **↑↓, ENTER OR ESC**

Whilst the set up process takes place the LCD indicates the status of the procedure. On completion the screen reverts to the SET MACHINE TYPE menu. In order to aid understanding the previous table contains an explanation of the abbreviations used.

Care should be exercised when using this option, as all previous settings will be lost.

At the time of writing there are 33 configurations. The abbreviated machine description and menu associated with each configuration is shown in the following table.

Table 3.2 Machine Configuration Matrix

STEP CONFIGURATION

KEY • Instant coffee/Tea ♦ Fresh brew Coffee/Tea	Config No.	Fresh Coffee	Tea	Fresh Decaf	Espresso	Cappuccino	Café Latte	Cafe Mocha	Espreschoc	Chocolate	Chocomilk	Hot Water	Soup	Still Water	Still Flavour 1	Still Flavour 2	Still Water–own cup	Carb. Water	Carb. Flavour 1	Carb. Flavour 2	Instant Coffee	Instant Decaf	Decaf Cappuccino	Decaff Latte	Decaf Espresso	Decaf Mocha
SFBT HOT C+D+S	000		♦		•	•	•	•	•	•	•	•	•								•	•				
SFBT HC C+D+S	001		♦		•	•	•	•	•	•	•	•	•	•							•	•				
SFBT HC2 C+D+S	002		♦		•	•	•	•	•	•	•		•	•	•						•	•				
SFBT HCC2 C+D+S	003		♦		•	•	•	•		•	•		•	•	•				•		•	•				
TFB HOT E	004	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•									•					
TFB HC E	005	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•		•							•					
TFB HC2 E	006	♦	♦	♦	♦	♦	♦	♦	♦	•	•			•	•						•					
TFB HCC2 E	007	♦	♦	♦	♦	♦	♦	♦		•	•			•	•				•		•					
TFB HOT D	008	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•										•				
TFB HC D	009	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•		•								•				
TFB HC2 D	010	♦	♦	♦	♦	♦	♦	♦	♦	•	•			•	•							•				
TFB HCC2 D	011	♦	♦	♦	♦	♦	♦	♦		•	•			•	•				•			•				
TFB HOT S	012	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•	•													
TFB HC S	013	♦	♦	♦	♦	♦	♦	♦	♦	•	•	•	•	•												
TFB HC2 S	014	♦	♦	♦	♦	♦	♦	♦	♦	•	•		•	•	•											
TFB HCC2 S	015	♦	♦	♦	♦	♦	♦	♦		•	•		•	•	•				•							
DFB HOT E	016	♦	♦		♦	♦	♦	♦		•	•	•									•					
DFB HC E	017	♦	♦		♦	♦	♦	♦		•	•	•		•							•					
DFB HC2 E	018	♦	♦		♦	♦	♦	♦		•	•	•		•	•						•					

KEY ● Instant coffee/Tea ♦ Fresh brew Coffee/Tea	Config No.	Fresh Coffee	Tea	Fresh Decaf	Espresso	Cappuccino	Café Latte	Cafe Mocha	Espreschoc	Chocolate	Chocomilk	Hot Water	Soup	Still Water	Still Flavour 1	Still Flavour 2	Still Water–own cup	Carb. Water	Carb. Flavour 1	Carb. Flavour 2	Instant Coffee	Instant Decaf	Decaf Cappuccino	Decaff Latte	Decaf Espresso	Decaf Mocha
DFB HCC2 E	019	♦	♦		♦	♦	♦	♦		●	●	●		●	●				●		●					
DFB HOT D	020	♦	♦		♦	♦	♦	♦		●	●	●										●				
DFB HC D	021	♦	♦		♦	♦	♦	♦		●	●	●		●								●				
DFB HC2 D	022	♦	♦		♦	♦	♦	♦		●	●	●		●	●							●				
DFB HCC2 D	023	♦	♦		♦	♦	♦	♦		●	●	●		●	●				●			●				
DFB HOT S	024	♦	♦		♦	♦	♦	♦		●	●	●	●													
DFB HC S	025	♦	♦		♦	♦	♦	♦		●	●	●	●	●												
DFB HC2 S	026	♦	♦		♦	♦	♦	♦		●	●	●	●	●	●											
DFB HCC2 S	027	♦	♦		♦	♦	♦	♦		●	●	●	●	●	●				●							
TFB HOT Ds+E	028	♦	♦	♦		♦	♦	♦		●		●									●		♦	♦		♦
TFB HC Ds+E	029	♦	♦	♦		♦	♦	♦		●		●		●							●		♦	♦		♦
TFB HC2 Ds+E	030	♦	♦	♦		♦	♦	♦		●				●	●						●		♦	♦		♦
TFB HCC2 Ds+E	031	♦	♦	♦		♦	♦	♦		●				●	●				●		●		♦	♦		♦
TFB HOT Ds+D	032	♦	♦	♦		♦	♦	♦		●		●										●	♦	♦		♦
TFB HC Ds+D	033	♦	♦	♦		♦	♦	♦		●		●		●								●	♦	♦		♦
TFB HC2 Ds+D	034	♦	♦	♦		♦	♦	♦		●				●	●							●	♦	♦		♦
TFB HCC2 Ds+D	035	♦	♦	♦		♦	♦	♦		●				●	●				●			●	♦	♦		♦
TFB HOT Ds+S	036	♦	♦	♦		♦	♦	♦		●		●	●										♦	♦		♦
TFB HC Ds+S	037	♦	♦	♦		♦	♦	♦		●		●	●	●									♦	♦		♦
TFB HC2 Ds+S	038	♦	♦	♦		♦	♦	♦		●			●	●	●								♦	♦		♦
TFB HCC2 Ds+S	039	♦	♦	♦		♦	♦			●			●	●	●				●				♦	♦		♦
DFB HOT Ds	040	♦	♦			♦	♦	♦		●	●	●										●	●	●		●
DFB HC Ds	041	♦	♦			♦	♦	♦		●	●			●								●	●	●		●

KEY ● Instant coffee/Tea ♦ Fresh brew Coffee/Tea	Config No.	Fresh Coffee	Tea	Fresh Decaf	Espresso	Cappuccino	Café Latte	Cafe Mocha	Espreschoc	Chocolate	Chocomilk	Hot Water	Soup	Still Water	Still Flavour 1	Still Flavour 2	Still Water–own cup	Carb. Water	Carb. Flavour 1	Carb. Flavour 2	Instant Coffee	Instant Decaf	Decaf Cappuccino	Decaff Latte	Decaf Espresso	Decaf Mocha
DFB HC2 DS	042	♦	♦			♦	♦	♦		●	●			●								●	●	●		●
DFB HCC2 DS	043	♦	♦			♦	♦	♦		●	●			●					●			●	●	●		●

(c) SET CASH SYSTEM

This option in this submenu allows the type of credit device to be selected. Existing versions of the Neo range of equipment support MDB change giving coin mechanisms and MDB and DIGICARD card reader units. At present NO SYSTEM, MDB PROTOCOL, MDB (ZIP VARIANT) and DIGICARD are the only options, however other choices to allow the selection of proprietary systems may be added in future versions.

If no payment system is connected NO SYSTEM should be selected.

To enable an MDB peripheral MDB PROTOCOL should be selected. If MDB PROTOCOL is selected and communication with at least one peripheral does not take place, the error screen below will be displayed. MDB (ZIP VARIENT) should be selected if an N&W ZIP reader is fitted. These units have a different interpretation of the MDB specification to many other readers and require a product specific implementation of the protocol.

OUT OF SERVICE
MECH LINK ERROR

(d) JUG SETTINGS

The Neo machine can be switched to a special 'Jug Mode' using a jug code or if the 'extras' on default are set to Jug. Whilst in this mode the machine will automatically repeat a number of cycles of a selected single cup portion. The number of repetitions can be altered by repeatedly pressing the selections' key to increase the number of cycles. When the number of cycles reaches a programmable maximum, it resets to one.

By default only the black coffee, decaf and tea selections can be selected in jug mode. However it is possible to override this to enable pot of white / sugared tea and coffee. A further override forces the entire menu to be available. The following table summarizes the function of the jug mode parameters:

PARAMETER	FUNCTION
MAX CUPS IN JUG	Maximum number of cycles allowed.
JUG KEY=FREE KEY	Reassign jug key to work as a free key. Default = NO
OPTIONS ON JUGS	Allow milk /sugar to be selected. Default = NO
ALL DRINKS JUGABLE	Allow all menu items to be jugged.
PRICED JUGS	Default = NO Require payment for jug vends.

CODED JUG 999	Default = 0 (NO) As no jug switch is fitted to the Neo the code entered here will need to be placed before the vend number to create a jug drink

(e) HARDWARE SETTINGS

This submenu allows some machine components to be disabled to allow limited functionality to be restored in the event of a failure. For example in the event that one of the cup sensor PCBs fails, it is possible to inform the control system that these are not fitted. Likewise in the event of a brewer failure setting the COFFEE BREWER to NO will allow any selections not reliant on the brewer to operate. Whilst all possible system components are visible in this submenu, irrespective of the machines configuration, it is only meaningful to ENABLE components that actually exist in the machine. Thus it makes no sense to set TEA BREWER to YES on an all-instant machine and indeed will result in an IO MAPPING ERROR.

PARAMETER	**FUNCTION**
CUP SENSORS	Enable disable user Cup Sensors. Default is YES - sensors fitted.
DISPENSE ARM	Enable moving dispense head. Default is YES. Can be usefully disabled only for diagnostics. The machine cannot operate with this item deselected.
ARM FORWARD	Yes/No Sets the dispense arm location in standby mode. The default setting will depend on the software version, pre version 04 the default was No, currently the default is yes. The decision to alter this setting must be based on an assessment of the risk of misuse of the equipment on site.
TEA BREWER	Enable Tea brewer. Default for Fresh Brew machine configurations is YES; for Instant configurations - NO.
COFFEE BREWER	Enable Coffee brewer. Default for Double Fresh Brew configurations is YES; for Instant and Single Fresh Brew configurations - NO.
COLD UNIT	Indicates the type of cold drinks unit installed. Possible values are: • HOT ONLY • CARBONATOR • CHILLER • CHILLER+SYRUP

GSM	Tells the machine it is fitted with a GSM system to allow text message audits and faults to be sent to mobile phones. Default NO

(f) Cup Light Config

This menu gives access to allow the dispense area LED light sequencing to be changed to a manor desired. The table below shows the sequences that the machine can be set to run.

CONFIGURATION	IDLE	VEND	VENDED
1	OFF	OFF	ON
2	OFF	ON	ON
3	ON	OFF	ON
4	OFF	TOGGLE	ON
5	ON	TOGGLE	ON
6	OFF	OFF	OFF
7	ON	ON	ON
8	OFF	ON	OFF
9	ON	OFF	OFF
10	OFF	TOGGLE	OFF
11	ON	TOGGLE	OFF

MDB Config

27. This menu provides the means to modify parameters related to MDB peripherals connected to the machine. However as support for additional peripherals is added, so additional settings will be added as appropriate.

The following table lists the submenus and parameters that are configurable:

PARAMETER	DESCRIPTION
MAX CREDIT	This monetary value defines the largest amount that can be accepted by the mechanism. Once the displayed credit reaches the value set in MAX CREDIT, no further coins will be accepted.
EXACT CHANG LIM	This monetary value represents the value of coins remaining in the change tubes below which the EXACT CHANGE message is displayed. Note for the audit system to work correctly, it is important that all coins are inserted via the coin insert slot, i.e. not placed directly in the change tubes.
VALIDATOR ESCROW	Provides the means by which an escrow capable validator is informed which of the bills that it can accept should be held in escrow. As with the coin accept masks for coin validators the bills are identified using a 16 bit mask.
VEND BEFORE CHANGE	Possible values are YES and NO. When set to YES, change will not be given until a vend cycle has taken place.
CHANGER MODE	Possible values are SINGLE VEND and MULTI VEND. When set to MULTI VEND, change will only be paid in response to depression of the escrow lever. When set to SINGLE VEND, change will be given automatically following the vend cycle or in response to depression of the escrow lever. If a multi session capable card reader is fitted, setting MULTI VEND has the effect of allowing several vends to be taken without removing the card. Note: **The reader must be multisession capable and most are not!**
AUTO CONFIGURE ACCEPTANCE MASKS	This is a function rather than a setting. It is only available if an MDB Changer is fitted. If successful, it will interrogate the reader and set up the ENABLED NORMAL and ENABLED EXACT CHANGE MASKS. If no device is found, the message CONFIG FAILED and a depressing beep will occur.
ENABLED COINS EXACT CHANGE	This variable controls which coins are accepted in circumstances where the exact change message would be displayed. The MBD protocol provides for up to 16 coins. For the purposes of enabling or disabling acceptance, the coins are represented by the letters A through to P, with A being the least value coin. The acceptance status of each coin is shown by a 1 or 0 below the corresponding letter. One indicates acceptance and zero - rejection. PONMLKJIHGFEDCBA 0000000000000000111 Applied to a silver only changer with 5, 10, 20 & 50p coin tubes the above setting will enable acceptance of the 5, 10 & 20p coins.

ENABLED COINS NORMAL	This variable controls which of the coins that an attached changer is programmed to accept should actually be accepted in normal operation, i.e. other than exact change mode. For the purpose of changing the coins to be accepted the procedure is the same as for Enable Coins Exact Change above.
ENABLE BILLS EXACT CHANGE	This variable controls which notes are accepted in circumstances where the exact change message would be displayed. For the purposes of enabling or disabling acceptance, the notes are represented by the letters A through to P, with A being the least value coin. The acceptance status of each note is shown by a 1 or 0 below the corresponding letter. One indicates acceptance and zero - rejection. PONMLKJIHGFEDCBA 0000000000000000000
ENABLE BILLS NORMAL	This variable controls which of the notes that an attached changer is programmed to accept should actually be accepted in normal operation, i.e. other than exact change mode. For the purpose of changing the notes to be accepted the procedure is the same as for Enable Bills Exact Change above.

EVA-DTS Config

28. The EVA-DTS configuration menu provides the means to modify parameters controlling the format and method of auditing the machine. At the time of writing the machine supports EVA-DTS audit via DDCMP protocol IRDA transceiver or Direct connect. The submenus of this menu are:

(a) PREVIOUS AUDIT

On selecting this option the LCD screen will show a screen detailing the time and date of the last audit. The layout of the screen is as show below:

NO:XXXX ID:YYYYYY
DD/MM/YY 00:00

Where:

- XXXX represents the audit number maintained by the vending machine and incremented after each audit.
- YYYYY represents the data carrier ID.
- DD/MM/YY is the date the audit took place.
- hh:mm is the time at which the audit took place.

29. METHOD OF AUDIT

Possible values are USB, DDCMP, DISABLED, SMS, PRINT or DEX-CUS. DDCMP selects infrared or direct connect audit. DISABLED turns off the audit system.

(c) AUDIT CONFIG

There are two methods for this, **DDCMP** & **PRINTED**.

DDCMP

PARAMETER	DESCRIPTION
SECURITY CODE	Default 0 – Any data carrier may audit the machine. The code is set by a data carrier. Once set by a carrier, only a carrier with the appropriate code may access the machine.
PASS CODE	Default 0 – Any data carrier may audit the machine The code is set by a data carrier. Once set by a carrier, only a carrier with the appropriate code may access the machine.
STATION ADDRESS	Default 7 – Identifies the unit as a VMC for audit purposes.

PRINTED

AUDIT BAUD RATE	9600
AUDIT STOP BITES	1

Product Codes

30. This menu allows the product code associated with each selection reported for EVA DTS audit purposes to be viewed and/or changed.

On selecting this option the LCD screen will show a screen detailing drink name and CODE.

COFFEE **CODE=010**

The default codes for each selection vary depending on the configuration. For example, fresh brew tea will have a different product code to instant tea. The ↑ (UP) and ↓ (DOWN) keys can be used to scroll through the drinks to determine the codes. The following table defines the defaults for each drink type.

DRINK NAME	PRODUCT CODE
Coffee	010
Leaf Tea	006

DRINK NAME	PRODUCT CODE
Decaf Coffee	011
Hot Chocolate	027
Chocomilk	028
Espresso	012
Cappuccino	014
Cafe Latte	015
Cafe Mocha	026
Espresso Choc	024
Soup	029
Hot Water	021
Cup type 1	999

Table 3.4 Default EVA DTS Product codes

Operators Code (1111)

31. The operator's code submenu is available to Managers and Engineers. It provides the means by which the engineer or manager can change the 4 digit access code used to gain operator level access to the program.

Managers Code (3333)

32. The manager's code submenu is available to Engineers. It provides the means by which the engineer can change the 4 digit access code used to gain manager level access to the program.

Engineers Code (4444)

33. The engineer's code submenu is available to Engineers. It provides the means by which the engineer can change the 4 digit access code used to gain full access to the program. In the event that the engineer's code is forgotten, making the ENG link connection, LK2, on the 54955 Control Board will grant access to the program, with engineer privileges, on entering any 4 digit code other than the manager's or operator's codes. Entering these codes will grant the associated access only. In summary, it is inadvisable to put the ENG link on and press 1111 or 3333, because these will probably be the operator's codes and you will therefore get restricted access.

Editable Text

34. The Neo machine provides two user definable lines of text. These lines, designated to the Select Message Text and the Error Message Text respectively, are displayed at intervals whenever the machine is displaying the select drink or error screens respectively. Each message consists of 1 line of 16 characters.

For example in the select drink state the display could alternate as shown below:

SELECT DRINK **CREDIT £0.00**	→ ←	**SELECT DRINK** ***VENDING SERVICES***

For example while a waste tray full error is present the display could alternate as shown below:

OUT OF SERVICE **WASTE TRAY FULL**	→ ←	**OUT OF SERVICE** ***TEL EXT 12345***

Where the text shown in *italics* is the optional error message text.

The EDIT TEXT menu contains the following submenus, which can be accessed using the ↑ (UP) and ↓ (DOWN) keys:

(a) Edit Select Msg

Allows the programmer to change the line of optional text displayed in the select drink state. On pressing ENTER the display will change to one of the form shown below:

EDIT STRING ↑↓ **A**

The ↑ (UP) and ↓ (DOWN) keys are used to scroll through the available characters. The ← (LEFT) and → (RIGHT) keys can be used to move the cursor along the line of text. When the correct text has been entered, pressing ENTER confirms the changes whilst pressing ESCAPE discards them.

(b) Edit Error Msg

Allows the programmer to change the line of optional text displayed when the machine is in a fault condition.

(c) Erase Select Msg

Allows the programmer to clear the line of optional select message text.

35. Erase Error Msg

Allows the programmer to clear the line of optional error message text.

A quick way of deleting the messages added to the machine is to press ENTER and you will be asked to delete string, press ENTER again to delete.

Counter

36. Pressing the counters key places the machine in manual audit mode. Audit data is accessed via a series of menus. Please see Section 1 Page.19

Free Drink Code

37. Some sites have a requirement for the code equivalent of a free key. If enabled, entering quick code and then the correct 4 digit code instead of the single selection press in response to the Select Drink standby prompt will cause the machine to give the next selection for free. The exact submenus of FREE DRINK CODE menu vary depending on whether a free code has been set. By default this feature is disabled. Pressing ENTER when no code has been set will result in the following display:

```
FREE CODE=OFF
NEW CODE=_111
```

Entering a new code followed by pressing ENTER will both assign the code and enable the feature. Subsequently on entering the FREE DRINK CODE menu the following submenus will be available using the ↑ (UP) and ↓ (DOWN) keys: EDIT FREE CODE and DISABLE CODE. The function and operation of these two submenus is self explanatory.

Edit Drink Map

38. For each machine type, i.e. Instant, SFB Tea, DFB or TFB, there is a small number of default configurations. Typically one for each cold system option and each canister/ingredient arrangement. Choosing a configuration using the SET MACHINE TYPE option, see paragraph 26b), sets up a basic menu structure and appropriate drinks are assigned to each button.

When fitting a new control board or having radically changed the machine type by converting for example a single fresh brew machine to instant format it is advisable to carry out this process before proceeding to use the EDIT DRINK MAP FACILITY.

For each combination of canister contents, cold system and brewer options, it is typically only possible to envisage about twenty five drinkable recipes. Each configuration contains templates for all of the possible beverages, which could be produced by a machine for which it is appropriate. Table 3.2 shows the possible drinks for each configuration. The default assignments are identified with a 'D', the remaining unreferenced drinks are labelled with an 'a'.

The EDIT DRINK MAP facility provides the method by which the default menu structure/drink assignments can be changed.

For the purposes of this section and within the EDIT DRINK MAP function the buttons on the external keypad are referred to by number as below. *Note these numbers have no relevance to the values assigned when the buttons are configured for quick code entry.*

(a) On entering the EDIT DRINK MAP function, a menu number and a key number are displayed on the top line of the display, the drink currently assigned to that key when that menu page is shown on the bottom line.

For example:

DRINK NUMBER 1 COFFEE

The ↑ (UP) and ↓ (DOWN) keys can be used to scroll through the drinks assigned to each button on each page.

39. To change the drink assigned to a given button press ENTER. The display will change to one of the form below:

COFFEE ↑↓ ENTER OR ESCAPE

The ↑ (UP) and ↓ (DOWN) keys can be used to scroll through the possible alternative drinks. When the desired alternative is displayed pressing ENTER confirms the change. If it is desired to discard the change pressing ESC will leave the assignment unchanged. The display will revert to the form show in (a).

40. For many of the drinks both fresh brew and instant versions are possible within the same configuration. For example in a DFB machine with an instant coffee canister, Café Latte may be made with either fresh or instant coffee. Due to the constraints of the display the name used is CAFÉ LATTE in both cases. At any time during the above process pressing the → (RIGHT) arrow will cause additional information about the drink to be displayed. For example when the display is as shown in (b). Pressing → (RIGHT) will cause it to change as follows:

(FRESH COF1) #27 ↑↓ ENTER OR ESCAPE

The number displayed, #27, is a unique number assigned to the fresh brew based co recipe. The text (FRESH COF1) provides a more intuitive guide that it is made using fresh coffee 1 for the coffee component.

41. After all drink button reassignments have been made press ESCAPE to exit the facility. The display will change to:

COMMIT CHANGES ENTER=YES ESCAPE=NO

If ESCAPE is pressed the machine will remain unchanged. Pressing ENTER will confirm the changes. Only at this point will the changes take effect. A re-initialisation is automatically performed when the drink map is changed. The new menu will be created and default timings assigned to ALL selections.

NOTES

This facility should only be used to edit the drink selection menu immediately following installation of a new board and or use of the SET MACHINE TYPE menu in the CONFIGURE MC menu. It may be used to review the assignments at any time provided the changes are not committed on exit.

This function does not provide the facility to create an entirely new drink, merely to substitute one, which it has already determined can be made with the ingredients available in the machine. One cannot, for instance, add a fresh brew coffee drink to a machine

without out a coffee brewer.

The same drink cannot be assigned to two keys and set up differently for each. The two keys will map to the same instance of the drink, so changing one will change the other.

Audit data is mapped to the keys, not to the drinks themselves. Changing the drink map on a machine which has been in service will lead to existing audit data now being tied to drinks to which it does not relate. An initialisation with the ENGINEERS LINK fitted should be performed first, if necessary.

USB Actions

42. USB ACTIONS provides access to a number of submenus, which relate to the operation of the Neo ranges USB interface. The USB interface provides the capability for both audit and engineering configuration activities. In the event that the USB loom is not fitted correctly or a faulty USB is placed in the socket, any attempt to enter this menu will result in the message INSERT USB being displayed. Pressing ESC will return to the main menu. There are three types of actions the USB can perform; one type is programmed to hold machine configuration data the other audit information and last is firmware. This can all be performed on one USB; the choice of functionality is made by means of formatting the USB using the CREATE DIRECTORY. This must be carried out on a machine before a USB can be used. The submenus of USB ACTIVITIES and its contents are as follows:

(a) CREATE DIRECTORY

USB's can be formatted FOR AUDIT, FOR PRESETS (engineering function) or FOR FIRMWARE. A USB can be formatted to run each individually or all on one USB.

Once a USB has had its directory created you are able to write to the USB. Upon entering SAVE USB PRESETS you will be given three options to write to:

- Default file – Will appear as default file when trying to load files.
- Custom file – This can be entered and a specific name written to the file.
- Select file – Gives the ability to select a file already stored on the USB and overwrite this.

USB formatted FOR PRESETS may hold **one** file of each of the following types to a specific created directory:

MACHINE	A file containing all of the data necessary to create an exact copy of a machine set up, i.e. to effectively allow a machine to be 'cloned'. This includes drink parameters, general setting, serial number, counters and timed events and prices.
CONFIG	A file containing all of the data necessary to create a copy of machine's operational parameters. This includes only the drink parameters and general setting.
PRICE	A file containing the drink details.
EVENTS	A file containing all programmed timed events.
STRINGS	A file containing all the editable text messages.
COUNTERS	A file containing all of the machines current counters.

USB's formatted as FOR AUDIT may only hold audit data. Audit data will be written to the USB when it is inserted into the reader if the METHOD OF AUDIT in the EVA DTS CONFIG menu has been set to USB.

(b) DELETE PRESETS

If a USB contains a data file once entered into DELETE PRESETS menu the option to delete one of the three format types will be available. Once a file has been selected the machine will give the option to delete any of the above options that can be written to the USB.

(c) LOAD PRESETS

If a USB contains a data file once entered into LOAD PRESETS menu the option to load one of the three format types will be available. Once a file has been selected the machine will give the option to load any of the above options that can be written to the USB.

Ing Restrictions

43. The INGREDIENT RESTRICTIONS allows the operator to set an ingredient as unusable by setting the ingredient as RESTRICTED. This is done by using the arrow keys to move to whichever ingredient you wish to restrict and pressing ENTER, then set to RESTRICTED and press ENTER again to save. By doing this it will prevent any drink(s) that use the restricted ingredient from being made. The machine's main display screen will from then on display a message on the drink(s) saying that the particular drink is out of the subsequent ingredient and will not let it be selected. This selection can be removed by setting the ingredient as UNRESTRICTED; this will then allow the drink(s) that use the ingredient to function as normal again.

Economy Mode

44. The ECONOMY MODE menu provides access to a number of facilities related to the configuration of the Neo range's power saving options. The overall operation of economy mode is governed by the ECONOMY periods set in TIMED ACTIVITIES; unless an economy period is active, no settings made in this menu will have any effect. The settings and submenus in ECONOMY MODE are as follows:

(a) DISABLE KBD O/R

The default method of overriding economy mode and heating the tank is with a key press. If a PIR activity sensor is fitted, then it may be desired to disable this means of override.

45. ENABLE PIR O/R

PIR override is disabled by default, as a PIR sensor is not fitted as standard.

46. ADVANCED MODE

Advanced economy mode allows for a greater level of control with regards to when economy mode is active. Enabling economy mode in TIMED ACTIVITIES sets the mode active for the entire duration of the economy period. Advanced mode allows this to be refined into 15 minute blocks. The machine can also be instructed to 'learn' when the machine is heavily used, and to auto-configure the 15 minute periods to either full power

or economy as appropriate. Within the ADVANCED MODE submenu there are the following options:

1. ADV MODE ENABLE

Activates/Deactivates advanced mode. The remaining options in this menu are unavailable while advanced mode is inactive.

2. SET LEARN MODE

Configures the machine to 'learn' when the machine is used, and set up advanced mode accordingly. This is achieved by counting the number of vends taken in each 15 minute period, and, if they exceed a given threshold figure, setting the override ON for that period. This process can take place over a period of up to three weeks, with the result (ON/OFF) from previous week(s) being factored in, depending on the settings made in the following process:

- If a learning process is already in progress, this will have to be cancelled before a new one can be set up.
- SET NO OF WEEKS - select a learning process of 1, 2 or 3 week duration.
- If 2 or 3 weeks selected, a WEEK 2 WEIGHTING will be required. This is a percentage figure, determining how much importance is given to the existing setting (i.e. the week 1 result; override ON or OFF) of the current 15 minute period. This can be a value of 10%, 20%, 25%, 33% or 50%.
- If 3 weeks selected, a WEEK 3 INCREMENT will be required. This is a modifier applied to the WEEK 2 WEIGHTING to (optionally) increase the influence of the previous 2 weeks' results in the final result. This can be an add-on value of +10% or +20%, no increment, or a multiplication factor of 1.25, 1.5 or 2.0. For example, if the week 2 weighting was 10%, and a multiplication factor of 1.5 was applied, then the result after weeks 1 & 2 of the process would be given a weighting of 15% of the final determination of the setting.
- Finally, a THRESHOLD figure needs to be set. This is the number of vends required in a 15 minute period for an override to be set.
- Once all settings have been entered, learning mode will be activated. It will cease after the given number of weeks have elapsed, and from then on the override settings will not be automatically modified.

3. END LEARN MODE

This allows the learning process to be terminated early. No changes made to the overrides whilst learning was active will be reversed, but no further changes will be made.

4. MANUAL CONFIG

Allows manual editing of the advanced mode override periods, with each day presented in 6 4 hour blocks of 16 15 minute periods. Each period is represented as a value of 0 (Off) or 1 (On). For example, the override setting for 15.45-15.59 on a Saturday would be represented by the right-most value in the block labelled SAT 1200-1559.

Periods which are marked with a '-', rather than a 0 or 1 are those in which economy mode (as a timed activity) is not active, so editing these settings would have no effect.

Note that any manual changes made while the learning mode process is active will be subject to modification by the learning algorithm.

5. CLEAR OVERRIDES

This resets all advanced mode override periods to zero, effectively making advanced mode behave identically to the basic economy timed event. Note that it does not turn off advanced mode, neither does it cancel learning mode.

47. ECONOMY DELAY

This configures the time, in minutes, for which the machine should maintain full temperature following an override.

48. PIR SENSITIVITY

Sets how much activity detected by the PIR is required to trigger an override. When set to ANY PIR ACTIVITY, a single read of activity is sufficient to trigger an override. When set to any other value (1-16), a store is maintained of the most recent 16 reads of PIR status. Only when sufficient of them have shown activity will the override state be activated.

Depressurise Coffee Brewer

42. This feature allows an engineer to depressurise a pressurised coffee brewer during testing/usage. By pressing ENTER on this section in the machine's menu, it allows air to be slowly released from the brewer preventing it from spraying hot liquid over the machine.

Section 4
Installation & Commissioning

INTRODUCTION

1. The information given in this Section covers installation, commissioning and maintenance procedures for the Neo beverage machine. Authorised personnel, who are fully conversant with the equipment, using only the manufacturers approved parts, must carry out these procedures.

2. Servicing personnel must be familiar with the SAFETY WARNINGS listed on page 81 before undertaking any installation, commissioning or maintenance procedure on the beverage machine. Any procedure, which is found to be impracticable, inadequate or inaccurate, should be reported to the Management for further investigation.

3. The requirements of proper hygiene in respect of food products must be ensured at every level of contact with the beverage machine and the ingredients associated with it.

SAFETY WARNINGS

1. Maintenance of the beverage machine is only to be undertaken by trained personnel who are fully aware of the dangers involved and who have taken adequate precautions, e.g. ensuring that, whenever possible, the beverage machine is isolated from the mains electrical supply.

2. Lethal voltages are exposed when any panel inside the cabinet is removed and the mains electrical supply is available (i.e. on/off switch is overridden). The mains electrical supply is maintained to the Carbonator even when the door is open.

3. THIS APPLIANCE MUST BE EARTHED.

4. Replacement of the Type Y mains cable requires special tools. Should the cable become damaged, a trained person from an approved service agent must only carry out replacement.

5. Ensure that the connection to the water system is compliant with the pertinent national and local legislation. In the UK the Model Water Bylaws 1986 Statutory Instrument (SI) No.1147 are applicable.

6. Keep clear of the Brewer Unit when it is indexing.

7. The beverage machine is a heavy item. Ensure that sufficient personnel are available for lifting and transporting the machine. Use proper lifting procedures and equipment.

8. The water in the heater tank, and the tank itself, are hot enough to scald or burn, even some time after the machine has been switched off. The water heater tank must be drained, filled with cold water and drained again before any attempt is made to handle it or any of its associated parts.

9. The Controller Board is fitted with a lithium battery. Abuse of this type of battery can lead to overheating, venting, explosion, release of potentially hazardous materials and spontaneous ignition.

10. The lithium battery must not be charged or connected to any other source of power. The battery must not be short-circuited or forced to discharge its stored energy. The battery must not be subjected to physical damage or overheating. If the Controller Board is to be replaced, it must be handled with care, taking all practical anti-static precautions.

11. The beverage machine is designed for indoor use, in an environment with an ambient temperature range of between 1°C and 40°C. The machine should be located close to the appropriate electrical and water services with a minimum of 100mm (4in) clearance between the rear of the cabinet and the wall to allow adequate ventilation, and, if in a corner location, not closer to the right hand wall than 400mm (16in) to accommodate opening of the door. **The unit should not be situated in an area where a water jet could be used.**

CAUTION HOT WATER

THE WATER AVAILABLE FROM THE OPTION SHOWER HEAD CLEANING ATTACHMENT IS HOT ENOUGH TO SCALD OR BURN. APPROPRIATE CARE MUST BE TAKEN WHEN USING THIS ATTACHMENT.

NOTE: INITIALLY THE WATER FLOWING FROM THE ATTACHMENT WILL BE COOL, BUT IT WILL RAPIDLY BECOME EXTREMELY HOT.

FROST WARNING

Care must be taken to protect the beverage machine from frost. Do not attempt to operate the machine if it becomes frozen. Contact the nearest service agent immediately. Do not restore the machine to operational use until it has been checked and approved for use by the service agent.

SERVICES REQUIRED

4.

(a) Electrical Supply: 240V, 50Hz, 13A fused.

(b) Water Supply: 15mm BSP stopcock - 0.1 MPa min, 0.8 MPa max.

A double check valve MUST be fitted and for Hot and Cold Still Machines a 35psi regulator must be fitted.

A water blocker MUST be fitted in the mains water supply line.

INSTALLATION

WARNINGS

a. THE BEVERAGE MACHINE IS A HEAVY ITEM. ENSURE THAT SUFFICIENT PERSONNEL ARE AVAILABLE FOR LIFTING AND TRANSPORTING THE MACHINE. USE PROPER LIFTING PROCEDURES AND EQUIPMENT.

b. ENSURE THAT THE MAINS ELECTRICAL SUPPLY IS ISOLATED BEFORE CONNECTING THE ELECTRICAL SUPPLY CABLE TO THE MACHINE.

c. ENSURE THAT THE MAINS WATER SUPPLY IS ISOLATED BEFORE CONNECTING THE WATER SUPPLY HOSE TO THE MACHINE.

d. THE BEVERAGE MACHINE MUST BE EARTHED.

e. DO NOT EARTH THE BEVERAGE MACHINE TO THE MAINS WATER SUPPLY PIPE.

LOCATION

5. Locate the beverage machine close to the appropriate electrical and water services, with a minimum of 100mm (4in) clearance between the rear of the cabinet and the wall to allow adequate ventilation. If situating in a corner location, do not install closer to the right hand wall less than 400mm (16in) to accommodate opening of the door.

LEVELLING

6. The machine should be levelled both fore and aft and side-to-side by adjustment of the four levelling feet, using a spirit level on the cabinet floor to check for level. Incorrect levelling of the machine can result in cup drop failures, door misalignment and coin mechanism malfunctions.

CONNECTING THE WATER SERVICES

Refer to the current requirements of The Model Water Bylaws 1986 Statutory Instrument (SI) No.1147.

IF THE EQUIPMENT WAS SUPPLIED WITH A MAINS WATER HOSE, THIS HOSE SHOULD BE USED. DO NOT USE A HOSE FROM A PREVIOUSLY INSTALLED PRODUCT EVEN IF IT WOULD FIT. TO DO SO COULD LEAD TO A HEALTH HAZZARD.

7. The water supply should be taken from a 15mm rising main at a pressure of between 0.1 to 0.8 MPa and should be fitted with a stopcock to isolate the supply during servicing. A double check valve must be fitted to the machine and when installing a Hot/Cold Still machine,
a water pressure regulator set at 35psi should be fitted.

8. A mains water blocker MUST be fitted in the mains water supply line before the water reaches the vending machine.

9. The outlet should be fitted with BSP connections and must be positioned within 1.5m of the machine to ensure correct fitting of the hose. If possible, the outlet should be located behind the machine to prevent misuse.

10. Before connecting the machine hose to the mains outlet, flush the system via the stopcock to remove any impurities, which may have accumulated in the mains supply pipe.

11. Connect the machine hose to the mains outlet using the seals supplied and ensure that all fittings are tight. Turn on the water supply at the stopcock and check for leaks, both behind and inside the machine.

CONNECTING THE ELECTRICAL SERVICES

WARNINGS

(1) THE MACHINE MAINS CABLE MUST BE CONNECTED TO THE SUPPLY VIA A SAFETY ISOLATOR SWITCH WHICH PROVIDES A CONTACT SEPARATION OF AT LEAST 3mm.

(2) REPLACEMENT OF THE Y TYPE MAINS CABLE REQUIRES SPECIAL TOOLS. SHOULD THE CABLE BECOME DAMAGED, REPLACEMENT MUST ONLY BE CARRIED OUT BY A TRAINED PERSON FROM AN APPROVED SERVICE AGENT.

(3) ENSURE THAT THE SUPPLY TO THE ISOLATOR SWITCH IS ISOLATED BEFORE MAKING ANY CONNECTIONS TO IT.

(4) ENSURE THAT THE SUPPLY TO THE BEVERAGE MACHINE IS ISOLATED BEFORE MAKING ANY CONNECTIONS TO THE TERMINAL BLOCK AT THE REAR OF THE MACHINE.

(5) THE BEVERAGE MACHINE MUST BE EARTHED.

12. The mains cable fitted to the machine should be 3-core. The cable is terminated at mains lead connection on the back of the machine. Connection to the electrical supply must not be carried out using a cable with more cores than required.

13. Do not attempt to connect more than one heater to a 230V, 13A single phase supply. The mains cable must be connected to the supply via a safety isolator switch, preferably located behind the machine. Ensure that the supply to the isolator switch is isolated before making the connections. Ensure that the supply to the beverage machine is isolated before making any connections to the terminal block. The machine must be earthed.

14. Connect the beverage machine, via a safety isolator switch with a contact separation of at least 3mm, to a 230V, 50Hz, 13A supply. Note that replacement of the Y Type mains cable requires special tools. Should the cable become damaged, replacement must only be carried out by a trained person from an approved service agent.

15. Preferably, the isolator switch should be located behind the machine to prevent accidental damage or misuse.

16. The supply requirements, dependent on geography, are as follows.

- 1 heater operation (3kW/): 230V, 16A single phase, 50Hz
- 1 heater operation (2kW/): 230V, 10A single phase, 50Hz

17. The 3-core cable connections for 1 heater operation from a 230V, 10A/16A supply are as follows:

LIVE BROWN

NEUTRAL BLUE

EARTH GREEN/YELLOW

<u>Important:</u> Where a beverage machine is to be connected to a 13A domestic socket outlet, a 3-core power cable capable of carrying a minimum current of 13A, Part No. 54416, must be used. This cable is fitted as standard.

COMMISSIONING

WARNINGS

a. LETHAL VOLTAGES ARE EXPOSED WHEN ANY PANEL INSIDE THE CABINET IS REMOVED AND MAINS ELECTRICAL SUPPLY IS AVAILABLE (I.E. ON/OFF SWITCH IS SWITCHED ON).

b. MAINS ELECTRICAL SUPPLY IS MAINTAINED TO THE CARBONATOR EVEN WHEN THE DOOR IS OPEN.

c. THE WATER IN THE WATER HEATER IS HOT. AVOID CONTACT WITH WATER LEAKING FROM THE HEATER OR FROM ITS ASSOCIATED VALVES, TUBES AND PIPES.

d. KEEP CLEAR OF THE BREWER UNIT WHEN IT IS INDEXING.

18. It is essential that the Service Engineer responsible for installing and commissioning the machine ensures that:

(1) All electrical and water supplies are correctly and safely connected.

(2) All covers, panels or access doors are in place and secured, and the machine is left in a SAFE condition.

(3) The Operator is familiar with the SAFETY PRECAUTIONS for the machine.

(4) The importance of hygiene and regular cleaning is fully appreciated by the Operator.

19. With the water and electrical supplies available to the machine, check the operation of the water heater as follows:

(1) Isolate the mains electrical supply from the machine.

(2) Open the cabinet door and check that the on/off switch is in the OFF position.

(3) Remove the ingredient canisters and back panels.

(4) Ensure that the water heater overflow pipe is not trapped.

(5) Restore the electrical supply to the machine.

(6) Using the main switch, set to the ON position.

(7) Check that the water heater fills with water and that the water supply cuts off when the correct level is reached, i.e. no water overflows into the waste bucket. Ensure that the waste level probe is located in the waste bucket.

(8) Set the main switch to the OFF position.

WARNING

LETHAL VOLTAGES ARE EXPOSED WHEN ANY PANEL INSIDE THE CABINET IS REMOVED AND MAINS ELECTRICAL SUPPLY IS AVAILABLE (I.E. ON/OFF SWITCH IS SWITCHED ON).

20. Prepare the Carbonator for use as follows:

(1) Isolate the mains electrical supply from the machine.

(2) Remove the front and top covers from the Carbonator, fit the small waste bucket in position in the cabinet and place the Carbonator overflow pipe in the bucket.

(3) Slowly fill the Carbonator water reservoir with cold water up to the overflow level.

(4) Purge the Carbonator of air by opening the shut-off valve for approximately 5 seconds.

(5) Using the seals provided, connect the regulator to the $C0_2$ gas cylinder and check that the CO_2 gas pressure is set at 50psi. Secure the cylinder in place in the cabinet.

(6) Turn on the CO_2 gas supply and purge the Carbonator by gently lifting the pressure relief valve for approximately 10 seconds.

(7) Place the waste level probe in the waste bucket and refit the front and top covers to the Carbonator.

(8) Restore the mains electrical supply to the machine.

(9) Place the syrup container in the cabinet and insert the stainless steel dip tubes into the container.

DAILY HYGIENE

Cleaning (Instant & Espresso)

21.

(1) This process should be carried out daily

(2) Set the On/Off switch on the machine to ON.

(3) Remove the instant ingredient canisters. Wipe clean the exterior surfaces of the canister assembly. Wipe dry.

(4) Put a container of at least 300ml capacity under the dispensing nozzles.

(5) Press the FLUSH button once on the internal keypad.

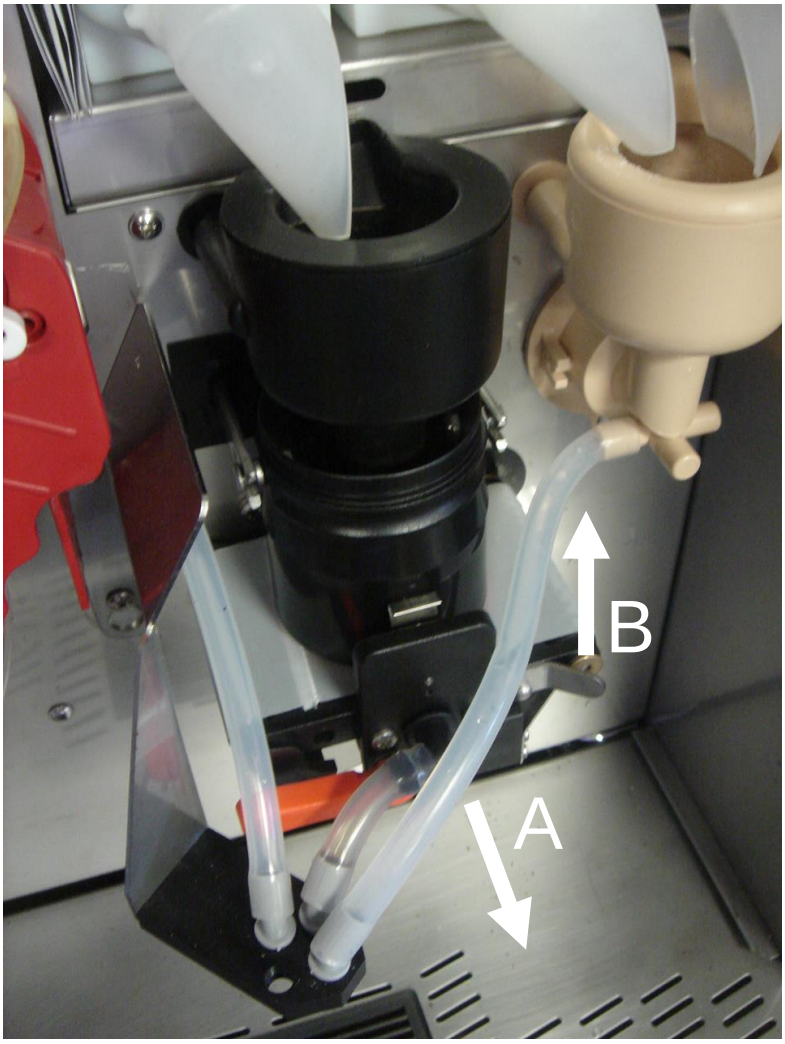
(6) The machine will run warm clean water through the instant bowl whilst running the whipper motor. This process will clean any residual product that has been left in any of the systems.

(7) Empty the contents of the bucket and wash and dry it then refit into the machine.

WEEKLY HYGIENE

Cleaning (Tea)

(8) Disconnect the tube connecting the tea brewer to the dispensing nozzle by pulling the black right-angled fitting (A) away from the brewer itself. Lift the lower carriage locking lever (B) to the vertical, (unlocked position). Remove the whole carriage assembly by pulling it gently towards the front of the machine.



- Once the carriage is removed slide the tea chamber towards the front of the machine to remove.
- Wash and dry the carriage and tea chamber. Check the filter belt for signs of wear or damage and if necessary replace.

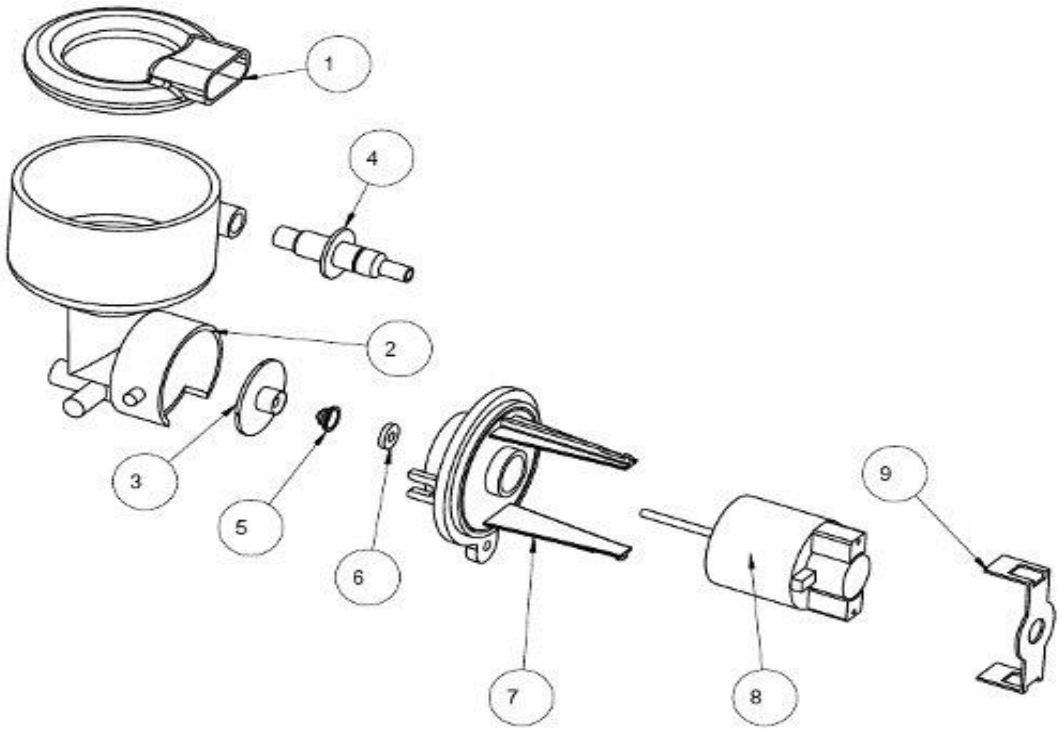
Cleaning (Instant)

22.

(9) The ingredients should be removed from the canisters and the canisters washed and allowed to thoroughly dry, before being refilled with ingredients and restored to the machine. It is recommended that the canisters be left to dry overnight.

(10) The brewer filter belt should be removed and cleaned by soaking it in a suitable de-staining solution.

WARNING	(1)	THE UNIT MUST NOT BE CLEANED USING A WATER JET OR SPRAY.
	(2)	THE ENCLOSURE IS NOT WATERPROOF AND DAMAGE MAY OCCUR IF EXCESSIVE VOLUMES OF WATER ARE USED IN THE CLEANING PROCESS.



WHIPPER AND MIXING BOWL ASSEMBLY

(11)

(12) Set the on/off switch on the machine to off and isolate the mains electrical supply from the machine. Unlock and open the cabinet door.

(13) Rotate the canister nozzles then remove the ingredient canisters. Wipe clean the exterior surfaces of the canister assembly and dry thoroughly.

(14) Disconnect the pipes from the mixing bowls and remove the dispense nozzles from the dispense head. Wash and dry these items.

(15) Rotate and remove the steam trap ❶, then remove the mixing bowl/whipper housing

❷ by pulling the chamber towards yourself.

(16) Remove the whipper impellor ❸ by pulling toward you, the red whipper seal ❺ and the PTFE washer ❻.Undo the screw at the bottom of the whipper base and then turn the whipper base ❼ to the right and pull off.

(17) Clean all the whipper parts in hot water using the recommended sterilising agent and dry them thoroughly.

(18) Remove the extract chamber from the canister shelf. Wash and dry the cover.

(19) Clean all accessible inner and outer surfaces of the machine using a damp cloth and wipe dry.

(20) Replace the cleaned parts.

(21) Replace the ingredient canister after filling with product and rotate the canister nozzle downwards.

(22) Switch on the machine and set on/off switch to on.

(23) Flush the machine by pressing the FLUSH button on the internal door to ensure there are no leaks and everything is working correctly.

(24) Remove waste tray and grille and empty contents.

(25) Clean waste tray and grille and replace.

Filling Procedure (Instant & Tea)

23.

(26) Open door of machine with key provided.

(27) Turn ingredient chutes to ensure that product is not trailed over the counter.

(28) Lift out the product canister. Remove lid of canister and fill with correct ingredients to within 3cm of top of canister. Do not overfill canister or compress the product in canister.

(29) Wipe the exterior of the canister with a clean damp cloth using the recommended cleaning agent. Dry the canister with a clean dry cloth or paper towel.

(30) Return the canister to the machine. Remember to turn the ingredient chutes back to a downward facing position.

(31) Always ensure that the canisters are located in the correct position. The ingredient name is written on the rear of the machine to assist you.

(32) Check that the auger at the rear of the canister is correctly aligned with the cogs at the back of the machine.

(33)

Filling Procedure (Espresso)

24.

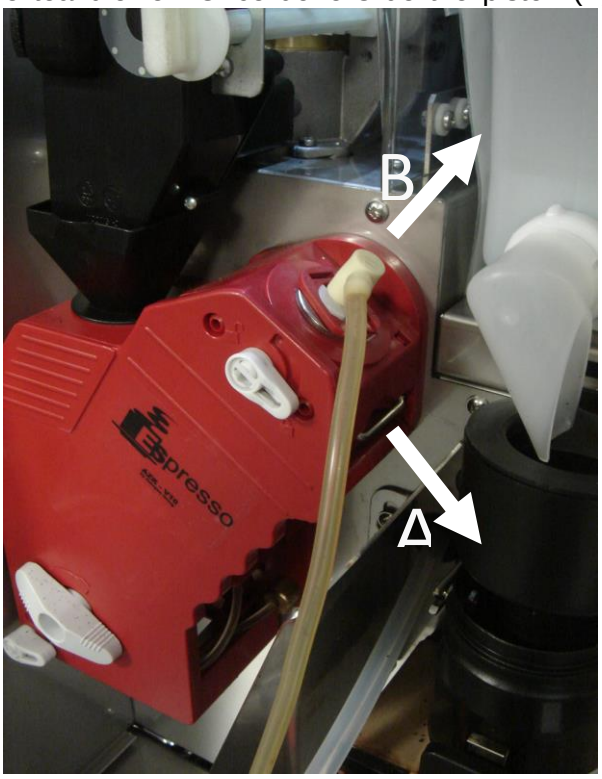
- Open door of machine with key provided.
- Lift the lid of canister and fill with correct ingredients to within 3cm of top of canister. Do not overfill canister or compress the product in canister.
- Wipe the exterior of the canister with a clean damp cloth using the recommended cleaning agent. Dry the canister with a clean dry cloth or paper towel.
- Return the canister lid to the closed position and push the canister lock back into position.
- Close the door of machine and lock with key provided.

Cleaning (Espresso) – To be done every 3 months

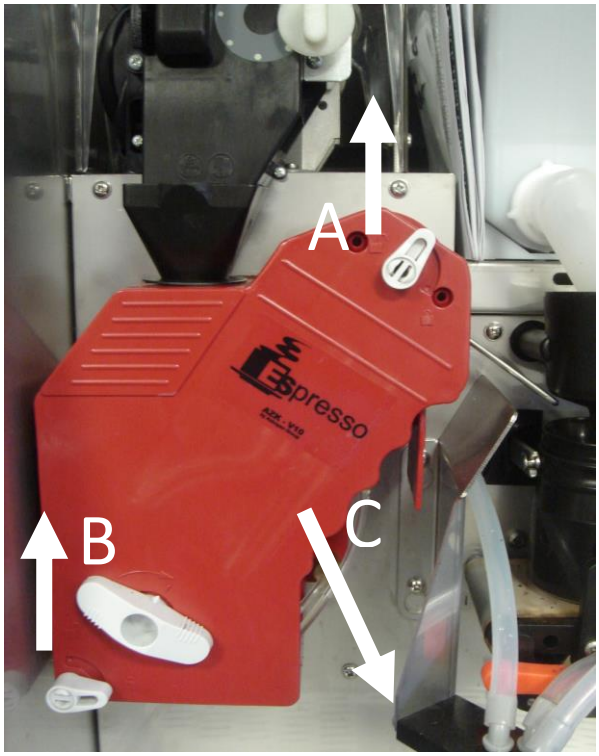
- Press the FLUSH BREWERS button on the internal keypad
- The machine will flush warm clean water through the tea brewer, once finished the espresso group will move to a three quarter position and flush warm clean water though this into the bucket.
- The machine will then prompt for a cleaning tablet. Put a tablet into the espresso brewer using the slot at the top of the black funnel. Press ENTER to confirm.
- The machine will continue to flush. Once it has finished it will make 3 espresso drinks.

Removing the Brewer

- Remove the top piston from the brewer by pulling the lock (A) angled down away from the group towards the tea brewer. Once done slide the piston (B) up out of the body of the group.



- Unlock the body of the group from the machine by turning the white clips (A & B) to the unlock position (A already in unlocked position) then pull the while group towards the front of the machine to remove (C)



- Once the group has been removed the whole system can be cleaned with warm clean water.

FAULT FINDING GUIDE

FAULT		POSSIBLE CAUSE		ACTION
FATAL I^2C ERROR Displayed	(a)	Electrical noise	(a)	Check motors
	(b)	MPU Board fault	(b)	Replace MPU Board
	(c)	Software error	(c)	Reset power
Keypad does not bleep	(a)	Keypad damaged	(a)	Replace keypad
	(b)	Keypad disconnected	(b)	Reconnect
	(c)	MPU Board fault	(c)	Replace MPU Board
Drinks cold	(a)	Heater fuse blown	(a)	Check and replace
	(b)	Thermal cut-out tripped	(b)	Reset trip
	(c)	Desired temperature incorrectly set	(c)	Check desired temperature setting
	(d)	Excessive scaling in heater tank	(d)	Check tank and descale if necessary
	(e)	Solid state relay fault	(e)	Check relay
	(f)	Low cut-out in program incorrectly set	(f)	Reset low cut-out setting
	(g)	Temperature probe wet	(g)	Dry probe and check for leaks.
No motor operation	(a)	Jammed motor	(a)	Check motor operation
	(b)	Power Supply failure safety trip	(b)	Reset power
Machine inoperable; no display	(a)	Power Supply failure	(a)	Replace Power Supply Board

FAULT		POSSIBLE CAUSE		ACTION
Heater tank not filling	(a)	Low water pressure	(a)	Check water pressure
	(b)	Inlet valve fault	(b)	Check inlet valve
	(c)	MPU Board fault	(c)	Replace MPU Board
Heater tank boiling over	(a)	Incorrect desired temperature setting	(a)	Reset desired temperature setting
	(b)	Temperature probe fault	(b)	Replace probe
	(c)	MPU Board fault	(c)	Replace MPU board
	(d)	Short on solid state relay	(d)	Replace relay
Heater tank overfilling	(a)	Probe open circuit	(a)	Check probe circuit
	(b)	Inlet valve fault	(b)	Check inlet valve and replace if necessary
	(c)	Level probe incorrectly positioned	(c)	Reposition probe
Bearding of ingredient	(a)	Extractor fan fault	(a)	Check fan
	(b)	Steam hoods missing from mixing bowls or incorrectly positioned	(b)	Fit steam hoods to mixing bowls and position correctly.
Machine floods	(a)	Dispense pipes incorrectly fitted to dispense head	(a)	Reposition pipes
	(b)	Mixing bowls incorrectly fitted	(b)	Reposition mixing bowls
	(c)	Whipper seals missing	(c)	Check seals
	(d)	Overflow pipe incorrectly fitted	(d)	Refit overflow pipe
No display	(a)	Display connector loose	(a)	Refit connector
TEMP LOW displayed	(a)	Thermal cut-out tripped	(a)	Reset cut-out
	(b)	Heater fuse blown	(b)	Check fuse
	(c)	Incorrect temperature setting	(c)	Check program setting

Section 5
Setting up a New or Replacement Control Board

WARNING

THE EMCU CONTROL BOARD USED IN THE NEO VENDING MACHINE UTILISES STATIC SENSITIVE COMPONENTS. PRECAUTIONS FOR HANDLING STATIC SENSITIVE DEVICES SHOULD BE OBSERVED WHEN HANDLING THIS ITEM.

1. The Neo control board is programmable on two levels. At the lowest level the board's Flash memory (firmware) can be reprogrammed to enable a wide range of different machines to be controlled. This level of programming requires a USB pre loaded with firmware and has to be carried out on a board institute in a machine but essentially is not a factory / main base activity it is an activity which can be carried out on site. The firmware programmed into a board can be read from the internal display if placed in a functioning machine, using the Machine Status menu, ref. section 3 paragraph 23c).

2. For machines the software version will typically be of the form NEO_XX. Where NEO denotes the program and XX is a number defining the version. Latest versions will have software of the form NEO.XXX New versions will be generated to support customer specific configurations and behaviours. It is therefore important to **check that the firmware programmed into a board is appropriate to the machine to which it is to be fitted,** as older versions may not support a particular machine type.

3. For the first level of programming this involves installing the correct firmware to the control board to enable a blank or a board in need of a software update to be enabled. The procedure to achieve this is as follows:

   (1) Switch off the machine.

   (2) Fit the new control board and plug in all connectors. It is not possible to put connectors in the incorrectly as the plug sizes prevent this.

   (3) Fit the shorting link between the pins CLK BAT to enable the battery support for the clock.

   (4) Fit the shorting link between the pins labelled ENG LNK

   (5) Turn the power back on.

   (6) The display will change to

   USE BOOTLOADER?

   ENTER=YES, ESC=NO

   (7) Press ENTER

(8) The display will change to

PLEASE INSERT

USB DEVICE

(9) Once a USB has been inserted the machine will recognise this and if the USB contains EMCU firmware the machine will ask you to select a file eg.

SELECT FILE

NEO_V03.HEX

(10) Press enter on the appropriate file you wish to use. The machine will then automatically run through a procedure to take the .HEX firmware file from the USB to the flash memory chip

(11) Once finished the machine will prompt the USB to be removed, once removed the machine will prompt the ENG LNK to be removed.

(12) Switch the machine off and put the ENG LNK only on one of the two pins leaving the CLK BAT on both connections.

(13) At this point the machine is then ready for the second level of board set up; please see below for this procedure.

4. The second level of programming involves setting up the board to operate the correct predefined menu configuration for the machine to which it is fitted. The procedure to achieve this is as follows:

(34) Turn on the power. The machine will start up in the standard vending mode.

(35) Enter the engineers mode by pressing the PROG button on the internal keypad and use the engineers code (default 4444)

(36) The display will change to INGREDIENT TIMES.

(37) Scroll till the display shows CONFIGURE Machine, enter this and scroll again until the display shows SET MACHINE TYPE and press enter.

(38) The only heading available under this menu is NEO CONFIGS so enter this heading; now continue to scroll until you find your appropriate machine configuration and press enter

(39) If the machine is fitted with a coffee brewer it will off the option to select the coffee from bean or roast and ground (only select bean grinder if the machine is fitted with such), after entering the brewer type you can select the extras as described in Section 3.

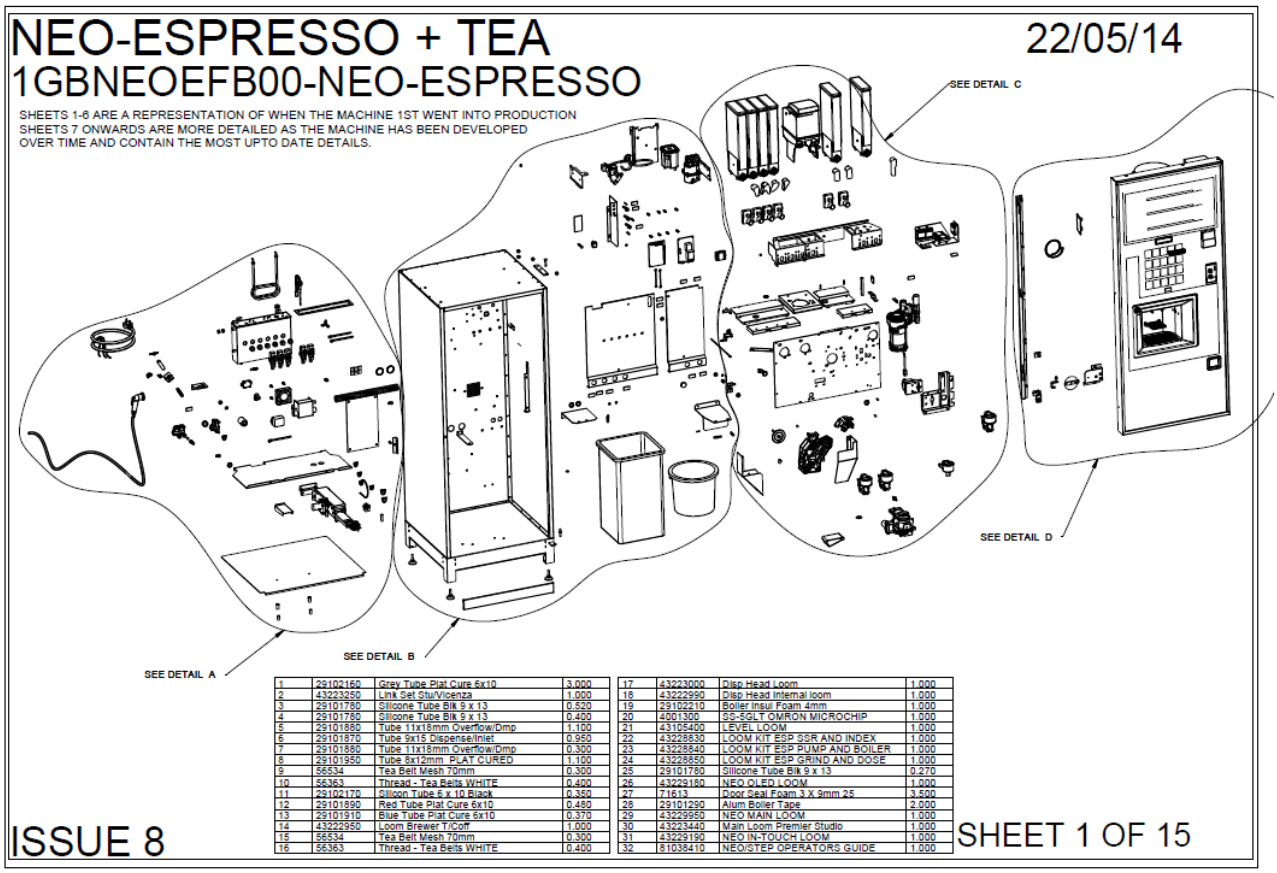
(40) Once the machines default has been set enable the coin mech MDB protocol if a coin / card system is fitted via the SET CASH SYSTEM.

(41) After this has been set, escape one level and scroll until set date and time appears, enter this heading and set accordingly.

(42) Set up the Operator and Manager level codes if different from the default.

(43) Finally adjust the drink settings as required and test each selection.

Section 6
Schematics & Exploded Parts Diagrams



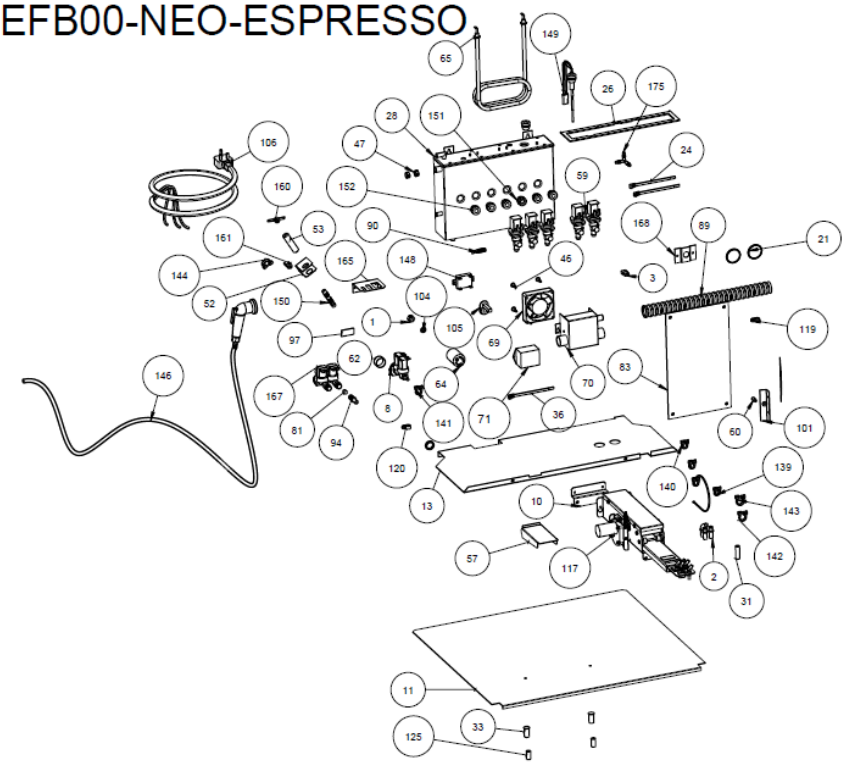
1	29102160	Grey Tube Plat Cure 6x10	3.000
2	43223250	Link Set Stu/Vicenza	1.000
3	29101780	Silicone Tube Blk 9 x 13	0.520
4	29101780	Silicone Tube Blk 9 x 13	0.400
5	29101880	Tube 11x18mm Overflow/Dmp	1.100
6	29101870	Tube 9x15 Dispense/Inlet	0.950
7	29101880	Tube 11x18mm Overflow/Dmp	0.300
8	29101950	Tube 8x12mm PLAT CURED	1.100
9	56534	Tea Belt Mesh 70mm	0.300
10	56363	Thread - Tea Belts WHITE	0.400
11	29102170	Silicon Tube 6 x 10 Black	0.350
12	29101890	Red Tube Plat Cure 6x10	0.480
13	29101910	Blue Tube Plat Cure 6x10	0.370
14	43222950	Loom Brewer T/Coff	1.000
15	56534	Tea Belt Mesh 70mm	0.300
16	56363	Thread - Tea Belts WHITE	0.400

17	43223000	Disp Head Loom	1.000
18	43222990	Disp Head Internal loom	1.000
19	29102210	Boiler Insul Foam 4mm	1.000
20	4001300	SS-5GLT OMRON MICROCHIP	1.000
21	43105400	LEVEL LOOM	1.000
22	43228830	LOOM KIT ESP SSR AND INDEX	1.000
23	43228840	LOOM KIT ESP PUMP AND BOILER	1.000
24	43228850	LOOM KIT ESP GRIND AND DOSE	1.000
25	29101780	Silicone Tube Blk 9 x 13	0.270
26	43229180	NEO OLED LOOM	1.000
27	71613	Door Seal Foam 3 X 9mm 25	3.500
28	29101290	Alum Boiler Tape	2.000
29	43229950	NEO MAIN LOOM	1.000
30	43223440	Main Loom Premier Studio	1.000
31	43229190	NEO IN-TOUCH LOOM	1.000
32	81039410	NEO/STEP OPERATORS GUIDE	1.000

NEO-ESPRESSO + TEA

22/05/14

1GBNEOEFB00-NEO-ESPRESSO



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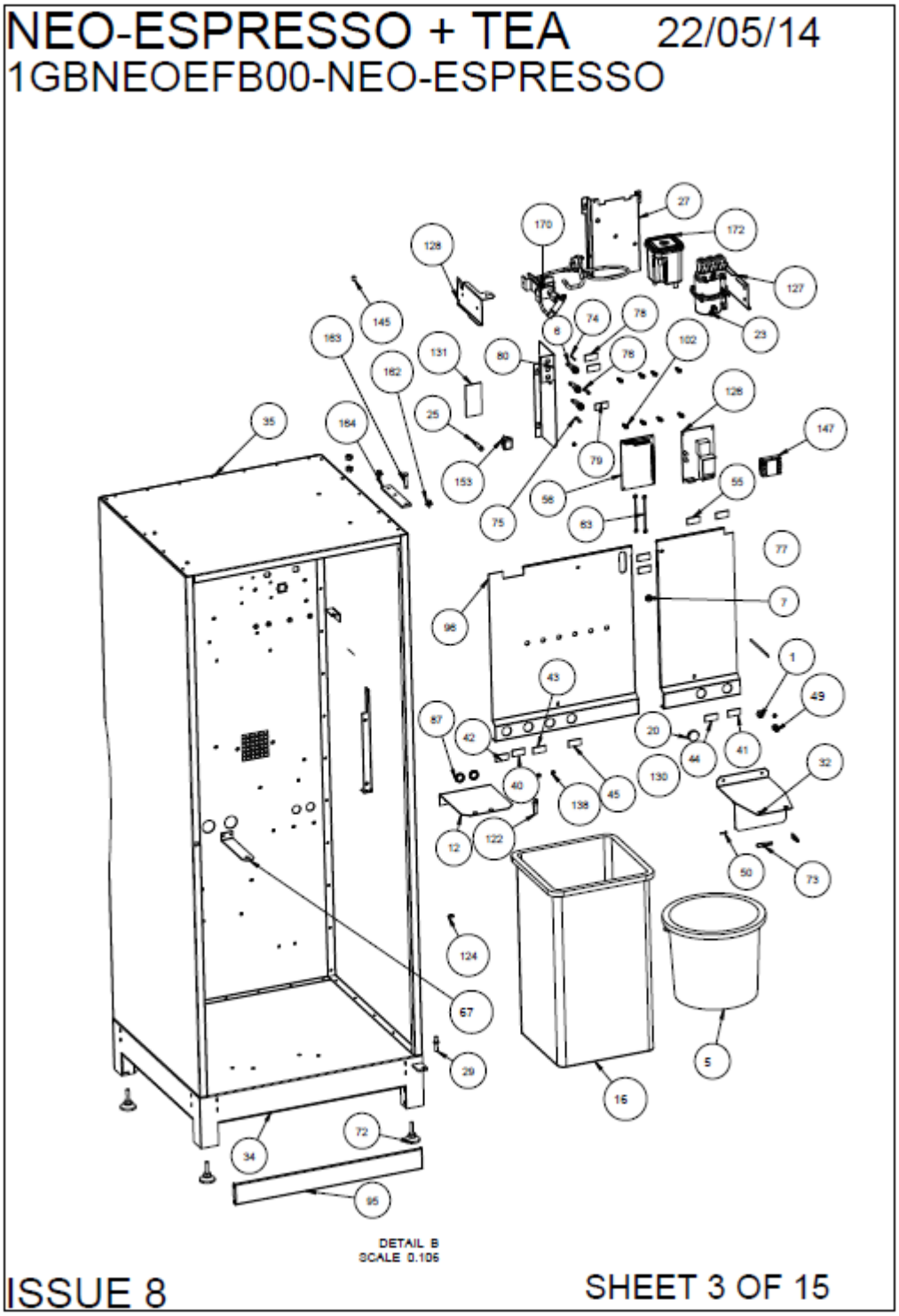
NEO-ESPRESSO + TEA 22/05/14
1GBNEOEFB00-NEO-ESPRESSO
DETAIL B
SCALE 0.106
ISSUE 8
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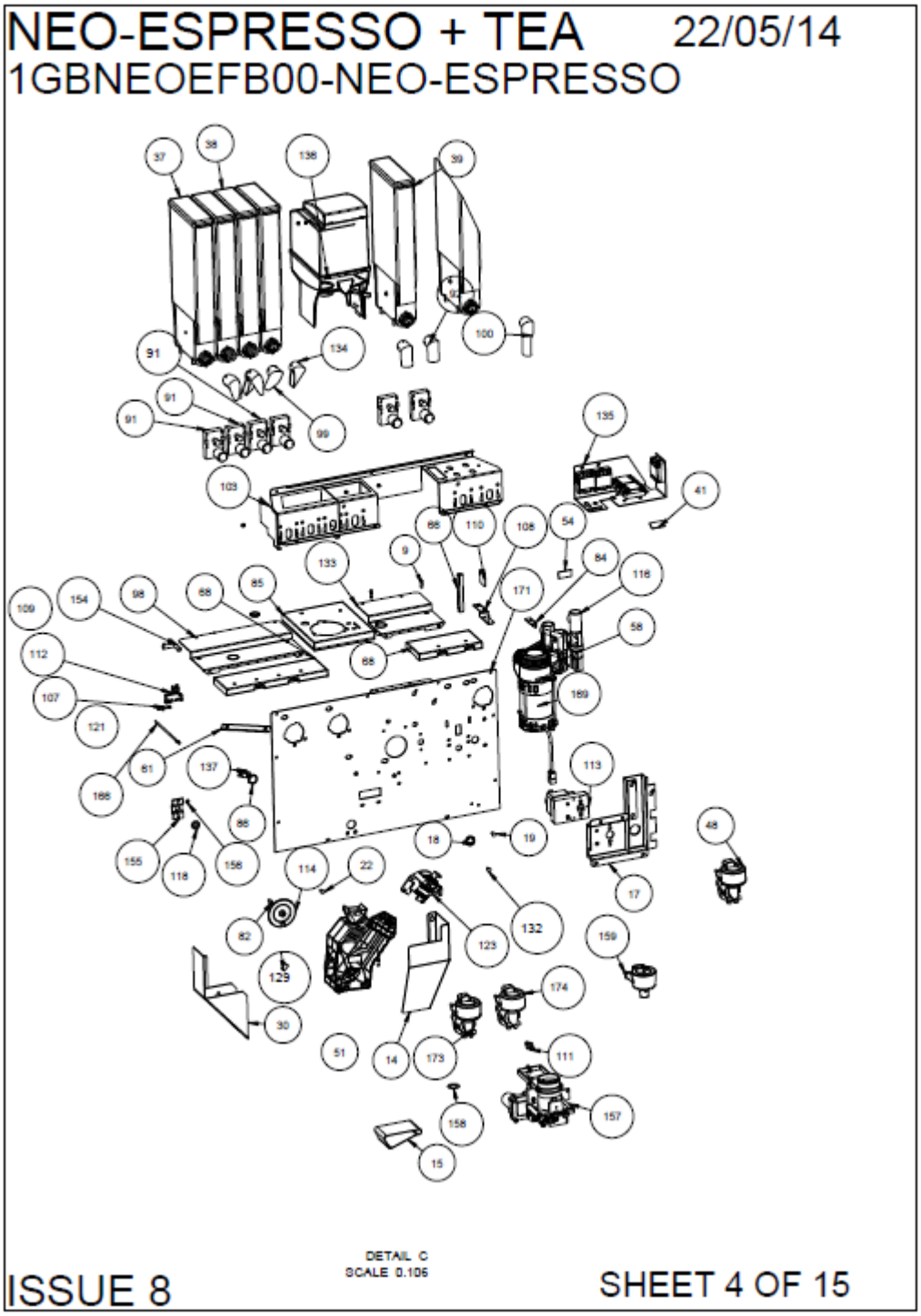
NEO-ESPRESSO + TEA 22/05/14
1GBNEOEFB00-NEO-ESPRESSO
DETAIL C
SCALE 0.105
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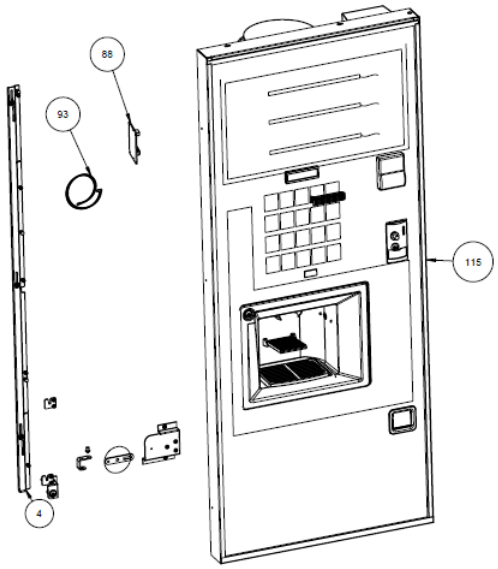
NEO-ESPRESSO + TEA

22/05/14

1GBNEOEFB00-NEO-ESPRESSO



DETAIL D
SCALE 0.106

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NEO-ESPRESSO + TEA

22/05/14

1GBNEOEFB00-NEO-ESPRESSO

INDEX	QTY	DESCRIPTION	PART NUMBER
1	2		
2	1	2 large straights + elbow	11038471
3	1	2 way molex connector .09	03808040
4	1	3 POINT LOCK KIT 63531	63531
5	1	10 litre bucket	09718400
6	3	16amp fuesholder Bussman	04201170
7	1	16mm diaphram grommet	09718520
8	1	24dc inlet valve	04401060
9	2	4mm pin bullet	10037200
10	1	Arm support	42945211
11	1	AZ S/S Base Plate NexusDC	63304
12	1	Azk bucket stop	63401
13	1	Azk W/Base Nexus DC FBC	63402
14	1	Azkoyen tea chute	63378
15	1	Belt tea white	09718430
16	1	Bin 50 litre Maize Studio	09718580
17	1	Bitron brewer mount	42954771
18	2	Black grommet o/t cutout	09718530
19	1	Black tube stud	09718410
20	1	Blanking grommet	11038241
21	2	Blanking grommet Vicenza	11038411
22	1	Blue tube stud	29101940
23	1	Boiler assembly Vitale	41193111
24	2	Boiler cable tie	09718330
25	1	Boiler neon	04804120
26	1	Boiler seal	39021440
27	1	Boiler support Nexus Esprsso	63047
28	1	Boiler vicenza/studio	67759
29	1	Bottom hinge pin	10037141
30	1	Brewer Chute Nexus DC TC	63046
31	1	Brewer spout	10037330
32	1	Bucket stop combi	42944341
33	2	Bucket stop cover	09718360
34	1	Cab Base Nexus DC Azkoyen	63302
35	1	Cabinet Nexus Espresso	63041
36	1	Cable tie reusable black	09718540
37	1	Canister IM64 PL Aug+Agl	09719230
38	2	Canister Im64 wire Aug+Agl	58124
39	3	Canister IM64 WireAugNoAg	09719240
40	1	Canister label chocolate	82039450
41	2	Canister label decaf	82039600
42	1	Canister label milk	82039480
43	1	Canister label sugar	82039490
44	1	Canister label tea	82039470
45	1	Canister label topping	82039500
46	4	Circuit board supports	09718560
47	2	Cobra clip 14mm normal	09718350
48	1	Coffetek Whipper Assy BROWN	Wpr Assy BROWN
49	1	Connector 1/4x1/8 female	10012820-0
50	1	Crimp female 18-24AWG	03910730
51	1	CTO, group Brewer AZK10	41204811
52	1	Cut out bracket	31146651
53	1	Cut out tube	10037400
54	1	Danger label 230v	82039530
55	2	Danger Label WARNING Disc	82039720
56	1	DC RIO Board	43315500
57	1	Dispense shroud	31146690
58	1	Dispense tube inner form	11042751
59	5	Dispense valve 8mm 24v	04401050
60	1	Door pin	10037210
61	1	Drip guide	42944371
62	1	Dust cover Inlet valve	09718680
63	2	Earth lead short	43222830
64	1	electronic filter procond	04802700-0
65	1	Element 230v 2750w	04401040
66	1	Espresso bean bracket	31199381
67	1	Espresso drain plate	31202970
68	2	Extract duct	62502
69	1	Extract fan 24v dc 1.9v	04101680
70	1	Fan box	63042
71	1	Filter unit fn 612-20/06	04804130
72	4	Foot m10 x35mm	42910961
73	2	Front bucket sensor	11038451
74	1	Fuse 15a 250v 32mm	04804090
75	1	Fuse 5a 415v (t) 32mm	04804080
76	1	Fuse 7A 240V F 32mm ceramic	04804100
77	2	Fuse Label 7A	22092
78	2	Fuse label f15a	82039570
79	1	Fuse Label T5A	82039560
80	1	Fuse Panel Nexus DC TC	63043
81	1	Green restrictor 2.5l	55132
82	1	Grey tube stud	09718450
83	1	Grill cover	42944171
84	1	Grinder P/Brkt Nexus DC	63300
85	1	Grinder top plate Nexus esprsso	63044
86	2	Grommet 20mm	09718630
87	2	Grommet diaphram type	09719070
88	1	Group control pcb	09721060
89	1	Hose 1 1/4 extra flex	39021520
90	1	HOSE BUNG	09718590
91	6	Ing motor 140rpm	04101700
92	2	Ingredient chute central	11037810
93	1	Internal keypad loom	43222840
94	1	John guest Inlet	56087
95	1	Kick plate	31147971
96	1	L/H boiler cover nexus espresso	62538
97	1	Label Danger Live Termina	82039730
98	1	LH Canister shelf Nexus Espresso	62542
99	4	Lh chute	11037830
100	1	Lh chute long	58137
101	1	Lock cam plate	42945641
102	8	Long board support	09718420
103	1	M/Shelf Nexus DC Azk FBT	63118
104	1	M8 SHAKE WASHER	10038
105	1	Mains lead device	04804170
106	1	Mains lead with 13a plug	43222880
107	1	Micro switch arm	11025901-0
108	1	Micro switch bracket	63196
109	1	Microswitch OMRON SS 5GLT 4	04001300
110	1	Microswitch push plate	63197
111	1	Mix bowl inlet pipe	04101650
112	1	Mocro switch support	11025891-0
113	1	Motor Bitron h30 97480	04101690-0
114	1	Motor cam	11025910-0
115	1	Neo door full assy	49053051
116	1	Nexus step decaf chute 11024761	11024761
117	1	Nexus Step Espresso Dispense Assembly	41219941
118	1	Nut 1/4	10012480-0
119	1	Nx 5p clip	09718380
120	1	Nx6 p clip	09719020
121	1	Overflow sensor bracket	11038481
122	1	Piston group	41144131-2
123	1	plastic spacer m4x13	11038461
124	2	Plastic spacers -0485068	11038361
125	1	PSU dc 100w	43315280
126	1	Pump Brkt Mt. Nexus DC TC	63070
127	1	Pump Brkt Nexus DC TC	63049
128	1	Pump connection spout	09712080
129	1	r/h boiler cover nexus espresso	42945231
130	1	Rating plate	82039740
131	1	Red tube stud	29101920
132	1	RH Canister shelf Nexus Espresso	62542
133	2	Rh chute DS091	11037820
134	1	S.S.R PLATE	42953761
135	1	SAFETY BEAN HOPPER	41223411
136	1	Sensor bracket	42947440
137	2	Snap rivet black	09718340
138	1	snapper 2	71744
139	3	snapper 3	71743
140	1	snapper 6	09718490
141	1	snapper 10	71740
142	1	snapper 12	71745
143	1	snapper 16	09719030
144	1	Spacer nylon 10 high	11038191
145	1	Spray head hose	09719080
146	6	SSR oelduc	03600110
147	1	SSR ultra	03600120
148	1	Standard boiler probe	43108360
149	1	Straight connector	09719040
150	1	Swaged port blind	54544
151	6	Swaged port valve seal	11038251
152	1	Switch rocker on/off	04804150
153	1	T Piece Tube 338	55002
154	1	tap support	31097391
155	2	Tap support bushing	10012840
156	1	Tea brewer 12 oz	09718290
157	1	Tea brewer seal kit	39021641
158	1	Tea mixer assy see sheet	Tea mixer
159	1	Thermal cutout 85 degrees	4804160
160	1	Thermal cutout 75*	04401090
161	4	Tie wrap holder snap lock	09718570
162	1	Top hinge pin	10037131
163	1	Top hinge plate	39021501
164	1	Triple molex bracket	31146681
165	1	Tube L300 with oilve	42926450-0
166	1	Two way valve & fittings	57087
167	1	Valve Bracket Bio Sauce	63113
168	1	Vitale grinder assembly	41196781-0
169	1	Vitale S Pump Assembly	41193221
170	1	W/Panel Nexus DC FBT	63117
171	1	Water tank	11018080-1
172	1	Whipper Assy BEIGE see sheet	Wpr Assy BEI
173	1	Whipper Assy GREY see sheet	Wpr Assy GREY
174	1	Y piece	58631

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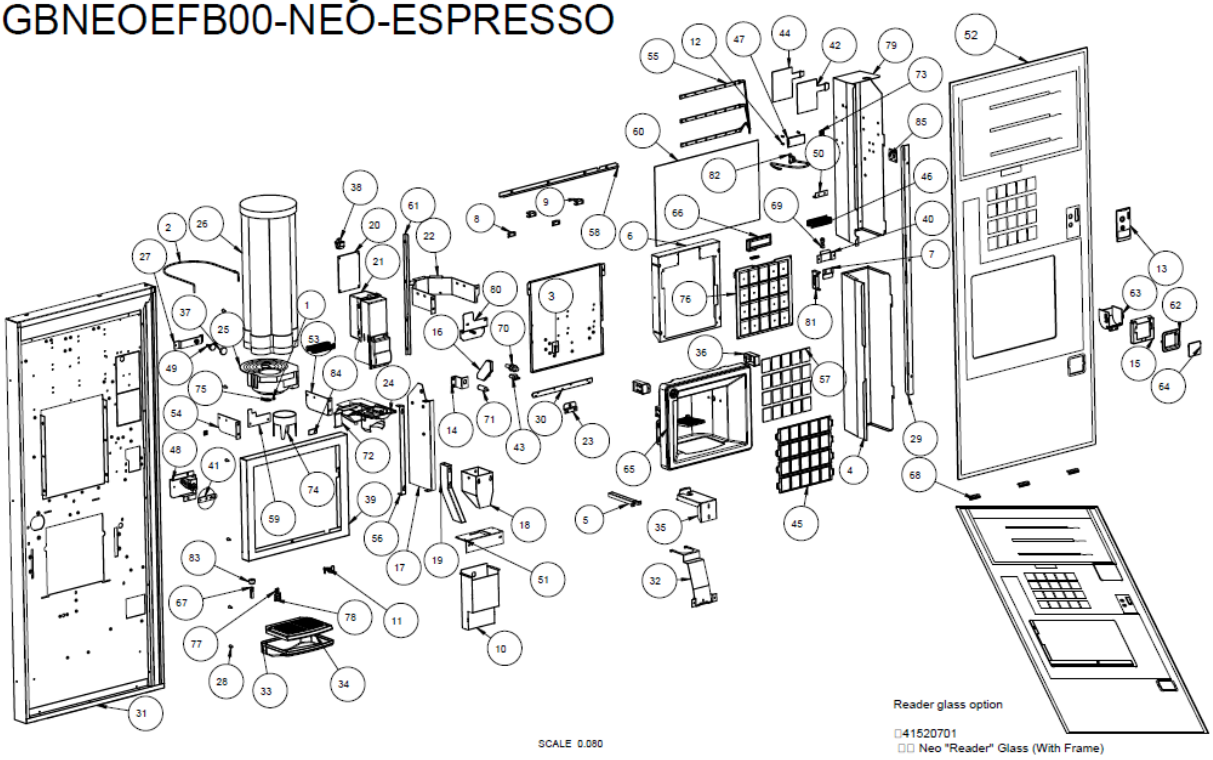
Neo door full assy

1GBNEOEFB00-NEO-ESPRESSO

22/05/14



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SHEET 7 OF 15

Neo door full assy

1GBNEOEFB00-NEO-ESPRESSO

22/05/14

INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	1/8 Inch nut	10012830
2	1	78mm Carousel Ret wire	39021871
3	1	Access panel	42954301
4	1	Bottom door cover	42954321
5	1	Bucket sensor bkt	31146541
6	1	Button board panel	42954391
7	1	Canister anchor bracket 31148081	31148081
8	2	Carousel wire brk't 31170811	31170811
9	2	Carousel wire brk't 31200051	31200051
10	1	Cash box 42949332	42949332
11	1	Cash box lock and key	54599
12	4	Circuit board spacer	11039070
13	1	Coin bezel black new key	11038991
14	1	Coin bezel support	42954271
15	1	Coin catcher mount	31192341-0
16	1	Coin insert chute	42525901
17	1	COIN MECH PANEL	42954281
18	1	Coin return box	42525911
19	1	Coin return chute	42525921
20	1	Controller Emcu	43317060
21	1	Crane bill validator + stacker	
22	1	Cup drop holder Nexus Step 31191551	31191551
23	1	Cup holder bracket	42949371
24	1	Cup holder Nexus Step dia73	11041651
25	1	Cup mech Ø73mm	09719200
26	1	Cup turret New Type	58632
27	1	Display positioning bracket	42956651
28	6	Door buffer rubber	09718410
29	1	DOOR COVER PIVOT	42954331
30	1	Door hinge	39023570
31	1	Door Neo assy	42105441
32	1	Drip catcher 2 part	31191161
33	1	Drip tray	11041621
34	1	Drip tray grill	11042211-0
35	1	Drip tray holder 42949391	42949391
36	2	Eye sensor brk't 42949381	42949381
37	1	Foot cover non slip	09722110
38	1	FRIDGE SWITCH UNIT ARC.E3102AA	04001290-0
39	1	GRAPHIC LOCATION FRAME	42954491
40	1	Hopper hanging bracket	31150071
41	1	Horizontal lock rod 31191160	31191160
42	1	Internal keypad	19062010
43	1	Keyed Switch Free Vend	08502260
44	1	Keypad circuit only	43315270
45	4	Label frame 5	11045181
46	2	Lcd cable 380mm	43223480
47	1	Lcd for control box	43315700
48	1	LOCK ASSEMBLY	41217251-0
49	1	M8X25 small feet	09722100
50	1	Molex bracket San Remo 31191231	31191231
51	1	Neo_cb guide 42954291	42954291
52	1	Neo "Standard" Glass (With backing)	41224341
53	1	NEO 80mm L/H TURRET BRKT	31200551
54	1	NEO 80mm R/H TURRET BRKT	31200541
55	1	NEO BACK LIGHT ASSEMBLY	41221350
56	1	Neo Coin Mech Pivot	31202251
57	1	NEO DECAL SET	49053141
58	1	Neo Door Strut	42954761
59	1	Neo Molex Cut Cut Cover	31200561
60	1	NEO PICTURE INSERT-CGI ESPRESSO	19066391
61	1	Neo Vertical Door Strut	42956941
62	1	Nexus Step black coin surround	11034211-0
63	1	Nexus Step coin catcher	11029651-0
64	1	Nexus Step coin flap	11029661-0
65	1	Nexus Step Cup Housing	SEE SHEET
66	1	OLED Display White Large 2x16 Assembly	41221161
67	1	Overflow sensor bracket	11036481
68	3	Plastic glass mount	11039461-0
69	1	Red lever	11038901
70	1	Relect button	41198041
71	1	Reject extension	11045010
72	1	REJECT LEVER NEXUS	42945461
73	1	Single way 6 way header	04804110
74	1	Skirt cup drop black	39021450
75	1	Spacer 1mm cup drop unit	09718610
76	1	Tarjeta teclado Neo 20T	43317770
77	2	Tie wrap base self adhesive	09718500
78	1	Tie wrap base self adhesive	09718620
79	1	Top door cover	42954311
80	1	Twin chute mount	42954341
81	1	Twin turret molex mount	31200111
82	1	USB TYPE A-PANEL FTO 1X5	43227270
83	1	Valve port 8mm seal	11038201
84	1	Warning label studio	82039610
85	1	ZMCU adaptor 232	43317340

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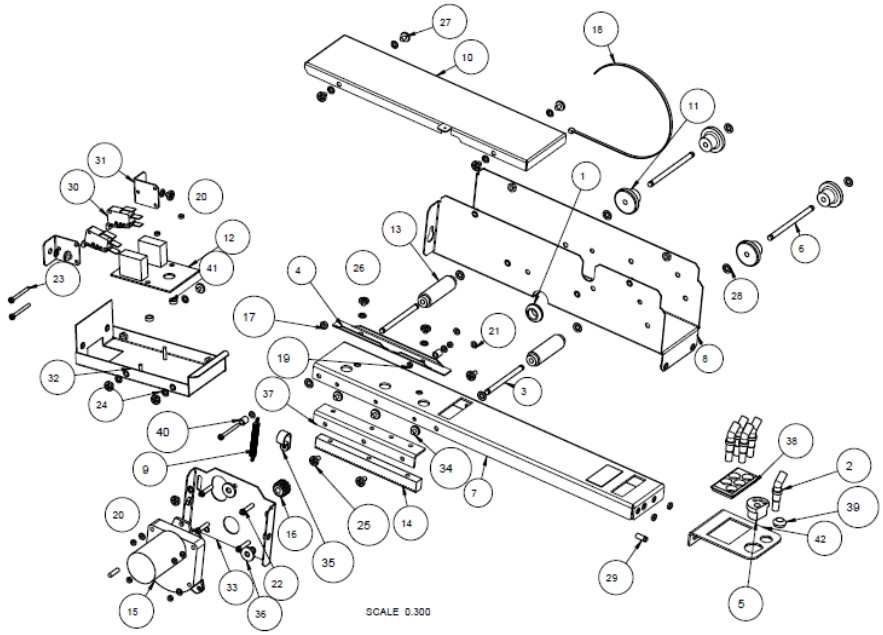
Nexus Step Espresso Dispense Assembly

22/05/14

1GBNEOEFB00-NEO-ESPRESSO



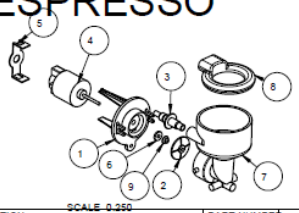
ISSUE 8

SHEET 9 OF 15

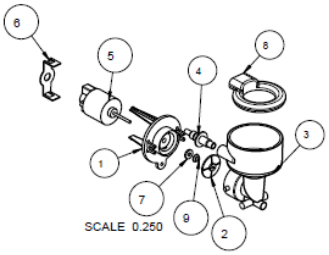
Coffee mixer assy (see sheet)

22/05/14

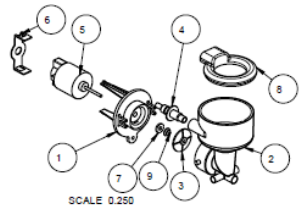
1GBNEOEFB00-NEO-ESPRESSO



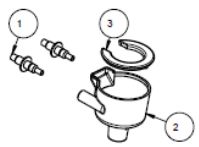
INDEX	QTY	DESCRIPTION	PART NUMBER	
1	1	(base54648,retainer56268)	84665	Grey
2	1	Impellor disc#(only grey since 21-09-05)	11038271	
3	1	Mix bowl inlet pipe	11038291	Grey
4	1	Motor 24v dc 13700rpm	04101650	
5	1	Motor retainer	11038261	Grey
6	1	Ptfe washer 12mm x 4.5id	39021730	
7	1	Right exit	11038301	Grey
8	1	Steam hood mk2	11038911	Grey
9	1	Whipper seal 3mm red	09718370	



INDEX	QTY	DESCRIPTION	PART NUMBER	
1	1	(base55247,retainer56266)	11037941	Beige
2	1	Impellor disc#(only grey since 21-09-05)	11038271	
3	1	Left exit	11038331	Beige
4	1	Mix bowl inlet pipe	11038341	Beige
5	1	Motor 24v dc 13700rpm	04101650	
6	1	Motor retainer	11038351	Beige
7	1	Ptfe washer 12mm x 4.5id	39021730	
8	1	Steam hood mk2	11038921	Beige
9	1	Whipper seal 3mm red	09718370	



INDEX	QTY	DESCRIPTION	PART NUMBER	
1	1	(base54647,retainer54267)	41196321	Brown
2	1	Centre exit	11038771	Brown
3	1	Impellor disc#(only grey since 21-09-05)	11038271	
4	1	Mix bowl inlet pipe	11038761	Brown
5	1	Motor 24v dc 16700rpm	54676	
6	1	Motor retainer	11038781	Brown
7	1	Ptfe washer 12mm x 4.5id	39021730	
8	1	Steam hood mk2	58149	Brown
9	1	Whipper seal 3mm red	09718370	



INDEX	QTY	DESCRIPTION	PART NUMBER	
1	2	Mix bowl inlet pipe	11038281	Black
2	1	Tea bowl	11037891	Black
3	1	Tea bowl lid	11037901	Black

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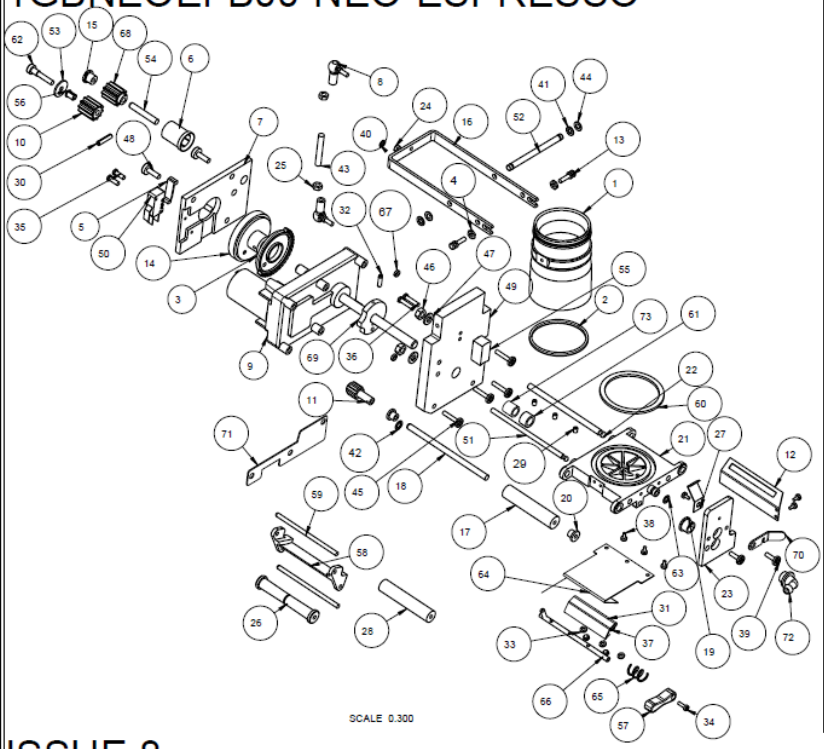
Tea brewer 12 oz

1GBNEOEFB00-NEO-ESPRESSO

22/05/14



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	8 oz coffee pot	54776
2	1	12 oz c/b main o-ring	57583
3	1	55799 With half the teeth	55799
4	2	5mm Lock Nut (Half) SS CB	10144
5	1	Actuator arm	04001510
6	1	Auger cupling	59024
7	1	Back plate tea	89038_04
8	2	Ball joint	54818
9	1	Brewer motor 24v 7rpm	54746
10	1	Brewer spur gear	54565
11	1	Brewer tension catch	54779
12	1	Coffee brewer wiping plate	56923
13	2	Coffee pot swivel pin	89020_22
14	1	Drive cam	
15	1	Drive cog bearing	89020_34
16	1	Drive fork coffee brewer	89020_20
17	1	Drive roller coffee	54793
18	1	Drive roller pin	90048
19	1	Filter front plate bearing	89020_33
20	2	Filter plate bearing	89020_32
21	1	Filter plate coffee	54788
22	1	Filter plate rod retainer	90048
23	1	Front plate 12oz teabrewer	54778
24	1	Full m4 zinc nut	10034
25	2	Full m5 zinc nut	10059
26	1	Guide roller	56359
27	1	Guide spring	66308
28	1	Idler roller	54793
29	3	Knurled brass insert	10341
30	1	knurled pin insert	10111
31	1	Locking catch	57989
32	1	M3 16 grub	10081
33	3	M3 washer	10095
34	1	m3x10 pan pozi screw	10137
35	2	M3x14 screw	10132
36	2	M3x20 screw	10046
37	3	M3X4 screw st st	11031
38	6	M3x6 screw st st	01005820
39	2	M4 16 screw	01005120
40	1	M4 shake washer	02000010
41	2	M5 push on fix st st	10104
42	1	M5 SHAKE WASHER	02000010
43	1	M5 stud thread	54818T
44	2	M5 washer	02004251
45	4	M5x20 pan pozi screw	10105
46	2	M5 full nut ZP	10143
47	2	M6 washer	10145
48	3	M6x16 pan pozi screw	10071
49	1	Main plate brewer	56521
50	1	Micro switch	04001500
51	1	Mixing bowl rod	90048
52	1	Mixing bowl rod retainer	90048
53	1	Mudguard washer 3/16	31150620
54	1	Nottino shaft	90048
55	1	Pot Guide block	54794
56	1	Recessed drive cog bearing	20019
57	1	Red lever	11038901
58	1	Roller arm	56360
59	2	Roller pin Idler (67994)	90048
60	1	Seal red coffee brewer x2	54764
61	1	Silicone tube 6mm id x3mm wall brewer	29101840
62	1	Socket shoulder screw	10142
63	1	Spout o-ring	54780
64	1	Spring	67988
65	1	Spring	12017760
66	1	Spring Lever Bar & Pin	67396
67	2	Spring washer	10061
68	1	Spur gear recessed	54565
69	1	Tea brewer cam timer	54488
70	1	Tea brewer catch	69047
71	1	TEA BREWER EARTH PLATE	31127710
72	1	Tea/coffee reducing outlet	54559
73	1	Ø12.72 copper tube 1.85 wall	

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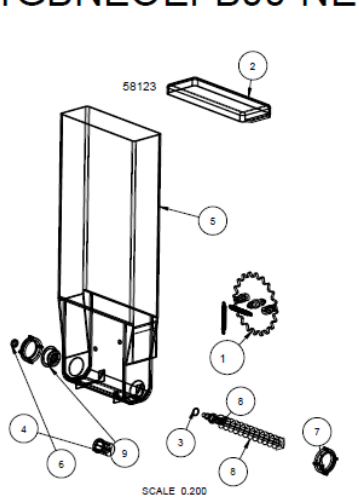
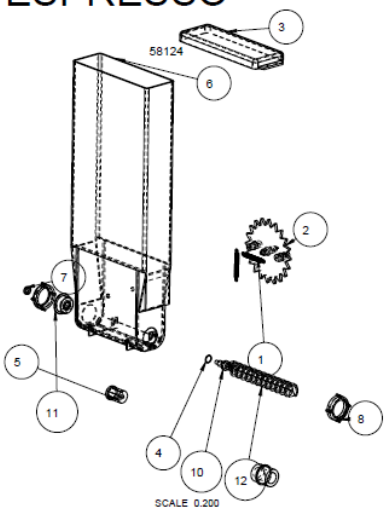
Canister IM64 PL Aug+Agi

1GBNEOEFB00-NEO-ESPRESSO

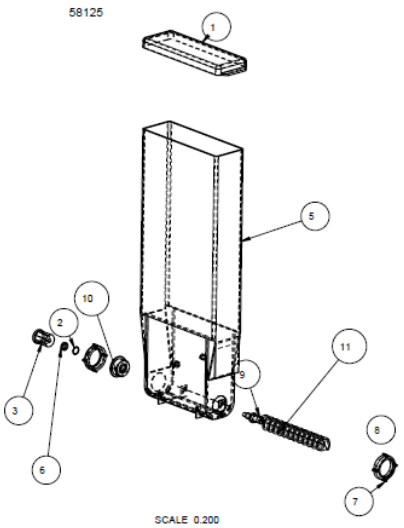
22/05/14



INDEX	QTY	DESCRIPTION	PART NUMBER
1	3	Agitator wheel drive plastic	59000
2	1	aisle lid	58230
3	1	Auger "o" ring	54653
4	1	Auger cupling	59024
5	1	Canister IM64 PL Aug+Agi	09719230
6	1	Canister o-ring	58123D
7	2	Flange lock nut	54732
8	2	plastic auger	59025
9	1	Rear flange	54534



INDEX	QTY	DESCRIPTION	PART NUMBER
1	2	Agitator wheel drive plastic	59000
2	1	Agitator wheel drive wire	55187
3	1	aisle lid	58230
4	1	Auger "o" ring	54653
5	1	Auger cupling	59024
6	1	Canister IM64 PL Aug+Agi	09719230
7	1	Canister o-ring	58123D
8	2	Flange lock nut	54732
9	1	Front flange (wire)	54533
10	1	plastic auger	59025
11	1	Rear flange	54534
12	1	Wire auger	59025



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	aisle lid	58230
2	1	Auger "o" ring	54653
3	1	Auger cupling	59024
4	2	Canister bung	97200030
5	1	Canister IM64 PL Aug+Agi	09719230
6	1	Canister o-ring	58123D
7	2	Flange lock nut	54732
8	1	Front flange (wire)	54533
9	1	plastic auger	59025
10	1	Rear flange	54534
11	1	Wire auger	59025

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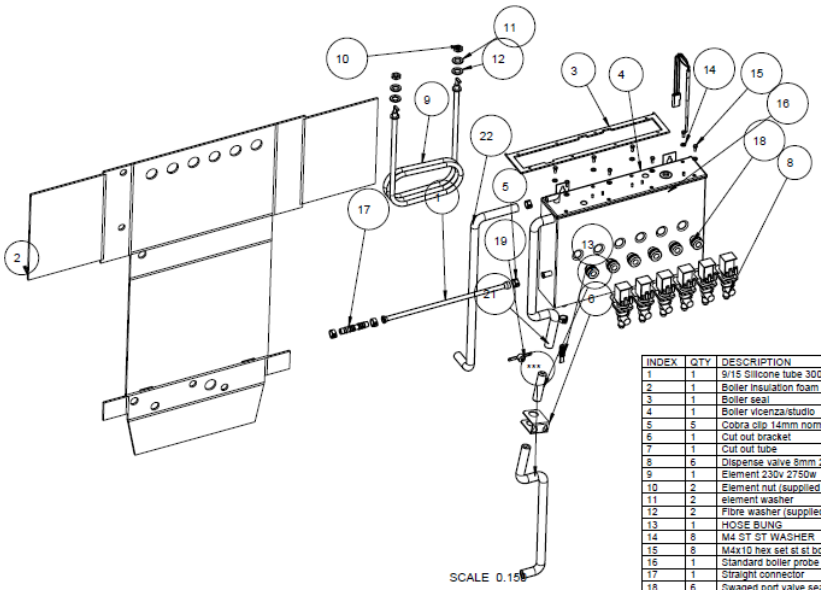
Boiler Assembly pre 22-07-13

22/05/14

1GBNEOEFB00-NEO-ESPRESSO



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	9/15 Silicone tube 300mm long	29101870
2	1	Boiler insulation foam Nexus Step	39021530
3	1	Boiler seal	39021440
4	1	Boiler vicenza/studio	67759
5	5	Cobra clip 14mm normal	09718350
6	1	Cut out bracket	31146651
7	1	Cut out tube	10037400
8	6	Dispense valve 8mm 24v	04401050
9	1	Element 230v 2750w	04401040
10	2	Element nut (supplied with element)	xxxxx
11	2	element washer	ele-washer
12	2	Fibre washer (supplied with element)	fib-wash
13	1	HOSE BUNG	09718590
14	8	M4 ST ST WASHER	02004260
15	8	M4x10 hex set st st bolt	01007400
16	1	Standard boiler probe	43108360
17	1	Straight connector	09719040
18	6	Swaged port valve seal	11038251
19	1	Thermal cutout 85 degrees	4804160
20	1	Tube 11x18 overflow 1100mm	29101880
21	1	Tube 11x18 overflow 300mm	29101880
22	1	Tube braided black 10x3.5 nexus-step inlet	29101830

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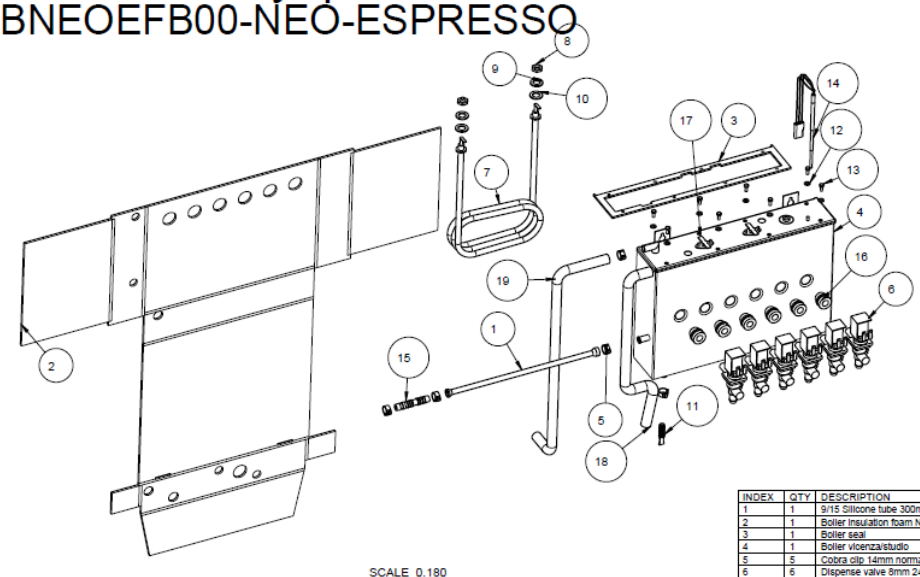
Boiler Assembly post 22-07-13

22/05/14

1GBNEOEFB00-NEO-ESPRESSO



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	9/15 Silicone tube 300mm long	29101870
2	1	Boiler insulation foam Nexus Step	39021530
3	1	Boiler seal	39021440
4	1	Boiler vicenza/studio	67759
5	5	Cobra clip 14mm normal	09718350
6	6	Dispense valve 8mm 24v	04401050
7	1	Element 230v 2750w	04401040
8	2	Element nut (supplied with element)	xxxxx
9	2	element washer	ele-washer
10	2	Fibre washer (supplied with element)	fib-wash
11	1	HOSE BUNG	09718590
12	8	M4 ST ST WASHER	02004260
13	8	M4x10 hex set st st bolt	01007400
14	1	Standard boiler probe	43108360
15	1	Straight connector	09719040
16	6	Swaged port valve seal	11038251
17	2	Thermal cutout Mini Bergamo	04401110
18	1	Tube 11x18 overflow 300mm	29101880
19	1	Tube braided black 10x3.5 nexus-step inlet	29101830

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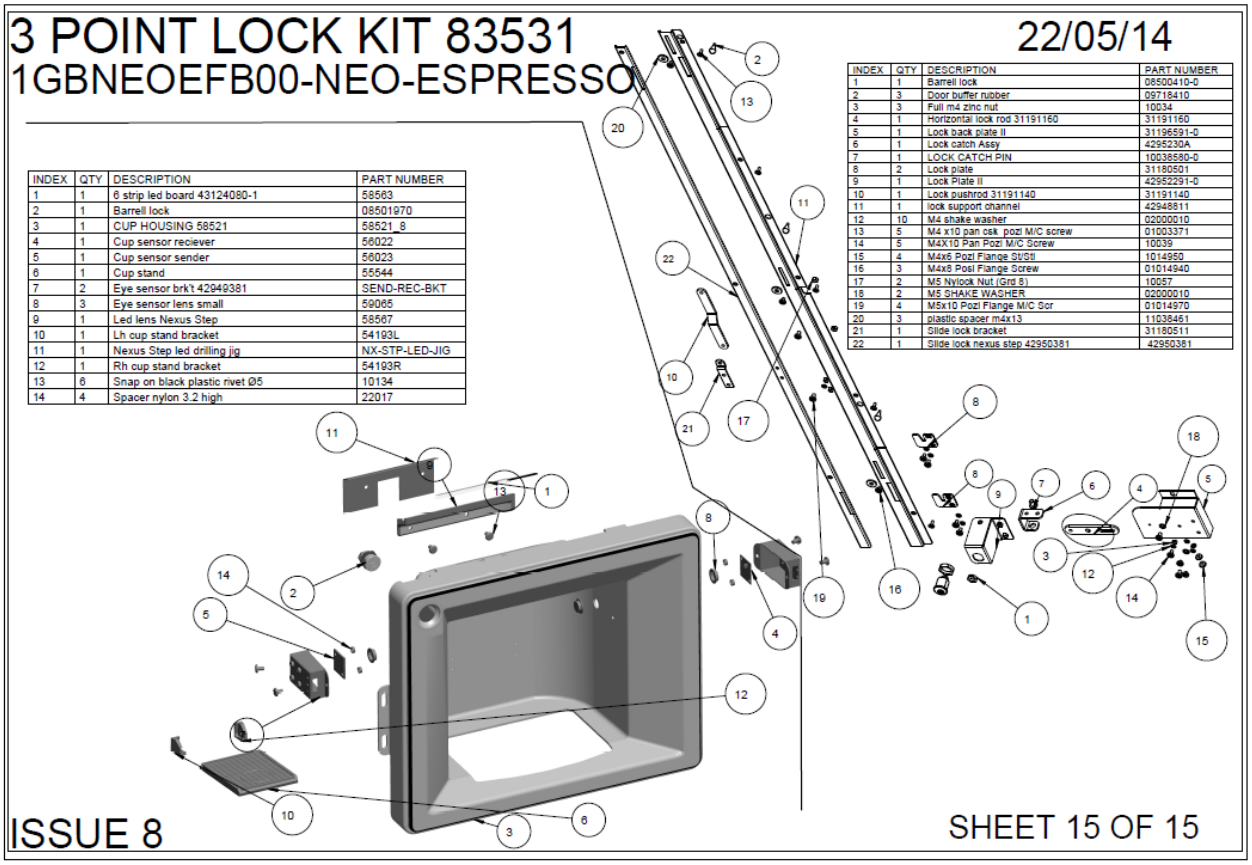
3 POINT LOCK KIT 83531

1GBNEOEFB00-NEO-ESPRESSO

22/05/14

INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	6 strip led board 43124080-1	58563
2	1	Barrell lock	08501970
3	1	CUP HOUSING 58521	58521_8
4	1	Cup sensor reciever	56022
5	1	Cup sensor sender	56023
6	1	Cup stand	55544
7	2	Eye sensor brk't 42949381	SEND-REC-BKT
8	3	Eye sensor lens small	59065
9	1	Led lens Nexus Step	58567
10	1	Lh cup stand bracket	54193L
11	1	Nexus Step led drilling jig	NX-STP-LED-JIG
12	1	Rh cup stand bracket	54193R
13	6	Snap on black plastic rivet Ø5	10134
14	4	Spacer nylon 3.2 high	22017

INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	Barrell lock	08500410-0
2	3	Door buffer rubber	09718410
3	3	Full m4 zinc nut	10034
4	1	Horizontal lock rod 31191160	31191160
5	1	Lock back plate II	31196591-0
6	1	Lock catch Assy	4295230A
7	1	LOCK CATCH PIN	10038580-0
8	2	Lock plate	31180501
9	1	Lock Plate II	42952291-0
10	1	Lock pushrod 31191140	31191140
11	1	lock support channel	42948811
12	10	M4 shake washer	02000010
13	5	M4 x10 pan osk pozi M/C screw	01003371
14	5	M4X10 Pan Pozi M/C Screw	10039
15	4	M4x6 Pozi Flange StStl	1014950
16	3	M4x8 Posi Flange Screw	01014940
17	2	M5 Nylock Nut (Grd 8)	10057
18	2	M5 SHAKE WASHER	02000010
19	4	M5x10 Pozi Flange M/C Scr	01014970
20	3	plastic spacer m4x13	11038461
21	1	Slide lock bracket	31180511
22	1	Slide lock nexus step 42950381	42950381



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