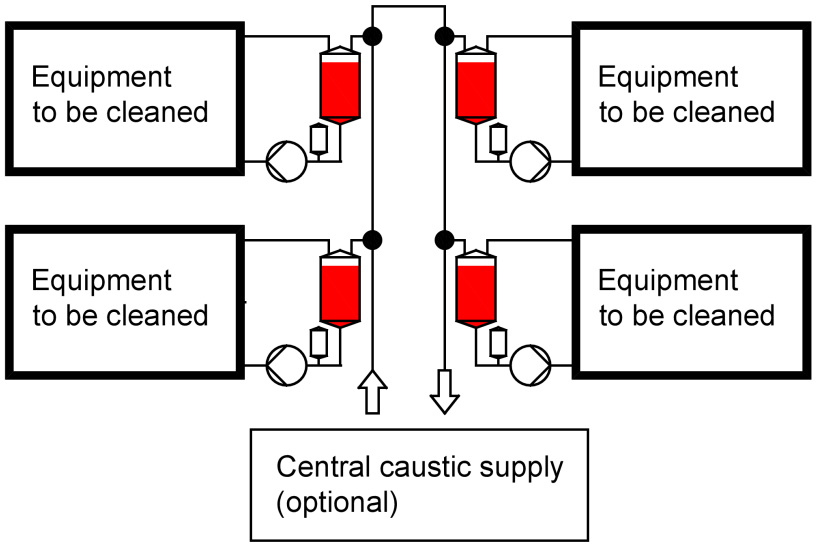
Decentralised CIP, a truly clean matter

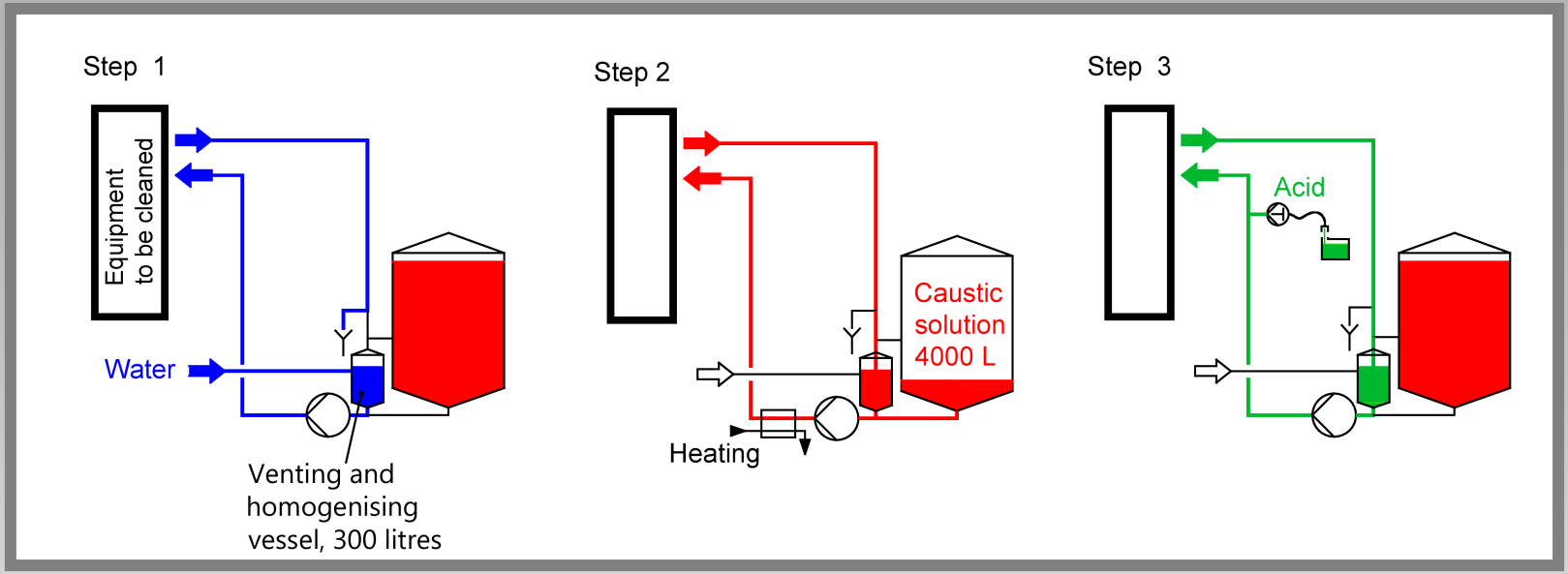
Unobtrusive yet with huge advantages. The principle of these CIP systems originates from the dairy industry. By purchasing our decentralised CIP system, the user of a production facility lays a significant building block for maintenance of product quality right from the start. The decentralised CIP is installed within the respective production areas and it has exclusive responsibility for the cleaning of this area. Cleaning agents which are applied can as a rule be used more frequently than with central CIP systems as the spread of impurities into other process systems is ruled out. There are, however, further advantages worthy of mention. The systems are considerably more compact as only the main cleaning agent is used on multiple occasions (stored). Investment and installation costs are low and the rinsing losses are much lower than they would be for central CIP systems due to the short pathways. The CIP cleaning can also be started at any time. This is in contrast to a central CIP system where several production areas may be waiting to be cleaned and may be queueing up under certain circumstances. Switching to our decentralised cleaning system is, however, primarily a measure which will increase quality.



4 x "Decentral CIP" in a factory

See also: *http://interupgrade.com/en/food-industry-news/604-lebensmittelindustrie-news-30*

The original concept of decentralised cleaning came about in order to maximise cleaning quality in large companies. Our decentralised CIP will also be of great interest to small companies. In smaller companies it is possible to carry out all cleaning operations with a single decentralised CIP system. The customer hereby combines the highest possible standard of cleaning with a low investment volume.



The figure is greatly simplified. Please request the process description with real flow diagrams.

Process description

In the first stage of the process, water is used to flush product residues out of the equipment to be cleaned. The small compensation tank also makes it possible to circulate and heat up. The venting, volume extension (caused by heating) and the homogenisation of the chemical concentration take place in the compensation tank. Once thorough pre-cleaning has been completed, cleaning with an alkaline solution (e.g. 1% NaOH) takes place. The alkaline solution is the main cleaning agent and there is a re-use tank just for this (tank for repeated use of the cleaning solution which is applied). The alkaline solution flushing stage is guided through the compensation tank and not into the caustic tank. The very low volume of liquid used can be heated up quickly and with little energy expenditure.

The subsequent acid stage (e.g. 0.5% HNO3) is used only once. Depending on the desired effect (removal of adhesions, neutralisation or sterilisation), the acid solution is “sharpened” inline. The parameters (temperature, throughput, concentration of chemicals) can be adapted precisely to the respective task inline with our decentralised CIP. While the consumption of chemicals and energy is therefore inconceivably low, outstanding cleaning outcomes are still achieved.

Our decentralised CIP has a modular structure. Our system for single use of the cleaning solution acts as a basic module [1]. This system is ideal when system areas with a high degree of contamination need to be cleaned and repeated use of the cleaning solution is ruled out. Our “decentralised” CIP has just one additional tank [2]. The main cleaning agent can now be used repeatedly.

There is also the possibility of collecting the rinsing water which may have been used prior to the sterilisation stage and then using it as pre-cleaning water for the next CIP cleaning. To do this, a second big tank is necessary [3].

[1]

[3]

[2]

It is possible to extend the system depending on the space available and the desired cleaning concept.

Model sizes:	Capacity, max.
Type 50	< 15.000 litres/h
Type 65	< 24.000 litres/h
Type 65 for the meat industry	< 24.000 litres/h
Type 80	< 36.000 litres/h

Tank sizes:

The cleaning agent should not be re-used too frequently in order to ensure high quality of cleaning. The re-use tank selected should therefore only be as large as is absolutely necessary. We recommend tanks with a capacity of 3000 to 8000 litres.

Accessories:

We particularly recommend our dosing station for chemicals. Robust pneumatic chemical dosing pumps are used, which are fully controlled by the system PLC. No settings are made on the pumps themselves. The dosing pumps are shielded from the environment by a stable acrylic glass hood which can easily be removed.

A swivel bend panel (or a corresponding valve cluster) is also required for switching the flows and returns. If you place an order, we will implement the complete piping plan for incorporating the CIP system free of charge.

We take care of the complete process. This is the case even if we are only responsible for the CIP system. Customers can rest assured that we leave nothing to chance.

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