FATTY ACID PLANT FROM SUNFLOWER SEEDS
(Helianthus Annuus)
WITH CONTINUOUS COUNTERCURRENT
HYDROLYSIS PROCESS

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Abstract
The purpose of fatty acid plants was established is to meet the demands of domestic users (industrial). Fatty acid and glycerol is a versatile chemical and have a very high sale value.

The process of making fatty acids from sunflower seed oil with continuous countercurrent hydrolysis process divided into 3 stages: pretreatment stage, hydrolysis stage and purification stage. The selected process in the manufacture of fatty acids from sunflower seeds oil is using continuous countercurrent process because it produced the highest conversion and reaction time is short enough. In addition, by using a continuous process that opponents can produce a uniform product quality, yield high acid, glycerol concentration (bottom product) is larger, more accurate and automated process control, and the fill material and a constant utility. From the purification process also produced by-product glycerol.

This fatty acid plant is to operate continuously 24 hours per day with a period of 330 working days per year. The main product of fatty acids is 10 000 kg/day or 3300 tons per year, while the by-product Glycerol as 1009.145 kg/day. Supply of water for water sanitation 1.375 m³/h, 0.296 m³/h boiler feed water, cooling water 2.738 m³/h and 0.221 m³/h water process. Thus, the total overall water demand 1.931 m³/hr. Liquid waste
from factories in the form of phosphate gum, while the solid waste are sunflower seed cake and sludge from the utility unit.

**Keyword**: Fatty Acid, Sunflower Seed, Hydrolysis Process