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Review 2

Sign Language

Ethanol, ethyl acetate, and isopropyl (alcohol) treatment

Safe solvent recycling system for flexo printers

The printing industry uses different solvents. Ethanol, ethyl acetate, isopropyl (alcohol), toluene and other alcohols are typical solvents which can be recycled very well. OFRU Recycling based Babenhausen in Germany offers a safe solution for the treatment of special solvents coming out of the printing industry. OFRU is well known as a technology leader in the field of recycling plants for hazardous and flammable solvents with its experience of 30 years in the field.

The solvent recycling plant ASC-100 or ASC-150 developed by OFRU is suitable for printing or plate solvents and reclaims depending on share of solids from 160 to 800 litres per shift. Both units are equipped with an innovative safety device. The system is optimised by buffer tanks that are directly connected to the printing machine. The solvent recycling plant supplies 'in-line' fresh solvent for the automatic wash-up process for the cleaning of the printing decks.

Daily consumption of 250 to 1000 litres of solvents are quite common for modern printers these days. Security is an issue since printing solvents, in particular those with nitrocellulose inks, are easily inflammable at certain temperature and/or dryness. For this reason OFRU offers a special safety device for nitrocellulose solvents. The solvents are distilled and supervised by means of strong vacuum at low temperature.

A special security characteristic in the system is the design of the distillation boiler. The boiler bottom is not round nor flat, but the surface is planar and conical. Combined with the strong agitator, the boiler walls are optimally scraped off. The heating surface is used efficiently, saves energy and a continuous distillation power is ensured. In case the printing inks catch fire by any chance, a water shower provides sudden flow of fighting water into the boiler and stops the exothermic reaction. The installation of such a plant normally takes place in its own distillation area. For customers, who do not yet have a EX-Zone, OFRU offers the Z2-Version, a completely covered machine with an exhaust fan for the installation directly in printing workshops which is ExI13G certified. ■



OFRU solvent distillation unit ASC-150,
Illustration: unit directly connected to a flexo press

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Ministry of Food Processing increases expenditure to Rs 8 crore

Huge investment in food processing research needed

Kiran

Experts in both industry and government agree that basic research and development (R&D) in the field of food processing in India has been neglected so far. The entire sector seems to attract more talk than action with dreams of foreign direct investment and pronouncements of industrial parks and zones being set up. The need for research and the role of the food industry in it, let alone that of universities and the scientific community is not at all clear. The government of the second largest fruit and vegetable producing country in the world spends around Rs 10,000 crore on agricultural research each year. However as far as we can determine, the Ministry of Food Processing Industries (MOFPI) spent a meagre Rs 6 crore on seven R&D projects in 2010.

The R&D on food processing, supposedly a sunrise industry in the country has been increased to Rs 8 crore this year to fund 18 projects. This paltry amount is no match for the amount that the European countries spend in this area — Germany alone spends Euro 16 billion (Rs 100,000 crore). Even the outgoing secretary of the MOFPI Ashok Sinha wonders how a big sector like food processing can survive on Rs 8 crore funding on research. However, there may be a little window of hope in the form of the 12th Five-Year Plan for which consultations are going on. The MOFPI joint secretary U Venkateswarlu says that the ministry has started preparing a master plan for the sector that will be submitted as a proposal for the 12th Five-Year Plan (2012-17).

"The issues of basic research on food sciences in the food processing sector have so far been neglected. [This] we aim to check with a detailed master plan that will be a part of the 12th Five-Year Plan proposals," MOFPI secretary Ashok Sinha said on the sidelines of an industry event organised by the ministry. He also urged industry representatives to identify sectors that could absorb R&D inputs so that a working group report could be presented to the Planning Commission.

It must be mentioned here that a working group comprising 40 experts from government and industry has been constituted which will submit its report by 16 August. Sinha adds that the state governments' participation in the food processing sector should increase. He says that states like Andhra Pradesh, West Bengal, UP and Karnataka have been proactive in the food processing sector.

Foreign direct investment (FDI) is also coming to the food processing and research sector. "Canadian universities are working closely with our institutions. French, Dutch and German institutions have also shown interest in collaborations," says Sinha.

T Ramasami, secretary, Ministry of Science and Technology, observes that the bulk of the food processing units in the country which turn out products consumed by a vast majority of the people do not have the capacity and the funds to undertake R&D activity. "It is therefore vital to create a system for absorption of technologies through models that are most suited to these enterprises," he said. Ramasami suggests the adoption of a consortium approach to R&D in food processing whereby a group of institutions could come together through the Public Private Partnership model to provide R&D inputs to food processing enterprises. He said that it was important to examine, identify and segregate industries that could absorb R&D inputs to bring about a 10-15% increase in value addition in agri-produce.

Currently, the average processing level in India is a mere 10% of the total agri-produce, resulting in significant quality deterioration and wastages in the supply chain. Value addition of the total agri-produce is just 20% and India's share in global trade in processed food is a negligible 1.5%. More importantly, the wastage of perishable food products due to the low level of processing is estimated at Rs 30,000 crore a year.

The government expects that the development of new technologies, new resources and energy efficient processes would lead to the development of innovative products such as functional foods, fortified foods, improvement in shelf life, enhancement of value addition, improvement in grades, enhancement in food safety and reduction in wastages. ■



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