GEA CIP-STAR® CLEANING-IN-PLACE CONCEPT

CIP concept for increased plant availability
in the complete brewery.

Engineering
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world.

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INCREASED PLANT AVAILABILITY IN THE COMPLETE BREWERY.

GEA presents its innovative cleaning-in-place concept GEA CIP-STAR® and demonstrates the advantages in a direct comparison with the conventional CIP process.

Savings of up to 30 % in the brewhouse

Conventionally, brewing vessels are cleaned in sequence - mash tun, lauter tun, pre-run tank, wort kettle and whirlpool, prior to an additional manual caustic brew to clean the piping. In contrast, innovative CIP upgrade concepts consider CIP as a brewing recipe and therefore provide combined vessel and pipe cleaning, thus eliminating the need for the caustic brew.

By direct comparison, the CIP system in a well-known German brewery was prepared for the existing cleaning method in exactly the same way as for the modernized cleaning process:

- Same chemical concentration, same temperature and same filling levels
- All counter readings in the process control systems were reset (operating times of the pumps, water meters and flow meters for the cleaning concentrates)
- Between the cleaning steps, additional dosing of caustic and acid was required once to ensure cleaning efficienc

At the end of brewhouse cleaning, all cleaning agents in the CIP tanks were concentrated again to restore the initial situation and thus allow a direct comparison of the two different methods.

Occupation times, electric power consumption as well as the consumption of cleaning agents, H_2O_2 cleaning intensifiers and water were determined for the cleaning processes of both concepts.

Your benefits at a glance:

- Upgrade of CIP processes results in a time advantage of at least 3 hours and thereby reduces labour costs
- Production processes and CIP processes in the brewhouse can run simultaneously
- Reduced consumption of cleaning agents due to elimination of caustic brew
- Reduced power consumption during cleaning
- As product-safety is ensured in the complete pipe system, production can start earlier – additional capacity is created
- Useful instrument to boost production – with only few mechanical modifications
- Maximum equipment utilization, particularly in peak times

Savings in the cold process area

CIP processes and systems are a vital element in modern breweries. In view of rising costs, particularly for fresh and waste water, CIP systems have recently been in the focus of interest to identify possible saving potentials. Hoewever, for reasonable savings by means of equipment optimization certain criteria have to be met. When it comes to the cleaning of equipment, vessels and pipes in a brewery, the major criterion can only be perfect cleanliness and hygine.

The CIP system is used to clean the parts of devices, pipes and vessels in contact with the product. It consists of several storage tanks, e.g. for caustic, acid and disinfectant solution, including the required valves, pumps, measuring devices and heat exchangers. The intelligent combination of energy efficient components and cleaning processes results in improved plant availability, which ultimately means a higher capacity.
Your benefits at a glance:

- Individually engineered for your needs
- Reduced consumption of cleaning agents and water due to the use of high-performance components and innovative cleaning procedures (i.e. small water barrier between the different cleaning agents)
- Minimized energy consumption
- Easy handling and minimized service intervals for a long life

Conclusion

Cleaning does not end at the brewhouse, nor does it begin in the cold process area. CIP is an essential part of beer production.
The GEA CIP-STAR® provides significant advantages in terms
of energy costs and consumption – the combination of all areas ensures maximum plant availability and a reductionof energy consumption peaks to a minimum.

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