Fatty Acid Splitting

Projects Completed:


Process Description:

Degummed acid oil is pumped from the storage tank to the splitting plant. In the fat splitting process, The pretreated fat is pumped to the pre-heater where it is heated up by means of steam. The heated oil goes to the high pressure fat pump and into the bottom of the splitting column.

Demin/dearated process water is fed to the top of the column also with the use of a high pressure pump resulting in a countercurrent flow and reaction with the fat. High pressure steam is injected into the column to provide the necessary heat. Typically the reaction takes place at 55 bar and 260°C temperature and without the aid of a catalyst. The process is continuous and glycerine water is continuously discharged from the bottom while split fatty acids are discharged from the top of the splitting column.

The fatty acids go to the flashing vessel where the heat in the fatty acids causes the water portion to evaporate into the pre-evaporator to recover the heat and economize on energy. The fatty acids is dried further in a vacuum vessel and pumped out for further processing.

The glycerine water goes to a flashing vessel then to the decanter to settle and skim off any fatty matter. The glycerine water then goes to the pre-evaporator. Condensate is sent to the process water dearator tank and back as process water for the fat splitter completing the cycle.

Process Flow: