



Process Tanks

Gemina[®]

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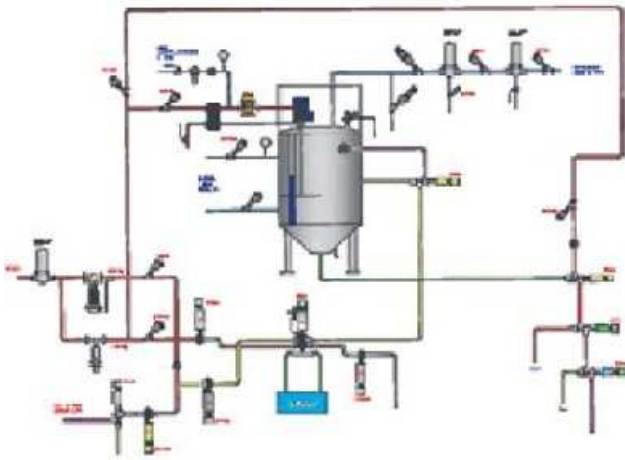
APPLICATIONS

Aseptic processing tanks are used for storing liquids or viscous products with high and low PH in aseptic packaging lines.

There are two main types of processing tanks, those used for the **dairy industry** and those ones for **juice industry**. The difference between them relies on the fact that processing tanks for juice need the installation of an agitator.

Low pasteurized juices are the highest quality of packed juice types. They are packaged at low temperatures and kept and distributed chilled. Vitamin C life span depends on this process. The recirculation of the juice is critical in the pasteurization systems.

In order to avoid this problem, the aseptic processing tanks are used.



HOW IT WORKS

Aseptic processing tanks are sterilized with steam at a minimum of **130°C-150°C for 30 minutes**. Then they are cooled down by injecting sterilized nitrogen and forcing water circulation along the outer jacket.

The pressure during this process is always kept positive to avoid the entry of contaminants.

During production, the sterile nitrogen fills the space around the product while maintaining the flow to the aseptic filler at a constant pressure.

The **C.I.P.** cleaning process is performed separately from the sterilization and packaging plant; therefore the working cycles are independent.



ADVANTAGES

The aseptic filler is continuously fed, regardless of the flow from the sterilizer. This avoids the product recirculation so it does not need to be sterilized twice, increasing the final product quality.

Tanks can be independent elements used in various systems or can be integrated in the pasteurization systems, forming a single unit.

MODELS AND WORKING PARAMETERS

Capacity	Working Pressures
5000 L.	Maximum pressure over atmospheric pressure. 300 Kpa (3 Bar) at 50°C 270 Kpa (2,7 Bar) at 140 °C
10000 L.	
15000 L.	
20000 L.	
Any size available on request..	

OTHER CHARACTERISTICS

- Automation by PLC.
- HMI touch screen with flow diagrams and utilities.
- Possibility to work with filtered air or nitrogen atmosphere.
- Aseptic reversing agitators for products with decantation
- Agitation by injection of nitrogen
- Integrated waste reduction in sterilizer system and aseptic tank.
- Seals of mechanical lock by hot water (extending life span of lock.)
- Variator of agitator speed by recipes.
- Integrated stations for reduction of steam pressure.
- Control of packaged product by refractometer.
- Recording of curves and parameters.
- Condensator of sterilization steam.
- Built in AISI 316 stainless steel, in all areas in touch with solutions.

OPTIONAL WASTE RECOVERY KIT

HOW IT WORKS

The waste recovery kit is a system used for reducing waste produced during the pasteurization and sterilization process of liquid products such as milk, juices or the like. The objective is that losses or waste are reduced to a minimum.

The system includes a buffer tank that supplies a thrust sterile gas, such as air or nitrogen, into the return circuit of the pasteurizer system. The idea is to recover the product left in the pipes and exchangers at the end of production stage, and send it to an aseptic tank.

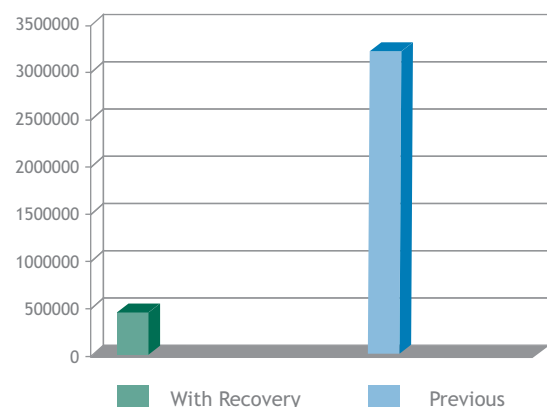
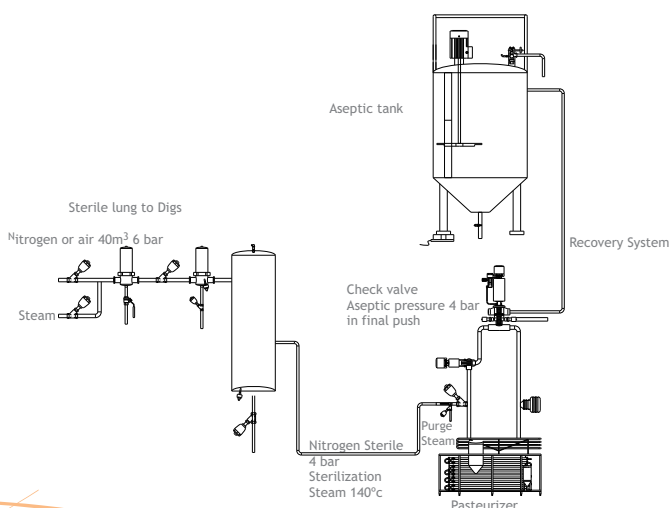
A refractometer linked to the pasteurizer system separates the product from the mixing water. The refractometer sends signals for the activation of the sterile gas from the buffer tank at the end of production.

ADVANTAGES

This waste reduction system (Pat.) allows starting and stopping the sterilization system with a product waste of only 20L.

This is regardless of the type of sterilizer (plates or tubular) and the batch volume. This system is particularly interesting for processing small batches, even smaller than 5 Tn, where the waste percentage increases due to its small volume.

In the graphic below, the difference between a system with and without waste recovery system can be compared:



MachinePoint®

Food Technologies

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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