Saurin

Saurin Deaerator- DE Model

Deaeration is an important step in Food Manufacture, as Air in many products is detrimental to the life and quality of the food. Process foods are often saturated with dissolved oxygen. Removal of dissolved or trapped oxygen will avoid oxidation effects on

1. Colour Pigments- Orange and Apple juice retain their colour.
2. Flavour Stability – Oils and Mayonnaise will have a longer shelf life and won't go rancid.
3. Ascorbic Acid – Vitamin C levels are preserved.
4. Metal Cans – Prevents corrosion of cans.
5. Phase Separation – Tomato sauce and orange juice tend to experience phase separation in presence of air.
6. Fill Weights – Better control on fill weights, reduces losses and minimises under and over weights.
7. Product presentation – Significant improvement due to even appearance.
8. No Foaming – Especially important for Dairy based products.
9. Longer Run Time – Pasteurisers and Homogenisers work more efficiently and for longer in the absence of air.

Operating principles of Deaeration

Deaeration is generally carried out by passing the product through a vacuum chamber. The product is preferably distributed as a thin film in the vacuum vessel, ensuring a shorter distance for the air bubbles to travel to escape. Vacuum increases the specific density difference between the product and the air bubble, and the volume of the air bubble thus increasing the Escape Force Manifold.

The deaeration efficiency depends on the following factors

1. Product Viscosity
2. Product film Thickness
3. Product Temperature
4. Applied Vacuum
5. Product Residence time

By selecting the optimum of the above conditions and keeping in view the product characteristics (fragility and size), Saurin is able to design and supply a suitable Deaerator even for difficult conditions.

Deaeration Systems

Deaeration vessels and equipment are skid mounted on a Stainless Steel Frame(SS304).

The Main Components are

1. Deaerator Vessel
2. Frequency Controlled Product pump
3. Differential Level Transmitter
4. High Level Probe
5. Vacuum Pressure Sensor
6. Vacuum Pump
7. Vacuum Control Valve
8. Complete PLC
9. CIP Valve
10. CIP Pump

- Pre-assembled skid mounted units are available for fast on site installation. They can be stand alone or integrated with existing process equipment.

Models Available

Capacity in litres/hr

	water	sauce	paste
	low visc capacity A	med visc capacity B	high visc capacity C
DE 60	4,257	2,838	1,419
DE 80	7,383	4,922	2,461
DE 100	11,356	7,571	3,785
DE 120	16,178	10,785	5,393
DE 140	21,848	14,565	7,283
DE 150	25,199	16,799	8,400
DE 160	28,776	19,184	9,592
DE 180	35,733	23,822	11,911
DE 200	43,948	29,298	14, 649
DE 220	52,405	34,937	17,468
DE 240	62,921	41,947	20,974
DE 260	72,974	48,650	24,325
DE 280	85,287	56,858	28,429
DE 300	97,742	65,161	32,581

Selection Procedure

1. Decide on viscosity category of the product.
2. Select model from chart for budgeting purposes.
3. Confirm selection with Engineering Department.

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