

# Physical Refining



**We Offer the following Plants from  
Concept to Commissioning**

- Continuous Degumming ❖**
- Continuous Neutralisation ❖**
- Continuous and Batch Bleaching ❖**
- Continuous and Batch Deodorising ❖**
- Physical Refining ❖**
- Dry Fractionation of Palm Oil ❖**
- Vanaspati Plant ❖**
- Dewaxing ❖**
- Soapstock Acidulation ❖**
- Fat Splitting and Stearic Acid ❖**

**PEGG CONSULTANT & ENGINEERS PVT. LTD.**

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### Physical Refining Process

Refining Process of Vegetable oil comprises mainly neutralisation of free fatty acid, removal of colour and removal of odour. In chemical refining process, this is done by addition of caustic soda to oil, which converts free fatty acids into soap stock, which is then removed as by product during the refining process. The soapstock is further processed to convert it into acid oil by treatment with sulphuric acid. The process involves several water washes in the neutralisation process as well as in soap stock acidulation process and this results in high production of effluent water.

Secondly, during the neutralisation process caustic soda also saponifies neutral oil into soap and this results in high refining losses.

In the case of Physical Refining, as the name suggest, the free fatty acids are physically removed without changing

their form during the process of deodorisation, which is steam distillation process. But before this is done all other impurities are to be removed in the Degumming and bleaching process. Since no caustic soda is used there is no saponification and this results in overall lower refining losses as compared to chemical refining process. Since no chemical neutralisation is there and no soapstock is formed, there is no effluent generated. Thus no costly effluent Treatment plant is required.

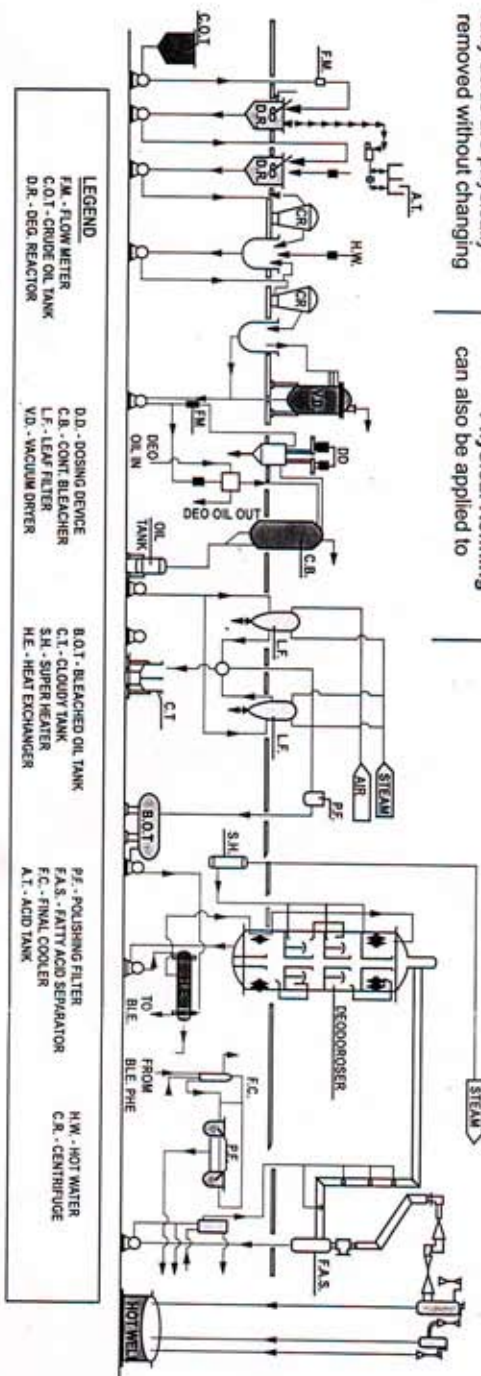
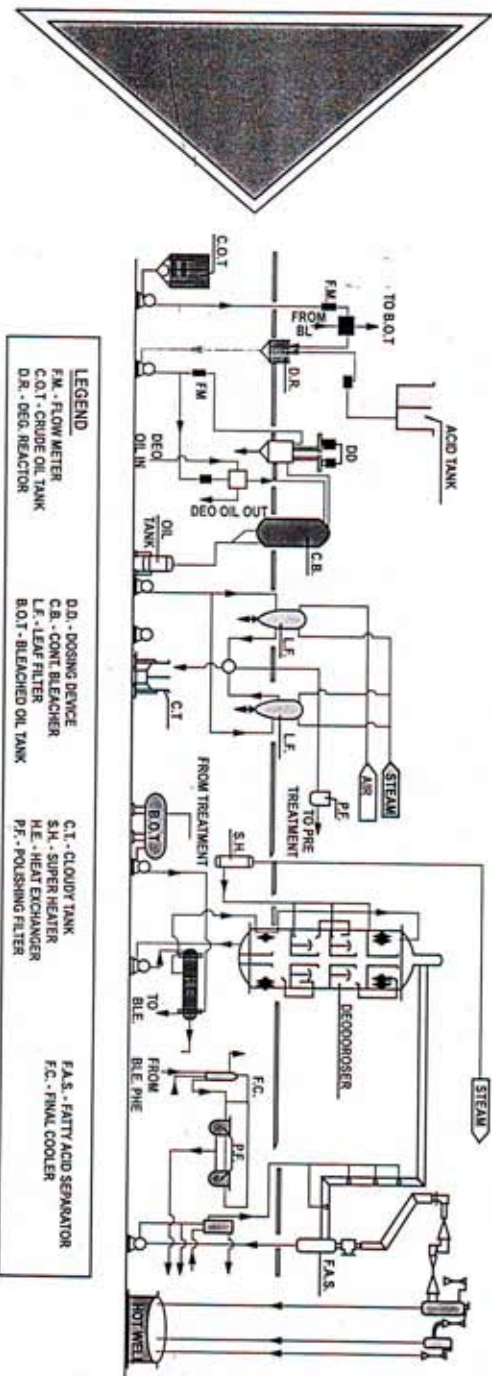
Physical Refining is an excellent process for oils like palm, palm oilen, palm kernel oil since they have very lower percentages of gums but high percentage of free fatty acids. These oils have excellent heat bleachability property, i.e. the colouring bodies are removed at high temperature during the process of Deodorisation / Deacidification.

Physical Refining can also be applied to

other oils like soyabean, rapeseed, coconut etc. after proper wet degumming using centrifugal separator with proper removal of gums. PEGG Group has a vast experience in the physical refining of various kind of oils, which includes palm, palm oilen, palm kernel, soyabean, rapeseed, rice bran oil etc. The Group is pioneer in the field having supplied first physical refining plant in India for a very difficult Rice Bran oil.

PEGG technology is the best technology but simple and non-complicated and achieves maximum colour and FFA reduction compared to any other plant but at the same time they are easy to maintain and give excellent result.

### PHYSICAL REFINING FOR PALM KERNEL, PALM AND PALM OLEIN OIL.



### PHYSICAL REFINING WITH WET DEGUMMING FOR OIL LIKE SOYABEAN, RAPESEED ETC.