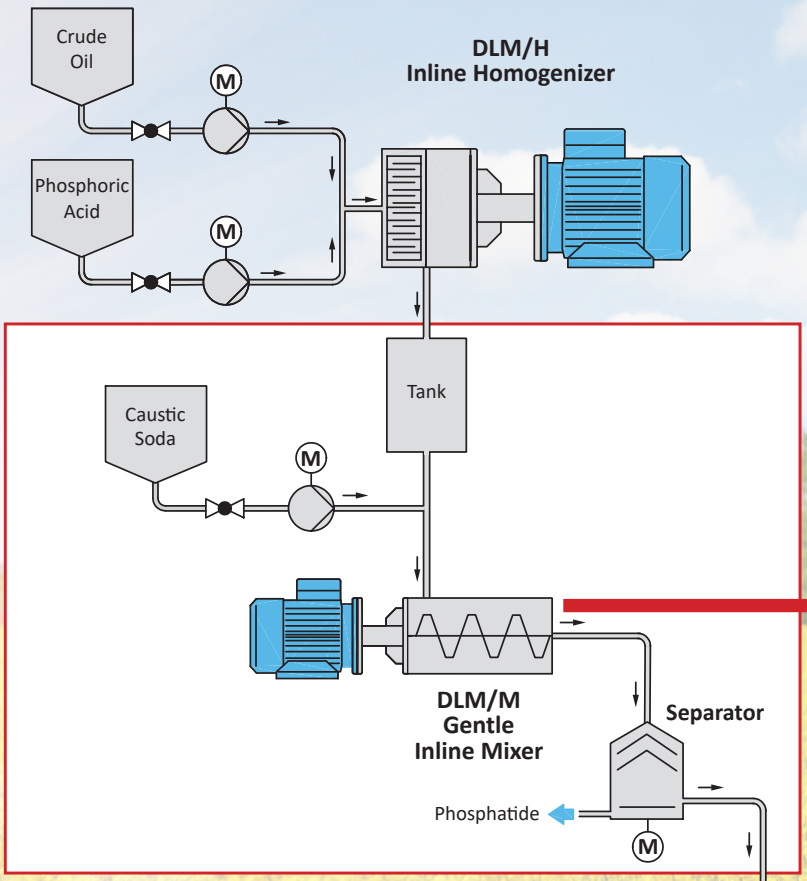
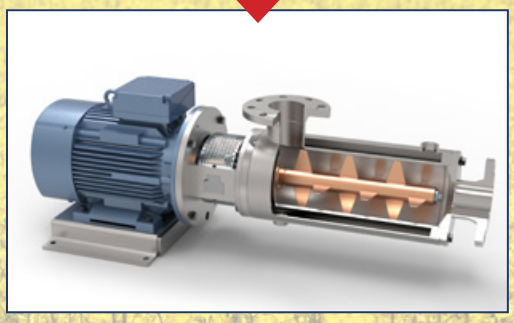
Case No. 509A
Vegetable oil neutralisation





Vegetable oil refining
Step 2





INDAG Gentle Inline Mixer, type DLM/M

Case No. 509A
Vegetable oil neutralisation





Process description

After the addition of phosphoric or citric acid in the previous process step, the phosphatides are bound to the acid. This **second process step** serves to neutralise the added acid in the vegetable oil. This is done using caustic soda (NaOH). The quantity and concentration of the caustic soda solution depends on the pH value of the oil and is not decisive for the selection of the mixer.

The caustic soda and the oil are miscible with each other; high shear forces are therefore not required.

In this process step, the Gentle Inline Mixer, type DLM/M, is used in this process step. This slow mixer is ideally suited for mixing the media well. A side effect is that the mixer shows very little wear on the mechanical seal due to the low speed.

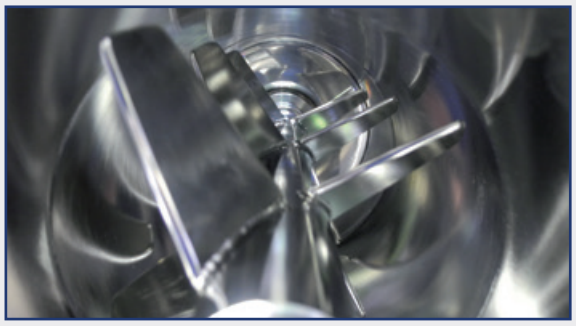
After mixing in the caustic soda to neutralise the acid, the phosphatides are separated in a centrifuge.

INDAG offers the inline mixers in hygienic or industrial design, just as the process requires.

The previous process step of vegetable oil degumming, as well as the subsequent process step of 'washing' is described in a separate INDAG case study.

Advantages

- **Improve oil quality**
- **Special single acting or double acting mechanical seal arrangement to maximize lifetime of the seal.**
- **Cost efficient equipment solution for this process step.**
- **Same spare parts for the INDAG mixers in all vegetable oil refining process steps.**
- **More than 70 year of experience in manufacturing dynamic inline mixers.**



View of the mixing elements of the INDAG Gentle Inline Mixer, type DLM/M

Comparable applications with a similar process and the same mixer

- Crude vegetable oil degumming with acid
- Vegetable oil washing by water
- Biodiesel production glycerine separation by adding methanol and catalyst
- Biodiesel production stop transsaponification by HCL adding

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