

RECENT DEVELOPMENTS IN EDIBLE OIL DEODORISATION

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New developments in deodorising process technology anno 2009 are mainly driven by the continuous need for more efficient processes and the increased attention for the overall quality of food oils and fats.

Continuous reduction of the operating cost is indeed a constant factor of attention which has resulted first of all in refining plants with higher capacity (up to 2000-2500 TPD). In addition, net energy consumption is minimized by installing improved and more efficient sparge steam distributor systems. For some specific applications, packed columns are integrated in the deodorising process to improve stripping efficiency and, hence, reduce sparge steam and motive steam consumption.

Maximum valorisation of the side-streams (e.g. deodorizer distillate) becomes more important to improve the overall profitability of the refining process. For this purpose, new types of scrubbers operating at two different temperatures ('dual condensation' concept) have been developed.

Optimizing deodorizing technology and process conditions for the removal of specific contaminants (pesticides, PAH, dioxins, PCB, mycotoxins,...) while still maintaining a high general quality (color, taste, odour, stability ...), is an important challenge for the future as well.

In that respect, the development of new vacuum systems (chilled water, dry ice condensing,...) capable of reaching a very low operating pressure in the deodorizer (≤ 2 mbar) is very important because it allows a reduction of the deodorization temperature without affecting the stripping efficiency in a negative way.

Some practical and economical solutions will be presented that are developed by the technology providers to answer on the new requirements in the edible oil markets anno 2009.