

## ALL ELECTRIC BC ROASTERS STARTUP GUIDE

The BC-3 & BC-5 are the only BC Roasters that come in an all electric model. Why Choose electric? Generally a gas (Natural gas or LPG) roaster is the best choice for productive coffee roasting. But some locations do not allow a gas roaster to be used. In this case the All Electric roaster will be your only option. While you can achieve the same quality roasts in an electric model as in gas there are some different procedures or steps in the process needed to get the most out of your All Electric roaster.

### ELECTRIC REQUIRED:

While all our BC Roasters are setup as 220V machines for worldwide distribution the gas models use such small amounts of electricity that most from the 8lb. size and under can easily be ran on 110V Voltage with a voltage converter. With Electric models that wattage and amperage is much higher. In some cases 20 times more electric are needed to run the heat elements on the All Electric roaster. Therefore we recommend you use a dedicated 220V 30A Breaker for both the BC-3 & BC-5 electric roaster. Also we use a much larger 30A type plug on our electric units:

### 3-WIRE GROUNDING, NEMA L6-30P, 30-AMP., 250-VOLT



**LOCKING PLUG:30A, 250V, BLACK & WHITE, 2 POLE, 3 WIRE GROUNDING, LOCKING PLUG, NEMA L6-30P, UL, FEDERAL SPECIFICATION, CSA**

**(IF ORDERING INTERNATIONAL YOU WILL NEED TO SUPPLY YOU OWN PLUG FOR YOUR COUNTRY)**

### CONTROL PANEL ON ELECTRIC ROASTERS (2019 AND ABOVE):



**TWO OMRON TEMPERATURE CONTROLS FOR BT & ET ONE TIMER FOR TIMING ROASTS (RESET BUTTON ON LEFT BOTTOM)**

**FAN CONTROL (TURN ON 100% WHEN USING THE MANUAL DIAL DAMPER FOR AIRFLOW)**

**POWER BUTTON- TURNS MACHINE ON  
ROASTING BUTTON- TURN ON TO POWER ON ELECTRIC BURNERS (YOU WILL THEN NEED TO ADJUST POWER OF BURNERS AS SEEN IN PICTURE BELOW)**

**TIMER- POWERS ON TIMER  
COOLING- TURNS ON COOLING TRAY FAN  
MIXING- TURNS ON MIXING ARMS**

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**NEW FOR 2019: POWER METER:** SHOWS THE WATTAGE, VOLTAGE AND AMPS BEING USED AT ANY GIVEN TIME. **(PANEL LIGHTS UP WHEN TURNING THE HEATING REGULATOR UP)**

**HEATING REGULATOR:** THIS IS THE CONTROL TO TURN UP THE POWER TO YOUR HEAT ELEMENTS

### **SETTING UP YOUR MACHINE:**

Your machine will arrive mostly assembled. The Direct Connect Chaff unit will be attached to roaster. But you will need to attach Chaff fan onto top of chaff unit. (some models just sit on chaff unit and others may attach with bolts)



**IMPORTANT:** Always connect aviation plug to roaster while unit is unplugged. Never attach or remove aviation plug when unit is plugged in or machine is on.

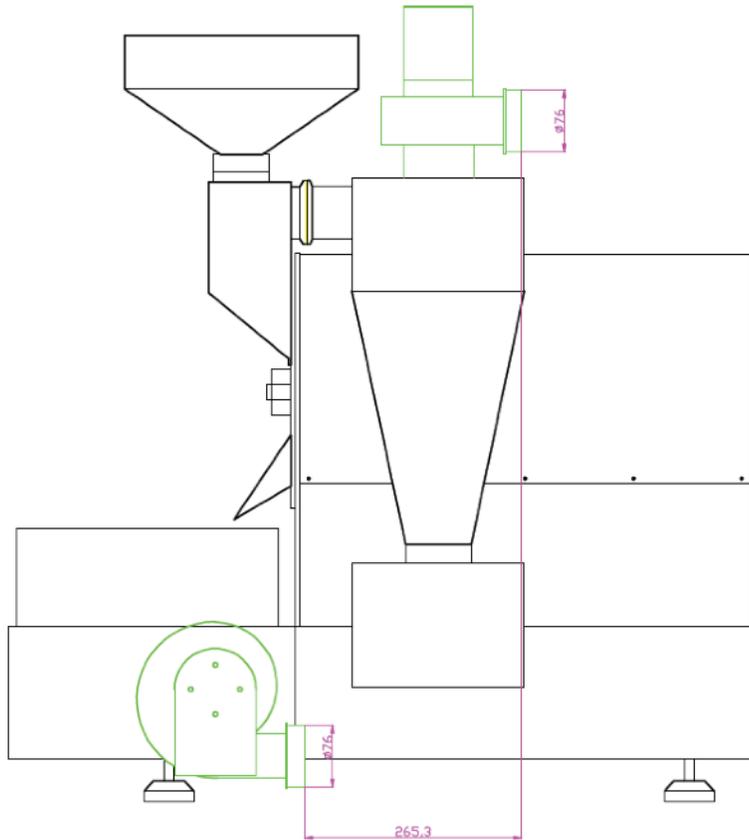
## ALL ELECTRIC BC ROASTERS STARTUP GUIDE

### **SETTING UP THE EXHAUST PIPES:**

All roasters must have exhaust taken out of building. Even if buying and using a smoke suppression system the exhaust must be removed from building as it contains Carbon Monoxide and other harmful chemicals. The way you choose to set up your exhaust system in part depends on your building setup and how you need to run pipes out of build.

**NOTE:** There are two exhausts: 1. Main exhaust off chaff unit and 2. Exhaust off cooling tray. Generally if you can run both outside separately this is preferred. But to say on the cost of pipe you can run both together but only if using a Blast damper or backdraft damper coming off cooling tray where two pipes join to main exhaust. Examples are in the main manual for BC Roasters as well as some drawings below:

### **BC-3 ROASTERS HAVE TWO 3” EXHAUST PIPES:**

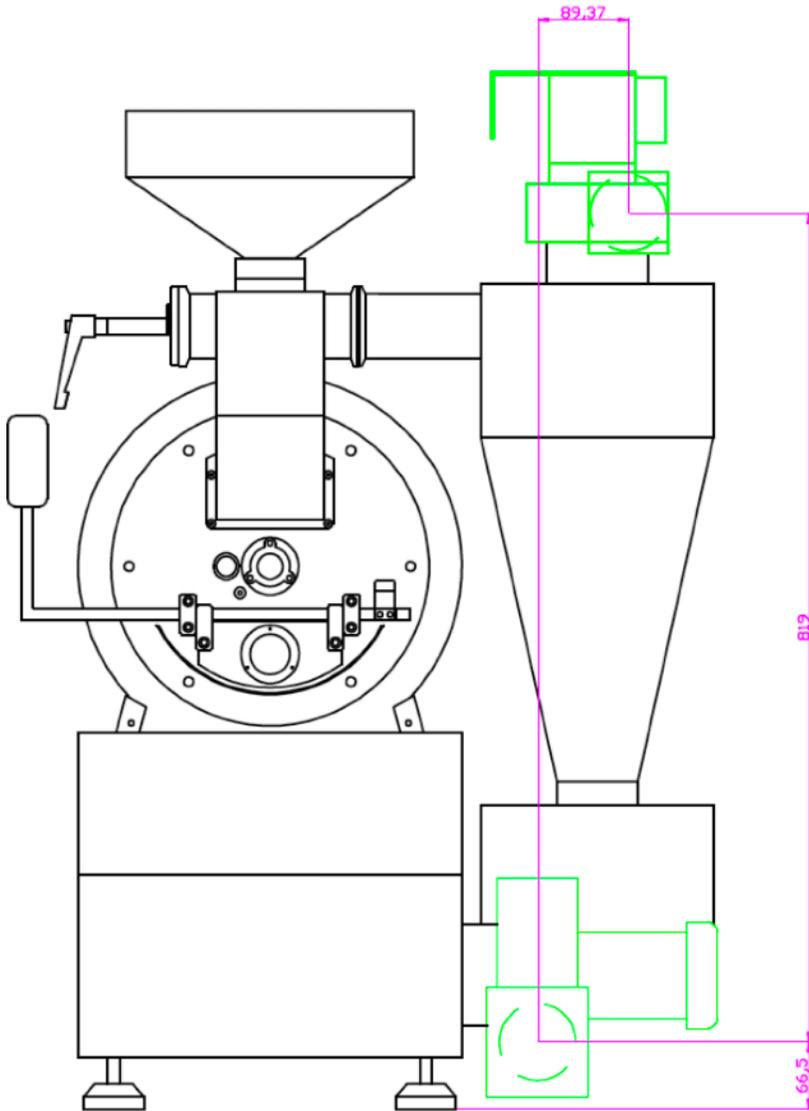


**TOP:** CHAFF EXHAUST. MAIN EXHAUST

**BOTTOM:** COOLING TRAY EXHAUST

## ALL ELECTRIC BC ROASTERS STARTUP GUIDE

**BC-5 ROASTERS HAVE ONE 3" EXHAUST OFF CHAFF UNIT.  
AND ONE 4" OFF COOLING TRAY:**



**TOP: 76MM OR 3"  
EXHAUST OFF MAIN  
CHAFF UNIT**

**BOTTOM: 100MM OR 4"  
EXHAUST OFF COOLING  
TRAY ( IF YOU WISH TO  
USE ALL 3" PIPE YOU CAN  
ADD A 4' TO 3" REDUCER**

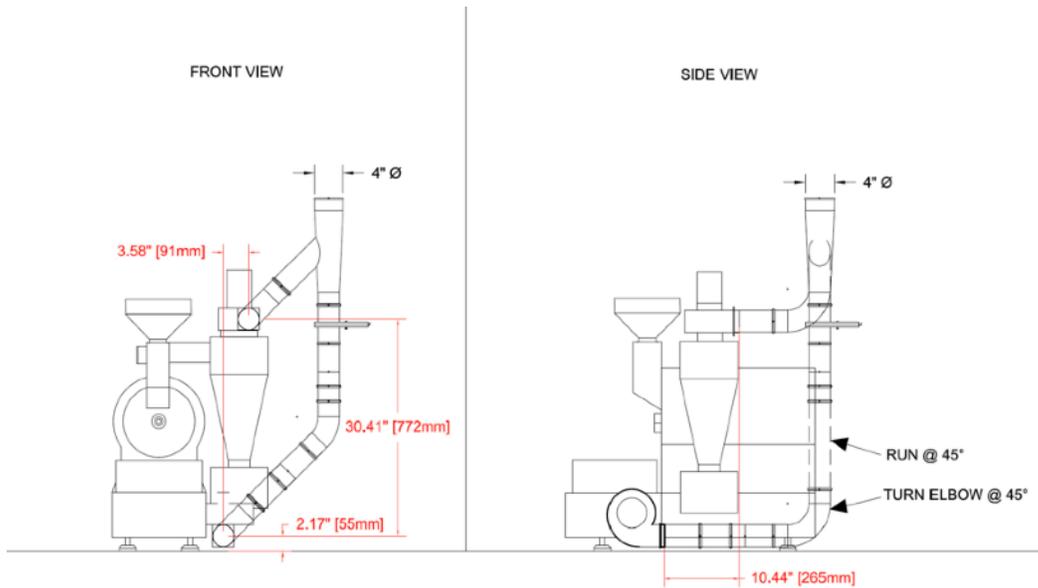
# ALL ELECTRIC BC ROASTERS STARTUP GUIDE

## **EXAMPLES OF PIPE SETUPS:**

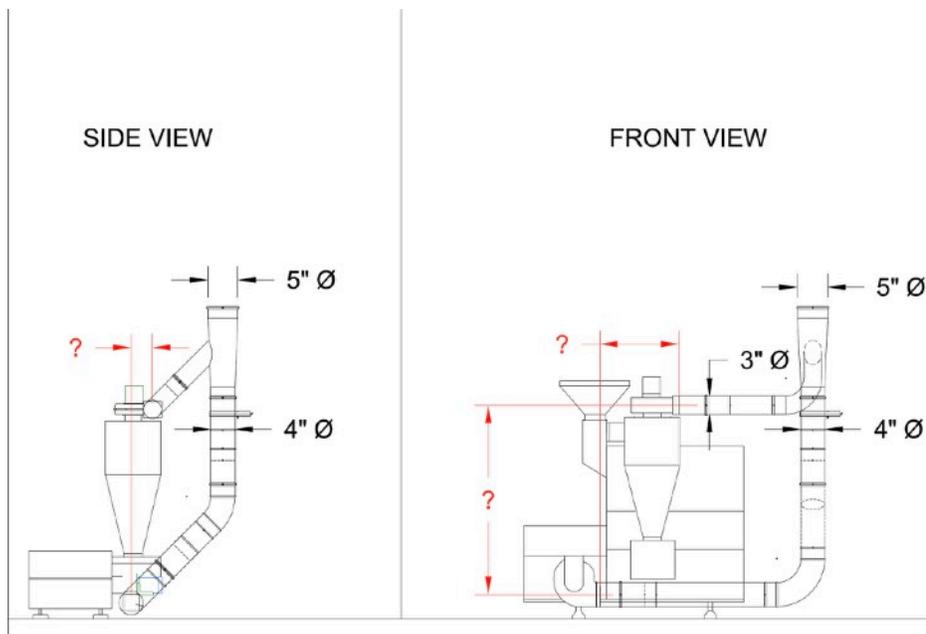
These are only provided as examples because much will depend on the setup you have in your building as to how you choose to exhaust pipes. (see also full manual for more details)

## EXAMPLES OF RUNNING TWO PIPES INTO ONE USING A BLAST DAMPER OR BACKDRAFT DAMPER:

### **BC-3 EXAMPLE:**

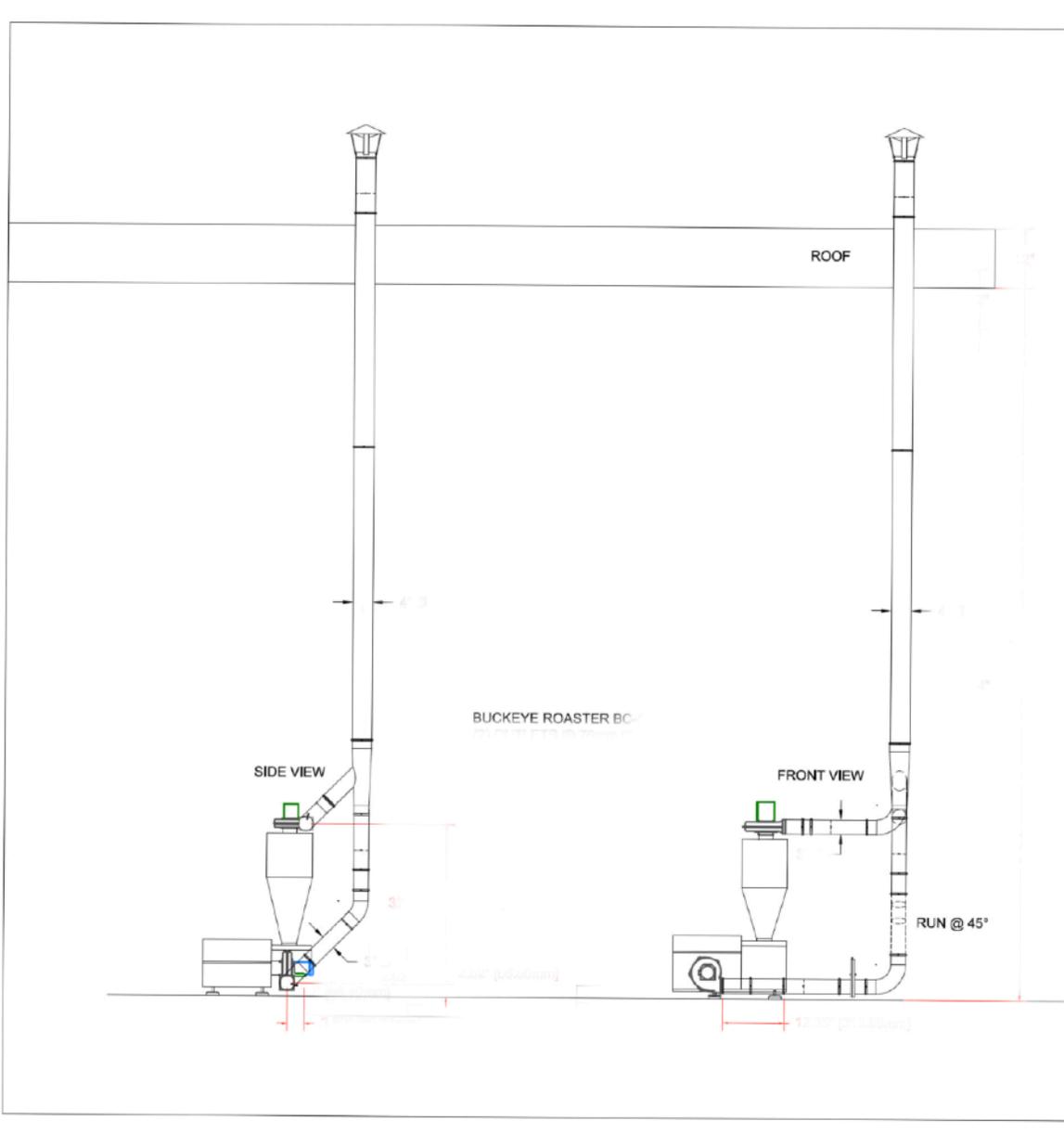


### **BC-5 EXAMPLE:**



# ALL ELECTRIC BC ROASTERS STARTUP GUIDE

## TYPICAL EXHAUST DRAWING THROUGH ROOF



**KEEP IN MIND DRAWINGS DO NOT ACCOUNT FOR A STAND FOR THE ROASTER. BC-3 & 5 ROASTERS ARE BEST SET ON AN 15-24" TALL STAND**

# ALL ELECTRIC BC ROASTERS STARTUP GUIDE

## **BC-5 EXAMPLE:**

Here is a setup using a backdraft damper and running one exhaust line out of building



## **NOTES:**

(You may wish to write the measurements for your piping needs below)

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## ALL ELECTRIC BC ROASTERS STARTUP GUIDE

### ROASTING WITH THE ALL ELECTRIC BC UNITS:

It's important to note that roasting on the electric roaster is different than on gas model as Airflow will be much different and so will roast times

#### PREHEAT:

1. Power on machine.
2. Make sure drum speed is turned on and best to have speed round 7-8 (70-80)
3. Next turn on fan speed to 100% but leave manual dial damper to 0 or 1 at most
4. Turn on roasting button which powers on the heat tubes
5. Turn the Heat Regulator to 10 to preheat burners
6. Preheat times may take 20 minutes or longer. You will want to preheat the BT (Bean Temperature above desired charge point on first roast. For example if your charge point is 350F its best on first roast to preheat bean temp to 400F. (This may vary depending on bean type and size of roast)
7. Charge your beans into drum ( BT will drop as you are adding cool beans into drum)
8. Start timer
9. **DRYING PHASE:** This is where your beans go from raw green to yellow. Generally this can take from 4-7 minutes depending on size of roast and desired effects. Drying phase ends when temps reach about 330F. If drying phase is moving to fast decrease heat and/or increase airflow.
10. Take Note of turn around time. This is where the temps on BT stop dropping and start to increase. Generally this occurs in less than 2 minutes.
11. **MAILLARD PHASE (BROWNING PHASE):** This is from 330F to first crack. This can average from 2-4 minutes. As roast gets near first crack (BT of 375-400F depending on bean type) you may wish to increase drum speed to 80 or 85. Generally about 10%. This should help to increase temperature as it gets ready to go into first crack and will release moisture from beans.
12. **ROASTING PHASE:** This is the most critical phase as beans change every 15-20 seconds. So you should be checking the appearance very 30 seconds or so. ( Refer to manual on levels of roast) Some coffees will be ready when BT reaches 400F while others may go up to 435F or more depending on the roast profile you want.
13. When beans are at the temperature and color you want turn on cooling motor and mixing arms and drop beans into cooling tray.
14. Once all beans are out of drum close drum door and you should be ready to charge a new roast.
15. When done roasting at the end of day you must cool roaster before turning off. Turn off the roasting button and turn the heat regulator to 0 and turn up manual damper to let 100% airflow into drum. Also you can open drum door and hopper to help speed up cooling process. It may take 30 minutes or more to cool drum before turning roaster off.

## ALL ELECTRIC BC ROASTERS STARTUP GUIDE

### **AIRFLOW:**

Generally on an electric roaster you will not need to turn airflow up very high during entire roast. Maybe during drying phase you can keep manual dial damper at 1-2. During Maillard Phase you may wish to increase this a bit to remove smoke and chaff (2-4) During roasting phase you can choose the airflow but rarely would you need to go above 5-6.

NEVER ALLOW AIRFLOW TO SLOW OR STALL MOMENTUM OF ROAST AS THIS WILL EFFECT FLAVORS AND MAY GREATLY INCREASE ROAST TIME.

FOR MORE DETAILS WATCH THE MANY VIDEOS ON THE [BUCKEYECOFFEE.COM](http://BUCKEYECOFFEE.COM) SITE AS WELL AS FULL MANUAL. IF YOU NEED HELP FEEL FREE TO EMAIL THE TECH DEPARTMENT AT:

[TECH@BUCKEYECOFFEE.COM](mailto:TECH@BUCKEYECOFFEE.COM)

Thank you for your purchase of the BC Electric Roasters!

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