

BC

BUCKEYE COFFEE ROASTERS

"GET YOUR ROAST ON"



BC COFFEE ROASTER MANUAL 2020

WELCOME TO THE WORLD OF COFFEE ROASTING WITH THE BC LINE OF ROASTERS

THANK YOU FOR INVESTING IN THE BC COMMERCIAL COFFEE ROASTING LINE! YOU HAVE PURCHASED A MACHINE THAT WILL SERVE YOU WELL AND ROAST GREAT COFFEE. IN ORDER TO GET THE VERY BEST OUT OF YOUR BC ROASTING MACHINE WE ASK YOU TO FIRST READ THIS MANUAL INCLUDING THE SAFETY PRECAUTIONS AND SIMPLE MAINTENANCE PROCEDURES. THEN BY READING THE "GET STARTED" SECTION YOU CAN SEE HOW EASY COFFEE ROASTING CAN BE AND HOW ENJOYABLE THE BC IS TO ROAST WITH WHETHER YOU ARE NEW TO COFFEE ROASTING OR A SEASONED ROAST-MASTER. THE BC LINE HAS THE FEATURES TO MAKE COFFEE ROASTING EASY FOR THE BEGINNER AND A JOY FOR THOSE DEVELOPING THE ART OF THIS CRAFT.

SO LETS GET STARTED!

IMPORTANT NOTICE: THIS MANUAL IS PROVIDED ONLY FOR GENERAL INFORMATION PURPOSES. IT IS ALWAYS CUSTOMERS RESPONSIBILITY TO CHECK WITH LOCAL AND STATE AGENCIES TO ENSURE ALL SAFETY AND LEGAL REQUIREMENTS ARE FOLLOWED. (PLEASE KEEP A COPY OF THIS MANUAL WITH ROASTER AT ALL TIMES AS A REFERENCE GUIDE.)

1.

**FAILURE TO READ AND FOLLOW THIS MANUAL WILL VOID
YOUR ROASTER WARRANTY**

SUBJECT PAGE

- 1.SAFETY ALWAYS- SAFETY FIRST**
- 2.MAKE SURE YOUR ELECTRIC IS CORRECT**
- 3.UNPACKING AND SETTING UP YOUR ROASTER**
- 4.TECHNICAL INFORMATION & MACHINE PARTS**
- 5.GET STARTED- SIMPLE STEPS TO ROASTING COFFEE**
- 6.DEVELOPING THE CRAFT**
- 7.MAINTAIN YOUR MACHINE**
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- 9.AFTER THE WARRANTY- SERVICE AND PARTS**
- 10.TROUBLE SHOOTING & ADJUSTMENTS**
- 11.MORE DETAILS ABOUT YOUR ROASTER**
- 12. IMPORTANT GAS PRESSURE NOTICE**

PRODUCT WARRANTY:

YOUR ROASTER IS WARRANTED FOR ONE YEAR FROM DATE OF PURCHASE FOR PART REPLACEMENT IN THE EVENT A PART PROVES TO BE DEFECTIVE UNDER NORMAL USAGE. IN THE EVENT A PART PROVES DEFECTIVE THE USER SHOULD DISCONTINUE USE OF THE MACHINE UNTIL A SUITABLE REPAIR IS COMPLETED ON EQUIPMENT. IF A PART DOES FAIL UNDER NORMAL USAGE ACCORDING TO THE DETAILS OF THIS INSTRUCTION MANUAL THE OWNER IS TO **CONTACT BUCKEYE COFFEE TECH DEPARTMENT VIA EMAIL AT TECH@BUCKEYECOFFEE.COM (NO PHONE CALLS TO THE SALES DEPARTMENT PLEASE)**

FOR SUPPORT EMAIL: TECH@BUCKEYECOFFEE.COM

WITH YOUR NAME, NAME OF PRODUCT & ACCOUNT NUMBER AND DETAILS AND PICTURES AND PERHAPS VIDEO CLIPS SHOWING PRODUCT DEFECT. ONCE THE TECH DEPARTMENT DETERMINES THE ISSUE NEW PARTS WILL BE SENT AND INSTRUCTIONS TO REPAIR PROVIDED. IN THE EVENT THIS MANUAL HAS NOT BEEN READ AND ABIDED BY DURING USE THE WARRANTY MAY BE VOIDED. AFTER WARRANTY EXPIRES PARTS WILL BE STOCKED AT NORMAL RETAIL PRICES & SHIPPING COSTS FOR CLIENTS REPAIRS FOR AT LEAST 10 YEARS. SEE COMPLETE WARRANTY FOR MORE DETAILS.

IMPORTANT STARTUP GUIDE

DO NOT RUN ROASTER IF FLAMES ARE NOT BLUE!

ORANGE FLAMES INDICATE IMPROPER AIR/GAS MIXTURE

NEVER START A GAS ROASTER WITHOUT RUNNING AIR FLOW!

**WHEN USING A GAS ROASTER ALWAYS
FOLLOW THE SAFETY INSTRUCTIONS IN
MANUAL.**

**FOLLOW THESE STEPS FOR A SAFE AND
PRODUCTIVE ROAST:**

- 1. ALWAYS BE SURE YOUR GAS LINE IS
FREE OF LEAKS. (SOAPY WATER
TEST)**
- 2. TURN ON MACHINE AND CHECK THAT
ALL COMPONENTS ARE WORKING
PROPERLY**
- 3. WHEN IGNITING ROASTER YOU MUST
FOLLOW THIS PROCEDURE:**
 - A. TURN ON CHAFF FAN (AIR FLOW) AT
LEAST 20-30% (LISTEN FOR
RUNNING FAN)**
 - B. PRESS IGNITOR BUTTON (HEAT OR
ROAST BUTTON ON CONTROL PANEL)
IT WILL BUZZ**

**C. THEN TURN ON GAS FROM UNIT.
NEVER TURN GAS ON UNLESS AIR
FLOW IS ON OR GAS COULD
BUILD UP IN BURNER ROOM.**

**4. ONCE FLAME IGNITES ADJUST
PRESSURE USING THE KPA GAUGE TO
2-4 KPA. (0.1-1.5 IN NATURAL GAS
MODELS) MOST ROASTS CAN BE
ACHIEVED AT 2-3 KPA. (0.2-1 IN
NATURAL GAS) SMALL ROASTS MAY
BE ROASTED MUCH LOWER.**

**5. ADJUST AIRFLOW UP AS ROAST
DEVELOPS TO REMOVE SMOKE AND
CHAFF FROM DRUM AND IN
CONTROLLING TEMPERATURE (ROR)**

SAFETY MUST ALWAYS BE #1!

**NEVER CUT CORNERS! NEVER
OPERATE A MACHINE NOT IN
PERFECT RUNNING CONDITION.**

*****MACHINES EQUIPPED WITH DRUM
SPEED ADJUST SPEED SO BEANS
TUMBLE AT 45% (GENERALLY 50%)
SPEED MAY BE ADJUST UP WHEN
BEANS GO INTO FIRST CRACK TO
70-80% . NORMAL DRUM SPEED SET AT
7-8**

***ALL ELECTRIC MODELS DO NOT REQUIRE AIR
FLOW AT THE BEGINNING OF ROAST OR
PREHEAT**

**DO NOT RUN ROASTER IF FLAME IS NOT
CONTROLLED AND BLUE**

IMPORTANT NOTES ABOUT THE 2018 & UP MODELS WITH MDDS AIRFLOW:

- + **WITH THE NEW MANUAL DIAL DAMPERS YOU MUST TURN THE AIRFLOW FAN ON 100%**
- + **YOU MAY NEED TO TURN UP AIRFLOW ON DAMPER TO 4-6 TO START. ONCE BURNERS ARE STARTED YOU CAN ADJUST AIRFLOW DOWN DURING DRYING PHASE OF ROAST**

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IMPORTANT CHANGES ON THE 2018 BC-1, 2, 3, 5:

THE ALL NEW MDDS AIRFLOW SYSTEM:

**THE AIR NEW MANUAL DIAL DAMPER SYSTEM
PROVIDES THE MOST PRECISE CONTROL OF
AIRFLOW INTO YOUR ROASTER:**

TO GIVE YOU GREATER CONTROL
WE HAVE CHOSEN TO LEAVE THE
ELECTRONIC AIRFLOW SYSTEM
ON... BUT TO BEGIN WITH FOLLOW THIS
PROCEDURE TO START ROAST:

1. TURN ELECTRONIC FAN SPEED ON
100%
2. TURN MANUAL DAMPER TO 30
3. START ROASTER AS OUTLINED
IN MANUAL



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GAS PRESSURE & BTU ON 2018 & NEWER MODELS

PRESSURE 7-14WC ON NATURAL GAS UP TO 20WC ON LPG

BC-(BC-1) 7500-8500 BTU (7WC ON NG)

BC-(BC-2) 15,000 BTU (7WC ON NG)

BC-3 (BC-3) 30,000-35,000 BTU (7-14WC ON NG) **NEW 2020 DW MODELS
35,000BTU**

BC-5 40,000-45,000 BTU (7-14WC ON NG) **NEW 2020 DW MODELS WITH 10
BURNERS UP TO 45,000 BTU**

BC-8 -50,000-60,000BTU (7-14WC ON NG)

BC-15 -65,000-85,000 BTU (14WC ON NG)

BC-24 UP TO 120,000 BTU (14WC ON NG)

1. SAFETY ALWAYS- SAFETY FIRST

IMPORTANT: ALWAYS READ ENTIRE MANUAL BEFORE ATTEMPTING ANY WORK OF UNPACKING ROASTER OR SETTING UP EQUIPMENT. FAILURE TO DO SO COULD RESULT IN DAMAGE TO EQUIPMENT NOT COVERED BY WARRANTY AND MORE IMPORTANT COULD RESULT IN SERIOUS INJURY AND/OR DEATH!

CAUTION: THIS MANUAL IS PROVIDED ONLY AS A GUIDELINE AND IS NOT INTENDED TO COVER ALL POTENTIAL SAFETY ISSUES THAT MAY ARISE IN YOUR AREA. CONSULT WITH LOCAL AUTHORITIES FOR ACTUAL SAFE WORK METHODS IN YOUR FACILITY. WE ARE NOT RESPONSIBLE FOR FAILURE OF ANYONE USING THIS EQUIPMENT WITHOUT SAFE WORKING PROCEDURES.

IMPORTANT: A HIGH QUALITY GOVERNMENT APPROVED FIRE EXTINGUISHER SHOULD ALWAYS BE KEPT NEAR EACH COFFEE ROASTING MACHINE.

1. NEVER RUSH TO GET A JOB DONE. THIS CAN RESULT IN MISTAKES. AND MISTAKES WITH ELECTRIC AND GAS CAN BE FATAL TO YOU AND YOUR EMPLOYEES.

2. NEVER ALLOW AN UNQUALIFIED PERSON TO WORK ON EQUIPMENT OR BE INVOLVED IN ANY PROCESS RELATING TO UNPACKING, INSTALLING OR USING OF EQUIPMENT.
3. **NEVER RUN ROASTER UNATTENDED.** COFFEE IS A COMBUSTIBLE MATERIAL AND CAN EXPLODE AND CAUSE LOSS OF PROPERTY AND LIFE TO ANY NEAR ACCIDENT AREA. ALWAYS RUN EQUIPMENT ONLY BY AUTHORIZED PERSONNEL FULLY TRAINED IN SAFETY PROCEDURES & FIRST AID TRAINING.
4. MACHINE MUST BE PLACED ON LEVEL SURFACE IN HORIZONTAL POSITION. USE A LEVEL TO BALANCE ROASTER PROPERLY.
5. ELECTRIC POWER AT 220V IS VERY DANGEROUS IF NOT PROPERLY SETUP. USE A QUALIFIED CERTIFIED ELECTRICIAN TO SET UP YOUR ELECTRIC CONNECTIONS **BEFORE** ATTEMPTING TO SETUP AND USE ROASTER (**SEE SECTION: MAKE SURE YOUR ELECTRIC IS CORRECT**)
6. NEVER OPEN UP ROASTING UNIT AT ELECTRICAL BOX OR CONNECTIONS WHILE OPERATING ROASTER. **NEVER OPEN MOTOR GUARD OR TOUCH OR OPEN ELECTRICAL CONNECTIONS WHILE IN USE.** ANY TIME MACHINE IS SERVICED OR MAINTENANCE IS PERFORMED MACHINE MUST BE TURNED OFF AND **DISCONNECTED** FROM POWER SOURCE. IF UNIT IS HARD WIRED SHUT OFF CIRCUIT AT CIRCUIT BREAKER OR CIRCUIT ELECTRIC BOX. **WHEN ATTACHING THE AVIATION PLUGS FOR CHAFF FAN AND COOLING FAN ON SOME MODELS ALWAYS UNPLUG ROASTER FIRST. NEVER DISCONNECT PLUG WHEN MACHINE IS PLUGGED IN.**
7. DO NOT TOUCH SURFACE OF ROASTER WHILE HEATING AS UNIT BECOMES VERY HOT AND INJURY OR BURNS COULD OCCUR. USE PROTECTIVE INSULATED SAFETY GLOVES WHEN OPERATING ROASTER TO AVOID BURNS TO HANDS. **KEEP AN APPROVED FIRST AID KIT NEARBY IN CASE OF ACCIDENTS.**
8. COFFEE AND CHAFF ARE COMBUSTIBLE MATERIALS. **ALWAYS CHECK DEBRIS TRAY BELOW DRUM AND CHAFF UNIT AFTER EACH ROAST TO KEEP CLEAN FROM POTENTIAL DUST OR CHAFF FIRES.** IF A FIRE OCCURS **NEVER OPEN UP DRUM. TURN OFF UNIT AND UNPLUG** AND USE APPROVED FIRE EXTINGUISHER ONLY TO PUT OUT FIRE. NEVER USE WATER AS THIS COULD RESULT IN FATAL ELECTRICAL SHOCK AND WILL DAMAGE EQUIPMENT AND VOID WARRANTY.
9. **NEVER OVER-ROAST COFFEE!** COFFEE IS COMBUSTIBLE MATERIAL AND IF OVER HEATED WILL BURN AND PERHAPS EXPLODE. MACHINE MUST BE SUPERVISED AT ALL TIMES IT IS IN USE AND NEVER SHOULD BEANS BE

OVERHEATED OR BURNED. WHILE OUR ROASTERS CAN PRODUCE FRENCH & ITALIAN ROASTS OFTEN WITHIN ONLY 15-30 SECONDS AFTER ACHIEVING THIS DARK ROAST YOU RISK OVERCOOKING BEANS AND RISK DESTROYING ENTIRE BATCH AS WELL AS CREATE A FIRE HAZARD. ONCE COFFEE REACHES DARK FRENCH ROAST MOST THE FLAVOR OF THE COFFEE HAS ALREADY BEEN COOKED OUT OF BEANS AND ONLY THE TASTE OF BURNT BEANS EXISTS. AVOID OVER ROASTING AND BURNING BEANS.

(OILY BEANS ARE OVERCOOKED BEANS. THE CELLAR STRUCTURE OF BEANS ARE DAMAGED WHEN OILY.)

10.DO NOT WEAR LOOSE FITTING CLOTHES WHILE OPERATING MACHINERY. CLOTHING CAN BE CAUGHT BY POWERFUL MOTORS RESULTING IN SERIOUS INJURY. DO NOT PUT FINGERS OR HANDS NEAR ANY MOVING PART OR OPEN ANY PART OF ACCESS DOORS.

11.NEVER ALLOW MACHINE TO COME INTO CONTACT WITH WATER. EVEN WHEN MACHINE IS OFF **DO NOT CLEAN ATTACHED SURFACES WITH WATER OR SPRAY LIQUIDS ON UNIT. IF COOLING TRAY OR HOPPER NEEDS CLEANED DISCONNECT AND CLEAN AWAY FROM UNIT. NEVER LEAVE ELECTRICAL ATTACHED OR ONE WHEN SERVICING UNIT. DRY ALL PARTS BEFORE REASSEMBLY OF UNIT.**

12.NEVER OPERATE MACHINERY WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS OR IF ILL OR EVEN ON PRESCRIPTION MEDICATIONS. DO NOT OPERATE WHILE FATIGUED. USER MUST BE FULLY ALERT WHILE OPERATING MACHINERY.

13.NEVER OVER LOAD MACHINE WITH TOO MUCH COFFEE.

14.KEEP ALL UNAUTHORIZED PERSONS AND CHILDREN AWAY FROM EQUIPMENT.
15.NEVER TOUCH HOT EXHAUST PIPES OR CONNECTIONS. ALWAYS USE APPROVED GLOVES TO PROTECT HANDS.

16.NEVER STOP DRUM WHILE HEATING COFFEE. THIS WILL RESULT IN BURNED PRODUCT AND MAY RESULT IN FIRE HAZARD. IF POWER GOES OFF OR DRUM STOPS TURN OFF MACHINE IMMEDIATELY AND DO NOT OPEN DRUM AS AIR OR OXYGEN COULD IGNITE BEANS. IF ABLE MANUALLY ROTATE DRUM UNTIL POWER RESTORED.

17.USE ONE DRY SOFT CLOTH TO CLEAN EXTERIOR OF UNIT WHEN MACHINE IS OFF AND DISCONNECTED FROM ELECTRIC. NEVER USE WATER OR WET CHEMICALS WHILE IN USE.

18.GAS UNITS: ALWAYS CHECK GAS LINES TO ENSURE NO LEAKS. USE SOAPY WATER ON GAS LINES (NOT ON MACHINE) BEFORE IGNITING ROASTER TO MAKE SURE THERE ARE NO LOOSE CONNECTIONS. IF LOOSE

CONNECTIONS OR LEAKS ARE FOUND IMMEDIATELY TURN OFF ALL ELECTRIC AND CONTACT A SPECIALIST OR CERTIFIED TECHNICIAN TO PERFORM REPAIRS. GAS CAN BE DEADLY AS IT CAN SUFFOCATE USER IN CONFINED AREAS BY LEAKAGE AND/OR CAN CAUSE EXPLOSION IF COMING INTO CONTACT WITH A SPARK OR ELECTRIC CONNECTION.

19.DO NOT USE EXTENSION CORDS AND MAKE SURE ALL CORDS ARE NOT TWISTED, RESTRICTED OR DAMAGED IN ANY WAY PRIOR TO USE.

20.IF ANY PROBLEMS ARE FOUND TURN OFF MACHINE DISCONNECT FROM POWER SOURCE AND CONTACT A CERTIFIED TECHNICIAN TO PERFORM ALL REPAIRS AND TEST BEFORE USING UNIT. KEEP ALL UNITS IN GOOD REPAIR. IF REPAIRS OR PART REPLACEMENTS ARE NEEDED DO NOT USE MACHINE UNTIL UNIT HAS BEEN SAFELY BROUGHT UP TO STANDARDS.

DO NOT RUN ROASTER IF FLAME IS NOT CONTROLLED AND BLUE

**INFORMATION FOR LPG (PROPANE) GAS ROASTERS. GAS MUST BE REDUCED TO A MAXIMUM OF 24WC
NATURAL GAS ON STANDARD LINES OF 7-14WC**

NEVER USE A HIGH PRESSURE LPG REGULATOR ON A ROASTER!

TO HELP YOU UNDERSTAND GAS PRESSURE BETTER TAKE NOTE OF THIS CHART:

GAS PRESSURE:		
<u>KPA</u>	<u>WA</u>	<u>PSI</u>
<u>1</u>	<u>4</u>	<u>0.14</u>
<u>2</u>	<u>8</u>	<u>0.289</u>
<u>3</u>	<u>12</u>	<u>0.433</u>
<u>4</u>	<u>16</u>	<u>0.578</u>
<u>5</u>	<u>20</u>	<u>0.722</u>
<u>6</u>	<u>24</u>	<u>0.867</u>

2. MAKE SURE YOUR ELECTRIC IS CORRECT

ELECTRIC WHEN PROPERLY USED PROVIDES THE CLEANEST FORM OF ENERGY FOR BOTH THE ENVIRONMENT AND THE WORK FORCE. BUT 220V ELECTRIC NOT PROPERLY USED AND RESPECTED CAN RESULT IN SERIOUS INJURY AND EVEN DEATH. THEREFORE FOLLOW THE GUIDES LISTED BELOW AND ALWAYS BE SURE TO HAVE A CERTIFIED ELECTRICAL TECHNICIAN INSTALL AND CHECK YOUR SPECIFICATIONS PRIOR TO SETTING UP AND USING YOUR MACHINERY.

SPECIAL NOTE: YOUR UNIT WILL ARRIVE WITH A 4-6' POWER CORD. IT MAY NOT COME WITH A PLUG. PLUGS AND OUTLETS VARY FROM BUILDING AND LOCATION PLUS MANY CUSTOMERS CHOOSE TO HAVE THEIR ROASTER HARDWIRED TO FACILITY. THEREFORE CUSTOMER CAN CHOOSE THEIR OWN TYPE OF PLUG OR CONNECTION UNDER DIRECTION OF ELECTRICIAN. WIRE TYPE IS 3 PRONG (HOT, NEUTRAL & GROUND)

ELECTRICAL SPECIFICATIONS:

(ALWAYS CHECK THE ELECTRIC PLATE ON EACH MACHINE TO ENSURE YOU ARE SETTING UP UNIT WITH PROPER SPECS)

BC ELECTRICAL SPECS:

All models are sold as 220V 50-60Hz Made for the USA and North America

GAS & LPG MODELS (WATTAGE) ALL ELECTRIC MODELS

BC-(1)300:	100W	N/A
BC-(2) 600:	150W	N/A
BC-(3)1300:	225W	4180
BC-(5)2000:	295W	5295
BC-7:	610W	N/A
BC-14:	780W	N/A
BC-24	1200W	N/A

(6)

VOLTAGE CONVERTERS FOR GAS MODELS:

BECAUSE OF THE LOW WATTAGE OF THE GAS UNITS YOU HAVE THE OPTION OF USING A VOLTAGE CONVERTER WHICH ALLOWS YOU TO RUN UNIT ON 110/120 REGULAR HOUSEHOLD OR BUSINESS CURRENT (NORTH AMERICA). IF CHOOSING TO USE A VOLTAGE TRANSFORMER CHOOSE ONLY A HIGH QUALITY UNIT AND FOLLOW THE INSTRUCTIONS PROVIDED BY MANUFACTURE. WE RECOMMEND THAT IF YOU USE A TRANSFORMER YOU CHOOSE ONE AT LEAST 2-4 TIMES THE WATTAGE POWER OF YOUR ROASTER. THIS WILL PROTECT UNIT FROM ELECTRICAL SURGES. (USER ASSUMES FULL RESPONSIBILITY FOR USE OF A VOLTAGE CONVERTER)

HOW TO USE A VOLTAGE CONVERTER IN NORTH AMERICA.

USE VOLTAGE CONVERTERS AT YOUR OWN RISK!
FAILURE TO FOLLOW THESE GUIDELINES EXACTLY WILL VOID WARRANTY

A VOLTAGE CONVERTER CAN BE USED TO RUN LOW WATTAGE 220V EQUIPMENT ON A 110V COMMON OUTLET IN NORTH AMERICA. JUST FOLLOW THE SIMPLE STEPS BELOW:

WHEN PLUGGING YOUR VOLTAGE CONVERTER INTO A 110V COMMON ELECTRICAL OUTLET IN NORTH AMERICA YOU MUST FIRST SET THE BACK FOR 110-115V (SOME SAY 115V). SOME VOLTAGE CONVERTERS JUST HAVE A SWITCH FOR THIS. OTHERS HAVE AN ACTUAL INPUT VOLTAGE PLUG THAT PLUGS INTO THE BACK CONNECTING THE VOLTAGE TO THE SAME AS POWER SOURCE: (ALWAYS PUT BACK SWITCH TO 110V WHEN PLUGGING INTO 110 POWER SOURCE)

CONNECTING ELECTRIC CORD TO OUTLET:

ROASTERS USE 3 WIRE SYSTEM. COLORS OF WIRES VARY FROM BOTH MAKE AND MODEL AND FROM ELECTRIC TO GAS. ALWAYS LOOK INSIDE ELECTRIC ROOM TO ENSURE THE GROUND WIRE IS



WHEN PLUGGING A 220V MACHINE OR TOOL INTO THE FRONT OF CONVERTER MAKE SURE YOU ALWAYS PLUG IT INTO THE 220 OUTLET.



IF YOU PLUG IT INTO THE 110 OUTLET YOU WILL NOT GET THE CORRECT POWER TO RUN TOOL OR EQUIPMENT AND RISK BURNING UP EQUIPMENT.



KEEP IN MIND IT IS ALWAYS BEST TO USE A VOLTAGE CONVERTER THAT IS AT LEAST 50% MORE WATTAGE THAN YOUR EQUIPMENT REQUIRES. IN SOME 2-4 TIMES THE WATTAGE IS BEST.

PROPERLY CONNECTED AS A GROUND. GENERALLY GREEN OR PART GREEN/YELLOW IS GROUND BUT NOT ALWAYS.

THE ELECTRIC ON YOUR ROASTER

IN MOST CASES A PLUG COMES WITH ALL MODELS

ON A 3 PRONG PLUG BOTH POWER & NEUTRAL ATTACH TO POWER LINES AND GROUND ALWAYS GOES ON GROUND. IF YOU FAIL TO ATTACH GROUND PROPERLY THIS CAN DAMAGE UNIT AND VOID WARRANTY AS WELL AS ONLY PROVIDE 1/2 POWER TO UNIT.(SEE INSTRUCTIONS PROVIDED WITH YOUR ELECTRICAL PLUG FOR CONTACT POINTS)

NEVER ATTACH AN EXTENSION CORD AS THIS COULD CREATE A FIRE HAZARD AND/OR REDUCE POWER TO ROASTER.

NEVER CONNECT A ROASTER TO AN OUTLET THAT IS NOT THE CORRECT VOLTAGE (220) AND THE CORRECT AMPERAGE. TO DETERMINE CORRECT AMPERAGE ON ANY APPLIANCE SINCE USA LAW DOES NOT REQUIRE IT'S LISTING SIMPLY DIVIDE THE VOLTAGE OF A PRODUCT INTO THE TOTAL WATTAGE. THIS WILL TELL YOU THE

AMPERAGE. THEN YOU MUST USE A CIRCUIT BREAKER OF AT LEAST THE SAME AMPERAGE. WE RECOMMEND ALWAYS USING A 30A BREAKER OR ABOVE FOR ELECTRIC ROASTERS. (40A TO 60A ON LARGER ELECTRIC MACHINES) IT NEVER HURTS TO HAVE A HIGHER VOLTAGE BREAKER BUT CAN DAMAGE WIRING AND EQUIPMENT IF YOUR BREAKER HAS TOO LOW OF AMPERAGE

WE ALWAYS RECOMMEND USING A CIRCUIT BREAKER WITH MORE AMPERAGE THAN NEEDED. GENERALLY A 20A BREAKER WILL WORK WITH MOST OUR LINE OF GAS ROASTERS BUT 30A-60A FOR ALL ELECTRIC MODELS GIVES YOU THE OPTION TO UPGRADE IN THE FUTURE.

3. UNPACKING AND SETTING UP YOUR ROASTER

(WANT ON THE JOB TRAINING? CHECK OUT OUR VIDEO SERIES ON THE TRAINING PAGE OF WEBSITE. A PASSWORD MAY BE REQUIRED. EMAIL US FOR DETAILS)

YOUR ROASTER COMES IN A PLYWOOD CRATE. THESE CRATES ARE VERY HEAVY THE BC-3 IS OVER 330 LB. AND THE BC-15 OVER 1000 LB. SO BE VERY CAREFUL WHEN HANDLING USING THE PROPER TOOLS. USE THE BUDDY SYSTEM IF LIFTING HEAVY ITEMS. PLACE CRATE ON SOLID GROUND AND LOOSEN NAILS OR SCREWS FROM BOTTOM. (SOME CRATES HAVE METAL PRONGS) IN SOME CASES YOU CAN NOW JUST LIFT OFF THE LID. SAVE CRATE IN CASE OF WARRANTY SERVICE REPAIRS. IN SOME CASES IT IS EASIER TO REMOVE EACH SIDE OF CRATE AND TOP ONE SIDE AT A TIME. IN ANY CASE EXERCISE CAUTION NOT TO DAMAGE CONTENTS.

OUR BIGGER ROASTERS ARE MOUNTED TO CRATE BASE:

PLEASE SEE BELOW:

MANY OF OUR BIGGER ROASTERS FROM BC3 AND UP ARE MOUNTED TO STEEL RAILS ON BASE OF CRATE OR PALLET. YOU MUST USE A WRENCH TO REMOVE FROM RAILS BEFORE TAKING ROASTER OFF CRATE. THE SMALLER ROASTERS ARE STRAPPED TO BASE AND YOU MUST FIRST UNSCREW STRAPS TO REMOVE ROASTER. THIS IS ALL ADDED TO PROTECT YOUR ROASTER DURING SHIPMENT

ROASTER ASSEMBLY:

ROASTER HAS BEEN PACKED IN SUCH A WAY AS TO PROTECT IT DURING SHIPMENT. ALL PARTS ARE PROPERLY WRAPPED AND PACKED TIGHT IN CRATE. IN GENERAL YOUR BC ROASTER COMES MOSTLY ASSEMBLED.



PLEASE NOTE: THE SINCE THE 2017 LINE THE BC MODELS HAVE THE DIRECT-CONNECT CHAFF UNITS SO DON'T NEED THE INFORMATION ON CONNECTING CHAFF

PARTS TO YOUR ROASTER:

1. MAIN UNIT
2. CHAFF UNIT
3. CHAFF FAN/BLOWER
4. HOPPER

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5. FLEXIBLE HOSE (ONLY ON SOME MODELS AND FOR **TEMPORARY USE ONLY**)
6. USB CORD (SINCE 2019 YOU MAY GET A **BLUETOOTH DONGLE**)

SIMPLE ASSEMBLY

ALL 2017 AND UP MODELS HAVE DIRECT CONNECT CHAFF UNITS

VIDEOS ONLINE EXPLAIN ASSEMBLY

ATTACH EXHAUST PIPES:

YOU MAY CHOOSE TO USE SOLID STAINLESS STEEL DUCT PIPE, CHIMNEY OR WOOD BURNING STOVE PIPE OR EVEN FLEXIBLE METAL PIPES. (MOST FLEXIBLE PIPE CANNOT BE CLEAN AND MUST BE REPLACED EVERY FEW MONTHS. SO WE HIGHLY RECOMMEND IF YOU ARE INSTALLING ROASTER IN A PERMANENT LOCATION THAT YOU USE SOLID STEEL PIPES RATED AT 500F ON CHAFF EXHAUST. OR FLEXIBLE SS PIPING MAY BE USED.

(SEE OUR PIPE RATINGS & EXHAUST SETUP INFORMATION ON THE TECH PAGE AT BUCKEYECOFFEE.COM)

IF YOU ARE USING YOUR UNIT ON A CART AND CARTING TO DRIVE FOR USE YOU CAN GET BY WITH A PIPE AND CHIMNEY CAP FOR UNIT. THEN USING FLEXIBLE METAL PIPING THAT IS ALUMINUM RATHER THAN STAINLESS STEEL BUT MUST STILL BE REPLACED EVERY FEW MONTHS AS THESE PIPES DETERIORATE AND CANNOT BE CLEANED. FOR SOLID PIPES WE RECOMMEND YOU USE A CHIMNEY BRUSH AND HANDLE SO AS TO CLEAN SUET OR CHAFF FROM PIPES EVERY FEW MONTHS AS IT WILL BUILD UP ON WALLS OF PIPES. A WET/DRY VACUUM CAN BE HELPFUL IN CLEANING CHAFF ALSO.

ATTACH PIPES:

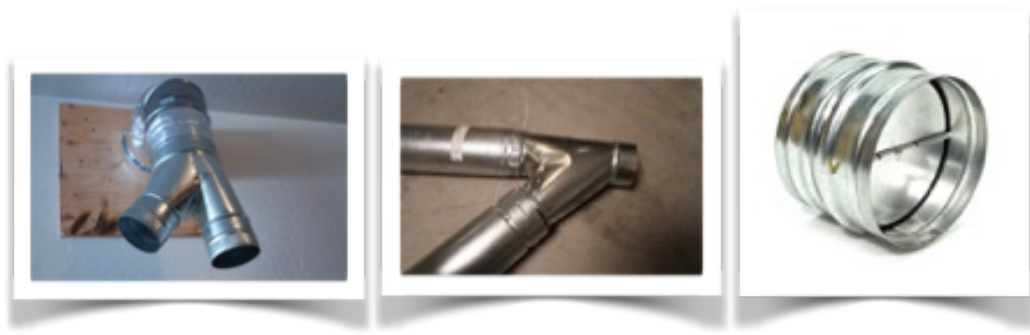
YOUR UNIT MAY OR MAY NOT COME WITH A SMALL PIECE OF FLEXIBLE PIPING. **THIS PIPE IS SUITABLE ONLY FOR TESTING UNIT AND SHOULD NOT BE USED IN A REGULAR SETUP.**

YOU HAVE TWO EXHAUSTS COMING OFF ROASTER. ONE FROM COOLING TRAY AND ONE FROM CHAFF UNIT. BOTH NEED PIPED OUT OF BUILDING. YOU CAN CHOOSE TO RUN BOTH PIPES OUTSIDE SEPARATELY OR YOU CAN RUN PIPES TOGETHER AND RUN ONE PIPE OUTSIDE.

PIPE ONE WAY BACKDRAFT OR BLAST DAMPER:

IF RUNNING TWO PIPES INTO ONE YOU **MUST** USE A ONE WAY DAMPER WHERE COOLING TRAY PIPE CONNECTS TO EXHAUST PIPE FROM CHAFF UNIT. IF YOU FAIL TO DO SO SMOKE FROM EXHAUST PIPE WILL BLOW INTO COOLING TRAY AND FILL BUILDING WITH SMOKE AND CHAFF. **SEE PICTURES BELOW**

BACKDRAFT DAMPER



BY USING A CONNECTOR PIPE AS SEEN HERE YOU CAN ATTACH BOTH EXHAUST VENTS TO ONE PIPE SAVING MONEY ON PIPE AS WELL AS SPACE AND INSTALLATION CHARGES. IF YOU PREFER YOU CAN USE TWO PIPES ATTACHED TO ONE VENT NEAR WALL OR WINDOW.



VERY IMPORTANT:

THERE ARE TWO EXHAUSTS THAT COME OFF ROASTER. THE MAIN EXHAUST IS OFF CHAFF UNIT. A 2ND EXHAUST COMES OFF COOLING TRAY. **YOU SHOULD USE TWO EXHAUST PIPES OUT OF BUILDING.**

IF YOU DECIDE TO RUN COOLING EXHAUST INTO CHAFF EXHAUST IT MUST HAVE A BACKDRAFT DAMPER AT THE END OF COOLING EXHAUST. IF THE CUSTOMER CHOOSES THIS OPTION IT IS HIS RESPONSIBILITY (NOT OURS) TO HAVE THIS INSTALLED PROPERLY.

SPECIAL NOTICE TO INSTALLERS & LOCAL GOVERNMENT:

COMMERCIAL ROASTER EXHAUST INSTALLATION

BUCKEYE ARIZONA ROASTING COMPANY LLC IS THE IMPORTERS OF THE BC ROASTER, ARIZONA, SEDONA & PHOENIX ORO COMMERCIAL COFFEE ROASTERS. ALL ABOVE NAMED ROASTERS ARE TO BE INSTALLED WITH PROPER EXHAUST PIPING WITH THE SAME SAFETY FEATURES AND CARE AS WOOD BURNING OR PELLET STOVES. EITHER STAINLESS STEEL SINGLE OR DOUBLE WALL PIPING OR STAINLESS STEEL FLEXIBLE PIPING THAT CAN HANDLE TEMPERATURES TO 500F AND ALL PIPE MUST BE PROPERLY SEALED WITH HIGH HEAT SEALANT, CLAMPS AND HEAT TAPE IF NEEDED. (POSITIVE PRESSURE PIPING) PIPE EXITING ROOF OR WALL SHOULD BE INSULATED WITH HEAT APPROVED INSULATION.

SOME ROASTERS HAVE TWO EXHAUST VENTS AND IT IS ALWAYS BEST TO EXHAUST BOTH OUT OF BUILDING WITH SEPARATE PIPING. IF YOU MUST JOIN PIPES TOGETHER A SEALED BACKDRAFT DAMPER MUST BE USED WHERE COOLING TRAY EXHAUST MEETS EXHAUST PIPE AFTER CHAFF UNIT USING A “Y” CONNECTOR. BUT A SEPARATE PIPE IS PREFERRED FOR BOTH EXHAUST CONNECTIONS.

PLEASE CONSULT USER MANUAL FOR MORE DETAILS OR CONTACT US DIRECT AT TECH@BUCKEYECOFFEE.COM. A LIST OF SUPPLIERS OF PROPER STOVE TYPE PIPING CAN BE FOUND IN MOST MANUALS.

INSTALLERS ASSUME FULL LIABILITY FOR INSTALLATION WORK.

**BUCKEYE ARIZONA ROASTING CO. LLC PHONE:
623.332.1360**

FOR PERMANENT INSTALLATION WHERE CUTTING THROUGH A WALL IS REQUIRED:

EXTREME CARE IS REQUIRED WHEN CUTTING INTO ANY COMMERCIAL OR RESIDENTIAL WALL AS EITHER WATER OR ELECTRICAL LINES MAY RUN THROUGH THE AREA YOU PLAN TO VENT. WE RECOMMEND YOU USE A PROFESSIONAL TO INSTALL VENTS THROUGH PERMEANT WALLS AS PERMITS MAY BE REQUIRED IN YOUR STATE OR CITY PLUS DANGERS EXIST IN BLINDLY CUTTING INTO WALL. FOR EXPERIENCED PERSONNEL WE RECOMMEND YOU USE A RECIPROCAL SAW. THIS SAW ALLOWS USER TO CUT DRYWALL

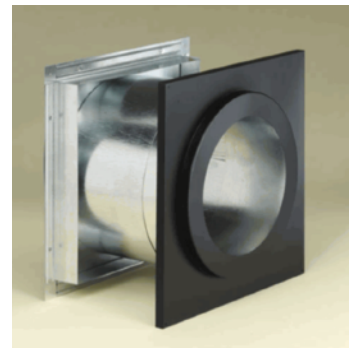
WITHOUT CUTTING MUCH BEYOND WALL BOARD SO AS TO AVOID DAMAGE TO INTERIOR FIXTURES. A SIMPLE VIDEO IS FOUND ON OUR WEBSITE ON THE TRAINING PAGE._

VENTS, CHIMNEY CAPS & INSULATION:

CHECK WITH YOUR LOCAL BUILDING CODES TO MAKE SURE YOU FOLLOW LEGAL PROCEDURES FOR YOUR AREA. ALSO ANYTIME A HEATED PIPE COMES INTO CONTACT WITH BUILDING IT MUST BE INSULATED WITH **APPROVED DUCT INSULATION**. SEE LOCAL BUILDING CODES FOR YOUR AREA. SEE SAMPLE:



USE A WALL THIMBLE OR DOUBLE WALL PIPE & FIREPROOF INSULATION WHEN GOING THROUGH WALLS, CEILINGS OR ROOFS.



CONNECTING AND SECURING ALL PIPES:

A NUMBER OF OPTIONS EXIST TO CONNECT PIPES TO PREVENT SMOKE FROM LEAKING INTO BUILDING. THERE ARE VARIOUS CLAMPS, HEAT TREATED CAULKING AND HEAT RESISTANT DUCT TAPE. MAKE SURE THE METHOD USED IS APPROVED IN YOUR AREA. **(YOU MUST MAINTAIN POSITIVE AIR PRESSURE WHEN VENTING OUT OF BUILDING)**



COMMERCIAL ROASTER VENTING

OUR COMMERCIAL ROASTERS HAVE SPECIFIC VENTING REQUIREMENTS. COMMERCIAL ROASTERS WORK DIFFERENTLY THAN NEGATIVE PRESSURE VENTING SYSTEMS: COMBUSTION GASES, SMOKE, MOISTURE FROM COFFEE, AND SOME CONDENSED COFFEE BEAN OILS ARE VENTED OUT OF BUILDING WITH AN EXHAUST FAN THAT IS A HIGHER PRESSURE THAN THE NORMAL ATMOSPHERIC AIR IN BUILDING. THEREFORE THIS FALLS INTO THE CATEGORY KNOWN AS CLASS 111 POSITIVE PRESSURE SYSTEMS AND REQUIRES VENTING THAT HANDLES THIS PRESSURE PLUS HEAT.

AVOID NEGATIVE PRESSURE VENTING (SUCH AS CLASS B,L OR A VENTING) MAKE SURE ALL EXHAUST PIPING IS RATED FOR AT LEAST 500F DIRECTLY OFF CHAFF UNIT AND YOU ALLOW A REMOVABLE CAP TO CLEAN PIPE VENTING WITH A PROPER PIPE BRUSH EVERY FEW MONTHS. (DEPENDING ON USAGE YOU MAY NEED TO CLEAN VENTING PIPES MORE OFTEN)

WHERE LOCAL REGULATIONS PERMIT WE RECOMMEND NORDBAB QF VENTING OR SIMILAR CLASS 111 POSITIVE PRESSURE VENTING AND CAN BE DISASSEMBLED FOR EASY CLEANING.

KEY POINTS:

- + EXHAUST PIPING SHOULD BE POSITIVE PRESSURE AND OR PROPERLY HEAT SEALED
- + THERE SHOULD BE PIPE CAPS OR EASY ACCESS TO CLEAN AND MAINTAIN PIPES
- + PIPE THAT COMES DIRECTLY OFF CHAFF UNIT SHOULD BE RATED AT MINIMUM 500F
- + ANY PIPE GOING THROUGH A WALL OR CEILING OR ROOF SHOULD BE PROPERLY INSULATE

PORTABLE SETUP

MANY CUSTOMERS USE A PORTABLE SETUP ON SMALLER ROASTERS. YOU CAN USE THIS METHOD BY PUTTING A SMALL ROASTER SUCH AS THE 1.5 ON A CART AND CARTING IT OUTSIDE LIKE A GRILL TO ROAST WITH OR SIMPLY LEAVING IN GARAGE OR BUILDING AND MOVING IT TO ROAST AREA AND THEN USING FLEXIBLE PIPE TO RUN SMOKE OUTSIDE THROUGH A DOOR OR WINDOW. THERE ARE MANY OPTIONS. JUST BE SAFE AND FOLLOW THE CODES ALLOWED IN YOUR AREA.



USE A HEAVY DUTY CART WITH QUALITY WHEELS

4. TECHNICAL INFORMATION AND MACHINE PARTS

LISTED BELOW IS GENERAL INFORMATION AND STATS ON BC ROASTERS

PARTS TO ELECTRIC MODELS

ELECTRIC CONTROL PANEL:

(NOTE: ON 2018 AND NEWER MODELS KEEP THE HOT AIR ADJUSTMENT FAN ON 100% AND USE THE MANUAL DIAL DAMPER TO CONTROL AIRFLOW)



1. Hot air temperature: Display the temperature of hot air.
2. Bean temperature: Display the temperature of beans inside the drum.
3. Timer: Display the heating time.
4. Hot air adjust: Change the hot air fan speed to adjust the hot air.
5. Heating adjust: Change heating power of the heating rods to adjust heating temperature.
6. Power: Press the button to turn the power.
7. Heating: Press the button, the heating rods can be heated by electricity.
8. Timing: Press the button, start time; press again, pause time.
9. Cooling: Press the button, the cooling fan start exhaust.
10. Mixing: Press the button, mixing motor will drive the mixing blade begin to rotate.



IMPORTANT NOTE ON GAS MODELS:

DO NOT RUN ROASTER IF FLAME IS NOT CONTROLLED AND BLUE

SEE SPEC SHEETS FOR UPDATED STATS ON THE NEW MODELS:

***** ALWAYS COOL ROASTER TO ROOM TEMPERATURE BEFORE
TURNING OFF AT END OF DAY *****

Gas Type



II. Description of Product Appearance



SEASONING DRUM?

YOUR ROASTER HAS BEEN TESTED TWICE AND WE HAVE HAD TWO ROASTS RAN THROUGH DRUM DURING TESTING AT FACTORY AND FINAL TESTING WHEN AT OUR WAREHOUSES IN ARIZONA. UNLIKE SOME MANUFACTURES THAT DO NOT TEST EQUIPMENT UNDER NORMAL AND EXTREME CONDITIONS WE PERFORM HEAT TESTS TO REMOVE ANY EXCESSIVE GREASE OR OILS ON DRUM FROM MANUFACTURING AS WELL AS RUNNING TEST ROASTS ON YOUR UNIT. THEREFORE WHEN YOU RECEIVE ROASTER SEASONING DRUM IS NOT NECESSARY. BUT IF YOU PREFER TO DO FURTHER SEASONING THAT IS YOUR CHOICE.

NOTE:

WE ONLY USE QUALITY BEANS WHEN SEASONING AND TEST ROASTING YOUR ROASTER. WHILE WE CLEAN ROASTER COMPLETELY A FEW BEANS MAY STICK TO INSIDE DRUM AND NOT COMPLETELY DRY PRIOR TO SHIPMENT. IF YOU FIND A FEW BEANS IN DRUM WHEN SETTING UP PLEASE REMOVE AS THESE ARE PART OF THE SEASONING PROCESS THAT SAVES YOU EXTRA TIME, WORK AND COST

MAINTENANCE DURING ROASTING:

IT IS VITAL YOU KEEP THE CHAFF UNIT CLEANED AND DEBRIS TRAY EMPTIED BETWEEN ROASTS AS WELL AS MONITOR YOUR AIRFLOW AND KEEP ALL AIRWAYS CLEAN WHILE ROASTING. OTHER MAINTENANCE CAN BE PERFORMED AFTER OR BEFORE YOU BEGIN A ROAST DAY. SEE MAINTENANCE IN MANUAL AND ONLINE VIDEOS.

END OF DAY:

WHEN YOU ARE FINISHED ROASTING AT DAYS END IT'S VITAL YOU **COOL DOWN THE ROASTER COMPLETELY BEFORE TURNING OFF MACHINE:**

FAILURE TO DO SO WILL IN TIME DAMAGE ELECTRONIC PARTS IN ELECTRICAL ROOM AND VOID WARRANTY. THE WAY TO COOL ROASTER IS TO TURN OFF ALL GAS AND HEAT. TURN THE MANUAL DIAL DAMPER UP TO 10 AND OPEN BOTH HOPPER CHUTE AND DRUM DOOR. SOME CLIENTS EVEN PUT A SMALL FAN IN COOLING TRY TO BLOW COOL AIR INTO DRUM AND UP AND OUT EXHAUST. DOUBLE ROASTERS WILL TAKE 2-3 TIMES LONGER TO COOL THAN A SINGLE WALL. PERHAPS EVEN 45 OR MORE MINUTES. DURING THIS TIME THERE ARE PLENTY OF OTHER JOBS THAT CAN BE DONE IN THE ROASTERY. ONCE MACHINE IS COOLED NEAR TO ROOM TEMPERATURE YOU CAN TURN OFF MACHINE. MOST DETAILED MAINTENANCE CAN EASILY BE COMPLETED IN THE MORNING BEFORE PREHEATING ROASTER AS UNIT WILL STAY HOT FOR A LONG TIME AFTER YOU FINISH FINAL ROAST AT DAY END. BUT ALWAYS CLEAN DEBRIS FROM CHAFF FAN DAILY AS WELL AS DEBRIS AND CHAFF FROM CHAFF UNIT AND DEBRIS TRAY THROUGHOUT THE ROASTING DAY. CHAFF UNIT CAN BE EMPTIED IN BETWEEN ROASTS BY TURNING FAN POWER OFF MOMENTARILY

ROASTING WITH A BC DOUBLE WALL DRUM:

THERE ARE BOTH ADVANTAGES AND TRADE OFFS WHEN ROASTING WITH A DOUBLE WALL DRUM. HERE ARE SOME OF THEM:

ADVANTAGES:

1. BY HAVING 2 LAYERS OF STEEL WITH AN AIR CUSHION BETWEEN IT HELPS TO PROTECT BEANS FROM CHANCES OF BURNING, TIPPING OR OTHER EFFECTS DUE TO EXCESSIVE CONDUCTIVE HEAT FROM DRUM.
2. GENERALLY IT ALLOWS SMALLER BATCH ROASTING AND GREATER EASE OF CONTROL WHEN ROASTING BATCHES PERHAPS EVEN 1/2 THE SIZE OF NORMAL MINIMUM ROASTS ON A SINGLE WALL ROASTER.

TRADEOFFS:

(GENERALLY WE RECOMMEND A DOUBLE WALL ROASTER ON SIZES ABOVE 3LB)

1. LONGER PREHEAT TIMES: DUE TO THE INCREASED THICKNESS OF DRUM AND AIR CUSHION BETWEEN WALLS IT MAY TAKE 2-3 TIMES LONGER TO PREHEAT AND TWICE AS LONG TO COOL DOWN ROASTER AT DAYS END.
2. DIFFERENT SETTINGS ON ROASTER: GAS PRESSURE SETTINGS AND EVEN AIRFLOW SETTINGS WILL BE SOMEWHAT DIFFERENT THAN ROASTING ON THE SAME MODEL SINGLE WALL DRUM. SO THERE MAY BE A BIT OF LEARNING CURVE OR NEED TO ADJUST YOUR PROFILES TO THIS ROASTER
3. COST: OUR DOUBLE WALL DRUM ROASTERS CAN COST \$500-\$1000 MORE THAN EXACT MODEL IN SINGLE WALL.

GENERAL ROASTING PROCEDURES IN A DOUBLE WALL (MODELS AND SIZES MAY VARY)

WHEN STARTING PRESS IGNITER BUTTON (ROASTING BUTTON ON BC MODELS) WHILE TURNING UP GAS TO 1-2 KPA.(0.25-1KPA ON NATURAL GAS) (MOST SETTING DESCRIPTIONS ARE WHEN USING AN LPG GAS ROASTER- SETTINGS WOV GAS WILL BE MUCH LOWER ON NATURAL GAS MODEL) YOU MAY NEED TO TURN UP MANUAL DAMPER TO 5-8 TO GET ENOUGH AIR IN BURNER ROOM TO QUICKLY PULL GAS UP TO IGNITER NEEDLE. IF IGNITOR DOES NOT LIGHT BURNERS WITHIN A FEW SECONDS THE IGNITOR WILL SHUT DOWN THE SOLENOID TO PREVENT EXCESSIVE GAS BUILDUP IN BURNER ROOM AND SEND OUT AN ALARM.

ALARM. IF THIS HAPPENS PRESS IGNITOR BUTTON OFF THEN ON AGAIN TO REATTEMPT LIGHTING OF BURNERS.

Once lit you can turn down airflow to 2-4. During preheat phase and drying phase you will want burners to heat drum with conductive heat. Therefore you will want to reduce the airflow through drum.

NOTE ON AIRFLOW: Generally during the early stages of roasting if you increase the airflow too much this may result in slowing the RoR as cooler air may be pulled through drum. But during the Later part of roast increasing airflow may result in an increased RoR as more hot air is running through drum. For more details see our manual on airflow.

- Preheat time from typical ambient temperature of 70-80F may range from 20-30 minutes.

There are a couple ways you could preheat roaster. One way is to just heat roaster slowly with low airflow to 450-500f and then shut off gas and cut off airflow to 0 on damper and let temps drop for 2-3 minutes to get a true reading on the actual metal temps

in drum. Another way is explained next: (If you plan to charge beans at 400f you could set

the BT temperature device to 400-425 and airflow low at perhaps 2 on manual damper and

allow metals through drum to fully heat. To ensure drum temps are as hot as the temperature gauge suggests on BT you can turn off gas and lower airflow to see if temperature steadies in the range you plan to charge beans:



+IMAGE TO LEFT: SHOWS **BT** STEADY AROUND 392F AFTER GAS IS OFF AND AIRFLOW TURNED DOWN FOR A COUPLE MOMENTS AFTER A SLOW PREHEAT TO 500F TO GET A TRUE READING OF EMPTY DRUM METALS TEMPERATURE.

+ONCE ROASTER IS THOROUGHLY PREHEATED TO DESIRED CHARGE TEMP YOU CAN TURN GAS BACK ON, RESET TIMER AND CHARGE BEANS INTO DRUM. CLOSE HOPPER DOOR AND MAKE SURE AIRFLOW IS AT LEAST 1-2 WHEN RELIGHTING BURNERS.

+DURING THE INITIAL DRYING PHASE OF ROAST (FROM CHARGE TO 330F) YOU ARE MAINLY HEATING FROM CONDUCTIVE HEAT. THE TEMPS FOR BT WILL DROP PERHAPS 200F OR MORE BUT SHOULD START TURNAROUND IN LESS THAN 2 MINUTES FROM CHARGE:



•HERE SEEN TURNAROUND AT ABOUT 170F ON BT AT ABOUT 1:40 MINUTES. WITH A DOUBLE WALL DRUM IT'S BEST NOT TO CUT GAS WHEN CHARGING BEANS INTO DRUM AS SOME DO FOR THE FIRST 30 SECONDS OR SO. IT'S BEST TO KEEP STEADY HEAT ON THE DRUM.



✦AT THIS POINT YOU WILL GENERALLY HAVE GAS PRESSURE MUCH HIGHER FOR A LOAD THAN YOU WOULD ON A SINGLE WALL. SEEN HERE BELOW IS AN LPG MODEL AT ABOUT 4.2KPA WITH A FULL LOAD OF BEANS IN DRUM. (A SINGLE WALL DRUM MAY ONLY BE SET AT 3KPA FOR SIMILAR ROAST) ON A GAS ROASTER YOUR MAXIMUM PRESSURE MAY ONLY BE 1-1.75KPA DEPENDING ON THE WATER COLUMN PRESSURE PIPED INTO YOUR BUILDING.

3 KEY PHASES DURING ROASTING

1. **DRYING PHASE (CHARGE TO 330F)**
2. **BROWNING OR MAILLARD PHASE (330F TO 1ST CRACK)**
3. **ROASTING PHASE (FIRST CRACK TO END ROAST)**

1.DURING DRYING PHASE

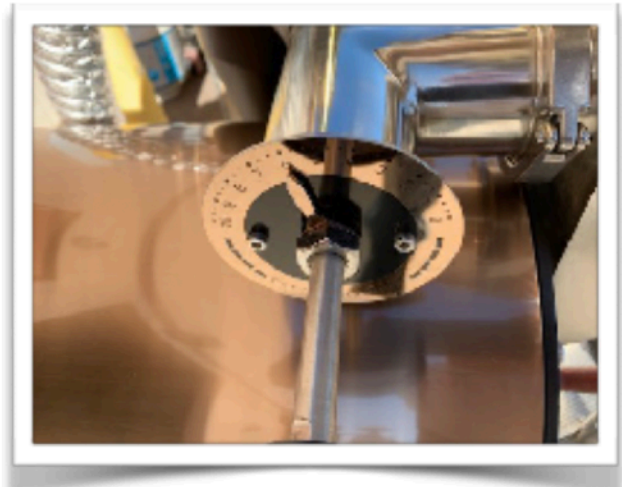
✦BECAUSE ROASTING WITH A DOUBLE WALL DRUM CUSHIONS HEAT ON INNER LAYER OF DRUM WITH TWO LAYERS OF STEEL BETWEEN A CUSHION OF AIR YOU MAY NEED TO ADJUST AIRFLOW DIFFERENTLY THAN YOU WOULD IN A SINGLE WALL DRUM. AS A SUGGESTED STARTING POINT IN ROAST YOU MAY START AIRFLOW AROUND 2 ON MANUAL DAMPER. BUT YOU MAY SEE THE NEED FOR VARIOUS REASONS TO INCREASE THE AIRFLOW TO 4 OR EVEN 5 DURING DRYING PHASE BASED IN PART ON THE HOT AIR (ET) RUNNING THROUGH DRUM. BUT YOU WANT TO BE SURE DURING THE EARLY STAGES OF ROASTING NOT TO INCREASE AIRFLOW TOO MUCH AS THIS COULD SLOW THE ROR (RATE OF RISE). OTHER REASONS FOR INCREASING AIRFLOW INCLUDE TO AID IN REMOVING CHAFF FROM DRUM AS WELL AS PULL SMOKE FROM DRUM. GENERALLY SMOKE BECOMES A BIGGER FACTOR DURING THE BROWNING OR MAILLARD PHASE AND INCREASES RAPIDLY AT THE START OF FIRST CRACK. THERE IS NO EXACT SCIENCE IN THE TIMING OF DRYING PHASE. YOU DO NOT WANT DRYING PHASE TO BE SO FAST THAT IT EXTRACTS MOISTURE TOO FAST. BLASTING WITH TOO MUCH AIR AS SEEN IN SOME FLUID BED ROASTERS WILL HAVE A NEGATIVE EFFECT ON DEVELOPING TASTES IN ROAST. DEPENDING ON SIZE OF ROAST YOUR TARGET MAY BE 3.5- TO UP TO 7 MINUTES FOR THE DRYING PHASE. SOME EXPERTS SAY THIS PHASE SHOULD NOT LAST FOR MORE THAN 5 MINUTES BUT MANY REAL WORLD ROASTERIES VARY IN THIS RANGE OF TIME.

+ **MAILLARD PHASE:** NEXT BEGINS THE MAILLARD PHASE OR BROWNING PHASE WHICH RANGES FROM 330F UP TO THE BEGINNINGS OF FIRST CRACK (DEPENDING ON BEAN TYPE FIRST CRACK COULD BE ON AVERAGE BETWEEN 375-400F BEAN TEMP GENERALLY) DURING THIS PHASE MOST ROAST MASTERS ATTEMPT TO SLOW THE CURVE A BIT BUT STILL KEEP A STEADY HEAT SO WHEN BEANS GO INTO FIRST CRACK THEY AVOID WHAT IS COMMONLY CALLED THE “FLICK” & “CRASH” IN THE ROR. (FOR MORE DETAILS ON THIS SEE: [HTTP://BLOG.OILSLICKCOFFEE.COM/2016/11/06/AVOID-FLICK-CRASH/](http://blog.oilslickcoffee.com/2016/11/06/avoid-flick-crash/)) AS YOU ARE GOING THROUGH THE MAILLARD PHASE YOU ARE SLOWING THE RATE OF RISE WHILE STILL KEEPING THE PROPER MOMENTUM OF INCREASE. ONE DESCRIPTION GIVEN IS AS YOU LOOK AHEAD WHILE TRAVELING DOWN THE ROAD YOU SEE A RED LIGHT FAR AHEAD SO YOU BEGIN TO LET OF THE GAS SOME WHILE STILL MOVING FORWARD BUT NOT ACCELERATING OR OR INCREASING SPEED. I LIKE TO DESCRIBE IT LIKE MOUNTAIN CLIMBING. WHILE IN THE EARLY PART OF THE CLIMB YOU ARE CLIMBING AT A SHARPER INCLINE WHEN GETTING CLOSER TOWARD THE PEAK OR TOP THE MOUNTAIN IS ROUNDING OFF AND YOU ARE STILL MOVING FORWARD BUT NOT ADVANCING TOWARD AS HIGH OF AN ALTITUDE AS PREVIOUS. THIS MAILLARD PHASE MAY LAST A FEW MOMENTS. DURING SUCH TIME YOU ARE LIKELY INCREASING YOUR AIRFLOW AS WELL. SOME ROAST MASTERS WILL SLIGHTLY INCREASING THE DRUM SPEED BY 5-10% AS THE NEAR FIRST CRACK. THIS TOO CAN HELP TO FORWARD THE MOMENTUM OF THE ROR.

+ **ROASTING PHASE:** THE ROASTING PHASE IS THE MOST CRITICAL TIME OF ROASTING. CHANGES ARE TAKING PLACE EVERY 15 SECONDS OR SO. THIS PHASE BEGINS AT THE BEGINNING OF FIRST CRACK. THIS PHASE MAY BE RELATIVELY SHORT FOR VERY LIGHT ROASTS OF MAY BE SOMEWHAT LONGER FOR MORE DEVELOPED AND EVEN INTO DARKER ROASTS. GENERALLY THIS PHASE MAY LAST AS LITTLE AS JUST A MINUTE TO UP TO A FEW MOMENTS DEPENDING ON RoR AND FINAL DESIRED BT. DURING THE ROASTING PHASE MOST ROAST MASTERS WILL INCREASE THE AIRFLOW TO HIGH. IF USING A FAN SPEED RATHER THAN A MANUAL DIAL DAMPER YOU WOULD ADJUST TO HIGH BUT NOT FULL AIRFLOW. YOU WANT TO PULL OUT THE CHAFF AND SMOKE BUT NOT REMOVE ALL THE AROMAS IN THE BEANS. DURING THE LATER PART OF THE ROAST WHILE SLOWING DOWN THE RoR YOU NEVER WANT THE BT TO SLOW EXCESSIVELY OR STALL OUT AS THIS WILL CAUSE FLAVORS TO BECOME DULL OR BLAND. IN SOME CASES THE MOMENTUM OF ROAST IS MOVING ALONG AT SUCH A PROGRESSIVE PACE THAT YOU MAY CHOOSE TO CUT BACK GAS QUITE A BIT OR EVEN TURN OFF GAS COMPLETELY IF YOU CAN PREDICT THAT ROAST WILL EASILY CARRY THROUGH TO END WITHOUT STALLING. DURING THIS PART OF THE ROASTING CYCLE YOU WILL BE CHECKING THE TRIER SPOON EVERY 15 SECONDS AND WHEN BEANS ARE AT THE DESIRED DARKNESS AND TEMPERATURE DESIRED YOU WILL CUT OFF IGNITOR AND TURN ON COOLING FAN AND MIXING ARMS AND DROP BEANS INTO COOLING TRAY. ONCE ALL BEANS ARE OUT OF DRUM CLOSE DOOR & YOU ARE READY TO CHARGE A NEW ROAST INTO DRUM WHILE COOLING PREVIOUS ROAST IN COOLING TRAY. SO ALWAYS HAVE HOPPER FULL AND READY FOR YOUR NEXT ROAST BEFORE GOING INTO. THE ROASTING PHASE

AIRFLOW:

ON THE BC-1-5 THERE IS A HOT AIR VOLUME KNOB ON CONTROL PANEL. THIS SHOULD ALWAYS BE SET TO 100 WHEN USING THE MDDS (MANUAL DIAL DAMPER SYSTEM) TO CONTROL AIRFLOW. IT SHOULD ONLY BE TURNED DOWN WHEN YOU ARE IN BETWEEN ROASTS IF YOU NEED TO OPEN CHAFF DOOR TO EMPTY CHAFF. BUT MUST BE TURNED BACK TO 100% ONCE RESUMING ROASTING



NOTES:

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)

BUCKEYECOFFEE.COM

TECH@buckeyecoffee.com

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



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 unto top of chaff unit. (some models just sit on chaff unit and others may attach with bolts)



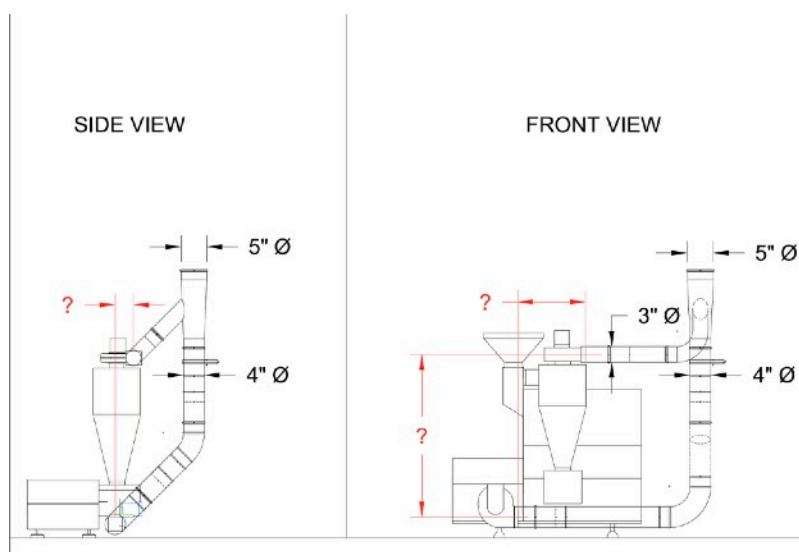
IMPORTANT: Always connect aviation plug to roaster while unit is unplugged. Never attach or remove aviation plug when unit is plugged in or machine is on.

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)

GENERALLY WE RECOMMEND RUNNING TWO SEPARATE PIPES OUT OF BUILDING. BUT IF YOU HAVE LONG PIPING THEN YOU MAY NEED TO RUN BOTH PIPES OUT TOGETHER. WHEN DOING SO YOU MUST ATTACH A BLAST OR BACKDRAFT DAMPER OFF COOLING TRAY PIPE BEFORE IT CONNECTS TO MAIN EXHAUST OFF CHAFF UNIT.

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



STARTING AND PREHEATING A GAS ROASTER:
BC-1 THROUGH BC-5 ROASTERS

IMPORTANT NOTE:

THE MORON CONTROLS ON A BC ROASTER ARE SET TO 500F AS YOU WILL NEVER NEED (OR WANT) TO HEAT ROASTER THAT HOT. THE BT CONTROL IS SET TO TURN OFF GAS IN THE EVENT A PERSON FAILS TO CONTROL ROASTER AND LETS IT OVERHEAT TO 500F. **BE SURE WHEN PREHEATING ROASTER YOU DO NOT PREHEAT IT PAST 400-450F**

TURNING ON AND STARTING A GAS ROASTER:

TO TURN ON A GAS ROASTER MAKE SURE THAT GAS AND ELECTRIC ARE FIRST PROPERLY SETUP AND NO LEAKS IN GAS LINES. MAKE SURE BUILDINGS GAS LINE IS OPEN OR IF USING PROPANE (LPG) THAT GAS TANK IS OPEN.

1. TURN ON POWER BUTTON
2. MAKE SURE THE AIRFLOW FAN IS TURNED ON TO 100%
3. ADJUST THE MANUAL DAMPER BETWEEN 1-6 TO ALLOW ENOUGH BUT NO TOO MUCH AIR TO START FLAME (YOU MAY NEED TO TOGGLE AIRFLOW ON FIRST ROAST TO GET STARTED)
4. MAKE SURE YOUR DRUM IS ON AND MOVING AND SET DRUM SPEED BETWEEN 7-8 ON MOST ROASTERS. (BEANS SHOULD TUMBLE IN DRUM AT A 45 DEGREE ANGLE)
5. PRESS IGNITOR BUTTON ON (ROASTING OR HEATING BUTTON BESIDE POWER BUTTON)
6. TURN NEEDLE GAS VALVE COUNTERCLOCKWISE TO OPEN GAS INTO BURNER ROOM BETWEEN 1-2 ON LPG (NATURAL GAS WILL BE LOWER PERHAPS 0.25-1KPA)
7. YOU MAY NEED TO ADJUST THE MANUAL DAMPER BY OPENING IT OR CLOSING IT SOME TO GET GAS TO REACH THE IGNITOR NEEDLE IN BURNER ROOM.
8. IF GAS DOES NOT LIGHT WITHIN A FEW SECONDS THE IGNITOR WILL SHUT OFF AND CUT OFF GAS FROM FLOWING INTO BURNER ROOM AND SET OFF AN **ALARM SOUND** ALARM. IF THIS HAPPENS SIMPLY TURN OFF THE IGNITOR BUTTON AND THEN TURN ON ADJUSTING GAS AND AIRFLOW AS NEEDED TO LIGHT BURNERS.
9. ONCE BURNERS LIGHT YOU CAN TURN GAS UP TO 2-3 (0.50-1.0 ON NATURAL GAS MODELS) OR HIGHER IN LARGER ROASTERS TO 3-4.5 (1.0 TO 1.75 ON NATURAL GAS MODELS) TO PREHEAT ROASTER. DURING PREHEAT IT IS BEST TO KEEP AIRFLOW LOW (ABOUT 2) TO ALLOW THE METALS IN DRUM TO THOROUGHLY HEAT. IF USING A DOUBLE WALL DRUM ROASTER THIS WILL TAKE LONGER. (SEE SUBJECT: ROASTING WITH A DOUBLE WALL DRUM)
10. *** (NEVER PREHEAT ROASTER TO 500F) ***
11. PREHEAT TIMES WILL VARY DEPENDING ON AMBIENT TEMPERATURE IN BUILDING AND HOW HIGH YOU HAVE GAS TURNED UP. **NOTE: IF ROASTING IN A HIGHER ALTITUDE YOU MAY NEED TO TURN UP GAS HIGHER AND INCREASE AIRFLOW.**
12. SOME SINGLE WALL DRUMS WILL PREHEAT IN ONLY 5-10 MINUTES (WE GENERALLY TAKE TEMPS HIGHER THAN PLANNED CHARGE POINT ON FIRST ROAST AS THE ACTUAL TEMPS OF METALS IN DRUM WILL NOT BE AS HIGH AS SHOWN ON CONTROLS IN FIRST ROAST) DOUBLE WALL DRUMS MAY TAKE TWICE AS LONG TO PREHEAT.
13. ONCE ROASTER IS PREHEATED PROPERLY YOU ARE READY TO BEGIN ROASTING COFFEE.

14. FILL HOPPER WITH THE DESIGNATED AMOUNT OF COFFEE YOU PLAN TO ROAST
15. WHEN YOU ARE AT YOUR DESIRED CHARGE POINT OPEN HOPPER GATEWAY AND LET COFFEE INTO DRUM. (CHARGE TEMPERATURES VARY BASED ON YOUR PREFERENCES. SOME CHARGE REGULAR COFFEE BETWEEN 320F AND 400F. IF ROASTING DECAFFEINATED COFFEE YOU MAY CHARGE IT AT 50-75F AS IT HAS ALREADY BEEN PARTIALLY COOKED TO REMOVE CAFFEINE
16. **GAS PRESSURE:** GAS PRESSURE OR THE AMOUNT OF GAS YOU BURN IN BURNER ROOM WILL VARY DEPENDING ON THE SIZE OF YOUR ROAST AS WELL AS IF ROASTING WITH LPG OR NG. (NG IS A MUCH LOWER PRESSURE GAS)
17. START TIMER WHEN CHARGING BEANS INTO DRUM. CLOSE HOPPER GATEWAY AS SOON AS ALL BEANS GO INTO DRUM. IF PLANNING TO DO BACK TO BACK ROASTS YOU MAY CHOOSE TO RELOAD HOPPER NOW OR WAIT.
18. AIRFLOW DURING DRYING PHASE: FROM THE TIME YOU CHARGE BEANS UNTIL ABOUT 330F THIS IS CALLED THE **DRYING PHASE**. YOU GENERALLY KEEP YOUR AIRFLOW LOWER DURING THE DRYING PHASE. BUT FACTORS SUCH AS CHAFF IN DRUM AND EVEN SMOKE MAY CAUSE YOU TO INCREASE AIRFLOW DURING THIS PHASE. MANUAL DAMPER MAY BE SET BETWEEN 2-4 DURING DRYING PHASE. BUT IF EXCESSIVE CHAFF IS IN DRUM YOU CAN INCREASE OR OPEN UP AIRFLOW EVEN IF JUST TEMPORARY TO PULL EXCESSIVE CHAFF OUT OF DRUM.
19. DRUM SPEED CONTROL: IF YOUR ROASTER IS EQUIPPED WITH DRUM SPEED CONTROL YOU WILL WANT THE BEANS INSIDE DRUM TO TUMBLE AT A 45 DEGREE ANGLE. THIS LIKELY WILL BE ACHIEVED AT DRUM SPEEDS OF 7-8 (NUMBER MAY VARY DEPENDING ON SIZE OF ROASTER). MOST PEOPLE DO NOT CHANGE DRUM SPEED CONTROL DURING ROAST BUT SOME CHOOSE TO DO SO AS ROAST NEARS FIRST CRACK MAY INCREASE IT BY 5-10% WHEN CUTTING BACK ON GAS TO EVEN OUT OR SLOW THE ROR (RATE OF RISE)
20. GENERALLY THE DRYING PHASE WILL LAST ABOUT 5 MINUTES. (TIME OF CHARGE TO 330F) BUT THIS MAY VARY DUE TO MANY FACTORS. DURING DRYING PHASE YOU WILL SEE BEANS TURN FROM DULL GREEN TO YELLOW.
21. FROM THE DRYING PHASE TO FIRST CRACK IS CALLED THE **BROWNING OR MAILLARD PHASE**. THIS WILL BE FROM 330F TO FIRST CRACK. FIRST CRACK MAY VARY GREATLY IN TEMPERATURE DEPENDING ON TYPE OF BEAN BEING ROASTED. SOME START FIRST CRACK AS SOON AS 375F BT WHILE OTHERS MAY BE 400F. THE BROWNING PHASE MAY LAST 2-3 MINUTES DEPENDING ON A NUMBER OF FACTORS. BUT GENERALLY DURING THIS PART OF ROAST **YOU ARE CUTTING BACK A BIT ON THE GAS AND INCREASING AIRFLOW**. AIRFLOW MAY INCREASE TO 5-6 OR MORE IF NEEDED.
22. **ROASTING PHASE:** THIS PART OF THE ROASTING PROCESS IS MOST CRITICAL AS CHANGES ARE TAKING PLACE EVERY 15 SECONDS OR SO. THE ROASTING PHASE BEGINS AT FIRST CRACK AND CONTINUES UNTIL YOU DROP BEANS INTO COOLING TRAY. THIS PROCESS, DEPENDING ON THE TYPE OF ROAST YOU WANT, MAY LAST ONLY A MOMENT UP TO 2-3 MOMENTS. GENERALLY YOU ARE **DECREASING THE HEAT WHILE INCREASING AIRFLOW**. YOU MAY INCREASE AIRFLOW AS HIGH AS 8 OR 9 OR HIGHER DEPENDING ON MANY FACTORS. ALSO SOME WILL INCREASE DRUM SPEED DURING OR JUST BEFORE THIS PHASE.
23. **FINISHING THE ROAST:** DEPENDING ON THE DESIRED EFFECT YOU WANT FOR YOUR ROAST WHEN YOU DECIDE TO DROP BEANS INTO COOLING TRAY YOU WILL CUT OFF THE GAS, TURN ON COOLING FAN AND MIXING ARMS AND DROP ALL BEANS INTO COOLING TRAY.
24. ONCE ALL BEANS ARE IN COOLING TRAY **CLOSE DRUM** DOOR AND YOU ARE NOW READY TO **CHARGE THE NEXT BATCH** OF BEANS INTO DRUM. KEEP IN MIND THAT IF

YOU DID NOT FULLY PREHEAT DRUM ON FIRST ROAST THAT NOW YOUR DRUM IS THOROUGHLY HEATED AND YOU MAY NEED TO ADJUST YOUR HEAT SETTINGS DOWN FROM WHAT YOU HAD IN FIRST ROAST. OF COURSE THIS WILL DEPEND ON MANY FACTORS INCLUDING THE SIZE OF ROAST AND DESIRED EFFECTS YOU CHOOSE IN YOUR ROASTING PROCESS.

25. **END OF DAY: COOLING DOWN THE ROASTER:** ONE OF THE MOST IMPORTANT THINGS TO KEEP IN MIND WHEN YOU HAVE FINISHED ROASTING IS TO PROPERLY **COOL DOWN YOUR ROASTER TO NEAR ROOM TEMPERATURE** BEFORE TURN UNIT OFF. THIS PROCESS MAY TAKE 30-45 MINUTES. IT IS BEST TO TURN MANUAL DIAL DAMPER FULLY OPEN TO 10 AND THEN OPEN DRUM DOOR AND HOPPER GATEWAY AND RUN AIRFLOW AT 100% UNTIL COOL. ALSO BEST ONCE TEMPS IN DRUM COOL TO ABOUT 100F TO LEAVE DOORS OPEN AFTER TURNING OFF UNIT.
(SOME CLIENTS USE AN ADDED FAN PUT AGAINST OPEN FRONT DRUM DOOR WITH HOPPER OPEN TO SPEED UP COOLING PROCESS)
26. **CLEANING UNIT:** ONCE UNIT HAS COOLED IT IS NOW A GOOD TIME TO CLEAN ALL **CHAFF AND DEBRIS** (IF DOING BACK TO BACK ROASTS THE CHAFF UNIT AND DEBRIS TRAY MUST BE CHECKED REGULARLY AND EMPTIED. BEST TO LIFT UP **CHAFF FAN AND USE A BLOWER TO CLEAN SQUIRREL CAGE**. ALSO BRUSH THE COOLING TRAY WITH A SOFT BRUSH TO REMOVE ANY BEANS PIECES THAT MAY BE LODGED IN PERFORATED TRAY. WHEN UNIT IS COMPLETELY COOL (PERHAPS THE NEXT MORNING) YOU CAN **WIPE DOWN ALL SURFACES** WITH A SOFT DRY CLEAN CLOTH.

NOTES:

BC ROASTERS-ROASTING ON A DOUBLE WALL DRUM:

ROASTING COFFEE: IN MOST ALL OF OUR INSTRUCTIONS ON COFFEE ROASTING WE ATTEMPT TO PROVIDE THE BASICS. WE DO NOT GET TOO MUCH INTO THE “ART” OF ROASTING. WITH ART THERE ARE MANY WAYS TO CREATE A FINAL PRODUCT THAT YOU AND YOUR CUSTOMERS WILL ENJOY. LET ME QUOTE THE WORDS OF A WELL KNOWN COFFEE ROASTER:

“THERE ARE MANY THINGS GOING ON IN THE ROASTING ENVIRONMENT THAT WE STILL DON'T UNDERSTAND. ROASTING IS A VERY COMPLEX EVENT. AS ROASTERS, WE SHOULD ALWAYS BE PREPARED TO HAVE OUR THEORIES DISPROVED AND ALWAYS BE RECEPTIVE TO NEW THEORIES—WITH AN APPROPRIATE LEVEL OF SKEPTICISM OF COURSE. DO YOUR OWN EXPERIMENTS. ROAST, CUP, AND ANALYZE EACH BATCH...THE TRUTH IS ALWAYS IN THE CUPPING RESULTS AND WHAT YOU—AND YOUR CUSTOMERS IF YOU ARE SELLING—PREFER.”-MICHAEL IS AN AMERICAN EXPAT LIVING IN SINGAPORE WHERE HE WRITES ABOUT MANY THINGS COFFEE-RELATED. A ROASTER BY TRADE, MICHAEL IS ALSO A LICENSED Q GRADER AND AN AUTHORIZED SCA TRAINER (AST).

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.

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 SITE AS WELL AS FULL MANUAL. IF YOU NEED HELP FEEL FREE TO EMAIL THE TECH DEPARTMENT AT:

TECH@BUCKEYECOFFEE.COM

(GENERAL GUIDELINES- SMALLER ROAST TIMES WILL VARY)

SPECIALITY WHITE COFFEE: TAKE ROAST ONLY TO 335F

LIGHT ROASTING: 8-12 MINUTES

MEDIUM ROASTING: 9-14 MINUTES

DEEP ROASTING: 13-16 MINUTES



COFFEE ROASTING BEAN CHART:

COFFEE ROASTING BEAN CHART:

1. GREEN COFFEE- ONLY BUY QUALITY RAW ARABICA BEANS FROM TRUSTED SUPPLIERS
2. BEANS BEGIN TO PALE AFTER ROASTED FOR SEVERAL MINUTES
3. EARLY YELLOW- YOU WILL BEGIN TO SMELL GRAIN ROASTING SCENT IN AIR
4. YELLOW-TAN
5. LIGHT BROWN
6. BROWN
7. 1ST CRACK STARTS (SEE BEAN HAS EXPANDED IN SIZE)

8.FIRST CRACK DONE- SOME COFFEES PRODUCE LOUD CRACKS FOR A MINUTE OR LONGER WHILE OTHERS ARE RELATIVELY SOFT QUIET AND YOU MUST LISTEN CLOSE TO HEAR. ANY TIME AFTER FIRST CRACK YOU MAY CHOOSE TO END ROAST. GENERALLY YOUR SUPPLIER WILL INFORM YOU WHAT IS THE 'SWEET SPOT' FOR ENDING ROAST. FROM THIS POINT ON YOU CAN TAKE SAMPLES OF ROAST FROM SAMPLE SPOON EVERY 30 SECONDS OR SO TO CUP LATER FOR TESTING.

9.CITY ROAST

10.CITY PLUS

11.FULL CITY

12.FULL CITY PLUS AND 2ND CRACK: (AROUND THIS TIME SECOND CRACK MAY BEGIN. SOME BEANS BEGIN 2ND CRACK RIGHT AFTER FIRST CRACK ENDS AND YOU CAN NOT EVEN TELL THAT SECOND CRACK HAS BEGUN. OTHERS START 2ND CRACK WITHIN ABOUT 3 MINUTES

(AFTER FIRST CRACK BEGINS. 2ND CRACK IS VERY LIGHT AND QUIET YOU MAY NOT HEAR MUCH CRACK OR ANY AT ALL)

13. VIENNA- LIGHT FRENCH (THESE CHANGES NOW TAKE PLACE VERY QUICKLY PERHAPS IN 15-30 SECONDS)

14. FULL FRENCH (ALMOST COMPLETELY BURNT. IF YOU DONT PULL NOW YOU WILL SOON BE THROWING ENTIRE BATCH AWAY.

REMEMBER: BEANS STILL ROAST A BIT WHILE IN

COOLING TRAY. IT IS ALWAYS BEST TO PULL BEANS AND END ROAST JUST AHEAD OF DESIRED ROAST)

15. CHARCOAL=DEAD

16. CALL THE FIRE DEPARTMENT YOU ARE READY TO IGNITE!!!

ALWAYS COOL ROASTER TO ROOM TEMPERATURE AT END OF DAY. OPEN DRUM DOOR AND HOPPER AND TURN UP FAN. THIS MAY TAKE 30-45vMINUTES (LONGER ON DOUBLE WALL DRUM ROASTERS)

CONTROL BEAN HEATING: (TEMPERATURE SHOULD ALWAYS RISE AFTER BOTTOMING OUT. NEVER ALLOW TEMPERATURE TO BEGIN DROPPING WHILE ROASTING)

DURING THE ROASTING PROCESS YOU WILL WANT TO USE THE FOLLOW METHODS TO CONTROL HEATING PROCESS: AFTER BEANS BEGIN HEATING IN DRUM AND

TEMPERATURE BEGINS TO RISE YOU WILL WANT TO TURN DOWN THE TEMPERATURE FROM THE HIGH SETTING YOU HAD IT ON DURING PREHEAT. DURING THE FIRST SEVERAL MINUTES WHILE BEANS ARE ROASTING AND SLOWING TURNING LIGHT YELLOW TO TAN THE MOISTURE OR WATER INSIDE BEANS ARE EVAPORATING. YOU DO NOT WANT THIS TO HAPPEN TOO FAST BUT AT A STEADY PACE. YOU CAN CONTROL THIS PACE BY TURNING DOWN THE GAS ON A GAS UNIT OR THE TEMPERATURE BY ADJUSTING THE FIRE REGULATION CONTROL ON CONTROL PANEL. YOU WILL ALSO BE ABLE TO CONTROL THE PACE OF ROAST BY ADJUSTING THE AIR FLOW (AIR VOLUME ADJUSTING KNOB) THIS ALLOWS AIR TO BLOW THROUGH DRUM PROVIDING ANOTHER SOURCE OF HEAT BUT ALSO ALLOWING HEAT TO BE CONTROLLED. THERE IS NO EXACT SCIENCE ON WHEN AND HOW MUCH AIR FLOW TO ALLOW AT ANY GIVEN TIME BUT KEEP IN MIND: TOO MUCH AIR FLOW WILL DRY OUT BEANS TOO SOON AND EFFECT TASTE FOR THE WORSE. ALSO KEEP IN MIND AFTER FIRST CRACK INCREASED AIR FLOW WILL HELP REMOVE SMOKE AND CHAFF FROM BEANS AND DRUM.

NOTES ON AIR FLOW WHILE ROASTING:

LISTED BELOW ARE SOME NOTES AND OPINIONS ON AIR FLOW DURING ROASTING OF COFFEE BEING PROVIDED AS A GENERAL GUIDE. AS MENTIONED ABOVE THERE IS NO EXACT SCIENCE WITH REGARD TO AIR FLOW AND IT IS PART OF THE ART AND CRAFT DEVELOPED OVER TIME BY EACH ROAST-MASTER. BUT HERE ARE SOME GUIDELINES TO GET YOU STARTED:

YOU MUST USE AIR FLOW OF AT LEAST 20% ON ALL GAS ROASTERS OR FLAME WILL BE STARVED OF OXYGEN AND GO OUT.

DO NOT RUN ROASTER IF FLAME IS NOT CONTROLLED AND BLUE

AIRFLOW ON ROASTERS WITH A MANUAL DIAL DAMPER:

The new manual dial damper systems allow for a much better precise airflow than the older steeples fan speed which was very hard to control and really only allowed about 3 settings despite the Potentiometer showing speeds of 0-100 (or 0-10).

To operate If your roaster has both the fan speed control and MDDS damper turn fan speed to 100 and use only the damper for airflow.

Depending on the type roaster you may need to turn the manual damper from 2-4 to allow enough air to start gas roaster (electric roasters are much different and will be discussed in a different note).

Once flame or burners are lit you must always keep some airflow to keep burners running and pulling flame to drum as well as through drum. But as a general guide please consider the settings below:

AIRFLOW SETTINGS ON THE MANUAL DIAL DAMPER: YOU MAY NEED TO TURN MANUAL DAMPER TO 4-6 or Higher TO START FLAME BUT THEN CAN ADJUST DOWN DURING DRYING PHASE OF ROAST

2-4: Charge thru drying phase (charge to 330F)

3-6: Maillard Phase (Browning Phase) 330F to first crack

5-8: Roasting Phase (First crack until dropping beans into cooling)

Conductive heat:

During the first part of roast your main source of heat is conductive (mass touching mass) This is especially true during drying phase. Therefore it's best to generally keep airflow low (2-4). If you turn up airflow high during this phase it may slow the ROR (rate of rise) as you will be pulling cooler air into drum. (You may note BT climbing slower and even see the Hot air or ET temps drop)

The drying phase may last from average 3.5-7 minutes depending on size of roast and roaster type.

CONVECTIVE HEAT INCREASE:

During the Maillard or browning phase the momentum of roast is picking up and you and you may be able to slowly increase the air flow to pull excessive chaff out of drum and increasing smoke out of drum. But do not go from one extreme to the other as this could effect rate of rise (maybe 3-6) The Maillard will likely be shorter than drying phase lasting 1.5-3 minutes when temps range from 330F. to first crack which, depending on bean, may be 375-400F.

ROASTING PHASE: This is the most critical point as this will determine in part the development of the flavors of roast. Generally during this phase you want to slow the process keeping in mind that every 15-30 seconds the beans change much as they develop. At this point some roast-masters will increase airflow from 5-8 which will increase the ROR so therefore you will likely reduce heat unless you ROR was already slowing. On small roasters you may even cut the gas completely to help slow the ROR. This phase could last from 1.5-4 minutes depending on how dark your roast will be as well as size of roast.

DRUM SPEED CONTROL

For roasters with drum speed control find the speed at beginning of roast that allows beans to tumble in drum at about a 45 degree angle. Not moving to fast or too slow. When at the beginning of roast if drum speed is too fast while beans are getting most heat from conduction you could slow ROR by running drum too fast. Generally speaking there is no need to increase the speed of drum until the roasting phase begins and by turning up speed 5-10% this will increase ROR which may cause you to cut back gas as well.

These are all just general ideas and much that you develop is your own style of art in the roasting process. It can be helpful to observe the profiles offered by the coffee suppliers such as Royalcoffee.com to help you understand the process. Remember the decision making is based on BT (Bean Temperature)

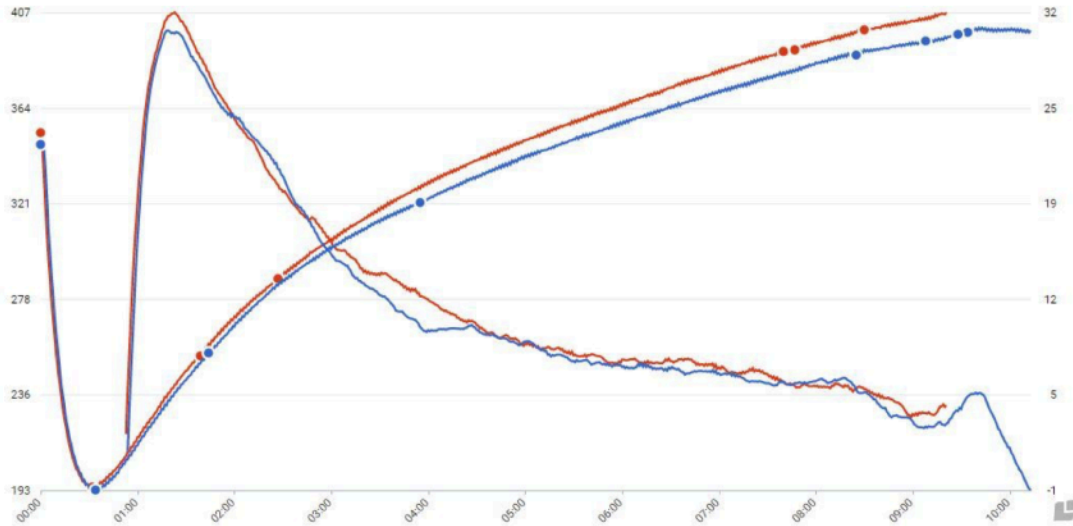
Here is a sample roast profile:

CJ1162 - Colombia Balcón Del Cesar Mujeres Cafeteras Fully Washed Crown Jewel

October 11th, 2017 | [See This Coffee Online Here](#)

Roast one: Apple, baked lemon, butter cookie, pecan pie

Roast two: Blackberry juice, green apple, honey, vanilla, buttery texture



roast one (blue)

TIME TEMP (°F) & COMMENT

0:00 347.9 - 1 1/2 gas
0:34 192.6 - Turning Point
1:44 254.2 - 2 1/2 gas
3:55 321.8 - 3 gas
4:23 330.8 - Maillard Begins
8:25 388.1 - First Crack
9:08 394.4 - 3 1/2 gas
9:28 397.4 - 3 gas
9:34 398.3 - 2 1/2 gas
10:13 400.3 - End Roast

42.9% 4:23 **Drying Stage**
39.5% 4:02 **Maillard Reactions**
17.6% 1:48 **Post-Crack Development**
16.0% **Weight loss**

roast two (red)

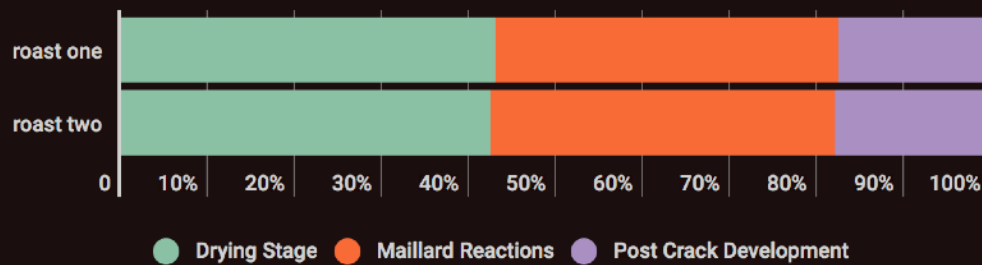
TIME TEMP (°F) & COMMENT

0:00 353.2 - 2 gas
0:32 194.0 - Turning Point
1:39 252.9 - 2 1/2 gas
2:27 287.6 - 3 gas
3:58 330.3 - Maillard Begins
7:40 389.7 - First Crack
7:47 390.4 - 3 1/4 gas
8:30 399.4 - 3 gas
9:21 407.3 - End Roast

42.4% 3:58 **Drying Stage**
39.6% 3:42 **Maillard Reactions**
18.0% 1:41 **Post-Crack Development**
15.0% **Weight loss**

<https://royalcoffee.com/product-category/crown-jewels/>

** Roasted on a 1 kilo Probatino in 400g batches*



Maillard Reactions Begin

roast one: 4:23 @ 330.8 °F

roast two: 3:58 @ 330.3 °F



First Crack Begins

roast one: 8:25 @ 388.1 °F

roast one: 7:40 @ 389.7 °F



End of Roast

roast one: 10:13 @ 400.3 °F

roast two: 9:21 @ 407.3 °F



ColorTrack

roast one: whole bean 61.71 / ground 58.54

roast two: whole bean 63.05 / ground 57.44



Weight Loss

roast one: 16.0%

roast two: 15.0%

TYPICAL AIRFLOW FOR ELECTRIC IR ROASTER:

(ELECTRIC MODELS ONLY- YOU MAY NOT NEED AS MUCH AIR FLOW WHEN PRE-HEATING AND FOR FIRST SEVERAL MINUTES OF ROASTING)

5-25% DRYING (UP TO 335F) CAN BE INCREASED IF SMOKE OR CHAFF NEEDS BETTER REMOVED FROM DRUM

30-50% FOR RAMP DEVELOPMENT (MAILLARD PHASE 335F- 390F)

GAS ROASTERS: OPEN FLAME: LPG OR NG

DO NOT RUN ROASTER IF FLAME IS NOT CONTROLLED AND BLUE

25% THROUGH MOST OF DRYING AND RAMP THEN 50-80% AS APPROACHES FIRST CRACK

YOU MAY CHOOSE TO RAISE AIR FLOW SOONER DUE TO EXCESSIVE SMOKE OR CHAFF IN DRUM.

WE LIKE TO WATCH BOTH CHAFF AND SMOKE IN DRUM AND MAY TURN UP AIR FLOW AS ROAST CLIMBS ABOVE 335F PERHAPS 30-50%

IN OPEN FLAME GAS ROASTER AIR FLOW IS HELPFUL TRANSFERRING HEAT TO BEAN AND CONTROLLING TEMPERATURE. HIGHER AIRFLOW MEANS FINER CONTROL WITH THE GAS DIAL.

DURING DEVELOPMENT HIGH AIRFLOW CONTROLS AND CLEARS SMOKE AND CHAFF. THERE APPEARS TO DISAGREEMENT ABOUT THE DETRIMENT TO ROAST FROM SMOKE KEPT IN THE DRUM.

WHICH SEEMS TO CONFIRM:

THERE IS NO RIGHT AIRFLOW FOR THE CLASSIC DRUM ROASTER.

WHAT IS CLEAR: THE MORE YOU INCREASE AIR FLOW EARLY IN ROAST (ESPECIALLY IN ELECTRIC MODELS) THE MORE YOU WILL NEED TO INCREASE HEAT TO MAINTAIN OR INCREASE TEMPERATURE. YOU DO NOT EVER WANT TEMPERATURE TO DROP DURING DEVELOPMENT BUT ALSO YOU DON'T WANT TO ROAST TOO FAST EITHER. AS ROAST CLIMBS THE OPPOSITE IS TRUE: THE MORE YOU INCREASE AIR FLOW IN A GAS MODEL AS YOU NEAR FIRST CRACK YOU CAN DECREASE HEAT. JUST NEVER ALLOW HEAT TO DROP DURING DEVELOPMENT.

ONE THING IS CERTAINLY CLEAR: COFFEE ROASTING MACHINES THAT OFFER AUTOMATED AIRFLOW DEFEAT THE PURPOSE AND DEFEAT THE ARTISTIC PURPOSE TO ROASTING COFFEE.

EACH ARTISAN SHOULD NOT LIMIT THEMSELVES TO A SET RECIPE TO AIR FLOW. DEVELOP YOUR OWN STYLES AND BASIC PROFILES BUT NEVER STOP BEING CREATIVE.

ANOTHER THING IS CLEAR: TOO LITTLE OR TOO MUCH AIR FLOW IS NOT A GOOD THING. THIS IS THE BIG ADVANTAGE OF DRUM ROASTERS VS. FLUID. FLUID ROASTERS BLAST BEANS WITH TOO MUCH HOT AIR AND TOO HIGH TEMPERATURES THROUGH ENTIRE ROAST...

FIRST CRACK: EACH CROP OF COFFEE HAS IT'S OWN CHARACTERISTICS AND 'PERSONALITY'. SOME COFFEES BEGIN FIRST CRACK AT 350F (AROUND 175C) OTHERS DON'T START UNTIL AROUND 400F (205C) BUT GENERALLY YOU WILL HEAR THE FIRST CRACK IF FANS ARE NOT BLOWING TOO MUCH. DIFFERENT COFFEES PRODUCE DIFFERENT AMOUNTS OF CRACK. SOME ARE VERY LOUD AND SOUND LIKE POPCORN POPPING AWAY. OTHERS ARE MORE LIKE RICE CRISPY'S WITH A LIGHT 'SNAP, CRACKLE & POP'. DECAFFEINATED COFFEES OFTEN PRODUCE VERY LITTLE CRACK AS THE PROCESS OF EXTRACTING CAFFEINE FROM BEAN CHANGES IT QUITE A BIT.

(ALSO DECAFFEINATED GENERALLY ROASTS SEVERAL MINUTES SHORTER THAN REGULAR BEANS) A WORD ON DECAF: YOU CAN CHARGE BEANS AT A TEMPERATURE ABOUT 50-75F LOWER THAN NORMAL ROASTS. REMEMBER: DECAF HAS ALREADY BEEN BOILED OR COOKED PARTLY ONCE

ANY TIME AFTER FIRST CRACK BEGINS THE COFFEE MAY BE DROPPED INTO COOLING TRAY. WE RECOMMEND AS SOON AS FIRST CRACK BEGINS TO TAKE SAMPLES EVERY 15-30 SECONDS WITH SAMPLE SPOON AND MARK FOR TASTE TESTING LATER. KEEPING GOOD NOTES WILL RESULT IN FINDING THE BEST TASTE FOR EACH VARIETY YOU ROAST AND IN CREATING THE BEST PROFILES FOR THAT CROP.

FRENCH ROAST

WE KNOW WITH THE ADVENT OF COMPANIES LIKE STARBUCKS (OFTEN CALLED 'CHARBUCKS' AMONG MASTER-ROASTERS) THAT MANY HAVE DEVELOPED A TASTE FOR DARK ROASTED AND 'BURNT' COFFEES. BUT REALLY ONCE COFFEE PASSES FULL CITY PLUS AND 2ND CRACK YOU ARE NO LONGER TASTING THE FLAVOR OF THE ROASTED BEANS BUT RATHER THE TASTE OF THE ROAST ITSELF. WE LIKE THE ILLUSTRATION OF

TOAST. YOU CAN TOAST ALL TYPES OF BREAD AND GET WONDERFUL FLAVORS IN EACH VARIETY. BUT THERE COMES A POINT WHERE YOU BURN BREAD SO MUCH BY OVER-TOASTING THAT ALL BREAD BEGINS TO TASTE THE SAME= BURNT...

OUR POINT IS THAT SO MANY TYPES OF COFFEES PRODUCE SO MANY WONDERFUL TASTES AT VARIOUS LEVELS OF ROASTING WHY WOULD YOU WANT IT ALL TO END UP TASTING THE SAME NO MATTER WHAT VARIETY? BUT THE CHOICE IS ALWAYS YOURS...

(AND YOUR CUSTOMERS) SO JUST BE CAREFUL WHEN LETTING ROAST GET SO DARK AS YOU ARE ONLY MOMENTS AWAY FROM CALLING THE FIRE DEPARTMENT AND DESTROYING YOUR ROASTER (VOIDING WARRANTY) AND SETTING YOUR PLACE ON FIRE.

COOL ROASTER DOWN TO ROOM TEMPERATURE AT END OF ROAST CYCLE BEFORE TURNING OFF TO AVOID DAMAGE TO ELECTRIC COMPONENTS

BC ROASTERS-ROASTING ON A DOUBLE WALL DRUM:

ROASTING COFFEE: IN MOST ALL OF OUR INSTRUCTIONS ON COFFEE ROASTING WE ATTEMPT TO PROVIDE THE BASICS. WE DO NOT GET TOO MUCH INTO THE “ART” OF ROASTING. WITH ART THERE ARE MANY WAYS TO CREATE A FINAL PRODUCT THAT YOU AND YOUR CUSTOMERS WILL ENJOY. LET ME QUOTE THE WORDS OF A WELL KNOWN COFFEE ROASTER:

“THERE ARE MANY THINGS GOING ON IN THE ROASTING ENVIRONMENT THAT WE STILL DON'T UNDERSTAND. ROASTING IS A VERY COMPLEX EVENT. AS ROASTERS, WE SHOULD ALWAYS BE PREPARED TO HAVE OUR THEORIES DISPROVED AND ALWAYS BE RECEPTIVE TO NEW THEORIES—WITH AN APPROPRIATE LEVEL OF SKEPTICISM OF COURSE. DO YOUR OWN EXPERIMENTS. ROAST, CUP, AND ANALYZE EACH BATCH...THE TRUTH IS ALWAYS IN THE CUPPING RESULTS AND WHAT YOU—AND YOUR CUSTOMERS IF YOU ARE SELLING—PREFER.”-MICHAEL IS AN AMERICAN EXPAT LIVING IN SINGAPORE WHERE HE WRITES ABOUT MANY THINGS COFFEE-RELATED. A ROASTER BY TRADE, MICHAEL IS ALSO A LICENSED Q GRADER AND AN AUTHORIZED SCA TRAINER (AST).

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✦ **MAINTENANCE DURING ROASTING:** IT IS VITAL YOU KEEP THE CHAFF UNIT CLEANED AND DEBRIS TRAY EMPTIED BETWEEN ROASTS AS WELL AS MONITOR YOUR AIRFLOW AND KEEP ALL AIRWAYS CLEAN WHILE ROASTING. OTHER MAINTENANCE CAN BE PERFORMED AFTER OR BEFORE YOU BEGIN A ROAST DAY. SEE MAINTENANCE IN MANUAL AND ONLINE VIDEOS.

✦ **END OF DAY:** WHEN YOU ARE FINISHED ROASTING AT DAYS END IT'S VITAL YOU **COOL DOWN THE ROASTER COMPLETELY BEFORE TURNING OFF MACHINE:** FAILURE TO DO SO WILL IN TIME DAMAGE ELECTRONIC PARTS IN ELECTRICAL ROOM AND VOID WARRANTY. THE WAY TO COOL ROASTER IS TO TURN OFF ALL GAS AND HEAT. TURN THE MANUAL DIAL DAMPER UP TO 10 AND OPEN BOTH HOPPER CHUTE AND DRUM DOOR. SOME CLIENTS EVEN PUT A SMALL FAN IN COOLING TRY TO BLOW COOL AIR INTO DRUM AND UP AND OUT EXHAUST. DOUBLE ROASTERS WILL TAKE 2-3 TIMES LONGER TO COOL THAN A SINGLE WALL. PERHAPS EVEN 45 OR MORE MINUTES. DURING THIS TIME THERE ARE PLENTY OF OTHER JOBS THAT CAN BE DONE IN THE ROASTERY. ONCE MACHINE IS COOLED NEAR TO ROOM TEMPERATURE YOU CAN TURN OFF MACHINE. MOST DETAILED MAINTENANCE CAN

EASILY BE COMPLETED IN THE MORNING BEFORE PREHEATING ROASTER AS UNIT WILL STAY HOT FOR A LONG TIME AFTER YOU FINISH FINAL ROAST AT DAY END. BUT ALWAYS CLEAN DEBRIS FROM CHAFF FAN DAILY AS WELL AS DEBRIS AND CHAFF FROM CHAFF UNIT AND DEBRIS TRAY THROUGHOUT THE ROASTING DAY. CHAFF UNIT CAN BE EMPTIED IN BETWEEN ROASTS BY TURNING FAN POWER OFF MOMENTARILY AND BRUSHING OR VACUUMING CHAFF FROM UNIT QUICKLY THEN TURNING CHAFF FAN POWER BACK ON 100% (BC-8 TO BC-25 MODELS MAY HAVE AN ON/OFF FAN BUTTON IN BACK OF ROASTER WHEN THE AVIATION PLUG ATTACHES TO ROASTER BODY. NEVER UNPLUG OR PLUG IN CHAFF FAN FROM BODY OF ROASTER WHILE ROASTER IS POWERED ON OR ATTACHED TO ELECTRICAL POWER.

PROPER SHUT DOWN AFTER ROASTING

EVEN THOUGH WE HAVE COVERED THIS POINT A COUPLE TIMES IN THIS STARTUP GUIDE IT IS SO IMPORTANT WE WILL COVER IT AGAIN.

1. TURN OFF ALL HEAT ON ROASTER (ELECTRIC OR GAS)
2. OPEN THE AIRFLOW ON MANUAL DAMPER FULLY TO 10
3. OPEN DRUM DOOR AND HOPPER GATEWAY
4. MAKE SURE FAN IS ON 100%
5. COOL ROASTER DRUM TO AROUND ROOM TEMPERATURE
6. THIS MAY TAKE 30-45 MINUTES OR LONGER ON DOUBLE WALL DRUMS
7. SOME CLIENTS WILL RUN A SMALL FAN INTO DRUM DOOR TO HELP SPEED UP PROCESS
8. YOU CAN KEEP BUSY BAGGING COFFEE OR DOING OTHER JOBS WHILE ROASTER COOLS.,
9. CLEAN UNIT ONCE COOLED

6.DEVELOPING THE CRAFT

BOOKS UPON BOOKS ARE WRITTEN ON THIS SUBJECT AND EVEN MORE BOOKS ARE YET TO BE WRITTEN. THE POINT IS: MANY PEOPLE HAVE SPENT AN ENTIRE LIFETIME ROASTING AND PERFECTING SKILLS IN COFFEE ROASTING. THIS IS TRULY AN ARTISANS CRAFT. SO WHETHER YOU ARE ROASTING COFFEE AS A HOBBY, STARTING A NEW BUSINESS OR EXPANDING AN ALREADY SUCCESSFUL BUSINESS PEOPLE THAT ARE TRULY PASSIONATE ABOUT COFFEE ARE GIVERS AND SHARERS. THIS IS NOT A CRAFT MEANT TO BE A LOST ART. IT IS A SKILL DEVELOPED TO BE SHARED. THERE IS PLENTY OF ROOM IN THIS WORLD FOR MORE COFFEE ROASTERS AND COFFEE ROASTING COMPANIES. SO SHARE YOUR IDEAS AND LISTEN TO NEW IDEAS AND CONCEPTS. THERE IS MUCH TO BE SAID ABOUT THE WISE PROVERB:

“THERE IS MORE HAPPINESS IN GIVING THAN IN RECEIVING”

THAT IS CERTAINLY TRUE WHEN IT COMES TO SHARING A GREAT CUP OF FRESH ROASTED COFFEE AMONG PEOPLE THAT LOVE THE CRAFT. SO LISTEN AND SHARE.

LISTED BELOW ARE SOME SOURCES THAT WE ENJOY LEARNING FROM:

THE BLUE BOTTLE CRAFT OF COFFEE: GROWING, ROASTING, AND DRINKING, WITH RECIPES BOOK BY JAMES FREEMAN

THE COFFEE ROASTER’S COMPANION BY SCOTT RAO THE PROFESSIONAL BARISTA’S

HANDBOOK BY SCOTT RAO

WEBSITES:

[HTTP://WWW.COFFEEFORUMS.COM](http://www.coffeeforums.com)

[HTTP://WWW.SWEETMARIAS.COM/](http://www.sweetmarias.com/)

[WWW.BUCKEYECOFFEE.COM](http://www.buckeyecoffee.com)

[HTTP://WWW.HOME-BARISTA.COM](http://www.home-barista.com)

[HTTP://WWW.COFFEEGEEK.COM/FORUMS/](http://www.coffeegeek.com/forums/)

**PLUS MANY MORE. TYPE COFFEE ROASTING FORUMS IN SEARCH ENGINE
PLUS LOOK UP VIDEOS ON THE SUBJECT AT [WWW.YOUTUBE.COM](http://www.youtube.com)**

EMAIL US WITH ANY QUESTIONS, CONCERNS AND IDEAS. WE BELIEVE ALL NEW IDEAS ARE WORTH A TRY! DON’T LET ANYONE DISCOURAGE YOU FROM NEW IDEAS. SOME WILL WORK OTHERS WILL NOT. BUT IF WE DON’T TRY NOTHING NEW WILL HAPPEN. WE ARE EXCITED TO HAVE YOU AMONG THE COFFEE ROASTERS OF THE WORLD AND EAGERLY LOOK FORWARD TO YOUR IDEAS AND SUGGESTIONS!

LET’S TALK COFFEE!

7. MAINTAIN YOUR MACHINE

BUILD YOUR OWN MAINTENANCE TOOL KIT!



THE BC MACHINES ARE MADE TO WORK FOR EXTENDED PERIODS OF TIME WITH MINIMAL MAINTENANCE.

THIS DOES NOT MEAN NO MAINTENANCE IS REQUIRED.

DAILY MAINTENANCE IS ESSENTIAL!

THE LIFE OF YOUR MACHINE DEPENDS ON YOU!

95-99% percent of all problems we get are due to customers not maintaining machine. coffee roasters use extreme heat with gas and electric or all electric. Coffee roasting produces massive amounts of smoke and chaff. If the air flow with smoke & moisture from coffee is not properly channeled out of building or chaff into chaff units damage will occur.

Because chaff is like dust its debris can go all over parts of roaster internally and externally.

Therefore it must be monitored closely during each roast and every day!

CLEANING DURING AND AFTER EACH ROAST AS WELL AS DAILY MAINTENANCE:

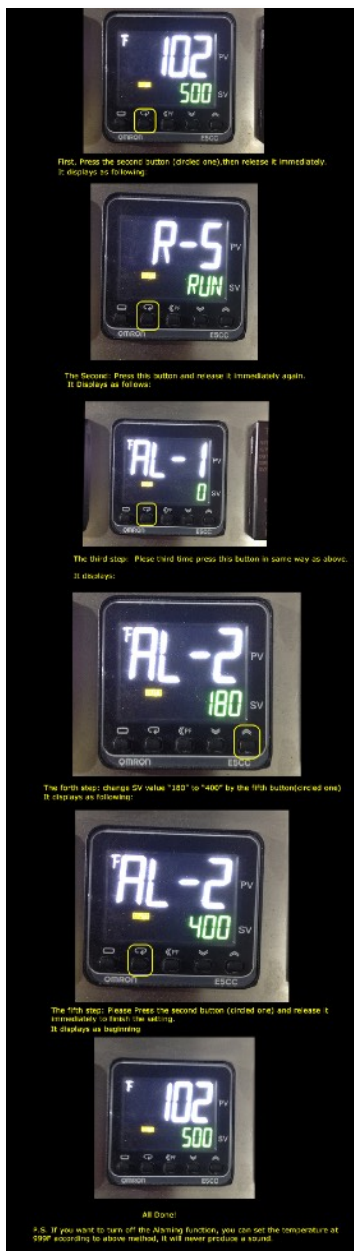
CLEANING & DAILY MAINTENANCE

CLEANING YOUR ROASTER WILL KEEP IT RUNNING SMOOTH AND AVOID EARLY BREAKDOWN OR WEARING OUT OF MOTORS AND ELECTRONIC PARTS. BUT CARE MUST BE USED THAT WHEN CLEANING ROASTER YOU DO IT PROPERLY SO AS NOT TO DAMAGE IT.

DURING ROASTING:

THE MOST IMPORTANT THINGS TO KEEP IN MIND WHEN ROASTING IS THAT AIRFLOW IS THE LIFE OF YOUR ROASTER. YOU MUST KEEP ALL AIRWAYS OPEN AND CLEAN OR YOU COULD DAMAGE UNIT OR WEAR OUT PARTS PREMATURELY.

- 1. EMPTY CHAFF UNIT REGULARLY. IN LITTLE ROASTERS LIKE THE BC-1 & BC-2 YOU WILL LIKELY NEED TO EMPTY CHAFF UNIT AFTER EVERY 3 ROASTS. CHECK AND EMPTY DEBRIS TRAY AFTER EACH ROAST. YOU DO NOT NEED TO TURN ROASTER OFF TO EMPTY THE DEBRIS TRAY. IN BETWEEN ROAST YOU CAN PULL OUT TRAY AND EMPTY IN A METAL WASTE CAN OR USE A SHOP VAC. TO EMPTY CHAFF UNIT WITHOUT THE NEED TO TURN OFF ROASTER JUST EMPTY WHEN GAS ON BURNERS IS OFF. THEN TURN OFF THE CHAFF FAN FOR A MOMENT AND THEN YOU CAN OPEN CHAFF DOOR AND REMOVE CHAFF WITH EITHER A BRUSH OR SHOP VAC. BE SURE NONE OF THE CHAFF IS HOT.**



TIMER: (THIS IS NOT THE EXACT TIMER AS ON THE BC MODELS BUT THE SETUP IS ABOUT THE SAME)

IT APPEARS SOME ARE RESETTING TIMER TO 0.00 AND CAN'T TURN IT ON. THE 4 LOWER BUTTONS ON MOST TIMERS ARE TO SET TIMER. IF YOU HAVE IT SET FOR 0 IT WILL TURN ON AND OFF IN 0 SECONDS. TO AVOID HAVING TIMER GO OFF I SET MINE TO 90.00 OR 99.99 MINUTES. THAT WAY IT WILL NEVER RUN OUT OF TIME UNLESS YOU FAIL TO RESET IT. TIMER IS TURNED ON AND OFF WITH CONTROL PANEL BUTTON BUT IS RESET WITH THE LITTLE LOWER BUTTON ON LEFT SIDE.

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CLEANING UNIT AT DAYS END OR START OF NEW DAY

IT IS BEST IF YOU CAN DO CLEANING AFTER MACHINE HAS COOLED AT DAYS END. BUT IF UNIT IS STILL HOT TO THE TOUCH (DRUM HOUSING, CHAFF FAN AND SUCH) THEN IT MAY BE BEST TO CLEAN UNIT THE NEXT MORNING BEFORE STARTING UP ROASTER

- 1. PROPER AIR FLOW: CHAFF AND SMOKE AND COFFEE MOISTURE MUST BE PULLED FROM DRUM. TO DO THIS FAN MOTORS ARE USED. THE FAN MUST BE KEPT CLEAR AS WELL AS ALL PIPES. CHECK FAN VENTING AND MESH AFTER EACH COUPLE ROASTS.**

EXAMPLE OF FAN RUINED BY NOT CLEANING



1. CLEAN CHAFF EACH DAY OR AFTER EVERY ROAST: EVERY 2-3 ROASTS OR MORE OFTEN IF COFFEE PRODUCES EXCESSIVE CHAFF. CLEAN CHAFF FROM: A: CHAFF UNIT B: DEBRIS TRAY IN OR UNDER BURNER ROOM (THIS IS VITAL AFTER EACH ROAST. ESPECIALLY ELECTRIC MODELS THAT HAVE PERFORATED DRUMS AND DROP MORE DEBRIS AND CHAFF INTO BURNER ROOM DURING ROAST) C. CHAFF AREA UNDER COOLING TRAY: YOU MAY HAVE A DOOR THAT POPS OPEN TO CLEAN CHAFF OR ON SMALL MACHINES YOU MAY SIMPLY LIFT COOLING TRAY AND CLEAN- ALSO CLEAN VENTING GOING TO FAN SO IT DOES NOT CLOG.

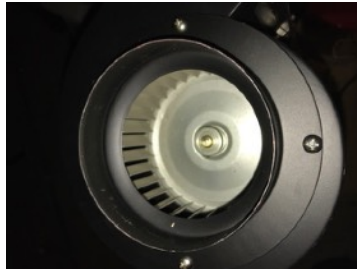
2. CLEAN FAN VENTING DAILY WITH A VACUUM OR SOFT BRUSH: SOME CUSTOMERS ARE FORGETTING THIS MOST IMPORTANT AREA. YOU MUST LIFT FAN OFF CHAFF UNIT IF ATTACHED AND CLEAN VENT UNDER FAN. FAILURE TO DO SO WILL RESULT IN REDUCED AIR FLOW WHICH CAN CREATE MANY OTHER PROBLEMS. SEE EXTREME PICTURES BELOW WHERE VENT WAS NOT CLEANED FOR WEEKS. IF YOU ROAST 8 HOURS A DAY THEN CLEAN THIS DAILY WITH A FAN OR SOFT BRUSH: WHILE OPEN CHECK AND CLEAN WALLS OF CHAFF UNIT. IF VENT HOLES IN CHAFF UNIT GET CLOGGED CHAFF UNIT WILL NOT WORK PROPERLY. (SEE EXTREME PICTURES BELOW)

CLEAN SQUIRREL CAGE:

FAN DESTROYED BY NOT CLEANING

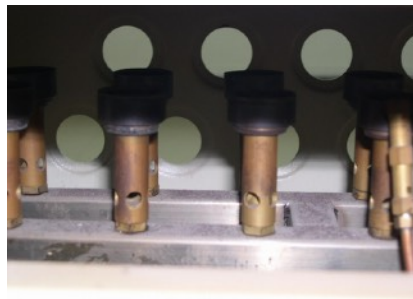
IT IS BEST TO VACUUM OR BLOWOUT ANY MOIST DEBRIS THAT IS IN FAN AFTER FAN HAS COOLED AT DAYS END OR AT THE START OF A NEW DAY BEFORE ROASTING. IF DONE DAILY THEN YOU WILL ONLY NEED TO REMOVE SQUIRREL CAGE TO GIVE IT A COMPLETE CLEANING EVERY FEW MONTHS.

SQUIRREL CAGE IS EASILY REMOVED WITH A HEX KEY TO CLEAN:



3. USE PERMANENT PIPES: SOME UNITS COME EQUIPPED WITH TEMPORARY FLEXIBLE PIPING. THESE PIPES ARE JUST FOR INITIAL SETUP AND TEST OF YOUR ROASTER. YOU NEED TO USE PERMANENT PIPING AND SET IT UP SO A PIPE BRUSH CAN BE RAN THROUGH IT SEMI- MONTHLY OR MORE OFTEN TO CLEAN AVOID BUILDUP OF FIRE

2. Debris will fall onto burners so you should check and clean often:
this may need performed monthly or more often. Always check burners visually during each roast.



3. PERMANENT PIPES NEED CLEANED WITH A PIPE BRUSH:



ROASTING COFFEE PRODUCES MUCH CHAFF THAT WILL BE SENT MOSTLY TO CHAFF UNIT. BUT SOME WILL FALL INTO RESIDUE COLLECTION & HEATER ROOM COMPARTMENT. USE BRUSHES OR A WET/DRY VACUUM TO REMOVE CHAFF AFTER EVERY FEW ROASTS. IF YOUR COFFEE BEANS PRODUCE EXCESSIVE CHAFF YOU MAY NEED TO CLEAN MORE FREQUENTLY.

DAILY MAINTENANCE

1. WIPE DOWN ENTIRE MACHINE WITH A DRY MICRO FIBER CLOTH

2. CHECK AND EMPTY CHAFF UNIT AFTER 1-3 ROASTS AND CHECK DEBRIS DRAWER AFTER EACH ROAST: **CLEAN FAN TOO!**

3. AT THE END OF EVERY DAY LET MACHINE COOL DOWN THE CLEAN ENTIRE ROASTER. UNPLUG POWER MAKE SURE GAS LINE IS CLOSED. THEN WIPE DOWN ENTIRE MACHINE WITH MICRO FIBER TOWEL. IF NEEDED MOISTEN TOWEL WITH NEUTRAL CLEANER THEN WIPE CLEAN. **NEVER PLUG IN OR TURN ON MACHINE WITH WET OR DAMP PARTS OR EXTERIOR.**

NOTES:

VI. Cleaning and maintenance of roaster



Coffee bean roasting process will fall a few silver skin in drawer, just out of the drawer, pour out the silver skin.

There will be much silver skin in silver skin collecting barrel, just open the hinge to clean it.

Below the cooling coil will residues a little silver skin or broken beans, you can simply open the hinge for interior cleaning.

(1) IN BOTH GAS AND ELECTRIC MODELS SOME DEBRIS WILL FALL FROM OPENINGS IN SIDES OF DRUM TO THE DEBRIS DRAWER. THE ELECTRIC MODEL WILL HAVE MOVE DEBRIS DUE TO HAVING A PERFORATED DRAWER. THIS SHOULD BE EMPTIED BETWEEN ROASTS.

(2) IN THE BOTTOM OF CYCLONE OR CHAFF UNIT IS A DOOR TO COLLECT AND MOVE CHAFF BETWEEN ROASTS. AFTER EVERY 2-4 ROASTS WHEN BLOWER IS NOT ON YOU CAN REMOVE CHAFF WITH A VACUUM OR BRUSH

(3) DOOR BELOW COOLING BIN SHOULD BE CHECKED AND EMPTIED AT THE END OF EACH DAY. SOME CHAFF AND DEBRIS WILL BE SUCKED INTO THIS ROOM DURING COOLING PROCESS.

MONTHLY MAINTENANCE

SPECIAL NOTE:

THE NEW 2018 AND UP BC MODELS ALL HAVE FRONT BEARINGS THAT MUST BE GREASED EVERY OTHER MONTH OR EVER 150 HOURS OF USE WHAT EVER COMES FIRST.

(ALL BACK BEARINGS EXCEPT ON BC-1 & 2 MUST BE GREASED WITH AN APPROVED GREASE GUN)

LUBRICATE DRUM BEARINGS: LIFT OPEN DRUM PROTECTION COVER. OPEN BEARING LUBE CAP AND LUBRICATE WITH GREASE GUN. *TOOL KITS SOLD BY BUCKEYE COFFEE HAVE TOOLS AND MICRO FIBER AND GREASE GUN.

NOTE: THE NEW BC-3.5 & 5 MODELS HAVE A BACK MAINTENANCE DOOR ON THE BC-3 & BC-5 TO GET TO BACK BEARING

ON EACH SIDE OF ROASTER ARE SEVERAL BOLTS HOLDING STAINLESS STEEL HOUSING ONTO UNIT.

REMOVE ALL BOLTS AND TAKE HOUSING OFF UNIT. BETWEEN DRUM AND ELECTRIC ROOM YOU WILL SEE A BEARING THAT NEEDS GREASED MONTHLY.

ALSO PACK FRONT BEARING WITH GREASE EVERY 1.5 MONTHS!

SOME MAINTENANCE WILL REQUIRE REMOVING DRUM HOUSING



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2019 MODELS HAVE OPEN FRONT BEARING ON THE BC-1-5 THAT NEED GREASED. BC-8-25 NEED A GREASE GUN.

Using approved grease gun refill monthly.

BE SURE TO KEEP MACHINE CLEAN DAILY AND COMPLETELY CLEAN ALL EXTERIOR WEEKLY AND INSIDES OF CHAFF & DEBRIS CONTAINERS ON A REGULAR BASIS. ALWAYS COOL DOWN ROASTER AT END OF DAY BEFORE TURNING OFF.

2. Wipe out cooling tray daily and brush out weekly.
Use a soft brush with a poker that allows you to clean any perforated holes that may clog up with broken pieces of beans:



PALLO ROLLSTER BRUSH:

8. WARRANTY INFORMATION

WARRANTY VOID IF MANUAL IS NOT READ AND FOLLOWED PRIOR TO & DURING USE OF MACHINE

YOUR COMMERCIAL COFFEE ROASTER HAS BEEN BUILT UNDER STRICT QUALITY CONTROL MEASURES AND SHOULD ARRIVE IN THE BEST OF CONDITION FOR YEARS OF QUALITY ROASTING. IT HAS BEEN THOROUGHLY TESTED BOTH AT THE FACTORY AS WELL AS BY BC ROASTERS WHEN ARRIVING AT OUR ARIZONA FACILITY. BUT AS WITH ALL ELECTRONIC EQUIPMENT THERE IS THE CHANCE THAT AFTER RECEIVED AN ELECTRONIC COMPONENT COULD FAIL IN TIME. SO ALL NEW COFFEE ROASTERS PURCHASED BY BUCKEYE COFFEE ARE PROTECTED WITH THE MANUFACTURE PARTS WARRANTY OF ONE YEAR. THIS WARRANTY REMAINS IN EFFECT FROM THE DAY OF SHIPMENT FOR ONE CALENDAR YEAR. THIS PARTS WARRANTY WILL REMAIN VALID FOR ORIGINAL PURCHASING COMPANY AND

WARRANTY IS NONTRANSFERABLE. FURTHER IF NEGLECT IN MAINTENANCE OR DAMAGE CAUSED BY IMPROPER USE IS DETECTED OR DAMAGE DUE TO OVER-ROASTING AND OR FIRE SHOULD OCCUR THIS WARRANTY BECOMES VOID. ADDITIONAL WARRANTY AND SERVICE IS PROVIDED THROUGH BUCKEYE COFFEE AND ALL SERVICE CLAIMS MUST BE SUBMITTED DIRECTLY TO THEM TO HANDLE CLAIM. ADDITIONAL WARRANTY BEYOND THE ONE YEAR PARTS REPLACEMENT WARRANTY ARE LISTED BELOW:

NOTE: IF MACHINE IS MODIFIED IN ANY WAY THIS VOIDS WARRANTY

ONE FULL YEAR PARTS REPLACEMENT WARRANTY ON ALL PARTS NOT DAMAGED DUE TO NEGLECT OR MISUSE OF PRODUCT. ONE YEAR IN-HOUSE SERVICE ON UNIT. BUYER IS RESPONSIBLE FOR RETURN SHIPPING COSTS FOR IN-HOUSE SERVICE AND WARRANTY REPAIRS. ONE YEAR PHONE AND INTERNET CONSULTATION OF REPAIRS. MOST MINOR ISSUES CAN BE FIXED WITH AN EMAIL TO OUR TECH DEPARTMENT. OTHER FEATURES MAY APPLY BASED ON YOUR STATE OR LOCATION. SEE CONTRACT FOR FURTHER DETAILS.

IF SERVICE IS REQUIRED FIRST EMAIL US AT:

TECH@BUCKEYECOFFEE.COM

AND PROVIDE ACCOUNT NUMBER (ON ORIGINAL INVOICE), NAME, TYPE OF EQUIPMENT AND PICTURES AND VIDEO OR DEFECT

PARTS EXCEPTION: UNLESS YOU PURCHASE AND USE A MARSHALL 1912/197 5.9 KPA LOW PRESSURE REGULATOR OR OTHER APPROVED REGULATOR BY US THERE IS NO REPLACEMENT WARRANTY ON KPA GAS VALVES ON LPG MODELS. USE ONLY LOW PRESSURE REGULATORS WITH A MAXIMUM KPA OF 5.9 (24WC)

AFTER THE WARRANTY-SERVICE AND PARTS

BUCKEYE COFFEE ROASTERS ARE BUILT WITH PARTS AVAILABLE BY ELECTRIC & HARDWARE SHOPS ALL OVER THE WORLD AND IN THE EVENT OF A PART FAILURE AFTER WARRANTY PARTS CAN GENERALLY BE FOUND LOCALLY OR OVER THE INTERNET AND CAN BE SERVICED BY MOST ELECTRICAL APPLIANCE SERVICE COMPANIES AT A RELATIVELY LOW COST. ALSO MOST PARTS CAN BE REPLACED EASILY BY A DIY HANDY PERSON. YOU CAN ALSO EMAIL OUR **TECH DEPARTMENT** FOR SIMPLE PARTS REPAIR TIPS AS WELL AS VIDEOS POSTED ON YOUTUBE FROM TIME TO TIME. WE ALSO OFFER AN IN-HOUSE SERVICE REPAIR PROGRAM AFTER WARRANTY FOR THOSE THAT WISH TO SEND ROASTER IN FOR AFTER WARRANTY REPAIRS. EMAIL US FOR DETAILS. (COST OF SHIPPING AND RETURN SHIPPING MUST BE PAID BY CLIENT)

10 YEAR PARTS STOCK GUARANTEE

WE TRY TO KEEP ALL PARTS IN STOCK FOR WARRANTY WORK AS WELLS STOCK ON HAND SO THERE WILL BE NO DELAY AS WE WAIT FOR

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REPLACEMENT PARTS FROM CHINA. ALL IN WARRANTY CUSTOMERS RECEIVE PRIORITY ON ALL IN STOCK PARTS BUT WE DO GUARANTEE WE WILL STOCK GENERAL REPLACEMENT PARTS ON HAND FOR ANY REPAIRS FOR 10 YEARS OR MORE ON THE MODEL YOU PURCHASE.

EMAIL US FOR THE LATEST PARTS PRICE COSTS AFTER WARRANTY EXPIRES IF YOU NEED NEW PARTS. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE BUT WE DO GUARANTEE LOWEST PRICES TO PREVIOUS CUSTOMERS.



ELECTRONIC BOARD SAMPLE

POWER CORD: ON ALL GAS MODELS DELIVERED IN THE USE WE INSTALL A 3 PRONG PLUG:



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WE SHALL LEAVE THE INTERNATIONAL PLUG ON UNITS SHIPPED FACTORY DIRECT. THESE ARE 3 WIRE SYSTEMS WITH GREEN & YELLOW AS GROUND, BLUE AS HOT AND BROWN (GENERALLY) AS NEUTRAL

ELECTRIC MODELS: ELECTRIC MODELS USE SUCH HIGH WATTAGE THAT YOU CANNOT RUN UNITS ON 110 WITH A CONVERTER SO WE SHALL EITHER INSTALL A 3 PRONG NORTH AMERICAN APPROVE 250V 30A PLUG.

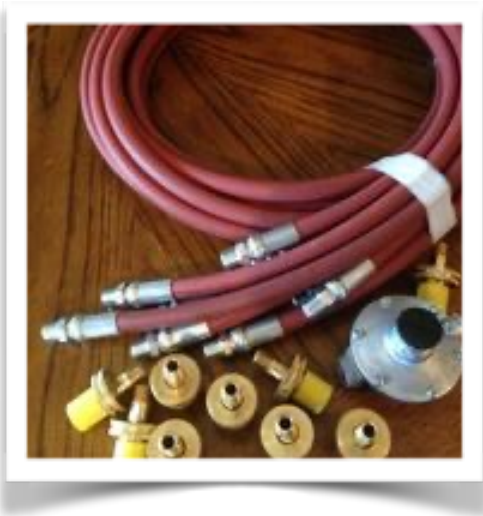


PROPERLY HOOK UP YOUR NG GAS & LPG LINE:

IF YOU HAVE ORDERED A NATURAL GAS UNIT YOU WILL NEED A CERTIFIED APPROVED TECHNICIAN. GENERALLY YOU WILL NOT NEED A REGULATOR FOR NATURAL GAS PROVIDING LINE IS SET FOR 7-14WC.

IF YOU PURCHASED AN LPG GAS MODEL YOU WILL NEED A LOW PRESSURE ADJUSTABLE LPG REGULATOR. YOU CAN PURCHASE A MODEL USED IN GAS GRILLS BUT KPA PRESSURE WILL ONLY REACH 2.5 TO 2.75. TO GET FULL USE OF YOUR ROASTER YOU MUST BUY A PROFESSIONAL 5.9 MAX KPA REGULATOR SUCH AS THE MARSHALL 1912/197 SET TO KPA 5.9. WE RECOMMEND IF YOU ARE

PRO MARSHALL 1912/197 REGULATOR
USE YELLOW LPG TAPE AT CONNECTORS
(IF USING OUR PRO LPG REGULATORS YOU WILL
NOT NEED YELLOW TAPE AT GAS LINE VALVE AS
SEEN ABOVE)



**DOING A PERMANENT INSTALL THAT YOU RUN A PERMANENT GAS LINE WITH A
PROPER REGULATOR.**
THERE IS NO WARRANTY ON KPA GAS VALVE UNLESS YOU
PURCHASE AN APPROVED REGULATOR SUCH AS THE MARSHALL
1912/197 REGULATOR FROM US.
ALWAYS USE LPG TAPE AND JOINT COMPOUND WHERE NEEDED AT CONNECTORS.

CONTROL PANELS:

**BY KNOWING HOW TO OPERATE YOUR UNIT PROPERLY YOU WILL AVOID
MANY POTENTIAL PROBLEMS.**
ALWAYS READ ALL INSTRUCTIONS ON MACHINE OPERATION AND
SAFETY FIRS

KNOW YOUR UNITS OPERATION:

ELECTRIC CONTROL PANEL:

ALWAYS BE SURE ALL CONTROLS ARE IN OFF POSISTION AND KNOBS TURNED DOWN BEFORE TURNING MACHINE ON. TURN ALL CONTROLS OFF WHEN POWERING DOWN MACHINE. UNPLUG UNIT WHEN NOT IN USE.

**BUCKEYE ARIZONA
ROASTING COMPANY**

V. Operating panel and features instroduction



- 1.Hot air temperature: Display the temperature of hot air.
- 2.Bean temperature: Display the temperature of beans inside the drum.
- 3.Timer: Display the heating time.
- 4.Hot air adjust: Change the hot air fan speed to adjust the hot air.
- 5.Heating adjust: Change heating power of the heating rods to adjust heating temperature.
- 6.Power: Press the button to turn the power.
- 7.Heating: Press the button, the heating rods can be heated by electricity.
- 8.Timing: Press the button,start time;press again,pause time.
- 9.Cooling: Press the button, the cooling fan start exhaust.
- 10.Mixing: Press the button,mixing motor will drive the mixing blade begin to rotate.



GAS MODELS: CONTROL PANEL

Gas Type

BUCKEYE ARIZONA
ROASTING COMPANY

V. Operating panel and features introductions



- 1.Hot air temperature: Display the temperature of hot air.
- 2.Bean temperature: Display the temperature of beans inside the drum.
- 3.Timer: Display the heating time.
- 4.Hot air adjust: Change the hot air fan speed to adjust the hot air.
- 5.Power: Press the button to turn the power.
- 6.Heating: Press the button to turn on the gas and auto-ignition combustion, before pressing the button must confirm the gas valve open in a smaller location. Otherwise excessive flow will damage the gas pressure gauge. The maximum pressure is limited within 5KPa.
- 7.Timing: Press the button,start time;press again,pause time.
- 8.Cooling: Press the button, the cooling fan start exhaust.
- 9.Mixing: Press the button,mixing motor will drive the mixing blade begin to rotate.



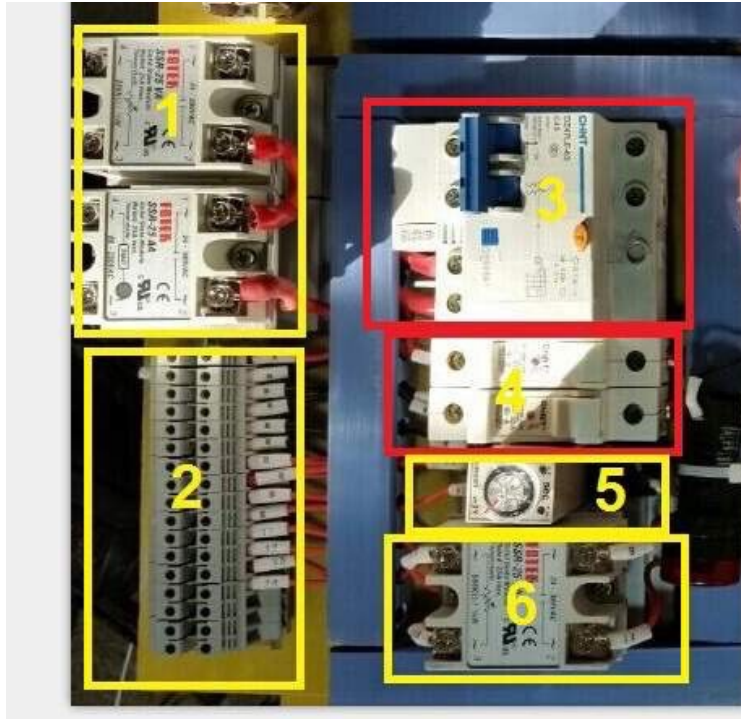
TROUBLE SHOOTING FIXES:

FAILURE	CAUSES: REASON	REMEDIES OR SOLUTIONS
UNIT WILL NOT POWER ON.	<ol style="list-style-type: none">1. not plugged in2. internal circuit breaker off3. Check internal fuse	<ol style="list-style-type: none">1. plug in. check all connections2. unplug unit. Open electric room and turn circuit breaker on.3. replace fuse
COOLING FAN OR HOT AIR ADJUSTMENT FAN WILL NOT TURN ON	Not properly connected	be sure each blower is connected to proper plug in back of unit and tightened
SMOKE IS COMING INTO BUILDING	<ol style="list-style-type: none">1. Improper setup2. Improper or unsecure piping	<ol style="list-style-type: none">1. Connect pipes to correct components or points2. use a backdraft damper on cooling vent if connecting 2 pipes to one exhaust
BEANS ARE FALLING INTO DEBRIS DRAWER	<ol style="list-style-type: none">1. drum needs aligned2. some debris will fall through perforated electric drums	<ol style="list-style-type: none">1. UNPLUG unit after cooled down and re- align drum so 3 mm of space exists between front wall & drum.
ALARM SOUNDS AS ROASTER DOES NOT LIGHT	<ol style="list-style-type: none">1. From the time you press the roasting (igniter) button your roaster must light within 4 seconds or it will shut down the solenoid for safety and set off alarm	<ol style="list-style-type: none">1. Turn off the roasting button and then turn back on. Make sure burner room is getting enough gas (see pressure gauge) and make sure it is getting enough airflow
Drum will not turn	<ol style="list-style-type: none">1. Front or back bearing has failed2. 2. Drum is out of alignment	<ol style="list-style-type: none">1. Grease bearings and if damaged or seized bearing replace with new one(s)2. See manual on drum realignment

TROUBLE SHOOTING CONTINUED:

GAS UNIT WILL NOT IGNITE	<ol style="list-style-type: none"> 1. Gas is not on at all controls 2. ignitor is not buzzing allowing machine to ignite 3. wrong gas being used 4. KPA pressure is too low 	<ol style="list-style-type: none"> 1. Check all connections. carefully turn up tank and regulator while machine lines are off then when igniting turn gas control up slowly 2. ignitor may be damaged. contact supplier 3. make sure NG gas roaster is used with NG gas and LPG with LPG gas. 4. MAKE SURE KPA pressure stays between 1-4
KPA PRESSURE VALVE CONTROL STOPPED WORKING AND IS STUCK ON HIGH NUMBER or on 0	You have damaged KPA gas pressure valve by not following proper usage instructions (only low pressure regulators can be used on LPG roaster)	You must purchase and install a new KPA pressure valve. It is dangerous to use unit without proper knowledge of gas pressure
DRUM MAKES A LOUD NOISE WHEN HEATED UP	Drum is out of alignment.	Turn off machine. Allow to cool. UNPLUG UNIT. realign drum as outlined in manual
BEANS ARE BEING SUCKED INTO CHAFF UNIT	<ol style="list-style-type: none"> 1. roasting a batch too small 2. Roasting a batch too large 3. Too much Hot air flow 4. Machine exhaust pipe is connected to or near an exhaust fan 	<ol style="list-style-type: none"> 1.& 2. Roast within the range recommended by the manufacture 3. Turn down hot air flow 4. turn off all fans not connected to roaster during roast
ELECTRIC UNIT TURNS ON BUT BARELY HEATS UP AFTER 15 MINUTES	Improper connection of plug	Make sure the GROUND WIRE IS PROPERLY CONNECTED TO THE GOUND ON PLUG
NO MATTER WHAT I DO UNIT WILL NOT POWER ON	Possible short or damage to unit	UNPLUG UNIT. CONTACT MANUFACTURE OR COMPANY THAT SOLD UNIT OR A CERTIFIED ELECTRICIAN IF NO LONGER UNDER WARRANTY

SAMPLE ELECTRIC PANEL (ELECTRIC MODEL)



1.SOLID-STATE RELAY 2.UK TERMINALS

3.BUILT-IN CIRCUIT BREAKER* (IF MACHINE WILL NOT POWER ON PLEASE UNPLUG UNIT & OPEN ELECTRIC ROOM AND FLIP ON BREAKER. A SMALL TRIP BUTTON MAY NEED PUSHED TO TRIP ON BEAKER)**

4.FUSE HOLDER 5.TIME RELAY

6.SOLID-STATE RELAY

EQUIPMENT READJUSTMENTS:

WHEN YOU FIRST RECEIVE YOUR ROASTER AND UNPACK IT SOME ITEMS MAY HAVE BEEN JARRED DURING TRANSIT. ALSO FROM TIME TO TIME AFTER REPEATED USE MINOR ADJUSTMENTS MAY BE NEEDED TO EQUIPMENT TO KEEP ALL PARTS IN LINE AND WORKING AT OPTIMUM CONDITION. THIS SECTION WILL DISCUSS SOME COMMON ADJUSTMENTS THAT MAY BE NEEDED WHEN FIRST RECEIVING UNIT AND AFTER USE: **COOLING TRAY ARM READJUSTMENTS:** WHEN ROASTER FIRST ARRIVES YOU MAY NEED TO MAKE ADJUSTMENTS TO COOLING TRAY ARMS (COOLING BIN AGITATOR)

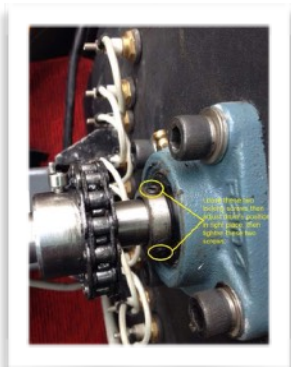
WHEN TURNING ON COOLING MIXING BUTTON YOUR COOLING ARMS WILL BEGIN TURNING INSIDE TRAY. IF ARMS RUB OR SQUEAK THEN A MINOR ADJUSTMENT MAY BE NEEDED TO ADJUST ARMS. GENERALLY JUST A SLIGHT ADJUSTMENT MADE BY LOOSING ARMS WITH THE ALLEN WRENCH HEX KEY AND PULLING ARMS AWAY JUST SLIGHTLY FROM TRAY SO EXCESSIVE PRESSURE IS NOT ON ARM PUSHING AGAINST TRAY BOTTOM WILL FIX PROBLEM.

ALIGNMENT OF ROASTING DRUM:

IF DURING TRANSIT DRUM BECOMES SLIGHTLY DISPLACED OR OUT OF LINE THIS COULD LEAVE A SLIGHT OPENING BETWEEN OPENING IN DRUM AND BEARING CAUSING SOME BEANS TO FALL FROM DRUM TO INSIDE RESIDUE COLLECTION AREA (HEATING ROOM). OR IT COULD CAUSE DRUM TO MOVE TO CLOSE TO FRONT PLATE OF ROASTER CAUSING DRUM TO RUB OR EVEN STOP WHEN HEATED.

REMOVE DRUM HOUSING, IF THE GAP BETWEEN FRONT DOOR AND DRUM IS UNDER 1-2MM OR OVER 3MM, THEN YOU CAN PUSH THE DRUM FORWARD OR BACKWARD AFTER YOU LOOSEN BACK BEARING SET SCREWS.

- 1.REMOVE DRUM HOUSING
- 2.THEN LOOSEN THE TWO LOCKING SCREWS,
- 3.ADJUST POSITION OF DRUM AND TIGHTEN SCREWS BACK INTO PLACE. A-2MM GAP IS ACCEPTABLE AND ALLOWS DRUM TO TURN.
4. HEAT TEST TO MAKE SURE DRUM IS PROPERLY SPACED



SET SCREWS SEEN IN PICTURES:

**USE HEX KEY TO LOOSEN
(DO NOT REMOVE)**

**THEN YOU CAN MOVE
DRUM TO/FROM FRONT
PLATE TO 2MM**

DRUM ALIGNMENT VIDEOS:

DRUM ALIGNMENT: BC-3 to 5: [HTTPS://YOUTU.BE/AIDxZCXPPSU](https://youtu.be/AIDxZCXPPSU)

DRUM ALIGN: BC-8-25 [HTTPS://YOUTU.BE/UQU93WXTXOY](https://youtu.be/UQU93WXTXOY)

SEE MORE VIDEOS ON OUR TECH PAGE:

SEE VIDEOS ON THE TECH PAGE ([HTTP://WWW.BUCKEYECOFFEE.COM/TECH-SUPPORT.HTML](http://www.buckeyecoffee.com/tech-support.html))

MAINTENANCE VIDEOS ONLINE:

DAILY & WEEKLY:

[HTTPS://YOUTU.BE/7FGZPCIOWKW](https://youtu.be/7FGZPCIOWKW)

COMPLETE: (EVERY 3-6 MONTHS)

[HTTPS://YOUTU.BE/8TLT5IMNLAY](https://youtu.be/8TLT5IMNLAY)

UPDATE: 3-6 MONTH MAINTENANCE:

[HTTPS://YOUTU.BE/d7Y1UBQGIZM](https://youtu.be/d7Y1UBQGIZM)

GAS BURNERS NOT HEATING FAST:



CLEAN HEADS AND CHECK INJECTORS TO SEE IF CLOGGED AND CLEAN. KEEP UNIT CLEAN INSIDE AND OUT.

GENERALLY IF YOU RUN INTO A PROBLEM A SIMPLE FIX CAN BE HAD. PLEASE FOLLOW THE GUIDELINES LISTED IN THIS MANUAL TO AVOID ANY PROBLEMS AND IF A PROBLEM SHOULD ARISE FIRST CHECK THE TROUBLE SHOOTING CHART BEFORE CONTACTING US. IF YOU ARE UNABLE TO RESOLVE PROBLEM AFTER CONSULTING THE TROUBLE SHOOTING GUIDE BELOW DO NOT ATTEMPT TO WORK ON ROASTER BY YOURSELF AS THIS COULD VOID WARRANTY. UNPLUG UNIT FROM POWER SOURCE AND SHUT OFF GAS LINE IF APPLICABLE THEN CONTACT US VIA EMAIL TEXT OR PHONE CALL. YOU MAY ALSO WISH TO CHECK OUR WEBSITE FOR FURTHER INSTRUCTIONS AND DETAILS.

MORE DETAILS ABOUT YOUR ROASTER:

ARTISAN SOFTWARE:

(ALL BC ROASTER ALLOW DATA LOGGING VIA USB. FROM 2019 ON THEY ALSO CAN BE CONNECTED VIA BLUETOOTH)

INSTRUCTIONS ON SETTING UP ARTISAN FROM VERSION 1.3 ONWARD ARE OFFERED ON OUR TECH PAGE AND MEMBERS PAGE.

YOU CAN DOWNLOAD ALL SOFTWARE & DRIVERS FROM OUR TECH PAGE:

[HTTP://WWW.BUCKEYECOFFEE.COM/TECH-SUPPORT.HTML](http://www.buckeyecoffee.com/tech-support.html)

OR ON THE MEMBERS PAGE (YOU MUST SIGN UP ON MEMBER PAGE)

[HTTPS://BCROASTERS.COM/M/LOGIN?R=%2FMEMBERS-ONLY-PAGE](https://bcroasters.com/m/login?r=%2Fmembers-only-page)

ALL BC ROASTERS FROM 2019 AND UP CAN CONNECT TO COMPUTER VIA USB AND/OR BLUETOOTH

(YOU MAY NEED TO USE THE BLUETOOTH DONGLE TO CONNECT VIA BT)

IF YOU NEED SUPPORT FOR USE OF ARTISAN SOFTWARE:

ARTISAN SOFTWARE UPDATES AND EMAIL SUPPORT:

Copy and paste this link for the latest software updates:

ARTISAN SOFTWARE:

Latest releases: <https://github.com/MAKOMO/artisan/releases/latest> ARTISAN

EMAIL SUPPORT:

Email support:

<https://lists.mokelbu.de/listinfo/artisan-user>

<mailto:artisan-user@lists.einfachkaffee.de>

**IF YOU NEED A SETUP GUIDE FOR ARTISAN WITH YOUR PLUS MODEL
DOWNLOAD FROM TECH PAGE OR EMAIL US FOR A PDF COPY**

ELECTRICAL CERTIFICATIONS: CE, RoHS, ISOP001

شهادة - 증명서 - 證明書 - Сертификат - Certificat - Certificate

Certificate of Compliance

No. 0E171219.ZBMQD63
Test Report no. BKC-171203092R, BKC-171203093R

Certificate's Holder: Zhengzhou Blueking Mechanical Equipment Co., Ltd.
No.11 Mengte Zone of Lianhua street, High-Tech District, Zhengzhou, China (Mainland)

Certification ECM Mark:  Type Approved

Product: Coffee Roaster
Trade Mark: BK
Model(s): BK-1AKG, BK-2AKG(ELE TYPE).

Verification to: Standard:
EN 55014-1:2006+A1:2009+A2:2011,
EN 61000-3-2:2014, EN 61000-3-3:2013,
EN 55014-2:2015, EN 60335-1:2012+A11:2014,
EN 60335-2-9:2003+A1:2004+A2:2006+A12:
2007+A13:2010

related to CE Directive(s):
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Compatibility)

Remark: The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it.
This verification doesn't imply assessment of the production of the product(s).

Additional information, clarification about the CE Marking:
We attest that a TCF for the CE Marking process is in place. Whereas the Manufacturer is Responsible to start the CE Marking Certification Procedure and to perform all the necessary activities, as required by the Directive before placing the CE Mark on the product(s).

CE

Date of issue 19 December 2017 Expiry date 18 December 2022

Chief Manager
Marta Moringa


Deputy Manager
Amanda Payne


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BC-7-8, BC-14-15 & BC-24-25



IMPORTANT: DRUM MOTORS WITH DRUM SPEED

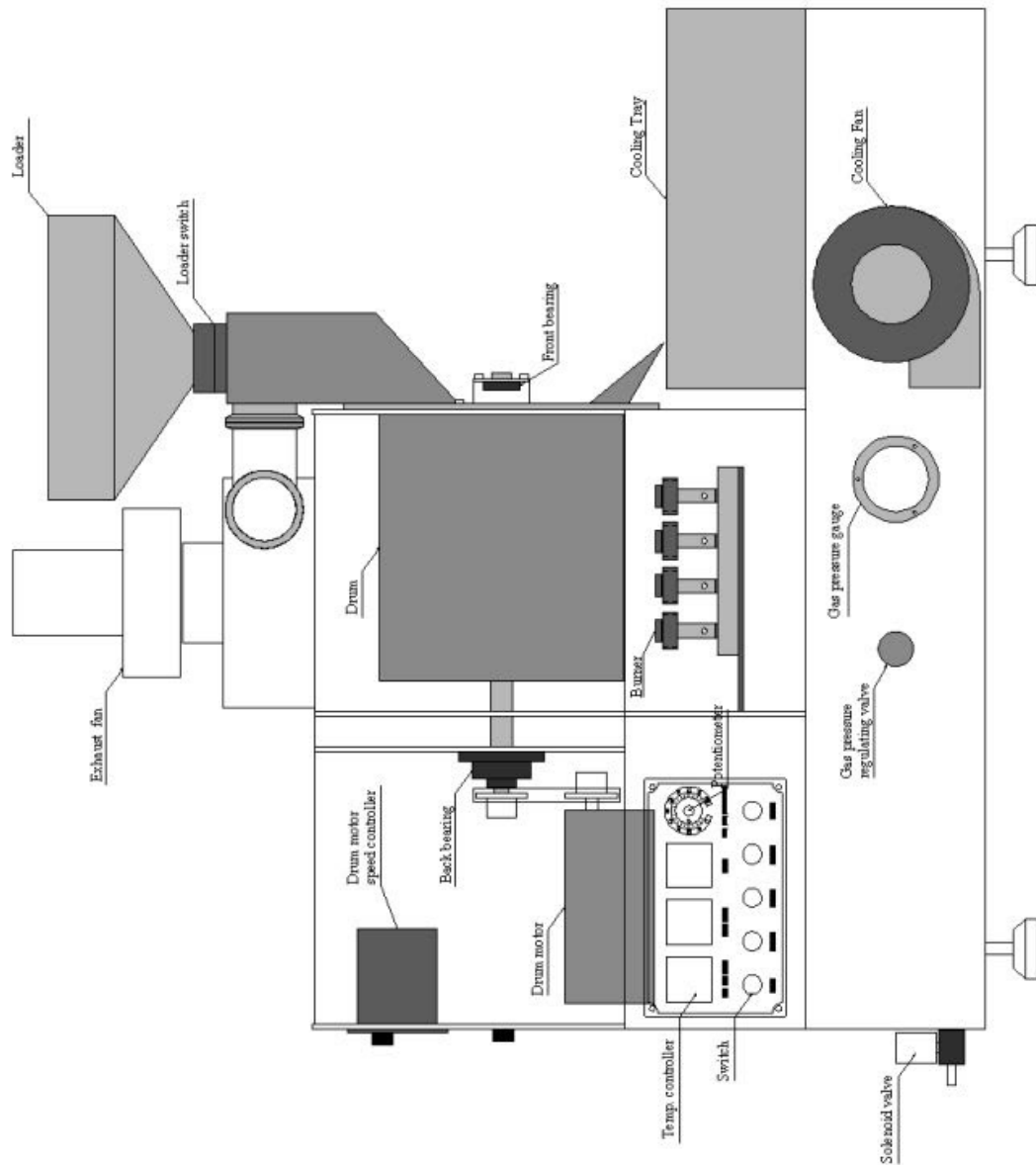
SPECIAL NOTE ON DRUMS AND DRUM SPEED ON BC-7, 14 & 24:

THE DRUM SPEED CONTROL MOTOR IS A 3 PHASE MOTOR ON THE BC-7, 14 & 24 OR LARGER. THEREFORE IT HAS A TRANSFORMER TO CONVERT IT TO SINGLE PHASE.

THEREFORE AS A SAFETY FEATURE FOR THE MOTOR AND TRANSFORMER IF THE POWER IS TURNED OFF AT ALL EVEN FOR JUST A SECOND THE MOTOR AND ROASTER MUST BE TURNED OFF FOR 10 SECONDS BEFORE TURNING BACK ON OR THE DRUM WILL NOT TURN. THIS FEATURE IS BUILT INTO MOTOR AND TRANSFORMER TO PROTECT IT FROM BURNOUT.

GENERAL DRAWINGS OF A ROASTER:

(IN THE FUTURE WE MAY PROVIDE DRAWINGS OR SCHEMATICS TO CUSTOMERS IF NEEDED TO GET PERMITS FOR USAGE)



EXAMPLES OF PERMANENT SETUP:

THE BEST WAY TO SET UP ROASTERS ARE TO USE TWO SEPARATE EXHAUST PIPE EXITING BUILDING. WE RECOMMEND DOUBLE WALL 4' PIPING BUT YOU CAN ALSO USE STAINLESS STEEL DUCT PIPING PROVIDED IT IS PROPERLY SEALED TO PREVENT SMOKE FROM LEAKING AND A TAKE-OGG PIPE ALLOWS CLEANING. PIPES SHOULD BE ATTACHED WITH CLAMPS, FOIL HEAT SEAL TAPE (NOT DUCT TAPE) AND SILICON SEALANT.

NOTE:

JUST BECAUSE YOU HIRE AN HVAC OR PLUMBER DO NOT EXPECT HIM TO DO IT RIGHT. WE HAVE SEEN SO MANY POOR JOBS DONE BY 'SO CALLED' PROFESSIONALS YOU WOULD NOT BELIEVE IT!

SEE SOME GOOD AND BAD EXAMPLES BELOW:



THIS IS A GOOD EXAMPLE OF NOT TAKING ANY RISKS AND TAKING TWO PIPES OUT BUILDING. NOTICE THE STEEL PLATE

**AGAINST WALL. ANYTIME YOU TAKE HOT PIPES THROUGH A WALL OR
CEILING INSULATE THEM (45)**



**ANOTHER PROFESSIONAL JOB
DONE RIGHT!**

**2 SEPARATE PIPES GOING
OUT BUILDING.
REMEMBER TO ALLOW
PIPE OFF CHAFF UNIT TO
BE REMOVED BOTH TO
CLEAN PIPE AND LIFT
FAN OFF CHAFF UNIT TO
CLEAN UNDER CHAFF
VENTING**



(THIS MODEL IS THE SEDONA BUT ALL MODELS NEED CLEANING UNDER FAN TO PREVENT LOSS OF AIRFLOW) ANOTHER VERY NICE INSTALL: AS YOU SEE THE NG LINES WERE PROFESSIONALLY INSTALLED AND YOU HAVE TWO EXHAUST PIPES EXITING BUILDING

BAD EXAMPLES:

SAD TO SAY THESE BAD EXAMPLE WERE DONE BY 'PROFESSIONAL' HVAC WORKERS

MANY CUT CORNERS:

**SOME DID NOT USE CLAMPS- JUST TAPE.
OTHERS USED CHEAP PIPES AND ELBOWS THAT SMOKE POURED OUT OF
SOME WOULD PUT A 4" PIPE OVER A 3" PIPE AND SIMPLY PUT A FEW
SCREWS INTO IT RATHER THAN BUY A 3" TO 4" ADAPTER
MANY THAT RAN TWO PIPES INTO ONE DID NOT USE A BACKDRAFT
DAMPER.**

IF YOU HIRE A PROFESSIONAL BE SURE THEY HAVE EXPERIENCE IN THE INSTALLATION OF WOOD AND PELLET STOVES.

LET THEM KNOW THAT COFFEE ROASTING PUTS OFF MORE SMOKE PER POUND THAN WOOD AND MUCH MORE CHAFF AND DEBRIS

**AND WATCH THEM LIKE A HAWK AS THEY INSTALL!
TEST MACHINE 2-3 TIMES BEFORE THEY LEAVE!**

DO NOT CALL US TO FIX IT IF THEY DO IT WRONG-CALL THEM!

WHAT DO YOU SEE WRONG HERE?



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WHAT ABOUT THIS JOB? FIRST OF ALL NO BACKDRAFT DAMPER USED BUT EVEN AFTER ONE WAS PUT ON THE SMOKE STILL FOUND IT'S WAY TO THE COOLING TRAY... WHY? THE MAIN PIPE IS AWAKES THE PIPE COMING OFF CHAFF UNIT WHERE 99% OF THE SMOKE EXITS. IT SHOULD BE A STRAIGHT PIPE OUT OF BUILDING. IN THIS CASE IT IS A SIDE PIPE THAT DEAD ENDS INTO THE MAIN PIPE (COOLING TRAY PIPE)

IT WOULD BE BETTER TO HAVE ONE PIPE FOR CHAFF AND NONE FOR COOLING TRAY THEN

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TECH@buckeyecoffee.com

THIS METHOD. REMEMBER: ONLY ABOUT 10-20 SECONDS OF SMOKE COMES OUT OF DRUM INTO COOLING TRAY FOR THE FIRST 30 SECONDS DOOR IS OPENED. THEREFORE SMOKE ONLY GOES OUT OF COOLING TRAY ABOUT 10-30 SECONDS DURING ENTIRE ROAST.

DIY SETUP OF EXHAUST PIPES

MANY CUSTOMERS CHOOSE TO DO THEIR OWN EXHAUST SETUP AND THIS IS FINE PROVIDING YOU USE THE RIGHT PIPES AND SETUP AND SEAL PROPERLY. HERE ARE SOME PIPE SUPPLIERS:

[SEE OUR TECH PAGE AT BUCKEYECOFFEE.COM FOR A LIST OF PIPE SUPPLIERS:](#)

STEPS TO TAKE IF YOU HAVE AN ISSUE WITH ROASTER:

IF YOU HAVE AN ISSUE FOLLOW THESE STEPS FIRST:

- 1. CHECK MANUAL**
- 2. CHECK OUR EDUCATION PAGE ON OUR SITE**
- 3. GOOGLE IT**
- 4. IF YOU CANT FIND ANSWER EMAIL US AT TECH@BUCKEYECOFFEE.COM WITH YOUR ACCOUNT NUMBER, NAME AND MODEL OF ROASTER. YOU CAN ALSO SEND PICTURES AND VIDEO CLIPS.**
- 5. WE ARE HUMAN AND NOT AWAKE 24 HOURS A DAY. WE ARE HAPPY TO HELP YOU DURING NORMAL BUSINESS HOURS IN BETWEEN MEETINGS. BUT WE CANNOT INSTANTLY ANSWER EVERY QUESTION. 95% OF THE CALLS WE GET WE CAN TAKE YOU TO A PAGE IN THIS MANUAL OR A VIDEO ON OUR TRAINING PAGE TO RESOLVE. WE ARE HERE TO HELP YOU SUCCEED BUT WE HAVE A LIFE TOO AND WILL TAKE YOUR EMAILS VERY SERIOUS AND RESPOND WITHIN 24 HOURS.**

- 6. IF YOU HAVE NOT RECEIVED A REPLY AFTER 24 HOURS
FEEL FREE TO TEXT OR CALL. TEXTS CAN USUALLY BE
HANDLED FASTER THAN CALLS AS WE WILL NEED TO
SEE PICTURES & VIDEO CLIPS OF ISSUE.**

Important Gas Pressure Notice:

LPG MODELS MUST HAVE PRESSURE LOWERED

WHILE OUR NATURAL GAS LINE WORK WITH STANDARD 3-7WC

Important notice to all customers and prospective customers choosing to
buy gas roasters and commercial gas appliances:

All gas appliances are both very efficient tools of the trade but also must be installed professionally by certified technicians. Natural gas (NG) and liquid propane gas (LPG) are great fuels for cooking and roasting. But improperly used can be fatal. It is therefore vital all persons considering buying equipment using natural gas or LPG understand its proper usage and limitations. It is the full responsibility of the consumer or customer to educate himself on the proper use and safety requirements of using any gas product.

GAS PRESSURE:

BEFORE purchasing a gas appliance it is the buyers responsibility to be sure they are permitted to install and operate a gas appliance at their facility. They must also be educated as to the gas pressure required to run a commercial coffee roaster at their location.

LPG (PROPANE) ROASTERS REQUIRE A CONSISTENT CONSTANT GAS PRESSURE OF 12-24 WC FOR FULL ROASTS. You can achieve smaller roasts at lower pressure but to take full advantage of your roaster you will benefit from full gas pressure. It is vital to use the correct low pressure LPG gas regulator that allows up to

24WC. We recommend the Marshall Pro 1912/197. **NEVER USE A HIGH PRESSURE REGULATOR WITH over 0.86 PSI.**

NATURAL GAS (NG)

Natural gas settings in a standard residential home are set at about 3-7 WC. All our current line of roasters designed for natural gas will work with this pressure. But you must have a certified Natural Gas technician install and test all gas lines and equipment.

It is the full responsibility of the customer and installer to properly setup and use Natural Gas appliances.

See article below for gas pressure: http://inspectapedia.com/plumbing/Gas_Pressures.php#NaturalGas

LIQUID PROPANE GAS (LPG)

LPG or commonly called propane in the USA comes out of the tank at a very high pressure (typical ranges are 10-100 PSI) this pressure is far too high to run any appliance safely and therefore must be adjusted using approved regulators.

(10 to 100 PSI = WC of 276 to 2767)

To determine WC see link below:

[http://www.convertunits.com/from/psi/to/water+column+\[inch\]](http://www.convertunits.com/from/psi/to/water+column+[inch])

USING A STANDARD HOME GRILL REGULATOR:

Home LPG gas grill regulators cut the gas pressure down to 11 WC which is too low to run most commercial coffee roasters. Therefore a professional low pressure regulator is needed to roast at pressures up to 24 WC. Find the nearest professional LPG equipment supplier in your area for details.

GAS LINES:

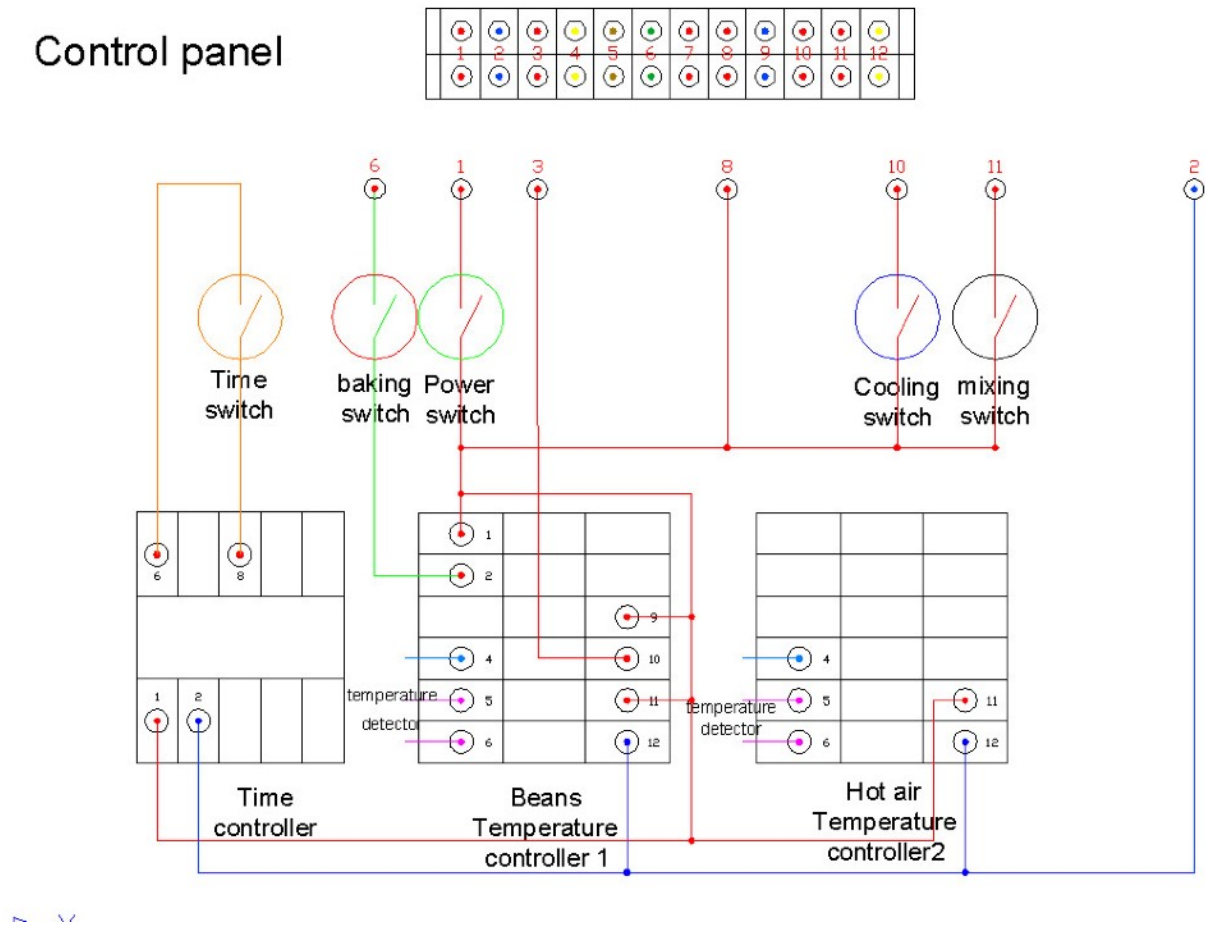
It is vital that all gas lines be free of leaks. Have all natural gas lines professionally installed by a certified technician License and approved in your locality.

LPG:

Use only professionally crimped gas lines and always check for leaks using the soapy water test before lighting any appliance.

SCHEMATICS OF THE CIRCUIT BOARD AND CONTROL PANEL

Control panel



IF YOU HAVE ANY FURTHER PROBLEMS THAT CANNOT BE RESOLVED CHECK OUR WEBSITE FOR HELP AND CONTACT YOUR SALES REPRESENTATIVE. WE WANT TO DO ALL WE CAN TO GET YOU UP AND RUNNING AS QUICKLY AS POSSIBLE.

AGAIN WE WANT TO THANK YOU FOR LETTING OUR COMPANY HAVE A PART IN THE SUCCESS OF YOUR BUSINESS AND IN THE JOY OF DEVELOPING THE CRAFT OF COFFEE ROASTING. COFFEE ROASTING AND MICRO-ROASTERS ARE QUICKLY BECOMING THE PREFERRED CHOICE OF COFFEE DRINKERS THE WORLD OVER AS MANY PEOPLE ARE JUST NOW GETTING TO TASTE WHAT TRULY FRESH ROASTED COFFEE IS ALL ABOUT. IF WE CAN BE OF FURTHER HELP IN GETTING YOUR COMPANY OFF THE GROUND WHILE SAVING YOU TIME AND MONEY THROUGHOUT THE ENTIRE PROCESS WE ARE HERE TO SERVE.

tech@buckeyecoffee.com

DISTRIBUTOR INFORMATION:

BUCKEYE ARIZONA ROASTING COMPANY LLC 23825 W HUNTINGTON DR BUCKEYE, ARIZONA 85326 USA 623.332.1360

IMPORTANT FACTS FOR USERS OF THE BC-7 TO BC-25:

DRUM MOTOR:

IMPORTANT!!!

**THE DRUM MOTORS ON THE BC-7 TO 24 ARE ALL 3 PHASE
WITH TRANSFORMERS: THEREFORE IF YOU TURN POWER
OFF ON ROASTER YOU MUST LEAVE OFF FOR AT LEAST 10
SECONDS BEFORE TURNING BACK ON OR DRUM MOTOR WILL
NOT COME ON.**

IMPORTANT STARTUP GUIDE

URGENT NOTICE:

READ THIS START UP GUIDE BEFORE USING YOUR ROASTER AND
DO NOT LET ANYONE OPERATE THE ROASTER WITHOUT BEING
TRAINED ON USING A GAS ROASTER

**FAILURE TO FOLLOW THESE INSTRUCTIONS WILL VOID
WARRANTY AND COULD PROVE HAZARDOUS OR FATAL**

Your BC-7, 14 or 24 roaster has many safety feature
build into unit. But if not properly used could cause fire
or explosion to your machine. If you do not read and train
all users of this equipment your operation of unit will be
at your own risk and will void all warranties and you
will be liable for all damages

1. IMPORTANT STARTUP INSTRUCTIONS
2. HOW TO START AND IGNITE YOUR ROASTER SAFELY
3. SAFTEY SHUT OFF VALVE

1. NEVER START A GAS ROASTER WITHOUT RUNNING AIRFLOW!

WHEN USING A GAS ROASTER ALWAYS FOLLOW THE SAFETY INSTRUCTIONS IN MANUAL.

Follow these steps for a safe and productive roast:

1. Always be sure your gas line is free of leaks. (Soapy water test)
2. Turn on machine and check that all components are working properly
3. When igniting roaster you **MUST** follow this procedure:
 - A. Turn on chaff fan (air flow) at least 20-30% (listen for running fan)
 - B. **MAKE SURE THE PILOT LIGHT VALVE IN BACK OF ROASTER IS OPEN. NEVER START ROASTER WITHOUT BACK PILOT LIGHT VALVE BEING OPENED.**
 - C. **DO NOT OPEN GAS VALVE IN FRONT**
 - D. Press ignitor button with front gas valve **OFF!** ('baking' button on control panel) it will buzz. When pilot light ignites pilot burner:
 - E. Slowly turn on front gas valve which will ignite all the burners.
 - F. **NEVER TURN GAS ON UNLESS AIR FLOW IS ON OR GAS COULD BUILD UP IN BURNER ROOM.**
4. Once flame ignites adjust pressure using the KPA gauge to 0.5-2-3 KPA with LPG gas or 0.25-1KPA in natural gas unit. Most roasts can be achieved at 2-3 KPA in LPG and as low as 1KPA in Natural gas unit. Small roasts may be roasted

much lower.

5. Adjust airflow up as roast develops to
remove smoke and chaff from drum and
in controlling temperature (ROR)

SAFETY MUST ALWAYS BE #1!

Never cut corners! Never operate a machine
not in perfect running condition.

***ALL ELECTRIC MODELS DO NOT REQUIRE
AS MUCH AIR FLOW AT THE BEGINNING
OF ROAST OR PREHEAT**

DRUM MOTOR:IMPORTANT!!!

**THE DRUM MOTORS ON THE BC-7 TO 24 ARE ALL 3
PHASE WITH TRANSFORMERS: THEREFORE IF YOU
TURN POWER OFF ON ROASTER YOU MUST LEAVE OFF
FOR AT LEAST 10 SECONDS BEFORE TURNING BACK ON
OR DRUM MOTOR WILL NOT COME ON.**

ALL FLAME SHOULD BE BLUE

BC-8, 15 & 25 Are safe roasters when operated properly:

2. HOW TO START AND IGNITE YOUR ROASTER SAFELY (BC-8, 15 & 25 ONLY)

These roasters are equipped with a pilot light ignitor.

The ignitor pilot light is designed
to ignite one burner
when pressing
the 'BAKING' or



'IGNITOR' Button on
control panel:

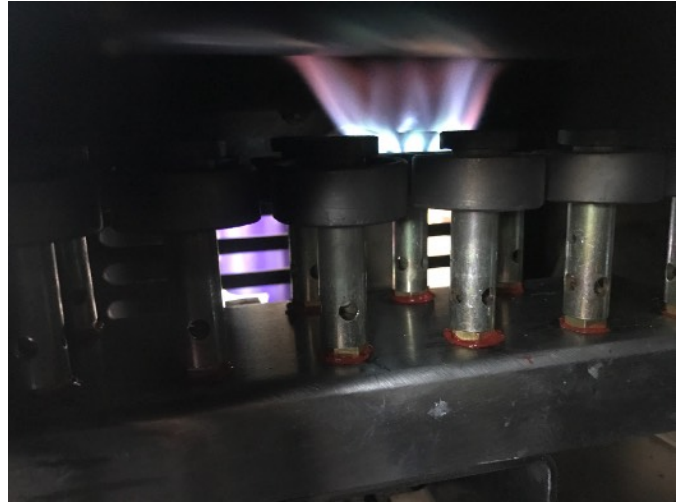
**ALWAYS TURN PILOT LIGHT VALVE TO OPEN ON BACK OF
ROASTER BEFORE LIGHTING UNIT**



**NEVER TURN ON THE FRONT GAS VALVE UNTIL AFTER
TURNING ON 'BAKING' IGNITOR BUTTON & VISUALLY
SEEING THE PILOT BURNER IGNITE.
NEXT TURN FRONT GAS VALVE SLOWLY ON WATCHING
FLAME SPREAD TO ALL BURNERS:**

PILOT IGNITOR BURNER:

Burner will ignite automatically after pressing the “BAKING” ignitor button on control panel:



THEN ONLY AFTER PILOT BURNER IGNITES CAN YOU SLOWLY TURN ON GAS VALVE ON FRONT OF ROASTER:



3. SAFTEY SHUT OFF VALVE

IN GENERAL YOU SHOULD NEVER NEED TO USE THE EMERGENCY SAFETY SHUT OFF BUTTON OR VALVE. BUT IF NEEDED THIS WILL SHUT ALL POWER OFF TO MACHINE STOPPING DRUM AND ALL POWER. IF NEEDED PUSH BUTTON IN. IT WILL NOT ALLOW STARUP AGAIN UNTIL TURNED CLOCKWISE AND THEN BUTTON POPS OUT ALLOWING ROASTER TO BE TURNED ON AGAIN.

BE AWARE IF USING SHUT OFF VALVE DURING A ROAST WILL DAMAGE OR DESTROY AND BURN BEANS

GREEN BUTTON-POWER

ORANGE- IGNITOR

BLUE-COOLING FAN

RED-SAFETY SHUT

OFF VALVE

YELLOW-TIMING

WHITE-MIXING ARMS

READ ENTIRE MANUAL BEFORE USE OR WARRANTY WILL BE VOID

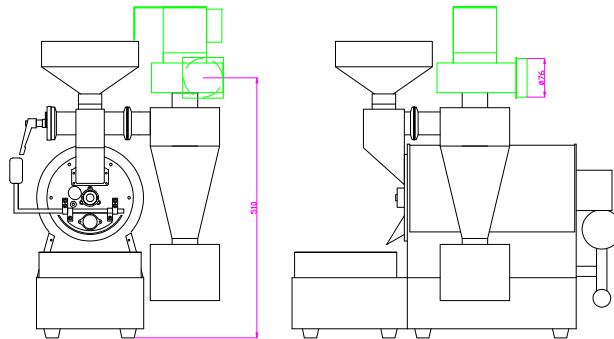


NOTES:

DRAWINGS TO HELP YOU WITH EXHAUST SETUP: (DRAWINGS SUBJECT TO CHANGE YEAR TO YEAR) BC-1



THE BC 1 HAS ONLY ONE 76MM OR
3" EXHAUST PIPE OFF CHAFF
UNIT

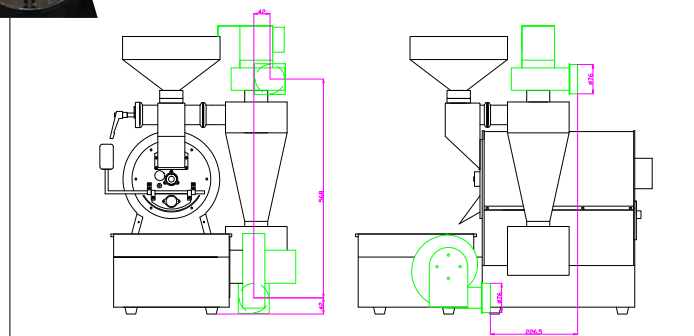


BC-2



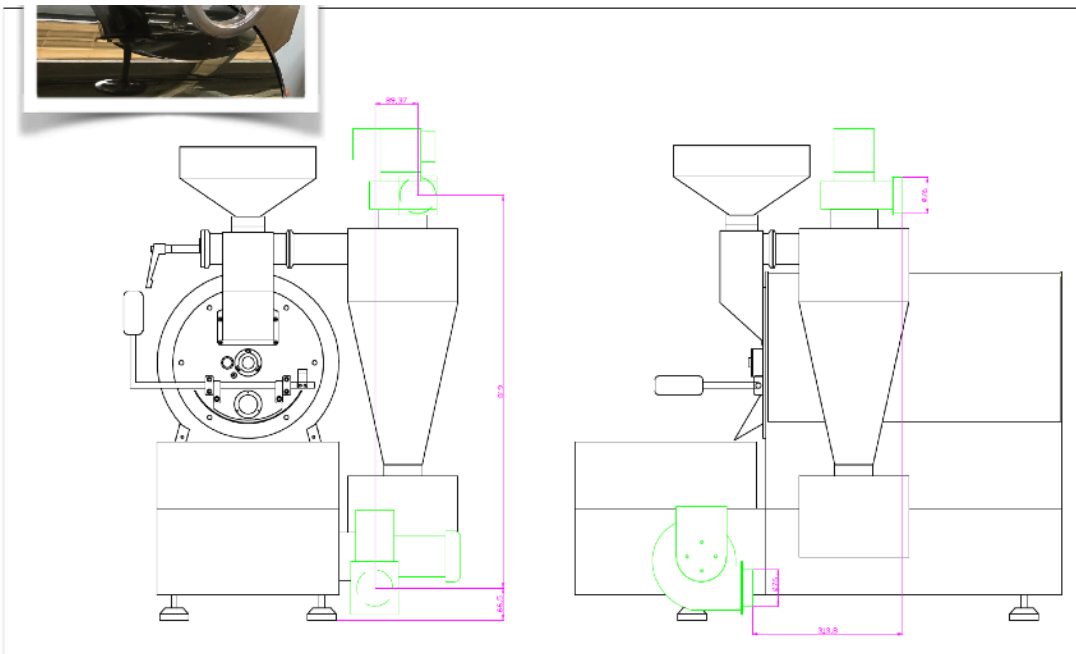
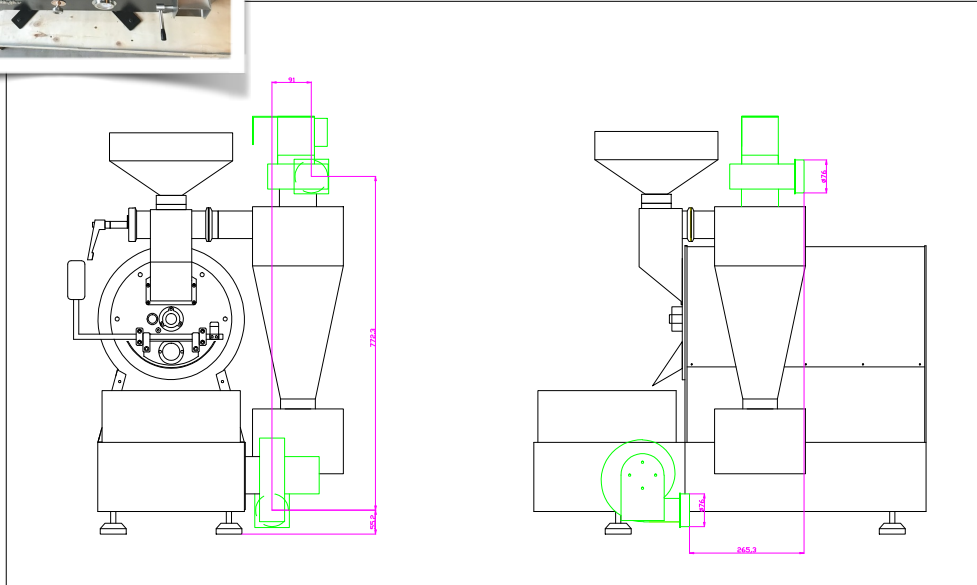
Coffee Roaster

2018 BC-2 WITH HAS 2 EXHAUST
76MM OR 3" SIZED



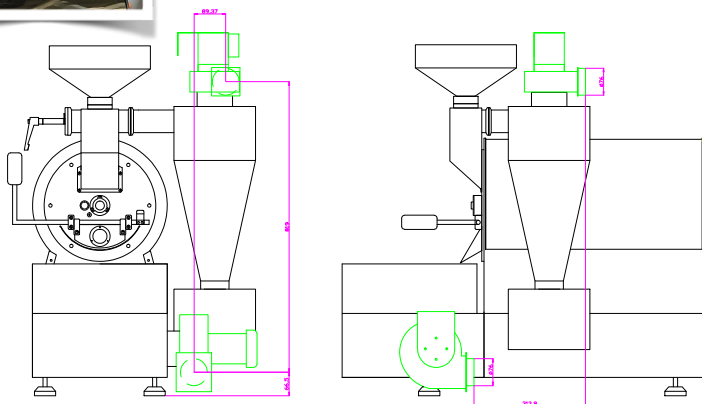


**BC-3 HAS TWO 76MM (3") EXHAUST
PIPES**





THE BC-5 HAS TWO EXHAUSTS
THAT ARE 76MM OR 3"

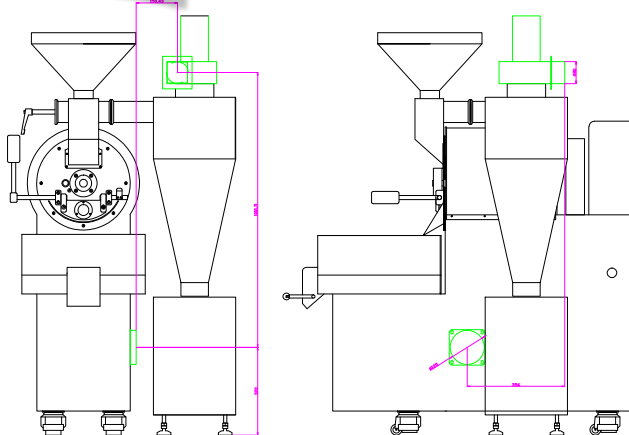


CORRECTION:
BC-5 (The Chaff fan is 3"
and Cooling tray fan on
2018 and newer models
are 4")

BC-7-8



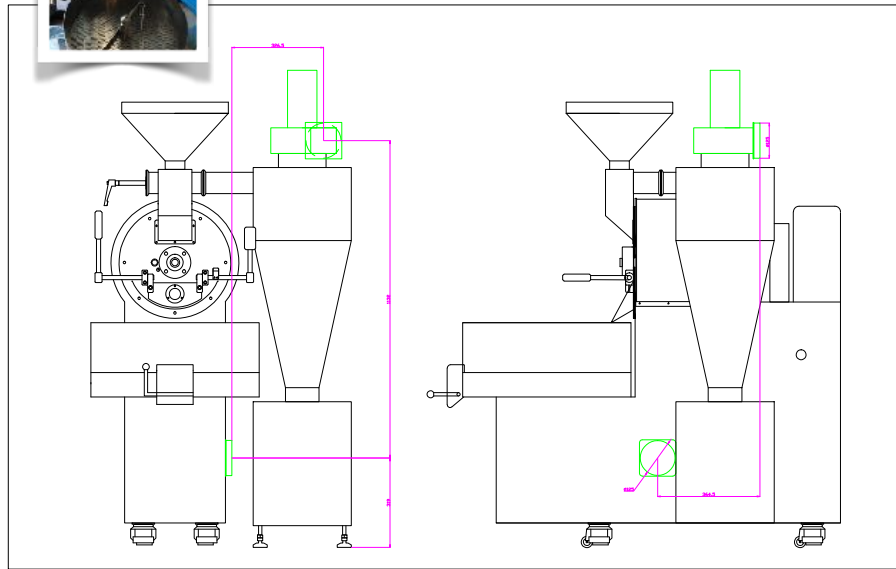
BC-7 HAS TWO EXHAUSTS THE TOP
OFF CHAFF UNIT IS 80MM OR 3.1" AND
THE COOLING TRAY IS 125 MM OR 5"



BC-14 & 15



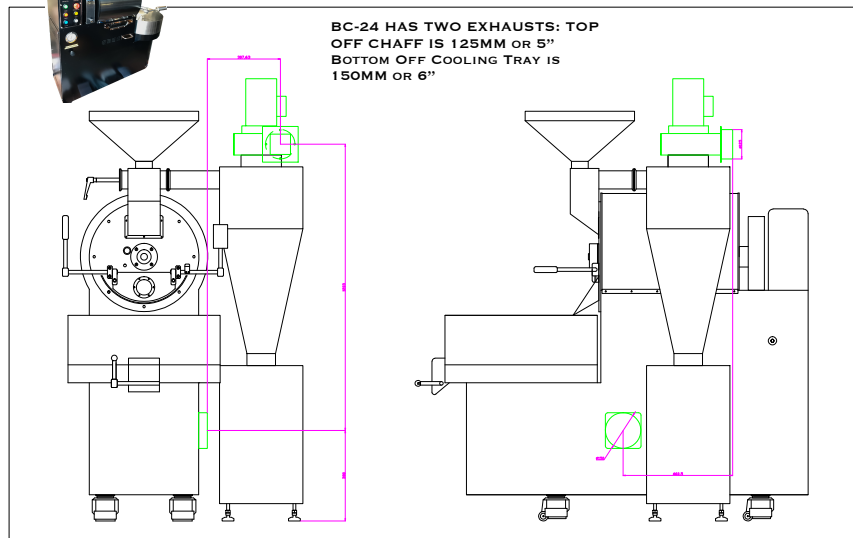
BC-14 HAS TWO EXHAUST PIPES:
BOTH ARE 125MM OR 5"



BC-24 & 25



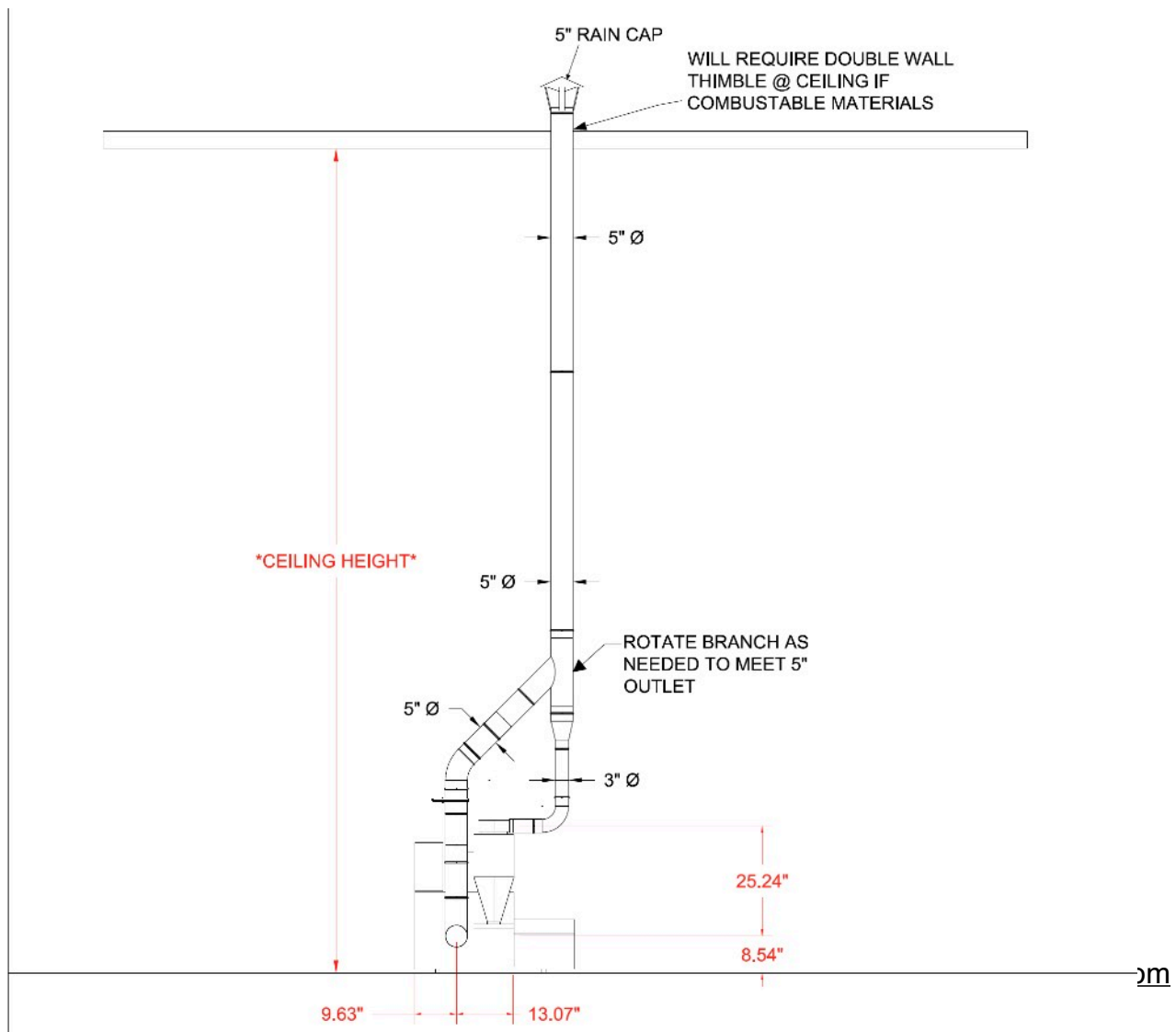
BC-24 HAS TWO EXHAUSTS: TOP
OFF CHAFF IS 125MM OR 5"
BOTTOM OFF COOLING TRAY IS
150MM OR 6"




REMEMBER: IF YOU NEED HELP:
WE ARE HERE TO HELP BUT WE CANNOT DO THIS
WITHOUT YOUR HELP. PLEASE SEND FULL DETAILS &
PICTURES AND VIDEO CLIPS TO:

TECH@BUCKEYECOFFEE.COM


EXHAUST DRAWINGS:
(Standard exhaust setups)



NO HOOD VENTING NEEDED ON BC ROASTERS FOR COOLING TRAY

BUCKEYE
COFFEE

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INTERNATIONAL

TO WHOM IT MAY CONCERN:

THE EXHAUST SYSTEMS ON COMMERCIAL COFFEE ROASTERS GENERALLY INVOLVE TWO EXHAUST PIPES COMING OFF ROASTER. THE PRIMARY AND MOST IMPORTANT ONE IS THE ONE PULLING AIR THROUGH THE DRUM OF ROASTER AND REMOVING BOTH SMOKE AND CHAFF INTO A CHAFF UNIT THAT IS CLEANED AND EMPTIED AFTER SEVERAL ROASTS. THIS EXHAUST PIPING SHOULD BE RATED TO HANDLE HEAT UP TO 500F AND HAVE EASY ACCESS FOR CLEANING PERIODICALLY WITH A PIPE BRUSH OR OTHER TOOLS. THE SECONDARY EXHAUST PIPE IS FROM COOLING TRAY.

COOLING TRAY EXHAUST:

THE COOLING TRAY IS ONLY USED SEVERAL MOMENTS PER HOUR AND ITS PURPOSE IS TO PULL COOL AIR INTO TRAY FROM ABOVE AND EXHAUST ALL HOT AIR AS WELL AS A VERY LIMITED 'PUFF' OF SMOKE WHEN DRUM DOOR OPENS TO DROP ROAST. THIS EXHAUST PIPE WILL GET VERY LITTLE HEAT AND SMOKE AND WILL NOT NEED TO BE CLEANED VERY OFTEN AT ALL EXCEPT TO VACUUM DEBRIS THAT MAY JAM AIR HOLES IN TRAY. THIS CAN BE ACHIEVED WITH A BRUSH OR SHOP VAC. THE RELEASE OF COFFEE OILS INTO TRAY WOULD BE VERY LIMITED EVEN IF CLIENT TAKES COFFEE INTO SECOND CRACK AND MOST OILS WOULD SIMPLY EVAPORATE AS IT IS PULLED INTO EXHAUST PIPES. THERE IS RARELY A NEED TO WIPE OILS FROM COOLING TRAY ALTHOUGH ALL SURFACES SHOULD BE KEPT CLEAN BY WIPING WITH A SOFT CLOTH TO REMOVE DIRT OR DUST.

SHOWN BELOW IS A STANDARD DRAWING OF MOST ROASTERS
AND THE TWO PLACES WHERE PIPES EXHAUST HOT AIR AND
SMOKE OUT OF BUILDING:

THANK YOU FOR BECOMING A CLIENT OF BUCKEYE COFFEE!

"YOUR SUCCESS IS OUR SUCCESS"

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COMMERCIAL ROASTER VENTING:

BCROASTERS.COM

BUCKEYECOFFEE.COM

TECH@buckeyecoffee.com

OUR COMMERCIAL ROASTERS HAVE SPECIFIC VENTING REQUIREMENTS. COMMERCIAL ROASTERS WORK DIFFERENTLY THAN NEGATIVE PRESSURE VENTING SYSTEMS: COMBUSTION GASES, SMOKE, MOISTURE FROM COFFEE, AND SOME CONDENSED COFFEE BEAN OILS ARE VENTED OUT OF BUILDING WITH AN EXHAUST FAN THAT IS A HIGHER PRESSURE THAN THE NORMAL ATMOSPHERIC AIR IN BUILDING. THEREFORE THIS FALLS INTO THE CATEGORY KNOWN AS CLASS 111 POSITIVE PRESSURE SYSTEMS AND REQUIRES VENTING THAT HANDLES THIS PRESSURE PLUS HEAT.

GENERALLY NEGATIVE PRESSURE VENTING (SUCH AS CLASS B,L OR A VENTING) IS NOT RECOMMENDED UNLESS EACH PIPE JOINT IS SEALED TO ACCOMMODATE A PRESSURIZED SYSTEM. IF USING SUCH PIPE VENTING BE SURE FIRST IT IS APPROVED IN YOUR COUNTY AND WILL HANDLE TEMPERATURES OF AT LEAST 500F DIRECTLY OFF CHAFF UNIT AND YOU ALLOW A REMOVABLE CAP TO CLEAN PIPE VENTING WITH A PROPER PIPE BRUSH EVERY FEW MONTHS. (DEPENDING ON USAGE YOU MAY NEED TO CLEAN VENTING PIPES MORE OFTEN) WHERE LOCAL REGULATIONS PERMIT WE RECOMMEND NORDFAB QF VENTING OR SIMILAR CLASS 111 POSITIVE PRESSURE VENTING AND CAN BE DISASSEMBLED FOR EASY CLEANING.

KEY POINTS:

- + EXHAUST PIPING SHOULD BE POSITIVE PRESSURE AND OR PROPERLY HEAT SEALED
- + THERE SHOULD BE PIPE CAPS OR EASY ACCESS TO CLEAN AND MAINTAIN PIPES
- + PIPE THAT COMES DIRECTLY OFF CHAFF UNIT SHOULD BE RATED AT MINIMUM 500F
- + ANY PIPE GOING THROUGH A WALL OR CEILING OR ROOF SHOULD BE PROPERLY INSULATED



BUCKEYE ARIZONA ROASTING COMPANY



IMPORTANT CHANGES ON THE 2018 BC-1, 2, 3, 5:

THE ALL NEW MDDS AIRFLOW SYSTEM:

THE AIR NEW MANUAL DIAL DAMPER SYSTEM PROVIDES THE MOST PRECISE CONTROL OF AIRFLOW INTO YOUR ROASTER:

TO GIVE YOU GREATER CONTROL
WE HAVE CHOSEN TO LEAVE THE
ELECTRONIC AIRFLOW SYSTEM
ON... BUT TO BEGIN WITH FOLLOW THIS
PROCEDURE TO START ROAST:

1. TURN ELECTRONIC FAN SPEED ON
100%
2. TURN MANUAL DAMPER TO 30
3. START ROASTER AS OUTLINED
IN MANUAL



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SPECIAL NOTICE TO BC USERS: TYPICAL AREAS TO MAINTAIN DAILY, WEEKLY & MONTHLY

ROASTER MAINTENANCE

