A unique Bleaching Concept

Sparbleach® Technology

- High, uniform product quality assurance
- Reduced bleaching earth consumption in comparison to bleachers using mechanical agitation
- No moving parts, i.e. no need to stock replacements for expensive mechanical seals or gearboxes
- Heating using steam heated coils means a significant reduction in maintenance
- Easy access for routine maintenance and savings in labour costs.
- Oil recovery from filter cake by steam blowing
Purpose of bleaching
Bleaching is the process operation which is carried out before deodorisation.

In addition to colouring matters, the bleaching treatment using activated earth will remove residual phosphatides, metals, soaps and oxidation products.

Bleaching in 3 stages
Over the latest years, the aim of a state-of-the-art deodorising became:

Bleaching is performed in 3 stages:

- Initial mixing of oil with bleaching earth under controlled conditions of temperature, acidity and humidity for a specific residence time.
- Secondly the oil is heated under vacuum with sparge steam to ensure proper mixing with bleaching earth for a specific residence time.
- Finally the mixture is pumped through hermetic leaf filters with stainless steel mesh elements followed by polishing filtration.

Spent cake is dried by steam blowing to remove the oil from the wet cake.

De Smet unique SPARBLEACH
The originality of Sparbleach® is that the adsorption of coloring matters by the bleaching earth is enhanced by means of sparge steam resulting in a significant saving in bleaching earth.

The Sparbleach® is a two stage vessel. Oil/earth mixture is introduced under vacuum into the top stage where it is heated and continuously agitated by injected sparge steam.

The dispersion of earth at optimum conditions of: vacuum temperature combined with steam agitation of the oil mass ensures ideal conditions to start the adsorption process. The bottom holding compartment where the decoloration is completed is equipped with an arrangement of partitions ensuring uniform residence time and sparge steam distributors.
... simply the best in class

Optional Technologies

Equipment for palm oil pretreatment including mixing with phosphoric acid and calcium carbonate, with respective dosing unit and reaction vessels.

Equipment for pretreatment of acid degummed oils, including mixing with citric acid, with respective dosing unit and reaction vessels.

Bleaching earth dosage controlled by « loss in weight system » combined with mass flow meter for oil flow to ensure minimal bleaching earth consumption.

Automation of the filter operation

A complete PLC based automation of bleaching plant with automatic product change.

Dosage units for activated carbon, silica adsorbent or filter aid with respective mixing devices.

Vacuum production using water-ring pumps in place of steam ejectors.

Sparbleach 2000® Process
Sparbleach® management...

Centralised Supervision

Easy management
Whatever the size of the plant, the various processes used in bleaching are easy to manage today, thanks to the rational approach offered by computers and programmable logic controllers.

Reduction of risks
Automation serves various purposes, among which we would like to mention the reduction of risks attributable to human mistakes, the obtention of a better and constant quality, superior yields, reduced consumptions and a higher degree of safety.

Any framework of any network
The framework of automation networks – to which it is easy to add other digital systems – is so flexible that numerous solutions exist, for both new and old plants. These networks do meet the requirements of all the processes used today.

Permanent follow up
Centralised supervision is the most efficient tool to permanently follow production.

Overall view
The method, using selected softwares, continually offers an overall view of the ongoing activities and of their historical account.

Reports
- Analogic reports
- Reports on variables
- Preventive maintenance reports
- Production reports: flowrates, quality controls, etc

Easy to analyze, these reports are the undeniable witness of the complete activity of a process.

No data unattended
Central supervision is the ultimate management tool that leaves no data unattended.

Large experience in automation systems

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For more information on Sparbleach® Technology for your specific process, contact your local Desmet Ballestra office!