AQUADYN® Ultrafiltration Modules

For the Beverage Industry

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MICRODYN NADIR

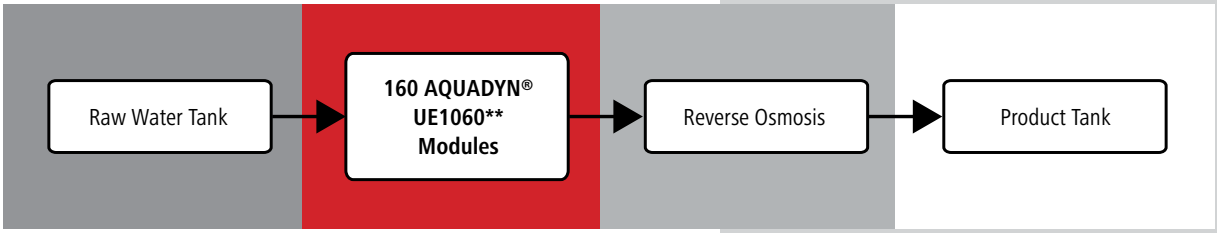
ADVANCED SEPARATION TECHNOLOGIES

AQUADYN®
Ultrafiltration Modules

For the Beverage Industry

Water not only is the basis for life on earth but is also one of the main ingredients of beer.

Depending on the feed water source specific treatment of the raw water is needed before it can be fed into the beer production process. One of the largest beverage companies in the world located in the northeastern part of Brazil needed a new and reliable water treatment process to fulfill this requirement.



This project involved a variety of challenges, however, the main goal was to provide a more compact system with a lot smaller footprint than the previous treatment system. The existing system included a flocculation, a settler and a filtration step. Additionally, the new treatment plant needs to absorb possible variations in the raw water composition while delivering constant effluent quality.

The feed water for the company´s beer production is sourced from a nearby river and contains low levels of suspended solids and turbidity but high levels of chloride (brackish water). In order to reach drinking water quality before using the water as base ingredient of the beer, two different kinds of membrane technologies where applied.

The ultrafiltration (pressure-driven hollow fiber) removes suspended solids, algae and microorganisms and reduces turbidity. The downstream reverse osmosis step was applied to reduce dissolved solids, such as chloride, sodium, hardness and other ions. Backwashable 200 µm screen filters serve as pre-treatment to the ultrafiltration step.

Thanks to the replacement of the previous system by this two-step membrane filtration, the customer now has a very compact system delivering constant high effluent quality. The excellent effluent quality of the UF step (feed to RO) results in less frequent cleaning intervals of the RO system which minimizes the chemical demand for cleaning and subsequently extends the lifetime of the RO membranes. Beside the comparatively low plant construction costs the system also offers low operating costs.

ADVANTAGES

- » low construction costs compared to traditional water treatment plants
- » low operating costs
- » low chemical consumption
- » compact system
- » constant effluent quality

Project specifications*

	Feed Water	Effluent
Turbidity	11 NTU	< 0.5 NTU
TSS	~ 60 mg/l	~ 1.0 mg/l

Plant design (UF)

Commissioning	May 2013
System	UF
Module type	AQUADYN® UE1060**
Amount of modules	160
Total membrane area	10,400 m²
Capacity	7,200 m³/d

Note: *Values given are dependent on feed water quality **NSF Approval

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