2025

PRIMO ROASTING EQUIPMENT ESTD. 1993

RAVEN-XR15

NO.15

HOURLY OUTPUT

- 95LBS PER HOUR
- 43.3KG PER HOUR

TRAINING MANUAL & SPEC SHEET

ROAST PROFILE AUTOMATION AVAILABLE

RAVEN-XR15

95 LBS. PER HOUR

Roast Time: 9 - 14 Minutes
One - Year Warranty

CONTACT

Phone
1.800.675.0160

Email
info@primoroasting.com

Address
1309 S. Lyon St. Santa Ana
CA, 92705

CAPACITY

- **15 - 33 lbs. Batch Sizes.**
- **43.3 Kg Per Hour.**

TECHNOLOGY

- Infrared Burner
- Roast Profile Software
- One-Year Warranty
- Adjustable Airflow
- Adjustable Drum Speed
- Independent Cyclone for Max Chaff Collection

ROASTER INFO

Introducing our the Raven-Xr15. The Raven has the production capacity to keep up with your expanding business.

SPECIFICATIONS

Infrared Burner for Efficiency and a More Consistent Roast

Equipped with state-of-the-art temperature sensors and a powerful infrared heating system, the Raven-Xr15 ensures consistent heat distribution throughout the roasting process. Whether you prefer a light, medium, or dark roast, this roaster empowers you to achieve your desired roast profile with ease.

Carbon Steel Construction

Built with durability and precision in mind, the Raven-Xr15 features high-quality carbon steel construction and a robust drum design that ensures optimal heat transfer and even roasting.

Roast and Cool Simultaneously

The integrated cooling system allows for simultaneous roasting and cooling. Increase production, productivity, and consistency with our built-in system.

ADDITIONAL OPTIONS

- Adjustable Airflow
- Adjustable Drum Speed
- USB - Profile Software
- Manual Gas Override
- Propane or Natural Gas
- Double Walled Drum

SALES INFORMATION

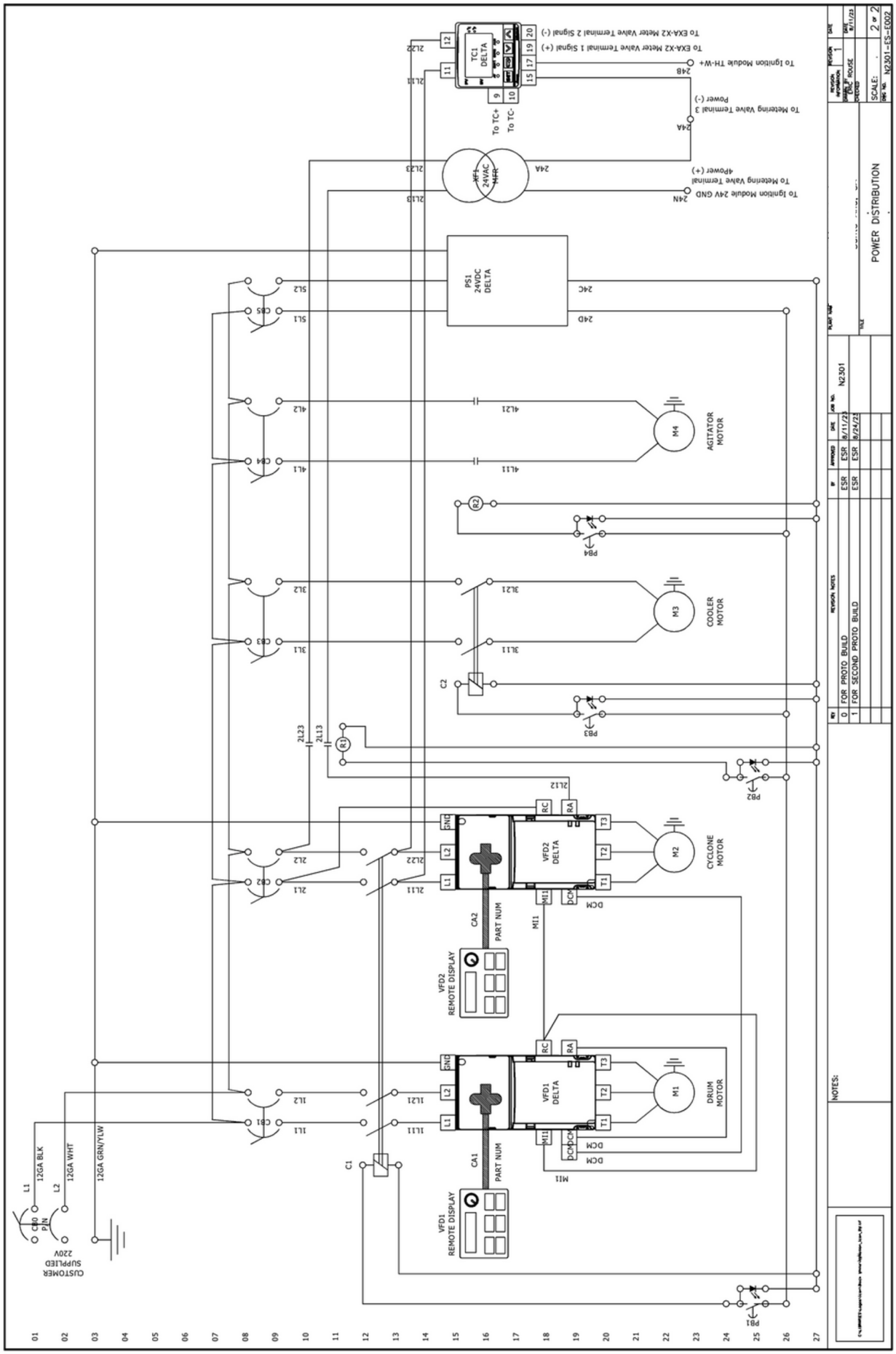
Christian
Primo Roasting / CMO
1.626.249.9663
Christian@PrimoRoasting.com

TABLE OF CONTENTS

TECHNICAL DATA

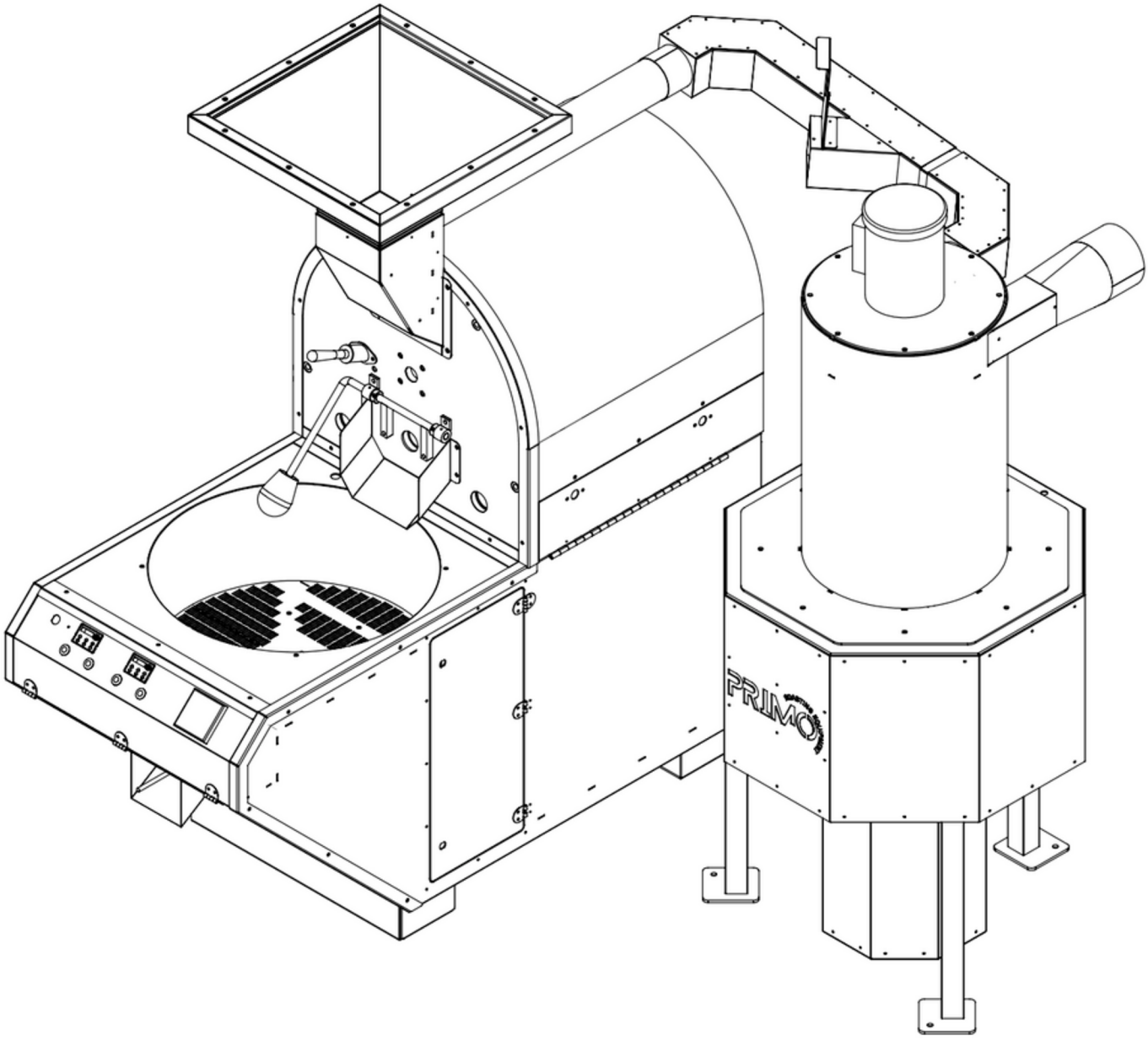
RAVEN-XR15 INFORMATION	TECHNICAL DATA
Green Coffee Capacity, Min - Max	15- 33 lbs. // 7 - 15 kg.
Dimensions, Maximum (Including Cyclone)	79" L x 73" W x 77" H
Shipping Weight	1650 lbs. // 748.42 kg.
Roaster Weight	1200 lbs. // 544.3 kg.
Cyclone Weight	300 lbs. // 136 kg.
Full Batch Roast Time	9 - 14 Minutes
Hourly Output	95 lbs. // 43.3 kg.
Roast Air, Maximum	360 SCFM
Cooling Tray, Air Maximum	1125 SCFM
Roaster/Cyclone Exhaust Diameter	8" // 203.2 mm - 6" // 152.4 mm
Temperature High Limit	500F. // 260C.
Gas Information	
Gas Types	Liquid Propane (LP) or Natural Gas (NG)
Maximum Consumption	300,000 BTU/hr.; 88 kWh
Typical Consumption Per Roast	53,000 BTU/hr.; 15.5 kWh
Inlet Gas Supply Connection	1/2” Male NPT NG // 1/2” to 3/8” FLARE LP
Electrical Information	
Volts AC	220V // 14.5 AMPS.
Frequencies	60Hz.

WIRING SCHEMATICS



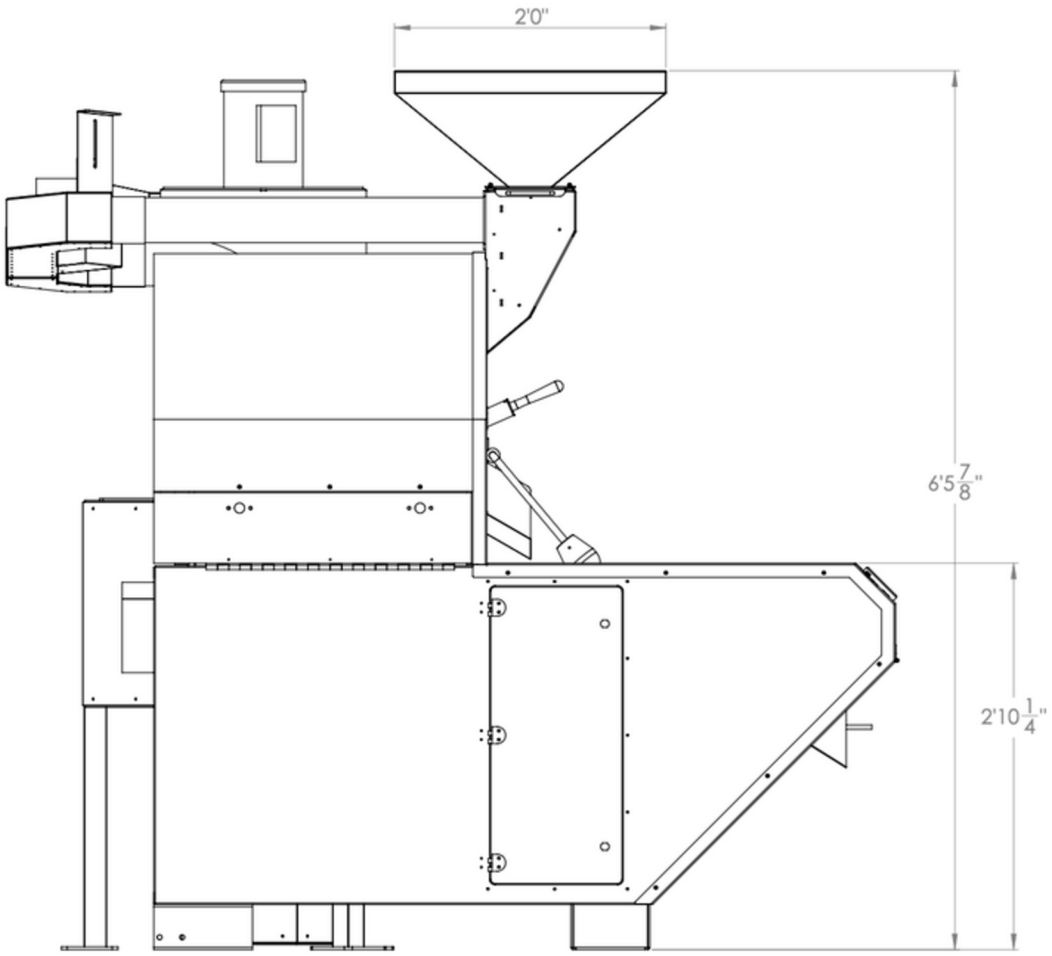
ROASTER DRAWINGS

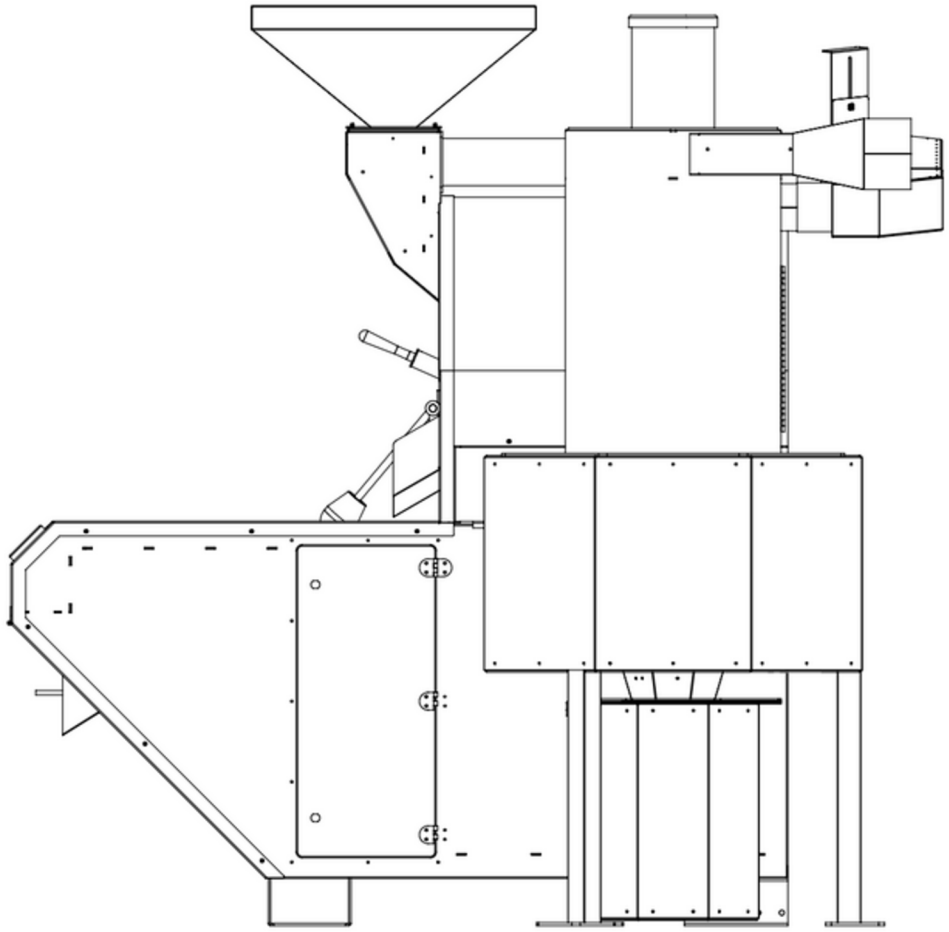
NOT TO SCALE



ROASTER DRAWINGS

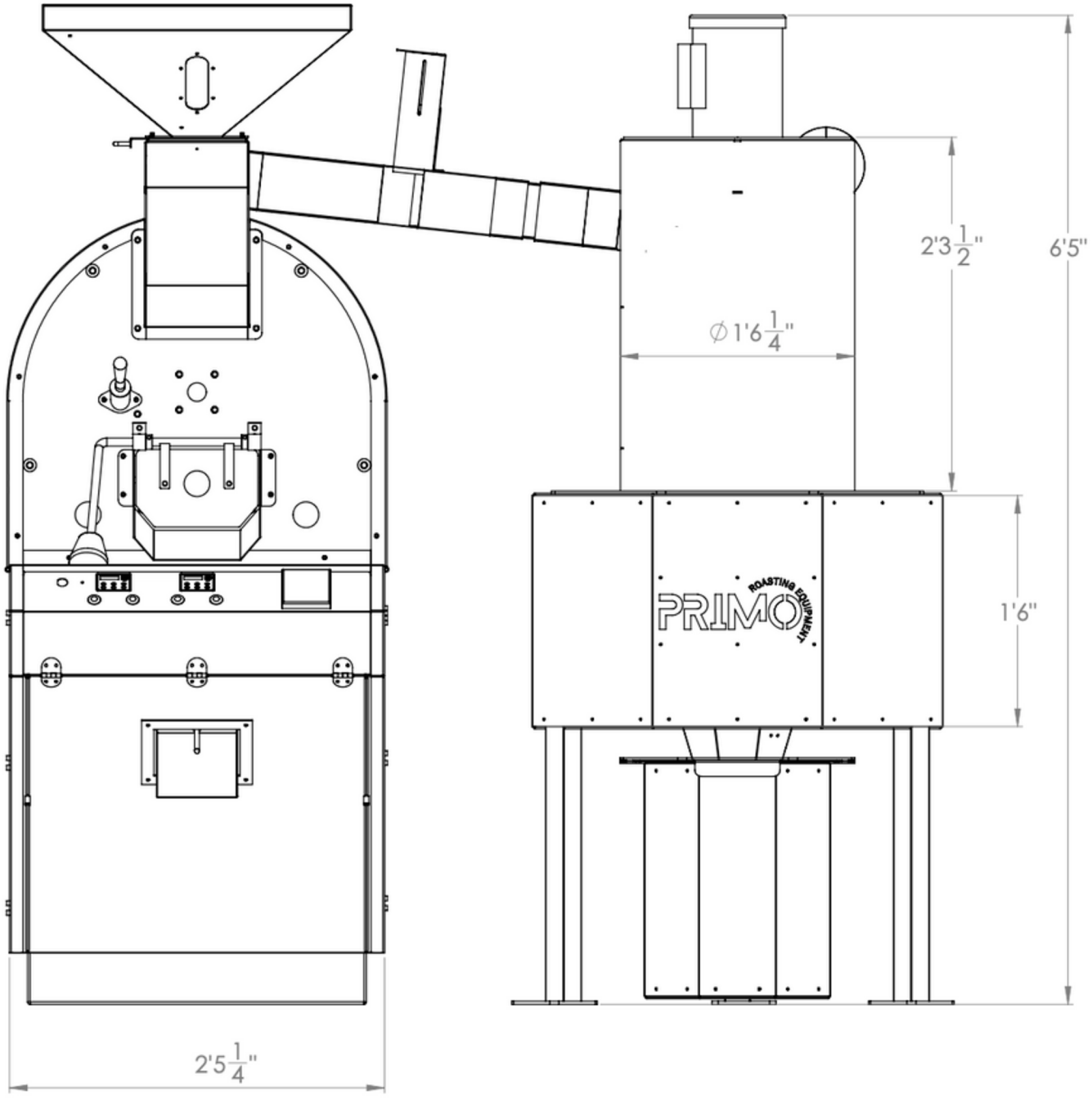
NOT TO SCALE





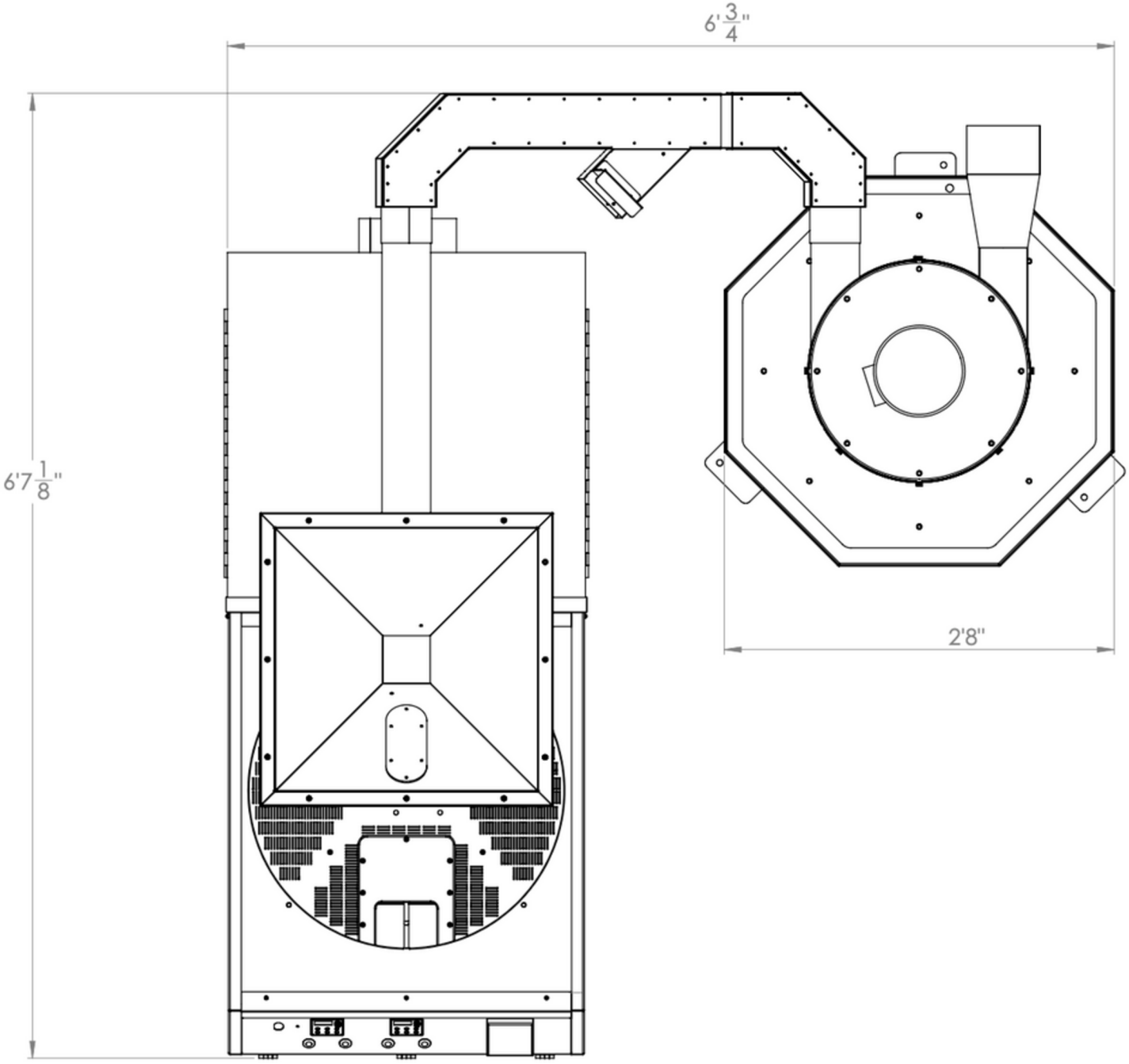
ROASTER DRAWINGS

NOT TO SCALE



ROASTER DRAWINGS

NOT TO SCALE



PRIMO WARRANTY

Primo Roasting Equipment offers a 12-month limited warranty from the time of delivery on all electrical and mechanical parts. Defects in workmanship and fabrication are covered for the life of the roaster. Labor and shipping charges are not covered under the warranty.

Primo Roasting Equipment is not liable for any damage to roasting equipment caused by improper installment, usage, or manipulation to the product. Please read and follow all Receiving, Installation, Operation, and Maintenance Instructions properly to avoid issues related to user performance. Additionally, failure to adhere to municipal codes and permitting is not covered under this warranty. Please ensure you are following all local laws and regulations prior to roaster installation.

Under this warranty, customers must contact Primo Roasting Equipment via email or phone about any defects prior to the warranty expiration date. A support technician will assist you and decide under his/her sole discretion if the product contains a defect. Primo Roasting Equipment will pay for replacement parts and shipping of any product under warranty. Customers are responsible for repairs and installation.

For additional questions related to Primo Roasting Equipment's warranty, please contact your equipment representative.

Contact: info@primoroasting.com

RECOMMENDED TOOLS

- **Pallet Jack (For Receiving & Installation)**
- **Forklift**
- **Hand Wrenches, sockets, allen wrenches, and screwdrivers**
- **Grease Gun**
- **Hand-held brass wire brushes or scrub brushes**
- **Soft Cloths**
- **Vacuum Cleaner**
- **Soft Brush**
- **Gloves**

SAFETY INFORMATION

Prior to installing & operating your roaster please read the entire manual. If you see this symbol in the manual, make sure to read what follows because it is a caution for actions that can cause harm or damage to your machine and/or the operator.
Death, injury, or property damage can be caused because of improper installation, adjustment, alteration, service, or maintenance. The entire installation guide must be read prior to installing, cleaning, operating, or servicing this roaster.

It is the owner's responsibility to ensure the installation, cleaning, and operation of the roaster are done safely/properly. Only a qualified professional should operate this roaster.

Keep any flammable items including but not limited to, gases, vapors, liquids, & solids, far away from the roaster at all times. The roaster needs to have a fire extinguisher nearby easily accessible incase of fire. Your local fire department will have information on which fire extinguishers should be used. Fires may be caused from not cleaning the roaster or exhaust system correctly and/or often enough.

The roaster needs 18 inches of space around it at all times. Do not touch Hot surfaces.

Once the installation of the roaster is completed, you will need to have it inspected to ensure it is compliant to local building codes. A local fire inspector must also inspect the machine. These things must be done prior to operating. The Primo Roasting Equipment warranty may be null/void if the inspections are not done. This would relieve Primo Roasting Equipment from any liability that has to do with the use of the machine & how the installation was done.

Instructions for what to do when the roaster operator finds a gas leak and/or smells gas need to be posted in a location easily accessible/readable. Your local gas company or company that supplies gas will have the instructions for you to get from them.

RECEIVING & UN-CRATING

Bill of Lading & Crate Inspection:

Before signing the Bill of Lading please follow the instructions; Do NOT sign the Bill of Lading until you have fully inspected the crates for any damages.

1. **Do NOT Refuse Shipment**
2. **Inspect the crate for damage and make notation on delivery receipt of any Visible Loss or Damage.**
3. **If crate damage is discovered, leave the item in original container and packaging, and request immediate inspection from carrier.**
4. **If the tilt or shock indicators have been tripped, leave the item in original container and packaging, note damage on the Bill of Lading (take photos).**
5. **Contact Primo Roasting Equipment if damage has occurred.**

Roaster:

Remove crate walls using a drill and phillips head to expose the roaster.

Once all walls are taken off, cut the steel cords strapped over the cooling tray. The roaster is bolted to the pallet in two locations. Both bolts are located at the rear of the roaster connected to the pallet jack feet via bracket.
After the roaster is free standing on the pallet use forklift to move off of the pallet.

The cyclone is bolted to a pallet in three locations. There are bolts at the base of each foot of the cyclone (x3). Using two wrenches remove the three bolts freeing the cyclone from the pallet. Once free you can slide the cyclone off of the pallet and onto the floor. (We recommend using minimum 3 people that can lift 100lbs. each)

Set roaster and cyclone in desired area *Spacing requirements further down*

Spacing Requirements:

Be sure you have ample access to the green bean funnel, control panel, access doors, chaff bin, etc.
Space your roaster about 18” from back wall to ensure you have ample access for venting the machine.
The footprint of the roaster is 79" L x 73" W x 77" H. There must be easy access to the following areas: cyclone chaff bin, left and right side access doors, control panel, hopper, and gas line connection located on the back of the machine. Having easy access to these places will make cleaning and maintenance much easier.

INSTALLATION GUIDELINES

Electrical:

ATTENTION: Use a licensed electrical company when installing the electrical on your Primo roaster.

Consult your licensed electrician to ensure proper installation of either the 110 V or 220 V, based off requested voltage. If using 220v a 3 prong 220v will not be included and must be wired to the 3 wires from the machine.

Plug Types:

Raven-Xr15: 220V Power Cord Included (PLUG NOT INCLUDED)
Plug Type: L6-20P Locking Plug

Gas:

ATTENTION: Use a licensed gas company when installing the gas line on your Primo roaster.

Local codes, regulations, and/or laws must be followed when doing the gas installation for the machine.
***Propane roasters must use propane only and are required to use a gas regulator.**
Have a certified gas worker inspect and double check any gas connection work you do.

Roaster Gas Connection Sizing:

Raven-Xr15 - 1/2" Male NPT NG // 1/2" to 3/8" FLARE LP

Gas Pressure for Propane: 11 Turns on Gas Valve

TO INCREASE PRESSURE TURN SETSCREW CLOCKWISE
TO DECREASE PRESSURE TURN SETSCREW COUNTERCLOCKWISE
10.0in. Water Column Inlet Pressure Recommended (11 Complete Turns Clockwise from the Top)

Gas Pressure for Natural Gas: 6-8 Turns on Gas Valve

TO INCREASE PRESSURE TURN SETSCREW CLOCKWISE
TO DECREASE PRESSURE TURN SETSCREW COUNTERCLOCKWISE
6.5in. Water Column Inlet Pressure Recommended (6-8 Complete Turns Clockwise from the Top)

INSTALLATION GUIDELINES

Checking Gas Pressure using Manometer:

1. **Turn gas control knob to PILOT or OFF.**
2. **Remove outlet pressure tap plug from gas control.**
3. **Turn gas control knob to ON position.**
4. **To obtain an accurate outlet pressure reading, main must be cycled on and off several times to stabilize the pressure regulator diaphragm.**
5. **Light main burner and read pressure on gauge.**
6. **If necessary, adjust pressure regulator to match appliance rating.**

- **Remove pressure regulator adjustment cap screw.**
- **Using a screwdriver, turn inner adjustment screw clockwise to increase or counterclockwise to decrease gas pressure to main burner.**
- **Always replace cap screw and tighten firmly to prevent gas leak.**

7. **Turn gas control knob to PILOT OFF.**
8. **Remove pressure gauge and replace outlet pressure tab plug and pressure regulator cap screw.**

Exhaust:

The exhaust air from the roasting process is hot and contains oils and residues which are flammable. In the event of a ducting/flue fire, the internal duct temperatures can exceed 1000° F (538°C), which could cause nearby combustible materials to ignite. Thus, Primo recommends, at a minimum, fire rated, positive pressure ducting that meets the applicable region/local standards, such as UL for USA, ULC for Canada, and CE for the European Union. An important consideration when designing an exhaust ducting system is the static pressure. The static pressure is the back-pressure or suction within the system. The exhaust ducting that connects to the roaster, cyclone, or afterburner, must be designed to operate with a static flue pressure between negative 0.15”WC (suction) and positive 0.25”WC (back-pressure) at the exhaust of the roaster (cyclone or Afterburner, as applicable) while in operation.

Ducting must be suitable for 500°F (260°C) continuous, 2,000°F (1,093°C) for 30, minutes, in the USA/Canada, and/or equivalent standards for other countries (such as CE standards for the European Union).
Installation must be done in accordance with appropriate NFPA standards in the USA or equivalent standards in other countries. The installation must also comply with the manufacturer’s installation specifications and allowable distance to combustible/ noncombustible materials.

INSTALLATION CHECKLIST

Before installation, ensure you have reviewed all local codes and regulations regarding gas, electrical, and ventilation requirements.

1. Pre-Installation Preparation:

1. **Verify that the installation site meets all space, ventilation, and utility requirements for your Primo Roaster.**
2. **Ensure the area has proper flooring, is level, and can support the weight of the roaster.**
3. **Check that the electrical supply matches the roaster's voltage and phase requirements.**
4. **Confirm the gas supply (if applicable) meets the necessary pressure and connection specifications. (Refer to Page #13)**
5. **Ensure proper exhaust and ventilation are in place to handle airflow and emissions.**

2. Unpacking & Positioning:

1. **Carefully unpack the roaster and inspect for any shipping damage. Report any issues or damages within 48 hours.**
2. **Move the roaster into position using appropriate lifting equipment. Do not tilt or drop the unit.**
3. **Ensure there is adequate clearance around the roaster for maintenance and airflow. (Refer to Page#12)**

3. Electrical & Gas Connections:

1. **Hire a licensed electrician to connect the roaster to the power supply, ensuring proper grounding.**
2. **A licensed gas technician must connect the gas line securely.**
3. **Perform a leak test on all gas connections before operation.**

4. Exhaust & Ventilation Setup:

1. **Install the exhaust ducting according to Primo's specifications and local regulations.**
2. **Ensure the exhaust system is securely fastened and free of obstructions.**
3. **Confirm the airflow meets the required CFM (Cubic Feet per Minute) for safe operation.**

5. Initial System Checks:

1. **Inspect all fasteners, panels, and components to ensure everything is properly secured.**
   - **Ensure all buttons are working. (Power, Ignition, Cooler, Agitator)**
   - **Make sure both VFD's are working properly. (Refer to Page #17)**
   - **Ensure cyclone motor fan is rotating counterclockwise.**
   - **Make sure the drum is rotating clockwise.**
   - **Check the Drum spacing between the front plate and the drum. There should be a 1/16th to an 1/8th of an inch gap between the front plate and the drum.**
   - **To check the drum depth open the front exit chute door and look at the gap between the drum and the front plate of your machine. If you need to adjust the drum depth (Refer to Page #24)**
   - **If your drum spacing is adequate make sure the TWO front bearing set screws are securely tightened to the drum shaft.**
2. **Run a test cycle without beans to ensure smooth operation of the drum, burners, and airflow.**
3. **Monitor for any unusual noises, vibrations, or error codes during the test cycle.**

6. Final Verification & Safety Checks:

1. **Ensure all emergency shut-off features are functional.**
2. **Train staff on proper startup, shutdown, and safety procedures.**
3. **Keep a fire extinguisher nearby and ensure compliance with local fire safety regulations.**
4. **Verify all maintenance schedules and operating manuals are provided for ongoing care.**

7. Ready to Roast:

1. **Once all checks are complete, load a half batch of beans to ensure even roasting performance.**
2. **Adjust settings as needed and begin roasting with confidence!**

For technical support or questions, contact; info@primoroasting.com

OPERATING MACHINE

The Raven-Xr15 has 4 buttons located on the control panel. The buttons in order from left to right: Main Power, Burner Ignition, Cooler, & Agitator. Every Raven-Xr15 is outfitted with a Delta PID. This PID shows your current drum temperature and allows you to set your desired temperature.

Starting Roaster:

1. Make sure roaster is properly connected to the correct gas source.
2. Make sure roaster is properly plugged in to the correct outlet.
3. Make sure the chaff bin is empty and that the under cooler & side panels are clean of debris.

How to turn roaster on: Roasting

1. **Preheat roaster before first roast for 15-20 minutes or at 400 F.**
2. **Turn Roaster ON by pushing in the "POWER" button on the control panel of the roaster.**
3. **Verify that both VFD's are on. Ensure that both red lights on the VFD controls are ON. You need both the FWD and RUN light on the left hand side to be lit up RED. If the RUN light isn't lit up you will need to cycle the power on and off.**
    a. **Press the power button in the OFF position.**
    b. **Wait for both VFD screens to turn OFF before cycling power back on.**
4. **Set Drum Speed VFD to 50Hz and Air Speed VFD to 35Hz.**
5. **Next push in the "IGNITION" button to activate your burners.**
6. **You should hear the spark sensor activate to ignite the burners.**
7. **Set desired temperature on the PID, use keypad up and down arrows to set desired temperature.**
8. **Fill hopper with raw material.**
9. **Once filling stops pull funnel slide gate open to allow material to fall into the drum.**
10. **Close funnel slide gate.**
11. **Once the material reaches desired temperature PRESS the agitator switch and the cooler switch.**
12. **When material is finished open drum door to allow all material to fall into the cooling tray.**
13. **Allow machine to reheat prior to next material drop.**
14. **Open discharge gate to allow first roast to be transported before the new roast reaches desired degrees.**
15. **Close discharge gate when all roasted material is out of cooling tray to prepare it for the batch currently roasting.**
16. **Repeat steps for multiple batches.**

Cooling:

Before dropping roasted material into the cooling tray turn on the agitator and cooler buttons. Once your material has cooled to the desired temp you can open the discharge gate to drop material into storage bin. Be sure to close the discharge gate correctly before dropping the next batch of material into the cooler tray.

Shutdown:

When roasting is completed allow the roaster to cool while the machine is running.

- **To speed up the cool down time increase the Air Speed VFD to 95Hz.**
- **Open the top slide gate near the funnel.**

When bean temp probe reads less than 150 degrees F/ 65 degrees C, turn OFF main power.

CONTROLLER SETTINGS

Controller Key:

- **Roast Master Software: RTU Setting**
- **Artisan & Cropster: ASCII Setting**
- **Gas Control: CTRL Setting**
  - **PID: Auto Mode (Valve Modulates Automatically to Produce Curve)**
  - **MANU: Manual Mode (Gas Control via Software or Controller)**
- **Gas Valve Reading: OUT1 Setting (Gas Valve Control 0-100%)**
- **Temperature High Limit Safety Feature: AL3L (exp. 470 Degrees)**

Software Settings:

Roast Master: RTU Setting (Hold the SET button until the letter J comes up. From here press the back button 11 times until you get to the "C-SL" screen. Next you can use the up and down arrows to switch between ASCII and RTU. Once the proper setting is selected hit the SET button and return to your home screen.)

Artisan & Cropster: ASCII Setting (Hold the SET button until the letter J comes up. From here press the back button 11 times until you get to the "C-SL" screen. Next you can use the up and down arrows to switch between ASCII and RTU. Once the proper setting is selected hit the SET button and return to your home screen.)

Roaster Connection to Device:

Connect your device via USB2.0 to the roaster via USB port on control panel.

1. **Ensure the proper driver is installed to connect via software.**
2. **Ensure your controller is set to the proper setting.**

- **Roast Master Software (RTU Setting)**
- **Artisan & Cropster (ASCII Setting)**

3. **Make sure your device has the correct COMM port selected via software settings.**

Roaster Connection to Device NOT Working:

1. **Carefully open your control panel.**
2. **Locate the USB connection bulk head (USB Splitter).**
3. **Located the device called (D-TECH) connected to your USB bulk head.**
4. **Make sure your D-TECH is properly connected and secured to the USB bulk head.**
5. **Plug in your device (Tablet/Laptop) through the USB bulk head via USB2.0.**
6. **Once your device is plugged into the roaster you should see three red lights activate on your D-TECH device. If you see red lights on the D-TECH activate your D-TECH is working properly.**

CONTROLLER SETTINGS

Serial Connection Parameters:

1. **Encoding: ASCII (Artisan & Cropster) // RTU (Roast Master)**
2. **Baud Rate: 9600**
3. **Data Bits: 8**
4. **Parity: Even**
5. **Stop Bits: 1**
6. **Bean Temp: 4096**
7. **Gas Control: 4114**

Additional Controller Settings:

1. **tPUn: Set input to type J**
2. **Set temperature to F or C (F=Fahrenheit // C=Celsius)**
3. **CtrL: Select Control Mde "CTRL" (PID=Auto Gas Valve // MANU=Manual Control over Gas Valve via software or controller)**
4. **ALA3: Set ALA3 to 7**
5. **CoSH: Enable/Disable communication write function CoSH (ON for use with serial comms)**
6. **C-SL: Select ASCII or RTU depending on software choice**
7. **C-no: Set communication address to setting to 1.**
8. **bPS: Set communication Baud Rate setting to 9600.**
9. **LEn: Set data bit length to 8**
10. **PrtY: Set parity to even**
11. **StoP: Set stop bit setting to 1**
12. **SP: Set decimal point to 0**
13. **AL3L: Set to 475F.**

Gas Control via Software:

From the controller home screen (two temperatures visible) press and hold the SET button until the letter J comes up on the screen. From here press the BACK button to cycle through the menu until you get to the "CTRL" screen. On this screen you will see "CTRL" and "MANU or PID". Switch the "CTRL" setting between "MANU or PID" using the UP and DOWN arrows on the right side of the controller. Once desired setting is selected and blinking press the SET button to save your setting. Press SET once again to return to the home screen. Double check you're in "MANU" mode by pressing the BACK button FIVE times from the home screen. This will take you to the "OUT1" screen. This screen displays your current gas valve position from a 0.0-100.0% basis. Use the UP and DOWN arrows on your controller to SET the desired percentage you would like the valve to be open.

CONTROLLER SETTINGS

Gas Control via Controller:

To manually adjust your gas valve via the controller press the BACK button from the home screen FIVE times. This will take you to the "OUT1" screen. This screen displays your current gas valve position from a 0.0-100.0% basis. Use the UP and DOWN arrows on your controller to SET the desired percentage you would like the valve to be open.

VFD PARAMETERS & SETTINGS

BEFORE SWITCHING PARAMETERS PLEASE CONTACT A PRIMO REPRESENTATIVE TO ENSURE YOUR MACHINE HAS THESE CAPABILITIES.

BEFORE SWITCHING PARAMETERS BEWARE THAT ONCE SWITCHED TO SOFTWARE CONTROL YOU WILL LOSE MANUAL CONTROLS VIA THE VFD DIAL. WE RECOMEND SWITCHING THESE SETTINGS FOR ALL ROASTERS ONLY USING THE ROAST MASTER SOFTWARE.

VFD Parameters Switching to Software Control (DRUM SPEED):

1. **Remove both VFD covers inside of the panel**
2. **Remove Far Left Cable on Drum VFD**
3. **Hit Enter button twice**
4. **Hold up arrow until VFD reads (00.20)**
5. **Press Enter**
6. **(7) Hit down arrow until VFD reads (1)**
7. **Press Enter Button**
8. **(00.20) Hold up arrow until VFD reads (09.00)**
9. **Hit Enter button**
10. **(2) Hit Enter Button**
11. **(09.00) hit up arrow until VFD reads (09.04)**
12. **Hit Enter button (14)**
13. **Cycle power OFF and reconnect far left cable on Drum VFD**
14. **Close your panel and cycle power back ON**

VFD Parameters Switching to Software Control (AIR SPEED):

1. **Remove both VFD covers inside of the panel**
2. **Remove Far Left Cable on Drum VFD**
3. **Hit Enter button twice**
4. **Hold up arrow until VFD reads (00.20)**
5. **Press Enter**
6. **(7) Hit down arrow until VFD reads (1)**
7. **Press Enter Button**
8. **(00.20) Hold up arrow until VFD reads (09.00)**
9. **Hit Enter button**
10. **(3) Hit Enter Button**
11. **(09.00) hit up arrow until VFD reads (09.04)**
12. **Hit Enter button (14)**
13. **Cycle power OFF and reconnect far left cable on Air Speed VFD**
14. **Close your panel and cycle power back ON**

VFD PARAMETERS & SETTINGS

VFD Parameters Switching to Manual Control (DRUM SPEED):

1. **Remove both VFD covers inside of the panel**
2. **Remove Far Left Cable on Drum VFD**
3. **Hit Enter button twice**
4. **Hold up arrow until VFD reads (00.20)**
5. **Press Enter**
6. **(1) Hit down arrow until VFD reads (7)**
7. **Press Enter Button**
8. **(00.20) Hold up arrow until VFD reads (09.00)**
9. **Hit Enter button**
10. **(2) Hit Enter Button**
11. **(09.00) hit up arrow until VFD reads (09.04)**
12. **Hit Enter button (14)**
13. **Cycle power OFF and reconnect far left cable on Drum VFD**
14. **Close your panel and cycle power back ON**

VFD Parameters Switching to Manual Control (AIR SPEED):

1. **Remove both VFD covers inside of the panel**
2. **Remove Far Left Cable on Drum VFD**
3. **Hit Enter button twice**
4. **Hold up arrow until VFD reads (00.20)**
5. **Press Enter**
6. **(1) Hit down arrow until VFD reads (7)**
7. **Press Enter Button**
8. **(00.20) Hold up arrow until VFD reads (09.00)**
9. **Hit Enter button**
10. **(3) Hit Enter Button**
11. **(09.00) hit up arrow until VFD reads (09.04)**
12. **Hit Enter button (14)**
13. **Cycle power OFF and reconnect far left cable on Air Speed VFD**
14. **Close your panel and cycle power back ON**

REFER TO THE VIDEO'S PAGE FOR VIDEO REFERENCES ON CHANGING THE VFD PARAMETERS.

ADJUSTMENTS

Adjusting Drum Depth:

WHEN ADJUSTING DRUM DEPTH HEAT YOUR MACHINE TO 465 DEGREES FAHRENHEIT. AT THIS TEMPERATURE THE DRUM HAS EXPANDED DUE TO HEAT AND YOU'RE READY TO SET YOUR DRUM DEPTH. MAKE SURE WHEN TIGHTENING THE SET SCREWS ON YOUR FRONT BEARING THAT YOUR BURNERS ARE OFF TO AVOID DRUM WARPING.

Sliding Drum Forward:

1. **Loosen both set screws on the front bearing.**
2. **Go to the rear of the machine and locate the two couplings.**
3. **Now use a flathead screwdriver and place the head of the screwdriver between the two couplings.**
4. **From here you will use leverage with the screwdriver to pry the couplings apart allowing the drum to slide forward to desired drum depth is reached.**
5. **After desired drum depth is reached tighten both set screws on the front bearing of the machine.**

Pushing Drum Back:

1. **Loosen both set screws on the front bearing.**
2. **Use a rubber mallet or hammer and gently hit the center of the shaft at the front bearing.**
3. **Hit the shaft in the center until desired drum depth is reached.**
4. **After desired drum depth is reached tighten both set screws on the front bearing of the machine.**

Drum Spacing from Front Plate:

1. **Drum spacing from the front plate should be 1/16th to an 1/8th of an inch.**
2. **To check the drum depth open the front exit chute door and look at the gap between the drum and the front plate of your machine.**

Adjusting Cooling Tray Brushes Height:

To adjust the height and angle of your cooling tray brushes you will need a 3/32 Allen Key. Loosen the set screw on the agitator arms holding the brushes in place. After the set screw is loose you will be able to adjust the height and angle of the brushes freely.

ADJUSTMENTS

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Adjusting Gas Pressure on Roaster:

1. **Locate the grey gas valve on the back of the machine.**
2. **On the gas valve you should see a silver or black flathead cap.**
3. **Remove this cap exposing the set screw beneath.**
4. **Always replace cap screw after adjustment and tighten firmly to safeguard proper operation.**

Propane: 11 Full Turns From the Top (FACTORY SETTING)
TO INCREASE PRESSURE TURN SETSCREW CLOCKWISE
TO DECREASE PRESSURE TURN SETSCREW COUNTERCLOCKWISE
10.0in. Water Column Inlet Pressure Recommended (11 Complete Turns Clockwise from the Top).

Natural Gas: 6-8 Full Turns From the Top (FACTORY SETTING)
TO INCREASE PRESSURE TURN SETSCREW CLOCKWISE
TO DECREASE PRESSURE TURN SETSCREW COUNTERCLOCKWISE
6.5in. Water Column Inlet Pressure Recommended (6-8 Complete Turns Clockwise from the Top)

Adjusting Pilot Flame:

1. **Remove Pilot Adjustment Cap Screw on the backside of gas valve.**
2. **Turn inner adjustment set screw clockwise to decrease pilot flame or counterclockwise to increase pilot flame.**
3. **Always replace cap screw after adjustment and tighten firmly to safeguard proper operation.**

TROUBLESHOOTING

Cyclone Not Collecting Chaff:

If your cyclone is not collecting chaff majority of the time this means there's an air gap present. The gap can be located majority along the ducting from the roaster to cyclone connection or beneath your cyclone at the bucket. To maximize chaff collection we recommend increasing your airflow to 85-100Hz on the "Airspeed VFD" about 5 degrees before hitting your target drop temp.

Roaster Connection to Device NOT Working:

1. **Carefully open your control panel by unscrewing the two bolts.**
2. **Locate the USB connection bulk head (USB Splitter).**
3. **Located the device called (D-TECH) connected to your USB bulk head.**
4. **Make sure your D-TECH is properly connected and secured to the USB bulk head.**
5. **Plug in your device (Tablet/Laptop) through the USB bulk head via USB2.0.**
6. **Once your device is plugged into the roaster you should see three red lights activate on your D-TECH device. If you see red lights on the D-TECH activate your D-TECH is working properly.**

If your "D-TECH" device is NOT working properly you most likely have one of the following issues; Wrong driver is installed on your device, The USB2.0 cord does NOT support this connection (try a thicker cord), or you have the wrong COMM port selected on the configuration screen via software.

Burners NOT Lighting:

1. **Double check the gas pressure going into the machine is adequate (Refer to Page ?).**
2. **Check to see if your gas valve is set to "MANU" or "PID" if in the "MANU" mode go to the "OUT1" screen on your controller and double check that the valve is open to minimum of "50.0%" If you're connected to software make sure that your gas valve is open using the software controls.**
3. **Make sure both VFD's are in the ON position. Set your AIR SPEED control to 35Hz.**
4. **Ensure gas line/propane tank are in the ON position.**
5. **In some cases during initial startup of your burners you may need to crack the side door to allow additional oxygen to come into the machine.**

TROUBLESHOOTING

VFD's NOT Responding:

Ensure that both red lights on the VFD controls are ON. You need both the FWD and RUN light on the left hand side of the screen to be lit up RED. If the RUN light isn't lit up you will need to cycle the power on and off.

1. **Press the main power button in the OFF position.**
2. **After both VFD screens turn OFF cycle the power button back ON.**
3. **If the problem insists please cycle power ON and OFF multiple times. It may take a few power cycles.**

Drum Grinding on Front Plate:

Refer to Page #24 to adjust your drum depth.

Roaster Backfiring:

In most cases backfiring is due to insufficient airflow, too much gas pressure, or an oversized orifice.

1. **Try increasing your airflow on the AIR SPEED control.**
2. **Decrease the gas pressure on the gas valve (Refer to Page#).**
3. **Check ducting for potential debris or back pressure.**
4. **Contact a Primo Rep and ask for a smaller orifice.**

Smoke Rising from Cooling Tray:

If there is smoke rising through your cooling tray it means there's back pressure being created in the duct work. Double check your duct is working effectively.

Chaff Collecting in Burner Box:

It's inevitable to have some chaff get into your burner box however you can minimize this by adjusting your drum depth and increasing airflow. To maximize chaff collection we recommend increasing your airflow to 85-100Hz on the "Airspeed VFD" about 5 degrees before hitting your target drop temp.

Drum Sliding Forward:

Ensure that the two set screws on your front bearing are tightly secured to the drum shaft. If this problem consists we will need to adjust the positioning of the gear box at the rear of the machine. The gear box is located on the motor mount bracket, the drum shaft goes directly into the gear box. There are four bolts holding the gear box in place. Loosen these four bolts slightly so that the gear box can slide forward and backward. Loosen the two set screws on the front bearing. Slide the gear box towards the front of the machine in a pushing motion moving the drum forward. Once drum is in the correct position tighten the four bolts and the two set screws on the front bearing.

Loud Whistling Noise:

If you hear a loud whistle noise there's most likely too much gas pressure going into the machine. Decrease the gas pressure by adjusting the set screw on the gas valve. (Refer to Page #25)

If decreasing the gas pressure doesn't resolve this issue you may need a smaller orifice. Please contact your Primo representative to order a smaller orifice.

MAINTENANCE

Switching Cooling Tray Brushes:

1. **Loosen the set screw at the center of the agitator hub.**
2. **Once the agitator is loose you will be able to remove the agitator and the arms by lifting up on the center of the agitator hub.**
3. **Once the agitator hub and arms are free from the cooling tray you will be able to replace the brushes.**
4. **To remove the cooling tray brushes from the agitator you will need a 3/32 Allen Key.**
5. **Loosen the set screw holding the brushes in place on the agitator arms.**
6. **Once the set screws are loose you will be able to remove the brushes.**

Replacing you Infrared Burners:

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

1. **Open the heat shield doors to your roaster providing you access to the burners.**
2. **Remove both heat shield doors using a 7/16" socket.**
3. **Next you will need to disconnect the pilot assembly. Remove the Ignition wire (ORANGE WIRE) connected to your pilot assembly by gently pulling down on the Ignition wire.**
4. **Once the wire is removed from the pilot you can begin disconnecting the pilot assembly from the burner bracket. Use a phillips screwdriver to remove the pilot assembly.**
5. **After the pilot is safely removed you will need to unscrew the mounting bolts holding the burners to the machine.**
6. **Once the burner is successfully unmounted you are safe to remove it.**
7. **Once the old burner is removed you can begin placing your new burners in the designated spot and mount them to the machine.**
8. **After the burner is mounted you can begin reconnecting the pilot assembly.**
9. **Firmly connect the ignition wire to the pilot assembly plugging it into the bottom.**
10. **After your ignition wire is connected to your pilot assembly you can begin mounting the pilot assembly back to your burner via the pilot assembly bracket.**
11. **Once your burners are back in place with the pilot attached you can put the heat shield doors back on.**
12. **Next you will close the side doors and power the machine on followed by the ignition button to test for pilot spark and pilot flame. Once you see a flame you are good to go.**

MAINTENANCE

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Greasing Front & Rear Bearings:

1. **Add grease to the front and rear bearing every 1000 pounds of coffee.**
2. **Use greasing tool to add Mobil FM222 food grade grease to the pin on the side of the front bearing.**
3. **Wipe excess grease off with a rag.**

Switching or Replacing Orifice:

1. **Locate the gas system at the rear of the machine.**
2. **Look for the round pipe going into the back of the burner box underneath the drum.**
3. **At the end of the pipe you will notice a copper piece going into the burner inlet.**
4. **Unscrew the two bolts mounting the pipe in place.**
5. **Once the mounting bracket is disconnected you can begin swapping the orifice.**
6. **Using a wrench unscrew the orifice from the mounting point.**
7. **Once unscrewed you can replace with new orifice. Ensure a tight connection to the mounting point.**
8. **Place pipe back in the mounting bracket with orifice going directly into the back of the burner. Once in place tighten the mounting bracket.**

Replacing the Drum Motor:

1. **Disconnect your machine from the wall or power supply.**
2. **Open the wiring harness by unscrewing the four bolts. Remove wiring harness cover.**
3. **We recommend taking a photo of the wires while they're connected to ensure proper wiring.**
4. **Disconnect the wires via wire twist nuts.**
5. **Once the wires are disconnected you can begin unscrewing the 4 bolts holding the motor to the gear box that is mounted on the rear motor mount.**
6. **After the 4 bolts have been removed pull the motor off of the gear box.**
7. **Slide your new motor into the gear box and ensure the hex key is on the motor shaft.**
8. **Once motor is in place you can begin tightening the bolts attaching the motor to the gear box.**
9. **Open your wiring harness cover and wire the motor based off of the photo.**
10. **Once all wires are connected your drum motor has been replaced.**

MAINTENANCE

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Replacing the Gear Box:

1. **Disconnect your machine from the wall or power supply.**
2. **Locate the drum motor at the rear of the machine.**
3. **Locate the wire connected to the drum motor. This wire is mounted on the rear of the machine. Use a drill or screwdriver to unscrew the mounting bracket from the machine. This should allow slack in the wire.**
4. **Disconnect the drum motor from the gear box by unscrewing the four bolts connecting the two pieces.**
5. **After the 4 bolts have been removed pull the motor off of the gear box and set it down keeping the drum motor wire connected.**
6. **Locate the gear box on the rear mount.**
7. **Unscrew the 4 bolts mounting the gear box underneath the rear mount.**
8. **Once the 4 bolts are removed you can take the gear box off.**
9. **Get the replacement gear box and insert the shaft to the open end of the gear box lining it up on the rear mount.**
10. **Once in position you can begin mounting the gear box by tightening the 4 bolts beneath the motor mount.**
11. **Take your drum motor and slide it back into the gear box and ensure the hex key is on the motor shaft.**
12. **Once the drum motor is in place you can begin tightening the 4 bolts attaching the motor to the gear box.**
13. **After the drum motor is successfully connected to the gear box you can re-mount the wire bracket to the rear of the machine using a drill or screwdriver.**

MAINTENANCE

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Replacing the Agitator Motor:

1. **Disconnect your machine from the wall or power supply.**
2. **Locate the agitator motor beneath the cooling tray through the access door(s).**
3. **Loosen the set screw at the center of the agitator hub on the top side of the cooler.**
4. **Once the agitator is loose you will be able to remove the agitator hub and the arms by lifting up on the center of the agitator hub.**
5. **Once the agitator hub and arms are free from the cooling tray you will be able to replace the agitator motor.**
6. **Open the wiring harness by unscrewing the four bolts. Remove wiring harness cover.**
7. **We recommend taking a photo of the wires while they're connected to ensure proper wiring.**
8. **Disconnect the wires via wire twist nuts.**
9. **Once the wires are disconnected you can begin unscrewing the 4 bolts mounting the agitator motor beneath the cooling tray.**
10. **After the 4 bolts have been removed pull the motor off.**
11. **Mount your new motor beneath the cooling tray tightening the 4 bolts.**
12. **Once motor is in place you can place the agitator hub on the motor shaft and tighten the set screw.**
13. **Open your wiring harness cover and wire the motor based off of the photo.**
14. **Once all wires are connected your agitator motor has been replaced.**

Replacing the Cyclone Motor:

1. **Disconnect your cyclone from the machine via twist lock wire caps.**
2. **Open the wiring harness on the motor by unscrewing the four bolts.**
3. **Remove wiring harness cover.**
4. **We recommend taking a photo of the wires while they're connected to ensure proper wiring.**
5. **Disconnect the wires via wire twist nuts.**
6. **Once the wires are disconnected you can begin unscrewing the 6 bolts holding the motor to the top of the cyclone.**
7. **Once the bolts are removed pull up on the motor. Removing the motor, mounting plate, and fan blade from the cyclone.**
8. **Set the motor face down with the fan blade pointing upward. Loosen the set screw securing the fan blade to the motor shaft.**
9. **Remove the fan blade from the motor shaft by pulling in an upward motion.**
10. **Once the fan blade is removed you can remove the cyclone motor from the mounting plate.**
11. **Grab the motor replacement and flip it upside down exposing the motor shaft.**
12. **Place the mounting plate on the motor.**
13. **Slide the fan blade on to the motor shaft allowing a 1/4" gap between the fan blade and mounting plate allowing it to spin freely.**
14. **Once the fan blade is in position tighten the set screw locking the fan blade in place.**
15. **Open the wiring harness on the motor by unscrewing the four bolts.**
16. **Remove wiring harness cover.**
17. **Refer to the photo taken and rewire the twist lock plug to the motor.**
18. **Set the fan blade and assembly back into the top of the cyclone lining up the 6 bolt holes. Once aligned you can begin tightening the 6 bolts securing the motor to the cyclone.**
19. **Connect your cyclone to the roaster via twist lock plug and you're ready to roast.**

DAILY CLEANING

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Cleaning the Burner Housing:

1. **Open both the left and right side doors of the machine allowing easy access to the burner housing.**
2. **Remove heat shield doors, unscrewing the bolts mounting heat shield doors to the machine. Carefully remove both heat shield doors without letting them fall on the burner(s).**
3. **Once all doors have been removed you will have clear access to the burner housings.**
4. **Grab a shop vacuum and begin vacuuming around the burners removing excess chaff buildup.**
5. **After all debris have been removed you can begin putting your heat shield doors back on followed by the side doors enclosing the burner housing.**

Primo Roasting Equipment recommends vacuuming out the burner housing prior to roasting while the machine is cold.

Cleaning Discharge Funnel:

1. **Grab a soft cloth or microfiber rag.**
2. **Lift the bean discharge door and wipe around the discharge door and funnel. (Best done immediately after dropping your last batch into the cooling tray while the components are hot).**
3. **Remove any debris or build-up that may prevent the door from fully closing.**
4. **Ensure that the weighted door handle is secure and that the door is fit securely in the discharge opening.**
5. **Remove the trier and clean off any debris that may keep it from moving freely.**

DAILY CLEANING

MAKE SURE YOUR MACHINE IS POWERED OFF OR DISCONNECTED FROM THE POWER SUPPLY.

Cleaning the Cyclone:

1. **Remove the chaff bin underneath of the cyclone by pulling the bin towards you.**
2. **Empty chaff bin in to trash disposal bin.**
3. **Open the caff clean out door on the side of the cyclone.**
4. **Vacuum out the loose chaff and any debris that's within the cyclone.**
5. **Wipe the inner walls of the cyclone using a damp cloth.**
6. **When finished make sure the chaff clean out door is securely tightened and the chaff collection bin is snug and tight in place.**

When finished, make sure the door and bin are secured tightly to ensure good vacuum upon restarting the roaster.

Cleaning the Cooling Tray:

1. **Open the door(s) below the cooling tray giving you access below the cooling tray.**
2. **Vacuum out the loose chaff and any debris below your cooling tray.**
3. **Using a wire brush run it along the top of the cooling tray clearing out any debris that may be blocking the cooling tray ventilation holes.**
4. **Ensure that NO loose wires from your brush are in the cooling tray prior to next roast.**

QUARTERLY CLEANING

ATTENTION: Unplug machine prior to cleaning. Turn gas valve off prior to cleaning machine. Let machine cool down if hot prior to cleaning to avoid injury.

Inspect & Clean Venting:

- **Remove and inspect interior walls of venting and remove all build up of coffee oils and chaff.**
  - **Build-up of coffee oils and chaff can be flammable. Build-up can also narrow the diameter of your venting limiting airflow.**

Inspect Exterior Venting:

- **Access exterior portions of venting and terminations caps and remove any build-up of coffee oils and chaff especially around termination cap openings.**
  - **Build-up of coffee oils and chaff can be flammable. Build-up can also narrow the diameter of your openings and limit airflow causing air to back-flow into your roaster or cooling tray.**

Lubricate the Front & Rear Bearings:

- **Use a grease gun & high temperature food safe grease. (Mobil FM222) One pump per bearing.**
  - **Properly greased bearings extends bearing life.**

SEASONAL/ANNUAL CLEANING

ATTENTION: Unplug machine prior to cleaning. Turn gas valve off prior to cleaning machine. Let machine cool down if hot prior to cleaning to avoid injury.

Inspect & Tighten all Loose Nuts & Bolts on Roaster:

- **Locate any loose nuts and bolts and tighten.**
  - **Tightening loose nuts and bolts keeps your machine in good working order.**

VIDEO REFERENCES

- **PRIMO Xr-SERIES CONTROLLER WALKTHROUGH**

- **ROAST MASTER SOFTWARE TUTORIALS**

TECHNICAL SUPPORT IS AVAILABLE BY PHONE

CONTACT US BELOW

PRIMO ROASTING EQUIPMENT
1309 S. LYON ST. SANTA ANA, CA 92705
Phone: 1.800.675.0160
Email: INFO@PRIMOROASTING.COM