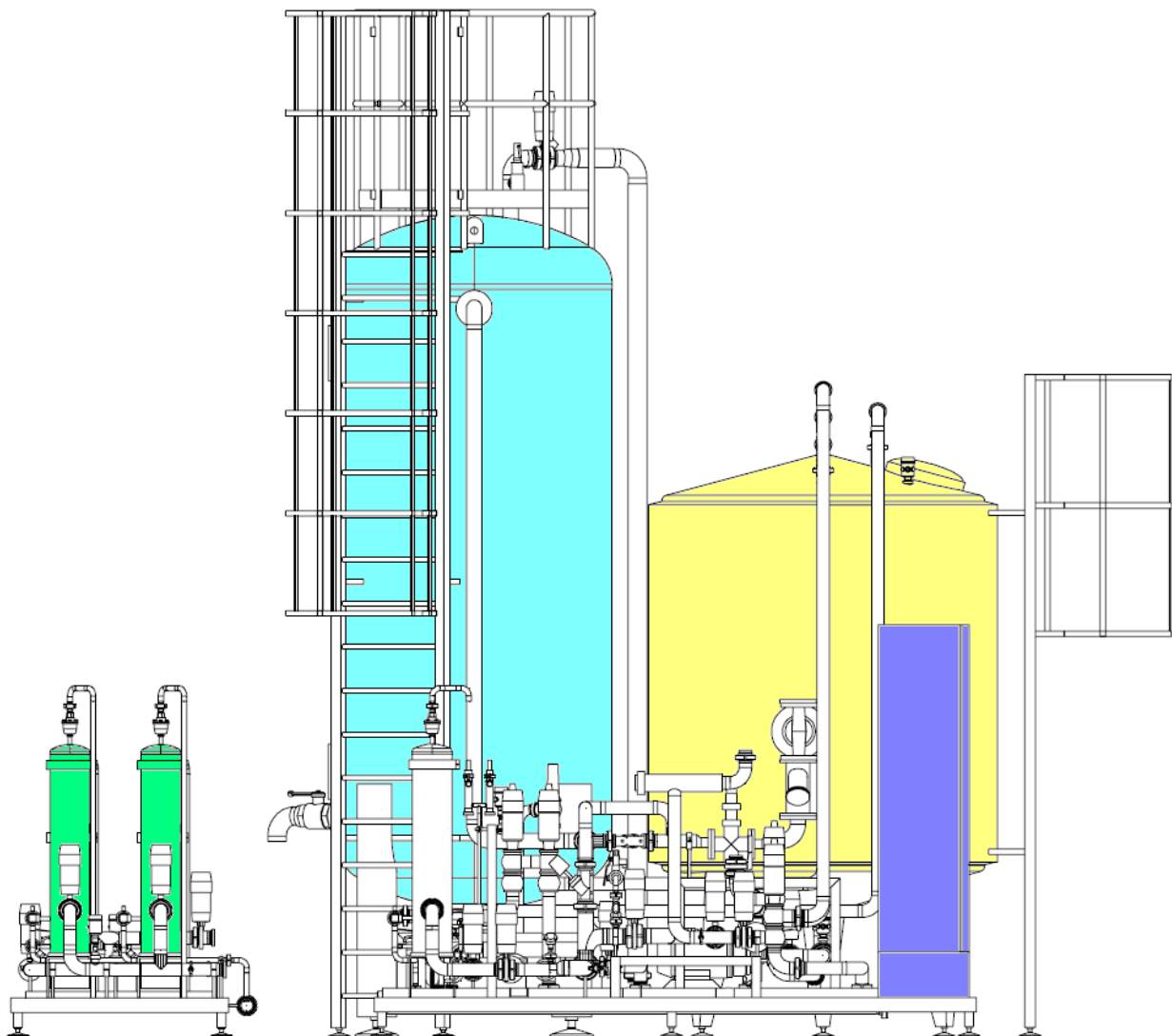


PEROXIDE REMOVAL SYSTEM **UNIREC**

UNIREC is an innovative machine designed and built by GEA Procomac which allows the re-use of the bottle and cap rinsing water by means of removing traces of peroxide present in the water.

GEA Procomac installs the UNIREC on aseptic lines in order to treat in line the recovered water from the rinser and sterilcap. The processed and filtered water by the UNIREC, being without peroxide traces, is recovered for other means; in particular it can be used to power the water pasteurizer.

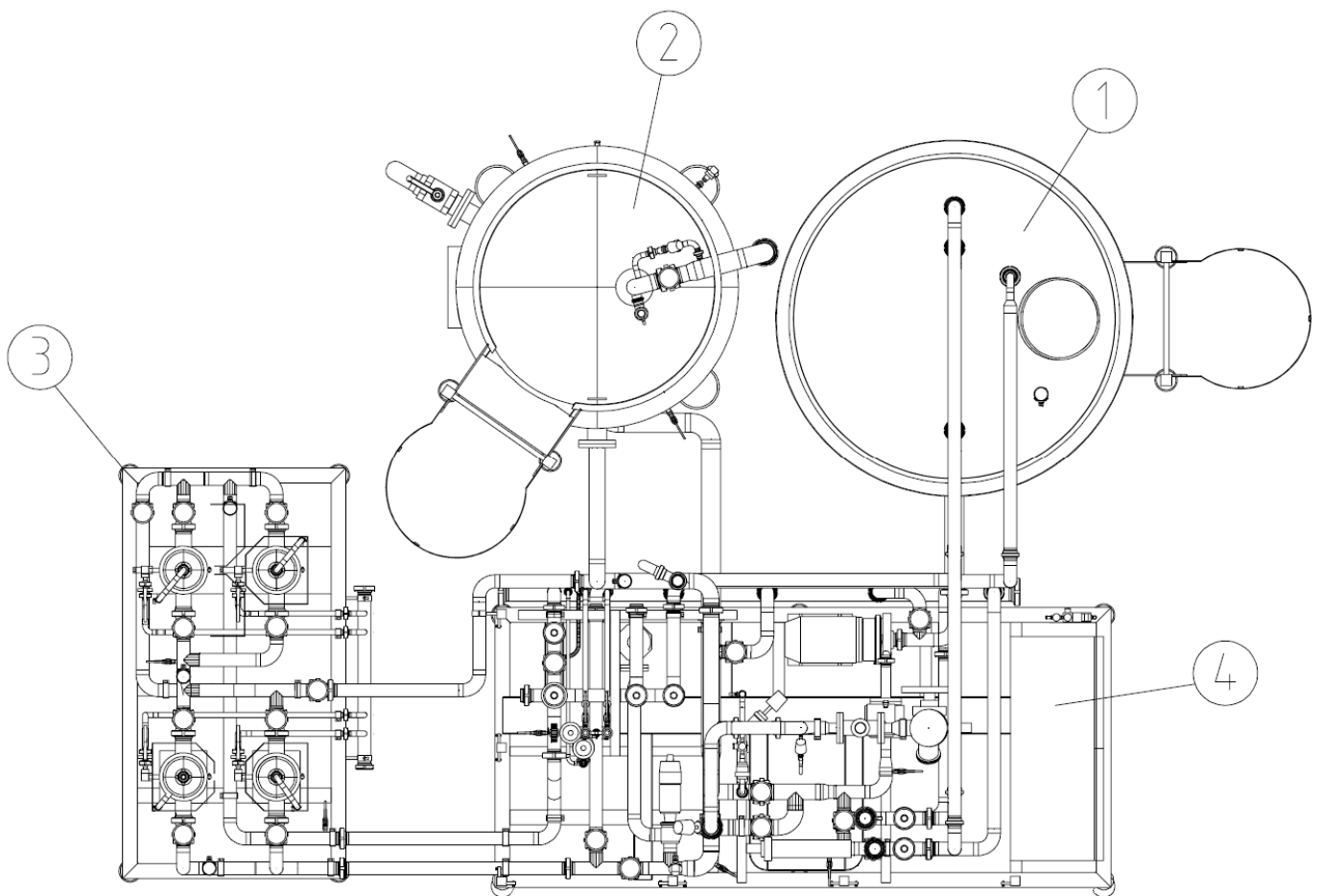
By re-using water from the rinser, the customer will draw a significant economic benefit in terms of water saving and reduction of costs for the disposal of chemicals.



The system is composed as follows:

UNIREC is a modular system consisting primarily of four units :

- 1) Water buffering unit
- 2) Active carbon and peroxide filtering unit
- 3) Final filtration unit
- 4) Electricl panel



1) BUFFERING UNIT

Consists of a filter to remove debris prior to arrival in the water from the plant, by a reservoir containing water to be filtered and a centrifugal pump to re-launch the peroxide filtering unit.

2) PEROXIDE FILTRATION UNIT

Consists of tank containing active carbon necessary to remove peroxides prior to arrival in the water from the plant, by a steam powered unit, needed for the weekly sterilization of the buffering tank and by a nitrogen powered unit for the sterilized steam pushing system after the actual sterilization.

3) FINAL FILTRATION UNIT

Consists of a series of filters for the final water filtration prior to being fed to the used systems.

4) ELECTRIC PANEL

Includes all the equipment (PLC, control systems, synoptic, operating panel, motor command, etc) necessary for the handling

Types of available UNIREC

GEA Procomac manufacturers two UNIREC sizes, for a better adaptation to the various types of aseptic plants:

UNIREC 20 : carrying capacity of water to be processed equal to: **20.000 l/h**

UNIREC 30 : carrying capacity of water to be processed equal to: **30.000 l/h**

For both UNIREC sizes the complete removal of peroxide residual will be ensured considering a maximum water input equal to a maximum of **30ppm**.

OPERATING COSTS

UNIREC has been designed by GEA Procomac in order to enable low operating costs, above all in the aseptic line production stage. In this phase UNIREC requires a low electric power supply besides a low air consumption as well as the supply of treated water to compensate the consumption of bottle and cap rinsing.

In the sterilization stage (which occurs during the start-up of the line, therefore once every 120 hours), UNIREC requires the use of steam and nitrogen. The steam sterilization of the buffering tank avoids the proliferation of the micro-battery charge, thus eliminating the risk of contamination downstream.

These are the indicative UNIREC consumption details :

<i>Electric power:</i>	3 Kw (in production) - 10 Kw (in sterilization)
<i>Steam:</i>	500 Kg (per each sterilization cycle)
<i>Compressed Air:</i>	0,5 Nm³/h (in production) – 10 Nm³/h (in sterilization)
<i>Nitrogen:</i>	100 Nm³/h (only in the sterilization cycle)
<i>Treated water:</i>	4.000 l/h (only in the production cycle)