

# ***COFFEE-TECH ENGINEERING***

*Advanced Roasting Systems*





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*Advanced Roasting Systems*

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# Torrefattore/FZ-94

100 gram – 2.4 Kg Pro-Lab Roaster

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

Our ambition to lead the market with cutting-edge technology and brave ideas requires that we carefully follow the evolving trends of the coffee world. Our research on small lab roasters has led us to understand that the market demands have changed, with no single piece of equipment providing the answer. Current Lab roasters are too small in capacity, too expensive for most new coffee establishments and too simplistic in their control features.

Today, Roast-masters need more flexibility with capacity. Indeed, as production ranges expand, small batch production capability is a must-have due to the wide variety of requests made on the specialty coffee market.

On the other hand, daily sampling of small quantities should remain part of the standard working method. These two tasks should, and can, be performed more efficiently by one well-made machine. Moreover, it is advantageous to sample from the same machine you actually roast with for production.

Today, the various types of coffee differ greatly from one another and vary more in their specs (size, density, shape) than when most of the available coffee was commercial grade. This change shows that yesterday's machines are suffering from a lack of control features as well as old, irrelevant drum-heat configurations.

The FZ-94 pro lab-roaster was designed with Roast-masters in mind. It is the most advanced roaster of its kind. This unique machine guarantees complete control over the roasting process while still maintaining a small footprint, user-friendly operations, a stunning design and outstanding roasting quality

throughout the entire range of capacity - 100gr to 2.4kg. The FZ-94 enables Roast-Masters and true aficionados to experience and experiment with the widest possible spectrum of roasting factors.





/Control panel

The FZ-94 utilizes unique roasting methods – infrared radiation, conduction and convection - all at the same time and in the same drum. With a speed control for both the drum and the drum venting blower, the user is able to make even the tiniest of adjustments. The three powerful, individually controlled electrical heaters produce clean, stable, consistent heat and relieve users of the well-known hassle of primitive and inconsistent gas-powered heaters. Individual control over each of the three heating elements allows a wide range of heat suitable for any type of bean or capacity. Temperature control is measured by three individual digital probes and PID controllers:

- / In the drum space where heaters are activated/deactivated.
- / On the machine's exhaust for monitoring the air temperature.

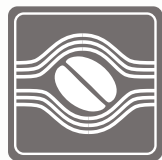
/ On the beans, reading their temperature at any given moment.

Exploring the full range of possibilities in professional roasting has never been as accessible as it is with the FZ-94 pro Lab-Roaster. This enormous flexibility allows you to research and examine issues such as the various balances between conduction and radiation. One can also experiment with drum speed - the slower the drum turns the more contact the beans get with the metal of the drum, the faster the drum spins, the more time the beans spend “in the air”-creating roasting processes that relies on infrared radiation and exposure to convection. Combining this process with the variable speed of the airflow blower or stepping up and down heating elements at different stages, can yield a stunning range of results. Furthermore, the FZ-94 can be coupled with our PC roasting management software for extensive data logging and recording.

The FZ-94 pro lab-roaster's design features the same professional specifications as our commercial coffee roasters, and was built using high quality industrial grade components, assuring reliable roasting for many years. The FZ-94 is a fully manual roaster for those who aim to become true roasting masters, yet can also be coupled with computerized profile software for a more streamlined process.

FZ-94 features a highly efficient outer cooling group for continuous roasting. The cooling system features a separate chaff collector ensuring the cleanest possible operation. FZ-94 is equipped with an external heavy-duty drum-venting blower, with speed control. All machine ducting parts, including the drum blower and cyclone, can be completely dismantled using metal “thumb nuts”, allowing them to be efficiently cleaned without tools. Cleaning – crucial to performance in roasters – has never been easier.

## Heating Technology



Convection



Infrared Radiation



Conduction



Thermosiphon Heat Exchange



Smoke Free



Green Product



Automatic

## Optional

## Roasting Methods



Drum Roasting



Fluid Bed Roasting

## General Features



Low Energy Consumption



Maintenance Free



Multi Point Temp



Blower Speed Control



Drum Speed Control

## Technical Specifications

### **/Batch Capacity:**

0.1 – 2.4 Kg (0.2 – 5.3 lbs.) of green coffee

### **/Roasting Cycle:**

16-18 minutes for full batch (after preheat)

### **/Roasting output:**

~10 Kg per hour

### **/Operation method:**

Individual manual operation of heating elements; frequency inverters for controlling convection ratio(airflow blower) & drum speed

### **/Electrical Specifications:**

220-240 Volts 50/60 Hz. 3200 Watt single phase

### **/Drum Motor:**

1/8 HP AC, heavy duty

### **/Heating Method:**

Electrical; specially made high temperature metal infrared heating elements (3X1000 Watt)

### **/Cooling:**

An external group, removable aluminum perforated pan for immediate heat absorption and heat transformation, with high capacity centrifugal blower

### **/Process Quality Control:**

Large Pyrex lens, sampler and three separate temperatures displays (beans, drum and exhaust air) for excellent monitoring of roasting progress, roasting data logger

### **/Chaff Collection:**

Cyclone type for roasting and additional trap box type chaff collector for the cooling

### **/Safety:**

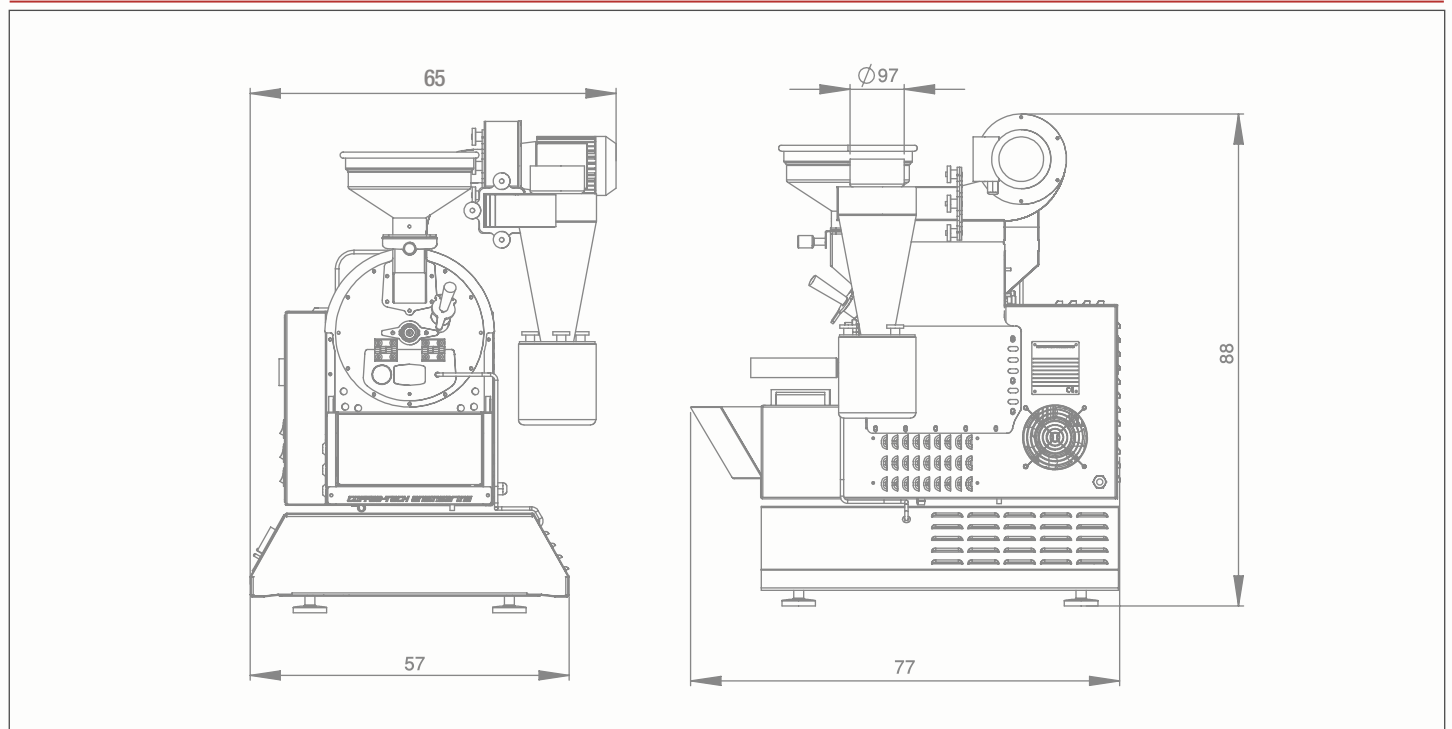
Safety drum discharger

### **/Dimensions:**

65(w) X 77(d) X 88(h)

### **/Weight:**

65Kg



# Solar

2 Kg automatic shop roaster

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

**Imagine you can afford to hire a professional Roastmaster to work at your café, daily...  
With Solar, it is no longer a dream - it's a reality.**

Years of experience and continuous investments in R&D have led to the development of the Solar - the most advanced shop roaster in the world: a fully automated roaster that cycles 2kg of beans at the push of a button.

The Solar roaster features a number of technological breakthroughs, and its computerized control and advanced structural design mean this machine is absolutely service-free.

With the user in mind, we built the Solar to require no complicated maintenance, let alone costly services by the manufacturer. Requiring only simple cleaning and user level procedures, Solar has been built to work hard and to last. Every part that requires periodical cleaning is attached with thumb-nuts for quick, easy release.

## Smart and Simple Automated Roasting Process

Solar uses remarkably accurate, dual-temperature monitoring. This feature is coupled with built-in roasting management software, which allows the user to modify the roasting process. Combining two different roasting methods - air-bed convection and rotating drum conduction - the Solar roaster

draws on the strong points of each one. It is the only shop roaster in the world to use positive convective pressure - "pushing" hot air through the roasting chamber - as opposed to other roasters that use negative pressure, which sucks hot air through the beans. The difference is seen in the cup. Conducting and radiating heat in four different ways allows for individual "heat treatment" of all types of beans during roasting, regardless of their size, density or levels of humidity. Solar has the unique ability to roast pre-mixed green coffee to the highest quality. This means you can roast your own house blend in a single batch, no matter how complex it may be.

The surface of the drum in Solar is perforated rather than smooth. This means the beans nestle against the holes, resulting in a better grip and shaking. This way, the beans have a much larger contact area with the drum and better heat treatment compared to solid, unperforated drums. We find this structure to be a much smarter way of applying heat to the problematic substance of coffee beans, which come in different types, sizes, humidity and specs.

With this technology at your disposal, the flaws of traditional roasters, such as burn spots caused by excessive conducted heat or matte brown beans caused by over-convective heat, are a thing of the past. Solar successfully handles the conflicts of producing maximum yield without harming the disposable substance, the woody part of the beans. Lastly, it seals in the aromas of the coffee instead of losing them through the duct.







/Control panel

The automatic roasting profile, using unique roasting technology, carefully follows the natural processes of coffee roasting. The result is unparalleled accuracy and consistency for each roasted batch. Many of the machine's best secrets are embedded in its very core, and not simply added as features. The result is that anyone can roast coffee to the highest standard with no effort or advance know-how, achieving excellent results time and again. A single button will create a roasting profile according to the user's selection, allowing you to create any profile you can think of. The Solar roasting management software remembers it for you and repeats it accurately. This provides a constant optimization curve towards an unprecedented level of quality.

### Superb Smoke Reduction

Solar boasts a significant reduction in the amount of smoke released during roasting, without using filters, which tend to clog and degrade. The Solar implements a chaff separation system, which is 100% efficient. Combined with Avirnaki, Coffee-Tech Engineering's revolutionary smoke elimination system, Solar requires no ventilation system and is practically smoke free.

### Compact, Robust Design

Solar features top quality parts and a heavy gauge steel body, meeting the highest manufacturing standards. Solar was designed and built to serve you for many years and roast numerous batches. Not only are you free from the hassle of routine maintenance, smoke, and complex setup and operation, but Solar's small footprint and compact design means you can work in a limited space.

Solar means everyone can roast without having to reinvent the wheel each and every day. The Solar shop roaster is marketed worldwide and has been adopted by many trendsetting cafés and professional coffee shops as the ultimate roasting machine. Using an automatic machine is the only way to roast in store while maintaining efficiency in terms of time and achieving a high standard of quality.

Solar is the only machine on the market that was designed from the inside out with shops in mind. The starting point of the project was a long list of market demands, restrictions and technological challenges that required solutions. Thanks to the concepts and technology that have guided us in designing Solar, it is the ultimate machine for a wide range of customers. For beginners taking their first steps in roasting, quality-minded micro roasters, busy shops selling fresh coffee, chains with employed operators, or those who need another roaster for limited production to run alongside their main commercial line – Solar is the perfect choice.



/Detachable chaff collector with quick release thumb nuts for Thorough cleaning



/Large pyrex lens for easy monitoring



## Technical Specifications

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### /Materials:

100% metal structure

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### /Quality and safety compliance:

CE, RoHS, EMC

---

### /Noise Level:

Remarkably silent

---

### /Batch Capacity:

0.5 - 2 Kg of green coffee (1.1-4.4 Lbs.)

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### /Roasting Cycle:

16-18 minutes for a 2 Kg full capacity batch

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### /Electrical Specifications:

220-240 Volts 50/60 Hz. 3200 Watt single phase

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### /Motor:

Direct drive heavy duty gear motor 1/8 HP, AC

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### /Heating Source:

Electrical; specially made high temperature metal infrared heating elements (3X1000 Watt)

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### /Heating Method:

Infrared radiation, convective air, conduction, thermo-siphoned heat

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### /Roasting Method:

Rotating drum with limited fluid bed

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### /Cooling:

Cooling in-drum and outer cooling group

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### /Process Quality Control:

Large pyrex lens for easy monitoring of roasting progress.

Digital double temperature controller for heat control allows determining temperature range for roasting

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### /Chaff Collector Type:

Detachable 100% efficient centrifugal cyclone. Made of welded heavy gauge steel, with quick release thumb nuts for thorough cleaning

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### /Exhaust:

Single duct, 4" standard diameter. Machine's exhaust is attached with quick release thumb nuts for easy cleaning

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### /Maintenance:

Emptying and periodical cleaning of the chaff collector and exhaust tubing only, chaff blower does not need any cleaning

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### /Dimensions(cm):

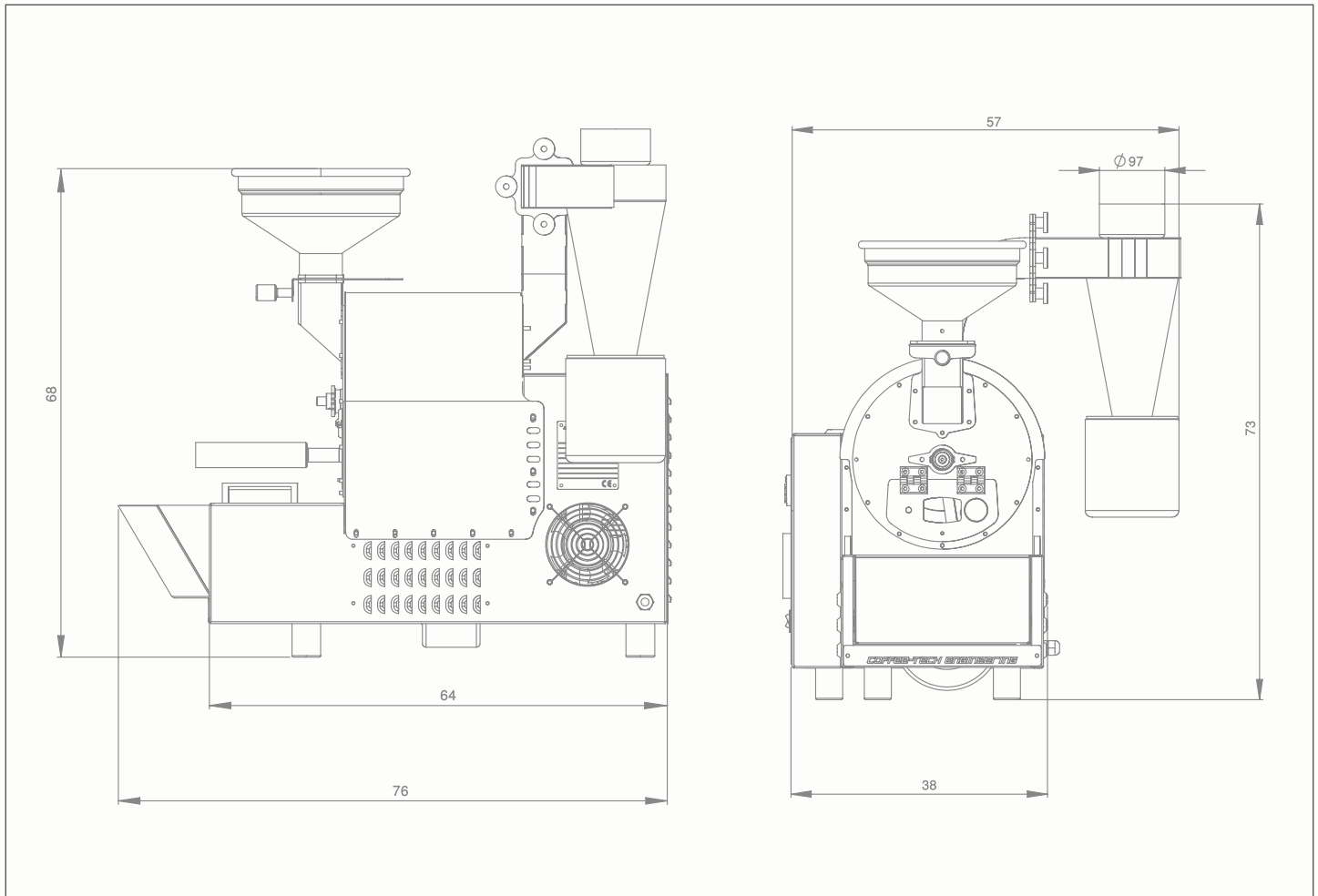
57(w) X 76(d) X 73(h)

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### /Weight:

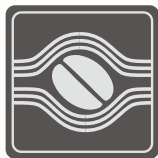
41 Kg

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### Heating Technology

### Optional



Convection



Infrared  
Radiation



Conduction



Thermosiphon  
Heat Exchange



Smoke Free



Green Product

### Roasting Methods



Drum Roasting



Fluid Bed  
Roasting

### General Features



Low Energy  
Consumption



Maintenance  
Free



Automatic

# Avirnaki

Smoke free shop roasting

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

Coffee-Tech Engineering Ltd. presents Avirnaki (literally 'clean air' in Hebrew), the first-ever smoke elimination system for in-store coffee roasting. This revolutionary machine makes indoor roasting accessible to all. With Avirnaki, there is no longer the need to depend on bulky, complicated, and expensive ventilation systems. Avirnaki allows roasters to focus on what's important – roasting.

From now on, shop roasting can be simple, safe and affordable. Avirnaki is an environmentally friendly smoke trapping system. The machine absorbs smoke, channelling it into cleanable, detachable, full flow trapping fields. It converts the smoke's harmful substances into solids, which are trapped inside the cleanable fields. These solids are then separated from the entire flow. The result is clean, purified air. The system also reduces gas exhaust temperatures to roughly 70%.

Avirnaki is an electrical device that excels in its low energy consumption and simple maintenance. An electrically regulated airflow ensures a top performance throughout the entire roasting process, time and again.

Venting devices and ducts that require periodic cleaning and maintenance, are often responsible for poor roasting results due to bad venting and are rightfully regarded as a major fire hazards. Avirnaki blows all these issues away. Maintenance is easy and entirely in the hands of the user. It requires nothing but tap water and environmentally friendly cleaning solvents.

Avirnaki is suitable for roasting in retail stores, supermarkets, shopping malls and other venues where fresh coffee is served. While Avirnaki works best with Coffee-Tech Engineering's advanced shop and lab roasters, it can easily be fitted to work with any shop roaster.

## About Coffee-Tech Engineering

Coffee-Tech Engineering specializes in manufacturing professional coffee roasters and roasting equipment for the specialty coffee scene, ranging from home roasters to commercial roasters. Founded by coffee loving, technology experts and designers, we bring together tradition, artisan roasting expertise and cutting edge technology, creating the finest high-end coffee roasters currently available on the market.



Smoke Free



Multi Use  
Filter



Green Product



Low Energy  
Consumption

## Technical Specifications

### /Materials:

100% metal structure

### /Quality and safety compliance:

CE, EMC

### /Electrical Specifications:

220-240 Volts 50/60 Hz. 500 Watt Single phase

### /Temp Outlet:

40° c

### /Dimensions(cm):

42(w) X 72(d) X 91(h)

### /Weight:

70 Kg



# Service Cart

**COFFEE-TECH ENGINEERING**  
*Advanced Roasting Systems*

**Coffee-Tech Engineering's professional wheeled service cart featuring a Compact, practical design**

Heavy duty finished steel.  
Flat surface and deep-bottomed shelf.  
Includes high quality swivelling wheels with breaks.  
Shipped flat, it includes an assembly manual.

**This professional roasting cart can be used in various ways:**

- A table for shop roasters – Solar and FZ-94. The wheeled cart will enable you to move the roaster around as you wish and anchor it by locking its wheels.
- As a laptop table while roasting with the Ghibli line of commercial roasters. Provides a sturdy base close to the roaster for your laptop while roasting using our roasting profile software.
- As an accessories and tools cart. People move things around all the time in establishments where coffee is roasted – green coffee, grinders, tools, and so on. Use the roasting cart as a wheeled assistant.

## Technical Specifications

### /Dimensions(cm):

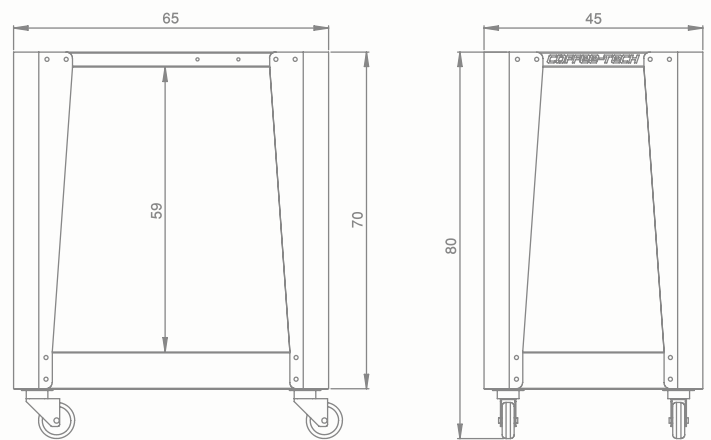
65(w) X 45(d) X 80(h)

### /Weight:

19 Kg

### /Colors:

Heavy Gauge steel / Stainless Steel



# Ghibli R15

Commercial Coffee Roaster

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

The Ghibli R-15 commercial coffee roaster was designed to provide the latest technology for those who appreciate quality and deserve the best.

The Ghibli R-15 is much more than a rotating “barrel on flames”. Loyal to our endless pursuit of excellence, the Ghibli R-15 was created using the most advanced product design software, from beginning to end.

**This has aided us in optimizing essential parameters, such as:**

- / Advanced thermodynamic characterization.
- / Robust and accurate drum housing, ensuring that the drum will spin “in-line” for the entire life of the product.
- / Drum proportion - achieving an optimal ratio between heat conduction and heat convection.
- / In-drum agitation designed for perfect beans stirring, greater heat conduction between metal and beans, chaff separation and the immediate evacuation of the beans from the drum into the cooling group.
- / Perfect heat dispersion - as a result of an intensively researched ceramic combustion chamber, optimally located against the drum, spreading heat equally throughout the drum, as opposed to the more common setup of heat being

directly applied to the drum at a single point.

## Unique Roasting Software

Ghibli R-15 features unique roasting software developed exclusively by Coffee-Tech Engineering, enabling the user to predefine and program personal roast profiles. By recording the desired heating curves, endless roast profiles can be applied, again and again, with the greatest accuracy.

## A New Generation of Roasting Drums

An extensive, in-depth research and development process has resulted in three distinctive tailor-made drum models for the Ghibli line:

### Ghibli Standard Drum

This solid mild steel drum has been designed to produce an extensive aromatic range and high sugar levels during roasting. This results in a superb roast for most styles, including blends roasted for espresso.





### Ghibli Infra-Red Drum

This drum is designed to produce a stronger taste with higher levels of caramelized sugars and excels in rapid roasting times. Two separate layers of perforated mild steel ensure an improved grip between the surface and the beans, advanced shaking and the creation of a larger contact surface between the beans and the heating source. Infra-red radiation is applied to the beans via the perforations.

### Ghibli Thermodynamic Drum

This is the most advanced drum in today's industry. Built from two layers of mild steel with a middle layer of pure copper, it has extremely high thermal absorption and conduction characteristics. In contrast to standard drums, in which roasting is performed by direct, limited contact between the beans and the drum, the Ghibli Thermodynamic Drum displays a unique method of refined conduction applied to a wider contact surface between beans and drum. Heat is generated via a copper layer creating a 1.4mm gap between the heat and the beans, removing any risk of burn marks. This drum excels in producing an evenly-roasted batch of superb beans.



### Clean, Efficient and Safe Heating System

Coffee-Tech's entire Ghibli line features a highly efficient turbo gas burner. This clean heat source provides maximum gas burning efficiency with minimum levels of carbon monoxide emission. Safe, economical and stable, it features many unique parameters for control and calibration, described in detail in our user manual.

### Comprehensive Set of Features

At Coffee-Tech Engineering, we pay special attention to the less than obvious details, such as the compact, efficient structure of the roaster, batch cooling time, drum evacuation time, the size of the monitoring control lens and drum-gate, an additional lens in the green bean hopper and more. At the end of the cycle, the entire roasted batch is transferred to the cooling group in a matter of seconds. This external group is made of 100% stainless steel with special food-grade Thanks to the cutting-edge technology of the machine, the roasting process achieves excellent levels of sugar, aromatic oil and a wide aromatic range. These virtues are achieved without burning the "woody" substance of the beans.

Thanks to the cutting-edge technology of the machine, the roasting process achieves excellent levels of sugar, aromatic oil and a wide aromatic range. These virtues are achieved without burning the "woody" substance of the beans.

### The Perfect Roasting System

Determining a high level of conductive heat has proved the best method for producing a rich cup and this is where we differ from other manufactures. Since conduction is complicated and presents several unresolved issues, many have abandoned it in favour of convective heat. At Coffee-Tech Engineering we have chosen to invest in extensive research in order to solve these issues. In doing so, we are proud to offer a machine that truly reflects our beliefs and understanding of coffee roasting. The Ghibli R-15 roasts continuously, while cooling takes place outside the drum, making it possible to roast up to 60 kg of beans per hour. The Ghibli R-15 is user-friendly, ergonomic, quiet, compact and safe. Each function has an individual motor and heat protection.

We take pride in the Ghibli R-15's high end craftsmanship. This is a result of CAD design and the use of high quality materials, components and precise manufacturing tools assembled and completed by Coffee-Tech Engineering's passionate artisans.

The Ghibli R-15 is available with various heating methods, from natural gas and LPG, to traditional wood and charcoal heating, according to the customer's preference. As a high-end roaster, the Ghibli R-15 will ensure reliable operation together with consistent, superb results for many years to come.



## Technical Specifications

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### **/Batch Capacity:**

3-15 Kg (11-33 lb)

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### **/Roasting Cycle:**

11-17 minutes± Up to 4 batches per hour

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### **/Electrical Specifications:**

50/60 Hz. 2500 W 230V Single-phase/380V 3 phases

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### **/Heating Method:**

Gas: L.P.G. /Natural Gas (40k-116k BTU/h)

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### **/Also available:**

Traditional wood/charcoal heating conversion

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### **/Chaff evacuation:**

Cyclone type chaff collector with booster blower - for clean in-house roasting

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### **/Drum operation:**

Direct drive individual heavy duty gear motor 1/2hp (digital drum speed control included)

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### **/Cooling agitation:**

Direct drive individual heavy-duty gear motor 1/3hp.

---

### **/Cooling blower:**

High capacity cooling blower, cooling time is about 3-4 minutes

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### **/Drum venting:**

1500 RPM high heat individual blower (digital drum speed control included)

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### **/Bearings:**

High temperature Self-aligned bearings

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### **/Body:**

Full precision metal work, top quality material and hardware, galvanized steel, carbon steel and stainless steel

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### **/Dimensions(cm):**

100 (w) X 155(d) X 180 (h) (Without cyclone)

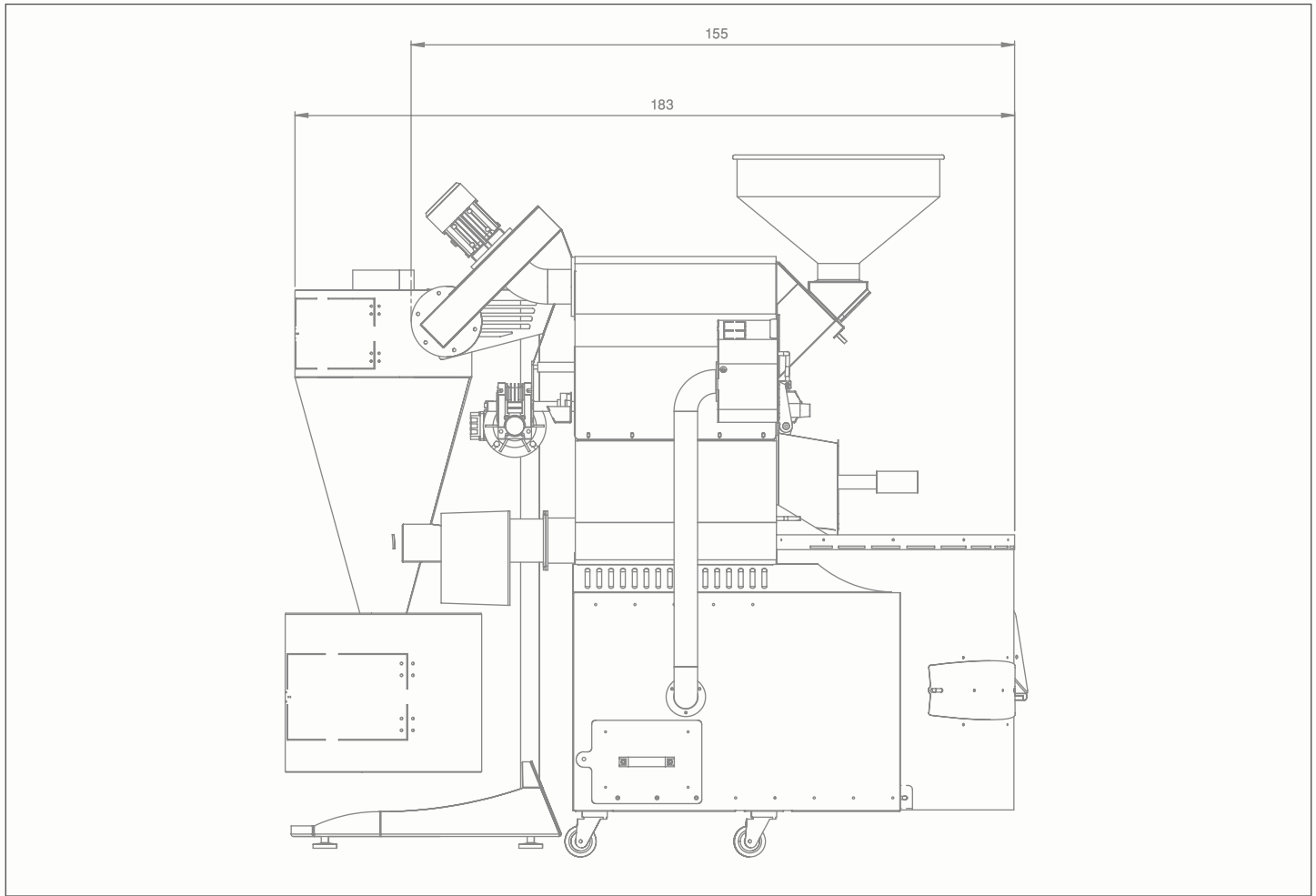
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### **/Weight:**

350 kg Machine 43 kg Cyclone

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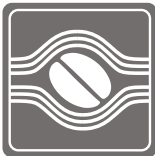




Heating Technology



Conduction



Convection



Ceramic Chamber



Indirect Flame

General Features



Low Energy Consumption



Drum Roasting



In Drum Extinguish



Blower Speed Control



Multi Point Temp

Optional



Automatic



Smoke Free



Green Product



Drum Speed Control

# Ghibli Firewood

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

## Coffee-Tech Engineering presents Ghibli Firewood. Where technology meet tradition.

Ghibli Firewood utilizes wood combustion for roasting. Roasting occurs by means of convective hot air that flows across the roasting drum, transferring heat and the aroma of the wood to the beans. With this method of roasting, the end result is influenced by the type of wood being used, from natural coals to aromatic chopped fruit-wood or other aromatic types such as oak.

The Ghibli Firewood is one of the most advanced roasters in the industry. The roasting process can be conducted manually by digital temperature control or automatically by the accompanying software. Heat is directed to the drum housing for heating through a pneumatic selector box that features a waste gate connected to the chimney, which can block heat quickly.

The Ghibli Firewood operation is extremely clean and simple, with a highly efficient firing group that consumes a small amount of wood per batch. For example, one batch will only use roughly two pieces of wood, depending on its size.

Using the Ghibli Firewood to roast is much more than just another marketing highlight - it is joyful and, in a way, easier and more intuitive than roasting with gas, as only an organic heating source is being used. This also adds a whole world of flavours to your precious coffee. Wood aroma is the only legitimate addition to the aromatic spectrum of your coffee. Nevertheless, roasting with a neutral flavour is easy – simply use natural coals.

Roasting times with the Firewood are relatively short as a batch of 15kg can be roasted in 11 to 16 minutes. Roasting with the Firewood requires a pressurized air source for the selection box actuator.



## Technical Specifications

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### **/Batch Capacity:**

3-15 kg (6.6-33 lb)

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### **/Roasting Cycle:**

12 minutes± Up to 4 batches per hour

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### **/Electrical Specifications:**

50/60 Hz. 2500 W 230V Single-phase/380V 3 phases

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### **/Heating Method:**

Traditional wood/charcoal heating

---

### **/Chaff evacuation:**

Cyclone type chaff collector for clean roasting and cleaner exhaust

---

### **/Drum operation:**

Direct drive individual heavy duty gear motor (Frequency inverter is available as option)

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### **/Cooling agitation:**

Direct drive individual heavy duty gear motor

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### **/Cooling blower::**

High capacity cooling blower, cooling time is about 3-4 minutes

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### **/Drum venting:**

1500 RPM high heat individual blower (frequency inverter included)

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### **/Bearings:**

Four main bearings, two (F&R) precision dry bearing with zero tolerance for centering the drum; and two high temperatures, self-aligned bearings

---

### **/Body:**

Full precision metal work, top quality material and hardware, galvanized steel, carbon steel and stainless steel

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### **/Dimensions(cm):**

140 (w) X 155(d) X 180(h) (Without cyclone)

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### **/Weight:**

350 kg. machine 43 kg.Cyclone 110 kg. wood group

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# Ghibli R-45

Commercial Coffee Roaster

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

**The middle son of our Ghibli Family: The Ghibli R-45 commercial coffee roaster was designed to provide the latest technology for those who appreciate quality.**

The Ghibli R-45 is not another average commercial drum roaster. Our loyalty to the endless pursuit of excellence ensures that our roaster produces a boutique quality coffee with a full aromatic spectrum in commercial quantities, something hitherto unachieved by standard commercial configurations.

## Precision Design

With the help of advanced design software, every attribute of the Ghibli R-45's construction was meticulously designed to optimize each part of the roasting process.

Thanks to extensive research and painstaking attention to detail, the Ghibli R-45 can offer:

/Advanced thermodynamic characterization.

/Precision drum housing, ensuring the drum always spins "in line", with a sturdy design that will bear the load for many years.

/Exact proportion in drum design, achieving an optimal ratio of conduction and convection heat.

/In-drum fluidizing paddles designed to perfectly stir the beans, create greater heat conduction between metal and beans, separate chaff and immediately evacuate the beans from the drum into the cooling group.

## Perfect Heat Dispersion

We have conducted intensive research on closed ceramic combustion chamber. The ceramic surrounding the Ghibli R-45's drum ensures that the distribution of heat is equal at all times; with cold air unable penetrate to drum. This presents a marked improvement over the common setup of self-aspirated burners, where heat is applied directly to the drum at a single point.



## Clean, Safe, and Efficient Heating System

Coffee-Tech's entire Ghibli line features a highly efficient turbo gas burner.

This special roaster is equipped with a dual-stage modulated burner; providing wide range of settings able to maintain a constant heat. This clean heat source provides maximum gas burning efficiency with minimum levels of carbon monoxide emission. Safe, economical and stable, it features many parameters for control and calibration, all described in detail in our user manual.

## Comprehensive Set of Features

At Coffee-Tech Engineering, we pay special attention to the less obvious details, such as the compact, efficient structure of the roaster, batch cooling time, drum evacuation time, the size of the monitoring control lens and drum-gate, the addition of a lens in the green bean hopper and more. At the end of the cycle, the entire roasted batch is transferred to the cooling group in a matter of seconds. These features are often ignored but their impact is tangible in the finished brew. At Coffee-Tech Engineering, every setting and modification is tested in our laboratory to ensure we provide the best cup of coffee possible.

### [Optional] Roasting Software

Alongside the Ghibli R-45, we offer unique roasting software, PC operated, developed exclusively by Coffee-Tech Engineering, that completely automates the roasting process. The software enables the user to predefine and program personal roast profiles. By recording the desired heating curves, an endless number of roast profiles can be applied time and again with pinpoint accuracy.

The software analyzes the internal temperature at three distinct points, simultaneously managing the two-stage modulating burner. In addition, the software also controls the drum speed and airflow within the drum, allowing for complete control over the entire process.

### Pneumatic Elevator for Green Beans:

This machine is equipped with a floor mounted green beans elevator for easy loading. It can be controlled by the roasting software or manually from the control panel.



/Control panel

### Control Panel:

The Ghibli R-45 is equipped with a self-standing control panel, ergonomically designed for operation and maintenance.

All electrical control components and motor protections are installed in this unit. This allows for very easy maintenance and service without the need to open the machine itself. In the event of a failure, the control board can be shipped separately for repair or exchange.

### Cyclone Chaff Collector:

This machine comes with a heavy gauge, galvanized, painted steel chaff collector that can be taken apart with basic tools for cleaning. Cleaning is a tedious but necessary procedure on any commercial roaster, but we make it safe and easy to do.

### [Optional] Chaff Compacting Device:

With the Ghibli commercial line you can order a compacting device for your Cyclone. This will pack your chaff into small capsules you can simply throw away or re-use for heating or agricultural purposes.

### Cooling Group:

The Ghibli line is equipped with a stainless steel cooling group, equipped with a big screen mesh that requires no cleaning, Teflon agitation blades, and a dedicated high capacity cooling blower. The Cooling Group also features a big cleaning door and pneumatic evacuation opening - all covered for food safety and hands protection.

The cooling cover is designed with two vortex ducts to direct the air in a controlled manner rather than allowing it to flow randomly and inefficiently.

## **A New Generation of Roasting Drums**

An extensive research and development process has resulted in four distinctive tailor-made drum models for the Ghibli line, each excelling at producing coffee suited to different tastes:

### **Ghibli Standard Drum**

This solid mild steel drum has been designed to produce an extensive aromatic range and high sugar levels during roasting. This results in a superb roast for most styles, including blends roasted for espresso.

### **Ghibli Infrared Drum**

Two separate layers of perforated mild steel ensure an improved grip between the surface and the beans, improved shaking and the creation of a larger contact surface between the beans and the heating source. Infrared radiation is applied to the beans via the perforations.

This drum's increased infrared radiation treats the surface of the bean, creating a glaze on the bean's surface, encapsulating it with caramelized sugar. This has a significant impact on shelf life and aromatic profile, highlighting beans of single origin, especially when roasting for filter-brewed coffee. This drum is designed to produce a stronger taste with higher levels of caramelized sugars and excels in rapid roasting times. The high levels of caramelized sugar also produce a deep brown, bluish colour in the coffee.

### **Ghibli Thermodynamic Drum**

This is the most advanced drum in today's industry. Built from two layers of mild steel with a middle layer of pure copper, the drum has extremely high thermal absorption and conduction characteristics. In standard drums, roasting is performed by direct, limited contact between the beans and the drum. The Ghibli Thermodynamic Drum achieves a refined method of conduction over a wider contact surface between beans and drum.

Heat is generated in the first steel layer and then transferred to the copper layer, which reflects the heat from a 1.4mm gap onto the beans resting on the inner perforated layer of steel, removing any risk of burn marks. This produces a superb, evenly roasted batch of beans.

In contrast to the Infrared drum, this drum is best suited to producing top quality espresso blends, with rich body and a very round, mild taste. This drum produces an amber reddish colour coffee, with the colour signifying the amount of sugar and oil the coffee contains.

### **Ghibli Vortex Drum**

The vortex configuration of the drum allows air to enter at a 45° angle at high velocity from four ducts. This creates a unique airflow, moving air in a spiral motion into the drum through the coffee.

This configuration uses less air in a more controlled and efficient way. This presents an improvement over the

commonly used perforated back plate, which creates an inefficient, uncontrolled flow of air over the beans. Less air means less gas consumption, and more aromas, oil and sugar being retained in the roasted beans.

This drum produces noticeable improvements in the quality of the roasted beans, with clean uniform colour and stain gloss finish. The bean's colour and appearance is a clear indication of its oil, sugar, and caramel content.

## **The Perfect Roasting System**

Achieving a high level of conductive heat has proved the best method for producing a rich cup, and this is where we differ from other manufactures. Since conduction is complicated and presents several unresolved issues, many have abandoned it in favour of convective heat. At Coffee-Tech Engineering we have chosen to invest in extensive research in order to solve these issues.

In doing so, we are proud to offer a machine that truly reflects our beliefs and understanding of coffee roasting.

The Ghibli R-45 roasts continuously, while cooling takes place outside the drum, making it possible to roast up to 135 kg of beans per hour. The Ghibli R-45 is user-friendly, ergonomic, quiet and safe. Each function has an individual motor and heat protection.

We take pride in the Ghibli R-45 construction and high-end craftsmanship. This is a result of 3D CAD design, and the use of high quality materials, components and precise manufacturing tools assembled and completed by Coffee-Tech Engineering's passionate artisans.

The Ghibli R-45 is available with various heating methods, from natural gas and LPG, to traditional wood and charcoal heating, according to the customer's preference. Being a high-end roaster, the Ghibli R-45 will ensure reliable operation together with consistently superb results for many years.

## Technical Specifications

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### **/Batch Capacity:**

15-45 kg (33-99 lb)

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### **/Roasting Cycle:**

17 minutes± 3 batches per hour

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### **/Electrical Specifications:**

50/60 Hz. 7000 W 220-240V Single-phase/380V 3 phases

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### **/Heating Method:**

Gas: L.P.G. /Natural Gas (15.5-50 Mcal/h)

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### **/Also available:**

Traditional wood/charcoal heating conversion

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### **/Chaff evacuation:**

Cyclone type chaff collector- chaff compacting device is optional

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### **/Drum operation:**

Direct drive individual heavy-duty gear motor 1.5 HP with Frequency inverter for speed control

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### **/Cooling agitation:**

Direct drive individual heavy-duty gear motor 1.5 hp.

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### **/Cooling blower::**

High capacity 3 HP cooling blower, cooling time is about 3-4 minutes

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### **/Drum venting:**

High heat individual blower, 1hp with Frequency inverter for speed control

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**/Bearings:** Two (F&R) Hi precision slide bearings for cantering and Two (F&R) High temperature Self-aligned bearings with greasing. Front wet bearing uses for drum aligning with fine thread and special wrench. Machine is provided with suitable greasing pump and one kg of high temperature grease

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### **/Doors opening:**

All machine's door openings are actuated by pneumatic pistons and controlled by software or manually from control board

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### **/Body:**

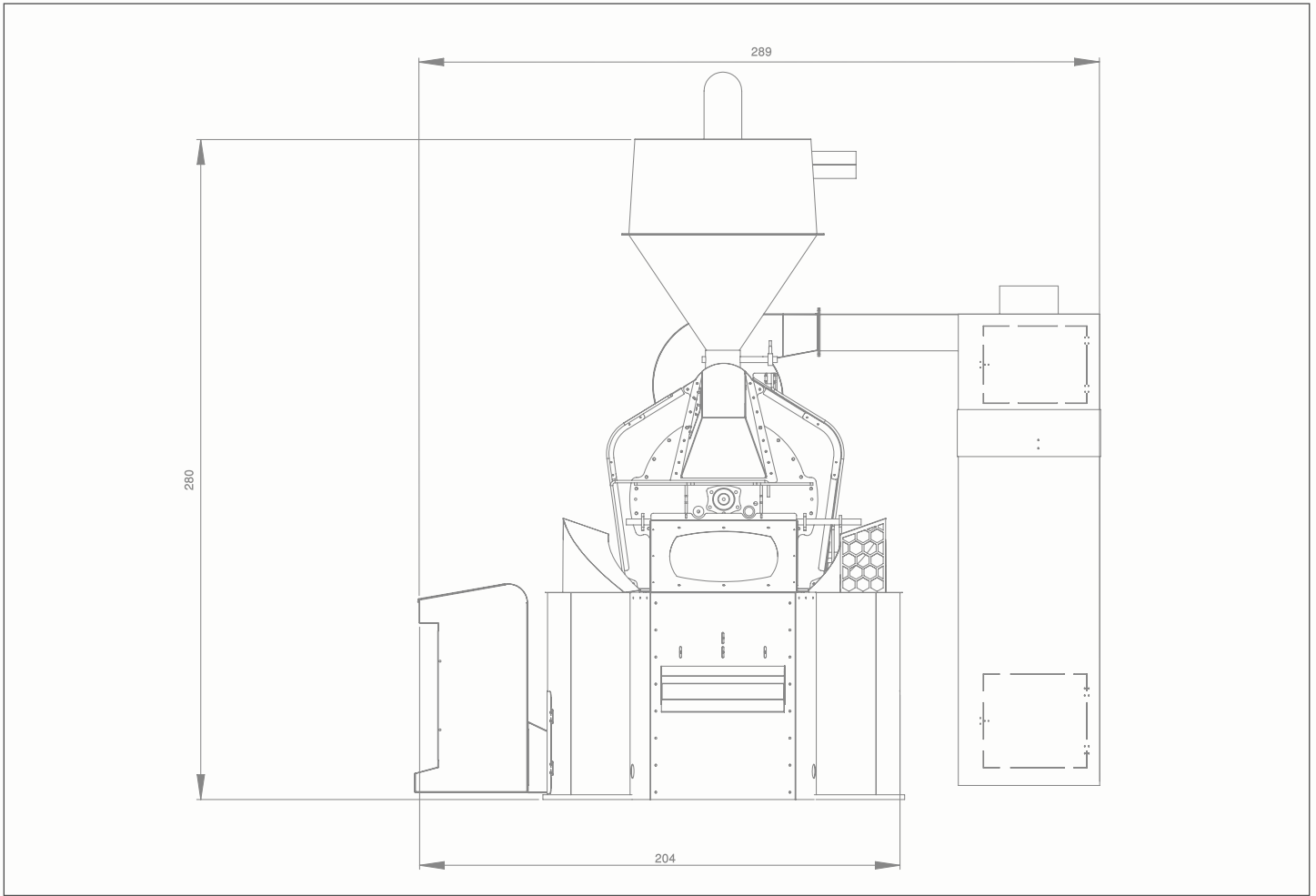
Full precision metal work, top quality materials and hardware, galvanized steel, carbon steel and stainless steel.  
Drum housing front plate SS shielded lifetime good visibility.

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### **/Dimensions:**

290(W)x376(D)x280(H) - loader not included

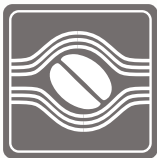
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### Heating Technology



Conduction



Convection



Ceramic Chamber



Indirect Flame

### General Features



Low Energy Consumption



Drum Roasting



In Drum Extinguish



Blower Speed Control



Multi Point Temp



Drum Speed Control

### Optional



Automatic



Smoke Free



Green Product



Vortex



# Conical Monodose Grinder

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

Coffee-Tech Engineering is proud to present the Conical Monodose Grinder.

The Conical Monodose device is a grind-on-demand conical grinder.

We've equipped the Conical Monodose with superior, slow rotating conical blades in order to ensure you achieve the best possible results when grinding your coffee. The conical blades ensure that all the volatile aromas, oils and sugars remain in the ground coffee and are present in the cup and not lodged between the blades of the grinder.

The critical elements in grinding coffee are: keeping the grinding temperature as low as possible, precision in regulating the thickness and producing an evenly sized grind. The most important thing about grinding is the shape of the particles — examining them under a microscope reveals that different grinding methods create entirely different shapes.

The perfect grind will achieve particles that are as round in shape as possible, and the coffee must be cut with minimal stress during the grinding process. Doing so leaves the capillary structure open and free, allowing the infusion of water to reach the oils and aromas concealed inside. This factor is especially important for grinding coffee for espresso.

## Technical Specifications

### /Hopper capacity:

500 gr.

### /Voltage:

150 Watts \ 220-240 Volt

### /Frequency / Phases:

50\60 Hertz , Single Phase

### /Grinding Method:

Reduced speed conical blade

### /Dimensions (cm):

12(w) X 17(d) X 32(h)

### /Weight:

3.3 Kg

### /Materials:

Carbon steel, stainless steel, aluminium

### /Color:

White/Black



# Six-Grinder

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

## Coffee-Tech Engineering is proud to present the Six-Grinder.

Whether you are a coffee roaster, coffee trainer or coffee bar owner, this is the perfect innovation to add to your business. As with all our machines and technologies, the Six-Grinder was designed and built in order to meet our own demands and requirements. In our daily lab work, we roast and cup quite often, studying our roasting technology methods. The Six-Grinder helps you easily brew coffee in a quick, professional manner.

The Six-Grinder is an array of six separate grind-on-demand conical grinders.

We've equipped the Six-Grinder with superior slow rotating conical blades in order to ensure you achieve the best possible results when grinding your coffee. Conical blades ensure that all the volatile aromas, oils and sugars remain in the ground coffee and are present in the cup and not lodged between the blades of the grinder.

The critical elements in grinding coffee are: keeping the grinding temperature as low as possible, precision in regulating the thickness and producing an evenly sized grind. The most important thing about grinding is the shape of the particles — examining them under a microscope reveals that different grinding methods create entirely different shapes.

The perfect grind will achieve particles that are as round in shape as possible, and the coffee must be cut with minimal stress during the grinding process. Doing so leaves the capillary structure open and free allowing the infusion of water to reach the oils and aromas concealed inside. This factor is especially important for grinding coffee for espresso.

The Six-Grinder can be installed in several different environments and for various uses:

### Cupping

Coffee cupping involves assessing several coffee samples at a time. A well-known problem is the long and tedious process of grinding the coffee to cup, purging the grinder of coffee residues and filling the grinder with the next coffee to cup. Anyone who has managed a cupping session knows how strenuous the process can be, even when two or three separate grinders are used. Now, with the Six-Grinder you can cup up to six different samples of coffee simultaneously, making it more accessible than ever before.

### Coffee Labs / Roasters

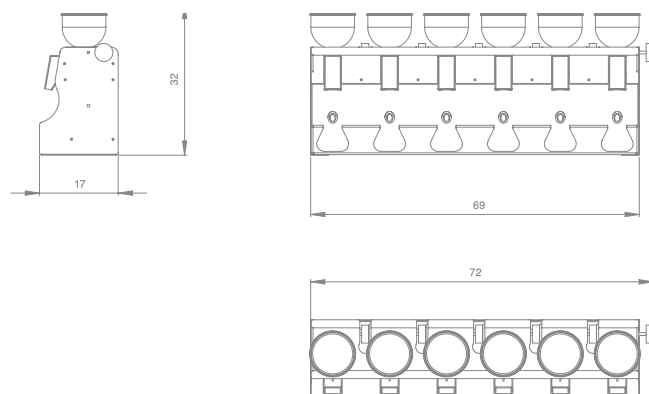
Coffee roasters always have green coffee lying around waiting to be sampled, and there are often several samples of the same type from different suppliers. Immediacy is a major issue when comparing the quality in cupping. Only if you have the coffee waiting in a ready and calibrated grinder can you go ahead and cup one after another without wasting time. Similarly, time is of the essence when meeting with new prospective customers at your roastery who are looking for the "winning" taste. Preparing your winning blends in calibrated grinders ahead of time will save you precious seconds and can certainly affect the outcome of the meeting.



### Espresso Bar / Café / Coffee Shop

The Six-Grinder is the perfect tasting menu tool. Expand your coffee serving possibilities with the Six-Grinder. Expose your customers to a wider range of flavours and increase your coffee sales. Rest assured that your sales of whole beans will also increase, since your customers can taste what you can offer from your dispensing silos.

Whether you roast your own coffee or serve ready-made roasted coffee this eye-catcher will attract customers and diversify your coffee menu. The Six-Grinder will also help you educate your clients' palates and let them know you are a professional.





# Triple-Grinder

**COFFEE-TECH ENGINEERING**

*Advanced Roasting Systems*

## Technical Specifications

### /Hopper capacity:

150 gr./500gr.

### /Voltage:

150 Watts \ 220-240 Volt

### /Frequency / Phases:

50\60 Hertz , Single Phase

### /Grinding Method:

Reduced speed conical blade

### /Dimensions (cm):

72(w) X 17(d) X 32(h)

### /Weight:

16.5 Kg

### /Materials:

Carbon steel, stainless steel, aluminium

### /Color:

White/ Black

## Technical Specifications

### /Hopper capacity:

150 gr./500gr.

### /Voltage:

150 Watts \ 220-240 Volt

### /Frequency / Phases:

50\60 Hertz , Single Phase

### /Grinding Method:

Reduced speed conical blade

### /Dimensions (cm):

36(w) X 17(d) X 33(h)

### /Weight:

8.3 Kg

### /Materials:

Carbon steel, stainless steel, aluminium

### /Color:

White/ Black





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