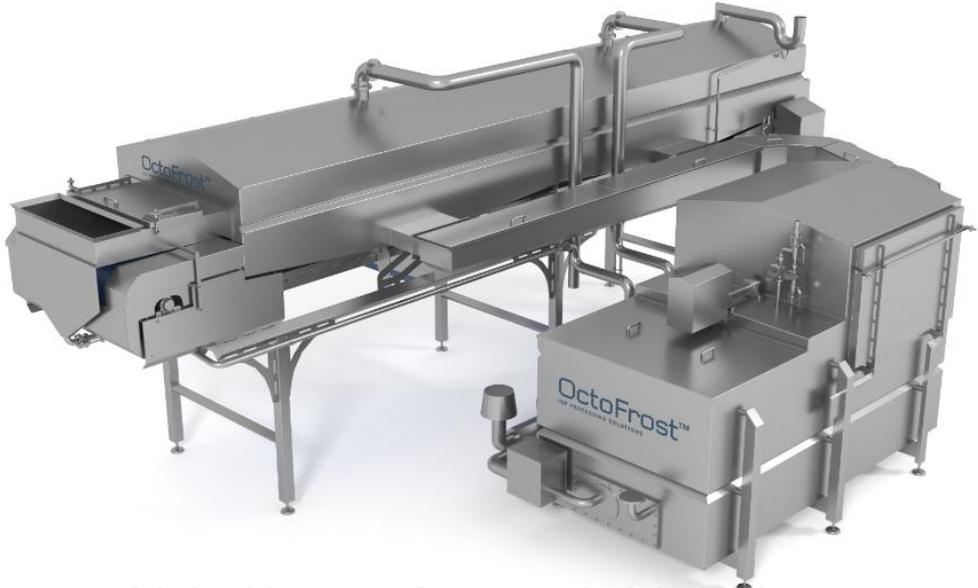


OctoFrost™ IF Blancher



OCTOFROST™ IMPINGEMENT FLASH (IF) BLANCHER

The OctoFrost™ IF Blancher is the latest technological innovation in the food processing industry. It features the OctoFrost™ unique rain shower system which guarantees the quickest heat transfer, allowing for accurate temperature control within 0.2°C to avoid over-blanching the product.

The water falls gently over the product by means of gravitation only. Product quality is therefore not compromised. Additionally, the rain shower system has a product cleaning function.

BLANCHING is a cooking process wherein the vegetable or fruit, is passed through hot water for a short time, followed by a plunge or passing through ice water to halt the blanching process.

Blanching vegetables or fruits is done to stop the enzymatic process to prevent loss of flavor, nutrients, color, and texture. Blanching also cleanses the surface of contaminants and bacteria.

OPTIMAL BLANCHING IS ACHIEVED by quickly reaching the desired core temperature followed by quick chilling.



OctoFrost™ Rain Shower System

TEMPERATURE AND TIME

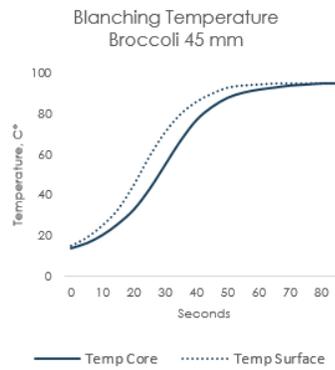
With the OctoFrost™ Flash Impingement (FI) technology, the blanching time is reduced to a minimum, preventing over-blanching and reducing time and energy consumption (see graph below where the correct core temperature is reached in less than 2 minutes).

IMPINGEMENT FLASH

Every product is surrounded by a static, so called “boundary layer” of air, which insulates it and slows down the heat transfer. The OctoFrost™ IF Blancher, by means of its rain shower system, breaks this static layer by flash (quick) impingement. This results in the fastest heat transfer through conductivity and this is the essence of the **OctoFrost™ Impingement Flash (IF) technology**.

KEY BENEFITS IF BLANCHER

- Flexibility of different temperature zones to avoid over-blanching;
- Energy efficient steam injection into the blanching water;
- Cross flow water circulation;
- Significantly faster transfer due to the impingement rain shower system;
- High volume of recirculated water over the product;
- CIP system in place;
- Total control in blanching time and temperature variations (different sections of the blancher can be turned on or off, with the additional flexibility of speeding-up or speeding-down the belt).

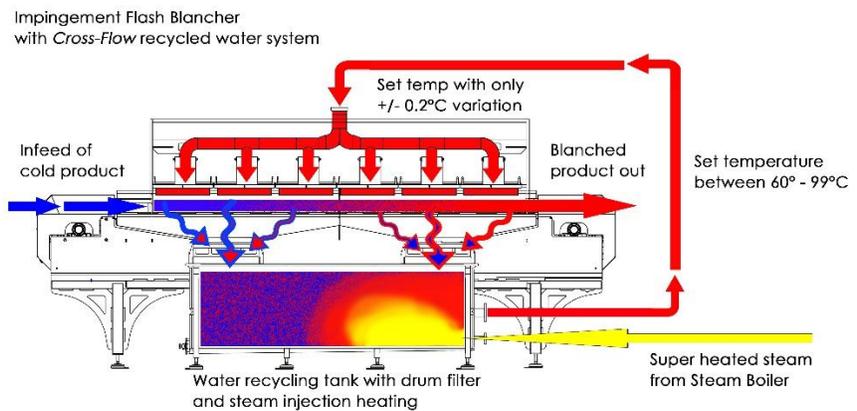


The user of the OctoFrost™ IF Blancher has absolute control over the blanching t° and time.

Optionally, the OctoFrost™ IF Blancher can be fitted with a second temperature zone to reduce temperature in the final blanching stage, for delicate products, which are prone to over-blanching.

OCTOFROST™ CROSS-FLOW vs. TRADITIONAL COUNTER-FLOW

In an OctoFrost™ **cross-flow water system**, the high volume of filtered and recirculated water showers over and through the product and immediately exits through the side of the blancher. The water then re-enters the heating tank and due to the high volume of water in the system, the temperature drop (ΔT°) is max. 3° C. The water flowing through the OctoFrost™ IF Blancher has the correct temperature in every zone.



A **counter-flow water system**, as opposed to the OctoFrost™ **cross-flow water system**, has water with the set blanching temperature entering the opposite side of the product infeed. This water cools down while passing through the whole length of the blancher, resulting in a longer blanching time and significantly less control over water temperature.

CUSTOMER BENEFITS

The OctoFrost™ IF Blancher comes with a number of benefits for the processors:

► Product Quality

Optimal product quality is guaranteed by quick and efficient blanching. No over-blanching, right product color and bite, preserved taste and nutrients are the main characteristics of the vegetables and fruits passed through the OctoFrost™ IF Blancher.



IF BLANCHER VS. OTHER TECHNOLOGIES

There are several advantages for using an impingement rain shower system instead of other technologies:

- 30% faster blanching in the IF Blancher, resulting in shorter tunnel and less energy consumption.
- The IF Blancher flows up to 10 times more water over the product than traditional “spray systems”, resulting in a much faster heat transfer.
- The high volume of recirculated water used in the IF Blancher is able to penetrate a higher product layer on the belt while maintaining the blanching temperature. This is not possible to achieve with steam or spray systems.
- Traditional screw blancher uses a counter-flow water system which makes the temperature, dwell time and blanching time less accurate and more difficult to control.

EQUIPMENT CAPACITIES

OctoFrost offers a capacity range of 1,000 to 15,000 kg/h for the OctoFrost IF Blancher.

Contact us for more information at sales@octofrost.com

► Energy Efficiency

Energy Efficiency is one of the main design criteria of the OctoFrost™ IF Blancher.

The water in the OctoFrost™ IF Blancher is heated by means of direct steam injection, which is absorbed completely into the water. A high volume of recirculated water is used which has a very low temperature-drop when exiting the blancher (ΔT - max. 3° C), therefore, very little steam is needed to reheat the water translating in maximum energy efficiency. A 30% to 40% reduction in steam consumption can be achieved compared to traditional steam blanching technologies because there is no escape of the steam when reheating the water.



Water consumption is only caused by water pick-up on the product which usually ranges between 5% and 10% of the production capacity (e.g. for a 2000 kg/h production, water consumption would amount 140 l per hour).

Because of the recirculation system, the OctoFrost™ IF Blancher uses up to 90% less water than other water blanching systems.

► Food Safety

The OctoFrost™ IF Blancher has been designed to exceed all international regulations on food safety and hygiene. Every part of the blancher which comes in contact with the blanching water can be cleaned by CIP (Cleaning-In-Place).



All piping, Aisi 316 stainless steel, is backing-gas welded. This method ensures the highest hygienic standard possible.