

Didacta Italia

Food Technologies

FTC10

Cocoa Processing Line



ISO9001:2000

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Introduction

The agroalimentary industry is characterised by an intensive use of modern technologies. Accordingly, professionals in this sector must possess extensive knowledge of the relevant techniques and machinery and a wide range of skills, as well as appropriate tools.

Didacta Italia has extended the range of its training sets to the agroalimentary industry and offers a line of modular pilot plants designed according to the criteria of present-day industrial technologies.

Though they use small quantities of product (10/12 kg per cycle), Didacta's Pilot Plants reproduce faithfully the conversion processes taking place at industrial level.

Each line consists of units capable of developing processing cycles using small product quantities and adding up to a full production sequence which offers the possibility of introducing many operational variants.

The units making up the line reproduce the functions of many industrial installations, enabling the students to familiarise with the basic aspects of the treatments performed on the product during the various processing stages.

The line described below makes it possible to convert the initial raw material (cocoa beans) into a finished product that can be preserved and consumed.

Made from the beans of the cacao tree, **chocolate** is a very popular food consumed by people all over the world. It is produced starting from cocoa butter (the fat part of cocoa beans) and mixing it with cocoa powder and sugar.

Chocolate is produced in the widest variety of forms: the bar is the most common, but it is flanked by countless other shapes produced industrially or processed by hand.

Chocolate preparation is through the following steps:

1. Roasting the cocoa beans
2. Removing the shells and grinding the beans
3. Pressing the beans
4. Mixing
5. Refining
6. Conching
7. Tempering
8. Modelling

The project that we submit to your attention envisages the installation of a:

- **FTC10 Cocoa Processing Line**

FTC10 Cocoa Processing Line

It is equipped with the following:

a) Service Equipment

Suitable for producing steam (T71D/40S) which are indispensable for running the pilot plants.

In addition, we have inserted a CIP (TA34D) unit for the automatic chemical-physical cleaning.

b) Pilot Plants

The plants we build are modular and multifunctional and can therefore process different raw products by transforming them into a series of finished products that are preservable and ready for consumption. They are constructed entirely of stainless steel.

c) Accessories and Instruments

The series being proposed allows the quality of the finished product to be analyzed, making the necessary modifications to the operating parameters set on the pilot plants when necessary.

A production line with minimum configuration having the following operating capacities is realized in this Technological Laboratory:

Raw Materials	Finished product	Packaging	Shelf life
<ul style="list-style-type: none"><i>Cocoa Beans</i>	<ul style="list-style-type: none"><i>Cocoa</i><i>Cocoa Powder</i><i>Cocoa Butter</i><i>Chocolate</i>	<ul style="list-style-type: none"><i>Manual</i>	<ul style="list-style-type: none"><i>Long</i>

General data

Technological Laboratory	Minimum Surface Area	Installed Electrical Power	Water Supply
<i>Cocoa Processing Line</i>	60-100 m ²	25 kW	3 cu.m/h – 3-4 bars

The samplings of electricity and water from the network are not continuous.

FTC10 Cocoa Processing Line

CONFIGURATION

Service Equipment

T71D/40/S	Electric Boiler for Steam Production with Steam Accumulator equipped with Steam/Water Mixer
TA34D	Basic Plant Washing Unit
EC150D	Electric Compressor with 150 l Tank

Pilot Plants

TA438D	Cocoa Bean Roaster
TA439D	Cocoa Granulator-Shelling Machine
TA440D	Cocoa Butter Extraction Press
TA441D	Grinder/Mixer
TA442D	Refiner
TA443D	Concher
TA444D	Heated Chamber
TA445D	Chilled Chamber
TA446D	Tempering Machine
TA447D	Moulding Machine
TA748D	Laboratory type Coating Pan

Accessories

TA29D	Cutting Table
TA720D	Pen Style Thermometer
TA749D	10 kg Capacity Electronic Scale
TA750D	Viscosimeter
TA751D	Equipment for Cocoa Line

