

RECP Best Practice Catalogue

Reuse final water rinse of CIP as pre-rinse
Developed within the framework
of MED TEST II



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Best Practice - Reuse final water rinse of CIP as pre-rinse

SECTOR:	Food & Beverage
SUBSECTOR:	Manufacture of dairy products
PRODUCTS	UHT milk and pasteurized juices
CATEGORY	Process control or modification
APPLICABILITY	Utilities
COMPANY NAME	--
COMPANY SIZE	Medium

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Description of the problem (Base scenario):

The final step of the CIP process is to rinse with clean water. This water is currently sent to drain and thus represent an economic loss as it is clean water without any contaminants which could be reused again.

Description of the solution

The suggested action is to reuse this amount of clean water as the first cleaning step in the next CIP process (Pre-rinse) in order to reduce water consumption. This requires the installation of collection tank with sieve, filter, pump and all necessary piping and fittings.

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Economic Benefits

Water saving is calculated by knowing the CIP pump flow rate, and the duration of first rinse, together with the frequency of CIP. The water saved is about 25,039.5 m³/y (22% from the baseline)
Water cost saving = 7,136 Euro/y

Environmental Benefits

Amount of final water rinse is 25,039.5 m³/y
The implementation of this measure will save on water by about 22% from the company original baseline consumption.

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Capital investments & financial indicators

Total estimated cost for (tank, filter, sieve, pump) would be 5,000 Euro.
Payback period is 0.7 year

Suppliers

Local suppliers

Other aspects

The collection tank should be cleaned weekly with caustic soda to prevent any growth of bacteria.

Implementation

This measure is planned to be implemented by the company.

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Replicability sectors	The same concept can be replicated in: Dairy industry. Any other food industry that required frequent CIP process
Aspects to investigate for replicability	Water balance to know the amount of water dedicated for CIP process. CIP pump flow rate Duration of first rinse Number of CIP times per day.
Useful resources	BAT Guidance Note for the Dairy Processing Sector
