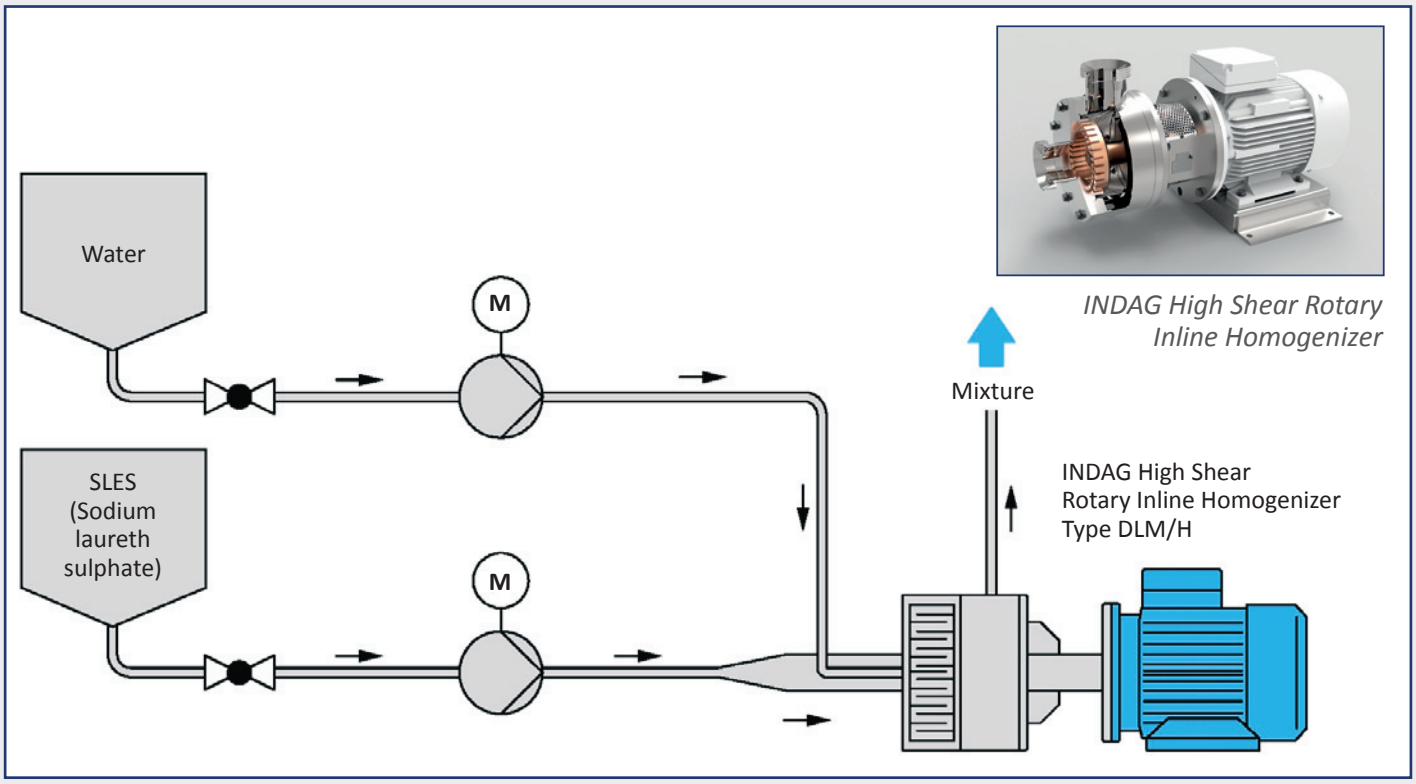
Case No. 105A
Sodium laureth sulphate (SLES) dilution





INDAG High Shear Rotary Inline Homogenizer

Flow diagram: Typical installation of INDAG High Shear Rotary Inline Homogenizer for SLES dilution

Process Description

Sodium laureth sulphate (SLES) is a surfactant and is used in most cleaning products, such as shampoos, soaps, detergents and similar. SLES is usually used in a concentration of 25 to 27%. „Highly concentrated“ surfactants, usually with a concentration of 70%, are often more readily available and offer advantages in transport and storage due to their lower water content. They are also more resistant to bacterial contamination. However, they must first be diluted before use.

Highly concentrated SLES is easily pumpable, but forms a highly viscous gel when combined with water or air at a concentration between 27-55%, which is considered „not processable“. Therefore, the mixing task is a fast, very efficient mixing of SLES in water to dilute the highly concentrated phase. Both process streams must be combined as close as possible in front of the mixing elements of the INDAG High Shear Rotary Inline Homogenizer so that no „gel nests“ can form.

Advantages

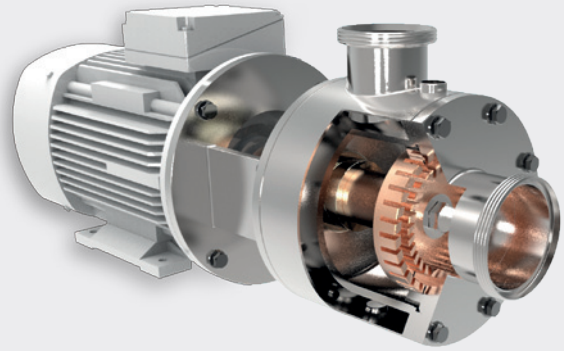
- **Diluted product could be directly processed on next production step or can be stored in tanks;**
- **Mixing in a close system avoids introduction of air;**
- **The INDAG High Shear Rotary Inline Homogenizer creates a homogeneous mixture in one pass;**
- **Hygienic design according to our knowledge in sanitary food applications;**
- **Highly efficient mixing within parts of a second.**

Case No. 105A
Sodium laureth sulphate (SLES) dilution

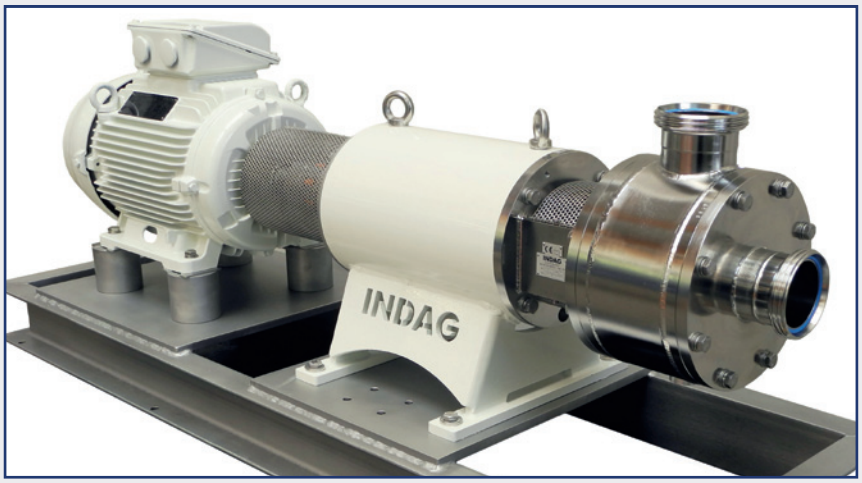


The INDAG Homogenizer is made of AISI 316L and has sufficient torque to introduce mixing energy/shear rate into the product even in the high viscous phase.

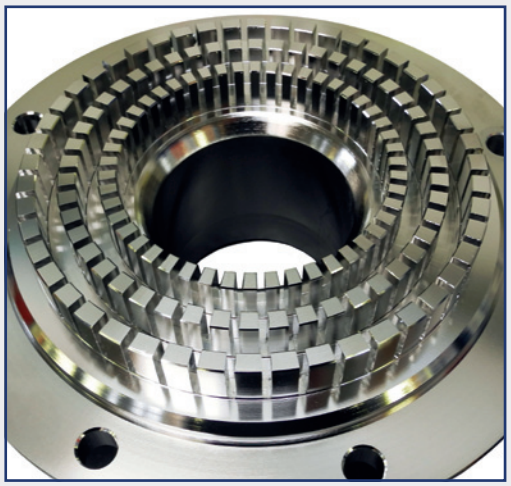
The INDAG Homogenizer manages to achieve an absolutely homogeneous dilution of SLES and water in one pass. This diluted mixture can now be used for the production of various cleaning or washing agents. For this purpose, further additives such as perfumes, enzymes, dyes, brighteners, alcohols and various other substances are added to the mixture. For this pure mixing task INDAG recommends the use of an INDAG Intensive Rotor-Stator Continuous Mixer type DLM/S, which is presented in a seperate case study.



INDAG Homogenizer with view on mixing elements



INDAG Homogenizer with own bearing block



INDAG Homogenizer mixing elements

Comparable application with a similar process and the same mixer

- Continuous production of shampoo, soaps or detergents in an INDAG Intensive Rotor-Stator Continuous Mixer

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