



CIP PLANT

The FH SCANDINOX innovative CIP systems (Cleaning-In-Place) are designed for automatic cleaning and disinfection of processing plants.

CIP TECHNOLOGY

The CIP technology is today very important for the dairy industry and other food industries in which processes must take place in a hygienic and safe environment. Our engineering experts always adapt our CIP systems to the local conditions and to the customers' requirements, but also paying attention to economic efficiency at the same time. Key benefits are food safety, production economy and flexibility. Our CIP systems are designed in such a way that optimal and safe cleaning is always ensured. The CIP plant can be delivered pre-manufactured and ready to be incorporated on site. The benefits are quick assembling, fast commissioning and short downtimes.

FH SCANDINOX offers a comprehensive platform of high standard CIP systems. Pre-manufactured and perhaps also skid-mounted. Our CIP solutions can be automated as an additional safety measure and in order to document and record the CIP operation.

The FH SCANDINOX CIP systems consist of a customised number of stainless steel tanks, usually 4 tanks (pre-rinse – caustic – acid – hot water) but always depending on the individual customer needs and the general sophistication of the CIP system.

ECONOMIC ENVIRONMENT

Recovery of product from process lines is also increasingly important in today's economic environment. Purging can be achieved using water, air or an inert gas and can either be part of a process sequence or the first stage of a CIP sequence.

Although CIP systems are usually fully automated, the process is often a combination of manual actions and automatic sequencing. The automation system records all process parameters involved during CIP process.

As a minimum, a semi-automatic level of control should be applied including feedback from the process plant to indicate that the correct routes have been chosen.

FULLY AUTOMATED SYSTEMS OFFER THE FOLLOWING BENEFITS

- Full integration between the CIP system and the process plant.
- A PLC controls the operations, including valves, pumps, conductivity transmitters, temperature switches, temperature control and the timing sequences.
- CIP of operating routes or tanks containing product.
- Tanks and routes flagged to prevent product operation before a complete cleaning has been achieved.

The use of double seat mix proof valves also enables parts of the plant to be safely cleaned while other parts of the plant remain in production, for example cleaning a product silo while another silo is still sending product for processing. This involves the use of relatively complex valve manifolds. In all cases the protection of the product from CIP fluids is important in order to avoid contamination.

We can also pre-fabricate complete CIP systems in our own workshop. The CIP plant is delivered as a skid-mounted unit ready to be integrated on arrival.

The FH SCANDINOX modern and innovative CIP systems have already been proven successful in many dairies, margarine plants and other related food processing plants worldwide.

MAIN CIP COMPONENTS

- CIP tanks
- Centrifugal pumps
- Flow transmitters and flow switches
- Plate heat exchangers (PHE) or tubular heat exchangers (THE)
- Conductivity transmitters
- Temperature transmitters
- Automatic sanitary seat valves or butterfly valves
- Automatic control and shut-off valve for steam
- Automatic shut-off valve for water



TECHNICAL DATA

Applications:	Dairy, ice cream, margarine, other foods, beverage, brewery, pharmaceutical
Number of tanks:	2-7 pcs
Volume of tanks:	500 l. – 10,000 l.
Capacity:	12,000 - 35,000 l/hour
CIP forward lines:	1 – 6 pcs
CIP circuits:	Up to max 6 circuits per CIP forward line in order to avoid overloading and/or congestion among the routes.
Circulation time:	The period of circulation depends on the degree of fouling and the type of equipment being cleaned.
Pipes and tanks:	Typically 20 min. of caustic circulation.
Pasteurisers:	Typically 40 min of caustic circulation. Acid circulation is normally 10 min.
Operating temperatures:	Typically 50°C In practice, caustic is usually circulated at a temperature of 75°C in order to improve the sanitising effect.
Steam:	At 25,000 l/h: max 970 kg/h, 240 kg/h nominal load - at 300 kPa (3 bar)
Control system:	Siemens or SattLine