

Design of CIP Systems

An entire CIP system consists of a CIP station + CIP distribution lines + the objects to be cleaned.

There are in principle two types of CIP system – **centralized or decentralized**.

Typical components of a Centralized CIP system

Centralized CIP systems are most efficient in small plants where the distances are short between the CIP station and the cleaning objects. Centralized systems are also common in relatively large plants where all CIP activities are handled from a centralized cleaning room with one or several CIP stations. Cleaning liquids and water are then pumped from the central CIP stations to the various cleaning objects.

Decentralized CIP systems

These are more common in large plants where the distances from a centrally located CIP station to the cleaning objects can be extremely long. Instead of using one central CIP room, the decentralized CIP system utilizes several distributed CIP stations positioned close to the cleaning objects. In a decentralized CIP system, it is still common to handle the detergent concentrates centrally. They are then individually distributed to the CIP stations. In a food plant there are many cleaning objects that should be grouped into larger clusters based on what types of cleaning they demand – for example, cold and hot surfaces – since several cleaning stations are often needed.

Cleaning of equipment handling non-heat-treated food – raw products, for example – should preferably be separated from the cleaning of equipment handling heat-treated food. This is to avoid contaminating surfaces on the processed side with potential surviving bacteria and spores from the raw side, by using the same cleaning liquids on both sides.

CIP Delivery Systems – Multiple delivery system

1. Caustic Tank + Dosing + Heating
2. Acid Tank + Dosing + Heating
3. Fresh Water Tank
4. Re-Use Water Tank

