

MULTIPROCESS R

Cocoa beans and nuts processing plants



Figure 1 - Multiprocess R

The roaster contains four adjustable chambers (able to contain approx. 7 kg of cocoa beans each), specifically structured to avoid bacterial growth in the environment. The roasting process is done through hot air circulation into two phases: the drying and the roasting. The drying is done through with partial air removal to eliminate the humidity released by the product, and roasting with internal air circulation. Dividing the product into four adjustable chambers it possible to adapt the machine's productivity to the producer's needs. Different temperatures and times can be set for the two parts of the process.

After roasting, the beans fall into the hopper below. A vibrating chute extracts the product and inserts it into a horizontal screw feeder. The product is then moved through a belt that feeds the debacterisation unit. This consists of three overlapping belts. In this way it is possible for the beans to be exposed on all sides uniformly to the UV light for an effective debacterization.

Multiprocess R is the mini-line by TECNO 3 designed for the production of small amounts of cocoa nibs. In just one machine beans are dried, roasted, debacterized, crushed and winnowed to obtain nibs. This machine represents the first phase of the "bean to bar" process (from the cocoa bean to the chocolate bar).

This is a compact space saving machine; its essential parts are:

- Drying and roasting unit
- Debacterisation unit
- Crushing and winnowing unit

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Figure 2 - Product discharge

The cocoa can then be removed whole or sent to the crushing unit where the beans are broken to then enter the winnowing unit where the nibs are separated from the husk. The nibs are sieved and divided in four sizes.



Figure 3 - Belts with UV lighting

One of the main peculiarity of the Multiprocess R is the possibility to process, not only cocoa beans, but also the various types of nuts (hazelnuts, almonds, pistachios, etc.) by roasting, peeling, debacterising them, obtaining the whole or crushed nut.

Two roasting phases, with the possibility of varying temperatures and times according to the product, allow to apply the correct technology to each product, preventing oil leaking of the nuts.



Figure 4 - Crushing unit

A specific chute-diverter placed at the debacterisation unit outlet allows you to collect the whole nut or proceed for the product to be crushed through the crushing and winnowing unit.

The system is made of Aisi304 stainless steel and is mounted on wheels to be able to easily move the machine. It is equipped with a touch-screen panel to interface with the operator where all recipe parameters can be set, stored and recalled to need. It is possible to choose between a manual or automatic cycle.

All parts in contact with the product can be easily removed by just one operator for thorough sanitation.

The extractor is equipped with a special filter so as to insert perfectly clean air into the working environment.

The harmonious design and the possibility to view all steps of the production cycle thanks to the various protective Lexan guards (in full compliance with health and hygiene standard), make it possible to display the machine or the whole plant (completed with Multiprocess C) for customer to view in shops or laboratories.



Figure 5 - Sized nibs or crushed nuts

