

RECP Best Practice Catalogue

*Matching the water quality with the needs
Developed within the framework of MED TEST II*



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is
funded by the European Union

Best Practice – Matching the water quality with the needs

SECTOR:	Food & Beverage
SUBSECTOR:	Manufacture of dairy products
PRODUCTS	UHT milk; flavoured UHT milk; Twist; Beverages
CATEGORY	Process control or modification
APPLICABILITY	Utilities
COMPANY SIZE	505



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Description of the problem (Base scenario):

The company uses reverse osmosis water for external cleaning of equipment, floor cleaning in production workshops as well as in locker rooms. Reverse osmosis water is not required for these uses, water from the potable water system is of sufficient quality.
This use of osmosis water leads to overconsumption of raw water and energy.

Description of the Solution

The improvement measure involves connecting the workshops and locker rooms to the potable water system in order to use the water from this system to replace the osmosis water.
This requires the installation of an internal HDPE water system with a centrifugal pump, pressure sensor and variator to ensure the water withdrawal from the water tank and its distribution to the different points of use.
During its operation, osmosis water generates 15% in effluent, which is discharged to the sewer. The substitution of osmosis water for potable water reduces water consumption by 15% for the aforementioned uses.



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Economic Benefits

Reduction of water consumption in the locker rooms by 2,737.5 m³/year, or a financial savings of 1,354 €/year

Reduction of water consumption for the cleaning of the workshops by 3,285 m³/year, or 1,625 €/year

Financial savings from not using RO water:
Volume of water treated x cost of treatment = (18,250 + 21,900) m³/year x 0.24 €/m³ = 9,630 €/year

This is a total savings of 12,610 €

Environmental Benefits

Energy savings from not using RO water is 3 KWh/m³, or 120,450 KWh/year

Reduction of GHG emissions of 80.7 tons of CO₂/year

Water savings of 6,022.5 m³/year

There is a reduction in the amount of waste water sent to the sewer

Health and safety impact

Not relevant



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Capital investments & financial indicators	Cost: 2,250 € Return on investment: 0.18 year
Suppliers	Local suppliers of sanitary plumbing materials, centrifugal pump, pressure sensor and variator. Installation done by the maintenance department.
Other aspects	No technical barriers, no impact on product quality
Implementation	The action has been implemented



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