MachinePoint®
Food Technologies

Cream Extraction Process

Gémina©

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Cream Extraction Process

FRUITS AND VEGETABLES

APPLICATIONS

- **Cream extraction** from all kinds of **fruits and vegetables,** using **cold** as well as **hot extraction process.**

PRODUCTS PROCESSED

Crushed or diced fruits and vegetables, heated at high temperature, and coming from:

> Tomato
> Apples, pears
> Stoned apricots
> Grape
> Strawberries and other berries
> Tropical fruits, bananas, etc
> Other types of fruits
> Vegetables

Final products obtained:

> Tomato puree
> Fruit puree
> Vegetable puree

Final use of the obtained products:

> Tomato paste
> Tomato juice
> Concentrates
> Purees
> Baby foods
> Nectars

HOW IT WORKS

The **extraction process** happens once the fruit has been cleaned and boned.

There are two distinct methods of extraction: the **hot extraction** process and the **cold extraction** process.

In the **hot extraction process**, the fruit is mashed and pumped into the heat exchangers, where the enzymatic deactivation takes place by the raising of temperature. Then the product is sent to the turbo-extractors. There are usually two of them, the first turbo-extractor is used to screen the bigger size particles (passer); and in the second turbo-extractor the product is refined (refiner). In order to get this, the turbo extractors have two different meshes. Consult our catalogue of turbo-extractors.

In the **hot process**, the turbo extractors are fed with steam, so that an inert atmosphere is created, which shifts the air contained inside the machine and avoids the product oxidation.

In the **cold extraction process**, the fruit is mashed in a hammer mill and sent directly to a turbo-extractor where it undergoes a filtering process to eliminate impurities and contaminants. During this extraction stage, product temperature must not increase above 20 ºC. The following step consists in sending the product to the heat exchangers where it undergoes a thermal treatment. Finally it will enter the refining process in another turbo-extractor, this time with a thinner mesh.

In the **cold extraction** process, as there is less enzymatic reaction, the product does not lose viscosity. Besides, in order not to oxidize the product, the extraction occurs in an inert atmosphere of Nitrogen.

DIFFERENCES IN THE PRODUCT

In the **hot extraction process**, the pigments in the fruit skin, or the chlorofile in the leaves will pass its colour to the obtained cream, in such a way that, for example, in the case of nectarine cream, which is a yellow fruit with red skin, a reddish cream is obtained.

In the **process of cold extraction**, this nectarine cream would have a yellowish colour.
The same would happen for example, with strawberries, where the green colour produced by the chlorofile in the calyx of the strawberry will or will not pass to the final cream depending on the type of extraction used.

CONFIGURATION OPTIONS

- Possibility to acquire a machine in a **mixed version**, so that creams can be produced by **hot** as well as by **cold extraction**.
- Two machine versions: **manual** model or **automatic** model, configurable according the customer's needs.

ADVANTAGES

- We adapt the extraction process to the product type and produced quantities.

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MACHINEPOINT FOOD TECHNOLOGIES was created as a result of a joint-venture between MACHINEPOINT GROUP and **GÉMINA.**

MACHINEPOINT FOOD TECHNOLOGIES designs, manufactures and integrates lines, equipment and processes for the food industry, more specifically for the beverage processors, the dairy industry and processors of fruits and vegetables.

MACHINEPOINT FOOD TECHNOLOGIES belongs to an international group specialized in industrial equipment for plastic, packaging and food industries.

The group is headquartered in Spain (Valladolid) and has sales offices in Turkey, Mexico, France, India and North Africa. The engineering center is also located in Spain (Murcia). It is at the engineering center where we manufacture our equipment and have our R & D + I department.

GEMINA PROCESOS ALIMENTARIOS S.L. is a leading equipment manufacturer that provides innovative solutions for the food industry. It has over 25 years experience in designing, manufacturing, assembling, automating and implementing lines and processes.

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