

# Géminis<sup>®</sup>

## CLEANING SYSTEM CIP



Géminis<sup>®</sup>  
Procesos Alimentarios, S.L.

## APPLICATIONS

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C.I.P. (Cleaning in Place) systems are used to perform a fully automated chemical clean-up of food processing equipment.





## Design

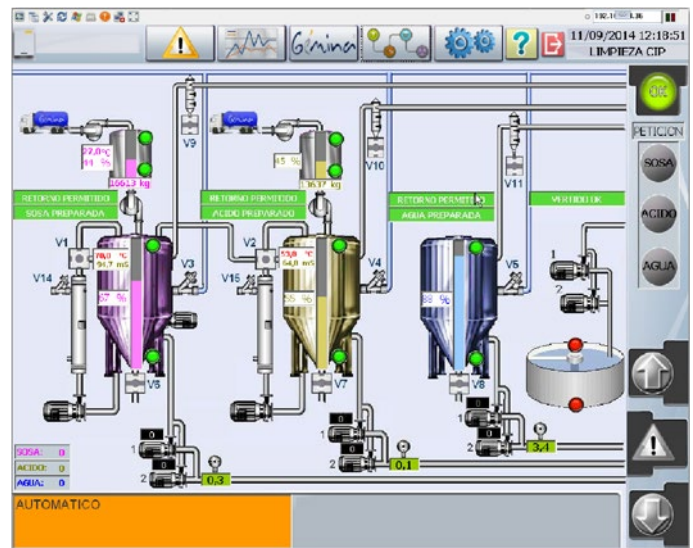
C.I.P. System comprise of several tanks, that contain the various cleaning solutions, normally soda-based alkaline solutions, and a neutralising acid, usually nitric acid.

These solutions are heated to working temperatures and conveyed sequentially through the product circuits.

These solutions are prepared in a completely automatic way through the use of equipment that control the various parameters of interest.

The system controls the perfect functioning of the processes, monitoring temperatures and concentrations in the return of the treatment solutions, as well as their flows rates.

DIAGRAM 1. CLEANING SYSTEM CIP



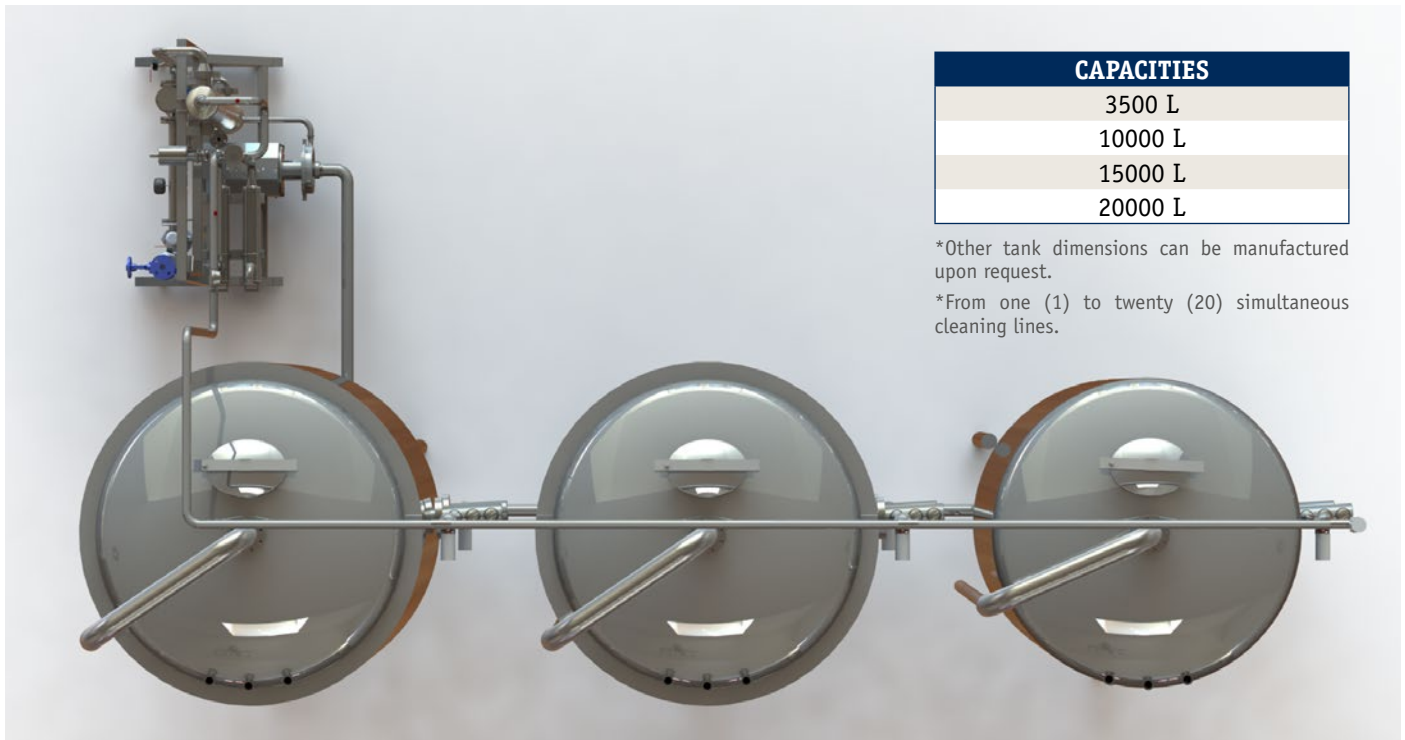
## ADVANTAGES

- Clean-up is executed automatically, which guarantees perfection in execution.
- The solutions are recovered, filtered and reused in the next clean-up cycle.
- Water usage is reduced through the return recovery process.
- Automatically produced records guarantee traceability of the process.

## OTHER FEATURES

- Automation through P.L.C.
- HMI (Human Machine Interaction) touch screen with flowchart diagrams and utilities
- Rotating filters in the return process of 200 microns.
- Integrated steam pressure reduction stations.
- Curves and parameters register.
- Built in stainless-steel AISI 316, in all parts in contact with cleaning solutions.
- Heated auxiliary soda tank.
- Automatic disinfectant injection at the last rinse cycle.
- Flow rate control.
- Temperature control for sent and returned cleaning solutions.
- Control of conductivities of preparation and return.
- Mix-proof valves at entry and return from the system.
- Automatic solution tank clean-up.
- Tubular heat exchangers aligned with output.





CAPACITIES
3500 L
10000 L
15000 L
20000 L

\*Other tank dimensions can be manufactured upon request.

\*From one (1) to twenty (20) simultaneous cleaning lines.

# Solution tanks

Alkaline solution: Soda

Acid solution: nitric acid

Disinfectant solution

Recovered water tank

Raw water tank



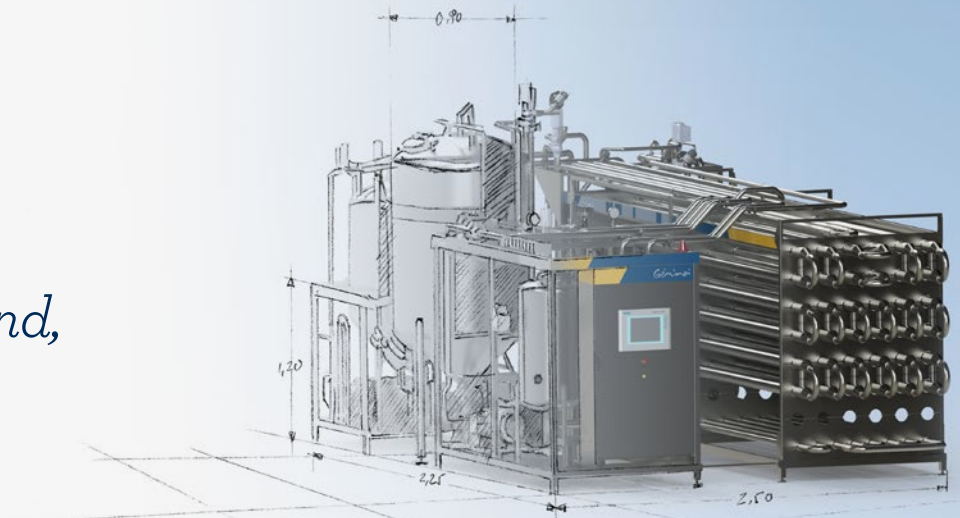
# Our company



GÉMINA Procesos Alimentarios, S.L. is located in Jumilla, Murcia, a spanish autonomous region which is a model in food production.

GÉMINA has 25 years of experience in designing, making and integration of systems which offer innovative solutions for the food sector industry.

*You imagine and,  
we do it.*



## BUSINESS LINES

### Design and manufacture of machinery

- Design, manufacturing and integration of process equipment and food aseptic packing.
- The Manufacture is completely carried out in our installations.
- All our machinery has CE safety certificate and complies with the most exigent standards.
- I+D+i: We bet on technology innovation.

### Engineering and design of processes: Projects management

In Gémina, we love our work and, therefore, our engineering department includes from the design, the calculation, the manufacture, the assembly, the automation and the start up of machines and installations. Therefore, we include a global and integral management of all our projects.

We care of every detail of the process and we advise our clients to optimize their product elaboration procedure. Gémina designs every process adapting it to the customers' requirements and standing out our customers' products among their competitors.

- Versatility and flexibility: we can plan from a plant, a simple line expansion to the installation of an equipment in a process.
- Ability of adaptation to different places and circumstances.
- Our engineering department has a big technical capacity and a long experience in this area.
- Gémina guarantees your success because we manage the whole project, reducing risks, costs and deadlines

# Services Provided

## 1 - Technical assistance service: Alfa-Laval official technical and distributor service

- Maintenance service.
- Installation service.
- Calibrations.
- Replacement parts services.
- "Training" service.
- Online monitoring of production process and breakdown resolution.

## 2 - Automation and Robotics

- Automation of custom-made processes: integral solutions.
- Total Control of the process: SCADA systems, record and control of data.
- Custom-made robotics applications: different solutions for different necessities.

## 3 - Food Quality

- Optimization, development and validation of processing and packing equipment, besides of food elaboration processes.
- Consultancy for implantation of standards such as: BRC, IFS: ISO 22.000, FSSC...
- Product development [process + formula].

# Customer Service

Gémina is characterized by its exclusive and permanent customer service. Our vocation is to become part in an operational way of the companies which we work.

Our closeness, technical competence, wide experience and self-confident are some of the main features why our costumers place their trust into our equipments and services.



# Industries

Industrial sectors where GEMINA develops its projects:

- Dairy industry
- Tomato industry
- Juice and drink industry
- Vegetables and fruits industry
- Citrus fruits industry



# Products catalogue

## Aseptic fillings

Aseptic machine which fills metal drums with pre-sterilised bags which have pressurised cap. Besides, it also fills carton containers

## Bag in box

Aseptic filling automatic feeding of pre-sterilized bags which have pressurized cap and a low volume (1-20 liters)

## Extractors

Processing of a wide variety of products to get a puree free of seeds and peels.

Different methods of using: extractor or refiner

## Heat exchanger

We offer all kind of models and designs, from single-tube to partial ones or rough surface exchangers.

## Forced circulation evaporators

Concentrators which have great capacity and performance for products having great viscosity and a high content in solid matter. Multiple stages which are adapted to the process and needs.

## Hot/cold break units

These units process tomato puree and tomato paste guaranteeing the total or partial deactivation of the pectolytic enzymes and allowing the preservation of the pectine.

## Laboratory pilot plants

Pasteurization and aseptic packing in the laboratory of small product samples, such as juices, soda drinks, vegetable creams, soups, etc.

## Tubular pasteurizer

Project and constructive development of pasteurization plants adapted to different needs.

## UHT

Low-acid liquid products (pH>4.5 for milk pH>6.5) are treated at 135-150°C for a few seconds with indirect heating or direct steam injection.

## Heaters and coolers

Heating of products before getting through treatments such as refining or mixing. Cooling previous pasteurization treatments.

## Cream extraction plants

Cream extractions of all types of fruits and vegetables, in both cold and hot extraction processes.

## Aseptic Monoblock

Integration of an aseptic filling in a pasteurization plant, creating a compact, functional and versatile machine which is adaptable to a wide range of products.

## Crusher

Defrosting of stored products such as fruit juices, fruit and vegetables pastes, creams, sauces and so on.

## Piston Pump

It is conceived to pump viscous products, big particles of products (fruit in cubes or in pieces) or product which are sensible to shear stress.

## Inverse osmosis equipment

Reduction of salinity of salty waters and sea waters.

## Blending room / blending

Blending by recipes from database and transference of process parameters to pasteurizers.

## Emptying of cans by aspiration

Unloading of metal cans and aseptic bags in blending rooms through emptying techniques in very few seconds.

## CIP systems

Cip systems are used to carry out the chemical cleaning of food installations in a completely automatic way.

## Processing tanks

Storage in aseptic packing tanks for high and low ph products, in liquid or viscous products.

## Blending tanks

We have a wide range of vertical and horizontal tanks with different types of shaking and volumes. They are adapted to process needs.

## Storage tanks

Storage rooms in stainless steel tanks having standard volumes or custom-made volumes.

## Finisher or pulping machine

It refines crushed product to remove peels, stems and seeds.

## Hammer mill

It is a grinder of pitted food (vegetables among others) for processing raw material.

## Robotics

Robotic applications in proportion to palletized/ depalletized for the start and the end of processing and packing lines.



Gemina® at your service

**Gemina**®

Procesos Alimentarios, S.L.

**GÉMINA Procesos Alimentarios S.L.**

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Collaboration projects:



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