The only true feedstock change Deodoriser
Multistock® Technology

Invest today in your Multistock®...

Final stage in refining process
Deodorising is the final stage in oil refining. Deodorising removes odoriferous material, free fatty acids and other undesired minor components to produce a bland oil with a good shelf life.

State-of-the-art deodorising
Over the latest years, the aim of a state-of-the-art deodorising became:

Maximise:
- odour, flavour removal
- free fatty acid removal
- colour reduction (heat bleaching)
- peroxides destruction

Minimise:
- losses in essential fatty acids (EPA/DHA)
- creation of transisomerisation (TFA)
- polymerisation
- breakdown vitam. A+D+E

Organoleptic & Nutritional Value - Shelf life
Final customers require a perfect oil with high organoleptic and nutritional values, even one year after production.

Main features
- Frequent stock changes: up to 60/day
- Adaptable batch size: flexibility
- Proven and calculated reliability
- Low contamination: product purity
- Ideal coil design
- Excellent vapour scrubbing
Deodorising stages
The different stages in deodorising are:
- Deaeration
- Heating
- Deodorising / steam stripping
- Heat recovery / cooling
- Final cooling
- Polishing filtration

Top quality products require optimal conditions at all stages.

... and increase your flexibility
**Multistock® benefits...**

**The Multistock®**
The Multistock® is a single shell compact column containing several integrated trays or compartments.

In the upper part of the Multistock®, the oil is heated to deodorising temperature and then cooled in the lower part of the Multistock®.

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**Thermosyphon heat exchange**

This is accomplished with the thermosyphon heat recovery system in which the hot oil after deodorisation is used to generate steam, which is condensed in the top tray to heat the incoming bleached oil.

In the second tray the oil is heated to deodorization temperature with high pressure steam.

In the deodorising trays the oil remains as a batch in the tray and movement must be induced. This is done by introducing the stripping steam into the tray in a number of gas-lift pumps.

**Optimum contact area**
The high capacity pumping action produced results in rapid circulation of the oil in the tray.

The oil at the bottom of the tray is moved to the optimum contact area at the surface many times during the process cycle.

A large surface area between oil and steam is ensured by the intimate contact within the gaslift pumps and also by the generation of a thin film at the discharge of each pump.

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**... and Multistock® advantages**

With this steam injection system, a deeper oil layer improves the circulation rate of the pumps.

Therefore, the overall diameter of the Multistock® may be kept within reasonable limits.

After initial cooling in the thermosyphon system, the deodorised oil may be cooled to discharge temperature in a number of ways with the possibility of obtaining some extra heat recovery:

- Generation of a constant supply of hot water,
- Generation of low pressure steam
- A second thermosyphon to heat incoming oil
- Using water from the cooling tower

The Multistock® is designed for the factory requiring maximum flexibility in processing different feedstocks daily. Product change is totally automated with the possibility of no production loss and minimum interstock contamination.

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The Multistock® vessel mechanical design and process operating data covering normal operation, start-up and shutdown conditions have been submitted to rigorous finite element analysis for possible metal fatigue problems due to the thermal cycles (400,000 cycles over 20 years operation).

The highest stressed areas are strengthened and welding specifications guarantee a long working life.
Multistock® management...

**Process Automation**

**Easy management**
Whatever the size of the plant, the various processes used in deodorisation 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 obtainment 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.

**Centralised Supervision**

**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 analyse, 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.

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