

## MiniFlash Pasteuriser for Fruit Juice





The images show a "MiniFlash" system (left) and a "MiniFlash Electric" system (right), both with extra equipment.

Our MiniFlash pasteuriser for fruit juice is intended for smaller companies. MiniFlash systems are semi-automatic. Everything which is hard to sustain manually is automated (e.g. the temperature control). Everything which can easily be observed or decided in passing (alongside other activities) is carried out manually. This is the only way to keep the price for our high quality MiniFlash pasteurisation system down.

## Limits of performance for the system

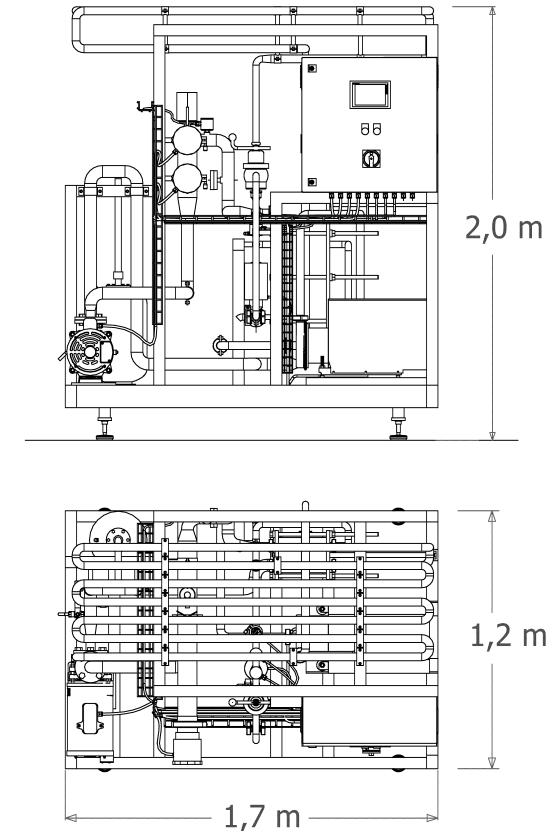
The following process parameters form the limits for our MiniFlash pasteuriser for fruit juice.

- > Heating temperature: 60-95°C, adjustable
- > Heat holding time: according to customer requirements or hot filling
- > Throughput rate: 200 - 3000 litres/hour

Fruit juices are normally treated with 5 pasteurisation units (PUs). You can recalculate the temperatures with the tools on our website (section 2):

[www.interupgrade.com/en/pasteurisation-berechnen](http://www.interupgrade.com/en/pasteurisation-berechnen)

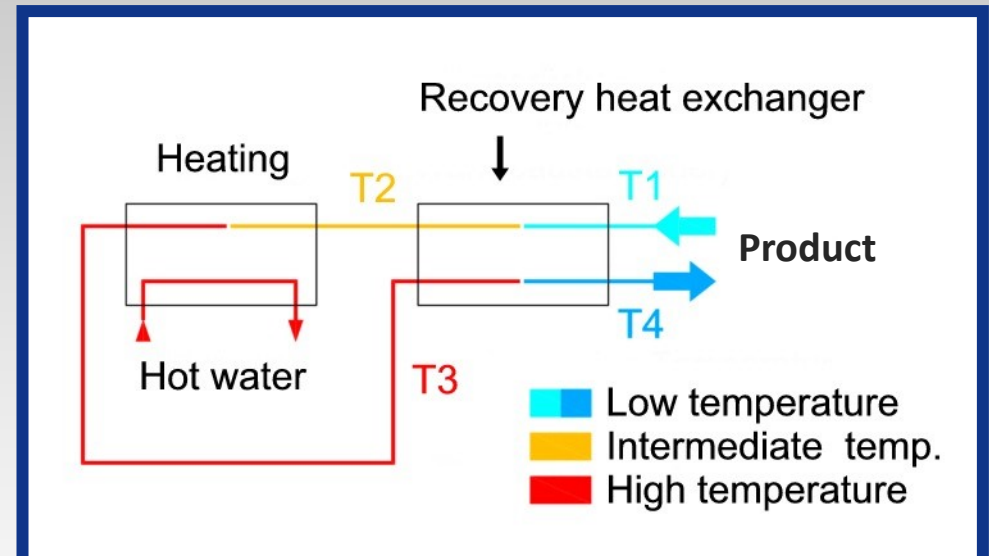
There are therefore 5 PUs with a pasteurisation temperature of 90°C and a holding time of 0.5 minutes (30 seconds). Our systems are very flexible. The optimum pasteurisation conditions can be set for a very wide range of products. Pasteurisation can occur in two temperature stages, e.g. fill at 90°C for 0.4 minutes (24 seconds) and at 70°C in the second stage (e.g. in plastic bottles) and cool down to ambient temperature via a spray cooler (tunnel cooler). We can also provide the spray cooler.



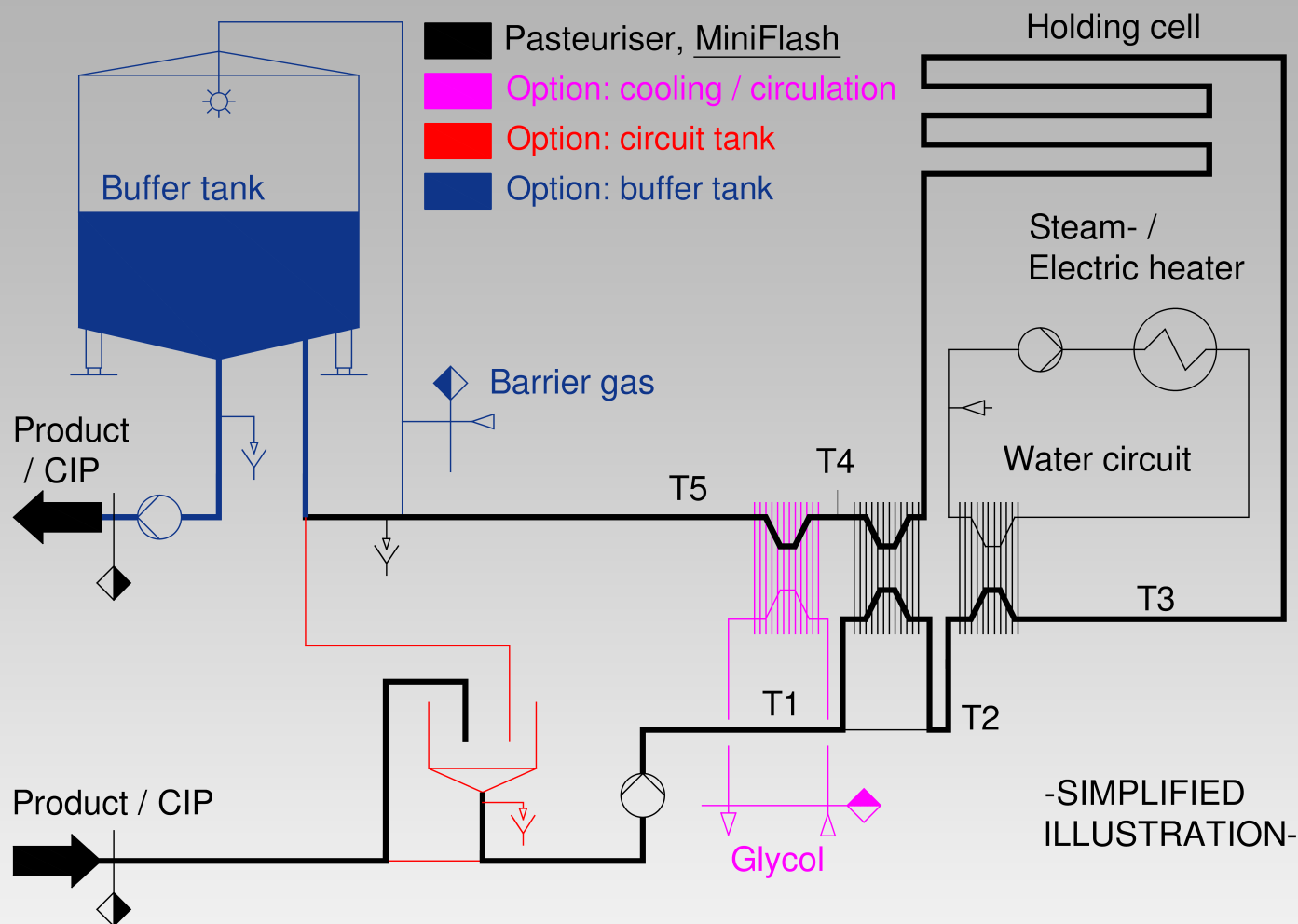
The pasteurisation is always subject to the contest between necessary temperature treatment and prevention of product damage (HMF formation, loss of taste). It is generally necessary to reach the pasteurisation parameters as quickly as possible, adhere to them precisely and then to cool down to ambient temperature as quickly as possible.

## Process description

The heating up of the system is the first stage of the process. A closed water circuit with an equalisation tank is necessary for this. In most cases this water circuit is closed via a circulation tank which is available as an option. If this water circuit has been established, the complete system is heated up by the pasteurisation plant. The system is cooled down from the sterilisation temperature to the pasteurisation conditions following the initial heating up. This step is already carried out with the product or the feed water. The cold product cools the system down to the pasteurisation conditions very quickly. Production stops automatically once the target tank or the buffer tank is full or if the pre-set limits for the pasteurisation units cannot be kept (if the supply of steam is interrupted for example). A warning message is issued. The operator must now decide how to continue. It is possible to connect an empty tank for example and then to continue production immediately. If the downtime lasted for such a long time that the system cooled down too much, the restart must begin with the heating up stage. If a cooling section is included, longer downtimes can also be bypassed by maintaining the pasteurisation parameters with a circulation run.



An electrically heated system is also an extremely economical option due to the high internal heat recovery rate of up to 95% (cold aseptic filling only). The internal heat recovery reduces the required steam or electrical output considerably. A heat recovery rate of 90% signifies that only 10% of the energy statistically necessary for heating up to the pasteurisation temperature is actually required. The higher the filling temperature, the lower the amount of energy recovered.



## Optional equipment

- > Cooling section
- > Buffer tank incl. routing system
- > Control system on PLC basis (S7)
- > Touchscreen operating interface
- > Process data recorder
- > Pre run vessel
- > CIP, integrated
- > Degassing unit for fruit juice
- > Homogenizer (other make)
- > Separator (other make)

We take care of the complete process. This is the case even if we are only responsible for the pasteurisation system. Customers can rest assured that we leave nothing to chance.

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