# KRONES VarioClean
## The CIP system

# Optimal cleaning for processing section and bottling systems

The VarioClean CIP system offers coherent cleaning processes which ensure trouble-free and microbiologically safe operation of a production line. Whether manually or fully automatic, the cleaning concept is designed to perfectly suit the line components to be cleaned. The individual sizes and their speeds cover all tasks required in a bottle cellar, syrup room, or dairy plant. The required number of tanks can be varied depending on the number of media. The tank size and the number of CIP admission pipes are determined by the size of the line and the individual machines to be cleaned.


*VarioClean with three tanks*

# Figures, data, facts



**The configuration of the CIP system depends on the following criteria:**

- Product
- Centralised or decentralised arrangement of the CIP systems
- Manufacturing and bottling processes
- Number of machines to be cleaned
- Line layout
- Degree of automation of the upstream and downstream machines

**Possible configurations**

- Flow rate:
  From 10 to 90 $m^3/h$
- Nine different tank sizes:
  from 1.5 to 24 $m^3$
- One to six admission pipes for cleaning media

**Application**

Interior cleaning of filler, rinser, syrup room, mixer, flash pasteuriser, pipes and tanks

**Output range**

Adjusted to the product performances of krones processing and bottling technology, these systems are equipped with different admission speeds:

- VarioClean 15
- VarioClean 30
- VarioClean 45
- VarioClean 60
- VarioClean 90


*VarioClean in a wine bottling line*

*VarioClean in a beer bottling line*

# Figures, data, facts



**Design features**

- Stainless steel pipes, material AISI 316L
- Stainless-steel tanks, material AISI 304
- Pumps, heat exchanger, and control cabinet mounted on a round tubing
- Hygienic version of fittings, pumps, and sensors
- Temperature and conductivity measuring at the return pipe
- Analogue touch-screen operating concept at the CIP line and the other machines of the bottling line
- Safe access to the user interface using individual transponders
- Interface to the production data acquisition system

**Additional equipment**

- Stainless-steel tanks, material AISI 316L
- Flow meters
- PLC for fully-automatic operation
- Connection to line data storage system (LDS)
- Double-seat valve manifolds for fully-automatic operation or manual panel with pivoting bends

**Possible cleaning media**

- Recovery water
- Caustic
- Acid
- Hot water
- Disinfection solution
- Fresh water

**Dosing of cleaning agent concentrates**

- From concentrate container via suction lance
- Directly from a central chemicals storage
- From central chemicals storage via day tank
- Standard: dosing into the tank
- Option: inline dosing into the piping

*Switching panels*


*Operation via touch-screen – well-arranged and comfortable*

*Double-seat valve manifold for central distribution of the cleaning media*

# Figures, data, facts



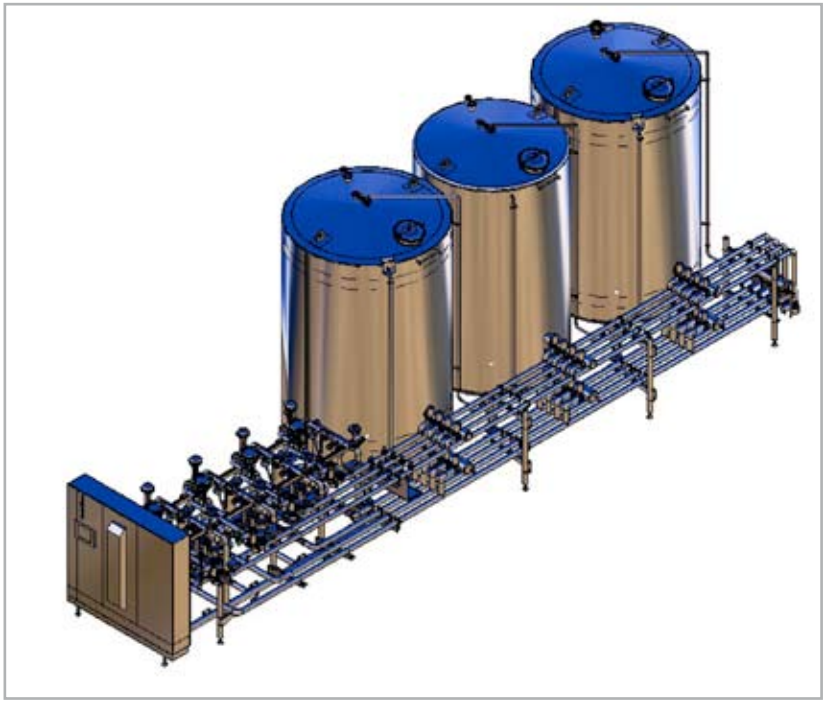
**Manual CIP system**

- Ideal for cleaning manual fillers and mixers
- Each step is started by the operator and is monitored
- Easy and safe operation thanks to well-arranged operating elements
- Display of temperature and conductivity

**Fully-automatic CIP systems**

- Cleaning of fillers, mixers and flash pasteurisers, that are also equipped with a controller
- Highest operating comfort
- Excellent cleaning result via controlling the cleaning processes according to conductivity (concentration), temperature, and time
- Minimised loss of media and waste water via automatic process
- Ongoing comparison of target and actual values, with automatic adjustment

*Manual CIP system VarioClean with on pipe*



*Fully-automatic CIP system VarioClean with four pipes*

# Your benefits

- **Potential for saving media, operation, and time expenditure**
  Consumption of media and waste water is reduced to a minimum by means of automatic control according to the cleaning concentration (conductivity), temperature, and time, including signal transmission to the machines to be cleaned. Also the tasks of the operating personnel and the duration of cleaning are significantly reduced.

- **Quality of components**
  KRONES places importance on the quality of tanks, pipes, pumps, sensors, and fittings. The arrangement of the hygienically designed components on round tubing guarantees a high hygienic level.

- **Quick start-up**
  The comprehensive Factory Acceptance Test (FAT) in the plant enables a quick start-up at the site.

- **Easy maintenance**
  The CIP system is well accessible so that all maintenance and service jobs can be performed easily.