

Application Example

Monitoring of Vapor Water Turbidity Measurement in dairy industry



Example of a spraying tower

Products – Manufacturer

Precision and perfection..

Innovative Automation

Do you have a vision that should come true?

We look forward to the Challenge!

Turbidity Measurement

Automation is our passion, discover the Seli turbidity measurement devices of the STS series

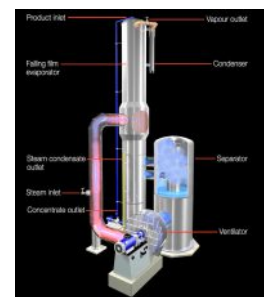
In the dairy industry, milk powder is produced in various quality levels.

The vapor water generated during the drying of the raw product previously had to be completely disposed of. Today, this vapor water can be treated by various methods so that it is available again for further applications.

This means that considerable amounts of fresh water can be saved in production.

This also reduces wastewater pollution significantly.

An important aspect of using the treated vapor water is monitoring for solids and dirt. This can be monitored through the targeted use of turbidity measurement technology.

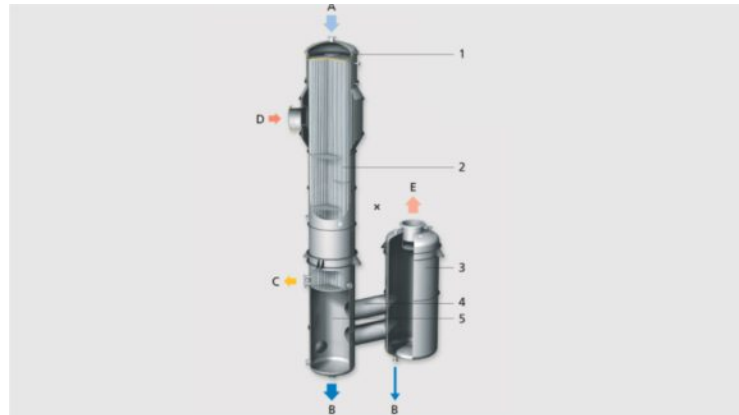


Example of a evaporator

Innovative Automation.

Application Example

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A = Product, B = Concentrate, C = Condensate, D = Hot Steam, E = Vapor; 1 = Head, 2 = Radiator, 3 = Separator, 4 = mixed channel, 5 = Radiator (Lower Part)

Representation of a vacuum-vaporiser

In order to reach the end product powder, the delivered liquid product is concentrated in several steps. In the evaporation plant, then under vacuum the water is carefully removed from the product.

In a heat recovery system, the energy is extracted from the steam generated during the concentration and evaporation of the product, whereby it condenses to vapor water. This has a relatively high water quality and contains only a small amount of organic parts. Many dairies dispose of their vapor water.

From an economic and ecological point of view it makes sense, using this water as process water, for example for cleaning systems. In order to prevent repeated infection by the vapor water, a disinfection is necessary. However, the temperatures in the uninsulated storage tanks are only around 20 to 30 ° C, where germs could multiply very quickly. The obtained vapor water must therefore be treated before further use.

Various methods such as dosage of chlorine dioxide applied before it is passed on to the respective production steps.

The treated vapor water can be used, for example, as rinsing water in CIP systems or as feed water for energy generation.

In addition to the treatment, a turbidity meter should be used to monitor the vapor water for any product inclusions or contamination before each further use in the respective systems. For this purpose for simple monitoring our sensors from the STS01 series can be used as well as our measuring devices from the STS03 series.

With the sensors of the STS01 series, an optical path length of 20mm or a maximum of 10mm should be used due to the low turbidity in order to detect rapid increases in turbidity and to ensure the fastest response. A calibrated measuring device from the STS03 series should be used for quality control. If there are parts of the system that are not cleaned, the optic of the devices could be contaminated in the long term. Then it would be recommended to use our SAW830 cleaning fitting with a matching STS02 sensor or the measuring device STS04 .

If you have any further questions, please do not hesitate to contact us.

Link: Funktion Eindampfer:

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