COFFETEK

VITRO S2/3 RANGE

TECHNICAL MANUAL

81038540
Revision 1

VITRO S2/3 BEVERAGE MACHINE

TECHNICAL MANUAL

FOREWORD **4**

SECTION 1 TECHNICAL INFORMATION **6**

INTRODUCTION **6**

SERVICES REQUIRED **8**

Electrical Supply 8

Water Supply 8

GENERAL DESCRIPTION **9**

Cabinet Front 9

Cabinet Interior 9

WATER SYSTEM **10**

Heater and Boosting 10

Tank Filling & Overflow Protection 11

ELECTRICAL AND ELECTRONIC SYSTEM **12**

Functional Description 12

Circuit Description 13

SECTION 2 PROGRAMMING **14**

INTRODUCTION **14**

INTERNAL KEYPAD LAYOUT **15**

KEYPAD FUNCTIONS **15**

OPERATOR PROGRAM **16**

ENGINEER PROGRAM **18**

Program Options 19

SECTION 3 INSTALLATION AND MAINTENANCE **44**

INTRODUCTION **44**

SAFETY WARNINGS **45**

FROST WARNING **46**

INSTALLATION **46**

Location 46

Levelling 46

Securing 46

CONNECTING THE WATER SERVICES **48**

CONNECTING THE ELECTRICAL SERVICES **49**

DESCALING THE TANK **51**

COMMISSIONING....52
DAILY HYGIENE....54
CLEANING INSTANT UNITS....54
CLEANING THE COFFEE BREWER....54
RESET COUNTERS....56
- WEEKLY HYGIENE....57
CLEANING TEA BREWER....57
CLEANING INSTANT UNITS....57
FILLING PRODUCTS....59
FILLING BEAN HOPPER....59
FILLING PROCEDURE (INSTANT & TEA)....59
FAULT FINDING GUIDE....60
SECTION 4 SCHEMATIC AND EXPLODED PARTS DIAGRAM....62

FOREWORD

1. The information contained in this technical manual is applicable to the Vitro S2/3 Beverage Machine Range. Due to customer requirements some units may vary from the one described in the manual.

2. Personnel who have undergone relevant equipment training must only undertake maintenance of the beverage machine.

3. 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.

4. The Vitro S2/3 Beverage Machine is designed for indoor use, in an environment with an ambient temperature range of between 1ºC and 40ºC.

5. THIS APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE IF 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 THE APPLIANCE. CLEANING AND USER MAINTENANCE SHALL NOT BE MADE BY CHILDREN WITHOUT SUPERVISION.

This page is intentionally blank.

Section 1
Technical Information

INTRODUCTION

1. The Vitro S2/3 Beverage Machine dispenses hot beverages in response to a capacitive key selection. All beverages are dispensed in cup measurements. A liquid crystal display provides status indications and operational information. All operations are microprocessor controlled.

2. A cup is placed under the dispense head and the selection is made via a capacitive key selection. The drink is then dispensed in the required quantity. The machine does not accept money, but a feature such as this can be added.

3. The status of the machine may be monitored, and the configuration altered, by accessing a program using the keypad and display. The program offers a menu of options; each consisting of a number of sub-options which can be altered.

4. The Vitro S2/3 Beverage Machine has a feature, which heats the water in the boiler very quickly, with one heater connected, from a 230V~, 16A single-phase supply.

FIG 1.1 VITRO S3 BEVERAGE MACHINE
Model shown is S3 FBT

SERVICES REQUIRED

Electrical Supply

5.

(a) Single Heater Operation

Supply voltage : 230V~, 50Hz, single phase, fused supply

Current rating : 10A/16A

(b) The fused electrical supply should terminate at an appropriate isolator located within 1m of the beverage machine.

Water Supply

6.

(a) 15mm dia. Water mains supply, terminating at a convenient stop tap located within 1m of the beverage machine.

(b) Water pressure : 0.1 MPa minimum, 0.8 MPa maximum

(c) A 15mm double backcheck valve, with inspection port, should be fitted prior to the flexible hose. The mains Water Supply should be fitted with a suitable water blocker.

GENERAL DESCRIPTION

7. The Vitro S2/3 Beverage Machine is a free-standing unit which may be mounted on a secured table, bench, cabinet or food and drink counter.

Cabinet Front

8. The cabinet front door has a large glass panel and located within this panel are 10 capacitive touch switches. On the rear of the door is the display for accessing product information and machine settings with an internal keypad which provides access to the Operator's and Engineer's Program and a USB port

9. The panel can, when unscrewed, be hinged to give access to the ZMCU control board, button control board, ZMCU adaptor and capacitive touch PCB's.

Cabinet Interior

10. A swivel open door provides access to the plastic product containers, each fitted with a gear driven worm screw located in the base of each canister to dispense ingredients in exact amounts.

    The ingredients are mixed with hot water in mixing bowls prior to the beverage being poured from the dispense head.
    A plastic agitator is located inside of the milk topping and chocolate canister to ensure free and consistent flow of product. Additionally a whipper unit, located beneath the mixing bowls, ensures that the product and water are correctly mixed.

    The ingredient canisters must be removed for filling of the products and when all three canisters are removed and steam hoods of the mixing bowls are removed the extract chamber can be removed for cleaning.

11. Located on the upper left hand panel is the machine on/off switch, which controls the power to the MPU, power supply. Access to all other components is either by removal of the lid assembly/boiler cover and motor shelf.

12. Further access to the inner components is achieved by removing the left-hand side panel by unscrewing the location screw and then the panel will drop down clear of its keyhole slots. Removing this panel gives access to all internal components.

13. The mains electricity supply cable enters the machine via a cable gland on the base panel of the machine, where it terminates in a terminal block. The supply is then connected via the terminal block, line filter to the on/off switch on the front of the machine.

WATER SYSTEM

14. The main water supply enters the machine via an inlet valve, which is mounted in the cabinet base panel. A length of tube then takes the water supply into the top of the water boiler via an air break into a channel, which is directed, to the bottom of the heater tank.

15. Hot water is dispensed from the boiler, via the appropriate solenoid operated valve, to the mixing bowl. A length of tube directs any overflow from the boiler via overtemp safety thermostats to the waste tray.

16. The cold water mains supply enters the machine at the base of the cabinet and connects with inlet valve, which controls the flow of water to the boiler. The water is maintained at a constant level in response to signals from a water level probe which is connected to the Controller Board.

17. The water is heated to the required temperature by a single element. The Controller Board ensures that the temperature is maintained to a predetermined level by controlling the supply to the heater in response to signals from the N.T.C. temperature sensor which forms part of the level/temperature probe assembly.

18. Hot water from the boiler is fed directly to the mixing bowls where it mixes with the dispensed ingredient to produce the selected beverage. Solenoid operated valves distribute the hot water to the selected mixing bowl, the amount of water being determined by the program setting.

19. The temperature of the water is monitored by the Controller Board via a sensor inserted into the tank, thus causing the supply to the heater to be removed when the water in the boiler reaches its required temperature setting. If the temperature in the boiler increases causing the water to boil over, the water will flow over the overtemp sensors which will cut off the electrical supply to the heating elements. This sensor is mounted on top of the heater tank and are re-settable.

Heater and Boosting

20. The heating control system employs an intelligent algorithm to obtain maximum performance as follows:-

    Boost operation takes place when the inlet valve opens following a selection being taken. The heater control algorithm is instructed to turn on the SSR for the duration specified in the variable CUP BOOST

    If the temperature is 3° more than the DESIRED TEMPERATURE, set in the CHANGE SETTING MENU all boosting operations are disabled.

    If the actual temperature is between 0 – 1.5° less than the DESIRED TEMPERATURE the SSR toggles ON & OFF unless a boost operation is in progress then the SSR are ON.

    If the actual temperature is between 2° - & 3° less than the desired temperature the SSR is ON. Boost operations are as above.

    If the actual temperature is more than 3° below the desired temperature the SSR's are ON.

Tank Filling & Overflow Protection

21. The control system will only open the inlet valve for a maximum of 40 seconds. If the tank is not full at the end of this time the machine will enter a fault condition. The internal display will read “TANK FILL FAULT CALL OPERATOR”. This fault can be cleared by switching the machine off and on.

    Note: An empty tank may take several cycles to fill completely.

22. The second protective mechanism is designed to act as a fail-safe in the event that a slow leak occurs which does not result in the liquid entering the drip tray. The machine will cease all attempts to fill the tank after 20 tank top ups have been made, if no selections have been taken in the meantime.

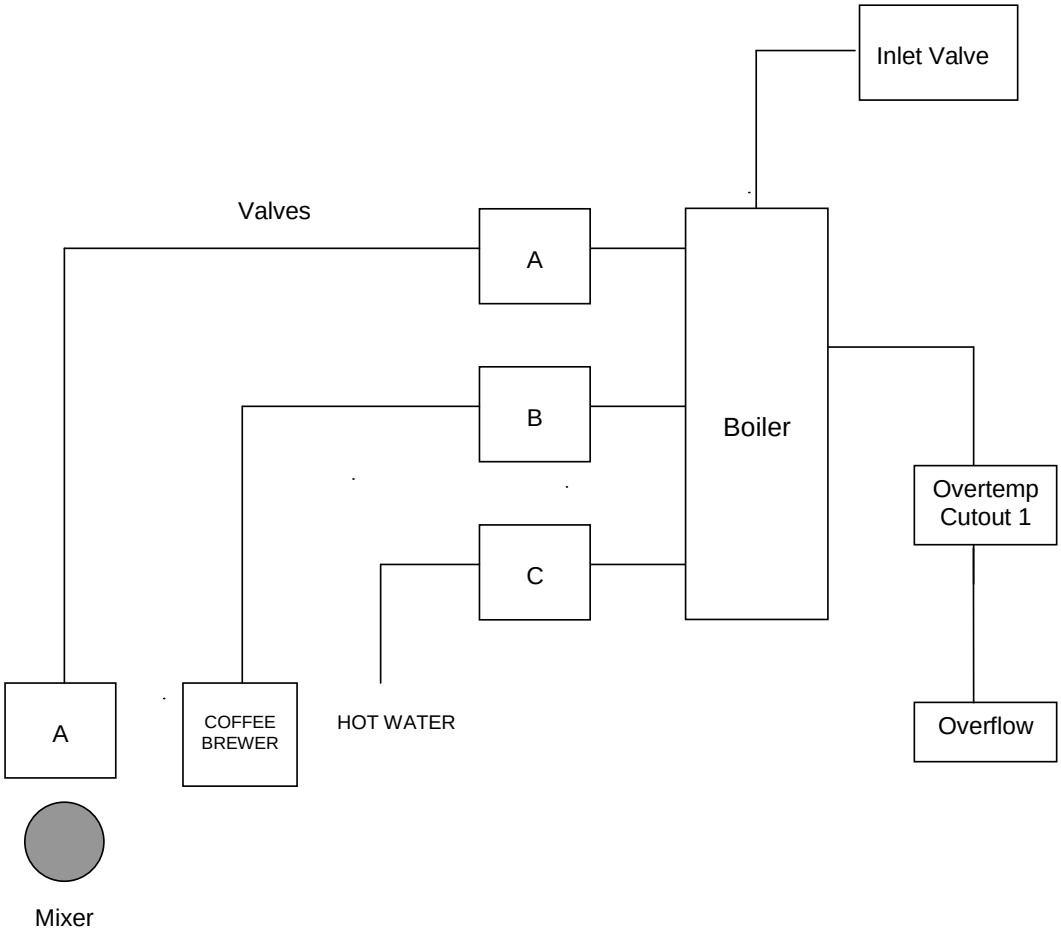


FIG 1.2 WATER SYSTEM – FUNCTIONAL DIAGRAM
Model shown is S3 BTC

ELECTRICAL AND ELECTRONIC SYSTEM

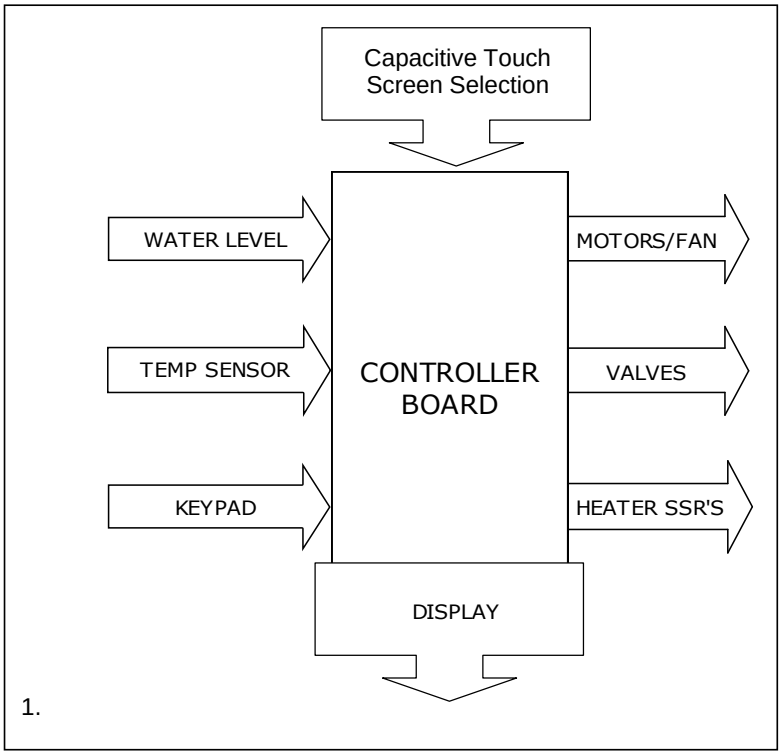
Functional Description

23. The MPU Controller Board employs Microprocessor technology to monitor and control the operation of the beverage machine. The board contains the main System Program, the Operator's Program and the Engineer's Program, each stored in programmable read only memory.

24. Variables, such as the amount of ingredients dispensed, are stored in non-volatile random access memory (NVRAM) and are called up by addressing either the Operator's Program or the Engineer's Program as appropriate.

25. The main System Program tasks the microprocessor with continually checking the status of the input devices (keypad, probe, etc.) and responding to data received by signalling the output devices (LCD display, motors, whippers etc.) to take the appropriate action. The System Program also requests the microprocessor to interrogate the variable settings in NVRAM and to modify its actions accordingly.

26. Output transistors and F.E.T. devices on the MPU Controller Board convert signals from the Controller's microprocessor circuit to the current drive necessary to operate output devices, i.e. motors, whippers and inlet valve.



1.

FIG 1.3 ELECTRICAL & ELECTRONIC SYSTEM – FUNCTIONAL DIAGRAM

Circuit Description

27. If the beverage machine is supplied by a 230V~ single-phase supply from a 10A or 16A outlet (or from a 13A domestic outlet), only 15A fuse protects the heater circuit, a solid state relay (SSR) contact and high temperature cut-out is placed in the circuit of heater

28. The SSR switches the supply to the heaters as directed by the MPU Controller in response to data received from the temperature sensor part of the temperature/level probe, thus maintaining the water in the boiler at the correct temperature. However, if the water in the boiler starts to boil, the high temperature cut-out remove the supply to the heater. Reset buttons for cut-out is accessible at the top of the machine.

29. A 230V~ ac main supply is taken from terminal block to the Power Supply PCB via the on/off switch. The Power Supply PCB provides DC supplies of 24V, 12V and 5V. The 24V-dc output supplies the ingredient motors, whipper motors, extract fan, SSR and solenoid operated valves. The 12V-dc output supplies the MPU Controller Board and operational coin acceptor (if fitted).

30. The MPU Controller Board continually checks the status of input devices connected to plugs J1 and J3, and responds to any change of state by signalling the operation of the relevant output devices via on-board current drive transistors. Thus, for example, the water level probe controls the operation of the inlet valve and the temperature sensor controls the operation of the SSR.

31. The dispensing of a beverage begins with the keypad selection, which is scanned by the MPU Controller Board via a ribbon connector. Which passes through the button control board to the MPU. Control Signals corresponding to the required actions are then generated by the MPU Controller to operate the relevant output devices in the correct sequence and for the specified duration. Operator data information is sent in parallel form to the (LCD) Display.

Section 2
Programming

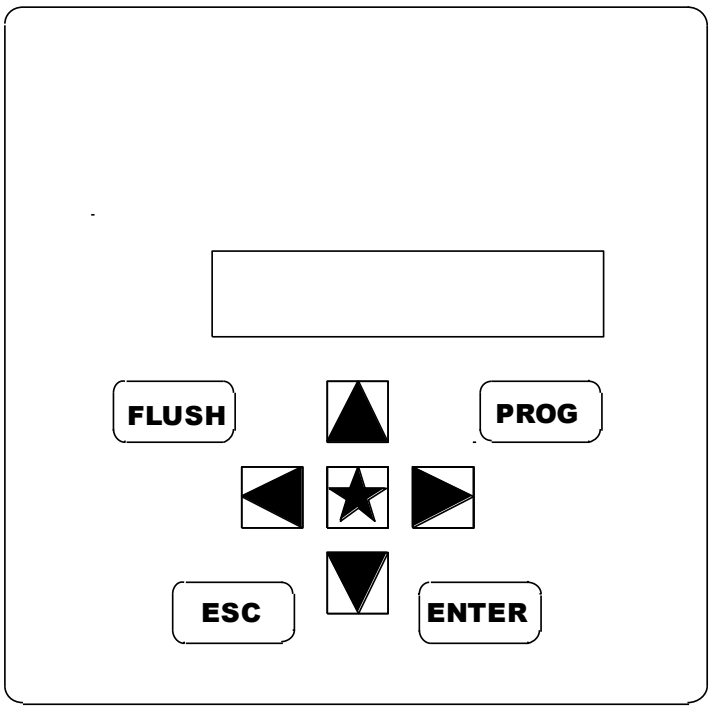
INTRODUCTION

1. The Vitro S2/3 Beverage Machine provides two discrete user programs: The Operator's program and the Engineer's Program. The Operator's Program is available to both the Operator and the Service engineer, but the Engineer's Program is only available to the SERVICE ENGINEER.

2. Both the programs are stored in programmable read only memory on the Controller Board. The values and settings (Variables), which the program allows the programmer to alter, are stored in NVRAM (non-volatile random access memory).

3. Settings are maintained, without the need for back-up battery, when the power supply is removed.

INTERNAL KEYPAD LAYOUT



KEYPAD FUNCTIONS

4. The Operator's Program is available to the operator and Service Engineer. The Program provides options for counting the number of drinks dispensed for each beverage, monitoring the weight of ingredients used, showing the total vends dispensed and resetting the drink dispensed counters if applicable. Additionally, the operator can set the machine to Out of Service if required.

5. Keypad functions when used in the Operator's programming mode, are as follows:-

- Key (ENTER) used to access a function.
- Key (PROG) used to access the operators program, then used to change menu functions.
- ARROWS UP (⮝), DOWN (⮟), LEFT (⮜), RIGHT (⮞) are used for adjustments when in program mode.
- ★ key is used for selecting option when in output test mode.

OPERATOR PROGRAM

Accessing the Operators Mode

6. Accessing the Operator program is by pressing the PROG key on the internal keyboard. The display will show:

PRESS DRINK TO DISPLAY COUNTER

DISPLAY COUNTER

7. The DISPLAY COUNTER option is accessed on entering the Operator's Program. The resettable vend counts may be viewed by pressing each drink key (as shown on the keypad) in turn.

8. To access other options, press PROG on the internal keypad. The other options are as follows:

- Total Vends
- Reset Counters
- Disable Vends
- Reset Grout Counter
- View Ingredient Counters
- Machine Serial No.

TOTAL VENDS

9. Access the Total Vends Count option using PROG key, the display will show total vend count.

RESET COUNTERS

10. Access Reset Counters by using PROG key, to clear drink counters press ENTER. The display will show:

ARE YOU SURE
ENTER (Y) ESC (N)

DISABLE VENDS

11. Access the DISABLE VENDS option by pressing the PROG key and then press ENTER when DISABLE VENDS is displayed. This will then disable all of the vends selections until they are re enabled.

VIEW INGREDIENT COUNTERS

12. Access the View Ingredient Counters option by using PROG key. Press ENTER to display

the first counter, then press the ⮝ UP arrow to scroll through the others.

MACHINE SERIAL NUMBER

13. Access the MACHINE SERIAL NUMBER by pressing the PROG key until the machines serial number is displayed on the LCD display.

ENGINEER PROGRAM

Accessing the Engineer Program

14. The operator program must be accessed before the Engineer Program can be accessed, the operation is as follows:

- Press PROG to access the Operator Program, the display will show:

  PRESS DRINK TO DISPLAY COUNTER

- Press PROG again, the display will show:

  TOTAL VENDS

- Now, press the “Star” key on the internal keypad. The display will now show:

  SELECT DRINK TO MODIFY

Program Options

15. Programming options are available as follows:

- **SELECT DRINK TO MODIFY**
- **SELECT DRINK TO TEST**
- **MOVE OR COPY DRINK**
- **INPUT TEST**
- **OUTPUT TEST**
- **CHANGE ACCESS CODE**
- **CHANGE PRICE OR INHIBIT DRINK**
- **SET INGREDIENT THROW RATE**
- **EVENT LOG**
- **BLUETOOTH MENU**
- **USB ACTIVITIES**
- **SET MACHINE SERIAL No**
  (Inhibited by default only appears when enabled)
- **I2C STATUS**
- **SET DATE AND TIME**
- **TIMED EVENTS**
- **TANK STATUS**
- **CHANGE SETTINGS**
- **PRESS DRINK FOR FIXED COUNTERS**
- **EDIT BIN NAMES**
- **SET FACTORY DEFAULTS**

  LEAVE ENGINEER PROGRAM

16. Repeated pressing of PROG key causes the program to scroll through the options in the above sequence. Therefore a specific option is accessed by pressing PROG key until that option is displayed. To access any program press ENTER.

SELECT DRINK TO MODIFY - INGREDIENT/WATER/WHIPPER ADJUSTMENTS PROGRAM

17. The Vitro S2/3 program provides total flexibility in setting the function of the selection buttons. Each button has the possibility to add to its recipe any of the ingredients in the machine. Thus, for example, the button programmed to dispense chocolate will have in its control variables list, parameters to control the coffee, topping and decaf/espresso motors, mixers and valves. It would in theory be possible to program a button to have a little of each product available. The program is arranged in sections showing the start time and running duration for the ingredient motors, dispense valves and mixer motors. There is a start time and running duration for each actuator. The times are in tenths of a second. In addition to this other selection, specific parameters are included in the list of settings that can be changed.

    The SELECT DRINK TO MODIFY menu now features adaptive menus to hide settings from view until they are required. For example, a drink which utilises milk ingredient will find additional milk ingredient times are available to facilitate greater drink customization. The adaptive menus are,

    CHOCOLATE ING 2 & CHOCOLATE ING 3 – If a chocolate ingredient duration is set then these additional settings will also appear.

    MILK ING 2 & MILK ING 3 - If a milk ingredient duration is set then these additional settings will also appear.

    CBRW WTR1, CBRW WTR2, CBRW LOCK DELAY, CBRW AIR1, CBRW AIR2, CBRW SHOT – If the coffee ingredient is set and the machine has a coffee brewer these variables will become visible for customization of the brewer component of the drink.

    TBRW WTR1, TBRW WTR 2 - If the tea ingredient is set and the machine has a tea brewer these variables will become visible for customization of the brewer component of the drink.

18. The settings for a selection are accessed using the SELECT DRINK TO MODIFY menu as follows:

    - With the SELECT DRINK TO MODIFY menu displayed, press the selection button on the front panel you wish to change.
    - Access will then be granted to the list of configuration parameters for that selection.
    - The list is navigated using the ↖, ↘ arrows and ENTER or ESC to select items to change.

19. The first entry in the SELECT DRINK TO MODIFY menu allows the drink name to be changed. In general, on Coffetek equipment the drink name has no effect on the behavior of the selection button. Choosing a drinks name on some competitor's equipment actually configures the selection, so this point should be noted. The primary purpose for the drink name change facility is to allow the correct name to be displayed when a selection is taken or when using the auditing features. With the exceptions listed in the table on page 21 the drink name assigned to a selection button has no effect on the selection, other than to control the characters displayed on the LCD screen when that selection is taken.

- The display will show:

  DRINK 03 NAME IS
  <DRINK NAME> **(IF NAME IS CORRECT MOVE TO STEP 4)**

  where <DRINK NAME> is the displayed name for that drink, e.g. Coffee.

- To change the name Press ENTER. The display will show:

  <DRINK NAME>
  ⮝, ⮟ ENTER OR ESC

- Use the ⮝ ⮟ keys to scroll through the available drink names. Press ENTER to confirm the new name or ESC to return to the old one.

  A limited number of names do affect the function of the buttons to which they are assigned. These special names and their effects are listed in the following table:

GO LARGE / ALT KEY	This button becomes a 'GOING LARGE / ALT KEY' key. If pressed the machine will emit two beeps to show it is in 'large/alt' mode and the next drink to be selected will use the alternative set of presets associate with the other selection buttons. Typically these alternate selections will have been set to give a larger version of the standard drink in order to realise a GO LARGE function. Equally though the alternative selection could be configured to give Decaf selections.

- If drink name is correct, use ⮝, ⮟ to step through the program. The display will show:

  USES NOZZLE000

- Press ⮝, ⮟ to show Ingredient Settings. Display will show:

Where <ING A> is the name of the ingredient assigned to bin A (see EDIT BIN NAMES).	**<ING A>** **000 (Start)**	Time after button pressed that ingredient A motor starts in tenth of a second.

Typically ingredient A is Milk	**<ING A> 000 (Duration)**	Time for which ingredient A motor runs in tenths of a second.
Typically ingredient B is Chocolate	**<ING B> 000 (Start)**	Time after button pressed that ingredient B motor starts in tenth of a second.
	<ING B> 000 (Duration)	Time for which ingredient B motor runs in tenths of a second.
Typically ingredient C is Coffee	**<ING C> 000 (Start)**	Time after button pressed that ingredient C motor starts in tenth of a second.
	<ING C> 014 (Duration)	Time for which ingredient C motor runs in tenths of a second.
Typically ingredient D is Espresso or Decaf	**<ING D> 000 (Start)**	Time after button pressed that ingredient D motor starts in tenth of a second.
	<ING D> 000 (Duration)	Time for which ingredient D motor runs in tenths of a second.
	<WATER D> 000 (Start)	Time after button pressed that dispense valve associated with ingredient A/B mixer system opens.
	<WATER A> 000 (Duration)	Time for which A/B dispense valve opens in tenths of a second.
	<WATER D> 000 (Start)	Time after button pressed that dispense valve associated with ingredient D mixer system opens.
	<WATER D> 030 (Duration)	Time for which D dispense valve opens in tenths of a second.
	<WHIPPER A> 000 (Start)	Time after button pressed that A/B mixer motor begins to run.
	< WHIPPER A > 000 (Duration)	Time for which A/B mixer motor runs in tenths of a second.
	<WHIPPER D> 000 (Start)	Time after button pressed that D mixer motor begins to run.
	< WHIPPER D > 008 (Duration)	Time for which D mixer motor runs in tenths of a second.
	HOT WATER	Time after button pressed that hot

010 (Start)	water dispense valve opens.
HOT WATER 000 (Duration)	Time for which hot water dispense valve opens.
FLUSH BOWL A 060 (Start)	At the end of a dispense cycle it is possible to program a small amount of water through the large mixing system to clean it and prevent drips. These parameters control the timing of this shot of water. Note. Only occurs on last cycle of multi-cycle drinks.
FLUSH BOWL A 010 (Duration)	
VEND DELAY 060 (Start)	Under some circumstances it is desirable to have a pause between cycles of a multi-cycle selection. Theses variables provide the means to achieve this.
VEND DELAY 010 (Duration)	
NUMBER OF CYCLES 001	Number of times settings repeat. For example set to 2 for a two cup pot.
SCALE FACTOR 100	Scale factor applied to basic drinks settings. To accommodate different drink sizes. Operates on all settings together.

- To adjust the drink, first select the parameter you wish to change. For example to adjust the Coffee strength scroll through to the parameter controlling the run time for the coffee ingredient motor. The display will show for example:

  COFFEE
  010 (DUR)

- Press ENTER - display will show:

  COFFEE
  VALUE = 012 (FLASHING DIGIT)

- Press ⮝ to increase or ⮟ to decrease.
- Press ENTER to accept the new value.
- Press ⮝ to step through program to adjust other value or press ESC to return to SELECT DRINK TO MODIFY, then press ESC again to return to normal operating mode.

SELECT DRINK TO TEST

20. The SELECT DRINK TO TEST option allows any selected drink to be dispensed, while still in the Engineer's Program, in order to be tested. This facility is useful for testing a drink

that has been modified.

Press DRINK A, for example, to test a change made to the selection in the SELECT DRINK TO MODIFY option.

MOVE OR COPY DRINK

21. The MOVE OR COPY DRINK option facilitates the rapid movement or cloning of a drink to another physical button on the keyboard. This is to aid the customization of menus to suit requirements in the field on an individual machine basis. Three options are available.

    - SWAP DRINKS – the drinks on the selected buttons are swapped over.
    - COPY DRINK – the selected drink is copied to the destination button but remains at the original button also.
    - MOVE (ERASE ORG) – the selected drink is moved to the destination button but the original button is erased to facilitate adding a simple drink such as hotwater manually. Most of the more complex drinks would probably be copied from other drinks for instance a Café Latte might use an existing Cappuccino drink as a template.

22. To move or copy a drink

    - Press the ENTER key on the MOVE OR COPY DRINK menu.
    - The Display will show,

      SELECT DRINK TO
      MOVE OR COPY

    - Press the key of the drink that you wish to move or copy. Once you have done so the keyboard led of that drink will remain illuminated.
    - The display will now show,

      PLEASE SELECT
      DESTINATION

    - Press the key that you want the selected drink to be moved or copied to. The destination key will now flash and the display shows…

      SELECT PROCEDURE
      SWAP DRINKS

    - The bottom line of the display shows the currently selected procedure. Using the ↑ (UP) and ↓ (DOWN) keys you can choose from the options explained above namely SWAP DRINKS, COPY DRINK and MOVE (ERASE ORG). Once you are happy with the selection press ENTER to confirm or ESCAPE to cancel.

23. NOTE: If there is an ALT or GO_LARGE key assigned to a button an extra step will be required. As soon as you press ENTER on the MOVE OR COPY DRINK menu the display will show…

    DESTINATION OPT'
    REGULAR->REGULAR

- Press ⮝ (UP), ⮟ (DOWN), ENTER (SELECT) and ESCAPE keys to select the appropriate option. There are four possible options to choose from.
  - REGULAR->REGULAR – Copies a regular sized drink to another regular drink position.
  - REGULAR->LARGE – Copies a regular drink to a large drink position. This is often used so a regular drink can act like a template for a larger one.
  - LARGE->LARGE – Copies a large sized drink to another large sized drink position.
  - LARGE->REGULAR – Copies a large drink to a regular drink's position.
- Once an option is selected the process becomes exactly the same as when an ALT or GO LARGE key has not been asserted.

OUTPUT TEST

24. The OUTPUT TEST option allows an output device to be operated. The ⮝ (UP), ⮟ (DOWN), keys are used to move through the list of output devices. When the desired device is displayed use the STAR key to switch the device ON/OFF

    For example, to operate the coffee mixer motor select **COFFEE WHIPPER** by pressing ⮝ until it appears in the display window, then press STAR to switch the motor ON.

CHANGE PRICE OF, OR INHIBIT DRINKS

25. The CHANGE PRICE OF, OR INHIBIT DRINK option allows individual drinks to be priced or inhibited.

    Changing the price/inhibiting on a paid machine;

    - Press the drink you wish to set
    - Use the arrow keys to set the price and press ENTER
    - If you set the price as 0004 it will inhibit the drink

    Inhibiting a drink of a free vend machine;

    - Press the drink you wish to inhibit
    - Use the arrow keys to change this to Inhibited and press ENTER

SET INGREDIENT THROW RATE

26. The SET INGREDIENT THROW RATE option allows the engineer to alter ingredient throw rates in grams dispensed per second of operation of the ingredient motor for the product usage calculation displayed in Operators Program.

    - Press ENTER. The display will show:

INGREDIENT A (GRAMS PER SECOND)

00001.05

- To change the value of the Espresso throw rate, press ENTER again. The display will show:

INGREDIENT A (GRAMS PER SECOND)
VAL = 00001.05

- Press ▲ (UP) to increase the value or ▼ (DOWN) to decrease it.
- Having set the new throw rate, press ENTER to enter the new value.
- Press ▲ (UP) to display the next ingredient.
- Press ESC to exit from the SET INGREDIENT THROW RATE option.

Event Log

27. The EVENT LOG

BLUETOOTH MENU

28. The Bluetooth Menu is used with the Button Barista APP. There is a more detailed section covering the APP later. The Bluetooth Menu has the following options;

Menu	Description
CHG BT DEV NAME	Change the name of the Bluetooth Interface PCB of the machine.
CHG APP X DRNK 1	Modify the drink settings related to Extra Drink 1 for the Application.
CHG APP X DRNK 2	Modify the drink settings related to Extra Drink 2 for the Application.
CHG APP X DRNK 3	Modify the drink settings related to Extra Drink 3 for the Application.
CHG APP X DRNK 4	Modify the drink settings related to Extra Drink 4 of the Application.
CHG APP X DRNK 5	Modify the drink settings related to Extra Drink 5 of the Application.

-

USB ACTIVITIES

29. The USB ACTIVITIES menu provides various activities for use with USB memory sticks a.k.a. flash drives. From this menu you can choose to save or load various machine features or download machine audits. The options available are

Menu Item	Description

CLONE MACHINE	Takes all data from the machine, to allow the entire machine to be cloned.
SAVE M/C CONFIG	Takes the machine drinks settings, configuration settings, canister information, payment settings and timed events. It does not take audit data.
SAVE RECIPES	Takes only the drink settings (which includes drink prices).
SAVE TIMED EVENTS	Takes only the timed event data.
SAVE PRICES	Takes only the pricing data.
WRITE AUDIT DATA	Writes the machine audit data to the USB device.
SETTINGS (CSV)	Outputs the machine settings in human readable format. The file can be opened with Excel on a PC.
TOUCH FW UPDATE	Updates the firmware on the Touch PCB.
SAVE TIMED EVENTS	Takes only the timed event data.
RESTORE MACHINE	Restores the settings from a previous cloned machine.
LOAD M/C CONFIG	Loads the configuration data from a previously saved configuration file.
LOAD RECIPES	Loads the recipe data from a previously saved Recipes file.
LOAD TIMED EVENTS	Loads the Timed event data from a previously saved Timed Events file.
LOAD PRICES	Loads the pricing data from a previously saved pricing file.

30. For example, to save a configuration to a card,

- Press ENTER on the USB ACTIVITIES menu. The display will show,

  SELECT ACTION:
  SAVE M/C CONFIG

- Press ENTER again and the user will be asked whether to save to the default file. (See below for the procedure for inputting a custom filename). The display will show,

  DEFAULT FILE?
  YES

- Press ENTER to confirm. If the file already exists the display will show,

  FILE EXISTS
  OVERWRITE?

- Press ESCAPE to cancel or press ENTER to confirm that you wish to overwrite the existing file.
- If ENTER is pressed during the file writing process the display will show,

  PLEASE WAIT

- Once the file has been successfully written the display will show,

  MACHINE CONFIG
  WRITTEN OK

- If a USB stick is not detected on entering the USB activities menu the display will show,

  PLEASE INSERT
  USB STORAGE DEV'

- PLEASE NOTE: Do not remove the USB stick during the file writing process.

31. For a custom filename select NO when the display is on the default file screen. The display will then show…

  FILE :-
  4567890 ABCDEFGH (FLASHING DIGIT)

- The filename can be up to 8 chars and directly above the flashing 'A' char is the first character of the filename which defaults to a space.
- Use the ⮜ (LEFT) ⮞ (RIGHT) to scroll through the permitted chars on the bottom line. You can hold the key down to scroll faster or a single touch will scroll by a single character.
- Pressing the * (STAR) key on the internal keypad will place the character highlighted by the cursor in the filename at the current position. The display will show…

  FILE :- A
  34567890 ABCDEFG (FLASHING DIGIT)

- The cursor will move along one position to denote that you are now editing the second character of the filename. Pressing the * (STAR) key again will make the display show…

  FILE :- AA
  234567890 <u>A</u>BCDEF (FLASHING DIGIT)

- Note the bottom line centres on the previously entered character (or 'A' for the first character) by default if the character hasn't previously been edited otherwise it centres on the current character of the filename. To modify the filename character you can press the ⮝ (UP) key to move to the filename on the upper line of the display. You can then use left and right to highlight the character that needs correcting. For example, if you press ⮝ (UP) followed by the ⮜ (LEFT) key the display will show…

  FILE :- A<u>A</u> (FLASHING DIGIT)
  234567890 ABCDEF

- Press ⮟ (DOWN) to move the cursor back to the bottom line and then press the * (STAR) key to select the correct character. The display will show…

  FILE :- AB
  34567890 A<u>B</u>CDEFG (FLASHING DIGIT)

- Press the ENTER key when you have finished editing the filename or ESCAPE to cancel the operation. If you select ENTER the file will be copied to …

FILE TYPE	DESTINATION
Configuration files	"./Coffetek/Zmcu/Configs/"
Timed Events	"./Coffetek/Zmcu/TimEvts/"
Prices	"./Coffetek/Zmcu/Prices/"
Audits	"./Coffetek/Zmcu/Audits/"

SET MACHINE SERIAL NUMBER

32.

- Press ENTER, if not set press ENTER again. The display will show:

  MACHINE SERIAL #
  VALUE 0000<u>0</u> (FLASHING DIGIT)

- To set serial number press ⮝ (UP) to increase or ⮟ (DOWN) to decrease, or press ⮜ (lLEFT) ⮞ (RIGHT) to move cursor.

I2C STATUS

33. The I²C status menu contains the following submenus;

- Plus 16 Status
- Coin Pod Status

For each of the above sub menus the following options are available;

Menu Item	Description
I2C ACKS	The number of successful messages transferred since power on. Can wrap around to 0.
I2C NAKS	The number of unsuccessful messages transferred since power on. Can wrap around to 0.
ISOLATION TEST	Shuts down all I²C communication with other devices. Continues communication with the device under test and feeds back real time ACKS or NAKS.

-

SET DATE

34. The SET DATE AND TIME menu configures the Real time clock facility now available on the control board.

35. To set the date press ENTER on the SET DATE AND TIME menu. The display will show,

SET DATE
⮝, ⮟ ENTER OR ESC

- Press ENTER and the display will change to,

SET DATE
SAT 07/01/2000 (FLASHING DIGIT)

- Use the ⮝ (UP) key to increase or ⮟ (DOWN) to decrease, or press ⮜ (LEFT) ⮞ (RIGHT) to move the cursor.
- Once the date is correct press the ENTER key to confirm your changes or press ESCAPE to cancel them.

SET TIME

36. To set the time press ENTER on the SET DATE AND TIME menu. Then press the ⮝ (UP) key or ⮟ (DOWN) key until the display shows,

SET TIME
⮝, ⮟ ENTER OR ESC

- Press the ENTER key to adjust the time. The display will show,

SET TIME
TIME = 22:18 (FLASHING DIGIT)

- Use the ⮝ (UP) key to increase or ⮟ (DOWN) to decrease, or press ⮜ (LEFT) ⮞ (RIGHT) to move the cursor until the correct time is visible and then press the ENTER key. The display will then return to,

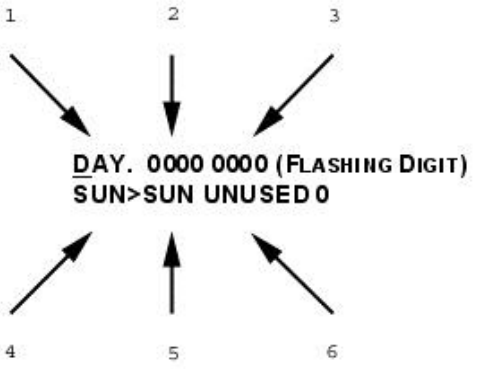
  SET TIME
  ⮝, ⮟ ENTER OR ESC

- Press the ESCAPE key to exit the menu

TIMED EVENTS

- The timed events menu allows you to use the time and date previously set up to activate activities such as free vend periods for machines with payment systems, machine inhibit periods or to perform periodic flushes.

- Press ENTER on the TIMED EVENTS menu and the Display will show,



- Where,

  1) Daily event or block event selector. A daily event would happen everyday at the specified time. A Block event would happen continuously between the two times specified.
  2) Is the Start time in 24 hr format
  3) Is the Stop time in 24 hr format.
  4) Is the start day of the week for this timed event.
  5) Is the stop day of the week for this timed event.
  6) Is the event type which can be FLUSH, FREE (Free vend mode), TMD INH (Timed Inhibit).

- For example, to inhibit the machine each day between 5 and 6 pm you could set up the timed event as follows,

  DAY. 1700 1800
  SUN>SAT TMD INH

- To enter free vend mode during weekdays between 12 and 1 pm you could set the timed event as,

DAY. 1200 1300
MON>FRI FREE

- To inhibit the machine over a weekend you could write,

BLOK. 1700 FRI >
0800 MON TMD INH

TANK STATUS

37. The TANK STATUS option allows the engineer to view the status of the boiler water level and temperature.

- Press ENTER to display the tank status. The display will show:

PROBE IS WET
90 °C ADC = 380 (0,0)

The value 380 is a number corresponding to the temperature setting.

The value (0,0) is the element status.

- Press PROG to exit from the TANK STATUS option and access the next Engineer's Program option.
- Set the Credit Lock to 0.

CHANGE SETTINGS

38. CHANGE SETTINGS allows alteration of the following machine settings:

There are several submenus, that cover various aspects;

- TEMPERATURE SETTINGS
- MACHINE SETTINGS
- MAINTENANCE SETTINGS
- PAYMENT SYSTEM SETTINGS
- AUDIT SETTINGS
- TIMED EVENT SETTINGS
- LIGHTING SETTINGS

Temperature Settings

39.

Settings	Description
DESIRED	86°C (0407)

TEMP	Allows setting of normal operating temperature for the Instant boiler.
TEMP LOW	75°C (0332) Allows setting of low cut-out point for the Instant boiler.
ECON TEMP	60°C (0230) Allows setting of the Economy mode the Instant boiler will lower to if set in the TIMED ACTIVITIES
CUP BOOST	Allows increase/decrease of temperature boost per cup dispense.
RESERVED 1	17
RESERVED 2	30

MACHINE SETTINGS
40.

Settings	Description
OUT OF SERVICE	0 Enables machine to be programmed out of service: Setting this to 1 sets the machine out of service
GLOBAL SCALING	100 Adjustment of cup volume of drinks. All aspects of drink are scaled, i.e. product, whipper, water.
DRY VEND FLAG	0 Enables product only operation: 0 = Water On, 1 = Water Off
SERIAL NUMBERS	The machines serial number can be entered so that it can be viewed on the LCD display. By default this facility is disabled.
BEHAVIOUR CODE	Status Display, STANDARD being the default. BEHAVIOUR 1 – Debug setting for Coffetek Software engineers only. FLUSH TIME OUT – The machine will function normally until the number of hours set in the FLUSH TIME HRS setting passes then the machine will inhibit all the vends until the machine has been flushed.

	COLD WATER OUT – If the machine is fitted with a chiller kit to produce cold vends. EXTERNAL PUMP – If the machine is fitted with an external pump kit i.e. Whale Pump. INGRED MONITOR – Will allow the machine to monitor how much product is being dispensed per drink to prevent a purely water vend being produced. EXT WASTE SENSOR – If the machine is fitted to a base cabinet or side unit with a waste kit to remove the coffee grouts and water this heading must be turned on.
STATUS DISPLAY	001 Will show on the internal display what the machines current boiler status is
LANGUAGE	• This setting changes the language of the software. Great care should be taken when changing this value.
SILENT KEYS	• When set to one this variable disables the beep when a key is pressed on the machine. Note that this does not disable the buzzer completely; all other sounds warning or otherwise will still be audible.
LEVELS RETRY	If set to 1 this will attempt to refill the tank when encountering a tank fill fault
QUICK DRINK TEST	If set to 1 this will allow you to test a drink while in “select drink to modify” by pressing the star key
RM COMMANDS	Reserved for future use
DISABLE APP	Use this option to disable the Button Barrista APP
CODED ACCESS	When set to 1, access to engineer's mode is protected by a code.
SCRN SAVE TIMOUT	This is the number of seconds before the screensaver becomes active.
SCREEN SAVE MODE	This changes the behaviour of the screensaver. Options are SCROLLING TEXT, DISPLAY LOW POWER and DISPLAY OFF

MAINTENANCE SETTINGS
41.

Settings	Description
MAX BREWER VENDS	80 This is the number of coffee vends until the machine inhibits the coffee vends.
BIN WT A	Weight of ingredients in canister A. Used when behaviour code is set on INGRED MONITOR
BIN WT B	Weight of ingredients in canister B. Used when behaviour code is set on INGRED MONITOR
BIN WT C	Weight of ingredients in canister C. Used when behaviour code is set on INGRED MONITOR
BIN WT D	Weight of ingredients in canister D. Used when behaviour code is set on INGRED MONITOR
FLUSH TIME HRS	029 This function comes into operation if the BEHAVIUOR CODE is set to FLUSH TIME OUT, the machine will function normally until the number of hours set in this setting passes then the machine will inhibit all the vends until the machine has been flushed.

PAYMENT SYSTEM SETTINGS
42.

This menu is broken down into a further three submenus.

- **GENERAL SETTINGS**

Settings	Description
RES CREDIT DEVICE	Choose which type of credit device is attached to the machine. If no credit device use FREE
COINAGE TYPE	Pounds
COIN POD DISPLAY	If set to 1 the display will be set as ON
LOW CREDIT KB LIGHT BEHAVIOUR	Choose if drinks are illuminated when they are available but not enough credit.
COIN POD BUSY ANIMATION	010
CHIPKNIP PUB PURSE	Prevents credit from showing
CREDIT LOCK	0 Disables all access to machine programs: 0 = Credit Lock disabled (default setting) 1 = Credit Lock active When Credit Lock is set to 1, Credit Device and Credit Lock settings are not displayed. Additionally, Select Drink to Test, Select Drink to Restore Presets, Change Price or Inhibit Drinks and Initialise options are disabled. DISABLING THE CREDIT LOCK • To disable the CREDIT LOCK after it has been set, proceed as follows: • Enter CHANGE SETTINGS and set the Dry Vend Flag to 42. • Exit from CHANGE SETTINGS. • Enter CHANGE SETTINGS Set the Credit Lock to 0 and

	set the Dry Vend Flag to 0

- **MDB SETTINGS**

Settings	Description
EXACT CHANGE LIMIT	Limit of how much change it will pay out
MAX CREDIT	The maximum credit that can be accepted
NORMAL COINS	The coins accepted in normal mode. 0 is not accepted, 1 is accepted
EXACT CHANGE COINS	The coins accepted in exact change mode. 0 is not accepted, 1 is accepted
NORMAL BILLS	The bills accepted in normal mode. 0 is not accepted, 1 is accepted
EXACT CHANGE BILLS	The bills accepted in exact change mode. 0 is not accepted, 1 is accepted
MASK AUTO CONFIG	Use this to make the Vitro and the coin mech communicate.
CHANGER MODE	Single Vend – Vends one drink then gives change. Multi Vend – Vends drinks up to the value of credit. Change is given when the reject button is pressed
VEND BEFORE CHANGE	If set on, will enforce a vend before change is given. If off, money can be returned without a drink being selected.
VALIDATOR ESCROW	Not used
CLEAR RC	Clears remaining credit
MDB CASHLESS MAX	The amount of time the Vitro will wait for confirmation when using a

TIMEOUT	cashless device such as a card reader.

- **ACCEPTOR SETTINGS** -

Settings	Description
LEAST COIN VALUE	£0.05
EDIT COIN TYPE 1	£1
EDIT COIN TYPE 2	£2
EDIT COIN TYPE 3	5p
EDIT COIN TYPE 4	10p
EDIT COIN TYPE 5	20p
EDIT COIN TYPE 6	50p
OVERPAY CREDIT	How much extra credit the acceptor has taken as it doesn't give change.

AUDIT SETTINGS
43.

Settings	Description
ONE TOUCH AUDIT	Set to 1 to turn on one touch audit.
AUDIT FILE FORMAT	What type of file the audit uses
DDCMP ADDRESS	001
AUDIT BAUDRATE	9600

DDCMP SECURITY	0
DDCMP PASSCODE	0
EVADTS ASSET NUM	Set this to give a unique number for the machine.

TIMED EVENT SETTINGS
44.

Settings	Description
DAYLIGHT SAVING	If daylight saving applies to clock
IGNORE RTC	Ignore real time clock for timed events
ECONOMY DELAY	20s

LIGHTING SETTINGS
45.

Settings	Description
BACKLIGHT STANDBY	On, off, flash,alternate.
BACKLIGHT VENDING	On, off, flash,alternate.
BACKLIGHT VEND COMPLETE	On, off, flash,alternate.
BACKLIGHT ERROR	On, off, flash,alternate.
DOWNLIGHT STANDBY	On, off, flash,alternate.

DOWNLIGHT VENDING	On, off, flash,alternate.
DOWNLIGHT VEND COMPLETE	On, off, flash,alternate.
DOWNLIGHT ERROR	On, off, flash,alternate.
RGB LIGHT STANDBY	On (white), off, custom , cycle.
RGB LIGHT VENDING	On (white), off, custom , cycle.
RGB LIGHT VEND COMPLETE	On (white), off, custom , cycle.
RGB LIGHT ERROR	On (white), off, custom , cycle.
RGB CUSTOM COLOUR	This is the custom colour to use when the RGB light behaviour is set to custom. It is defined by Red Green and Blue values.

PRESS DRINK FOR FIXED COUNTERS

46. The PRESS DRINK FOR FIXED COUNTERS option allows the engineer to view the resettable vend counters associated with a selected drink.

- Press the drink selection key on the keypad.
- Press prog to exit from the PRESS DRINK FOR FIXED COUNTERS option and access the next Engineer's Program option.

EDIT BIN NAME

- Press ENTER. Display will show: -

A B C D
(✸) (✸) (✸)

- Select canister to set Bin Name by using ⮜ (LEFT) ⮞ (RIGHT) and ENTER.
- Press ⮝ or ⮟ to scroll to option required to change.
- Press ENTER.

- Press ➢ to scroll to next canister.

SET FACTORY DEFAULTS

47. THE FACTORY DEFAULT option will allow the Engineer to initialise a new MPU Board with default settings, if not using Palmtop PC.

- Press ENTER; the display will show:

ARE YOU SURE?
ENTER (Y), MODE (N)

- Press ENTER to select required factory default settings.
- Press ➢ or ➢ to find required machine type.
- Press ENTER to set factory default settings.

BOOTLOADER

48. The new USB functionality now supports software updates in the field via USB flash drives. To allow this to occur each ZMCU contains two software components namely the bootloader and the firmware. To run the bootloader it is necessary to fit the jumper labelled ENG_LK and restart the machine. Once the machine starts up the display will show:

BOOTING…
(001)

49. The lower line of the display is the Bootloader version number and is not to be confused with the actual firmware version number that can be loaded onto the control board to run the machine.

50. All firmware must be stored in ".\COFFETEK\ZMCU\FIRMWARE" on the USB flash drive. On an operational machine any USB activity which saves data to the flash drive will create this directory automatically. It is recommended to keep this directory small to avoid erroneous firmware being loaded onto the ZMCU.

51. The machine will then search for attached USB devices. If a device is not found the display will show,

PLEASE INSERT
USB DEVICE

52. If a USB flash drive is attached the screen will briefly say

DEVICE PRESENT

53. The bootloader will then scan the USB flash drive to see if any firmware updates are available in the ".\COFFETEK\ZMCU\FIRMWARE" directory. If this directory is not available the display will say

NO FIRMWARE
DIRECTORY FOUND!

54. If the directory exists but there are no valid files to upload the display will show,

NO FIRMWARE
FILES FOUND!

55. If a USB flash drive is inserted that does contain valid files the display will change to,

SELECT FILE
NG648_GB.000

56. The lower line displays the software version of the file that is about to be uploaded.

NOTE: It is imperative that the correct version of software for the machine is selected otherwise correct machine operation cannot be assured.

Pressing the ⮝ (UP) or ⮟ (DOWN) key will select any alternative software versions that are also available. Once you have the necessary software version selected press ENTER to confirm you wish to upload or press ESCAPE to cancel.

57. There are three stages which occur when ENTER is pressed. The first is verification that the file has valid contents. If it doesn't have valid contents the operation is aborted but if it does then the memory storing the old software is erased. Finally the board is programmed with the new software. Once completed successfully the display will show,

FIRMWARE UPDATED
REMOVE ENG' LINK

58. IF ESCAPE is pressed or there is a problem with the programming the display will show,

REMOVE ENG' LINK

59. Once the Engineer's link is removed there will be three short beeps before the machine then restarts with the newly programmed software.

60. After programming it is always necessary to SET FACTORY DEFAULTS so that the machine is running with valid data. On start-up the ZMCU's memory is scanned for corruption or misalignment and if detected it will prompt the user to set the factory defaults.

CORRUPT FRAM
SET DEFAULTS?

- Press ESCAPE to ignore or press ENTER to confirm where it will then advance you to within the SET FACTORY DEFAULTS menu where you can select the defaults you require.

- NOTE: The corrupt FRAM warning only occurs when the structure of the memory is not correctly in place and therefore is most often utilised for uninitialized boards. It is not guaranteed to trigger on each programming of the board so it's important to remember to set the defaults regardless to ensure the machine works as expected.

Quit Engineer Program

61. Press ENTER.

Section 3
Installation and Maintenance

INTRODUCTION

1. The information given in this Section covers installation, commissioning and maintenance procedures for the Vitro S2/3 Beverage Machine. These procedures must be carried out by authorised personnel who are fully conversant with the equipment, using only manufacturer's approved parts.

2. Servicing personnel must be familiar with the SAFETY WARNINGS, as detailed, 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.

4. In compliance with current regulations, the materials used in the manufacture of the beverage machine are non-corrosive, non-tainting and do not support the growth of bacteria. Refer to Statutory Instrument 1987 No.1523, and to The Model Water Bylaws 1986, Statutory Instrument 1987, No.1147. Non-metallic materials in contact with drinking water comply with the requirements of BS6920: Part 1: 1988. Therefore, only manufacturer's parts must be used.

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.

2. Lethal voltages are exposed when the mains electrical supply to the beverage machine is available and any of the following items are removed:

   - Lid and cover assembly
   - Motor shelf
   - Side panels

   Maintenance personnel must ensure that the machine is isolated from the mains electrical supply before removing any of these items.

3. 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.

4. THIS APPLIANCE MUST BE EARTHED.

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. Ensure that the unit is positioned such that the plug connecting the unit to the mains supply is accessible.

7. 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.

8. The beverage machine is a heavy item. Care must be taken when lifting it.

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

10. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance in order to protect them from the risk of being scalded by hot beverage.

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.

INSTALLATION

WARNINGS (1) THE BEVERAGE MACHINE IS A HEAVY ITEM. CARE MUST BE TAKEN WHEN LIFTING IT.

(2) THE BEVERAGE MACHINE MAY TOPPLE IF THE MOUNT IS WEAK OR INSECURE. ENSURE THAT THE MOUNT IS SECURE AND THAT IT CAN SUPPORT THE WEIGHT OF THE MACHINE.

(3) ENSURE THAT THE MAINS ELECTRICAL SUPPLY IS ISOLATED BEFORE CONNECTING THE SUPPLY CABLE TO THE MACHINE.

Location

5. 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.

Levelling

6. The machine should be levelled both fore and aft and side-to-side by adjustment of the four leveling feet, using a spirit level on top of the cabinet to check it's level.

   The unit must be mounted within 10º of the vertical for safe operation.

Securing

7. The Vitro S2/3 Beverage Machine is a free-standing unit which can be mounted on a secure table, bench, cabinet or food and drink counter.

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.

8. The water supply should be taken from a 15mm rising main at a pressure of between 0.1MPa to 0.8 MPa and should be fitted with a stopcock to isolate the supply during servicing. A 15mm double backcheck valve, with inspection port, should be fitted to the flexible hose. **The mains Water Supply should be fitted with a suitable water blocker.**

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 that 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. The water supply should be fitted with appropriate water blocker.

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.

13. Do not attempt to connect more than one heater to a 230V~, 10A or 16A 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 number of heaters which can be connected in circuit depends on the supply available. The supply requirements are as follows.

- 1 heater operation (2.8kW): 230V~, 10A/16A single phase, 50Hz

17. The 3-core cable connections for 1 heater operation from a 230V~, 10A/13A supply are as follows:

LIVE	**BROWN**
NEUTRAL	**BLUE**
EARTH	**GREEN/YELLOW**

Important: Where a beverage machine is to be connected to a 13A UK 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.

DESCALING THE TANK

WARNING

ENSURE THAT THE TANK IS FLUSHED WITH COLD WATER
BEFORE ATTEMPTING TO HANDLE IT.

18. If the tank requires descaling, proceed as follows:

- Isolate the machine from the electrical supply.
- Flush the tank with cold water.
- Remove the tank, taking note of the connections, which have been removed.
- Remove the solenoid operated valves and the thermostat probe from the tank.
- Check the heater element for signs of deterioration. Replace if necessary.
- Descale the tank in the approved manner.
- After descaling, flush the tank thoroughly with cold water, refit the solenoid operated valves and thermostat probe, and install and reconnect the tank to the machine.
- Restore the electrical supply to the machine and carry out a test of the quality of each beverage before returning the machine to operational use.

COMMISSIONING

WARNINGS	(1)	TO AVOID EXPOSURE TO HAZARDOUS VOLTAGES, DO NOT LEAN INTO THE MACHINE OR TOUCH ANY EXPOSED LIVE POINTS WHEN THE MAINS SUPPLY IS AVAILABLE TO THE MACHINE AND ANY OF THE FOLLOWING ITEMS ARE REMOVED: INGREDIENT CANISTER ENCLOSURE, LID AND COVER ASSEMBLY, MOTOR SHELF, SIDE PANELS.
	(2)	THE WATER IN THE BOILER IS HOT. AVOID CONTACT WITH WATER LEAKING FROM THE BOILER OR FROM ANY OF ITS ASSOCIATED VALVES, TUBES AND PIPES.

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

- all electrical and water supplies are correctly and safely connected;
- all covers, panels or access doors are in place and secured, and the machine is left in a SAFE condition;
- the Operator is familiar with the SAFETY PRECAUTIONS for the machine;
- the importance of hygiene and regular cleaning is fully appreciated by the Operator.

20. With the water and electrical supplies connected to the machine, proceed as follows:

- Set the On/Off switch on the machine to OFF.
- Isolate the electrical supply from the machine.
- Open the cabinet door and locate the waste tray.
- Ensure that the overflow pipes are not trapped.
- Restore the electrical supply to the machine.
- Set the On/Off switch on the machine to ON.
- Check that the boiler fills with water and that the water supply cuts off when the correct level is reached, i.e. no water overflows into the waste tray. (The machine may have to be switched OFF and ON several times in order to fill the tank).
- Check that the heater heats the water to the correct temperature.
- Select the Engineer's Program and run through the Output Test to check that all components are functioning correctly.
- Fill the ingredient canisters.
- Check the complete range of machine operations.

- If required, select the Engineer's Program and change the pre-set values to suit customer requirements.
- Set the On/Off switch on the machine to OFF.
- Isolate the electrical supply from the machine.
- Check all hose connections for leaks.
- Clean the interior and exterior of the cabinet.
- Restore the electrical supply to the machine.
- Set the On/Off switch on the machine to ON.
- Operate the machine through the complete range of dispense operations and check that each one is correct.

DAILY HYGIENE

Cleaning Instant Units

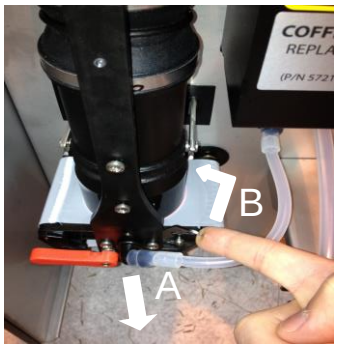
This process should be carried out a minimum of three times a day.

- Set the On/Off switch on the machine to ON.
- Remove the instant ingredient canisters. Wipe clean the exterior surfaces of the canister assembly. Wipe dry.
- Remove the coffee grouts bucket. Empty the contents of the bucket and wash and dry it.
- Remove the waste tray and grille. Empty the contents of the tray and wash and dry the tray and grille.
- Put a container of at least 300ml capacity under the dispensing nozzles.
- Press the FLUSH button once on the internal keypad. The screen will ask if you wish to flush the system. Press ENTER for YES
- 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.

Once again remove the coffee grouts bucket. Empty the contents of the bucket and wash and dry it then refit into the machine.
Note: Some of these operations should only be performed in machines that incorporate tea or coffee brewers. If your machine doesn't incorporate these elements, perform the next step.

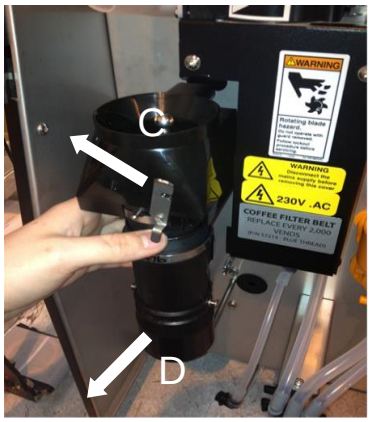
Cleaning The Coffee Brewer

- 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.
- Remove the ingredient canisters. Wipe clean the exterior surfaces of the canister assembly. Wipe dry.
- Remove the waste tray and grille. Empty the contents of the tray and wash and dry the tray and grille.
- Remove the coffee grouts bucket. Empty the contents of the bucket and wash and dry it.
- Disconnect the tube connecting the coffee brewer to the mixing bowl by pulling the black right-angled fitting (A) away from the brewer itself. Remove the coffee brewer safety cover and lift the lower carriage locking lever (B) to the vertical, (unlocked position). Remove the carriage assembly by pulling it gently towards the front of the machine.

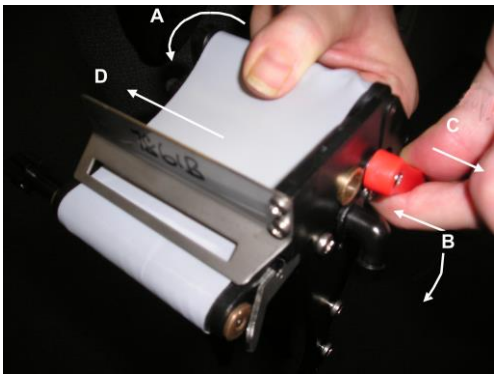


- Disconnect the ball and socket coupling visible inside the coffee brewer extract chamber. This is accomplished by pulling the lower vertical rod towards the front of the machine.

- Move the upper locking lever (C) to the vertical, (unlocked position) and remove the brew chamber assembly (D) by pulling it gently towards the front of the machine.



- Wash and dry the carriage and brew chamber assembly.
- Inspect the filter belt and if necessary remove and clean or replace it. Anticipated belt life is between 1000 and 3000 operations depending on the coffee grind, water hardness and frequency of washing. Belts may be washed in clean warm water or a de tanning agent to prolong their life. However replacement will become necessary to avoid the brewer becoming blocked. Belt removal can only be done with the carriage removed. The procedure is to compress the tension roller between left hand forefingers and thumb (A). Then push in and rotate the red lever approximately an 1/8th turn clockwise (B). Having rotated the lever allow it to return in direction (C) to lock the tension rollers in the compressed position. The belt should be free to rotate and can be removed by sliding it back and forth whilst pulling it in direction (D).
- To replace the belt follow the first part of the above procedure to compress the tension roller. Then refit the new / cleaned belt. Release the tension roller by pressing the red lever in (B). It is not necessary to rotate the lever. It is spring tensioned.
- Disconnect the pipes from the mixing bowls and dispense head. Remove the mixing bowls, tubes and dispense nozzles, and also the whipper paddle and whipper base. Wash and dry these items.



- Wash and dry the dispense area
- Wipe clean all accessible inner and outer surfaces of the machine. Wipe dry.
- Refit the whipper bases, paddles, mixing bowls, tubes and dispense nozzles and brewer parts. The assembly procedure for the brewer is the reverse of the disassembly procedure. Ensure that both brewer-locking levers are in the locked, (horizontal position) before proceeding to the next section.
- Replace the grouts collection bucket and refit the front cover, ingredient canister
- Turn on the power. Note the brewer will cycle to reach its home position.

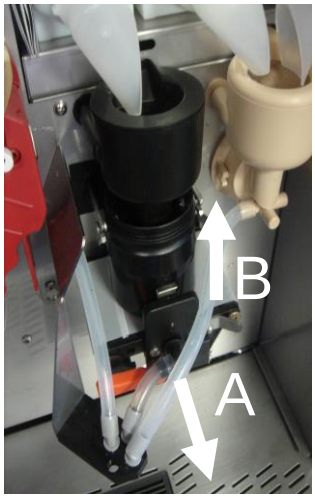
RESET COUNTERS

- Press star key (centre of internal keypad) to bring up menu. Screen will change to “GROUP TRANSIENTS”
- Use up or down arrow to scroll between “GROUP TRANSIENTS”, and “GROUT BIN”,
- Reset “GROUT BIN”

Formatted: Normal,Normal TM, Space Before: 6 pt, Bulleted + Level: 1 + Aligned at: 0.63 cm + Indent at: 1.27 cm

Formatted: Space Before: 6 pt, Bulleted + Level: 1 + Aligned at: 0.63 cm + Indent at: 1.27 cm, Widow/Orphan control

▪ WEEKLY HYGIENE



Cleaning Tea Brewer

- Remove the coffee grout bucket.
- 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 Units

2. WARNING

3. The unit must not be cleaned using a water jet or spray.

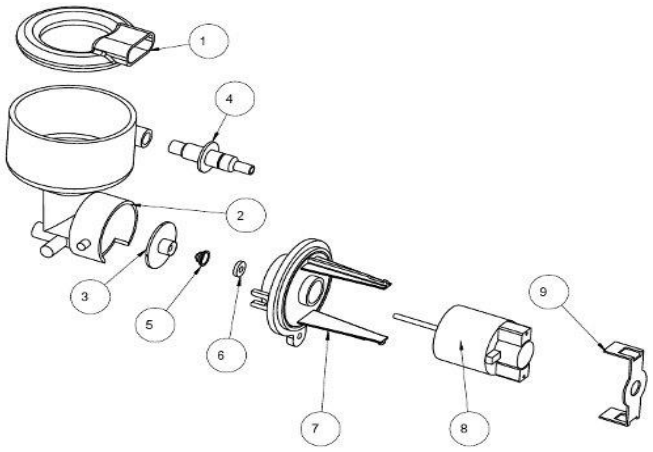
4. The enclosure is not waterproof and damage may occur if

5. excessive volumes of water are used in the cleaning process.

On a weekly basis an identical procedure to that described under DAILY HYGIENE should be carried out with the following additional activities.

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

A full disassembly and cleaning of the instant mixing systems should be carried out as follows:



WHIPPER AND MIXING BOWL ASSEMBLY

1) 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.
2) Rotate the canister nozzles then remove the ingredient canisters. Wipe clean the exterior surfaces of the canister assembly and dry thoroughly.
3) Disconnect the pipes from the mixing bowls and remove the dispense nozzles from the dispense head. Wash and dry these items.

Milk / Chocolate mixing system removal

- Rotate and lift off the steam trap ①.
- Remove the mixing bowl and whipper housing ② by pulling towards you.
- Remove the whipper impellor ③, red seal ⑤and PTFE washer ⑥ by pulling toward you.

Coffee mixing system removal

- Rotate and lift off the steam trap ①.
- Remove the mixing bowl and whipper housing ② by pulling towards you.
- Remove the whipper impellor ③, red seal ⑤and PTFE washer ⑥ by pulling toward you.
- Clean all the whipper parts in hot water using the recommended sterilising agent and dry them thoroughly.
    1) Remove the extract chamber from the canister shelf. Wash and dry the cover.
    2) Clean all accessible inner and outer surfaces of the machine using a damp cloth and wipe dry.
    3) Replace the cleaned parts.
    4) Replace the ingredient canister after filling with product and rotate the canister nozzle downwards.
    5) Switch on the machine and set on/off switch to on.
    6) Flush the machine by pressing FLUSH button on internal keypad ensure there are no leaks and everything is working correctly.
    7) Remove the grouts bucket empty and wash it out.
    8) Remove waste tray and grille and empty contents.
    9) Clean waste tray and grille and replace.

FILLING PRODUCTS

Filling Bean Hopper

- Unlock the bean hopper lid and remove it.
- Fill the hopper with sufficient beans for the days anticipated use.
- Refit and lock the hopper lid.
- Note: any foreign objects that fall into the hopper should be retrieved before the machine is used further or damage to the grinder may result.

Filling Procedure (Instant & Tea)

- Open door of machine with key provided.
- Turn ingredient chutes to ensure that product is not trailed over the counter.
- 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.
- 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 to the machine. Remember to turn the ingredient chutes back to a downward facing position.
- 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.
- Check that the auger at the rear of the canister is correctly aligned with the cogs at the back of the machine.

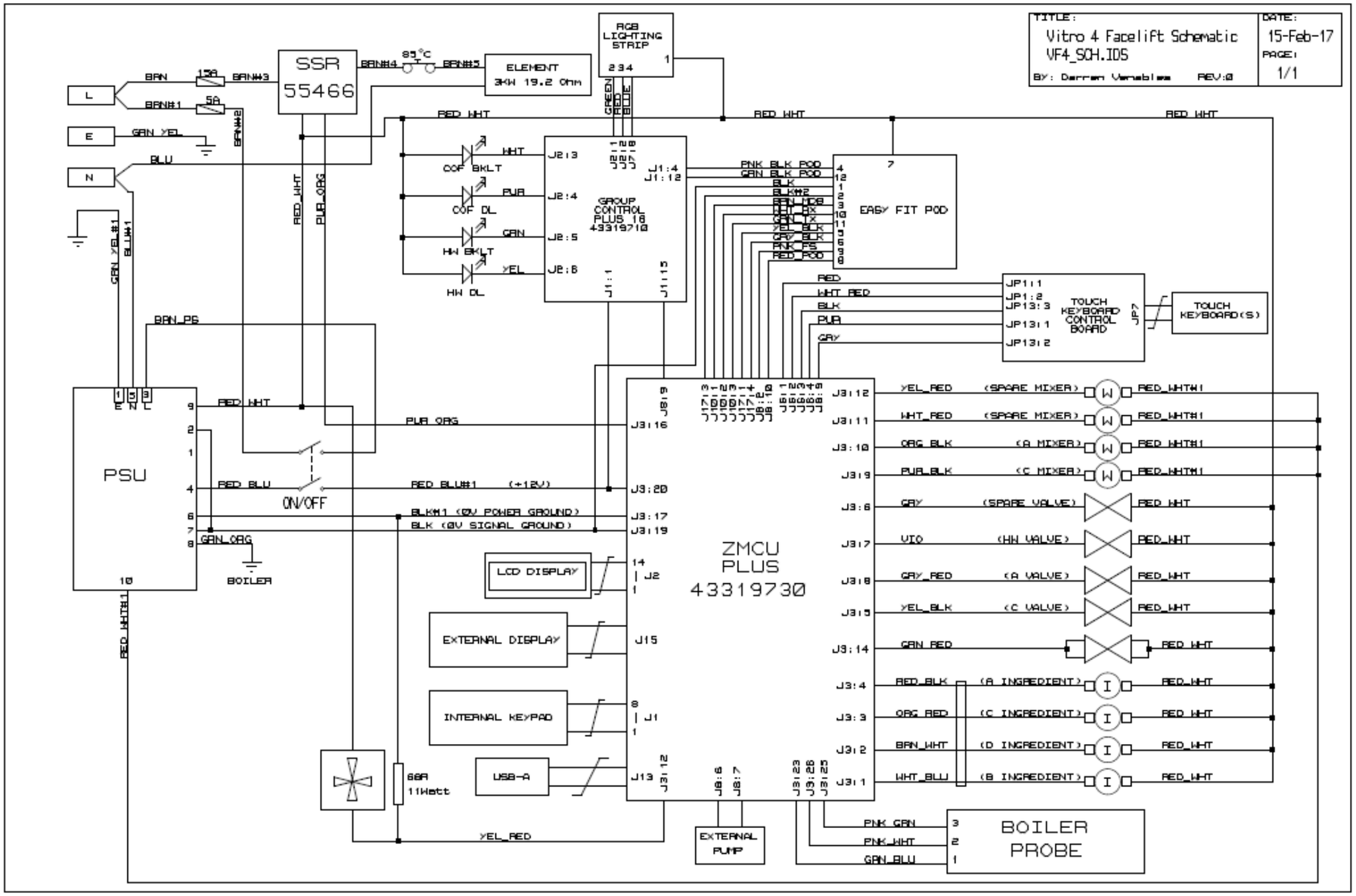
FAULT FINDING GUIDE

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) Temperature probe wet	(f) Dry probe and check
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
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	(d) Replace relay

	relay	
Heater tank overfilling	a) Probe open circuit (b) Inlet valve fault (c) Level probe incorrectly positioned	(a) Check probe circuit (b) Check inlet valve and replace if necessary (c) Reposition probe
Bearding of ingredient	(a) Extractor fan fault (b) Steam hoods missing from mixing bowls or incorrectly positioned	(a) Check fan (b) Fit steam hoods to mixing bowls and position correctly.
Machine floods	(a) Dispense pipes incorrectly fitted to dispense head (b) Mixing bowls incorrectly fitted (c) Whipper seals missing (d) Overflow pipe incorrectly fitted	(a) Reposition pipes (b) Reposition mixing bowls (c) Check seals (d) Refit overflow pipe
No display	(a) Display connector loose	(a) Refit connector
TEMP LOW displayed	(a) Thermal cut-out tripped (b) Heater fuse blown (c) Incorrect temperature	(a) Reset cut-out (b) Check fuse (c) Check program setting

Section 4
Schematic and Exploded Parts Diagram

COFFETEK

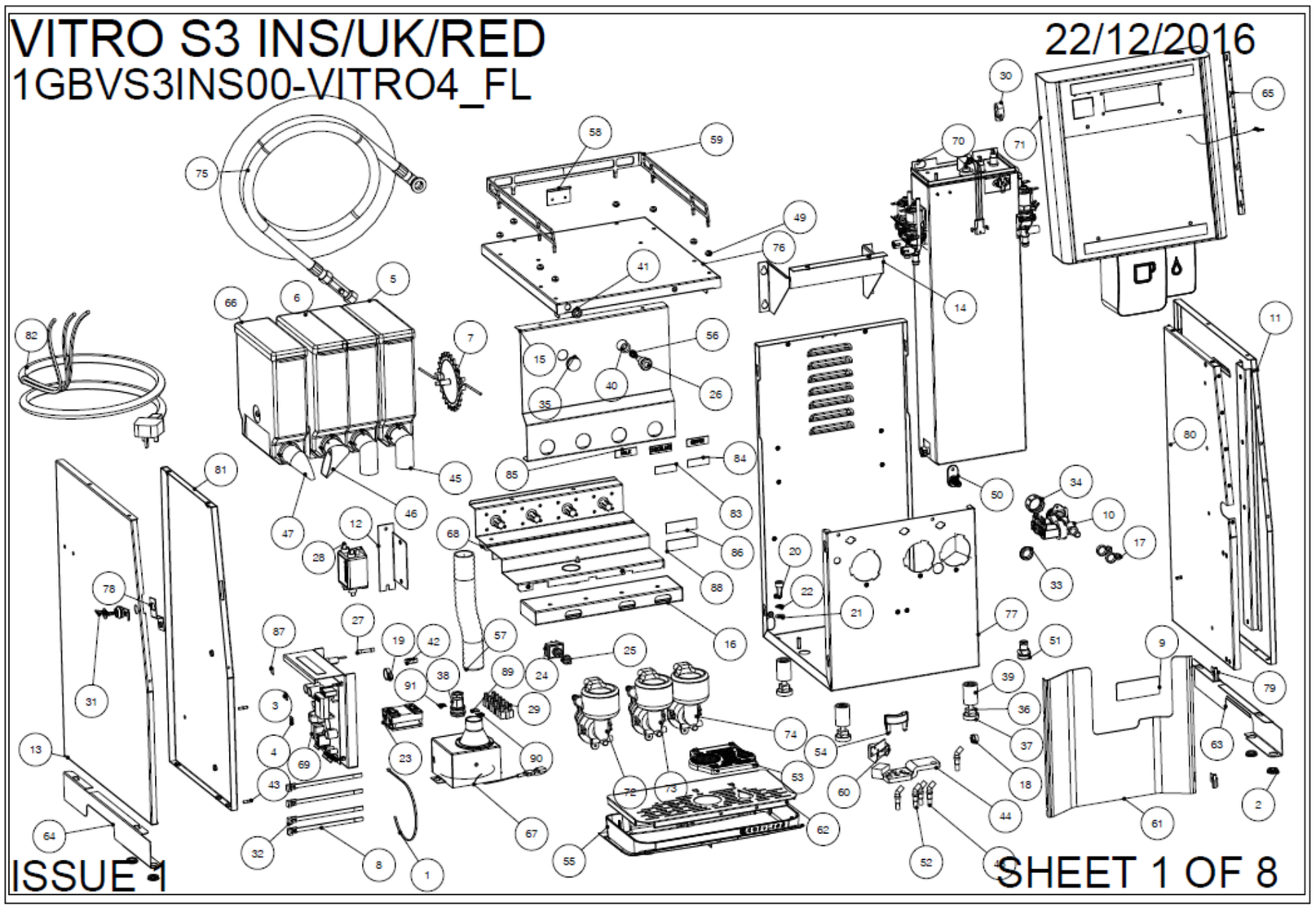

TITLE:
Vitro 4 Facelift Schematic
VF4_SCH.IDS
BY: Darren Venables REV:0
DATE:
15-Feb-17
PAGE:
1/1
SSR
55466
ELEMENT
3KW 19.2 Ohm
85°C
RGB LIGHTING STRIP
GROUP CONTROL PLUS 16
43319716
EASY FIT POD
TOUCH KEYBOARD CONTROL BOARD
TOUCH KEYBOARD(S)
PSU
ON/OFF
BOILER
ZMCU PLUS 43319730
LCD DISPLAY
EXTERNAL DISPLAY
INTERNAL KEYPAD
USB-A
68R 11Watt
EXTERNAL PUMP
BOILER PROBE
(SPARE MIXER)
(A MIXER)
(C MIXER)
(SPARE VALVE)
(HW VALVE)
(A VALVE)
(C VALVE)
(A INGREDIENT)
(C INGREDIENT)
(D INGREDIENT)
(B INGREDIENT)
(+12V)
(0V POWER GROUND)
(0V SIGNAL GROUND)

COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL



ISSUE 1

SHEET 1 OF 8

COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

INDEX	QTY	DESCRIPTION	PART NUMBER	INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	CABLE TIE LONG 200x2.5mm	22014	50	1	DRAIN HOSE DEVICE	11043091
2	4	GROMMET BLIND	22449	51	1	BOWL ADAPTOR	11043111
3	1	FUSE LABEL L1 64-12	54303	52	1	ANGLED NOZZLE WITHOUT PIPS	11046131
4	1	FUSE LABEL L2 64-12	54304	53	1	VITRO FL PLASTIC GRID	11047751
5	2	CAN 220MM WIRE AUGER	54434	54	1	DOUBLE SPOUT BODY	11047791
6	1	CAN 220MM PLASTIC AUG+AGI	54436	55	1	VITRO FL 320 TRAY	11047881
7	1	AGITATOR SMALL WIRE	55187	56	1	COMPRESS SPRING 11ODx12x5x5.1	12017770
8	1	CABLE TIE RE-USABLE BLACK	55748	57	1	HOSE 1 1/4" EXTRA FLEX	29102270
9	1	LABEL CAUITON HANDS CLEAR	56626	58	1	REAR LID HOLDER	31195400
10	1	INLET VALVE 24V DC DOUBLE	59235	59	1	VITRO 4 FL - LID WIRE	31215361
11	1	ASSY R/H S/PANEL VITRO 4	63508	60	1	VITRO 4 FL - DISPENSER HEAD BRACKET	31215400
12	1	ASSY 8-150 FILTER MOUNT	63639	61	1	VITRO 4 FL - FRONT COVER	31215410
13	1	ASSY VITRO 4 FL - L/H S/PANEL	69909	62	1	VITRO 4 FL - METALLIC GRID	31215420
14	1	ASSY MOTOR HOLDER	69918	63	1	SURE FOOT RHS DUO FL	31218940
15	1	BOILER COVER	69920	64	1	SURE FOOT LHS DUO FL	31218950
16	1	EXTRACT DUCT NEVA	69951	65	1	DOOR HINGE B2C T/TOP	39023131
17	2	SNAPPER CLIP NO 10	71740	66	1	220MM WIRE AUGER CANNISTER + AGITATOR	41222661
18	1	SNAPPER CLIP NO 2	71744	67	1	ASSY FAN BOX (BOX 66390)	41237771
19	1	SNAPPER CLIP NO 12	71745	68	1	MOTOR SHELF ASSY (VITRO 4GB)	41237781
20	4	SCREW DIN 912 M8x20 STAINLESS	01006380	69	1	FUSE PANEL (VITRO 4 GB)	41237791
21	4	FLAT WASHER DIN 125A M8 STAINLESS	02003260	70	1	BOILER ASSEMBLY (VITRO 4 GB)	41237801
22	4	WASHER DIN 6798J M8	02053510	71	1	VITRO 4 FL - ASSY COMPLETE DOOR	41237821
23	1	TRIAC	03600110	72	1	ASSY. WHIPPER MOTOR GREY	41237851
24	1	TOGGLE SWITCH	04001560	73	1	ASSY WHIPPER MOTOR BEIGE	41237861
25	1	SWITCH COVER	04001570	74	1	ASSY. WHIPPER MOTOR BLACK	41237871
26	1	SAFETY THERMOSTAT RESET BLACK BUTTON	04001580	75	1	WITTERN LTD HOSE KIT	41518600
27	1	T5A FUSE	04804080	76	1	ASSY NEVA CABINET LID	42005920
28	1	FILTER 20A 250V	04804130	77	1	VITRO 4 FL - SUBASSY MAIN BODY	42043240
29	1	12-32A CONNECTION TERMINALS STRIP	04804490	78	1	ASSY STABLISING BRACKET	42951370
30	1	WIRE HARNESS CLAMP Ø 16.7mm	04804850	79	2	VITROFL FRONT COVER HINGE	42967130
31	1	MINI CAMLOCL & CAM 2 KEYS	08502400	80	1	VITRO 4 FL - SUBASSY R/H S/PANEL INSERT	42967740
32	3	CABLE TIE (BOILER) LONG 12X1000mm	09718330	81	1	VITRO 4 FL - SUBASSY L/H S/PANEL INSERT	42967750
33	1	GROMMET Ø16	09718630	82	1	MAINS LEAD WITH 13A PLUG	43222880
34	1	PROTECTION CAP 3/4"x14 BSP/GAS	09718680	83	2	CANISTER CHOCOLATE LABEL	82039450
35	1	Grommet - Diaphragm Type	09719070	84	2	CANISTER LABEL COFFEE	82039460
36	4	5202-1-99 LEVELLER M8x25	09722100	85	1	CANISTER LABEL MILK	82039480
37	4	FOOT COVER NON SLIP	09722110	86	1	DANGER LABEL 230V AC	82039530
38	1	CABLE GLAND (NESTLE)	09722120	87	1	FUSE LABEL ("T5A")	82039560
39	4	FOOT SPACER TAPPED Ø25xM8x36	09722130	88	1	DANGER LABEL WARNING SMALL	82039720
40	1	'O' RING RESET BUTTON BLACK Ø15xø3	09722140	89	1	LIVE TERMINAL LABEL ("L")	82041250
41	1	GROMMET Ø9.6	09722170	90	1	NEUTRAL TERMINAL LABEL ("N")	82041260
42	1	GAS 1/4 NUT	10012480	91	1	EARTH TERMINAL LABEL	82041290
43	2	PIN BULLET Ø4mm	10037200				
44	1	VITRO ESP DISPENSE HEAD	10041221				
45	2	INGREDIENT CHUTE CENTRAL	11037810				
46	1	DS091 R/H CHUTE	11037820				
47	1	L/H CHUTE	11037830				
48	4	ANGLED NOZZLE	11037871				
49	8	DOOR PIP GROMMET Ø5 2214BF	11038391				

INDEX B	PART NUMBER	DESCRIPTION	QTY/LENGTH
1	23204010	Heat Shrink 3mm 5 MtrCoil	0.060
2	81038810	OPERATOR MANUAL (ENGLISH) VITRO LINE	1.000
3	81041000	Safety Information Leaflet	1.000
4	41239551	VITRO 4 FACELIFT BOILER TUBE KIT	1.000
5	29102440	Tube 8x12 PLAT CURED - RED	0.330
6	29101900	Yellow Tube PlatCure 6x10	0.490
7	29102450	Tube 8x12 PLAT CURED - BLUE	0.320
8	29102060	TUBE 8x12 PLAT CURED - GREY	0.340
9	29101870	Tube 9x15 Dispense/Inlet	0.700
10	29101880	Tube 11x18mm Overflow/Dmp	0.640
11	29101950	TUBE 8x12 PLAT CURED - CLEAR	0.700
12	59046	Motor Shelf Loom 4-48	1.000
13	41240091	VITRO 4 FACELIFT GENERAL TUBE KIT	1.000
14	29101890	Red Tube Plat Cure 6x10	0.120
15	29102160	Grey Tube Plat Cure 6x10	0.100
16	29101910	Blue Tube Plat Cure 6x10	0.120
17	49054571	ENGLISH HORECA DECAL SET	1.000
18	43231980	FACELIFT LIGHTING LOOM	1.000
19	43231990	ZMCU PLUS External Display Loom	1.000
20	41215680	Vitro Touch K/B Loom Set	1.000
21	54099	Insulation Tape 25MM X 33	0.022
22	43124470	Sub Loom Whale Pump	1.000
23	57629	Main Loom Neva Instant	1.000
24	88612	Vitro 4 Fastener Kit	1.000
25	54099	Insulation Tape 25MM X 33	0.002
26	23204020	Heat Shrink Blue 12.7mm	0.100
27	23200770	Heat Shrink 8mm OD	0.060
28	23204030	Heat Shrink 1.6mm	0.060
29	55684	Edging Strip Black Heat	0.200
30	41239581	VITRO 4 FL DOOR LED ASSY	1.000
31	43319750	VITRO F.L NOSE BACK LIGHT PCB	1.000
32	41238941	VITRO F.L NOSE BACK LIGHT ASSEMBLY	2.000

ISSUE 1

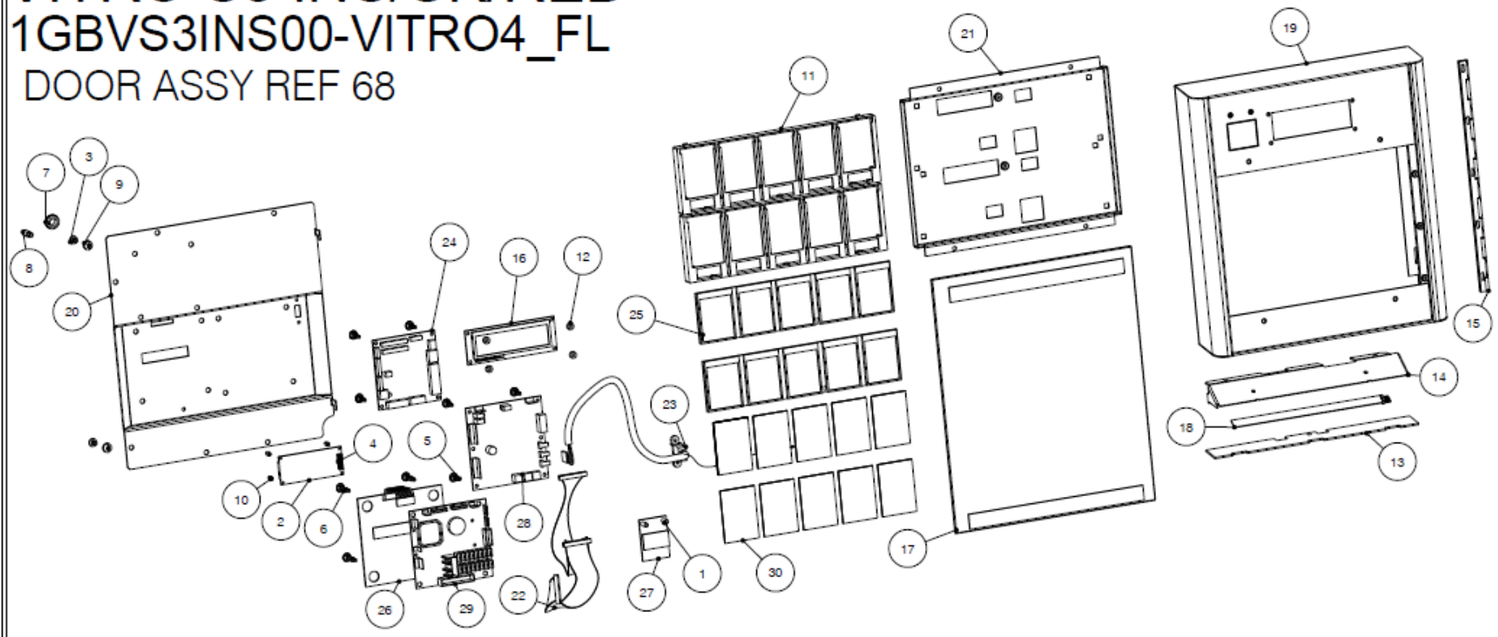
COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

DOOR ASSY REF 68



INDEX	QTY	DESCRIPTION	PART NUMBER
1	2	12MM KEYBOARD SPACER	54047
2	1	MC1602F7-3BLW*S LCD DISPLAY BLUE 2 x 16	56680
3	2	DOOR PIPS BLACK PLASTIC	59057
4	1	CONNECTOR M 14W	03809130
5	8	CIRCUIT BOARD BLACK SUPPORT	09718561
6	4	CIRCUIT BOARD SUPPORT	09722070
7	1	GROMMET Ø9,6	09722170
8	1	DOOR PIN	10037210
9	2	DOOR PIP GROMMET Ø5 2214BF	11038391
10	4	CIRCUIT BOARD SUPPORT	11039070
11	2	NEXUS STEP 5 BUTTON FRAME	11040181
12	4	SPACER NYLON Ø4.2 x Ø4 x 8 mm	11041591
13	1	VITRO 4 FL - LIGHT DOOR DIFFUSER	19073300
14	1	VITRO 4 FL - LED BRACKET	31215430
15	1	DOOR HINGE B2C T/TOP	39023131
16	1	ASSY OLED DISPLAY WHITE LARGE 2x16	41221161

INDEX	QTY	DESCRIPTION	PART NUMBER
17	1	VITRO 4 FL DOOR GLASS + TAPE	41239561
18	1	VITRO 4 FL - ASSY DOOR LED	41276491
19	1	VITRO 4 FL - SUBASSY DOOR	42105821
20	1	VITRO 4 FL - SUBASSY DOOR BACKER	42967761
21	1	SUBASSY VITRO BUTTON MOUNT	42968551
22	1	BUTTON BOARD RIBBON CABLE L=535	43224630
23	1	USB TYPE_A - PANEL FTO 1 x 5	43227270
24	1	NEXUS STEP BUTTON C/BOARD (58547)	43315790
25	2	NEXUS STEP 5 BUTTON BOARD(58545)	43316110
26	1	INTERNAL KEYPAD	43317300
27	1	BOARD BLUETOOTH CB OBS421	43318240
28	1	GROUP CONTROL PLUS PCB	43319710
29	1	ZMCU PLUS CONTROLLER	43319730
30	1	VITRO DECAL SET	49030301

ISSUE 1

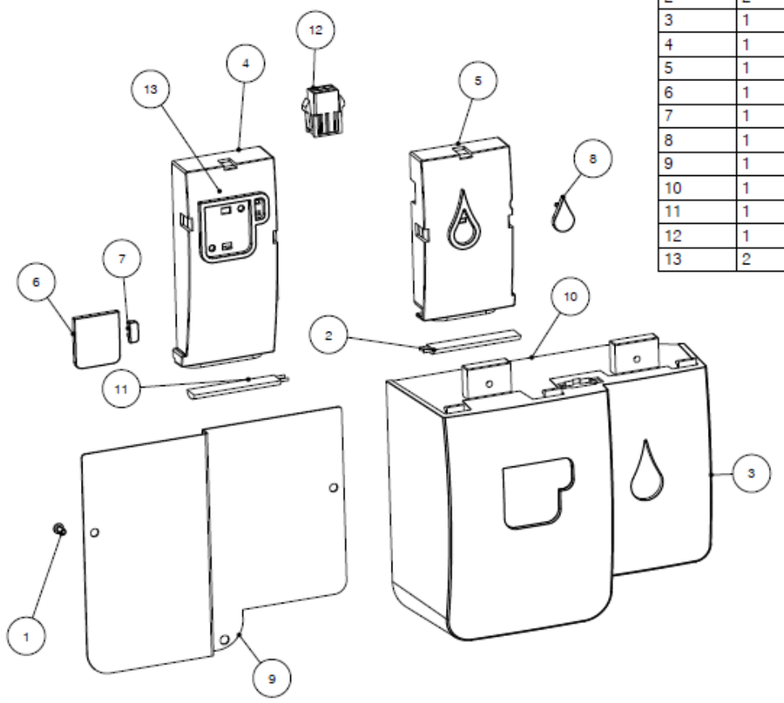
COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

41237121



INDEX	QTY	DESCRIPTION	PART NUMBER
1	2	SCREW PT-45 WN 1412 H ø3x6 ZINC	01014061
2	2	ADHESIVE WHITE LED STRIP 3 LEDS 5M 12V DC	03508910-0-050
3	1	VITRO FL NOSE	11047691
4	1	VITRO FL CUP LIGHTBOX	11047701
5	1	VITRO FL DROP LIGHTBOX	11047711
6	1	VITRO FL CUP FILLING	11047721
7	1	VITRO FL HANDLE FILLING	11047731
8	1	VITRO FL DROP FILLING	11047741
9	1	VITRO FL BACK NOSE COVER	31212870
10	1	ASSY. VITRO FL NOSE	41237121
11	1	VITRO FL - ASSY NOSE STRIP LIGHT	43129430
12	1	VITRO FL NOSE LOOM	43231920
13	2	VITRO FL - CTO TARJETA ILUMINACION NARIZ	43319850

ISSUE 1

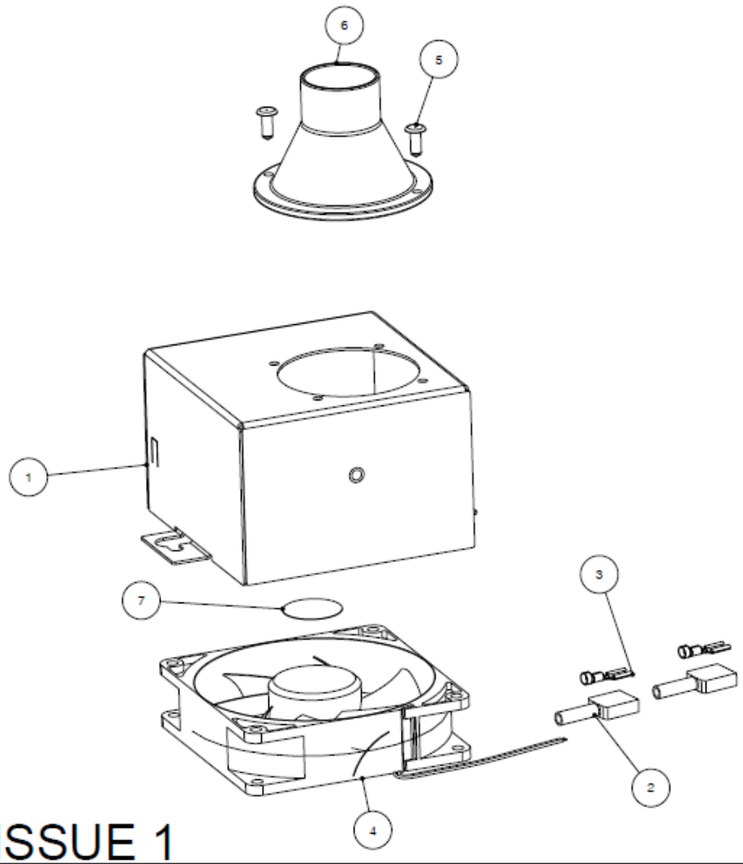
COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

FANBOX ASSY REF 64



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	SUBASSY FAN BRACKET	66390
2	2	MALE BOOT SPADE	03808050
3	2	FASTON MALE CRIMP TAP TERMINAL 1/4"	03910740
4	1	FAN 24 VDC	04101680
5	2	RIVET ISO 15977 BLACK ø4x9	07002071
6	1	EXTRACT FAN FUNNEL	11043051
7	1	LABEL WARRANTY	82039540

ISSUE 1

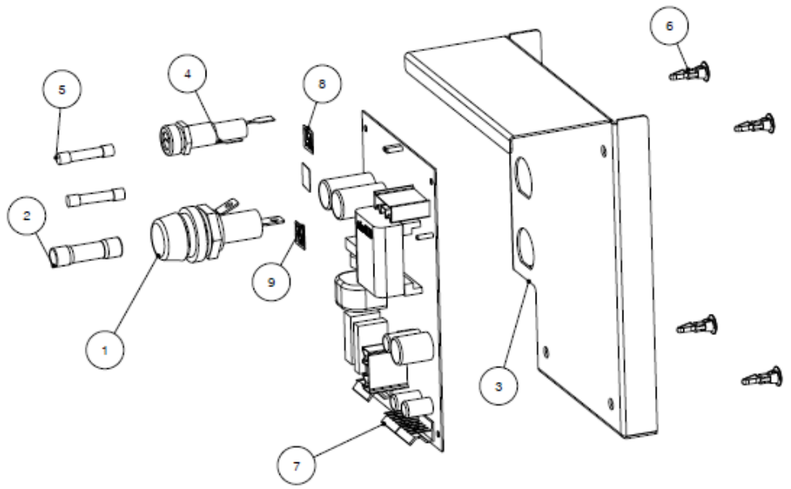
COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

FUSEPANEL ASSY REF 66



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	HPG-EE PANEL-MOUNT FUSEHOLDER	54025
2	1	FUSE 15A 600V	54026
3	1	ELECRICS PANEL	69916
4	1	FUSEHOLDER 1/4"x1-1/4"	04201170
5	2	T5A FUSE	04804080
6	4	CIRCUIT BOARD SUPPORT	09718560
7	1	PCB DC GOURMET MICRO PSU	43317310
8	2	FUSE LABEL ("T5A")	82039560
9	1	FUSE LABEL ("F15A")	82039570

ISSUE 1

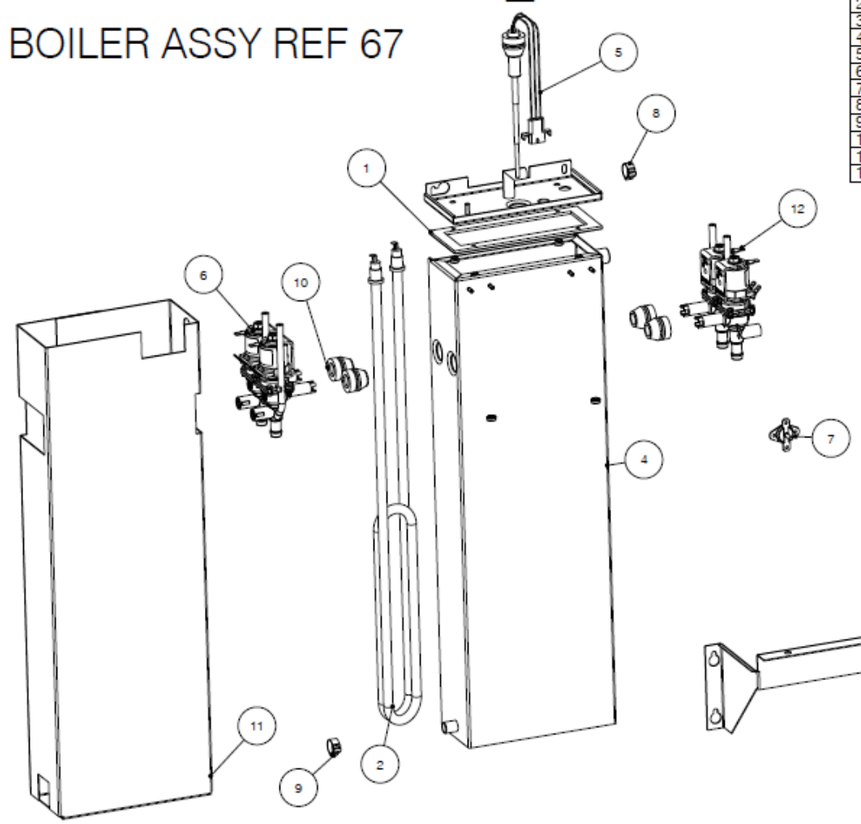
COFFETEK

VITRO S3 INS/UK/RED

1GBVS3INS00-VITRO4_FL

22/12/2016

BOILER ASSY REF 67



INDEX	QTY	DESCRIPTION	PART NUMBER
1	1	BOILER SEAL	57392
2	1	RESISTANCE BOILER - 240v 3kw ELEMENT - 500 long	57500
3	1	ASSY MOTOR HOLDER	69918
4	1	BOILER & LID - NEVA 4	69919
5	1	ASSY PROBE SILICON BUNG	94543
6	4	DISPENSE VALVE 8MM 24V DC	04401050
7	1	THERMAL C/OUT MINI BERGAMO	04401110
8	1	COBRA CLIP 14MM NORMAL	09718350
9	1	COBRA CLIP 15mm NORMA	09720150
10	4	SWAUGED PORT VALVE SEAL	11038251
11	1	BOILER INSULATION - VITRO 4	19073020
12	1	BOILER ASSEMBLY (VITRO 4 GB)	41237801

ISSUE 1

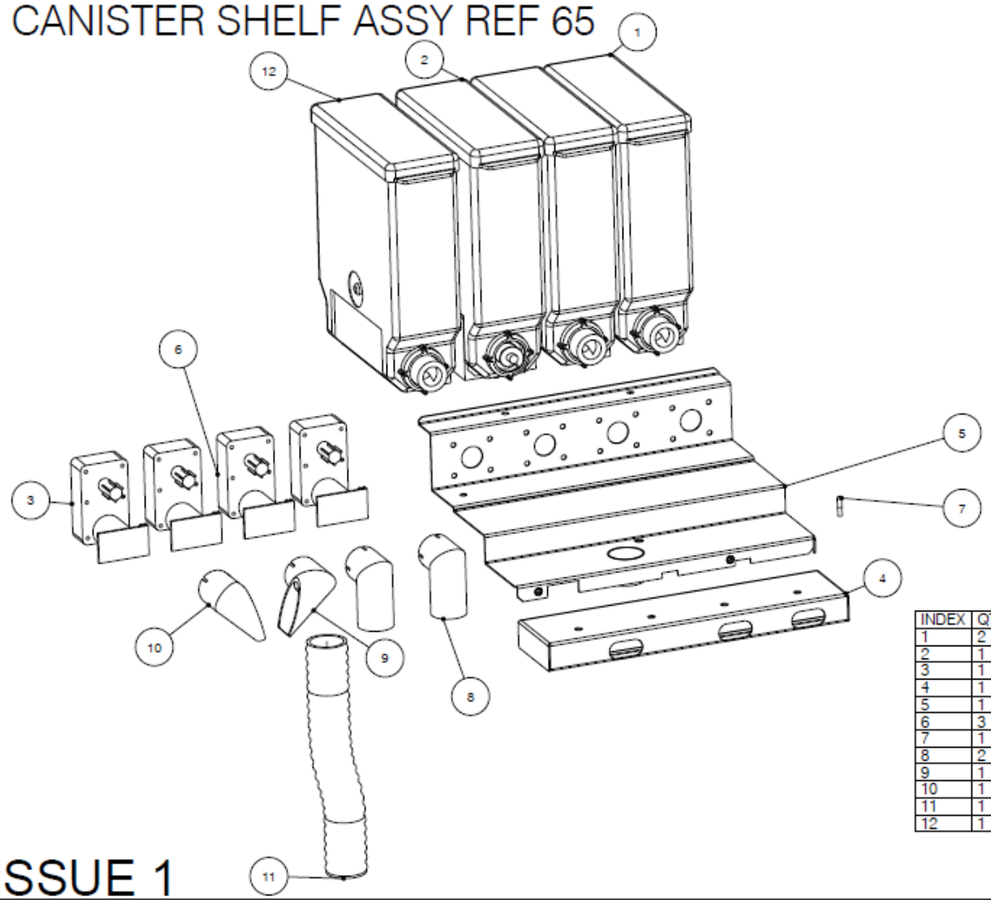
COFFETEK

VITRO S3 INS/UK/RED

22/12/2016

1GBVS3INS00-VITRO4_FL

CANISTER SHELF ASSY REF 65



INDEX	QTY	DESCRIPTION	PART NUMBER
1	2	CAN 220MM WIRE AUGER	54434
2	1	CAN 220MM PLASTIC AUG+AGI	54436
3	1	ING MOTOR / GEARBOX	59207
4	1	EXTRACT DUCT NEVA	69951
5	1	ASSY CANISTER SHELF NEVA	69952
6	3	ING MOTOR / GEARBOX	04101790
7	1	PIN BULLET Ø4mm	10037200
8	2	INGREDIENT CHUTE CENTRAL	11037810
9	1	DS091 R/H CHUTE	11037820
10	1	L/H CHUTE	11037830
11	1	HOSE 1 1/4" EXTRA FLEX	29102270
12	1	220MM WIRE AUGER CANNISTER + AGITATOR	41222661

ISSUE 1