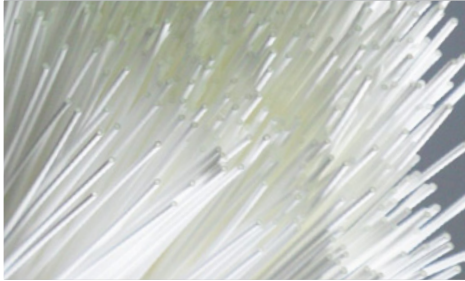




NIJHUIS AECO-CIP RECOVERY

Recovery and Reuse of CIP liquid



Integrated process solutions to recover resources are crucial to achieve the increasingly demanding environmental requirements to create a more sustainable way of operating beverage plants.

The **Nijhuis AECO-CIP** recovery unit is a plug & play packaged recovery system to treat spent CIP solutions (i.e. hot soda based). While the CIP agents and heat remains in the recovered stream, the organic fouling, solids and part of the inorganic soluble content will be captured by special membranes and concentrated prior to disposal. The system can be applied for both caustic, acid and enzymatic CIP solutions. Typical hydraulic recovery of 75 to 90% can be achieved.

We realize **modular packaged** AECO-CIP plants with capacities between 0,5 to 10 m³/hr. In order to determine to best economical and sustainable solution, we can also consult you with i-CONSULT laboratory services to investigate your specific situation.

APPLICATIONS

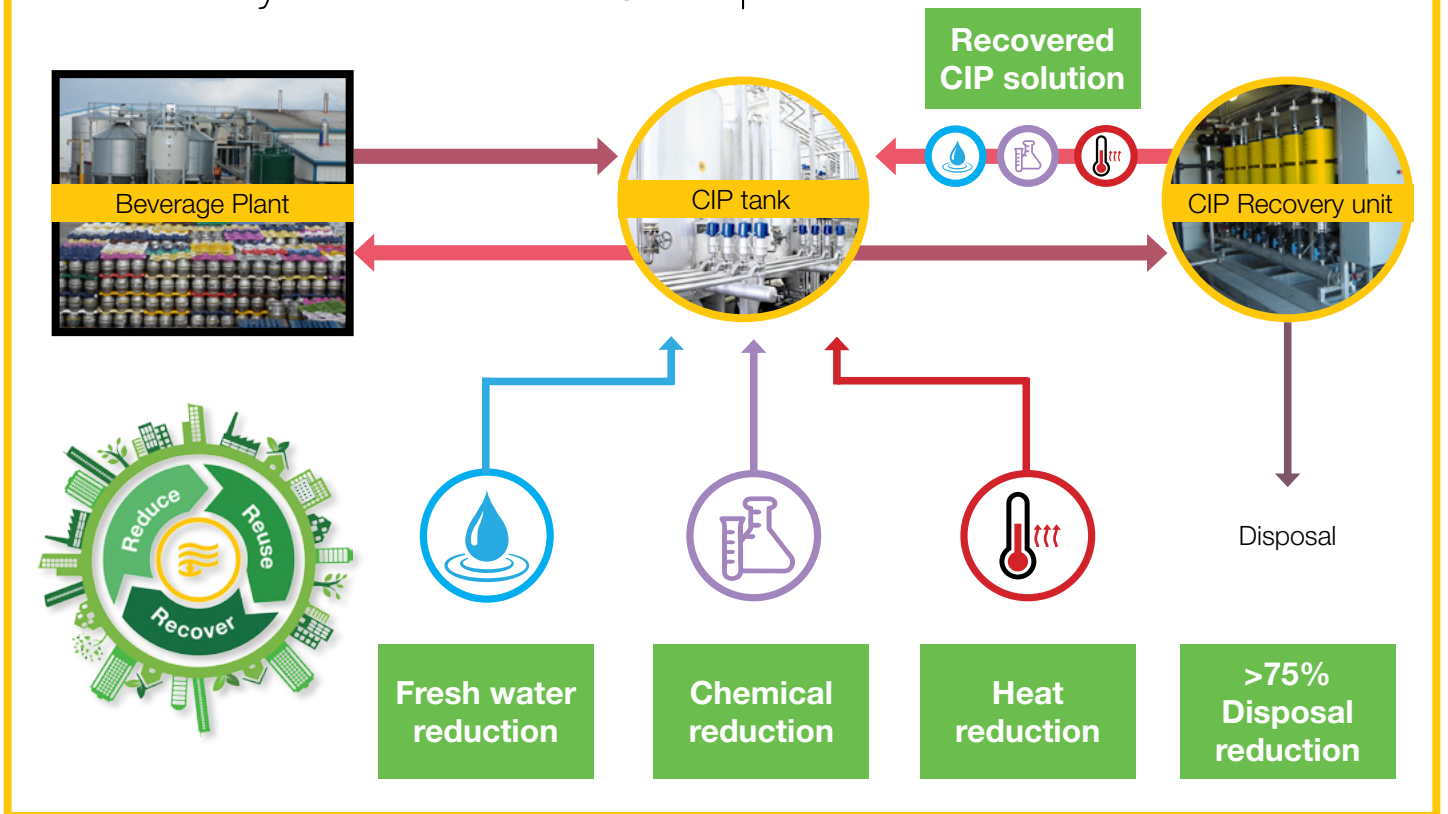
- (Craft)Breweries
- (Sparkling) Wine & Spirits
- Milk & Liquid milk products
- Fruit juice
- Liquid food, Soft drinks & Water
- Coffee

CUSTOMER BENEFITS

1. Recover CIP solutions by membrane cleaning
2. Low energy consumption by NDNF membranes
3. Reduce waste disposal costs
4. Retain CIP-energy by smart integration of heat exchangers
5. Reduced fresh make up water, chemicals and heat
6. Increased CIP availability by shortened preparation times

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The Nijhuis AECO-CIP recovery unit is equipped with Nijhuis Direct Nanofiltration Membranes (NDNF), which are specially developed for CIP recovery solutions and are based on hollow fibre nanofiltration.

The special nanolayer determine the rejection and flux properties of the membrane for CIP solutions. Subject to client specific needs, the membrane retention can be adjusted.

The hollow fiber configuration provides a low fouling operation as the filtration flow is not obstructed by spacers as used in spiral wound elements. This will reduce pre-treatment requirements as well resulting in low energy operation.

Additionally, the NDNF can be backwashed to reduce the need for special cleaning and operation at very high and low pH ranges. This results in a significant reduction in capital and operating cost, while reducing the footprint of the installation.

These valuable clients already choose for the Nijhuis sustainable beverage approach, **are you next?**

