



**PHANTOM**  
S E R I E S



# OPERATION MANUAL V4.042

**MODEL: PHANTOM COFFEE ROASTERS**

**UPDATED: 29<sup>th</sup> SEPTEMBER 2021**



## **WARNING** – PLEASE READ BEFORE OPERATION

AUTOMATED MACHINERY – DOORS AND MOTORS WILL START AUTOMATICALLY WHEN RUNNING IN AUTOMATED MODE. KEEP HANDS CLEAR AT ALL TIMES.

DO NOT REMOVE OR BYPASS SAFETY DEVICES. CONNECT ALL SAFETY DEVICES ON INSTALLATION. NOT DOING SO VOIDS WARRANTY.

DO NOT LEAVE THE MACHINE UNNATENDED

DO NOT PLACE HANDS IN AREAS OF MOVING PARTS

MACHINE OPERATES AT HIGH TEMPERATURES AND SOME SURFACES ARE HOT TO TOUCH AND MAY BURN.

IN CASE OF FIRE SHUT DOWN THE MACHINERY IMMEDIATELY. CO2 ENTIGUISHER RECOMMENDED TO HAVE NEARBY. DO NOT USE WATER EXTINGUISHER AS WILL DAMAGE THE EQUIPMENT.

SHUTDOWN AND DISCONNECT THE MACHINES POWER SUPPLY WHEN SERVICING.

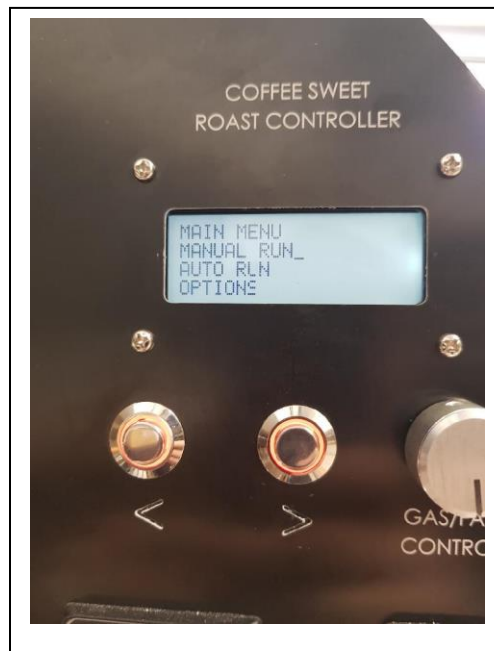
ONLY QUALIFIED ELECTRICIANS AND GAS FITTERS MAY INSTALL OR SERVICE THE MACHINES ELECTRICAL OR GAS SIDE. ANY ELECTRICAL OR GAS WORKS COMPLETED BY NON-QUALIFIED TECHNICIANS VOIDS WARRANTY.

RECOMMEND INSTALLING A UPS (UNINTERUPPTED POWER SUPPLY) ON MAINS TO ENSURE CLEAN POWER AND PROTECTION OF ELECTRICAL SYSTEM.

## STARTING PROCEDURE

1. TURN ON GAS VALVE AT THE WALL (ENSURE GAS SUPPLY IS CORRECT – PRESSURE AND FLOW RATE FOR THE MACHINE AS PER SPECIFICATIONS)
2. TURN ON MAIN SWITCH
3. TURN ON DRUM – CHECK DRUM IS ROTATING AND NOT IN FAULT
4. TURN ON DRUM FAN – CHECK FAN IS WORKING AND NOT IN FAULT
5. TURN ON PILOT IGNITION – AFTER PURGE IS COMPLETE ROASTER WILL TRY TO LIGHT AUTOMATICALLY
6. IF PILOT LIGHTING FAILS BURNER RESET WILL LIGHT UP RED. PRESS TO RESTART IGNITION
7. ONCE PILOT IS LIT YOU CAN BEGIN ROASTING OPERATIONS VIA THE MACHINES ROAST CONTROLLER OR IN CONJUNCTION WITH COFFEESWEET PC SOFTWARE CONNECTION.

NOTE: IF NO POWER TO MAIN PANEL CHECK EMERGENCY STOP IS NOT PRESSED IN (TWIST TO RELEASE)



## MENU OPTIONS



**MANUAL RUN** – FOR STARTING A MANUAL ROAST

**AUTO RUN** – FOR STARTING AN AUTOMATIC ROAST FROM A SAVED PROFILE ON THE FIRMWARE MEMORY

**OPTION** – ACCESS TO OPTIONS MENU

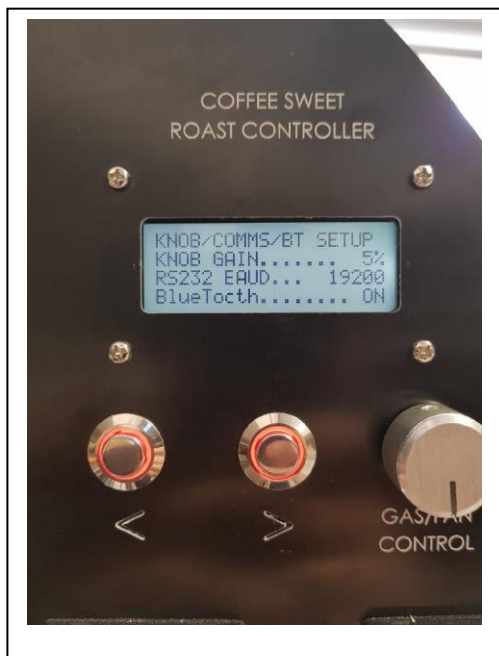


## CONTROL OPERATION

LEFT OR UP SELECT THROUGH MENUS

RIGHT OR DOWN SELECT THROUGH MENUS

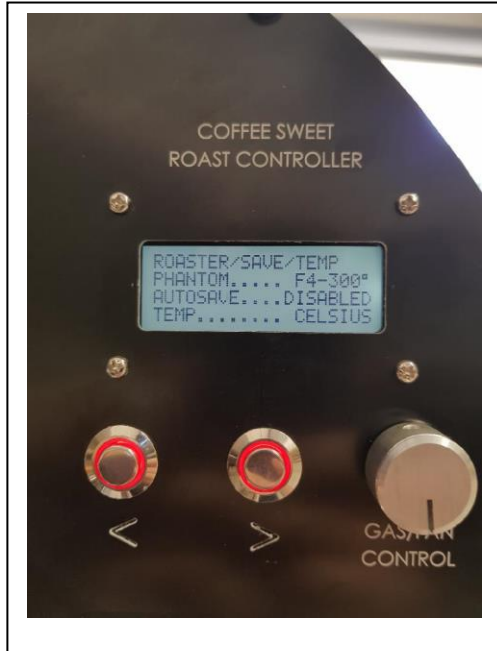
ENTER – PUSH or TURN TO CHANGE VALUES



**KNOB GAIN** – SETS THE SENSITIVITY OF THE CONTROL POTENTIOMENTS (SUGGEST 5% FOR EASE OF USE)

**RS232 BAUD** – BAUD RATE FOR COMMUNICATION OF COMMS. CAN NOW RUN ON 19200 OR 115200. SELECTION MUST MATCH BAUD RATE SETTING IN COFFEE SWEET SOFTWARE SETTING MENU TO ENABLE CONNECTIVITY BETWEEN ROASTER AND PC.

**BLUETOOTH** – TURNS BLUETOOTH COMMS ON OR OFF. IF SELECTING BLUETOOTH YOU WILL NEED TO POWER DOWN CONTROLLER THEN POWER BACK ON TO SET AND TO BE ABLE TO CONNECT TO BLUETOOTH ON THE ROASTER.



**PHANTOM** – SETS HIGH LIMIT FOR THE OVERTEMPERATURE. OPTIONS ARE 300 OR 400DEG C. SUGGEST 300C FIRST UNLESS CONTINUALLY HITTING O/T THEN RAISE TO 400C. ENSURE TO SET LIMITS ON EACH THERMOCOUPLE

**AUTOSAVE** – IF AN WILL AUTOMATICALLY SAVE EVERY MANUAL ROAST INTO MEMORY. SUGGEST OFF TO AVOID FILLING UP SPACE AND USE THE PC FOR SAVING PROFILES

**TEMP** – SETTING FOR CELCIUS OR FAHRENHEIT



**HOPPER DOOR** – ROASTER HOPPER DOOR OPENING TIME “SUGGEST MIN 30s for 22KG

**DRUM DOOR** – ROASTER DRUM DOOR OPENING TIME: “SUGGEST MINIMUM 1m10s for 22KG

- TURNING THIS TO OFF DISABLES ALSO THE AUTODUMP FEATURE IN COFFEESWEET

**COOLER DOOR** – ROASTER COOLER TRAY DOOR OPENING TIME “USUALLY MUST EQUAL DESTONER TIME”. SUGGEST 3m30s



**IMPORTANT: INCORRECT DOOR OPENING TIMES CAN LEAD TO DOORS CLOSING WHILST EMPTYING COFFEE. IF THIS HAPPENS YOU CAN USE THE MANUAL OVERRIDES BELOW. IF NOT USING AUTOMAITIC DOORS IT IS SUGGESTED TO CHANGE EACH TO 'OFF'**



### MANUAL OVERRIDE OF ACTUATOR CONTROLLED DOORS

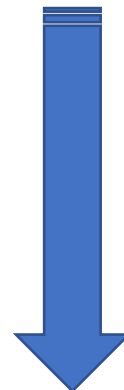
- EACH DOOR CAN BE MANUAL OPENED FOR TESTING – CHANGE FROM CLOSED TO OPEN.

***IMPORTANT: ENSURE DOORS ARE IN THE CORRECT POSITION "CLOSED" BEFORE ROASTING TO ENSURE CORRECT ROASTING AUTOMATION SEQUENCE IS FOLLOWED***



### EXITING TO STARTUP MENU

THIS MENU WILL EXIT TO STARTUP MENU AS PER BELOW





**MAIN STARUP MENU**

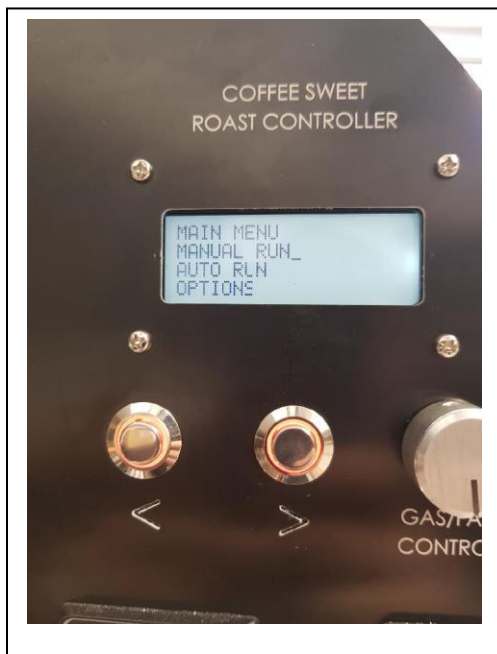


**SELECT AUTO RUN TO ACCESS SAVED PROFILES  
SAVED ON THE FIRMWARE**



**SAVED PRFILES CAN BE RUN OR DELETED IN THIS MENU.**

- ENTER TO BRING UP CURSOR AND USE DIAL TO CHANGE SELECTION.
- HIT ENTER TO CONFIRM SELECTION



SELECT MANUAL RUN TO START THE SETUP FOR A MANUAL ROAST USING THE COFFEE SWEET ROAST CONTROLLER



**SAVED PROFILES CAN BE RUN OR DELETED IN THIS MENU.**

- PRESS ENTER ON THE CONTROL KNOB TO BRING UP THE CURSOR TO SET THE STARTING CONDITION FOR GAS, FAN AND DRUM SPEED

NOTE: RUNNING A LOW DRUM SPEED WILL INCREASE THE CONDUCTION RATE AND REDUCE THE AMOUNT OF HOT AIR CONTACT. SUGGEST 90-100% FOR NORMAL DRUM SPEED OPERATION.



**EXAMPLE OF SETTINGS ENTERED FOR A MANUAL ROASTING**

NOTE: THESE SETTING WILL ACTIVATE AT THE BEGINNING OF A PROFILE WHEN THE PROFILE TIMER STARTS

NOTE: ONLY THE FAN AND DRUM SPEED CAN BE CONTROLLED OUTSIDE OF SETTING UP A PROFILE. GAS CONTROL IS ONLY ALLOWED WITHING A PROFILE FOR SAFETY



### ALARM SETTING

AUDIBLE ALARMS CAN BE SET FOR:

- DRUM TEMPERATURE
- BEAN TEMPERATURE
- TIMER

AN ALARM WILL SOUND FOR A PERIOD OF TIME ONCE THESE SETTINGS ARE REACHED. HIT ENTER ON THE KNOB TO BRING UP THE CURSOR AND CHANGE THE VALUES.



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### LOAD TEMPERATURE SETTING

THIS MENU ALLOWS FOR SETTING OF THE LOAD TEMPERATURE FOR LOADING THE BEANS INTO THE DRUM. IF USING ACTUATORS BEANS WILL AUTOMATICALLY BE LOADED INTO THE DRUM AT THE TARGET TEMPERATURE SET.

- HIT ENTER TO BRING UP THE CURSOR AND SET THE LOAD IN TEMPERATURE
- OTHER DATA DISPLAYED IS Ta (AMBIENT TEMPERATURE AT THE CONTROL PANEL) AND RH (RELATIVE HUMIDITY)



### COOLING AND DESTONING SETTINGS

THIS MENU ALLOWS FOR SETTING THE AUTOMATIC COOLING AND DESTONING TIMES AS WELL AS THE MIXER SETTINGS FOR EACH PERIOD. IT ALSO ALLOWS FOR SETTING AN AUTOMATIC DUMP TEMPERATURE FOR ROASTING

- HIT ENTER TO BRING UP THE CURSOR TO MAKE CHANGES
- SUGGEST A LOW MIXER SETTING FOR QUICKER COOLING.
- DO NOT SET THE MIXER SETTING TOO HIGH FOR DESTONING OTHERWISE THE DESTONER HOPPER MAY OVERFLOW



### START ROASTING

THIS MENU PROMPTS TO START ROASTING

- HIT ENTER TO START ROASTING WITH THE PERAMATERS PREVIOUSLY SET



### HEATING OR COOLING DRUM

THIS MENU DISPLAYS THE PREHEAT OR COOLING DRUM TO REACH THE TARGET DRUM TEMPERATURE SET FOR LOADING THE COFFEE.

- IF TARGET IS GREATER THAN DRUM TEMPERATURE MACHINE WILL AUTOMATICALLY HEAT UP WITH BURNERS ON FULL TO REACH THE TARGET
- IF THE TARGET IS LESS THAN THE DRUM TEMPERATURE THE MACHINE WILL AUTOMATICALLY COOL DOWN BY RUNNING THE FAN ON FULL AND GAS OF TO REACH THE TARGET.

NOTE: TARGET TEMPERATURE CAN BE CHANGED IN THIS SCREEN PRIOR TO LOADING COFFEE



### ROASTING STARTED

ROASTING HAS STARTED DISPLAYING TIMER, ALL TEMPERATURE PROBES AND ROR.

- YOU CAN MANUALLY ADJUST THE GAS, FAN AND DRUM SPEED CONTROL WHILE ROASTING NBY HITTING ENTER ON THE KNOB TO BRING UP THE CURSOR. USE THE KNOB TO CHANGE THE VALUE AND HIT ENTER TO CHANGE BETWEEN THE SETTING.
- USING THE LEFT AND RIGHT BUTTONS WILL SCROLL THROUGH THE DIFFERENT MENU OPTIONS WHILE ROASTING.



### END ROAST

THIS MENU SELECTION IS FOR ENDING THE ROAST AND STARTING THE COOLING AND THEN DESTONING PROCESS

- HIT THE ENTER BUTTIN ON THE KNOT TO BEGIN DUM BEANS AUTOMATICALLY AND BEGIN COOLING AND DESTONING SEQUENCE

## EMERGENCY STOP – DRUM EVACUATE



## ALTERNATE MENU

THIS MENU ALLOWS FOR THE ROAST TO STOP AND TO NOT RUNNING THE COOL CYCLE

- THIS CAN BE USED FOR EMERGENCY STOP EVACUATE OR TO END A ROAST OF RUNNING FOR EXAMPLE A WARM UP PROCESS WITHOUT BEANS IN THE DRUM.

NOTE: IF ACCIDENTALLY USING THIS DURING A ROAST THE COOLER MIXER AND COOLER FAN CAN BE STARTED MANUALLY FROM THE CONTROL PANEL BY PRESSING THE CORRESPONDING BUTTONS.

NOTE 2: WHEN RUNNING THE COOLING AND DESTONING CYCLES FROM THE CONTROLLER THE BUTTONS ON THE MAIN PANEL ARE OVERRIDDEN AND CAN'T BE USED.



## ALTERNATE MENU

THIS SCREEN ADVISES OF THE END OF THE ROAST AND THE COOLING CYCLE AND DESTONING CYCLE STARTED.

- YOU CAN EXIT TO THE MAIN MENU AND SETUP ANOTHER ROAST WHILST THIS IS RUNNING OR YOU CAN CANCEL THE COOLING DESTONING CYCLE IF PREFERRED.

## FIRMWARE UPDATES



### FIRMWARE UPDATE

- FOR VERSION **4.042** AND ONWARDS THE FIRMWARE UPDATE MUST BE DONE FROM THE OPTIONS MENU. PRESS ENTER TO INITIALISE THEN PRESS AND HOLD ENTER AND THE LEFT AND RIGHT ARROW BUTTONS UNTIL SCREEN CHANGES TO SHOW DOWNLOAD IN PROGRESS.
- VERSION PRIOR TO 4.042 ARE PROMPTED TO HOLD DOWN THE ENTER AND LEFT AND RIGHT BUTTONS WHEN PROMPTED BY THE COFFEE SWEET SOFTWARE

## CONNECTING TO COFFEE SWEET SOFTWARE ON THE PC



CONNECT TO THE RS232 SERIAL PORT VIA A SERIAL PORT ON YOUR COMPUTER OR IF YOU DON'T HAVE A SERIAL PORT THEN YOU CAN USE THE SERIAL TO USB ADAPTER PROVIDED.

ENSURE THAT THE BAUD RATES ARE SET TO THE SAME AS THE ROASTER "19200" FOR COMMUNICATION BETWEEN THE ROAST CONTROLLER AND THE PC



**NOTE:** YOU CAN CONNECT TO THE COMPUTER WHEN THE PILOT IS NOT LIT AS LONG AS THE ROASTER CONTROLLER HAS POWER. IF THE PILOT IS OUT IT WILL "BEEP" AND ADVISE THAT THE PILOT IS OUT WHEN IN THE MANUAL RUN MENU

## MAINTENANCE SCHEDULE

<u>TASK</u>	<u>WHEN</u>	<u>REQUIREMENTS/TOOLS</u>
CLEAN CHAFF BIN	EVERY 5-10 ROASTS	CHECK SITE LEVEL INDICATOR. WHEN FULL EMPTY BY REMOVING THE BUCKET BY UNCLIPPING.
CLEAN UNDER COOLER TRAY	WEEKLY	ACCESS THROUGH DOORS ON SIDE OF COOLER TRAY AND VACUUM
GREASE FRONT BEARINGS	MONTHLY	USE HIGH TEMP INOX BEARING GREASE. USE INOX TUBE FOR FOOD GRADE HIGH TEMP
ADJUST DRUM POSITION	AS REQUIRED IF NOISE ON FRONT OR BACK	USE THE U-SPANNER TO ADJUST FRONT DRUM POSITION BY TURNING LOCKING NUT ANTICLOCKWISE. THEN ADJUST FRONT NUT ANTICLOCKWISE TO BRING CLOSER OR CLOCKWISE TO MOVE BACK. ADJUSTMENT MUST BE MADE WHILE THE DRUM IS WARM AND CHECKED UP TO 220DEG DRUM TEMPERATURE. BRING AS CLOSE AS POSSIBLE WHEN DRUM MATERIAL AT MAXIMUM EXPANSION WITH HEAT.
CLEAN CONNECTING FLUE DUCTS	EVERY 6 MONTHS	REMOVE DUCT RING CLIPS AND CLEAN OUT INSIDE OF DUCTS
ADJUST COOLING TRAY ARMS	AS REQUIRED	USE M5 ALLENS KEY TO MAKE ADJUSTMENTS ON ARMS AS REQUIRED
CLEAN TEMPERATURE PROBES	EVERY 3 MONTHS	LOOSEN COMPRESSION NUT AND REMOVE PROBE. MAKE SURE NOT TO REMOVE THE NUT AS COMPRESION FITTING MAY GET LOST. CLEAN THE PROBE WITH NON-ABRASIVE CLEANER TO REMOVE BUILDUP
CLEAN COOLING TRAY PERFORATIONS	AS REQUIRED IF CLOGGED	USE AN AIR COMPRESSOR GUN TO UNBLOCK THE HOLES THEN CLEAN UNDERNEATH THE COOLING TRAY
REMOVE AND CLEAN FAN MOTOR IMPELLOR BLADES AND HOUSING	EVERY 4 MONTHS	UNDO NUTS ON DRUM FAN HOUSING PLATE AND REMOVE COMPLETE FAN AND IMPELLOR, CLEAN IMPELLOR BLADES AND FAN HOUSING OF SCALE BUILDUP
POLISH METALS	AS REQUIRED	POLISH METALS WITH NON-ABRASIVE POLISH. BUFF WITH SOFT CLOTH FOR BEST FINISH. ANY HEAT TARNISH CAN BE REMOVED WITH BLUE CLEAN PASTE AND THEN BUFFED
UNBLOCK AIR PRESSURE SWITCH TUBES	IF FAN PRESSURE IS NOT BEING DETECTED	REMOVE TUBES FROM POSITIVE AND NEGATIVE SIDE OF THE DRUM FAN AND UNBLOCK ENDS
CLEAN INSIDE HOPPER CHUTE	YEARLY	REMOVE HOPPER AND VACUUM AND OR REMOVE SCALE. HOPPER CHUTE FLANGE MUST BE RESEALED WITH HIGH TEMPERATURE GASKET IN ORDER TO BE AIRTIGHT

### Important

- KEEP BEARINGS GREASED AND YOU WILL REDUCE THE WARE ON THE MOTORS AND IMPROVE THEIR LIFE
- MOST FIRES ARE CAUSE BY LACK OF MAINTENANCE WITH CHAFF REMOVAL. IN CASE OF FIRE SAFETY INTERLOCKS WILL CUT FAN AND GAS SUPPLY ON DETECTING HEAT INCREASE. HAVE A CO2 EXTINGUISHER CLOSE BY AS THIS CAN BE USED WITHOUT DAMAGING THE EQUIPMENT.
- INCREASED CHAFF IN THE ROAST (AS LONG AS CHAFF COLLECTOR IS CLEANED) CAN BE AN INDICATION OF REDUCED RPM IN MOTOR OR POOR AIRFLOW. MOTOR MAY NEED TO BE REWOUND, IMPELLOR BLADES AND HOUSING CLEANED OR FLUES CLEANED.
- KEEP CONTROL PANELS AND CABINETS FREE OF DUST DEBRIS. OPEN AND CLEAN IF NECESSARY