

V3.005 CRA GEN 1 ROAST CONTROLLER USER MANUAL

START AND IGNITION



EMERGENCY STOP

- If depressed will cut power to the machine
- Twist to release

MAINS POWER

- Twist to on position for mains power supply to machine

OVERTEMP RESET (not used on TYPE A)

- If lit requires overtemp controller to be reset (must do before starting fan motor)
- Will have to do with each start-up or in case of over temperature
- Hold up arrow on temp control to reset



DRUM

- Turn to 1 to start
- Dial speed control (7 is normal RPM of 50)

DRUM AIRFLOW

- Turn to 1 to start



IGNITION RESET

- Press if lit to reset
- Ignition failure or overtemps will trigger this

IGNITION

- Turn to 1 for ignition



CONTROLLER

- Controller will light up if started correctly.
- Will display “PILOT OUT CHECK PARAMETERS” when there is no Pilot lit.
- Machine will complete a set time purge once drum fan airflow has been proven. Ignition will occur automatically after this.
- Hit “IGNITION RESET” if pilot does not light. This is necessary usually on initial connection or start of the day when bleeding of pilot gas is necessary.

CRA CONTROLLER INTERFACE



DISPLAY SCREEN

DIAL KNOB

- FOR GAS/AIRFLOW or CHANGING PARAMETERS
- PRESS FOR ENTER FUNCTION

LEFT OR UP BUTTON

RIGHT OR DOWN BUTTON

CRA CONTROLLER USER FUNCTIONS

MAIN MENU

MANUAL RUN

- Select to setup up parameters in manual run mode

AUTO RUN

- Select to retrieve and run saved roast profiles

OPTIONS

- Select to edit and delete saved profiles



- USE LEFT AND RIGHT BUTTONS TO CHANGE MENU OPTION
- CURSOR IS DISPLAYED NEXT TO SELECTION

- PRESS KNOB TO ENTER SELECTION MENU

MANUAL RUN OPERATION



- PRESS KNOB TO CYCLE BETWEEN GAS AND FAN CURSOR WILL DISPLAY NEXT TO SELECTED
- SCREEN DISPLAYS ALL PROBE TEMPS AND SET PROFILE LETTER (e.g. "E")



- TURN KNOB TO SET BEGINNING GAS AND FAN SETTING



- EXAMPLE: BEGINNING GAS SET TO 60%, BEGINNING FAN SET TO 50%
- PRESS RIGHT BUTTON TO CYCLE TO NEXT MANUAL MENU OPTION



- SCREEN DISPLAYS ALARM SETTING OPTIONS
- PRESS KNOB TO DISPLAY CURSOR AND TO CYCLE THROUGH OPTION



- TURN KNOB TO SET ALARM (e.g. 170deg on DRUM PROBE)
- ALARM WILL SOUND WHEN DRUM PROBE REACHES 170DEG



- TURN KNOB TO SET ALARM (e.g. 10 mins ON TIMER)
- ALARM WILL SOUND WHEN ROAST TIME REACHES 10 MINS
- **TIP:** ALARM FOR BEAN PROBE MAY BE SET TO WARN OF 1ST CRACK TEMP OR FOR REMINDER TO MAKE GAS OR AIR ADJUSTMENTS
- **TIP:** ALARMS CAN BE CHANGED MID ROAST IN THE MENU SCREEN
- PRESS RIGHT BUTTON TO CYCLE TO NEXT MANUAL MENU OPTION



- SCREEN DISPLAYS OVERTEMP SETTINGS
- A HARD CODE OVERTEMPERATURE SETTING OF 300DEG ON EACH PROBE IS IN THE SOFTWARE. IF MACHINE REACHES THIS GAS AND AIR WILL TURN OFF.

- PRESS KNOB TO DISPLAY CURSOR AND TO CYCLE THROUGH OPTIONS

- TURN KNOB TO SET OVERTEMPERATURE LIMIT ON PROBES (e.g. 240 DEG ON BEAN PROBE)
- **NOTE:** DEFAULT IS 270 DEG
- IF PROBE REACHES THIS TEMPERATURE THE SCREEN WILL ALARM AND DISPLAY "OVERTEMPERATURE WARNING". BURNER WILL AUTOMATICALLY TURN OFF TO COOL DOWN MACHINE. ONCE THE MACHINE IS BELOW OVERTEMPERATURE THEN BURNER WILL COME ON AGAIN.
- **TIP:** THIS FUNCTION IS IDEAL FOR USE IN WARMUPS IF WANTING THE MACHINE TO IDOL AT A SPECIFIC TEMPERATURE. THE EXHAUST TEMPERATURE WILL BE REAHD SOONEST

- IN CASE OF FIRE WHERE MACHINE CAN'T AUTOMATICALLY CONTROL TEMPERATURE A HARD CODE SETTING OF 300DEG IS IN THE SOFTWARE. IF ANY MACHINE PROBE REACHES 300DEG A FIRE ALARM AND WARNING WILL BE DISPLAYED. BURNER, PILOT AND FAN WILL STOP TO PREVENT FUELING OF FIRE
- MACHINE WILL NEED TO BE RESET IN THIS CASE
- PRESS RIGHT BUTTON TO CYCLE TO NEXT MANUAL MENU OPTION



- SCREEN DISPLAYS LOAD DRUM TEMP SETTINGS

- CURRENT DRUM TEMPERATURE
 - TARGET DRUM TEMPERATURE: THIS IS THE TEMPERATURE TARGET FOR LOADING OF THE GREEN COFFEE BEANS

CONTROL BOARD INFORMATION
 - Ta = AMBIENT TEMPERATURE
 - RH = RELATIVE HUMIDITY
 - TIP: THIS IS IMPORTANT INFORMATION FOR LOGGING AS PROFILES CAN VARY DEPENDING ON AMBIENT TEMPERATURE AND HUMIDITY. USE THESE AS AN AID FOR SETTING LOAD TEMPERATURES FROM DAY TO DAY



- PRESS KNOB TO DISPLAY CURSOR ON TARGET TEMPERATURE
 - TURN KNOB TO SET TEMPERATURE FOR LOADING COFFEE BEANS (e.g. 160 DEG)
 - IN THIS CASE THE CONTROLLER WILL AUTOMATICALLY CONTROL THE HEAT AND FAN TO REACH THE SET DROP TEMPERATURE. ONCE REACHED AN ALARM SOUNDS AND MESSAGE IS DISPLAYED TO LOAD THE GREEN BEANS

- PRESS RIGHT BUTTON TO CYCLE TO NEXT MANUAL MENU OPTION



- PRESS KNOB TO START ROASTING



- DISPLAYS PREHEAT SCREEN

- WILL DISPLAY "HEATING DRUM" IF TARGET TEMPERATURE IS HIGHTER THAN DRUM TEMPERATURE AND GAS WILL AUTOMATICALLY GO TO 100% TO REACH THE DESIRED DROP TEMPERATURE IN SHORTEST TIME.
 - WILL DISPLAY "COOLING DRUM" IF TARGET TEMP IS LOWER THAN DRUM TEMPERATURE AND GAS WILL AUTOMATICALLY GO TO 0% TO REACH THE DESIRED DROP TEMPERATURE IN THE SHORTEST TIME.

- CURSOR WILL DISPLAY OVER TARGET TEMPERATURE AND TARGET TEMPERATURE CAN BE MANUALLY ADJUSTED AT THIS POINT IF DESIRED BY TURNING THE KNOB.

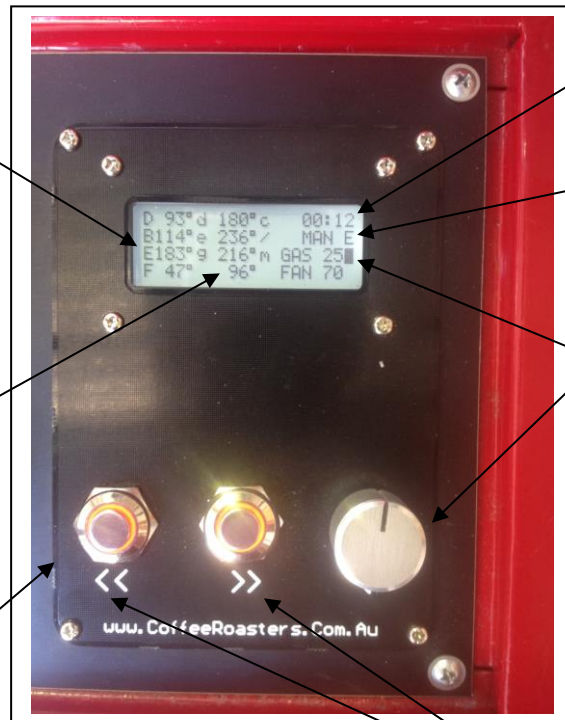


- ONCE TARGET TEMPERATURE HAS BEEN REACHED AN ALARM SOUNDS AND A MESSAGE IS DISPLAYED TO "LOAD BEANS NOW". LOAD GREEN BEANS INTO THE DRUM AND CLOSE THE HOPPER CHUTE.

- AFTER 5 SECONDS THE GAS AND FAN SETTINGS WILL REVERT TO THE PRESET POSITIONS PROGRAMMED. IN THIS EXAMPLE IT WOULD BE: 60% GAS AND 50% FAN AFTER 5 SECONDS.

- NOTE: DURING THE 5 SECONDS AFTER TARGET TEMPERATURE HAS BEEN REACHED THE GAS WILL REVERT TO 1% TO REDUCE HEAT SHOCK WHEN BEING LOADED INTO DRUM

MAIN ROASTING OPERATION SCREEN



THERMOCOUPLE READINGS
D = DRUM TEMPERATURE
B = BEAN TEMPERATURE
E = EXHAUST TEMPERATURE
F = FLUE (CYCLONE) TEMPERATURE

DEGREES PER MINUTE RISE
D = DRUM
B = BEAN
E = EXHAUST
F = FLUE (CYCLONE)

- PROFILE TIME

- PROFILE LETTER

- CHANGE THE GAS OR FAN SETTINGS BY TURNING THE KNOB.
 - HIT ENTER ON THE KNOB TO CHANGE DISPLAY CURSOR BETWEEN GAS AND FAN

- LEFT AND RIGHT BUTTONS WILL SCROLL THROUGH THE DIFFERENT MENUS AS PREVIOUSLY DESCRIBED

SAVE
 - TO SAVE RECORDING OF MANUAL PROFILE **PRESS AND HOLD LEFT AND RIGHT BUTTONS TOGETHER FOR 3 SECONDS**



NEW FEATURE FIRMWARE 3.005

DELTA RoR VALUES

- PRESS ONE BACK FROM THE MAIN SCREEN TO ACCESS SCREEN DELTA RoR VALUES TO ONE DECIMAL PLACE

STOPPING A ROAST



- IF WANTING TO STOP OR EXIT MANUAL ROAST PROFILE HIT LEFT OR RIGHT BUTTON UNTIL THIS SCREEN APPEARS
- PUSH ENTER TO EXIT TO STARTUP MENU. GAS WILL CHANGE TO 0% WHEN THIS IS DONE

RUNNING SAVED PROFILES



- SELECT AUTO RUN IN MAIN MENU

- USE LEFT AND RIGHT BUTTONS TO CHANGE MENU OPTION
- CURSOR IS DISPLAYED NEXT TO SELECTION

- PRESS KNOB TO ENTER SELECTION MENU

STEP 1

- HIT ENTER UNTIL CURSER IS DISPLAYED AT LOAD PROFILE
- TURN KNOB TO CHOOSE PROFILE LETTER



SAVED PROFILE LOAD TEMPERATURE

SAVED PROFILE TIME

STEP 2

- HIT ENTER UNTIL CURSOR IS DISPLAYED AT TARGET TEMPERATURE. THIS TEMPERATURE WILL DEFAULT TO THE DISPLAYED SAVED LOAD TEMPERATURE THIS CAN BE CHANGED TO ACCOUNT FOR PROFILE VARIATIONS IF DESIRED



STEP 3

- HIT ENTER UNTIL CURSOR IS DISPLAYED UNDER LOAD.
- TURN KNOB UNTIL "RUN NOW" IS DISPLAYED.
- HIT ENTER AND PROFILE WILL START WITH CONTROLLER MANAGING TO TARGET TEMPERATURE FOR BEAN LOADING

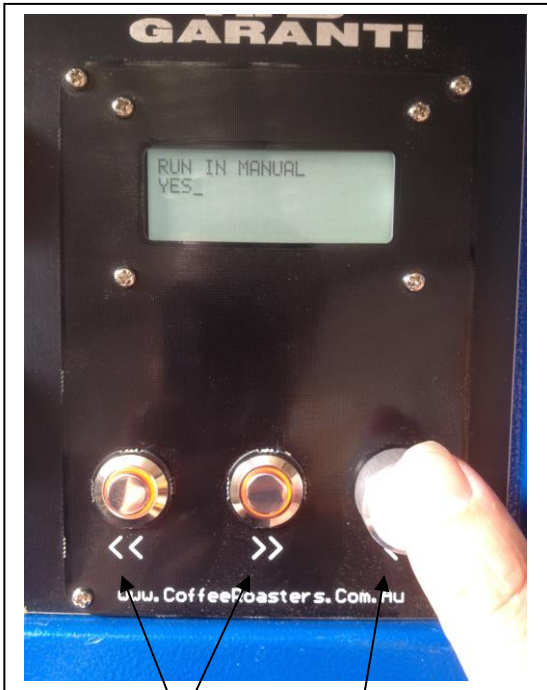


**SCREEN DISPLAY IN
AUTO MODE**



- WILL DISPLAY AUTO AND PROFILE LETTER IF RUNNING A SAVED PROFILE
- IN THIS EXAMPLE IT IS SAVED PROFILE "B"

- GAS AND AIR SETTING WILL RUN AS PER THE SAVED PROFILE BASED ON THE TIMES THE CHANGES WERE MADE DURING THE MANUAL RUN.
- **NOTE:** YOU CAN NOT CHANGE GAS AND AIR SETTINGS IF IN AN AUTO PROFILE. TO DO THIS YOU CHANGE TO MANUAL MODE. SEE NEXT EXAMPLE.



- TO TAKE CONTROL OF AN AUTO PROFILE MANUALLY SO YOU CAN CONTROL GAS AND AIR SETTING USE LEFT OR RIGHT BUTTON TO REACH THIS MENU SCREEN
- HIT ENTER AND PROFILE WILL CHANGE TO MANUAL BUT WILL KEEP THE SAME SETTING WERE RUNNING AT THAT POINT IN TIME IN THE AUTO PROFILE.
- YOU CAN CHANGE GAS AND AIR SETTING NOW.
- **NOTE:** PROFILE WILL NOT CONTINUE TO RUN AUTO SETTINGS AND YOU CANNOT SAVE THIS



- YOU CAN EXIT THE AUTO PROFILE ANYTIME AND GO BACK TO THE MAIN MENU.
- USE LEFT OR RIGHT BUTTON TO REACH THIS MENU SCREEN
- HIT ENTER AND THE AUTO PROFILE WILL STOP AND WILL REVERT BACK TO THE MAIN MENU. GAS WILL CHANGE TO 0%

NOTE: ONCE THE AUTO PROFILE HAS FINISHED AN ALARM WILL SOUND ADVISING THAT AUTO PROFILE HAS FINISHED AND IS SWITCHING TO MANUAL MODE. THE CONTROLLER WILL AUTOMATICALLY CHANGE OVER TO MANUAL MODE WITH THE CURRENT GAS AND AIR SETTINGS KEPT SO YOU CAN MANUALLY FINISH THE ROAST IF DUMP HAS NOT OCCURRED YET. YOU HAVE TO MANUALLY EXIT TO FINISH ROASTING AND GO BACK TO THE MAIN MENU.

DELETING SAVED PROFILES



- SELECT OPTIONS IN MAIN MENU

- USE LEFT AND RIGHT BUTTONS TO CHANGE MENU OPTION
- CURSOR IS DISPLAYED NEXT TO SELECTION

- PRESS KNOB TO ENTER SELECTION MENU

STEP 1

- HIT ENTER UNTIL CURSOR IS DISPLAYED AT DELETE FILE "LETTER"
- INFORMATION WILL BE DISPLAYED ABOUT THE FILE.
- TURN KNOB TO CHOOSE PROFILE LETTER WANTING TO DELETE.
- HIT ENTER.

STEP 2

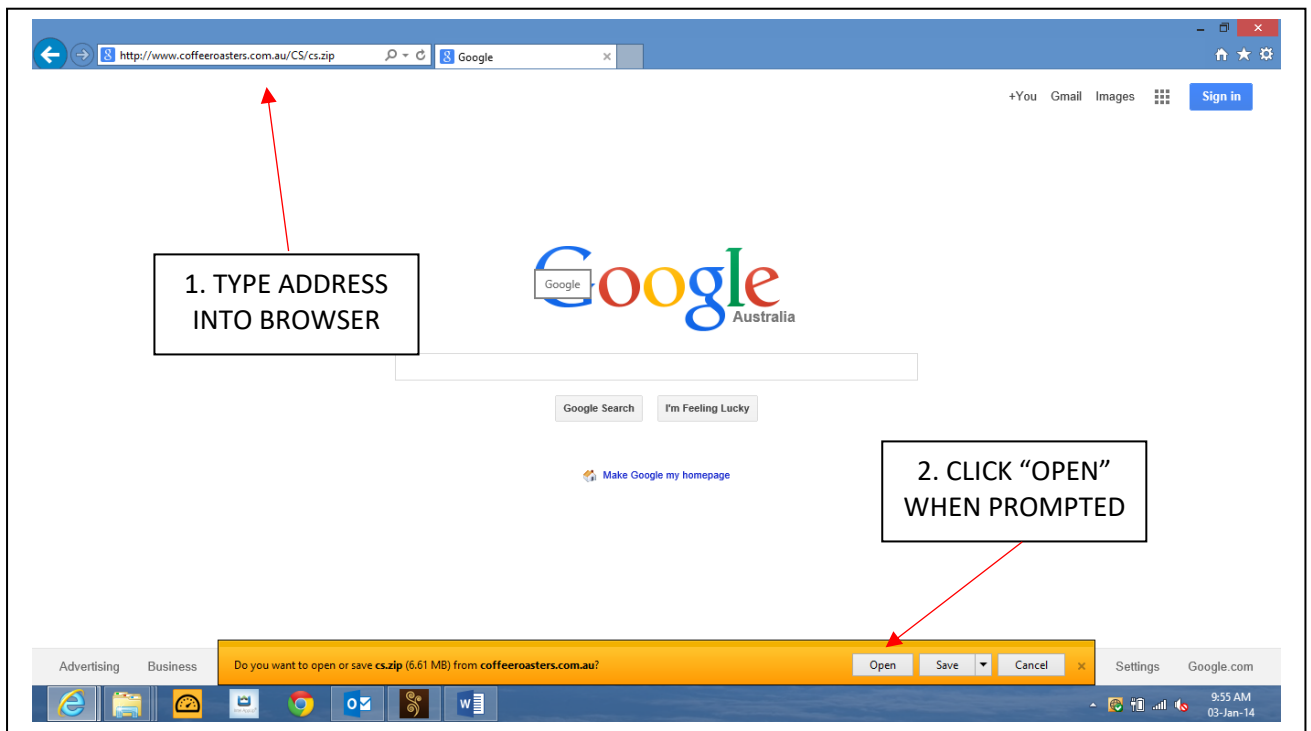
- TURN KNOB UNTIL "DELETE" IS DISPLAYED
- HIT ENTER AND FILE WILL BE DELETED

STEP 3

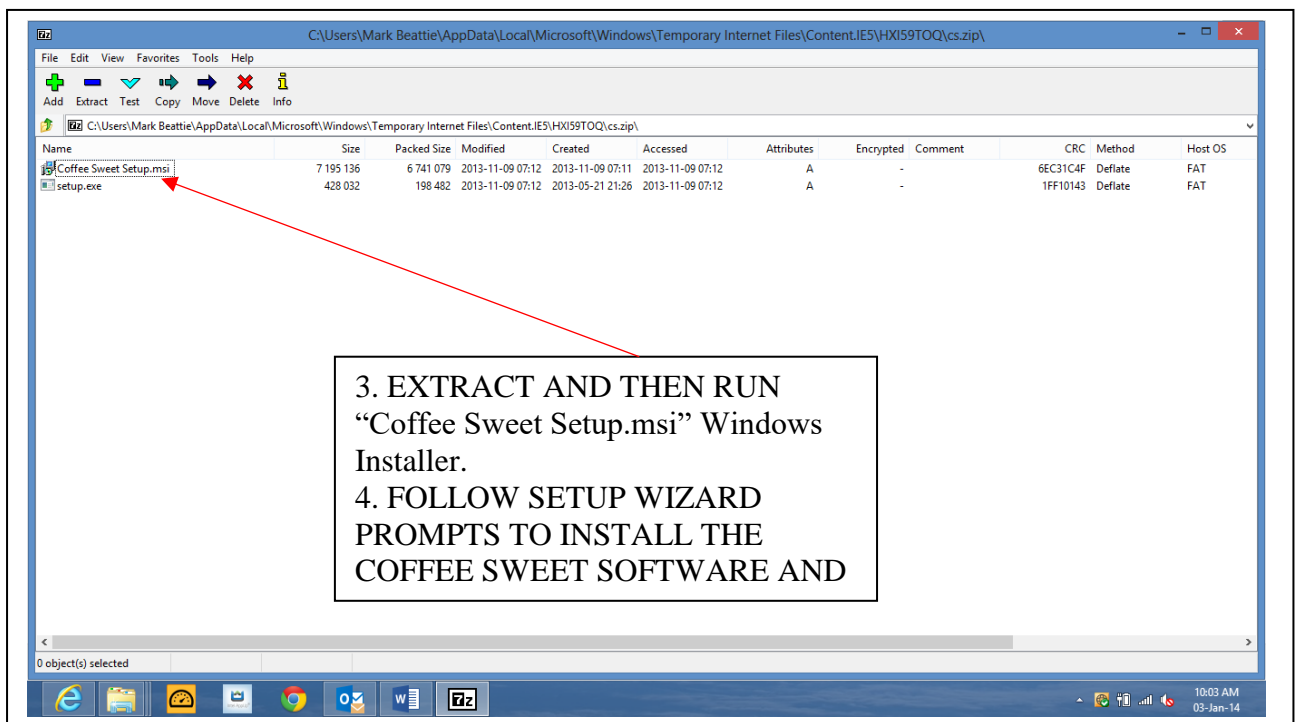
- SCREEN CONFIRMS FILE HAS BEEN DELETED



DOWNLOADING AND INSTALLING COFFEE SWEET SOFTWARE



1. Download COFFEE SWEET roast control software from location (type address into browser):
www.coffeeroasters.com.au/CS/cs.zip
2. Click "Open" when prompted.

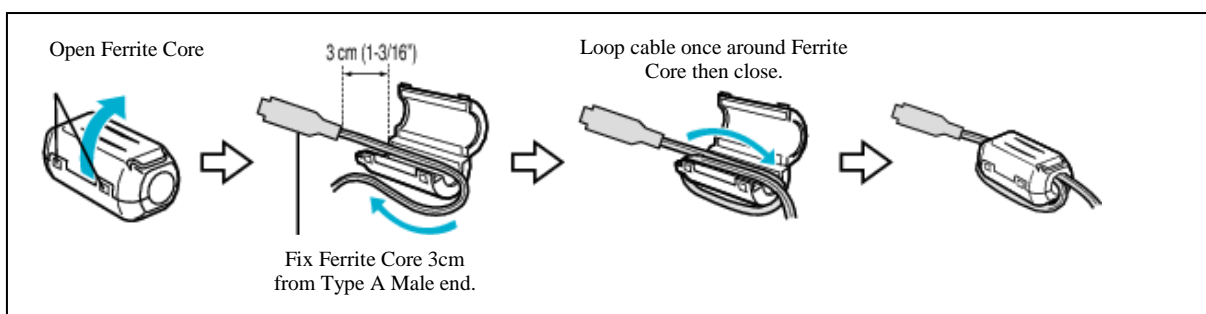
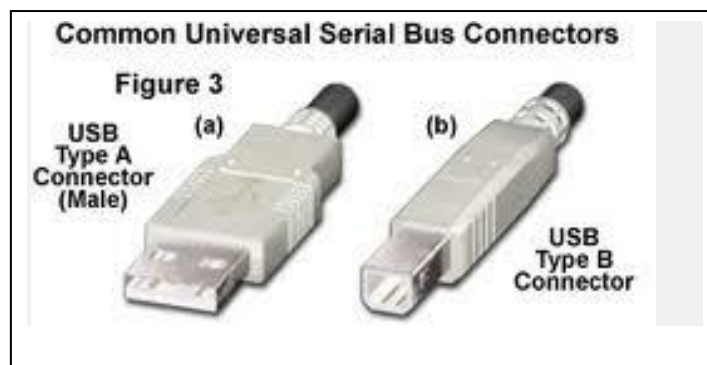


5. WHEN LAUNCHING FOR THE FIRST TIME ENSURE THE ROASTER IS CONNECTED TO PC VIA USB AND ALSO CONNECTED TO THE INTERNET AND WHEN PROMPTED CHOOSE YES TO DOWNLOAD SOFTWARE AND FIRMWARE UPDATES. IF A FIRMWARE UPDATE IS REQUIRED FOLLOW THE ON SCREEN INSTRUCTION TO INSTALL ON THE COFFEE ROASTER PCB. THIS WILL REQUIRE PRESSING THE 2 BUTTONS AND CONTROL KNOB BUT ALL AT THE SAME TIME FOR 3 SECONDS TO ACTIVATE. THIS WILL ENSURE THE FIRMWARE AND SOFTWARE IS UP TO DATE.

****IMPORTANT**** TO ENSURE YOU ALWAYS RECEIVE THE LATEST UPDATES TO FIRMWARE AND SOFTWARE YOU WILL NEED TO BE CONNECTED TO THE INTERNET WHEN YOU LAUNCH THE COFFEE SWEET SOFTWARE PACKAGE.



ALWAYS MAKE SURE TO ATTACH A **FERRITE CORE** TO THE TYPE A MALE CONNECTOR END OF THE USB CABLE PRIOR TO USE. FAILURE TO PROPERLY ATTACH A FERRITE CORE MAY CAUSE ELECTROMAGNETIC INTERFERENCE TO THE PC AND RESULT IN USB CONNECTION DROP OUTS. MUST USE **HIGH QUALITY SHIELDED USB CABLE** ONLY TYPE A MALE TO TYPE B AS PER BELOW.



CONNECTING TO COFFEE SWEET PC CONTROL SOFTWARE

STEP 1. CONNECT THE CRA CONTROLLER TO PC VIA USB/SERIAL AND CONFIGURE



- 1) TURN ON ROASTER AND START PILOT LIGHTING PROCEDURE
- 2) CONNECT USB PORT ON ROASTER TO USB PORT ON COMPUTER.
- 3) WINDOWS WILL SAY IT IS INSTALLING DRIVER.
- 4) WINDOWS SHOULD NOW RECOGNISE CRA CONTROLLER. YOU CAN CHECK IN CONTROLL PANEL UNDER DEVICE MANAGER

STEP 2 OPEN COFFEE SWEET SOFTWARE AND CLICK CONNECT. COFFEE SWEET WILL CONNECT TO THE CRA CONTROLLER AND TEMPERATURES WILL DISPLAY.

