

CIP SYSTEM

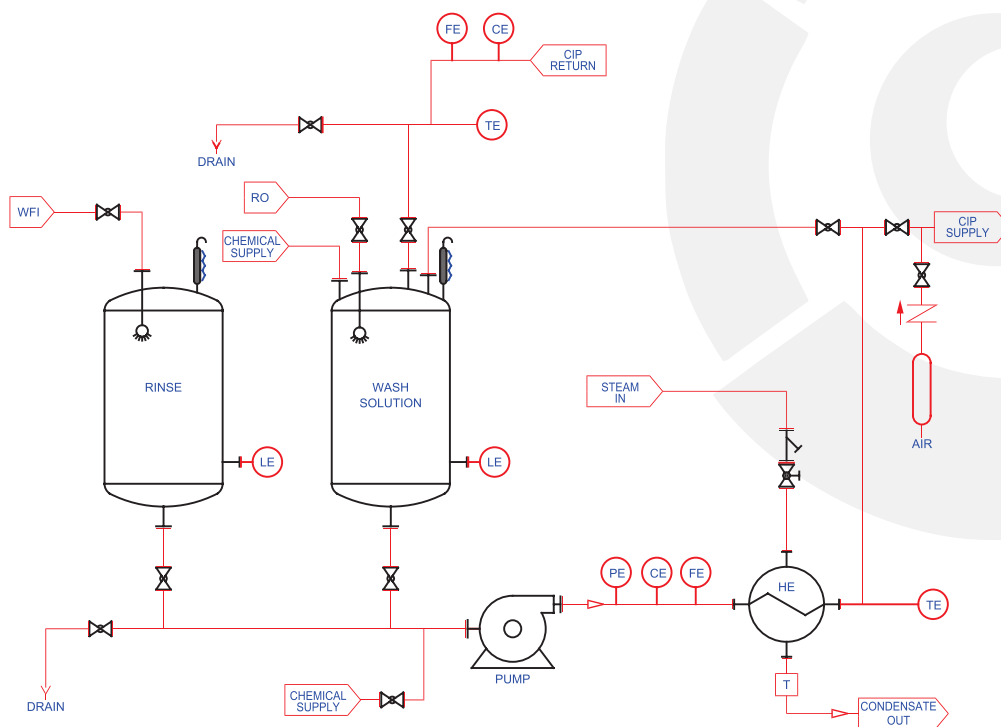
Pharmaceutical manufacturing process equipment are generally cleaned using a strategic CIP system design that meets ASME-BPE standards; CIP plays an vital role in optimizing the cleaning and validation processes.

Designing a CIP system begins by sizing for sufficient flow and pressure to thoroughly remove residue, reduce cycle times, and rinse effectively.

Clean-in-Place (CIP) Systems are either manual or automated for cleaning the interior surface of process lines & vessels, tanks mixers, blenders, homogenizers etc., without dismantling the equipment. Thorough, repeatable in-place cleaning is mandatory as per cGMP and critical to the quality of product.

We have in-house automation programming experts to design each CIP program to optimize cycle times that get you back into production faster, while reducing chemicals, water use and operating cost.

CIP Systems are available in from Tank to Multi Tank or dual operating, custom built and engineered, both in flameproof and non-flameproof.



TYPICAL SCHEMATIC DIAGRAM FOR CIP SYSTEM



Our CIP System are engineered to your specific plant application, flameproof and non-flameproof, layout and utility requirements for effective and efficient sanitary process equipment cleaning. Our application specific CIP design and sizing ensures sufficient flow at appropriate pressure to thoroughly remove any residue and rinse effectively, in short cycle times.

BATCHING BLENDING

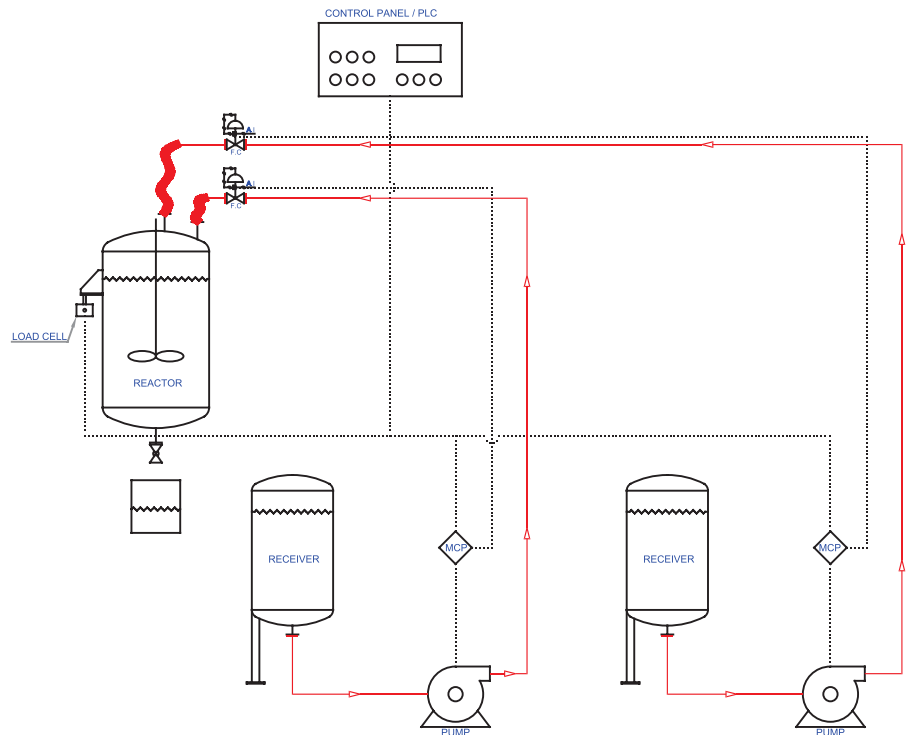
Blending systems

incorporate ingredients into a continuous product stream utilizing flow meters, positive displacement pumps, flow control valves and static mixers. Our experience in designing, fabricating and installing batching and blending mix tanks and kettles can help you with a wide variety of processes, including dosing of liquids, slurries, gases and bulk solids via loss-in-weight and gain-in-weight designs. We utilize a variety of flow-meter and load cell technologies, and can customize a variety of blending systems from agitation to low and high shear mixing. Tanks and custom agitators can be skidded for specific applications.

Batching systems

include make-up (batch) tanks in which liquid and dry ingredients are added, blended. The batch is then transferred to a use tank, where it is pumped at a controlled rate to the use point. Systems can also be configured with combined, alternating batching/use tanks to allow one side to be in production while the other is cleaned and batched. This approach can sustain continuous operation in support of the downstream process.

Success in the increasingly competitive manufacturing business takes more than the latest technology or equipment. It requires a strategy that can increase efficiencies, reduce costs and generate profits — constantly and consistently. Metal Plants is dedicated to helping customers be more competitive and profitable by developing innovative technologies and strategies, using experts in their fields and encouraging mutually beneficial alliances with leading system integrators, control system manufacturers and customers.



TYPICAL SCHEMATIC DIAGRAM FOR BATCHING & BLENDING

- Enhances batch, blending and filling control systems
- Increases material transfer speed and control
- Improves manufacturing capacity and quality
- Reduces manufacturing waste
- Measures and sustains performance and improvement
- Increases profitability and competitiveness traditionally