CIProcess
Innovative CIP and Process Solutions

An Introduction to CIP, SIP, WIP and COP

What is CIP ?

CIP or in its full form, Cleaning In Place, is defined as a method of cleaning equipment with minimal dismantling and with minimal operator involvement.

Some of the benefits of CIP

Validateable Procedures

Reproducible, Repeatable and Controllable Results

Reduction of Cleaning Time

Automatic cycles ensure every item is cleaned every time

Increased productivity through reduction of down time

Chemical Handling Reduction

Simple Operation

Cost Savings including chemicals, water and effluent, labour time etc.

Improved Health and Safety

Batch Traceability and Records

Stronger Chemicals and higher temperatures can be used over manual cleaning

CIP allows more complex processing systems to be employed, as there is no need to dismantle

Environmental Issues including saving of energy, chemicals, water used and effluent generated.

How does CIP work?

CIP relies on the principal of applying a suitable detergent or solvent at a suitable flow, pressure, temperature and concentration for the correct length of time. The science is based on applying the required amount of energy to the equipment to ensure that it is cleaned. The energy is primarily provided by the solution temperature (thermal energy), the use of detergent or solvent (chemical energy) and the application of suitable pipeline velocities or pressures (kinetic energy).

The Result of CIP

In-place cleaning results in the equipment being chemically clean. This is defined as "the removal of all residues of soil and all CIP agents so that contact with the cleaned surface does not result in physical contamination". If the equipment being cleaned needs to be micro-biologically clean then an additional process can be carried out. This process is called SIP.

What is SIP ?

SIP or in its full form, Sterilising In Place is the generic term for sanitizing, disinfecting or sterilizing equipment normally after a CIP clean. SIP results in the removal of any remaining microbiological contamination.

Chemical SIP

Sanitation or Disinfection is normally applied after the full CIP has been carried out. It is achieved by the introduction of a sanitiser or disinfectant chemical into the final rinse waters of the CIP.

Thermal SIP

Thermal sterilisation is achieved by the application of steam or hot water at a suitable temperature for a suitable time. Thermal Sterilisation has the advantage of affecting areas such as sample points, which may not be treated by chemical means.

What is WIP ?

There is no legislative distinction between Clean In Place (CIP) and Wash In Place (WIP), however the general industry view on the terminology is that CIP means a totally automatic cleaning sequence with no manual involvement, whereas as WIP includes some manual intervention. In practical terms CIP requires high levels of validation, against WIP which requires less stringent validation.

Philosophies and Running Costs

Any of the typical philosophies can be used for WIP and the running costs are similar to CIP. The capital costs, project costs and validation costs are less with WIP.

What is COP ?

COP or in its full form, Cleaning Out of Place, is defined as a method of cleaning equipment items by removing them from their operational area and taking them to the cleaning station for cleaning. CIProcess personnel have developed COP over the last 25 years. We supply cleaning out of place (COP) systems for all duties, including static and mobile versions. Innovative technologies ensure that they are user friendly, efficient, robust and simple to prove and validate. Every COP system is guaranteed to fulfill your requirements and include design, manufacture, automation, programming, installation and commissioning. Standard and custom designed systems are available.

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