



SUNSEED ENGINEERS



VEGETABLE OIL REFINING

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## INTRODUCTION

**SEPL** - Technology provider and Plant & Machinery Supplier for Edible Oil refinery, Cotton Seed & Soya Preparation Plant, Solvent Extraction Plant, and Physical Refineries.

**SEPL** is a professionally managed Indian Private Limited Company promoted by experienced technocrats having long experience in edible oil industry, cotton seed processing, project management and exports.

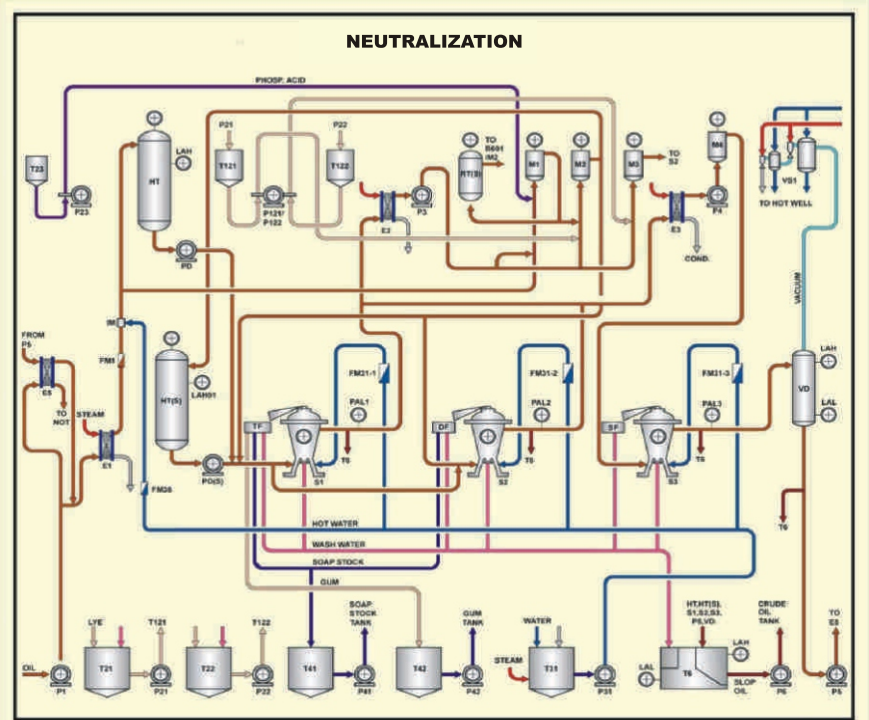
**SEPL** provides technology and machinery for Cotton Seed & Soybean preparation, Oil Milling, Solvent Extraction, Vegetable Oil Refining, fractionation and Esterification process. The head office is located at Pune, India and is accessible by Road, Air and Dry Port.

**SEPL** provides economical state of art technology and support to meet world standard quality with optimal operating cost.



## NEUTRALIZATION PLANT

Vegetable Oils like Soya, Sunflower, Cottonseeds, Rapeseeds etc. are first subject to the process of degumming. Here phosphotites in the oil are hydrated with water and then removed by separating in the centrifugal separators. The degummed oil is then subject to neutralization with caustic soda where the free fatty acids are converted into soap and are separated in hermetic separators. The neutralized oil is then washed and dried.





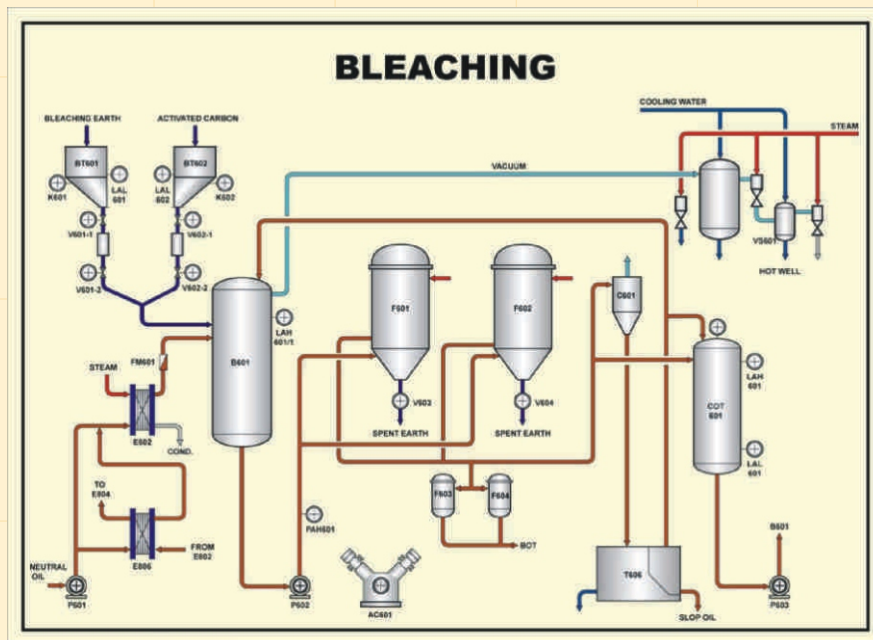
## BLEACHING PLANT

The neutralized oils are mixed with adequate quantity of bleaching earth dosed through an accurate dosing system.

The mixed oil is then transferred to a bleacher where oil under vacuum is agitated with steam. This also imparts the wet bleaching effect.

The oil is then filtered through pressure leaf filters. The filter leaves used are in special stainless construction with the mesh imported from reputed suppliers.

The filter have special pneumatic vibrators for discharge of the cake and special butterfly valve for easy opening and discharge. The bleached oil produced has very low phosphorous levels and no soap.



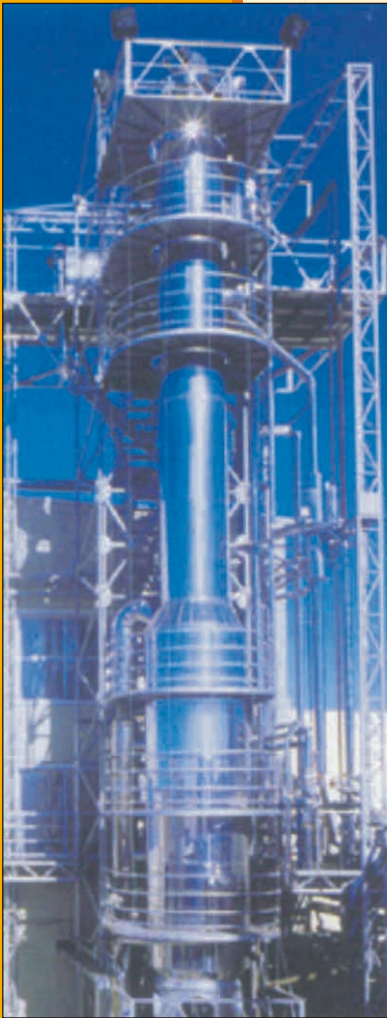
## WINTERIZATION PLANT

This process is applied specially to sunflower oil with lower wax content. The bleached oil is cooled through oil-to-oil heat exchanger and then pumped into crystallizer where small amount of the filter aid like ELITE is dosed. The oil is continuously kept at low temperature which aids crystallization of waxes.

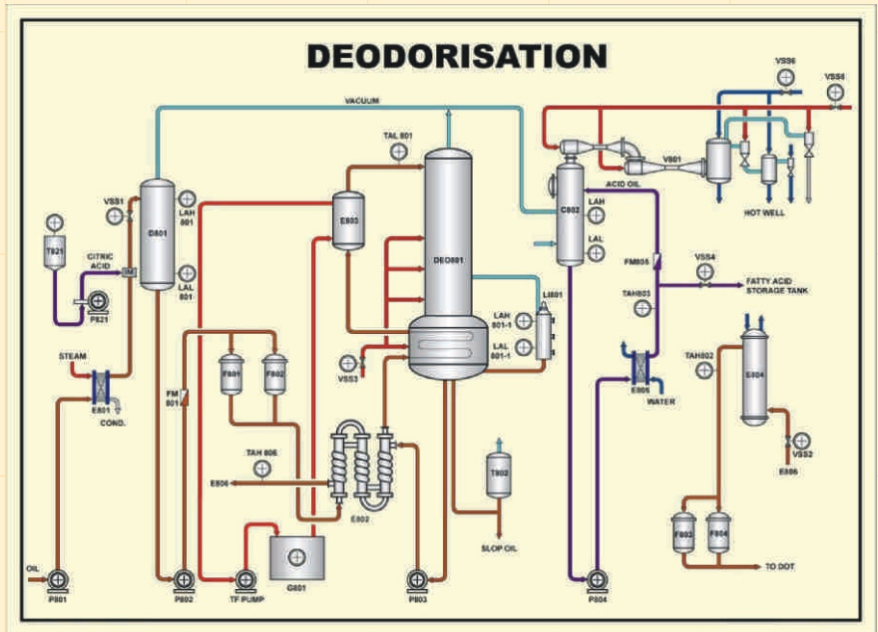
The crystallized oil is then fed to a maturator for further improvement of the wax crystals. The oil is the pumped into a pressure leaf filter where the filter aid retains the wax and clear dewaxed oil is produced.



## DEODORISATION PL ANT



Multistage Deodorisers are in stainless steel construction with heating and cooling oil under vacuum. The Deodorisers have special sparge steam nozzles and mammoth pumps for uniform and aggressive mixing of steam and oil. Heating arrangement both with thermic fluid heating system or with high pressure steam thermosyphon are available. Adequate retention time is provided for light colours. Refined oils produced have high retention of tocopherols for stability of refined oils produced.



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