



Tooper^{NK}

SHOP ROASTERS USER MANUAL

GAS VERSIONS

- TKM-SX 3
- TKM-SX 5
- TKM-SX 10
- TKM-SX 15
- TKM-SX 20

ELECTRIC VERSIONS

- TKM-SX 3 E
- TKM-SX 5 E

**QUALITY
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YOU CAN SEE**

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WARNING

Please read the entire manual completely in order to get the best results from your roaster and have it as a reference when needed

- Maintenance activities and repairs shall be carried out only by authorized services or with the written approval of TOPER.
- Improper maintenance may result in equipment damages and/or injuries.
- Please read carefully the instructions given in this manual before using the machine and/or carrying out any maintenance or repairs.
- Malfunctions and/or damages that can occur due to mishandling or improper repairs will be the sole responsibility of the customer.
- Furthermore, such improper usage and/or repairs will lead to the cancellation of the warranty.

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COMPONENTS AND FEATURES OF THE MACHINE

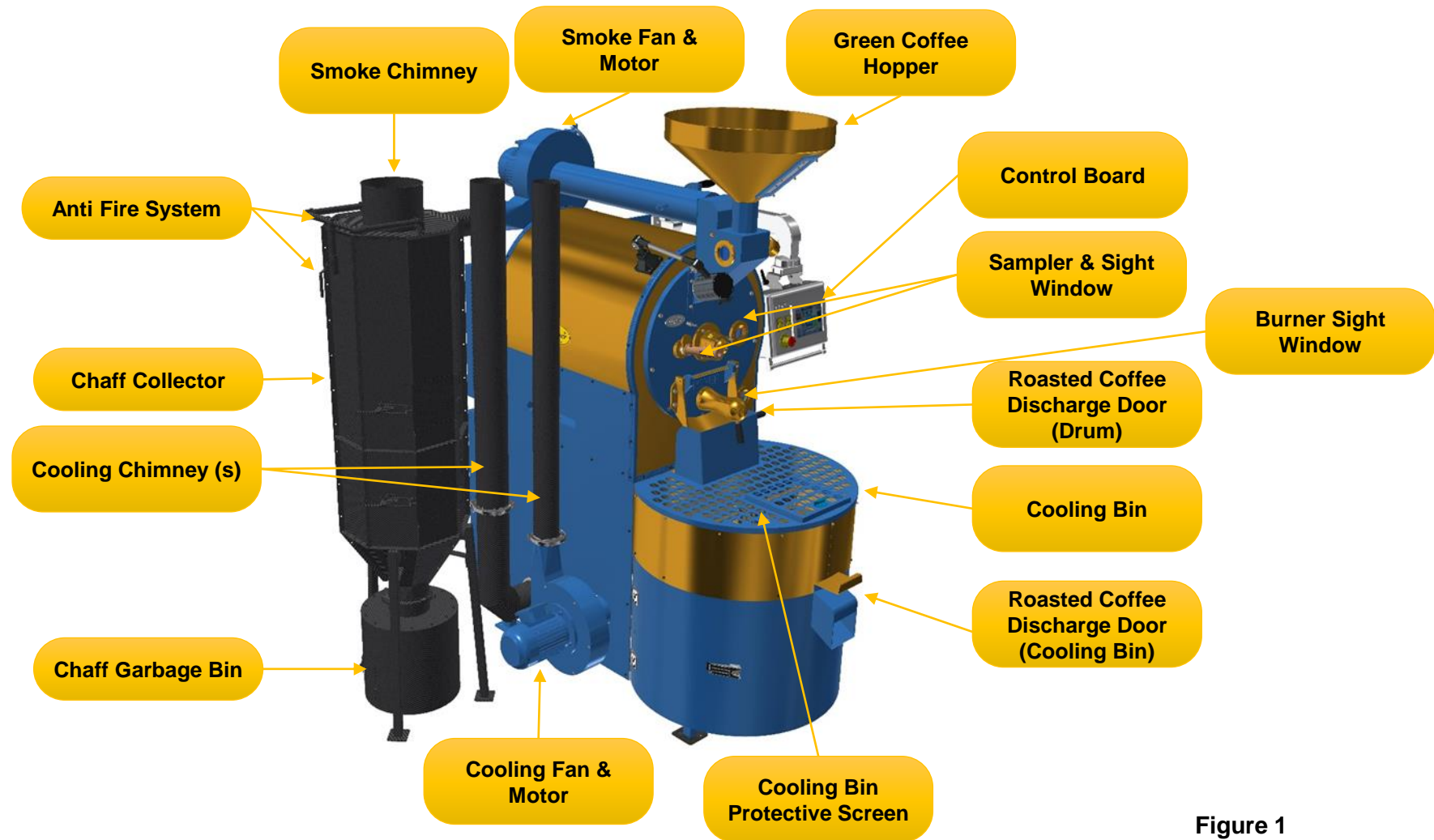
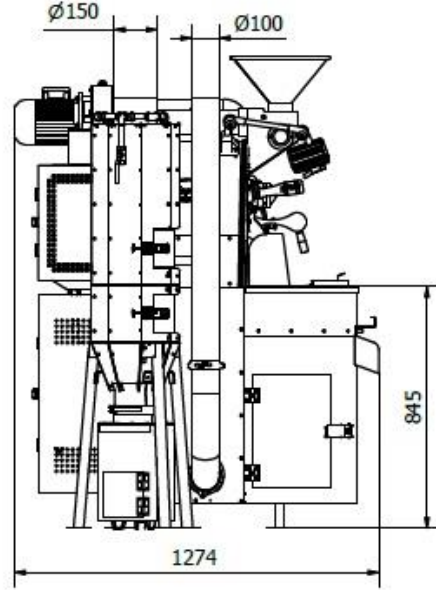
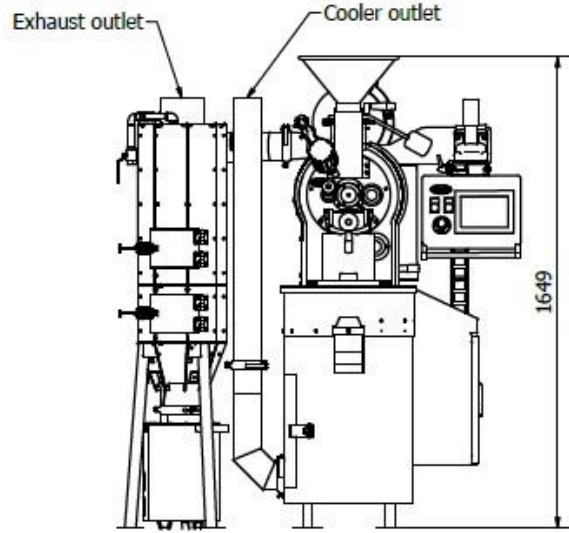
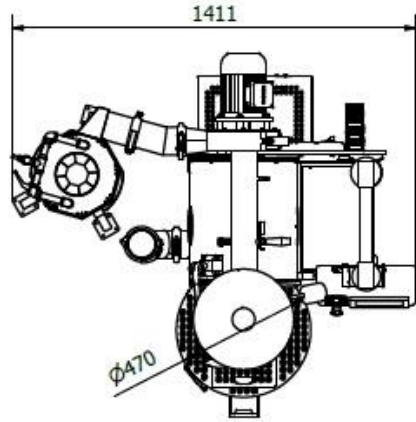
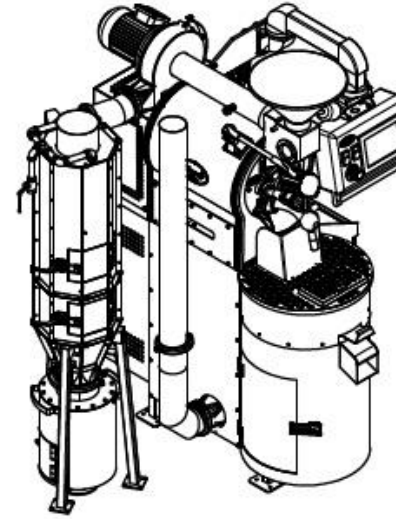


Figure 1



TKM SX 3



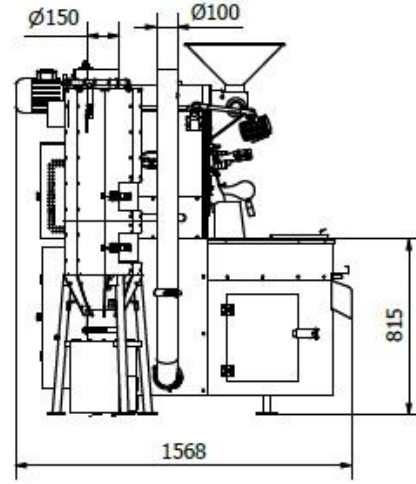
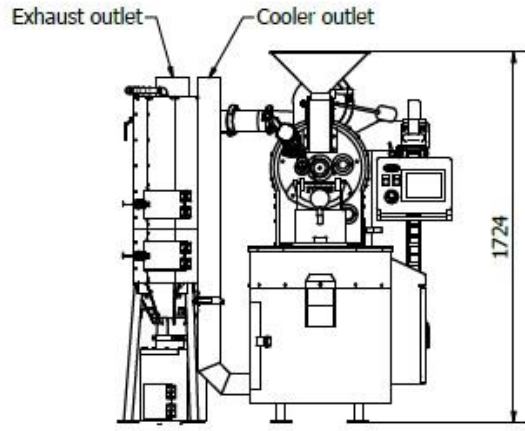
Drum capacity (Kg)		3
Minimum Roasting Cap.		1.5
Fast Roasting Time (minutes)		8
Slow Roasting Time (minutes)		18
Machine Dimensions (cm) W-D-H		142 x 127 x 205
Net Machine Weight (kg)		210
Heating Type		Thermal
Fuel Type	LPG	Yes
	Natural Gas	Yes
Gas Pipe Diameter		1/2"
Required Pressure	LPG	32 - 35 mbar
	Natural Gas	18 - 22 mbar
Consumption	Kw / BTU / Kcal	16 KW 54,590 BTU 13,760 KCal
	LPG (Kg)	1,262
	Natural Gas (m3)	1,693
Required air		350 m³/h
Exhaust chimney diameter		150 mm
CFM	Exhaust	
	Cooler	
Possible Voltage	220V - 60 Hz - 1 phase	✓
	220V - 60 Hz - 3 phase	✓
	380V - 60 Hz - 3 phase	✓
Number of Motors		4
Electric Consumption	220V - 60 Hz - 1 phase	2,5 kw 22 A
	220V - 60 Hz - 3 phase	2,5 kw 15 A
	380V - 60 Hz - 3 phase	2,5 kw 7 A
RPM per Minute	Drum	36 - 42
	Mixer	10 to 12

RESİM ÜZERİNDEN ÖLÇÜ ALINMAZ
DO NOT SCALE THIS DRAWING

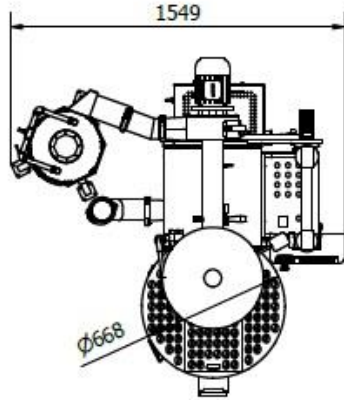
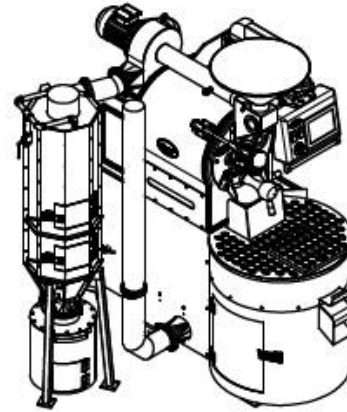
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Yüzey Koruma: Surface Protection	Baskı: Issue	Değişiklik / Changes	Değiştirilen Changed by	Yayın Release no	Tarih Date	Onay Approved	

Proje Adı/Project Name:	Parça Adı/Part Name:	TKMSX3	TKMSX3
Parça Ağırlığı/Part Weight:	N/A		
Çizen/Drawn By:	Engin YILDIRIM	27.01.2022	
Kontrol/Control By:	Gökhan Mithat KARAKUNDAKOĞLU		
Onay/Approved By:	İbrahim KARAKUNDAKOĞLU		
Resin no/Drawing no:	TKMSX3-100000		
Ölçek/Scale:	1 : 15	Sayfa/Page:	1 / 1





TKM SX 5



Drum capacity (Kg)		5
Minimum Roasting Cap.		2.5
Fast Roasting Time (minutes)		8
Slow Roasting Time (minutes)		18
Machine Dimensions (cm) W-D-H		156 x 157 x 218
Net Machine Weight (kg)		455
Heating Type		Thermal
Fuel Type	LPG	Yes
	Natural Gas	Yes
Gas Pipe Diameter		1/2"
Required Pressure	LPG	32 - 35 mbar
	Natural Gas	18 - 22 mbar
Consumption	Kw / BTU / Kcal	16 KW 54,590 BTU 13,760 KCal
	LPG (Kg)	1,262
	Natural Gas (m3)	1,693
Required air		350 m³/h
Exhaust chimney diameter		150 mm
CFM	Exhaust	
	Cooler	
Possible Voltage	220V - 60 Hz - 1 phase	✓
	220V - 60 Hz - 3 phase	✓
	380V - 60 Hz - 3 phase	✓
Number of Motors		4
Electric Consumption	220V - 60 Hz - 1 phase	2,5 kw 22 A
	220V - 60 Hz - 3 phase	2,5 kw 15 A
	380V - 60 Hz - 3 phase	2,5 kw 7 A
RPM per Minute	Drum	36 - 42
	Mixer	10 to 12

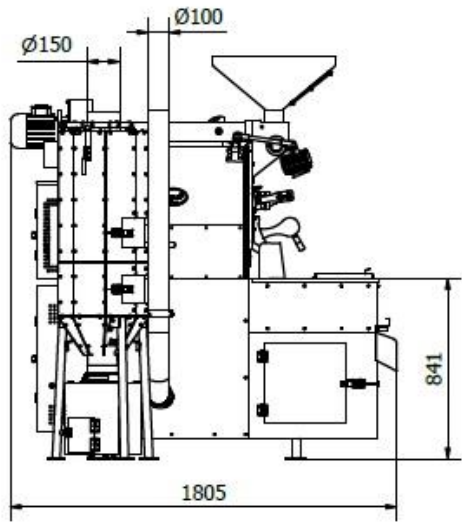
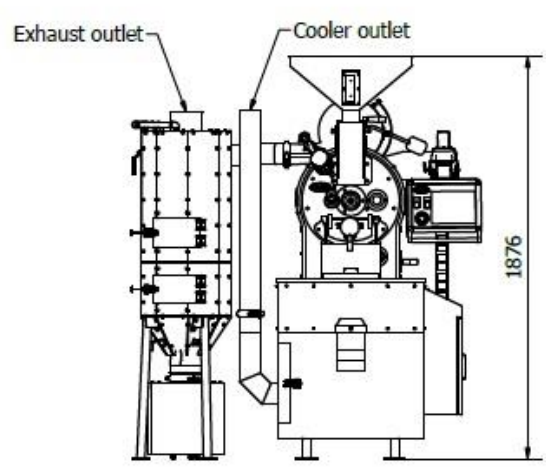
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Parça Adı/Project Name:		Parça Ağırlığı: Part Weight	Parça Adı Item Name:			1. Aç yöntemi First Angle Projection	
Çizen Drawn By		Engin YILDIRIM	TKMSX5			A3	
Kontrol Control By		Gökhan Mithat KARAKUNDAKOĞLU	Resin no/Drawing no:				
Onay Approved By		İbrahim KARAKUNDAKOĞLU	Ölçek/Scale: 1 : 20		Sayfa/Page: 1 / 1		
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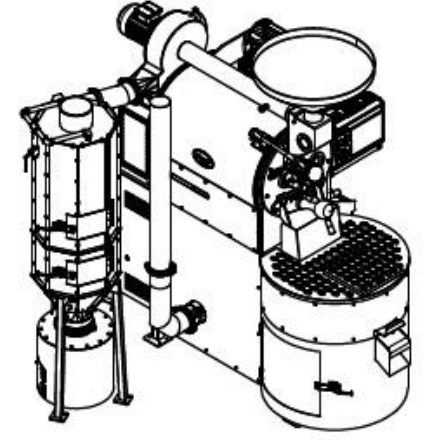
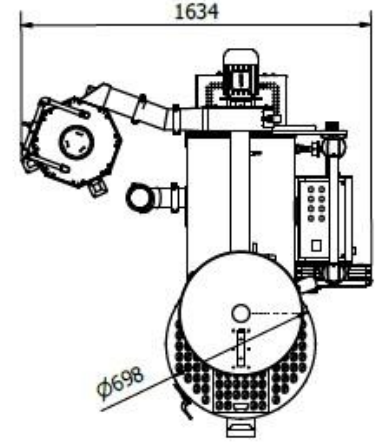
Exhaust: Single wall, pre-fabricated, stainless steel chimney, positive pressure. Flanged joints designed for both quick assembly and pressure-sealing capabilities.



Cooler Exhaust: Gavinized vent. Designed for category II, III and IV heating equipment



TKM SX 10



Drum capacity (Kg)		10
Minimum Roasting Cap.		5
Fast Roasting Time (minutes)		8
Slow Roasting Time (minutes)		18
Machine Dimensions (cm) W-D-H		167 x 180 x 215
Net Machine Weight (kg)		480
Heating Type		Thermal
Fuel Type	LPG	Yes
	Natural Gas	Yes
Gas Pipe Diameter		1/2"
Required Pressure	LPG	32 - 35 mbar
	Natural Gas	18 - 22 mbar
Consumption	Kw / BTU / Kcal	19 KW 64,830 BTU 16,340 Kcal
	LPG (Kg)	1,496
	Natural Gas (m3)	2,011
Required air		570 m³/h
Exhaust chimney diameter		150 mm
CFM	Exhaust	
	Cooler	
Possible Voltage	220V - 60 Hz - 1 phase	✓
	220V - 60 Hz - 3 phase	✓
	380V - 60 Hz - 3 phase	✓
Number of Motors		4
Electric Consumption	220V - 60 Hz - 1 phase	2,5 kw 22,7 A
	220V - 60 Hz - 3 phase	2,5 kw 15 A
	380V - 60 Hz - 3 phase	2,5 kw 7 A
RPM per Minute	Drum	36 - 42
	Mixer	10 to 12

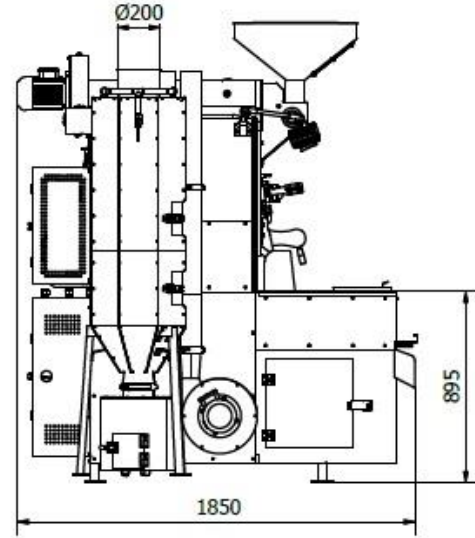
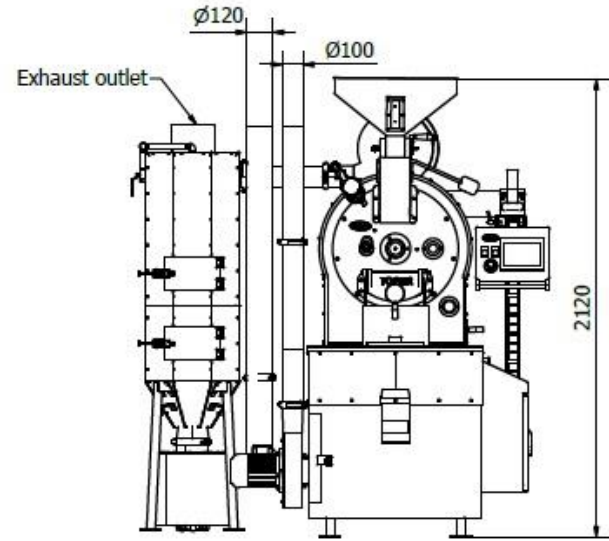
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Malzeme: Material		1		SERİ İMALAT İÇİNDİR.				
Yüzey Koruma: Surface Protection		Baskı: Issue	Değişiklik / Changes			Değişim Changed by	Tayın Release no	Tarih Date
Proje Adı/Project Name:		Parça Ağırlığı: Part Weight	N/A		Parça Adı Item Name:			1. Ağ metodu First Angle Projection
Çizen Drawn By		Engin YILDIRIM		27.01.2022		TKMSX10		
Kontrol Control By		Gökhan Mihat KARAKUNDAKOĞLU		Resin no/Drawing no:				
Onay Approved By		İbrahim KARAKUNDAKOĞLU		Ölçek/Scale: 1 : 20		Sayfa/Page: 1 / 1		
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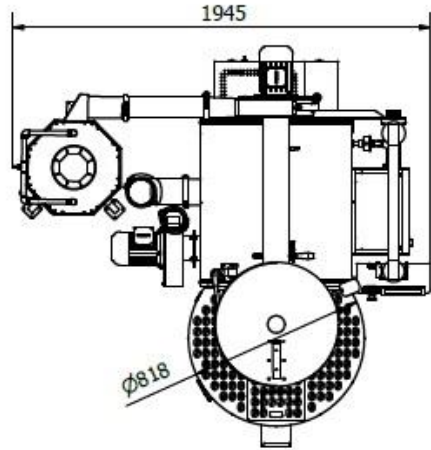
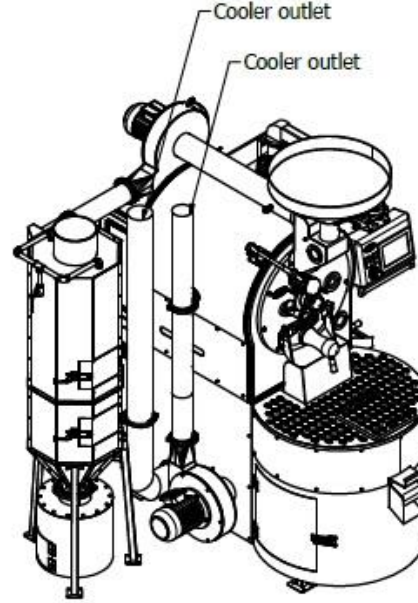
Exhaust: Single wall, pre-fabricated, stainless steel chimney, positive pressure. Flanged joints designed for both quick assembly and pressure-sealing capabilities.



Cooler Exhaust: Gavinized vent. Designed for category II, III and IV heating equipment



TKM SX 15



Drum capacity (Kg)		15
Minimum Roasting Cap.		7.5
Fast Roasting Time (minutes)		8
Slow Roasting Time (minutes)		18
Machine Dimensions (cm) W-D-H		185 x 186 x 296
Net Machine Weight (kg)		500
Heating Type		Thermal
Fuel Type	LPG	Yes
	Natural Gas	Yes
Gas Pipe Diameter		1/2"
Required Pressure	LPG	32 - 35 mbar
	Natural Gas	18 - 22 mbar
Consumption	Kw / BTU / Kcal	33 KW 112,600 BTU 28,380 Kcal
	LPG (Kg)	2,602
	Natural Gas (m3)	3,492
Required air		850 m3/h
Exhaust chimney diameter		200 mm
CFM	Exhaust	
	Cooler	
Possible Voltage	220V - 50 Hz - 1 phase	✓
	220V - 50 Hz - 3 phase	✓
	380V - 50 Hz - 3 phase	✓
Number of Motors		5
Electric Consumption	220V - 50 Hz - 1 phase	3 kw 28 A
	220V - 50 Hz - 3 phase	3 kw 19 A
	380V - 50 Hz - 3 phase	3 kw 12 A
RPM per Minute	Drum	36 - 42
	Mixer	10 to 12

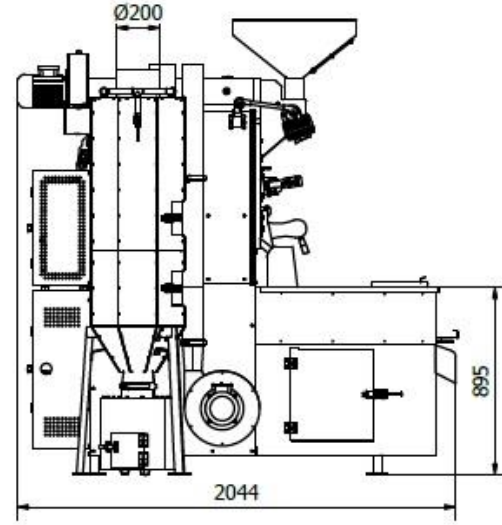
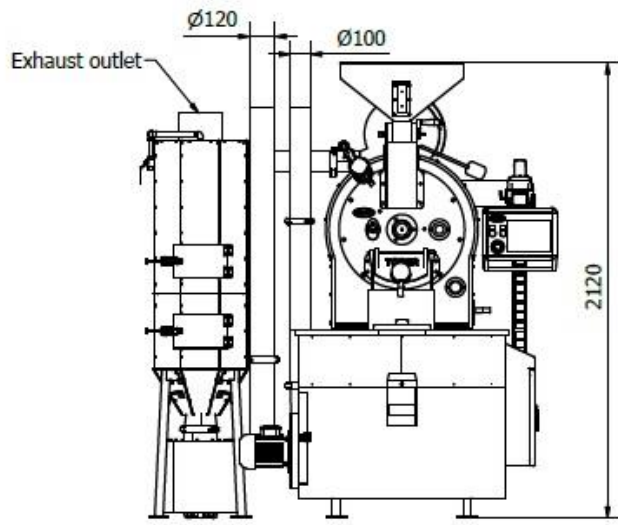
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Çizen Drawn By	Engin YILDIRIM	27.01.2022	Resin no/Drawing no:			A3	
Kontrol Control By	Gökhan Mithat KARAKUNDAKOĞLU		Ölçek/Scale:	1 : 20	Sayfa/Page:		
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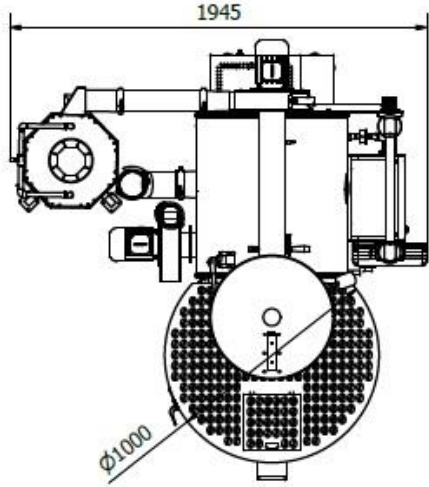
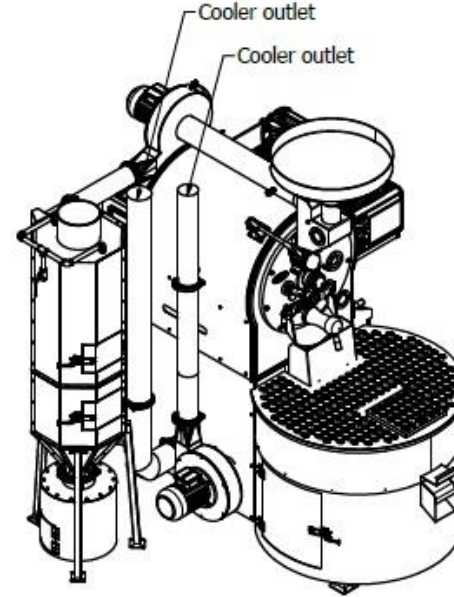
Exhaust: Single wall, pre-fabricated, stainless steel chimney, positive pressure. Flanged joints designed for both quick assembly and pressure-sealing capabilities.



Cooler Exhaust: Galvanized vent. Designed for category II, III and IV heating equipment



TKM SX 20



RESİM ÜZERİNDEN ÖLÇÜ ALINMAZ DO NOT SCALE THIS DRAWING							
Malzeme: Material	1	SERİ İMALAT İÇİNDİR.					
Yüzey Koruma: Surface Protection	Baskı: Issue	Değişiklik / Changes	Değiştirilmiştir Changed by	Yayın Date	Tarih Date	Onay Approved	
Proje Adı/Project Name:	Parça Ağırlığı: Part Weight	N/A	Parça Adı Item Name:	TKMSX20		1. Açış Metodu First Angle Projection	
Çizen Drawn By	Engin YILDIRIM	28.01.2022	Resin no/Drawing no:			A3	
Kontrol Control By	Gökhan Mithat KARAKUNDAKOĞLU		Ölçek/Scale:	1 : 20	Sayfa/Page:	1 / 1	
Onay Approved By	İbrahim KARAKUNDAKOĞLU						



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Drum capacity (Kg)		20
Minimum Roasting Cap.		10
Fast Roasting Time (minutes)		8
Slow Roasting Time (minutes)		18
Machine Dimensions (cm) W-D-H		191 x 205 x 296
Net Machine Weight (kg)		520
Heating Type		Thermal
Fuel Type	LPG	Yes
	Natural Gas	Yes
Gas Pipe Diameter		1/2"
Required Pressure	LPG	32 - 35 mbar
	Natural Gas	18 - 22 mbar
Consumption	Kw / BTU / Kcal	33 KW 112,600 BTU 28,380 Kcal
	LPG (Kg)	2,602
	Natural Gas (m3)	3,492
Required air		850 m3/h
Exhaust chimney diameter		200 mm
CFM	Exhaust	
	Cooler	
Possible Voltage	220V - 60 Hz - 1 phase	✓
	220V - 60 Hz - 3 phase	✓
	380V - 60 Hz - 3 phase	✓
Number of Motors		5
Electric Consumption	220V - 60 Hz - 1 phase	3 kw 28 A
	220V - 60 Hz - 3 phase	3 kw 19 A
	380V - 60 Hz - 3 phase	3 kw 12 A
RPM per Minute	Drum	36 - 42
	Mixer	10 to 12



Exhaust: Single wall, pre-fabricated, stainless steel chimney, positive pressure. Flanged joints designed for both quick assembly and pressure-sealing capabilities.



Cooler Exhaust: Galvanized vent. Designed for category II, III and IV heating equipment

ADDITIONAL EQUIPMENT OPTIONS

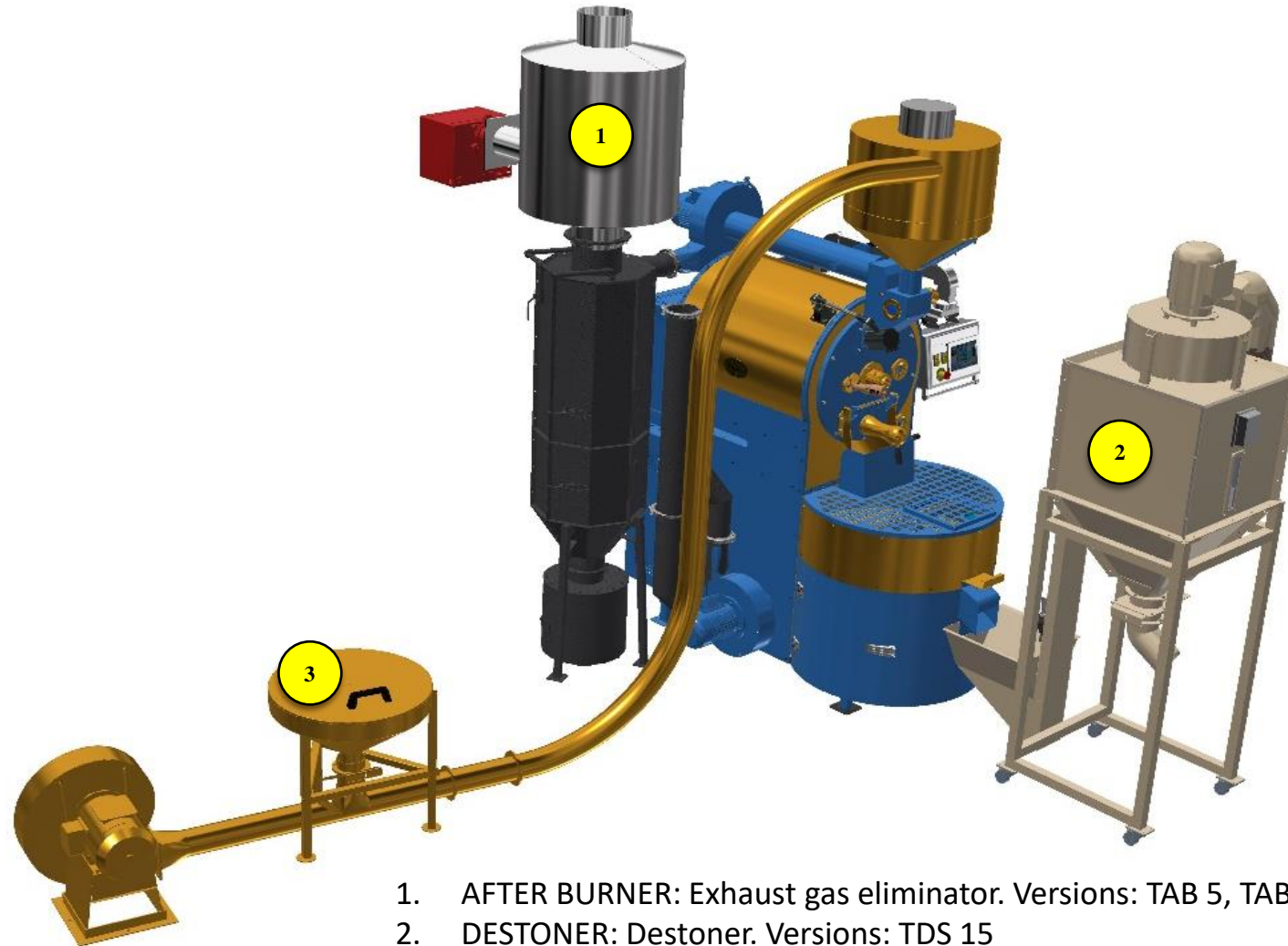


Figure 2

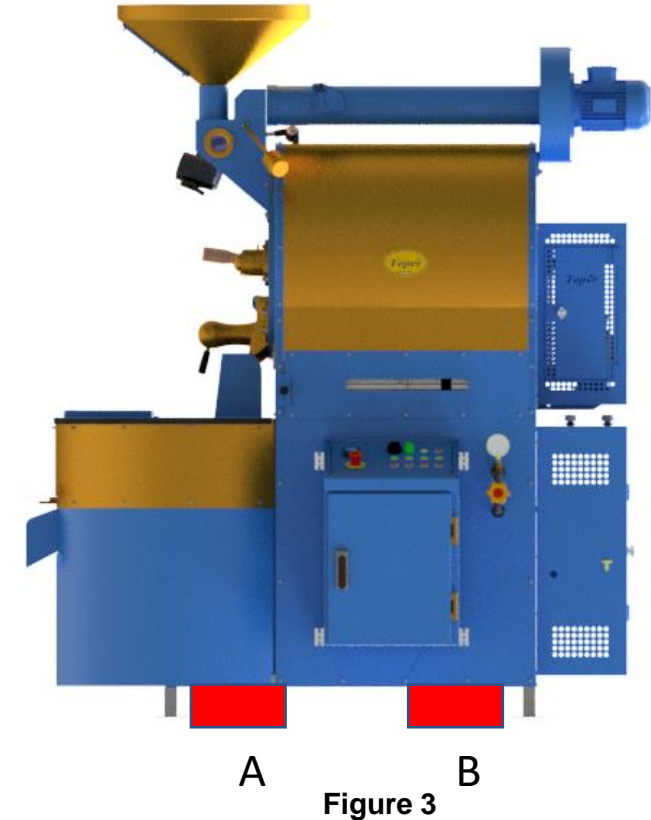
1. AFTER BURNER: Exhaust gas eliminator. Versions: TAB 5, TAB 10, TAB 15
2. DESTONER: Destoner. Versions: TDS 15
3. PNEUMATIC LOADER: Pneumatic green coffee loader. Versions: TPL 15



BEFORE MACHINE SETUP: SAFETY INSTRUCTIONS

TRANSPORT OF THE MACHINE

1. Lift and transport the machine from points A and B. Please refer to Figure 3
2. Protect the machine from external impacts during transport.
3. Take the machine out of its crate & packaging.
4. Check whether there is any damages on the machine. If the machine is damaged, never operate the machine. Inform your dealer or technical service about this issue.
5. For insurance, have your dealer apply to the insurance company.
6. After taking the machine out of its packaging, place it on a flat surface.
7. Do not use your machine in environments where there is a high-level of humidity or wet surfaces.
8. Make sure that the environment where your roaster will be placed is not wet and humid, even if the roaster is in its original packaging.



For transport, always lift the machine from points A and B and always use a Jigger/Pallet Jack

ELECTRICAL SAFETY

1. In order to ensure that your machine works efficiently and safely, your electrical installation shall not be worn out, preferably new.
2. When assembling the electrical system:
 1. Be very careful if your electrical installation is in “Single or Three Phase”.
 2. Motors in “Three-Phase” can rotate in both directions.
 3. The motors MUST rotate in the direction of the OK mark taped on the fans.
 4. If the motors rotate in the opposite direction, inform your electrician.
 5. The power line to be used for the machine shall have a ground line.
3. Check the cable section of the electrical line, through which the machine will be operated. The amperage in the cable section shall correspond to the ampere rating on the machine.
4. In the event of a fire in the electrical equipment for any reason, first disconnect all power connections. Then extinguish the fire using the appropriate type of fire extinguishers (Fire Extinguisher with Halon Gas).
5. In case of a malfunction in the electrical system, cut off the electricity from the main breaker and pull out the plug.
6. Ensure that it is serviced by an authorized electrician.

THE MAIN ELECTRICAL SUPPLY LINE TO THE MACHINE HAS TO BE INSTALLED BY A QUALIFIED ELECTRICIAN.

GAS SAFETY

1. Gas installation shall be done by an expert and qualified person.
2. Check for gas leakage with appropriate equipment; never perform the gas leakage verifications near an open flame close by.
3. Gas burners lose their function over time, and they must be replaced with a new ones. (Refer to Periodic Maintenance)
4. Have the annual maintenance of the gas installation done on time every year.
5. If you operate your machine with natural gas, please note that the gas does not have an odour.

IF THERE IS A GAS LEAKAGE IN THE MACHINE:

1. Turn of entire gas supply.
2. Ventilate the environment by opening doors and windows.
3. If the gas leak is severe, please do 1 & 2 and leave the scene of leakage and warn other people around.
4. If any stoves or flames are on, turn them off immediately.
5. Do not use push buttons, electrical devices and phone.
6. If the leakage is from the machine, please inform Toper services
7. If it is on the main supply line, please inform the necessary institutions.

Important Notes

1. Chimney installation must be done by the authorized chimney installation experts.
2. The burners and the drum of this machine consumes oxygen. Install the necessary system (windows, fresh air intake fan, etc.) to ensure sufficient fresh air intake are around where the machine operates.
3. Before cleaning and doing maintenance activities on your machine and if any operations are to be done on the inside of the machine, stop the machine and cut off the electricity supply.
4. In case of any malfunction, contact your authorised service dealer. Never try to fix the malfunction on your own.
5. Quick and simple interventions that the user can make are explained at the end of this instruction manual.



MACHINE SETUP: INSTRUCTIONS

ELECTRICAL CONNECTION

- Make sure that electrical wiring is installed by experienced electricians.
- Check whether your Machine is suitable for wiring that has been installed by your electrician.
- There are many different voltage and Hertz options that vary according to different regions in the world (Such as 208/220/240/380-volts, 50-60 Hz, single or three phase). Toper exports to 132 different countries around the world. The electrical system of the machine is produced according to the characteristics of the country to which it will be exported. Please check the electrical specifications of the machine. Connect properly to the electrical system. Connect properly to the electrical system.
- Your roaster have been factory tested. Thus, ready for use, it should be Connect/Plug & Go!
- Check the ground line of the machine.
- Have the ground line coming to your machine checked; if it is decided that it is insufficient, have the ground line installed to the point shown in the “Figure 4”.
- For electrical machines: The total power of your roaster is between 8.300 – 10.000 W. The amperage shall in accordance with this power. The roaster shall be connected to a 32 A automatic breaker. While the operating is operating, a second appliance with a power of 2000 W or more connected to the same breaker with pop the breaker and stop both the roaster and the other appliance.



Figure 4

GAS CONNECTION

- Make sure that the gas connection is made by a gas plumber.
- Make sure that a suitable regulator is installed according to the gas characteristics and capacity used by the machine.
- If the type of gas used as burner fuel is changed, have this change done by the technical service (from LPG to natural gas and from natural gas to LPG).
- Attention: The type of gas nozzle used for LPG is written on the burner of the machine.
- Gas nozzles can be converted to natural gas on request. If you do not know which gas the machine uses, get help by contacting our technical service.
- If LPG is used, check whether the regulators in the system are suitable for the capacity of the machine.
- Insufficient gas flow as a result of using the wrong regulator and unsuitable regulators may cause unnecessary energy consumption by prolonging the roasting time of the machine.
- NOTE: Our company will always install on your roaster a gas regulator with the correct capacity for that roaster. If the gas pressure and capacity of the natural gas line are suitable for the machine, remove that regulator.
- Nozzles for both types of gases are delivered with your roaster. Use them if changing types of gas

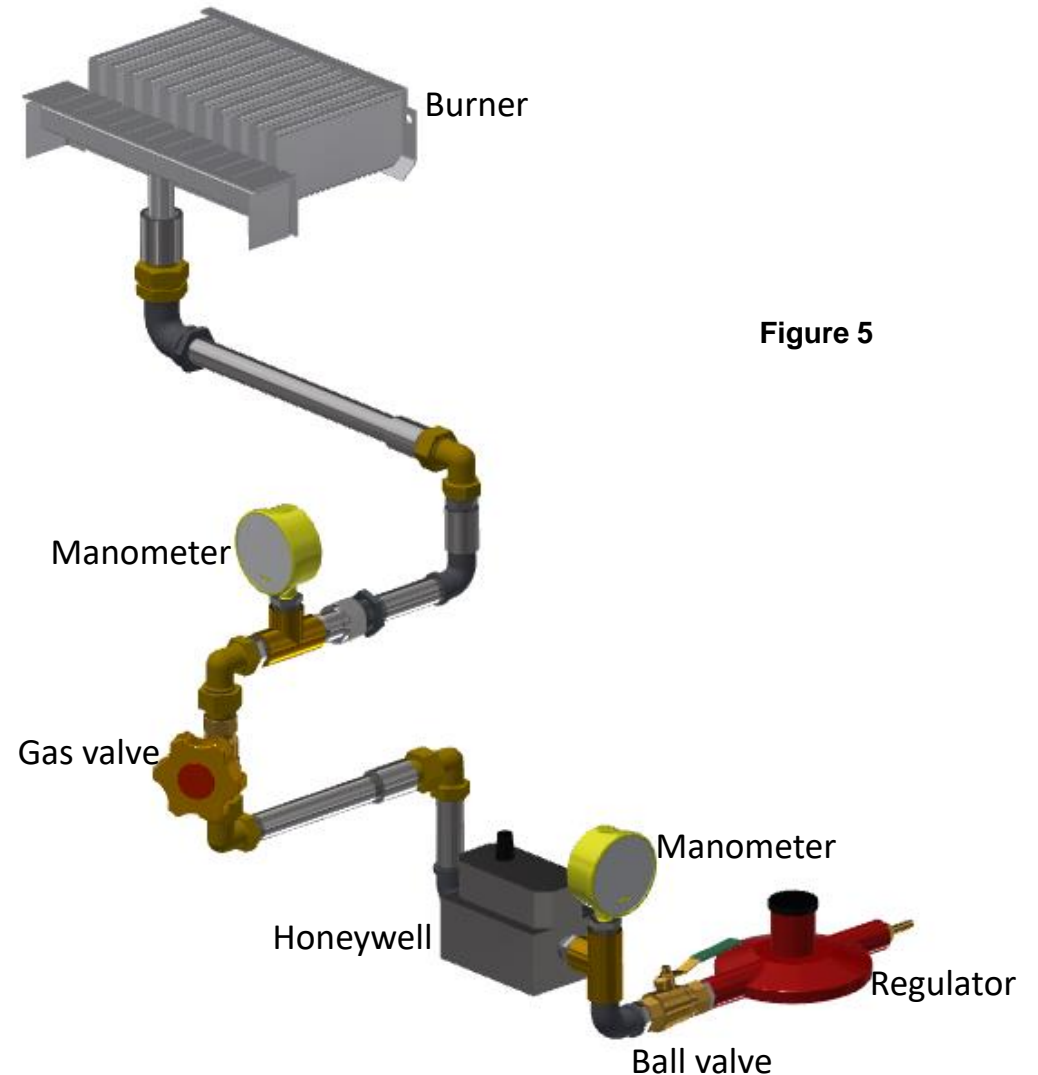
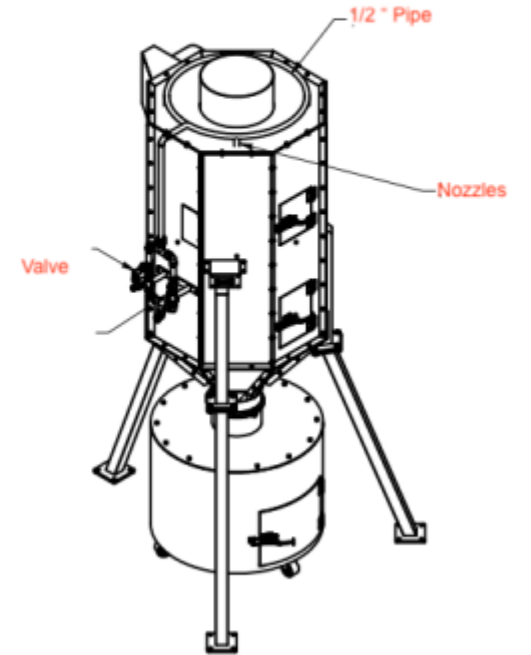
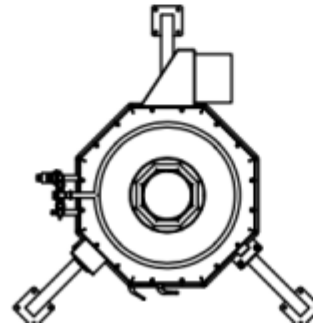
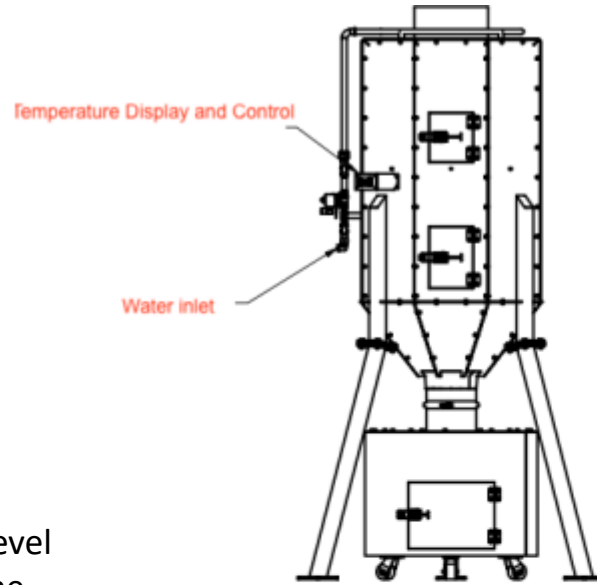


Figure 5

FIRE SUPPRESSION SYSTEM

The Toper Fire Protection system built into the chaff collector for all our roasters; the system monitors the temperature in the cyclone and if it exceeds the set level due to a fire open the valve, it will spray water into the chaff collector and extinguishes the fire

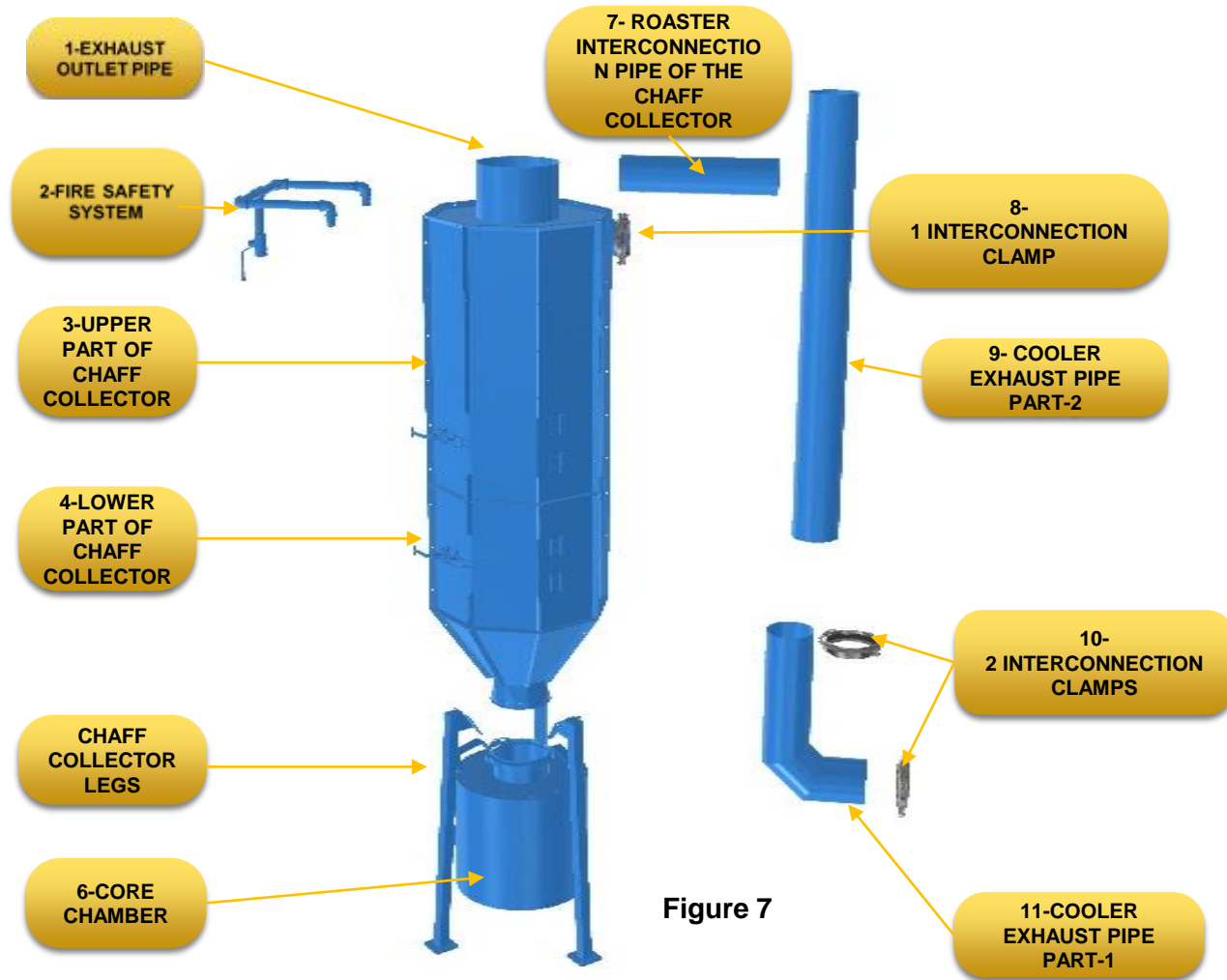




ASSEMBLING YOUR ROASTER: INSTRUCTIONS

All Toper TKM SX 3 to 20 kg are first assembled, then tested and finally shipped. Some parts must be disassembled before shipping. Chaff collector, connecting pipes and green coffee hopper are shipped disassembled. You need to assemble the chaff collector parts with the self-locking clamps provided together with pipes and displayed in figure 6. Do not forget to fasten the cotter pin in the clamp after mounting.

Chaff Collector Assembly

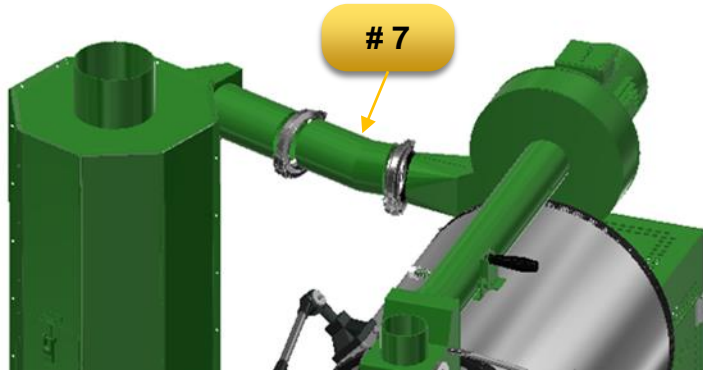


All parts of the chaff collector are displayed here in "Figure 7".
When the product reaches you, you will find the parts numbered
"3-4-5-6" already pre-assembled.

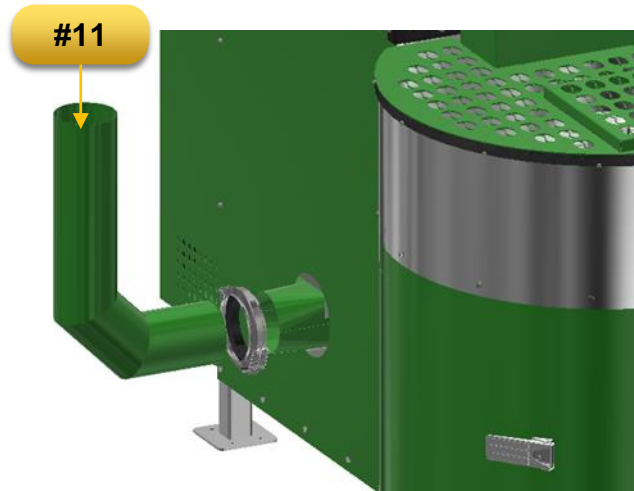


Figure 6
clamp

Chaff Collector Assembly



1. Connect and fasten the chaff collector to fan outlet of exhaust motor by using 2 pieces of 100mm clamps (figure 6) delivered with the interconnection pipe numbered 7. **(Figure 9)**



2. Fasten the cooler exhaust pipe part-1 numbered 11 to machine cooler outlet through delivered 100mm clamp. **(Figure 10)**



3. Fasten the cooler exhaust pipe part-2 numbered 9 to cooler exhaust pipe part-1 by means of 1 piece of 100mm clamp supplied and EXHAUST SEPERATELY FROM SMOKE EXHAUST. **(Figure 11)**



4. When all connection points of the chaff collector are completed, it will look like the complete assembled image given here. Lastly, place also the disassembled green coffee hopper into its place to complete the assembly. **(Figure 12)**



ASSEMBLING YOUR ROASTER: CHIMNEYS & REQUIRED DISTANCES

Matters to be Considered During the Chimney Setup

- The chimney connection shall comply with the building codes and must always have a positive pressure.
- The chimney outlet pipe shall be protected against rain, snow, birds and other foreign materials.
- It is recommended to cover the chimney outlet with cap in order to prevent harmful substances from entering the chimney.
- All chimney pipes shall be insulated.
- The diameter of the chimney connection pipes shall not be smaller than the final outlet diameter of the chaff collector, however, it can be bigger.
- Your chimney shall be built at a sufficient height in order to have good chimney draft. (If it is more than 15-20 meters, it may be necessary to have a chimney outlet suction fan in your chimney.)
- For the chimney draft to be good, the chimney shall be higher minimum 6", than the present building parapet or the adjacent building parapet.
- It is recommended, if the chimney needs to have an elbow, that the elbow section should be oval as shown in figure 13.

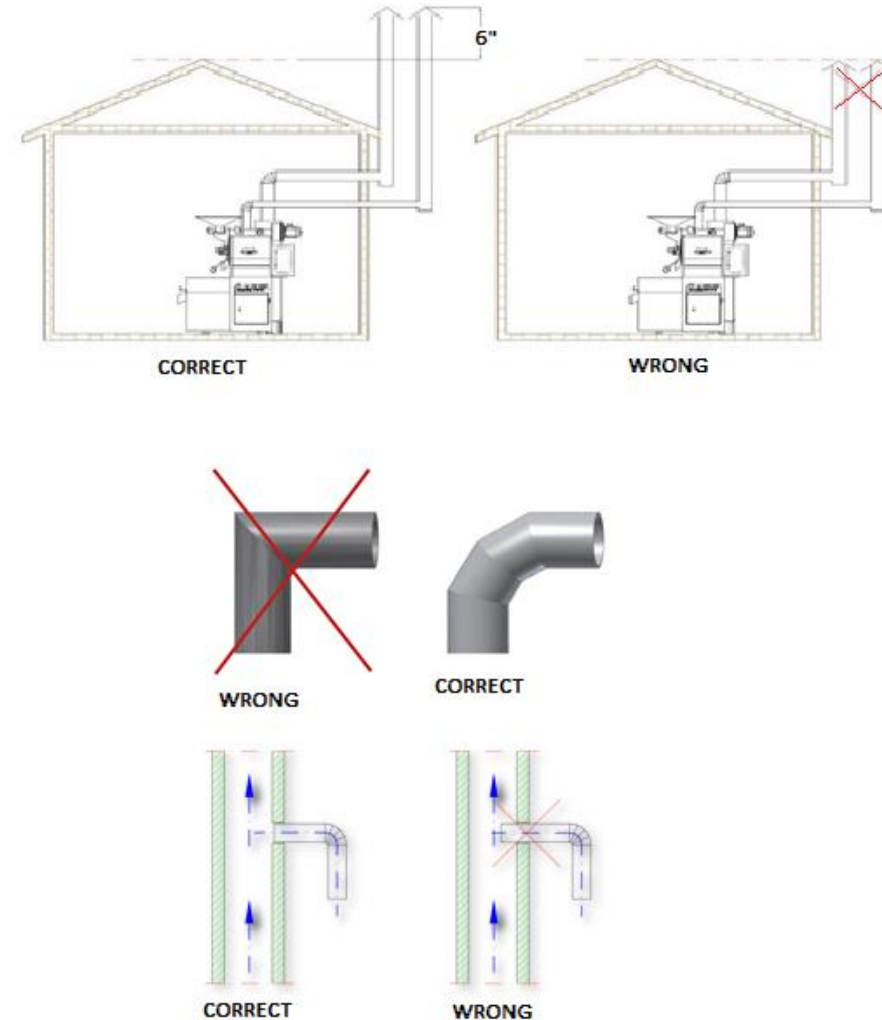


Figure 13

ACCEPTABLE CHIMNEYS (WITHOUT AFTERBURNERS)



Smoke Exhaust for use with natural gas or propane Categories II, III and IV appliances or Canada's Type BH Gas Vent Systems, having a maximum rated operating temperature of 480°F and a maximum positive pressure of 15" water column. Flues that can be used on a wide range of applications, including high efficiency gas Drums, furnaces, booster heaters, pool heaters, water heaters, unit heaters, or tankless water heaters.



Cooler exhaust: Galvanized vent designed for category , II, III and IV heating equipment

Figures 14

INSTALLATION AREA

The measurements in this floor plan are minimums.
They can be higher.
When selecting the installation area for the roaster,
please make sure it is in a safe working area

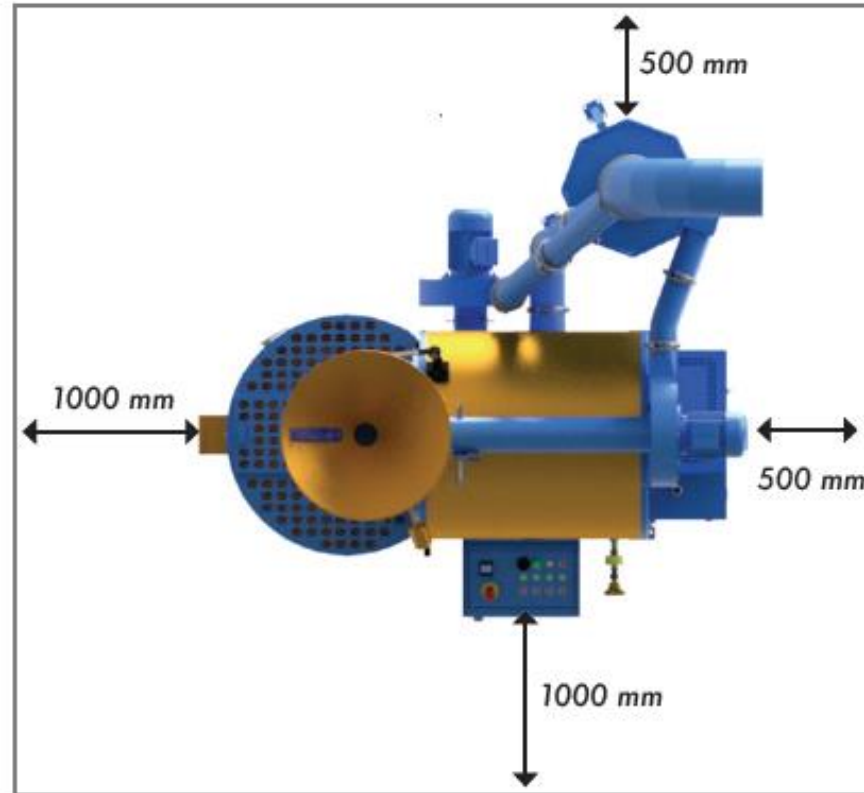


Image 15



ALL ABOUT AFTERBURNERS

TRANSPORT

Always use a forklift to lift and carry the roaster machine to lift at points A& B. (Figure 1). Forklift should be positioned as shown in Figure 2.

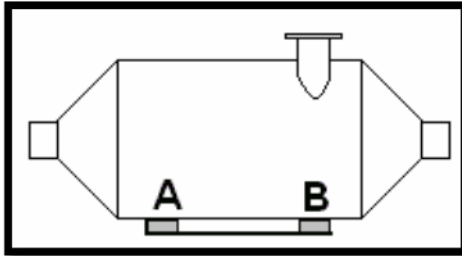


Figure 1

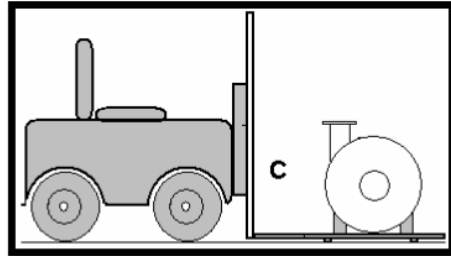
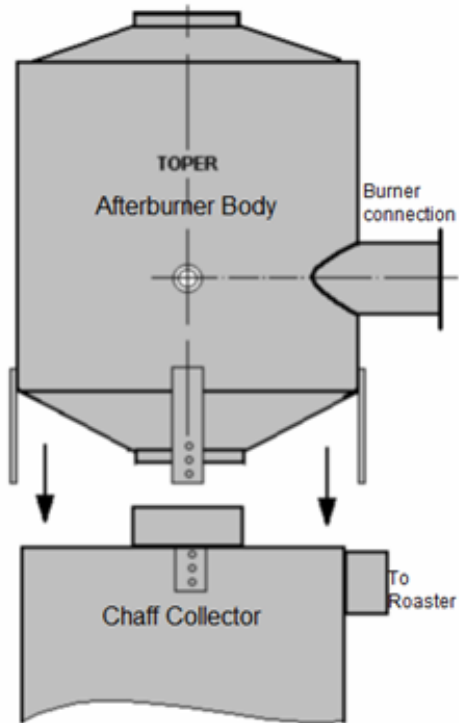


Figure 2

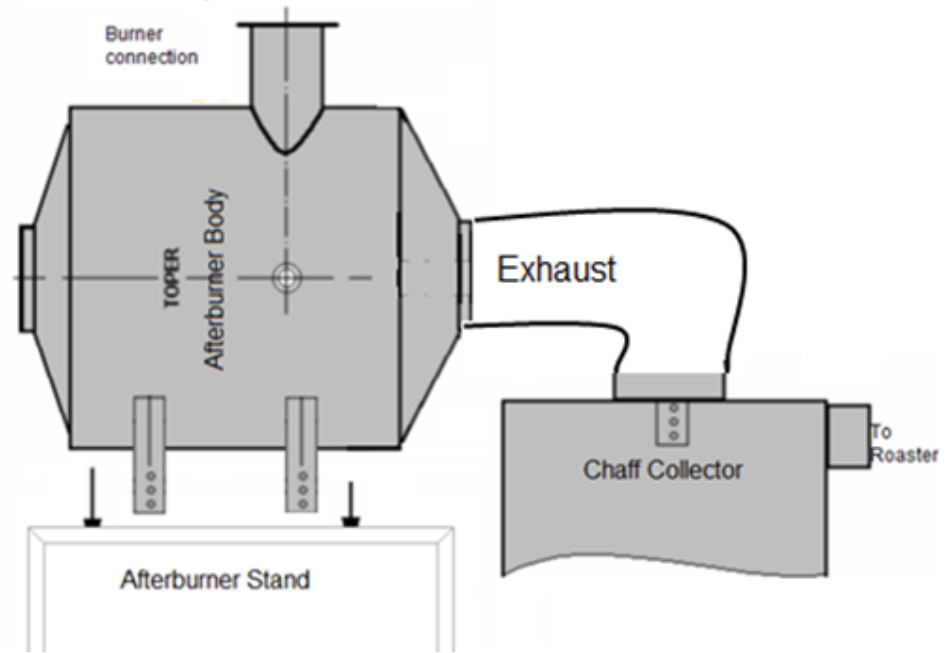
INSTALLATION

1. Settle the unit on to a flat, heat resistant and weight resistant frame.
2. Do not cover the afterburner
3. Good air circulation is critical; it will prolong the life of this oven and make it free from frequent maintenance
4. Make sure that the afterburner is away from any heat sources
5. Keep a distance at least 1 m from any objects or wall for easy access

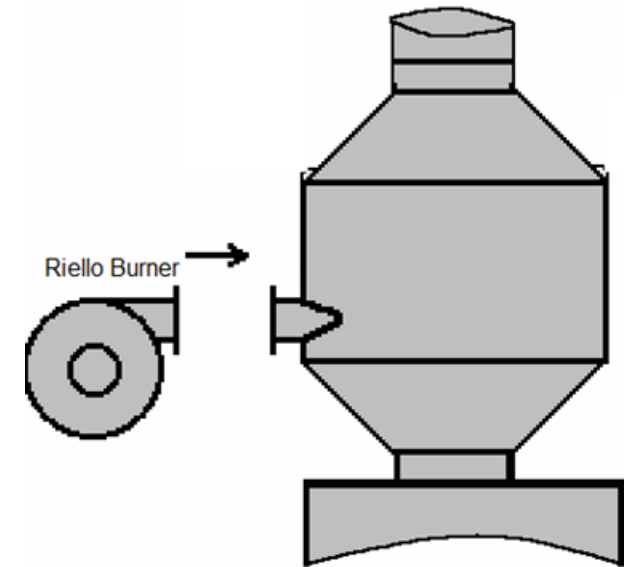
ASSEMBLY: ON TOP OF CHAFF COLLECTOR OR BESIDE CHAFF COLLECTOR



TYPE 1 INSTALLATION



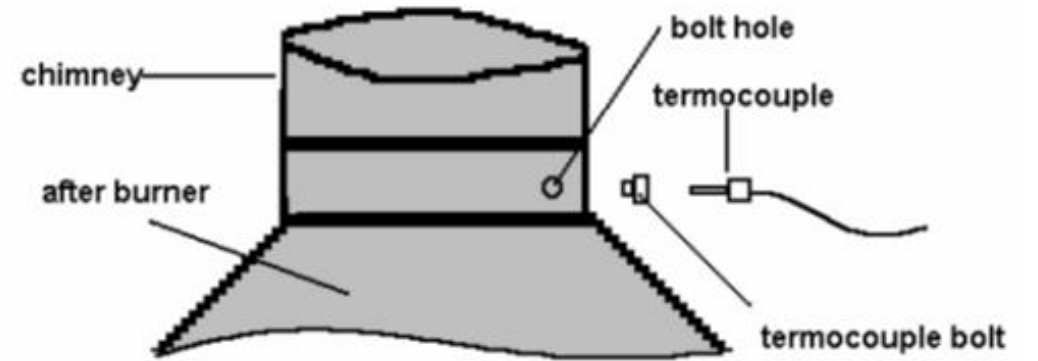
TYPE 2 INSTALLATION



Install Afterburner to chaff collector or to afterburner stand (whichever system you have ordered)
INSTALL RIELLO BURNER TO AFTERBURNER

FINAL CONNECTIONS

1. INSTALL THE THERMOCOUPLE OF DIGITAL THERMOMETER (TEMP CONTROL ON CONTROL BOX); THEN INTO THE HOLE OF IN THE CHIMNEY OUTLET OF AFTERBURNER (AS SHOWN in 3)
2. CONNECT THE ELECTRIC CABLES RIELLO BURNER IN CONTROL BOX AS SHOWN ON ELECTRICAL CONNECTION DIAGRAM BELOW (4)
3. CONNECT RIELLO BURNER GAS TO GAS LINE (SEE BELOW GAS TRAIN CONNECTION) (5)
4. CONNECT THE CONTROL BOX TO INDEPENDENT ELECTRICAL OUTLET
5. CONNECT CHIMNEY (SEE BELOW FOR ACCEPTABLE CHIMNEY INSTALLATION) (6)



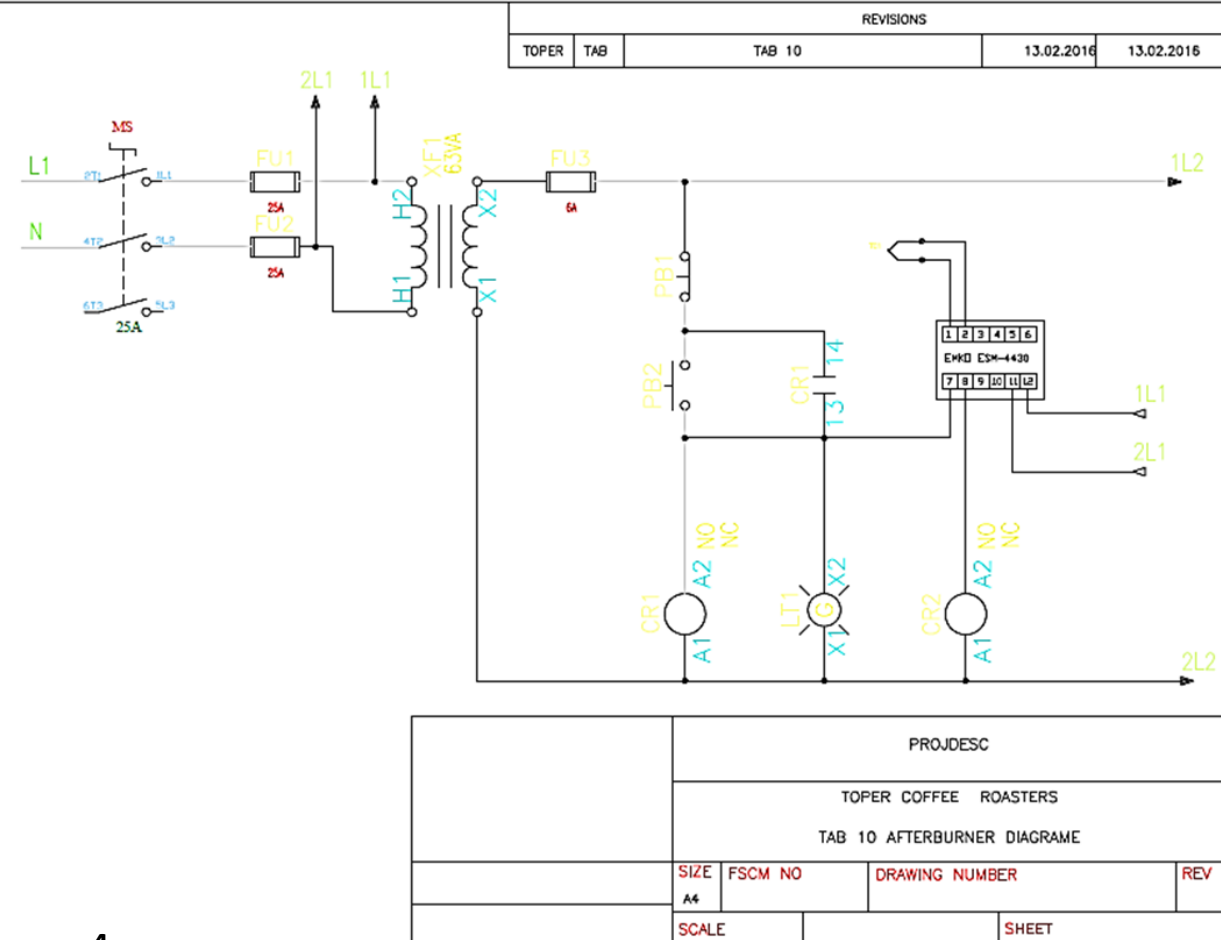
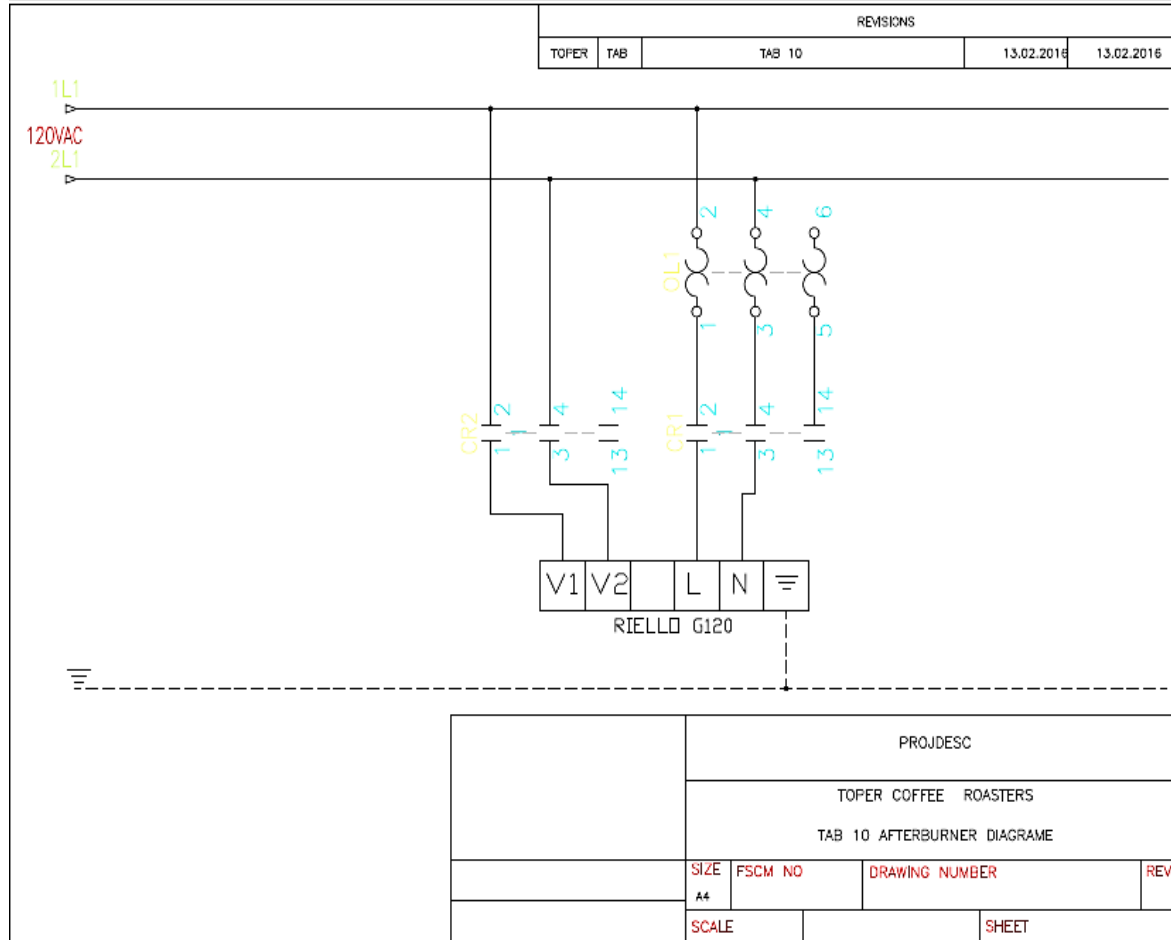
3



7

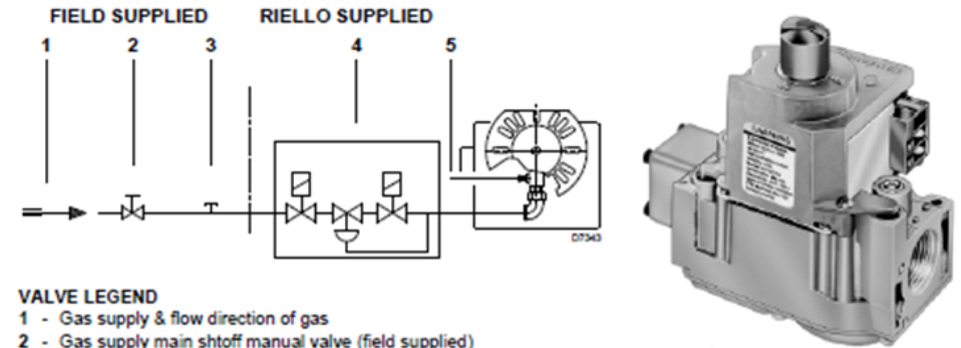
ELECTRICAL CONNECTIONS

ALL ELECTRICAL WORKS MUST BE PERFORMED BY EXPERIENCED AND QUALIFIED TECHNICIANS. THE MAIN SUPPLY LINE SHOULD BE EQUIPPED WITH A FUSE.



TYPICAL GAS TRAIN CONNECTION

- THE GAS TRAIN LEAVES THE FACTORY SET AT 3.5" WC.
- ATTENTION: THIS GAS TRAIN SCOPE OF SUPPLY MEETS THE MINIMUM CONTROLS REQUIREMENTS ACCORDING TO CSA CANADA AND USA REGULATIONS. ANY ADDITIONAL REQUIREMENTS NEEDED TO MEET LOCAL CODES ARE THE RESPONSIBILITY OF OTHERS.
- GAS PIPING TO THE BURNER MUST BE 1/2-INCH MINIMUM. INSTALL ONLY A FULL-PORTED SHUTOFF VALVE. THE VALVE MUST BE LOCATED OUTSIDE THE APPLIANCE JACKET, AND THE PRESSURE GAUGE PORT MUST BE ACCESSIBLE.
- PRESSURE TEST-OVER 1/2 PSIG.
- THE APPLIANCE AND ITS INDIVIDUAL SHUTOFF VALVE MUST BE DISCONNECTED FROM THE GAS SUPPLY PIPING SYSTEM DURING ANY PRESSURE TESTING OF THE SYSTEM AT A TEST PRESSURE IN EXCESS OF 1/2 PSIG.
- PRESSURE TEST-1/2 PSIG OR LESS
- THE APPLIANCE MUST BE ISOLATED FROM THE GAS SUPPLY PIPING SYSTEM BY CLOSING ITS INDIVIDUAL MANUAL SHUTOFF VALVE DURING ANY TESTING OF THE GAS SUPPLY PIPING SYSTEM AT TEST PRESSURES EQUAL TO OR LESS THAN 1/2 PSIG.



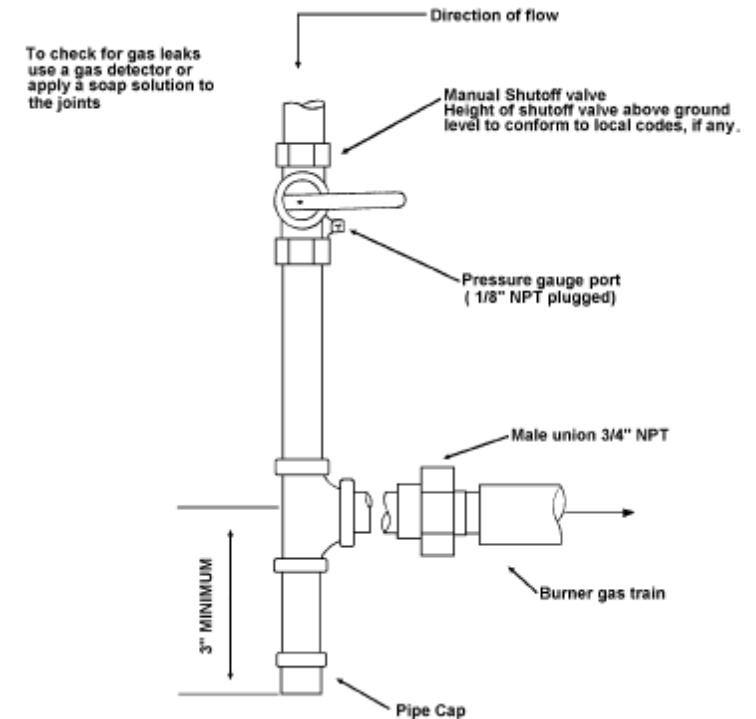
VALVE LEGEND

- 1 - Gas supply & flow direction of gas
- 2 - Gas supply main shutoff manual valve (field supplied)
- 3 - Gas supply pressure test point (field supplied)
- 4 - Valve
- 5 - Gas burner manifold test point

GAS SUPPLY PRESSURE RANGES:

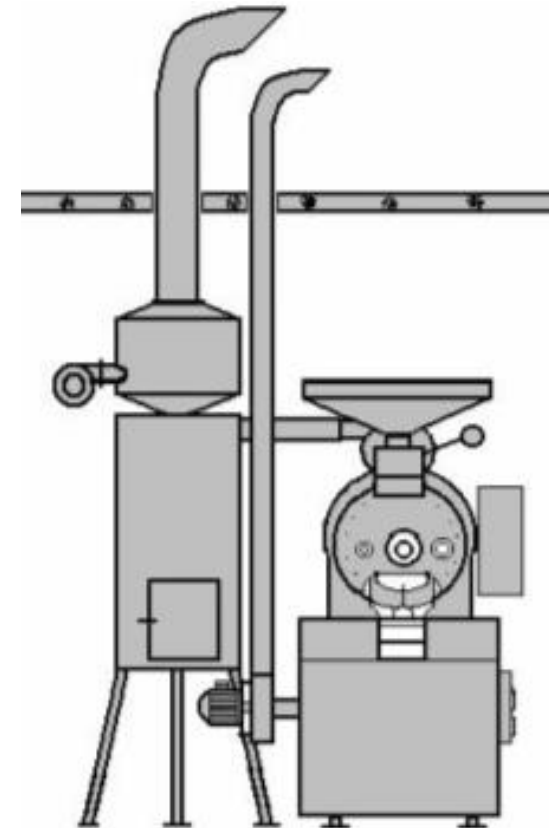
NATURAL GAS PRESSURE:
min. 5" wc - max. 7" wc

LP PROPANE GAS PRESSURE
min. 12" wc - max. 14" wc



ACCEPTABLE CHIMNEY CONNECTIONS AND TYPES OF CHIMNEYS FOR AFTERBURNERS

CHIMNEY CONNECTION SHOULD BE STRAIGHT UP BUT IF CORNERS ARE NEEDED, THE CORNERS MUST BE OVAL NOT 90° CORNERS



TYPE OF VENT DUCTING YOU WILL NEED

North American customers should use double walled-positive pressure grease vent ducting. Therefore, IF your facility is concrete or brick you may consider 18-gauge welded pipe. The critical issue is the ability to withstand temperatures of up to 1400°F/ 760°C in case of flash fires.

One of the most important and critical aspects of your roaster installation is the use of an approved vent ducting system. This part of the roaster installation seems to create confusion when it comes to the ducting requirements. The coffee roaster is connected to exhaust ducting which is an integral part of the roasting system. Its design will greatly affect the efficiency and performance of the coffee roaster as well as the quality of the coffee. The two main considerations in designing your ducting system are efficiently exhausting your roaster and the distance your ducting is to combustible/non-combustible materials.

DUCTING EXHAUST:

Toper Roasters have an internal blower motor/fan to facilitate the exhausting of fumes to the outside. The blower motor/fan creates a positive pressure which by regulations/codes dictates a specific type of vent ducting is utilized. Normally, the coffee roaster's internal blower can accommodate a 20-25' vertical exhaust system without the need for any additional booster fans to exhaust the gases through the vent ducting. A direct vertical run is typically the most efficient and cost effective. Ideally, the roaster can be positioned so the duct is centered between the ceiling joists or rafters to allow the greatest clearance around the vent ducting. The design of the building may dictate the use of 45° or 90° elbows. Elbows will put a restriction on the airflow and may cause unwanted backpressure on the roaster.

WEATHER PROTECTION:

Most of the manufactures offer the components necessary to prevent water penetration into the ducting system. Critical to the overall design is a properly designed and installed chimney cap/rain cap. A properly designed chimney cap/rain cap will prevent water from entering.



START UP

- 1-TURN ON THE MAIN SWITCH
- 2- TURN ON THE DRUM-EXHAUST.
- 3- THEN TURN THE GAS FIRST VALVE (ROASTER AND AFTER BURNER)
- 4- TURN BURNER OF ROASTER ON. (LIGHT THE BURNER)
- 5- TURN BURNER OF AFTERBURNER ON (7)
- 6- CHECK THE SETPOINTS ON THE THERMOSTATS: PRODUCT 450 C - 600 C

MAINTENANCE



REMOVE THE CUT OVER THE BOLTS THAT HOLDS THE BURNER.



Burner head with the help of Allen key remove from around three percent



Burner igniter parts clean with compressed air



OPERATING INSTRUCTIONS OF ROASTER: DIGITAL FUNCTIONS

CONTROL PANELS DIGITAL

Caution: The first time the machine is activated, it takes time for gas to fill the system. You will have to do a couple of burner on-off operations.

Control panel for gas versions



Parts of control panel for gas version

1. Emergency Button
2. Digital Thermostat
3. Digital Control Point Selection Key
4. Warning Signal (Buzzer)
5. Energy Warning Lamp
6. Start Button
7. Stop Button

Control panel for electrical version



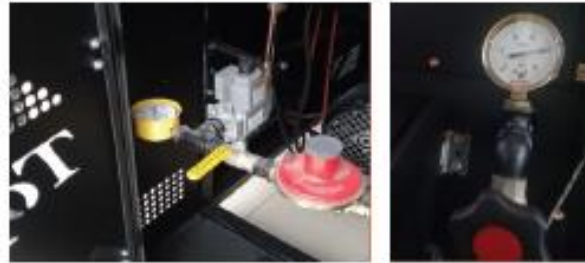
Parts of control panel for electrical version

1. Emergency Button
2. Digital Thermostat
4. Warning Signal (Buzzer)
5. Energy Warning Lamp
6. Start Button
7. Stop Button
8. Element start switch

MACHINE OPERATION (GAS)

1

Open the gas valve. Adjust the pressure gauge from the regulating valve. The pressure should be a maximum of 20 millibars. See "Picture 16"



Picture 16

2

Move the position from position 0 to position 1. See "Picture 17"



Picture 17

3

When the main switch is on position 1, the energy lamp lights. The digital display operates. See "Pictures 18-19"



Picture 18

4

Set the maximum temperature of the Digital Thermostat. See "Picture 19"



← Current temperature
← Maximum set temperature

Picture 19



1 Press the "PSET" button on the digital display once. See "Picture 20"



2 Increase or decrease the maximum temperature value with the temperature change keys. See "Picture 21"



3 Then press "ASET" button and you will see the set value you set on the main screen. See "Picture 22"



4 Choose from which point the Digital Thermostat reads the temperature and controls the temperature. See "Picture 23"



5 Turn on the air flow and drum rotation by pressing the DRUM/EXHAUST ON button. See Picture 24



6 Press the "BURNER ON" button to start the machine's ignition system. See "Picture 25"

7

When you turn on your roaster (picture 25), gas is released to the main burner and the pilot light ignites that gas to turn on your roaster, ignite the burners under the drum and provide heat. If there the pilot is not lit up, that means that the main gas valve is not opened. Please refer to “picture 26”



Picture 26



Attention: When the temperature reaches its set maximum level, this alarm will sound.

8

Close the hot air adjustment valve for the first roast. Thus, the machine will warm up in a shorter time. Please refer to “picture 27”. After your roaster reaches to the desired temperature, you can re-open the hot air adjustment valve again.



Picture 27

9

Load the green coffee as much as the machines batch capacity is into the green coffee bean hopper.

You can load as little as 1/2 of the drum capacity (ex: For TKM SX 5: as little as 2.5Kg)

Please remove any threads or ropes inside the green coffee as these threads will cause a fire.



Picture 28

10

Once the set temperature is reached, dump the green coffee inside the drum, by releasing the trap door hopper lever. Once all the green coffee has been released into the drum, bring back the hopper lever to its closed position.

Attention: If the trap door remains open, the burner will not burn efficiently, and the flames and temperatures will be distorted.



FIGURE 29

12

When the roasting process is completed, turn on the mixer and cooler fan by pressing the “MIXER ON” and “COOLER ON” buttons. “Figures 31 & 32”

11

You can monitor your process of roasting through the sight glass and with the sample spoon



FIGURE 30



FIGURE 31



FIGURE 32

13

Lift-up the handle of the drum plate to release the roasted coffee into the cooling bin. Please refer to “Figure 33”.

Important Note: The roaster can roast at the same time as cooling functions are on. Just repeat the steps from number 10

Important Note: If you want to cool your coffee faster, you can let the mixer arms rotate for 45 seconds and stop it for 60 seconds during the cooling process. Since the cooling process may take longer due to the heat generated due to friction. And on the other hand, there is a possibility of burning or sooty taste if the coffee remains too long at the bottom when it is completely stopped, the best option is to apply this stop-start technique.



FIGURE 33

14

Turn off the cooler fan when the coffee is cooled. Please refer to “Figure 34”.



FIGURE 34

15

Empty the cooled coffee by opening the mixer bin discharge guillotine door. Please refer to “Figure 35”.



FIGURE 35

16

Turn off the mixer arms when the coffee is emptied from the cooling bin. Please refer to “Figure 36”.



FIGURE 36



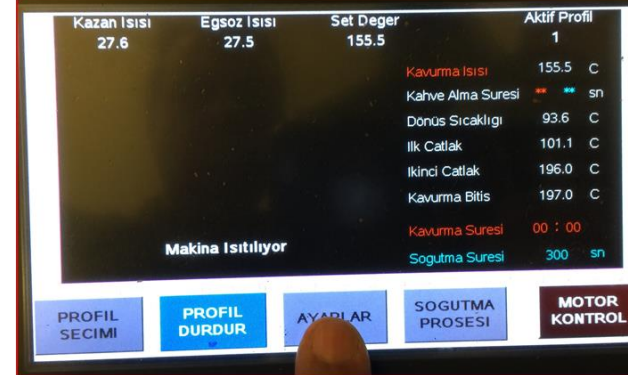
**OPERATING INSTRUCTIONS OF ROASTER: for
touch screen control panel version**

Language Selection

Press PROFILE ROASTING button on the main screen



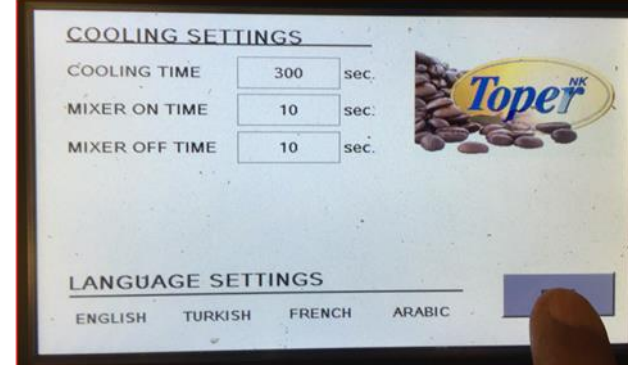
Press the SETTINGS button displayed on the screen



Press the ENGLISH (İNGİLİZCE) button displayed on the screen



Press the EXIT button displayed on the screen

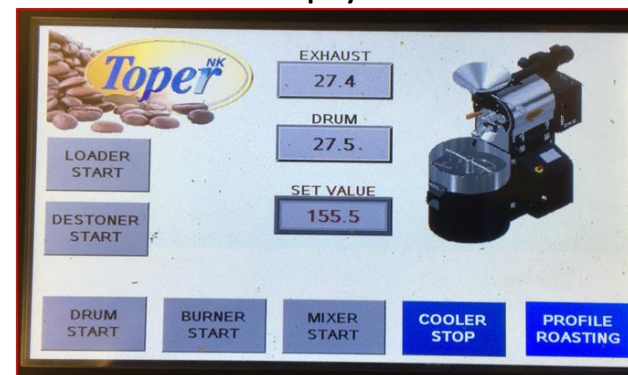


Operation

Press the MOTOR CONTROL button displayed on the screen



You can start the roasting process via the main screen which is now displayed



COMPONENTS OF THE TOUCH SCREEN



- **EXHAUST TEMPERATURE:** Displays the temperature of the air coming out of the exhaust pipe.
- **DRUM TEMPERATURE:** Displays the temperature of the drum.
- **SET VALUE:** Displays the temperature of the machine you have set. The machine temperature can be changed from here.
- **DRUM START:** Starts and stops the drum and exhaust motors.
- **BURNER START:** Starts and stops the burner system of your machine.
- **MIXER START:** Starts and stops the mixing process through the spoon system included in the cooling pan.
- **COOLING START:** It starts or stops the fan, which operates by performing suction, under the cooling pan of your machine. This fan cools the roasted coffee beans.
- **PROFILE ROASTING:** Switches to profile roasting screen.”.
- **ACCESSORIES:** If your machine has “Loader”, “Afterburner” or “Destoner” as additional equipment, you can also operate these devices from the control panel

INSTRUCTIONS FOR THE MACHINE WITH MANUAL CONTROL

In order to make the machine ready, you need to set the temperature to “SET VALUE” button in order to set the temperature. Please type the temperature you desire to reach, and press enter button on the displayed screen

In order to start manual roasting and activate drum and exhaust systems, press the “DRUM START” button



Manual Roasting With Touchscreen

- After setting the temperature, start the burner system and wait for the machine to reach the desired temperature.
- Please keep a record this temperature in the “DROP” section provided in the “ROASTING RECORD FORM”.
- The temperature of your machine is measured from the drum. You need to keep record of these data.
- When the temperature reaches the desired value, please pour your green coffee by opening “HOPPER HANDLE”.
- When you pour the green coffee into the drum, the drum temperature will drop. When this decrease stops and the temperature increases by 1 unit, please note that temperature in the "TURN AROUND" section.
- As the roasting process continues, you will hear crackling sounds of the coffee beans. The first strong and sustained crackling sound you hear is your “First Crack” point. Note the temperature when you hear this first crackling sound.
- After the first crack, the cracking will stop for a while and then start again a minute or two later. This is the “Second Crack” point.
- Please do not forget to note the temperature when you hear the second crack.
- When your coffee is ready, please note the temperature at which you are ready to for the "DROP OUT" point. After that, please start the cooling process.
- Before opening the drum door, please activate the “MIXER” and “COOLER” by pressing the relevant keys to start the cooling process.
- After your roasting process is completed, you can turn off the burner system by pressing the “BURNER” button again.
- When your machine is cooled down, you can turn off the machine by pressing the “DRUM” button.

Please refer to Figures 48 & 49 on next page

Please refer to Figures 50 & 51 on next page



Figure 48



Figure 49



Figure 50



Figure 51

PROFILE ROASTING

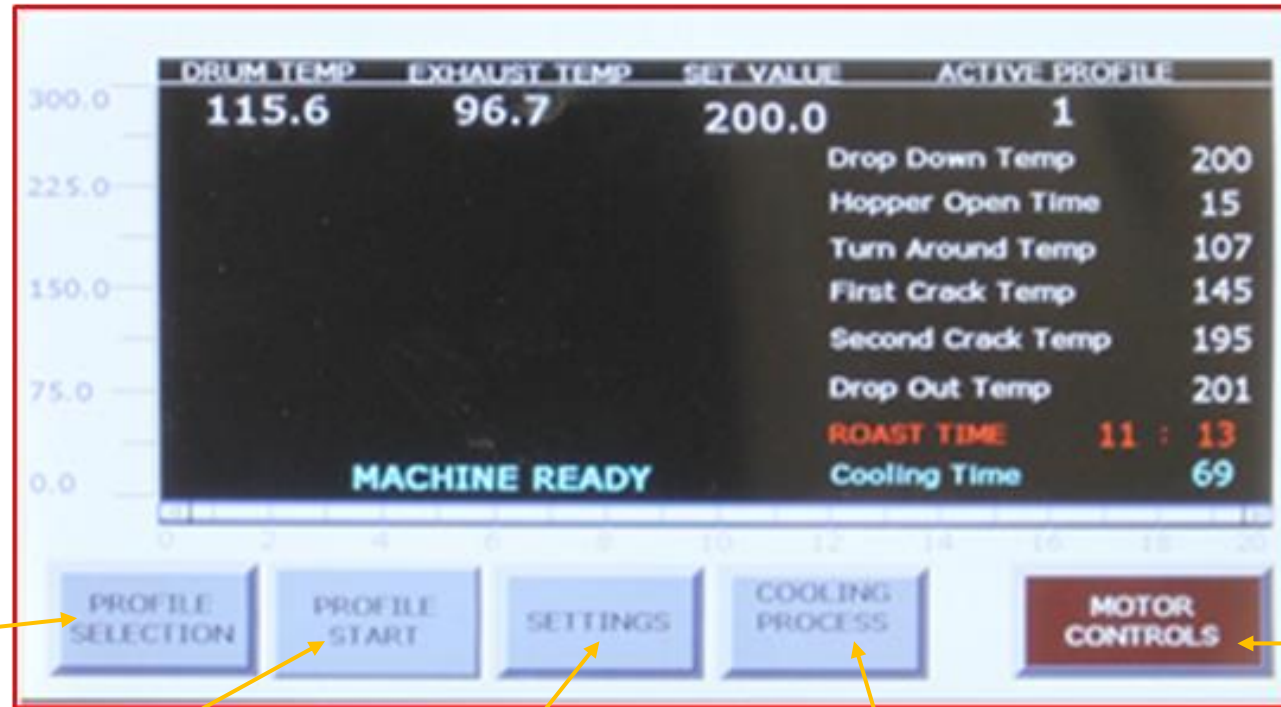
In order to use the profile system in your machine, you shall first operate the roaster, as you do in manual roasting

Before setting the temperature, you shall turn the burner system to “ON” position. The burner system shall be activated to allow the profile system to automatically control temperatures.

Please press “PROFILE ROASTING” button on the screen to start the profile roasting process



1st. DISPLAY SCREEN FOR PROFILE ROASTING



This is the touch button where you can select one of the available profiles.

This is the touch button where you start the profile roasting.

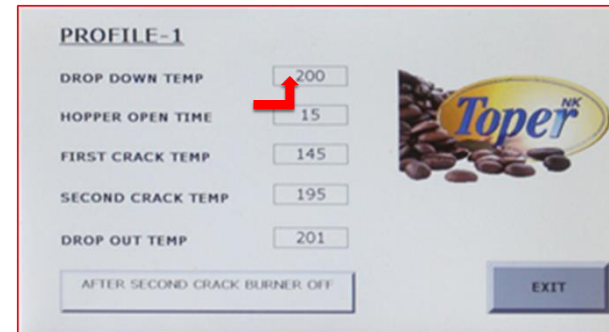
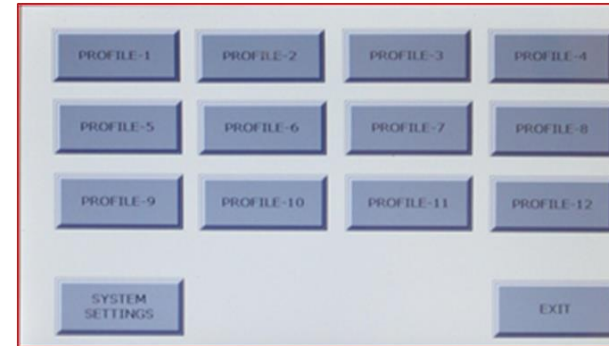
This is the touch button where you can select the thermocouple and the language.

This is the touch button where you start the cooling process when the coffee is ready.

This is the touch button where you switch back to the first screen, through which you control the motor.

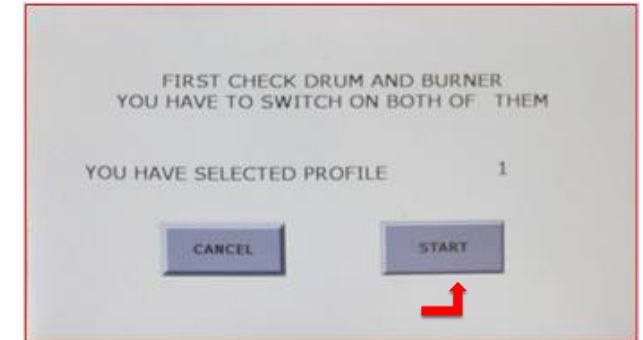
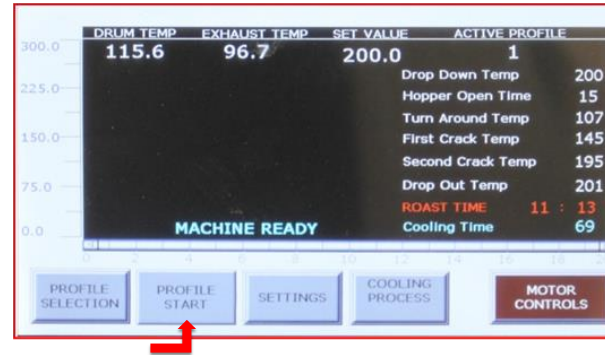
HOW TO USE THE PROFILE ROASTING SYSTEM

- First and foremost, you shall enter the data you have written down in your “ROASTING RECORD FORM” (please see further down for a type of ROASTING RECORD FORM).
- When you press the “PROFILE SELECTION”, the screen where you can choose one of the twelve profiles will appear.
- And you select your profile
- Please click on one of the sections and enter the values you have noted in the “ROASTING RECORD FORM”
- Please click on the exit button after setting all the temperatures.
- You can also select the relevant profile by pressing the exit button.
- The profile you have chosen will be used in the profile roasting process
- Please press the “EXIT” button once again and turn back to the profile screen.

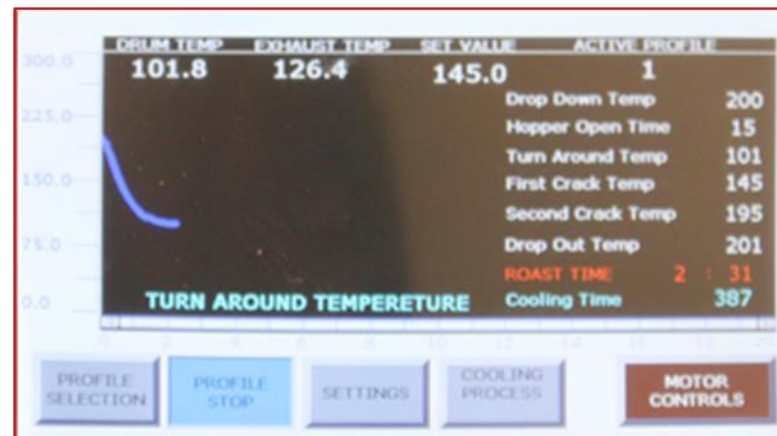


HOW TO USE THE PROFILE ROASTING SYSTEM (CON'T)

- Please press the “PROFILE START” button to start the roasting process.
- A screen will appear and ask you to control the drum and burner.
- After checking them, please press the “START” button and start the process.
- First, the profiler shall raise the temperature in the drum to reach the “DROP DOWN TEMPERATURE”.
- At this moment, you can drop the green coffee beans inside the drum

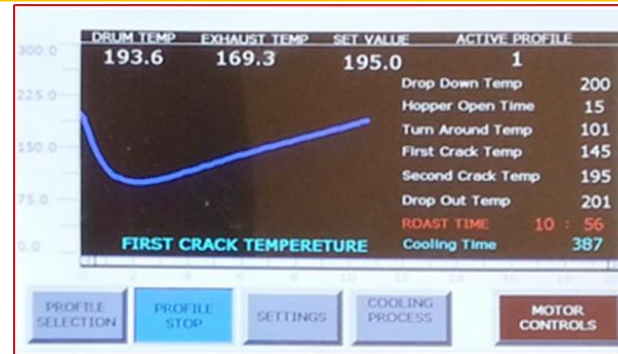


- When the drum temperature reaches the “DROP DOWN TEMPERATURE”, you will hear a warning signal. This means that your machine is ready, and the coffee beans can be dropped in.
- Now you should wait for the “TURN AROUND TEMPERATURE”.
- When the temperature starts to rise, you will hear another signal. You can see it at the bottom of the screen.

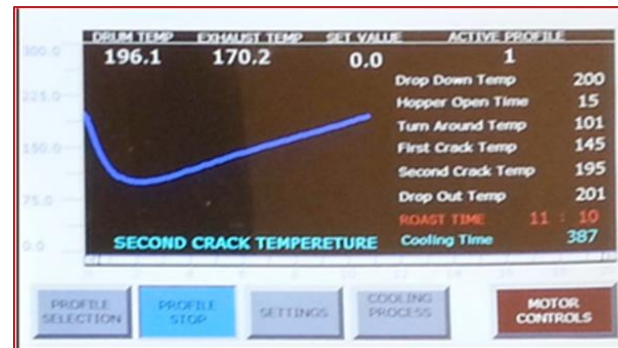


HOW TO USE THE PROFILE ROASTING SYSTEM (CON'T)

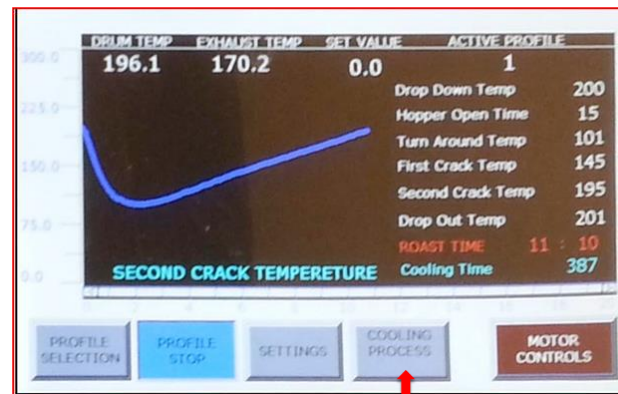
- You should wait for the temperature to rise to the “FIRST CRACK TEMP”. Then you are going to hear another alarm sound



- After this point, the temperature shall rise to “SECOND CRACK TEMP”, and then another alarm sound will be heard.



- Depending on the Second Crack Profile Setting Value, the temperature continues to rise until “DROP OUT TEMP” is reached.
- With the last alarm signal, this will mean that the roasting process is completed.
- At this point, please press the “COOLING PROCESS” button and discharge the roasted coffee



ABOUT COFFEE

Arabica

The delicate evocative flavors of Arabica beans are drawn from the soil, fruits, flowers, and conditions of the microclimate at their source.

So Arabica taste profiles, body, and acidity have a range as diverse as the farms they come from.

Robusta

Hardier and more adaptable to different climates and soils, the Robusta coffee plant makes up about 40% of the world's coffee production. With almost double the caffeine content of Arabica, Robusta has a more bitter taste. It is often used as filler or a cost-reducer and can be found in many instant coffee products.



Coffee is the **second most traded** commodity after petroleum.



It takes between **two to three years** for most coffee trees to mature enough to produce a first crop.



Coffee Consumers

- 1) USA
- 2) Brazil
- 3) Germany
- 4) Italy
- 5) Japan



Most of the coffee in the world is grown in the "**Coffee Belt**", between the Tropics of Cancer and Capricorn.



Brazil produces almost one third of the world's coffee.



It takes **100 coffee beans** to make one cup of coffee.



Altitude
600 m - 2,200 m



More expensive



60% of
world production

Arabica

The delicate evocative flavors of Arabica beans are drawn from the soil, fruits, flowers, and conditions of the microclimate at their source. So Arabica taste profiles, body, and acidity have a range as diverse as the farms they come from.



Altitude
0 - 800 m



Twice the amount
of caffeine



Commonly used in
instant coffee

Robusta

Hardier and more adaptable to different climates and soils, the Robusta coffee plant makes up about 40% of the world's coffee. With almost double the caffeine of Arabica, Robusta has a more bitter taste. It is often used as filler or a cost-reducer.



Asia

Indonesian coffees tend to have a deep, dark, almost meaty earthiness and aromatic spiciness to them. Sumatran coffees in particular take to dark roasting well, and so smoky and toasted flavors are often present in the cup.

Other coffees will have a stouty or mushroom-like complexity that is both savory and herbaceous, and elicit a long, lasting finish that recalls very dark or unsweetened cocoa.

- India
- Indonesia
- Vietnam




Central & North America

Coffee from this region, along with Colombia, has had the largest influence on North American tastes and preferences. Not surprisingly, Central America is an important contributor to global coffee supply.

In describing these coffees, the word balance often comes up. Their fruit-like characteristics often play nice as a mild backdrop to the cocoa and spice flavors.

- Costa Rica
- El Salvador
- Guatemala
- Hawaii
- Honduras
- Mexico
- Nicaragua




Africa

Out of East Africa and Arabia (Yemen), coffee profiles offer distinctive wine and fruit tones, medium body, and a fragrant floral aroma.

Most of the quality coffee that comes from this area is wet processed, with the exception of Yemen and the Harrar region of Ethiopia (while increasingly other regions are dry processing). Yemen and Harrar coffees are naturally processed and can be quite delicious, dry and fruity with a sweet, full body.

- Ethiopia
- Kenya
- Rwanda
- Tanzania



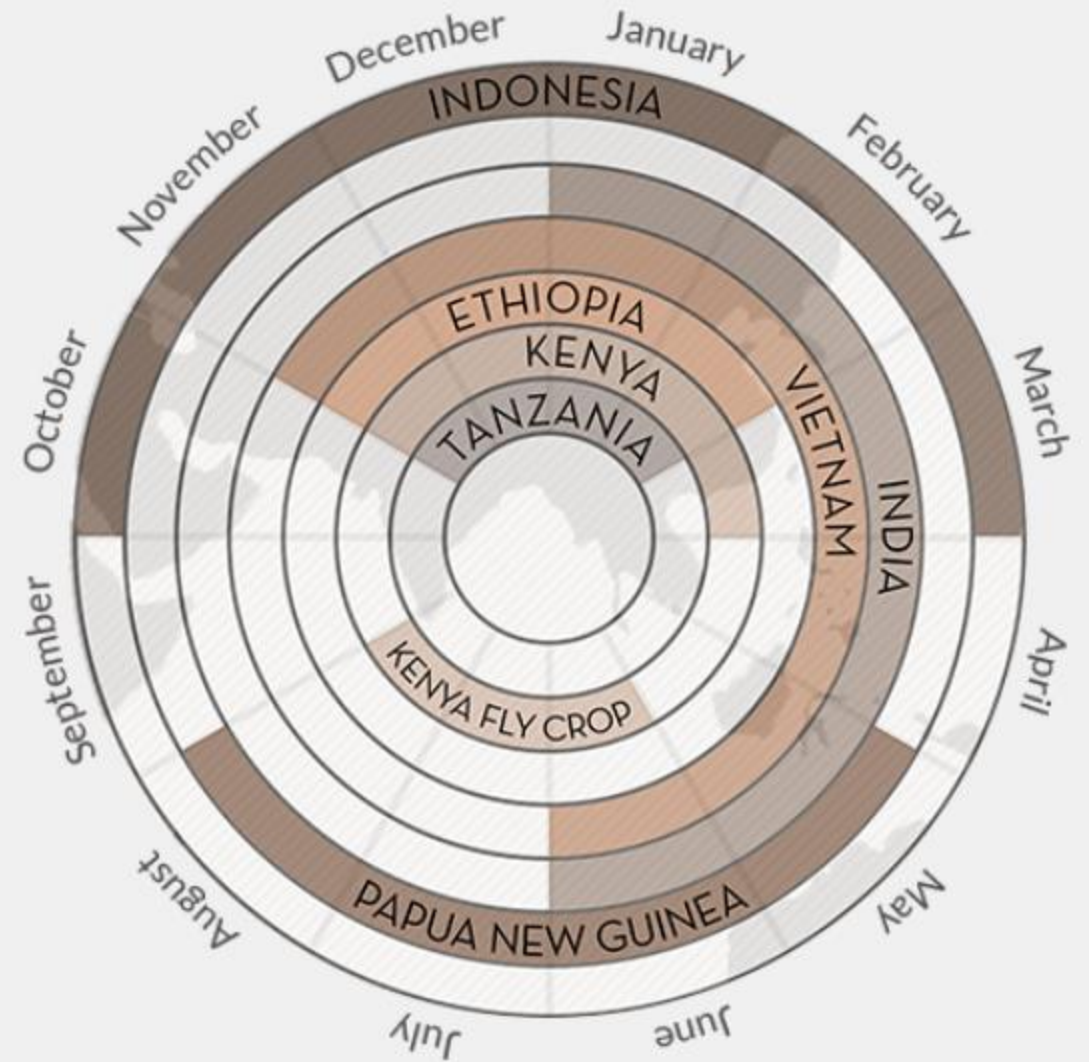
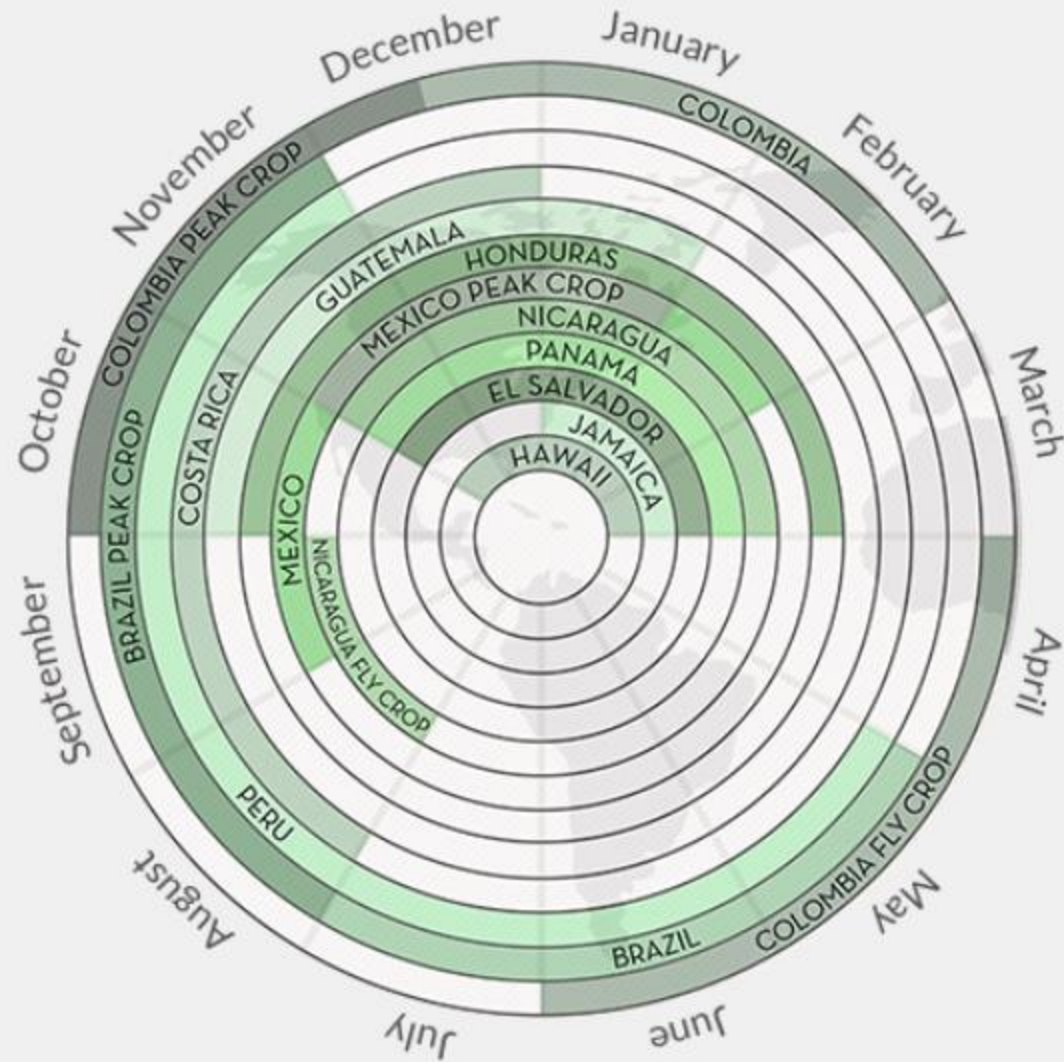
South America

Sweet and medium-bodied, Colombian coffees have the most recognizable flavor to most North Americans. The classic Colombian profile — as with other better-quality coffees from Peru, etc. — brings together a mellow acidity and a strong caramel sweetness, perhaps with a nutty undertone.

Brazil gets a special mention as the world's largest coffee producer. Some Brazilian beans — especially those that are pulped natural or "Brazil natural" — have pronounced sweet, roasted-nut notes and a heavy body that makes them popular in espresso blends. Chocolate and some spice are typical as well, creating a unique profile.

- Brazil
- Colombia
- Peru

The harvest schedule



THE PROCESS OF ROASTING

Factors that can and will affect the quality of your roasted Coffee:

- Coffee family (Arabica, Robusta)
- The origin of the coffee
- The drying method of green coffee
- Bag types in which green coffee is put
- Moisture content of the coffee
- Ambient temperature of the place where the green coffee is stored
- The aroma and colour desired to be obtained from coffee
- Features of the roasting machine
- The altitude of where you are roasting from
- The first roast of the day will take a longer time and affect that batch

Notes to remember:

- The volume of the roasted coffee bean increases by 100%.
- The coffee bean loses 14% to 21% of its weight during roasting.
- The internal structure of coffee bean changes dramatically.

ROASTING RECORD FORM

1. Write down the country of origin of the coffee.
2. If you know, record the region where the coffee is specially grown, the plantation name, if any, and the information of the field where the coffee was grown.
 - High grown
 - Shade grown
 - Organic
3. Write down the date of the roast process.
4. If you know, write down the altitude of the place where the coffee process is made relative to the sea level. Atmospheric pressure will have a definite impact on the roast process
5. Write down the ambient temperature at the time of roasting.
6. Write down the weight of the coffee that is roasted.
7. Write down the maximum temperature setting of the roaster.
8. Write down the temperature at which you dump the green coffee into the drum.
9. Write down at which times the 1st and 2nd crack took place
10. In case you decide to reduce the burner flames during the roasting process, write down that time as well as the length of that reduction period.
11. In case you decide to shut the burner and prolong the roast with only the drum and coffee temperatures, write down those times and duration
12. If you are closing the hot air valve and applying pressure to the coffee during or at the end of the roasting process, write down the time and duration of application.
13. At the end of roasting, record the temperature when the drum is emptied.
14. Record the total duration of roasting.

The above information will give you a chance to compare future coffee testing procedures. There are new roasting profile systems that can help you, however, they may not give you a complete answer. It is necessary to understand your coffee and your roasting process

COLOUR tracking TABLE OF ROASTED COFFEE



ColorTrack - 30
Agtron - N/A
LaB* - L:58, a:-2, B:14



ColorTrack - 15
Agtron - 80
LaB* - L:57, a:8, B:16



ColorTrack - 30
Agtron - 70-60
LaB* - L:42, a:5, B:15



ColorTrack - 50
Agtron - 50-55
LaB* - L:37, a:5, B:13



ColorTrack - 55
Agtron - 45-50
LaB* - L:31, a:4, B:9



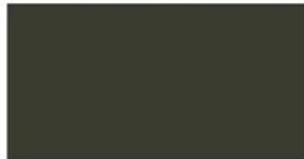
ColorTrack - 60
Agtron - 40-45
LaB* - L:29, a:3, B:8



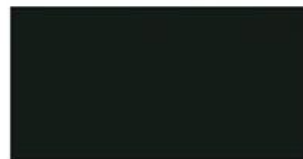
ColorTrack - 65
Agtron - 40-35
LaB* - L:32, a:3, B:8



ColorTrack - 70
Agtron - 35-30
LaB* - L:20, a:0, B:4



ColorTrack - 75
Agtron - 30-25
LaB* - L:18, a:0, B:4

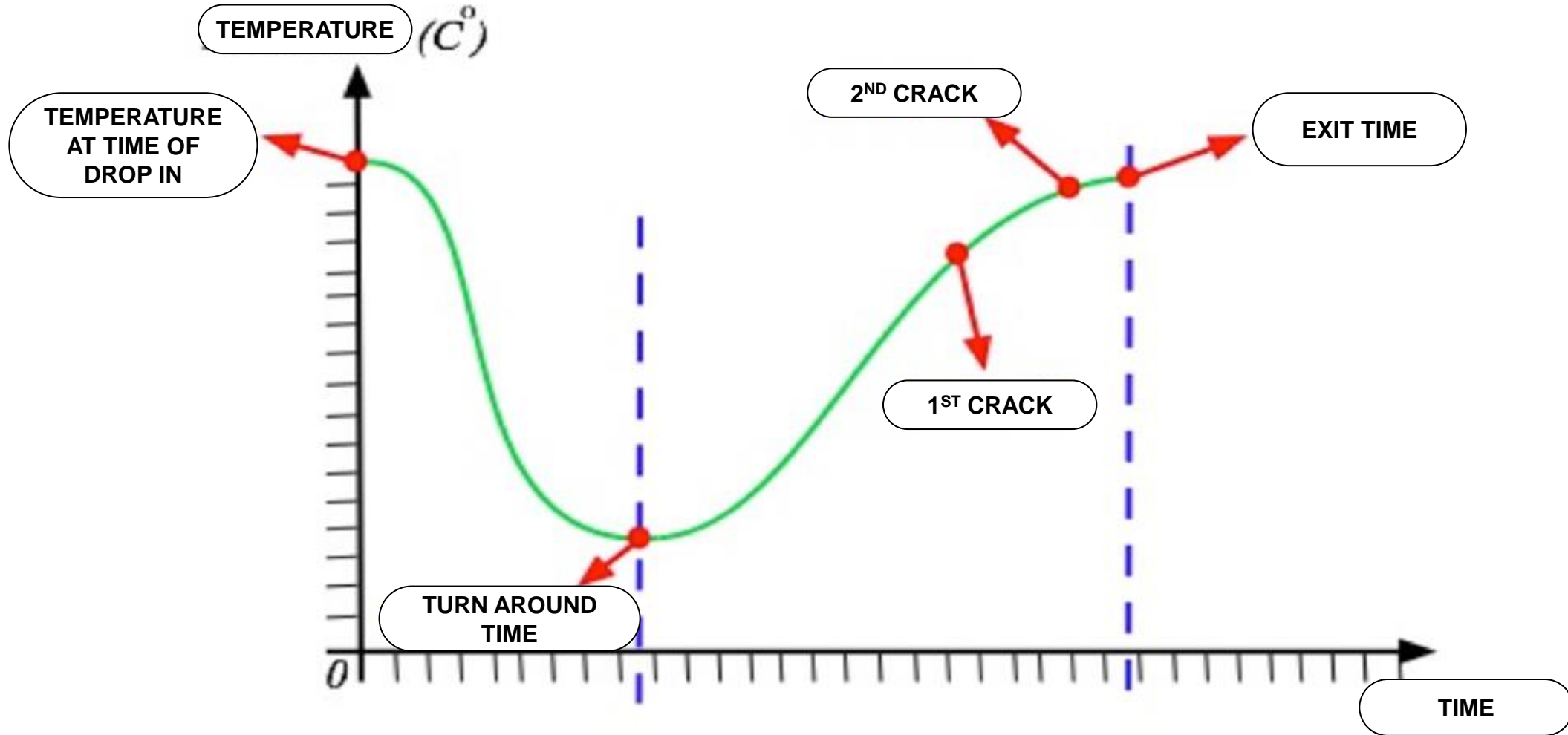


ColorTrack - 80
Agtron - 25-15
LaB* - L:6, a:-2, B:3

COLOUR TABLE VIS-A-VIS TASTE OF ROASTED COFFEE

ROASTING STYLES	GRAIN SURFACE	ACIDITY	AROMA	SWEETNESS	INTENSITY	POSITION RELATIVE TO CRACKING
Half City	Dry	Very High	Medium	Low	Weak	Right Before the First Crack
Cinnamon	Dry	High	Strong	Low	Weak	At the Beginning of the First Crack
City	Dry	Medium	Very Strong	Low to Strong	Medium	During the First Crack
Full City	Dry	Medium	Very Strong	Strong	Strong	At the End of the First Crack
Full City+	Dry to slightly oily surface	Medium to Low	Strong	Low to Strong	Strong	Between the First and Second Cracks
Vienna or Full City++	Partially Bright Surface	Medium to Low	Slightly Strong	Low to Strong	Medium	At the Beginning of the Second Crack
Italian	Partially Bright Surface	Low	Weak	Low	Weak	During the Second Crack
French	Partially Bright Surface	Low	Weak to Slightly Burnt Taste	Almost None	Very Weak	At the End of the Second Crack
Almost Black	Fully Bright Surface	Very Low	Burnt Taste	None	Almost None	Almost the Burning Limit

ROASTING GRAPH



ROASTING RECORD FORM

- 1TEMPERATURE: The value of the temperature in the DRUM in terms of temperature at that time
- 2AIR FLOW: The rate of opening and closing of the exhaust flap ON your machine at that time.
 - 3TIME: It is the time when the event occurred (in minutes and seconds)

ROAST NUMBER		OPERATOR'S NAME	
DATE		GREEN COFFEE TYPE (AS MUCH INFO THAT YOU HAVE)	
ROASTING MACHINE USED		SERIAL NUMBER ON GREEN COFFEE BAG	
ORDER NO		SAMPLING DONE: RESULTS	
	TEMPERATURE (°C/°F) ¹	AIR FLOW (%) ²	TIME (mm:ss) ³
THE TEMPERATURE WHEN THE COFFEE IS DUMPED INTO THE DRUM			
TURN AROUND			
FIRST CRACK			
SECOND CRACK			
PRODUCT-OUT TEMPERATURE			
STATUS OF THE BURNER AFTER THE FIRST CRACK		ON	OFF
STATUS OF THE BURNER AFTER THE SECOND CRACK		ON	OFF



MAINTENANCE & POTECTIVE INSTRUCTIONS

THE CORRECT WAY HOW TO OPEN A GREEN COFFEE BAG

Flash fires inside a roasting drum can happen if a highly flammable foreign object, such as a Thread or rope (from the green coffee bag), inserts itself with the green coffee.



TROUBLESHOOTING

Symptoms	Estimated Cause of the Problem	Possible Solution
Sound Coming From The Drum.	The drum may not be set.	Set the drum. (Please refer to page;)
	Bearings may lack enough lubricant.	Lubricate bearings. (Please refer to page;)
	The Drum may be damaged because it is not closed at the appropriate temperature.	Please contact the “Toper Service Team”.
	During roasting, the machine may have been overheated and therefore the Drum or the Drum wall may have been damaged.	Please contact the “Toper Service Team”.
Sound Coming From The Drum gearbox .	The lubricant of the gearbox may be low.	Add lubricant to the gearbox . (Please refer to page;)
	The gearbox may be faulty.	Please contact the “Toper Service Team”.
Sound Coming From The Mixer gearbox .	The lubricant of the gearbox may be low.	Add lubricant to the gearbox . (Please refer to page;)
	The gearbox may be faulty.	Please contact the “Toper Service Team”.
Green Coffee Comes From The Drum After The Coffee Is Roasted	The Drum may not be set.	Set the drum . (Please refer to page;)
	More coffee may have been poured in the upper chamber than its capacity and the green coffee flap may have been opened.	Do not pour product over the capacity of your machine into the green coffee chamber.
Duration of roasting is too long	Coffee may be moist.	Measure the coffee moisture in each new bag.
	The flame may be too low.	Adjust the appropriate flame from the flame adjustment valve.
	The set level may be set too low.	Increase the set point of the digital display. (Please refer to page;)
	The green coffee trap door may have been left open.	Close the trap door.

TROUBLESHOOTING (con't)

Symptoms	Estimated Cause of the Problem	Possible Solution
If Black/Burn Spots on Coffee Beans	Coffee may be pouring into the drum at a very high temperature.	Lower the temperature of the machine when the product is poured into the drum .
	The fire is very high and heats the drum surface very much.	Lower the flame height.
If the drum does not rotate	The emergency button may have been pressed.	Turn the emergency button to on position. (Please refer to page;)
	The gearbox may be malfunctioning and cannot rotate the motor.	Disconnect the motor from the gearbox and try to start the motor in this way. If the failure is in the gearbox , please contact with the “Toper Service Team”.
	The gearbox may be malfunctioning and cannot rotate the motor.	Set the drum . (Please refer to page;)
	The thermal relay may be malfunctioning. (In this case, the red lamp is turned on)	Press the reset button on the thermal relay and try to operate it again. If the thermal blows again, please contact the “Toper Service Team”.
If the mixer does not rotate	The emergency button may have been pressed.	Turn the emergency button to “on” position. (Please refer to page;)
	The gearbox may be malfunctioning and cannot rotate the motor.	Disconnect the motor from the gearbox and try to start the motor in this way. If the failure is in the gearbox , please contact the “Toper Service Team”.
	Mixer Handles may be stuck.	First, check whether any particle is stuck under the mixer handles. If it does not solve the problem, lift the mixer up by holding the mixer handles and check whether there is a problem in the mixer shaft. Start the mixer motor without fastening the handles back on and turn it off and replace the arms. If the problem has not been solved yet, please contact the “Toper Service Team”.
	The thermal relay may be malfunctioning. (In this case, the red lamp is turned on)	Press the reset button on the thermal relay and try to operate it again. If the thermal blows again, please contact the “Toper Service Team”.

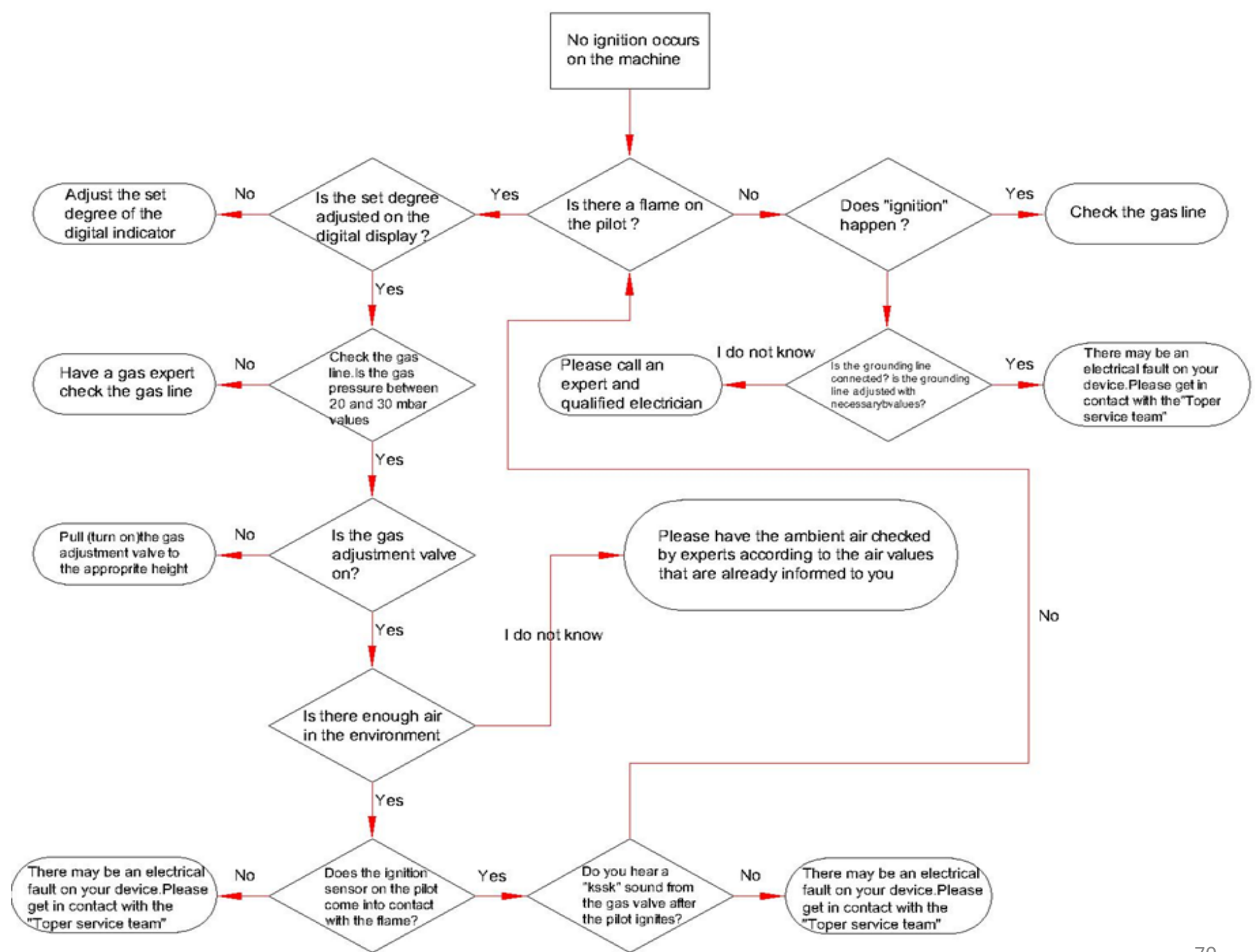
TROUBLESHOOTING (con't)

Symptoms	Estimated Cause of the Problem	Possible Solution
If the exhaust motor does not rotate	The emergency button may have been pressed.	Turn the emergency button to on position. (Please refer to page;)
	Exhaust fan may be stuck.	The fan may be covered with oil or soot and these particles may block the rotation. Please perform the necessary cleaning according to the "Cleaning the Exhaust Fan" section given in the maintenance section.
	The thermal relay may be malfunctioning. (In this case, the red lamp is turned on)	Press the reset button on the thermal relay and try to operate it again. If the thermal blows again, please contact the "Toper Service Team".
If the cooler motor does not rotate	The emergency button may have been pressed.	Turn the emergency button to on position. (Please refer to page;)
	Cooler fan may be stuck.	The fan may be covered with oil or soot and these particles may block the rotation. Please perform the necessary cleaning according to the "Cleaning the Cooler Fan" section given in the maintenance section.
	The thermal relay may be malfunctioning. (In this case, the red lamp is turned on)	Press the reset button on the thermal relay and try to operate it again. If the thermal blows again, please contact the "Toper Service Team".
Coffee Comes out of the Machine in different colours	The coffee that has undergone the roasting process may be coffee harvested from several different regions.	In blended coffees made with different regions, since the characteristics of the place where each bean is grown are different, the internal structure of the coffee is also different; for this reason, it is normal for the colours to be different.
	The roasting system has not been maintained.	Perform the cleaning in accordance with the "Cleaning of the Cores" section. (Please refer to page;)
	The roasting style has not been chosen in accordance with the coffee.	The best profile of every coffee is different. For the best roasting, sample roasts shall be made first and the appropriate roasting profile and appropriate taste profile shall be determined. To receive more information on this subject, please apply to "Toper Coffee Academy".
If the exhaust motor does not rotate	The emergency button may have been pressed.	Turn the emergency button to on position. (Please refer to page;)

TROUBLESHOOTING (con't)

Symptoms	Estimated Cause of the Problem	Possible Solution
If there is a fire in the Chaff collector	Cleaning and maintenance of the Chaff collector have not been performed.	Perform the cleaning of the “Chaff collector” in accordance with the section titled “Cleaning of the Chaff collector”. (Please refer to page;)
If it takes too long for coffee to cool down	The cooler pan may be too full.	Perform the cleaning of cooler pan in accordance with the “Cleaning of Brans in the Cooler Pan” section. (Please refer to page;)
	The cooler fan may be stuck.	The fan may be covered with oil or soot and these particles may block the rotation. Please perform the necessary cleaning according to the “Cleaning the Cooler Fan” section given in the maintenance section.
	The cleaning and maintenance of the Chaff collector have not been performed.	Perform the cleaning of dust chamber in accordance with the “Cleaning of the Chaff collector” section. (Please refer to page;)
In case Burnt Coffee Comes Out of the drum	The drum may not be set.	Set the drum . (Please refer to page;)
	There may be coffee left in the green coffee flow throat.	The pipe may be covered with oil or soot and these particles may block the flow. Please perform the necessary cleaning according to the “Cleaning the Exhaust Fan” section given in the maintenance section.

IGNITION SYSTEM TROUBLESHOOTING GRAPH



MAINTENANCE OF THE MACHINE

1. You should maintain your machine at least once per year. If there is a Service Provider in your area, have that maintenance conducted by that Service Provider.
2. Be sure to stop the machine when you are cleaning the external surfaces of the machine.
3. Be sure to disconnect the electricity and to stop the gas connection when you are maintaining the machine.
4. When you need to clean the machine, you can use a cloth moistened with alcohol. Avoid substances that may be harmful to health (gasoline, diesel oil, and similar materials).
5. Do not pour on water or do not wet the external surface of the machine. Wipe it with a slightly damp cloth and be sure to dry it very well.
6. Faulty Parts cannot be warranted unless they are replaced by Original Parts supplied by our company.
7. The drum setting may go off the required settings from time to time.
8. Recommended drum adjustment level should be 1 mm.

PERIODIC MAINTENANCE

Clean the Chaff Collector	Once in every 5 roasts
Clean the cooling pan sieve	Once in every 200 hours
Clean the Cooler Fan	Once in every 400 hours
Clean the sight glass	Once in every 120 days
Clan the exhaust	Once in every 30 days
Check gas connections	Once in every 30 days
Check the drum setting	Once in every 30 days
Lubricate the rear and front bearings of the drum	Once in every 120 days
Clean the dust unit of cooling pan	Once in every 30 hours
Check the burner	Once in every 30 days
Lubricate gearbox	Once in every 2 years

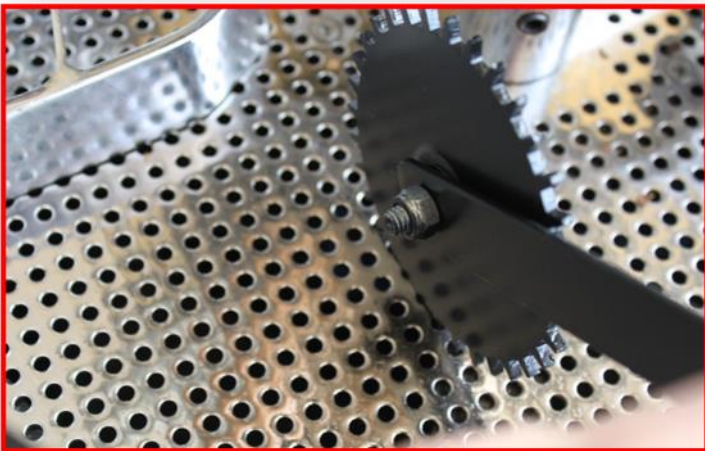
CLEANING THE CHAFF COLLECTOR



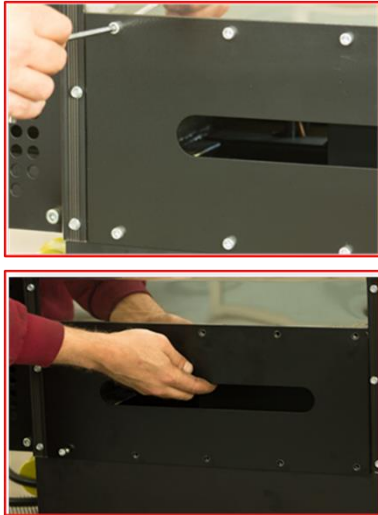
Open the clamp in the lower chamber of the chaff collector by turning it and clean the chaff accumulated in the collector. Open the side covers of the chaff collector and remove any remaining chaff by brushing it away or by using a commercial vacuum cleaner.



CLEANING THE COOLING SIEVE



CLEANING THE COOLER FAN



STEPS 1 & 2

Remove the side sheets of the roaster by using an appropriate tool.



STEPS 3,4 & 5

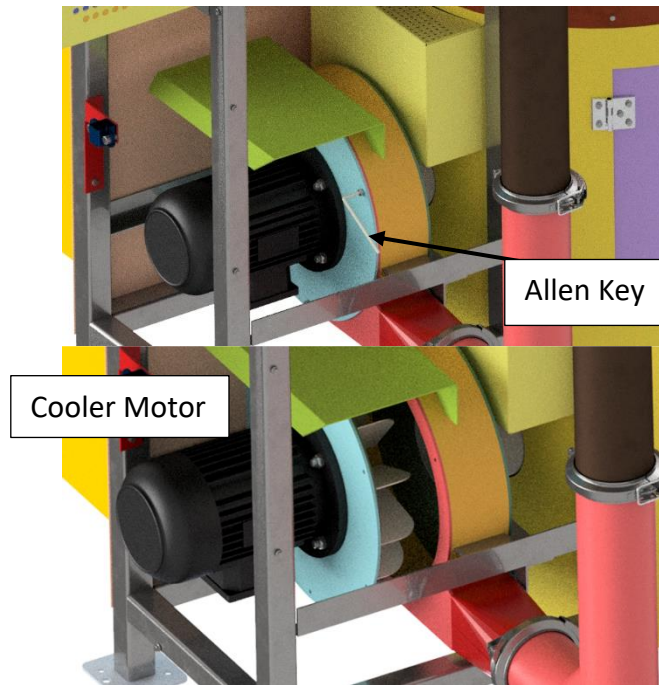
In order to remove the side sheets, unscrew the screws of the side sheets by using, preferably, a drill.

In order to completely disassemble the side sheets, you need to unscrew the rivets by using a 4 mm drill bit

CLEANING THE COOLER FAN (con't)

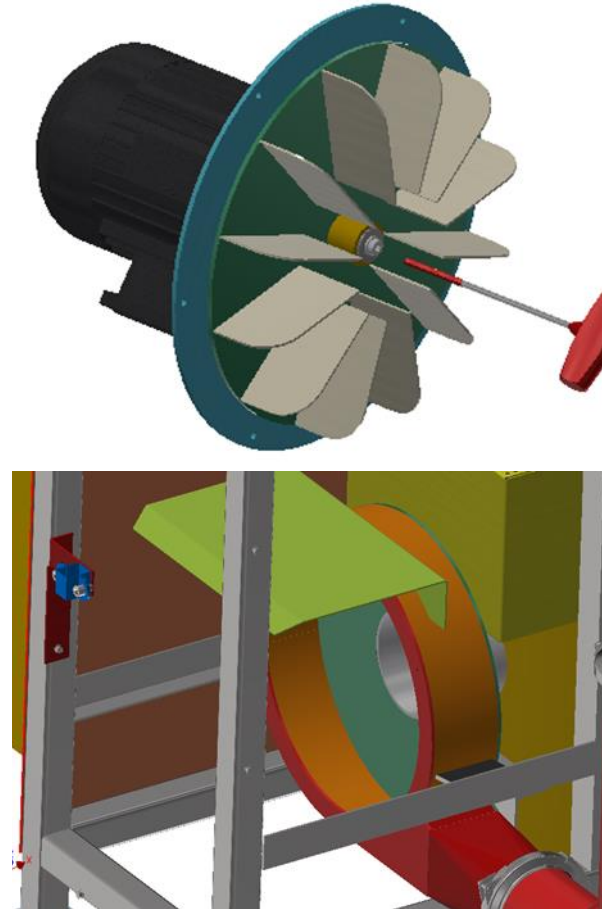


STEPS 6 & 7



STEPS 8 & 9

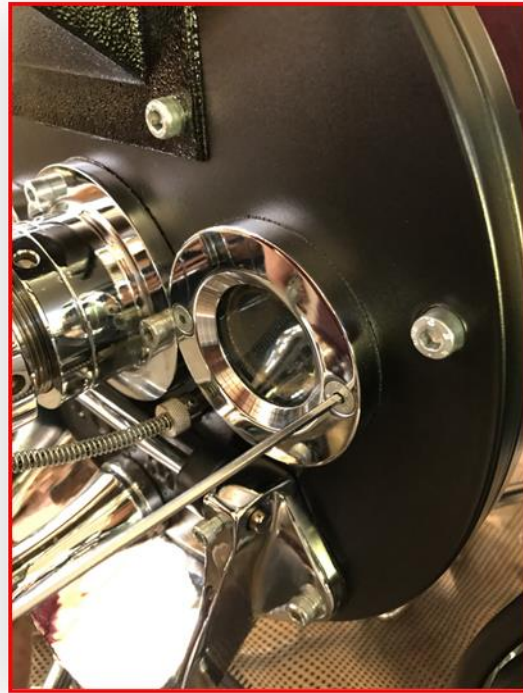
Remove the cooler motor by turning it in the direction of the arrow.



STEPS 10 & 11

To remove the Cooler Blades, prevent the fan from rotating. Unscrew the bolt in the centre. Clean the removed Fan Blades and the interior of the Fan Housing.

CLEANING THE SIGHT GLASSES

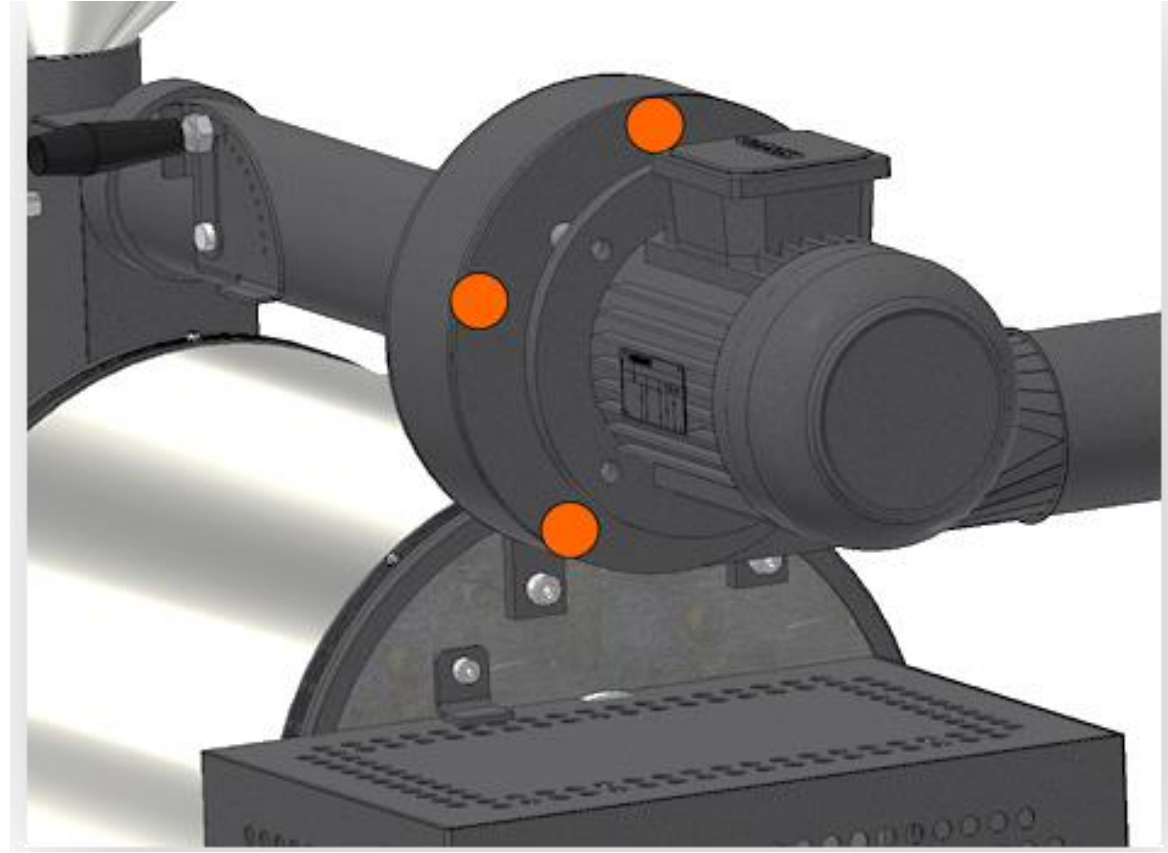
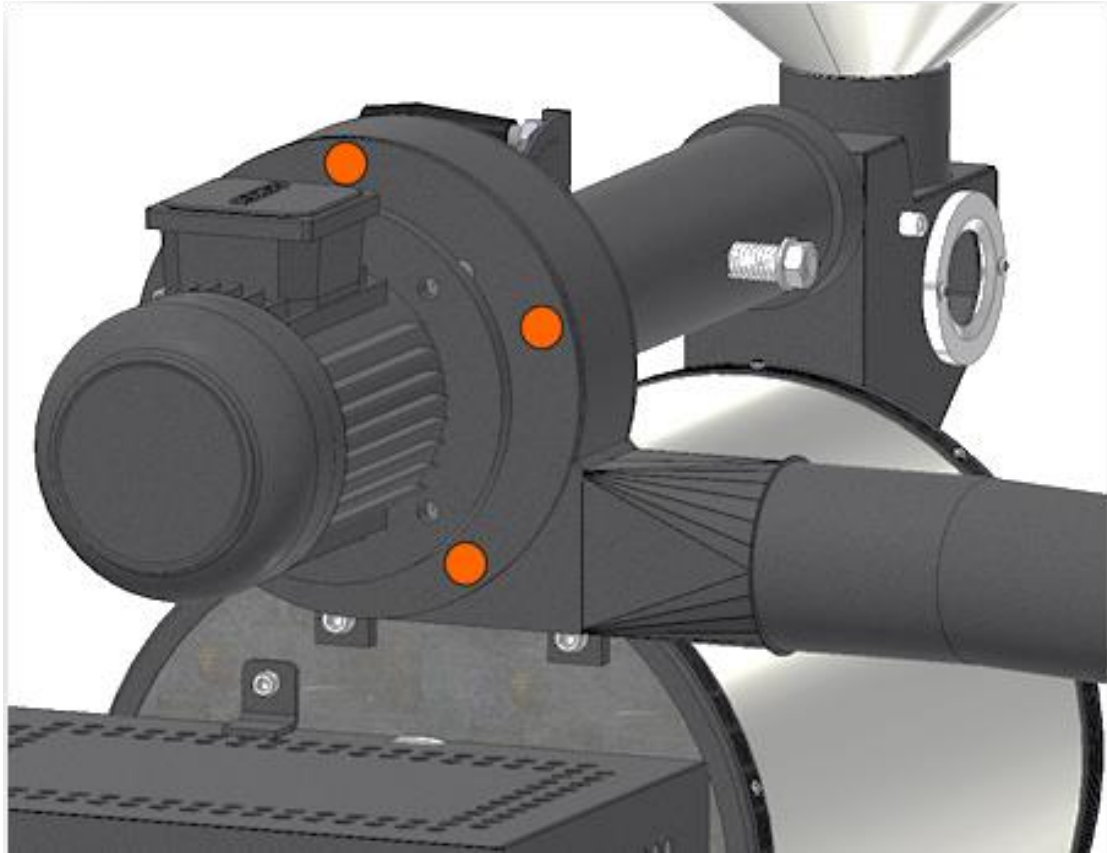


Clean the Sight Glasses by using a piece of cloth only



CLEANING THE DROP CHUTE

CLEANING THE EXHAUST FAN



UNSCREW @ RED DOTS

CLEANING THE EXHAUST FAN (con't)



1



2



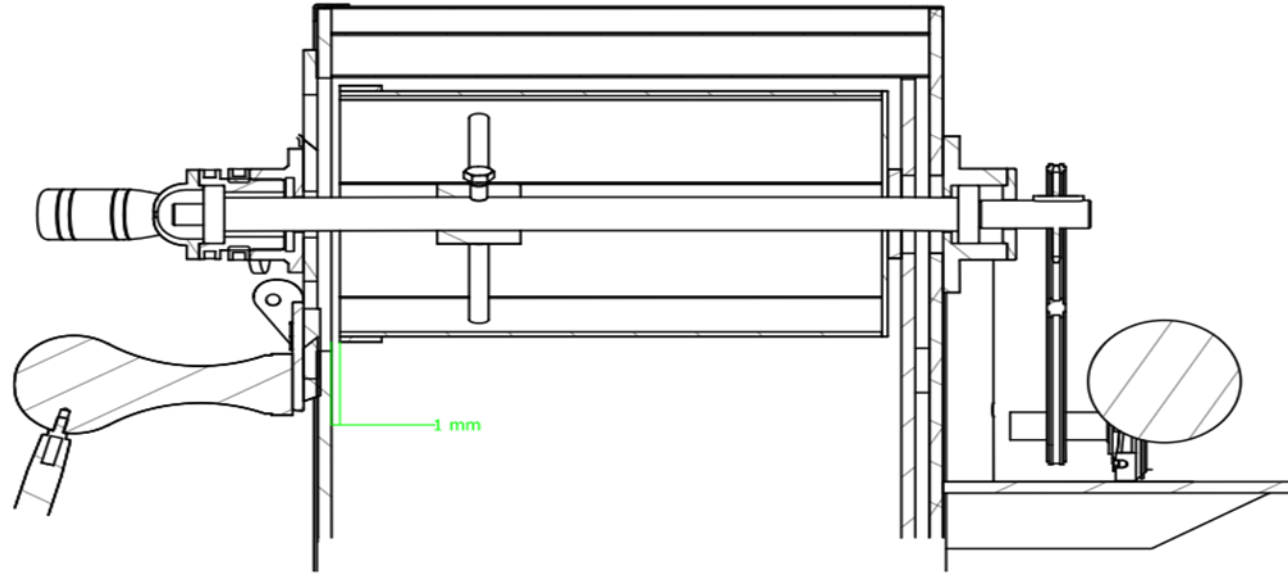
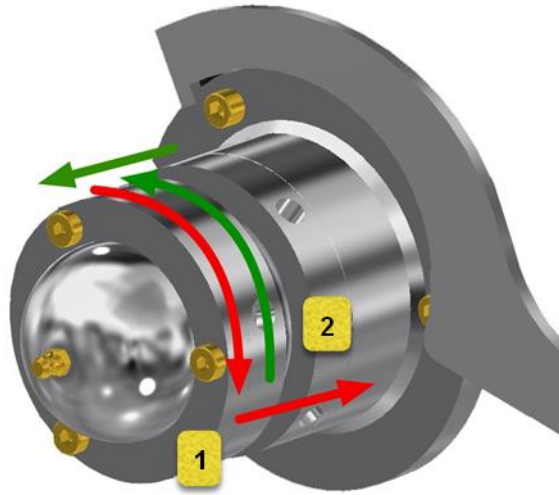
3

CHECKING FOR GAS LEAKAGE

By using a Gas Leak Test Spray, check if there is any gas leakage by spraying it around connection points.



ADJUSTMENT OF THE DRUM



1. For the drum to be adjusted conveniently, first, you need to remove the Sample Spoon.
2. Open the Lock Nut (2) located in the middle of the drum adjustment mechanism by turning it counter-clockwise.
3. Set your machine temp at 200 °C and heat it up.
4. While the machine is heating up, turn the front part of the drum adjustment assembly (1) clockwise and all the way backwards.
5. When your roaster reaches up to 200 °C, please leave it at this at this temperature for about 1 minute. This is due to allow for the expansion of heated metals.
6. Afterwards, turn the front part of the drum adjustment mechanism (1) counter-clockwise; and make sure that there is 1 mm of space between the drum and the front plate (you can do this by checking through the dump door).
7. Once the correct spacing is achieved, turn the lock nut in the centre of the drum adjustment mechanism (2) clockwise and tighten it up so that that the drum spacing remains in this position.

ADJUSTMENT OF THE DRUM (con't)



1mm Spacing

CLEANING THE CHAFF IN THE COOLING BIN



Please use a broom; a piece of cloth or a vacuum cleaner.

MIXER SAFETY SETTING



The mixer system has a clutch safety system. It engages when any foreign objects enters the mixer and blocks it. This safety measure prevents the mixer motor from being damaged. The mixer section will not rotate even if the motor works. Once you've removed the foreign object, to Re-Engage Safety,

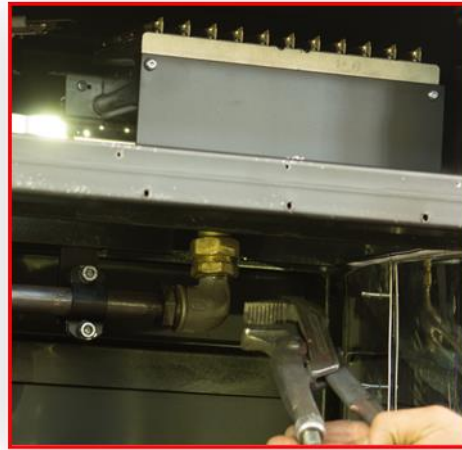
1. Loosen the safety nut on the mixer body.
2. Remove the mixer body safety bolt.
3. The Clutch will start working again
4. Tighten the safety nut on the mixer body.

REPLACEMENT OF GAS NOZZLES

*FIRST RE-DO STEPS 1 TO 7 PAGES 74 & 75. THEN:



If there is accumulated dust or chaff; clean it by using a broom, a piece of cloth or a vacuum cleaner.



With the use of a wrench, unscrew the main gas line from the burner assembly



Carefully loosen the screws by using the appropriate tool. In order to remove the nozzles of the burner, unscrew them from the burner assembly to which they are attached and then clean or replace them

CLEANING THE CHAFF DRAWER UNDER THE DRUM

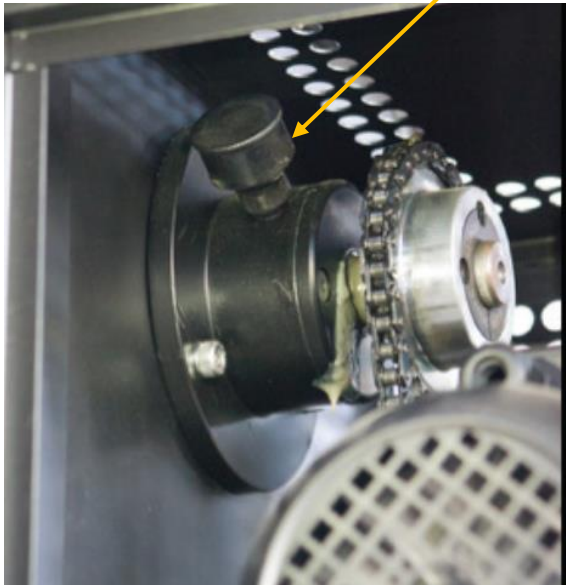
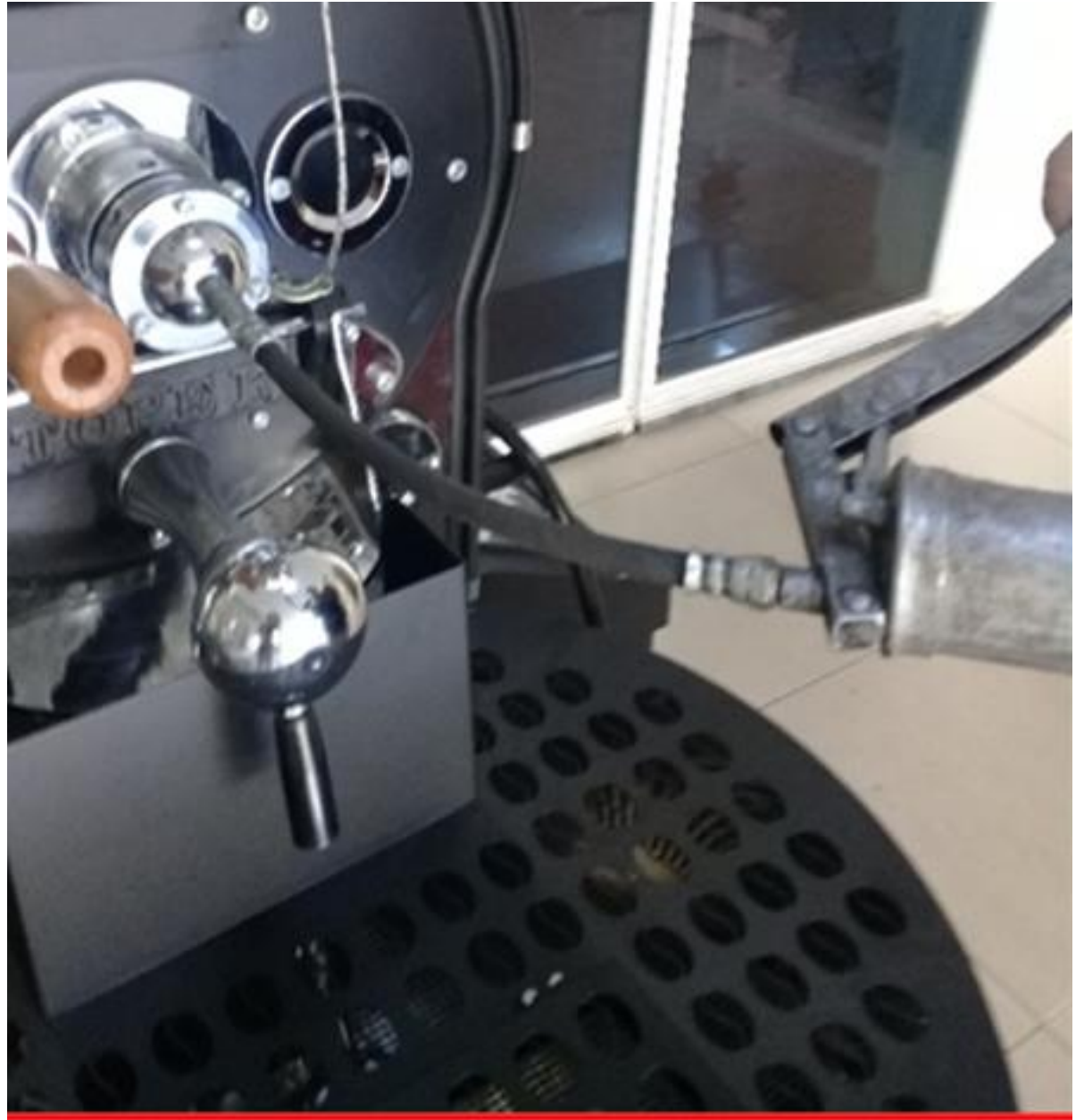


LUBRICATION OF FRONT AND REAR BEARINGS OF THE BROILER

- Please refer to page 86 for visualisation
- Open the door on the motor housing to lubricate the rear bearing seat
- To lubricate the rear drum motor bearing, open the cover located on the motor housing.
- Turn and remove the plug located on the bearing.
- Fill it with the appropriate lubricant and squeeze it back into place.
- The chain needs to also be slightly greased
- As time passes more lubricant needs to be squeezed inside the drum bearings.
- As soon as the lubricant in the container runs out, it must be refilled.

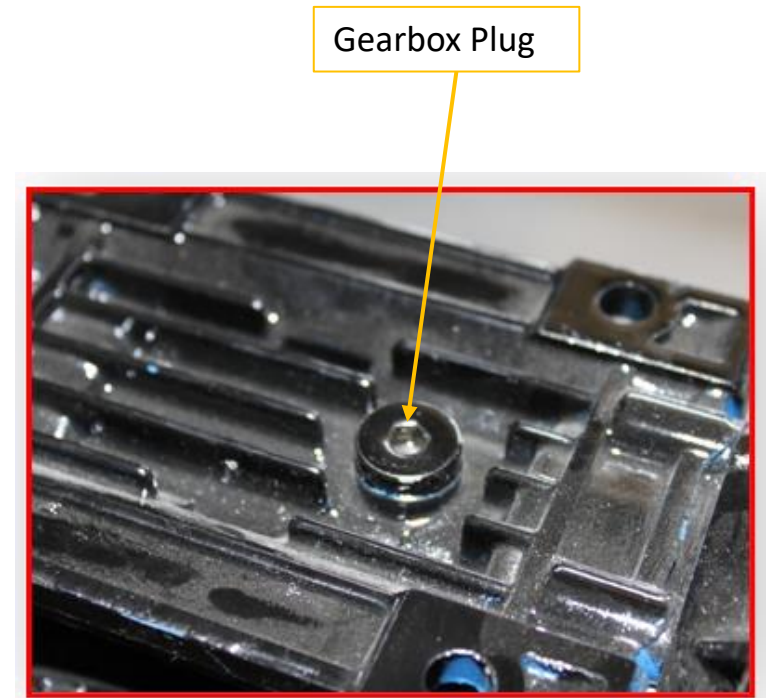
Note: For this application, please use Mobiltemp SHC 460 or Shell Alvania rt 3 or one of the equivalent model grease lubricants. (page 88)







- Pump grease through the lubrication nipple on the front side of the drum adjustment mechanism by using a lubrication pump.



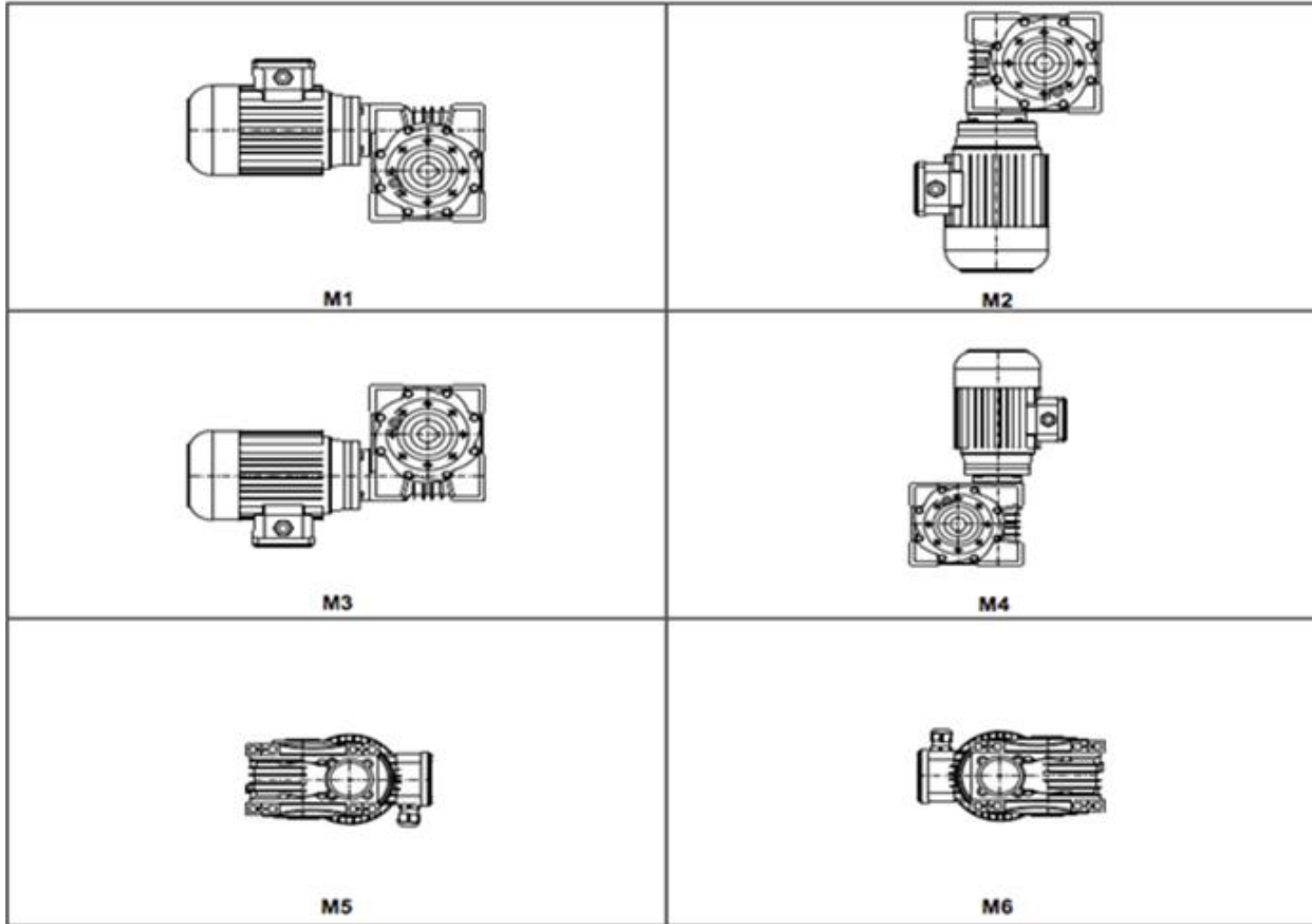
LUBRICATION OF THE REDUCTION GEARBOX FOR ELECTRIC MOTOR

- Check the gearbox label in order to determine the correct lubricant to put in.
- Do not mix synthetic oils and mineral oils. This might result in serious damage to the gearbox .
- The lubricant changing process should be carried out by using lubricant filling plugs (lubricant plugs and level plugs are shown in the lubricant plug tables, here)
- Prolonged contact with lubricants can cause irritations on the skin.
- Avoid hard contact with the lubricants and completely clean any lubricants that touched your skin.
- Hot lubricants can cause burns.
- During the lubricant changing processes, do not come into contact with the lubricant and use appropriate protective gloves.



Lubricant	DIN 51517-3 minimum performance	Ambient Temperature [C°]	Ambient Temperature [C°]	ISO VG	Aral	Beyond Petroleum	Castrol	Mobil	Shell	Total
		Dip Lubrication	Forced Lubrication	International Standards Organization Viscosity Grade						
Mineral Oil	CLP "CE Classification, Labelling and Packaging"	0 ... +50	–	680	Degol BG 680	Energol GR-XP 680	Alpha SP 680	Mobilgear XMP 680	Omala 680	Carter EP 680
		-5 ... +45	–	460	Degol BG 460	Energol GR-XP 460	Alpha SP 460	Mobilgear XMP 460	Omala F460	Carter EP 460
		-10 ... +40	+15 ... +40	320	Degol BG 320	Energol GR-XP 320	Alpha SP 320	Mobilgear XMP 320	Omala F320	Carter EP 320
		-15 ... +30	+10 ... +30	220	Degol BG 220	Energol GR-XP 220	Alpha SP 220	Mobilgear XMP 220	Omala F220	Carter EP 220
		-20 ... +20	+5 ... +20	150	Degol BG 150	Energol GR-XP 150	Alpha SP 150	Mobilgear XMP 150	Omala 150	Carter EP 150
		-25... +10	+3 ... +10	100	Degol BG 100	Energol GR-XP 100	Alpha SP 100	–	Omala 100	Carter EP 100
Synthetic Oil	CLP PG (minimum standard)	-10 ... +60	–	680	Degol GS 680	Energyn SG-XP 680	–	Mobil Glygoyle 680	Tivela S 680	Carter SY 680
		-20 ... +50	–	460	Degol GS 460	Energyn SG-XP 460	Aphasyn PG 460	Mobil Glygoyle 460	Tivela S 460	Carter SY 460
		-25 ... +40	+5 ... +40	320	Degol GS 320	Energyn SG-XP 320	Aphasyn PG 320	Mobil Glygoyle 320	Tivela S 320	Carter SY 320
		-30 ... +30	0 ... +30	220	Degol GS 220	Energyn SG-XP 220	Aphasyn PG 220	–	Tivela S 220	Carter SY 220
		-35 ... +20	-5 ... +20	150	Degol GS 150	Energyn SG-XP 150	Aphasyn PG 150	–	Tivela S 150	Carter SY 150
		-40 ... +10	-8 ... +10	100	–	–	–	–	–	–
Food Grade Oil	CLP HC (Synthetic: hydrocarbon)	-10 ... +60	–	680	–	–	–	Mobilgear SHC XMP 680	–	Carter SH 680
		-20 ... +50	–	460	Degol PAS 460	Energyn EP-XF 460	Alphasyn T 460	Mobilgear SHC XMP 460	Omala HD 460	Carter SH 460
		-25 ... +40	+5 ... +40	320	Degol PAS 320	Energyn EP-XF 320	Alphasyn T 320	Mobilgear SHC XMP 320	Omala HD 320	Carter SH 320
		-30 ... +30	0 ... +30	220	Degol PAS 220	Energyn EP-XF 220	Alphasyn T 220	Mobilgear SHC XMP 220	Omala HD 220	Carter SH 220
		-35 ... +20	-5 ... +20	150	Degol PAS 150	Energyn EP-XF 150	Alphasyn T 150	Mobilgear SHC XMP 150	Omala HD 150	Carter SH 150
		-40 ... +10	-8 ... +10	100	–	–	–	–	–	–
Biodegradable Oil	CLP NSF H1 can be used in food processing areas	-15 ... +25	+5 ... +25	320	–	–	Optileb GT 320	Mobil	Cassida Fluid GL-320	Nevastane SL 320
Food Grade Oil	CLP E	-25 ... +40	+5 ... +40	320	–	–	bol BioTop 1418-3	SHC Cibus 320	–	Carter Bio 320
Mineral Grease [-20 +120 Working Temperature C°]					Aralub HL3	Energrease LS 3	Spheerol AP3	Mobilux EP 3	Alvania RL3	Multis Complex EP 2
Synthetic Grease [-30 +100 Working Temperature C°]					–	Energrease SY 2202	–	Mobiltemp SHC 100	Cassida RLS 2	Multis Complex SHD 220

LUBRICATION QUANTITIES



TYPE	M1	M2	M3	M4	M5	M6
E.30	0,025	0,04	0,02	0,04	0,04	0,04
E.40	0,07	0,10	0,12	0,10	0,10	0,10

Yağ Miktarları (lt) / Oil Quantities (lt) / Ölmenen (liter)

IN CASE OF EMERGENCIES



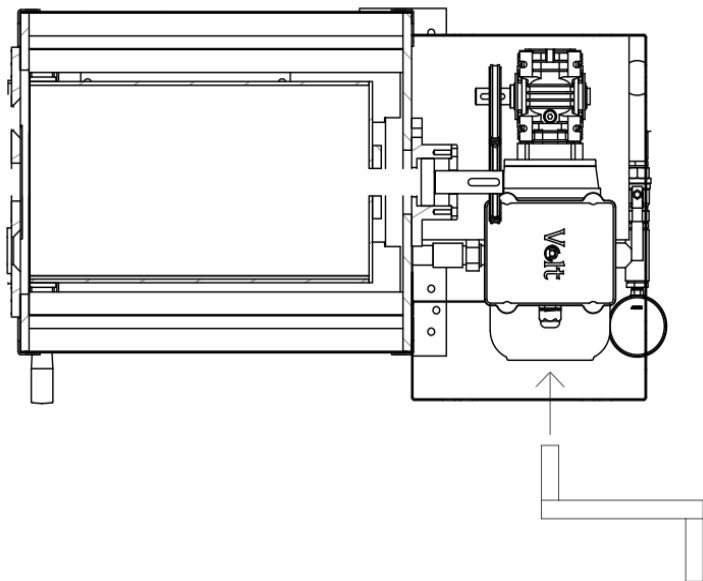
Press on it to stop



Turn it to the right (clockwise) to restart



In case of a fire in the chaff collector, open the water line valve and douse the chaff collector with water until the fire is put out, approximately 3 – 5 seconds (maybe less)

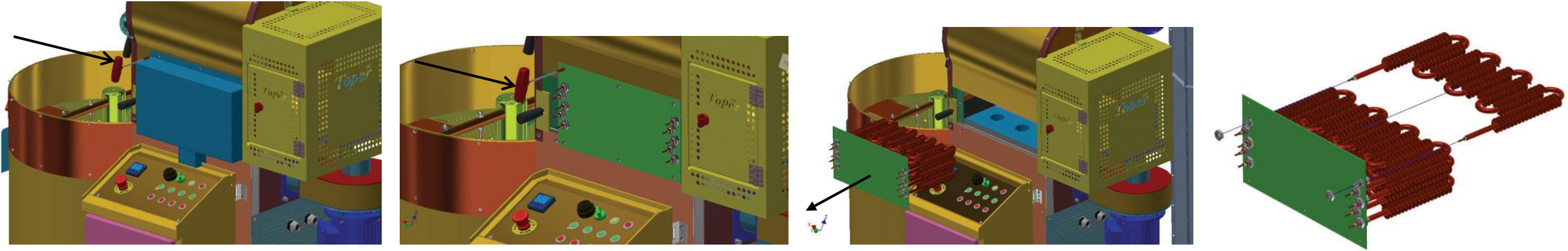


In case of an electrical brown out, and if you had coffee roasting; as shown in the pictures:

1. open the rear motor housing door place the crank in the hole on the motor.
2. Turn that crank in the direction of the arrow to
3. get the roasted bean out of the drum into the cooling tray.

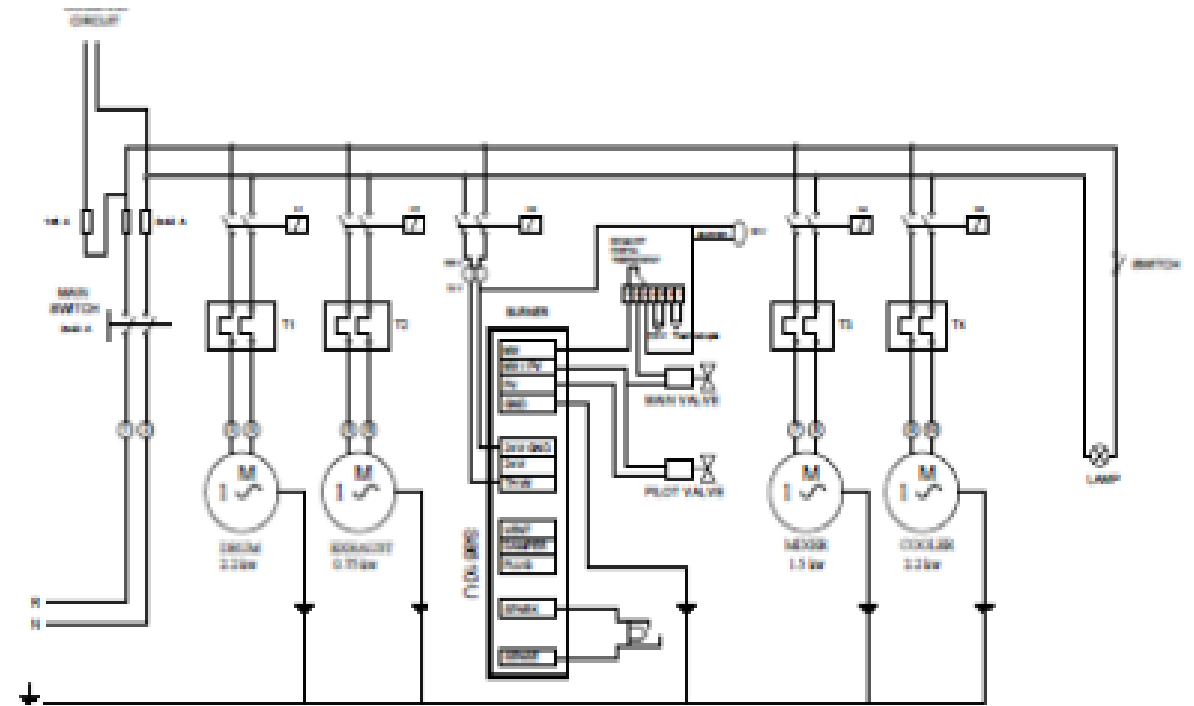
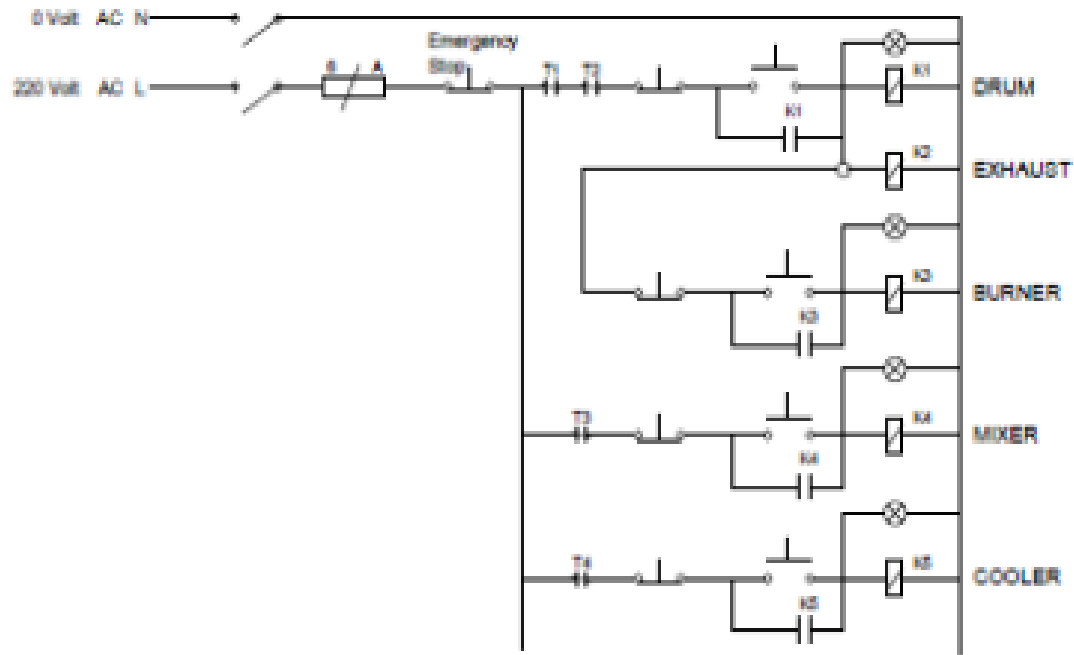
This will prevent damaging the roasted coffee.

ELEMENT CHANGE IN ELECTRIC ROASTERS

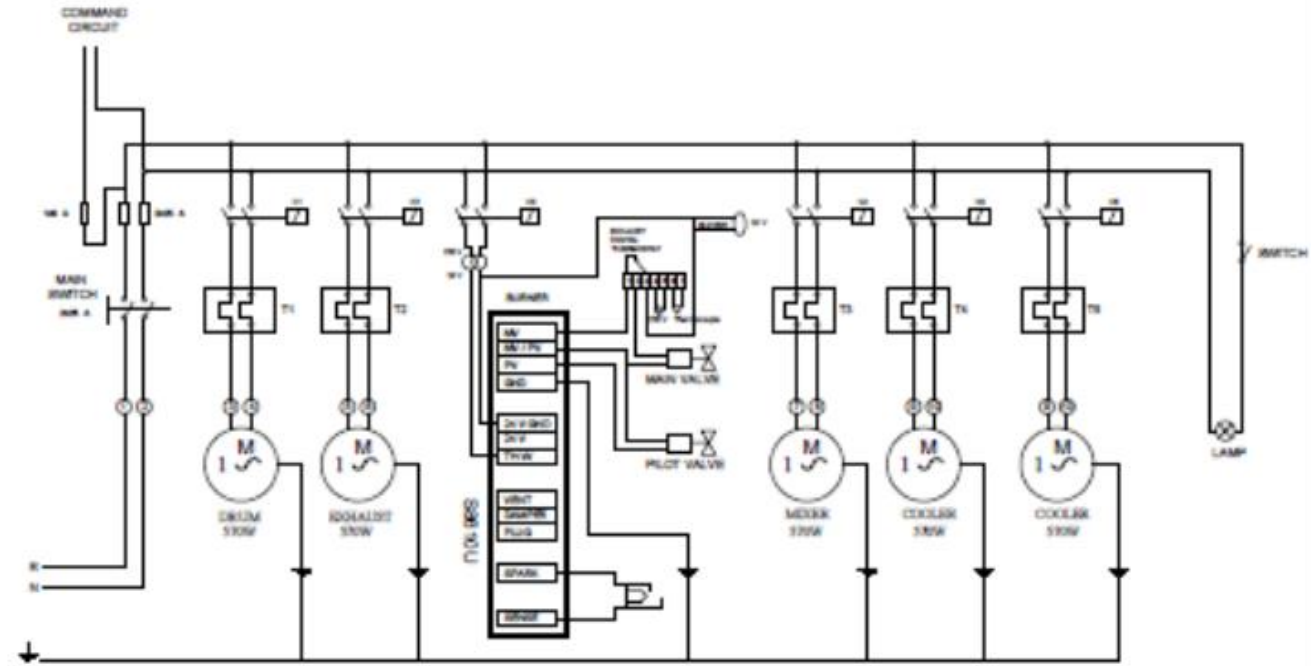
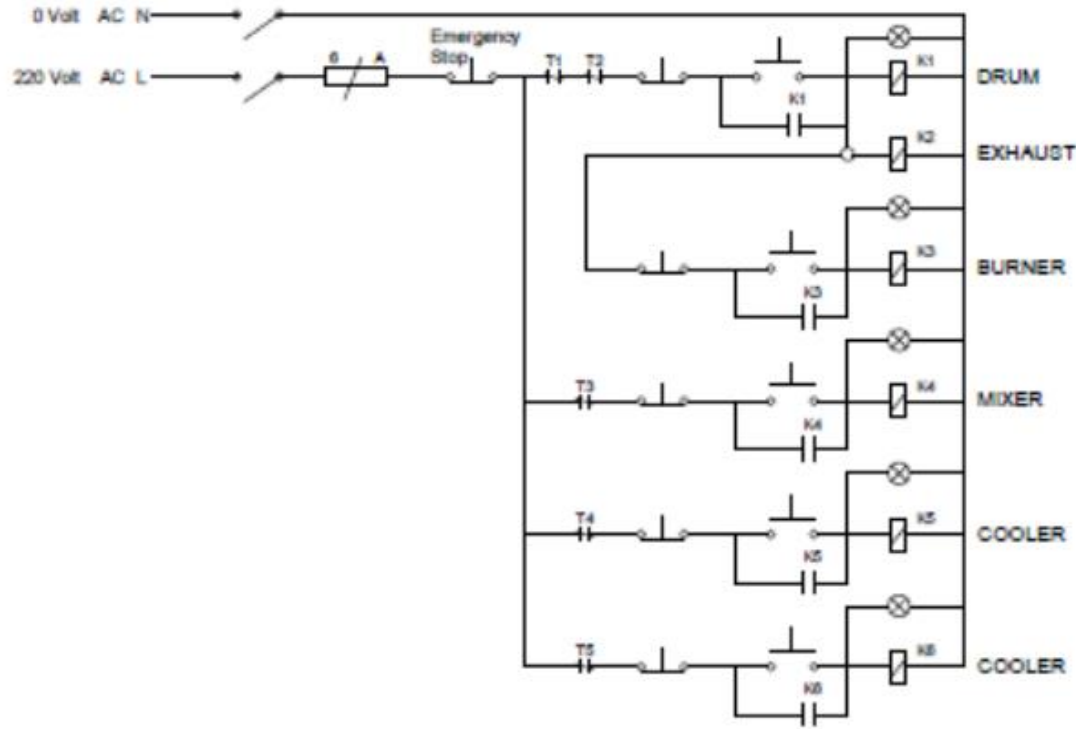


After disconnecting the element's electric panel connection cables, disconnect the heating element's body connections with a suitable hand tool and remove the resistance assembly in the direction of the arrow. Remove the defective element and replace it with the new one. Re-mount reverse order.

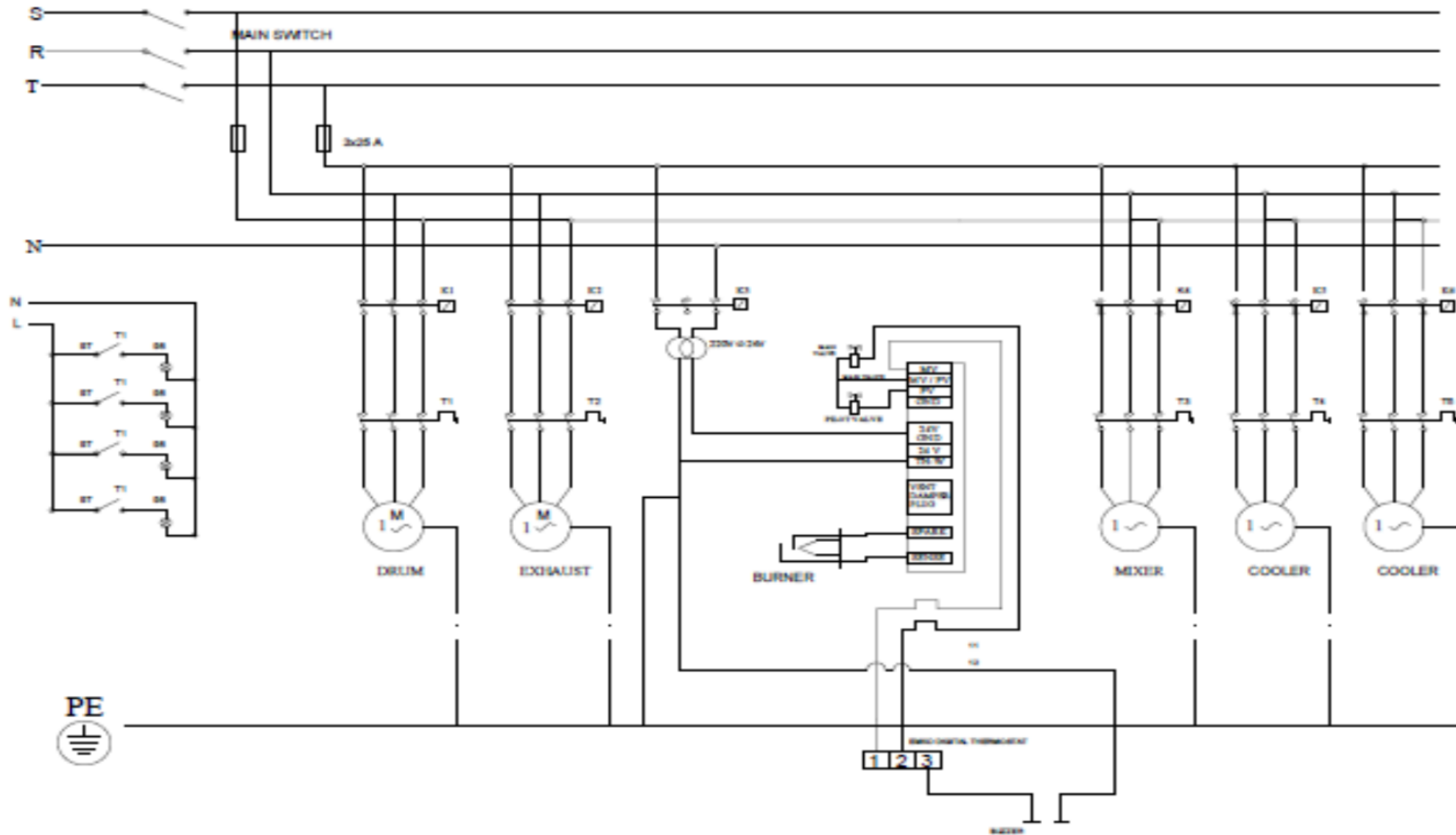
FOR GAS ROASTERS VERSIONS 1 (SX3/SX5/SX10); 220V AC, SINGLE PHASE , 60Hz.



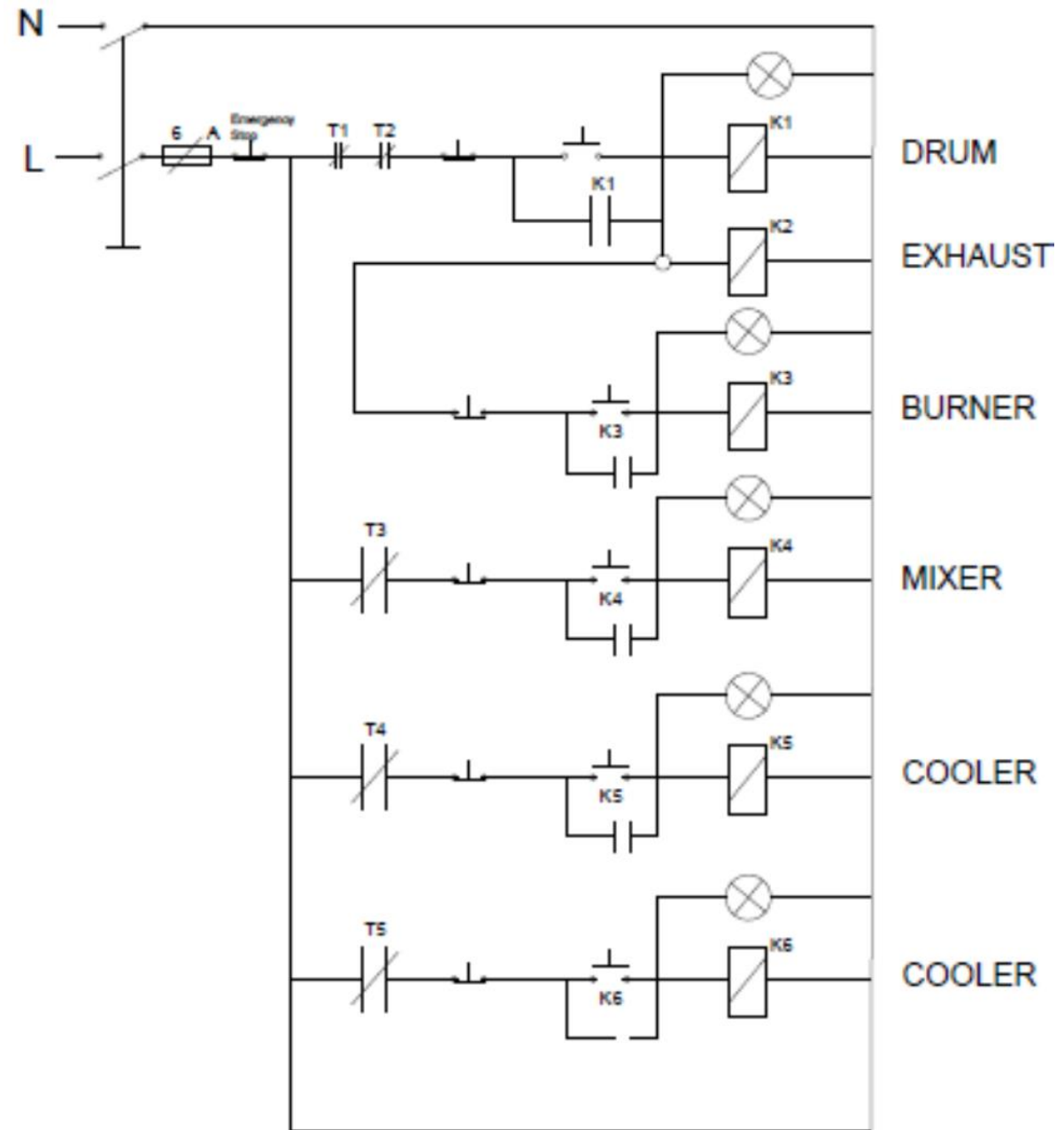
FOR GAS ROASTERS VERSIONS 1 (SX15/SX20); 220V AC, SINGLE PHASE , 60Hz.



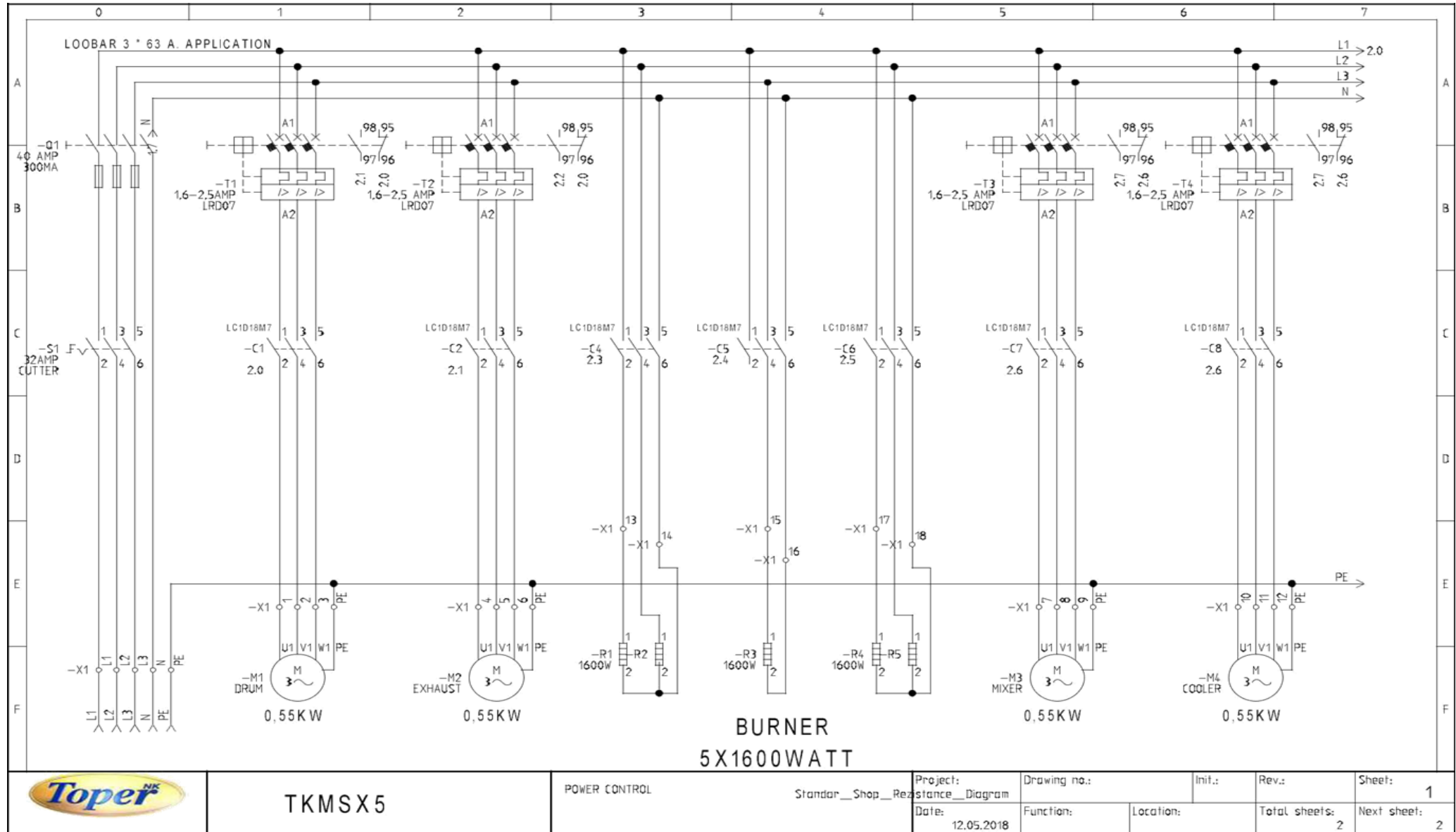
FOR GAS ROASTERS VERSIONS 1 ; 380 V , 3 PHASES, 60 Hz



FOR GAS ROASTERS
VERSIONS 2 ; 380 V,
3 PHASES, 60 Hz



FOR ELECTRICAL ROASTERS VERSIONS 1 ; 380 V , 3 PHASES, 60 Hz



TKMSX5

POWER CONTROL

Standar__Shop__Rez

Project: stance__Diagram

Date: 12.05.2018

Drawing no.:

Function:

Location:

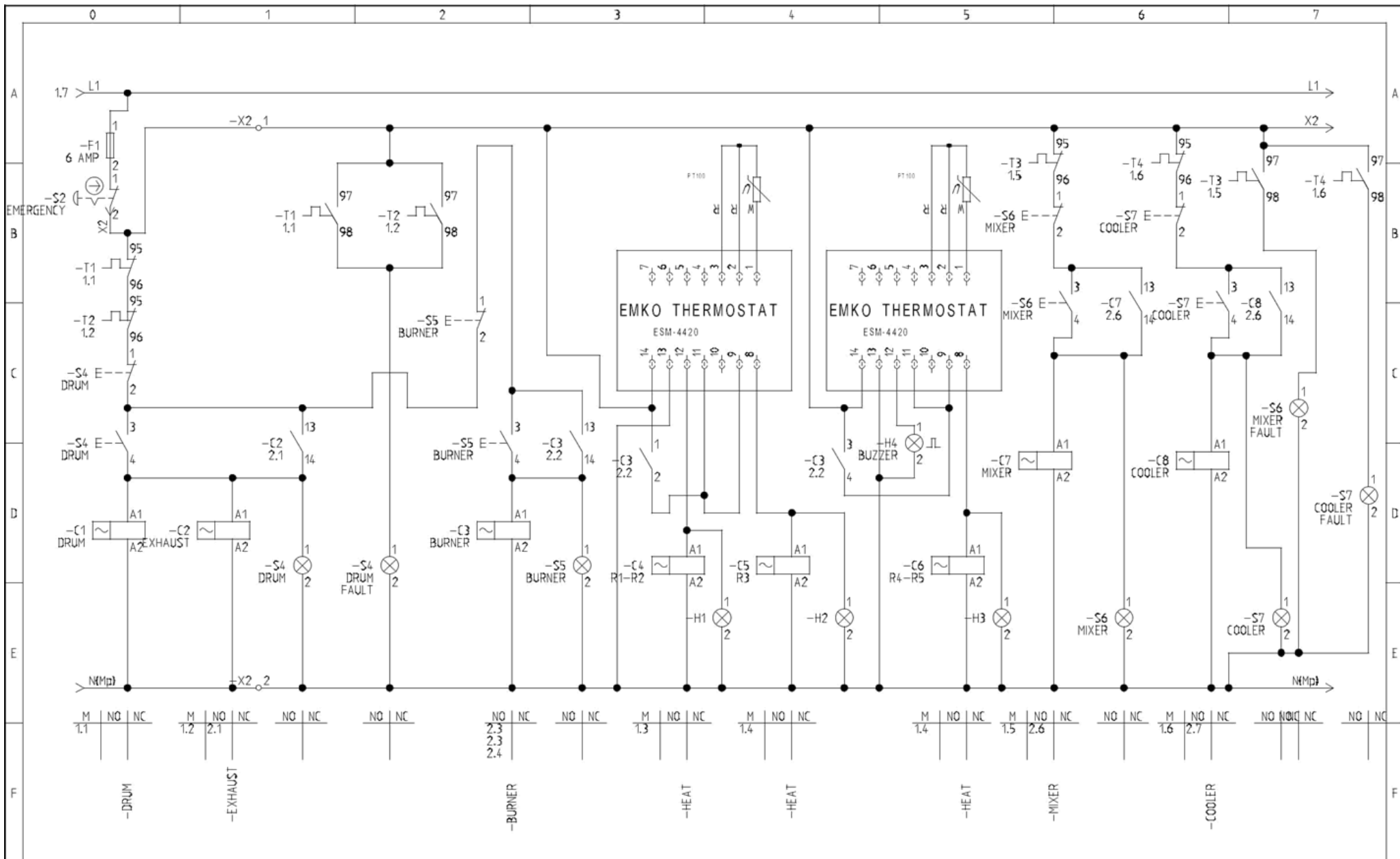
Init.:

Rev.:

Total sheets: 2

Sheet: 1

Next sheet: 2



	TKMSX5	CONTROL SECTION	Standar_Shop_Rezistance_Diagram	Project:	Drawing no.:	Init.:	Rev.:	Sheet: 2
				Date: 12.05.2018	Function:	Location:	Total sheets: 2	Next sheet:

CERTIFICATE OF WARRANTY

CONDITIONS FOR VALIDITY OF THE WARRANTY:

1. THE WARRANTY PERIOD IS 2 (TWO) YEARS, STARTING FROM THE DELIVERY DATE OF THE MACHINE.
2. THE WARRANTY COVERS THE MANUFACTURING OF FAULTY MACHINES AND PARTS.
3. DAMAGES OCCURRED DURING TRANSPORTATION, DAMAGES CAUSED DUE TO VIOLATION OF THIS MANUAL AND/OR DAMAGES CAUSED BY INSUFFICIENT ELECTRICAL INSTALLATION SHALL BE OUT OF THE SCOPE OF THE WARRANTY.
4. REPAIRS BY PERSONS OTHER THAN AUTHORIZED SERVICE PERSONNEL INVALIDATES THE WARRANTY.
5. UNAUTHORIZED MODIFICATION PERFORMED ON THE MACHINE INVALIDATES THE WARRANTY.
6. THE PLACE TO REPAIR THE MACHINE SHALL BE DECIDED BY THE MANUFACTURER (TOPER).
7. THE AMOUNT OF WARRANTY SHALL NOT EXCEED THE INVOICE AMOUNT OF THE INVOICED MACHINE.
8. SERVICE FEES, SPARE PARTS AND MAINTENANCE SHALL BE COVERED BY THE WARRANTY.
9. THE PERIOD WHEN THE MACHINE IS UNDERGOING REPAIRS SHALL BE ADDED TO THE WARRANTY PERIOD.

This product is fully compliant with the following standards:

