

# A unique Bleaching Concept

Sparbleach® Technology



## Main features

- 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

Oils & Fats  
Oleochemicals

desmet ballestra

*Science behind Technology*

www.desmetballestra.com

# Desmet Ballestra Sparbleach 2000®...

## 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 :

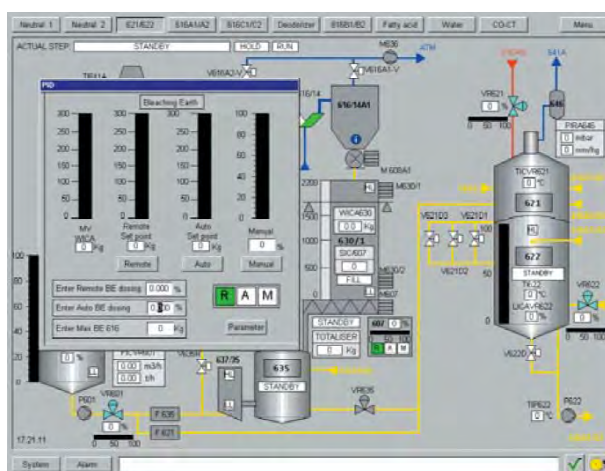
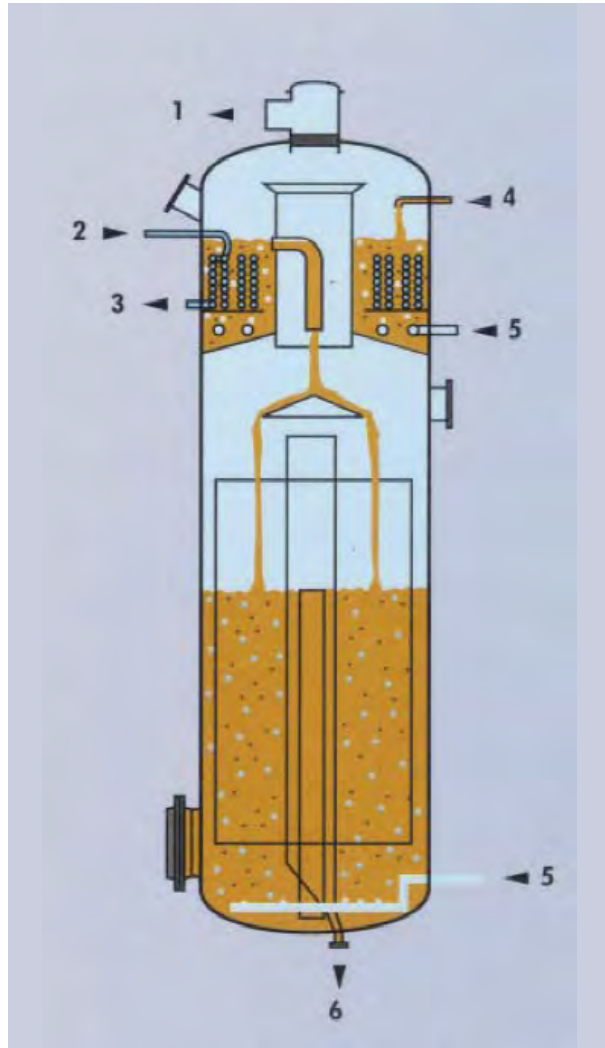
- Initial mixing of oil with bleaching earth under controlled conditions of temperature, acidity and humidity for a specific residence time.
- Secondly the oil is heated under vacuum with sparge steam to ensure proper mixing with bleaching earth for a specific residence time.
- Finally the mixture is 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

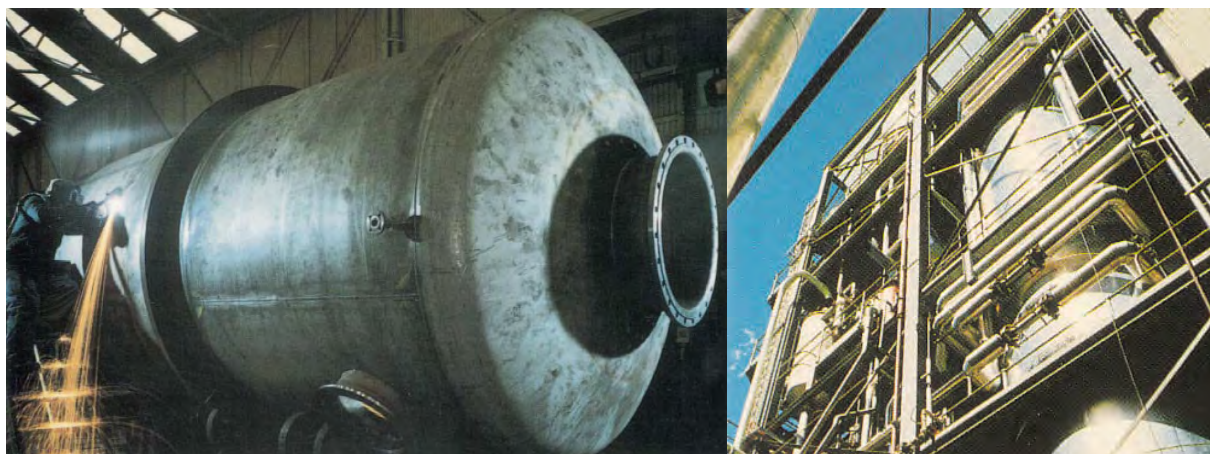
The originality of Sparbleach® is that the adsorption of coloring matters by the bleaching earth is enhanced by means of sparge steam resulting in a significant saving in bleaching earth.

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.

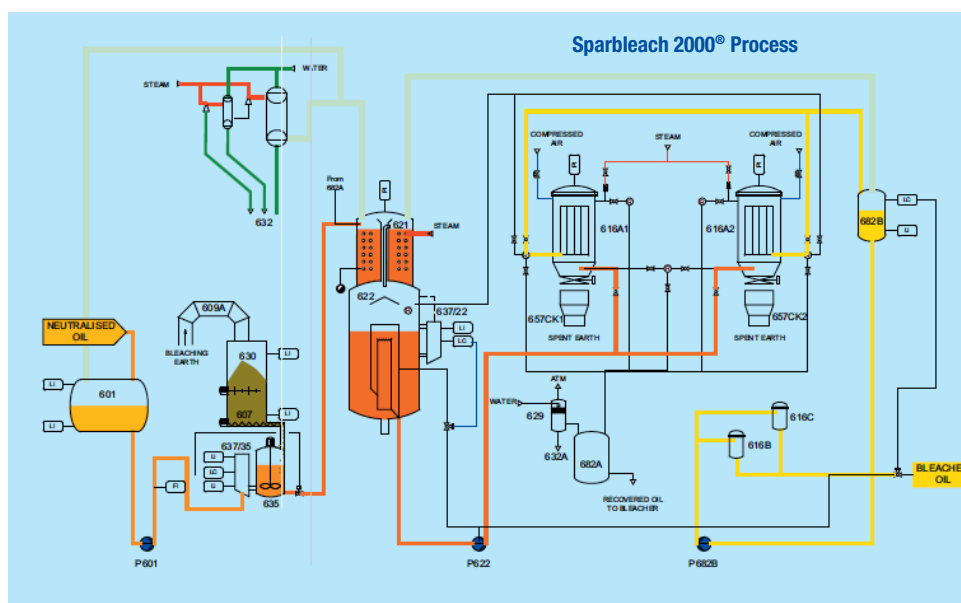
Bleaching earth dosage controlled by « loss in weight system » combined with mass flow meter for oil flow to ensure minimal bleaching earth consumption.

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® management...

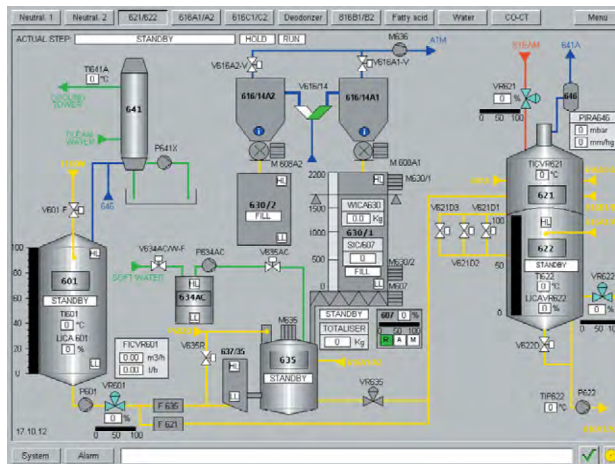
## Centralised Supervision

### 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

Axeda (Wizcon)	Scada	Fix D'Macs Intellution	Scada
Siemens	Plc / Scada / Dcs	Intouch (Wonderware)	Scada
Rockwell / AB	Plc / Scada	Factory Link (US Data)	Scada
SATT (ABB)	Plc / Scada / Dcs	Mitsubishi	Plc
ABB	Plc / Scada	Fisher Rosemount	Dcs
GE Fanuc	Plc / Scada	Citect	Scada
Telemecanique	Plc / Scada	Modicon	Plc