

Saurin

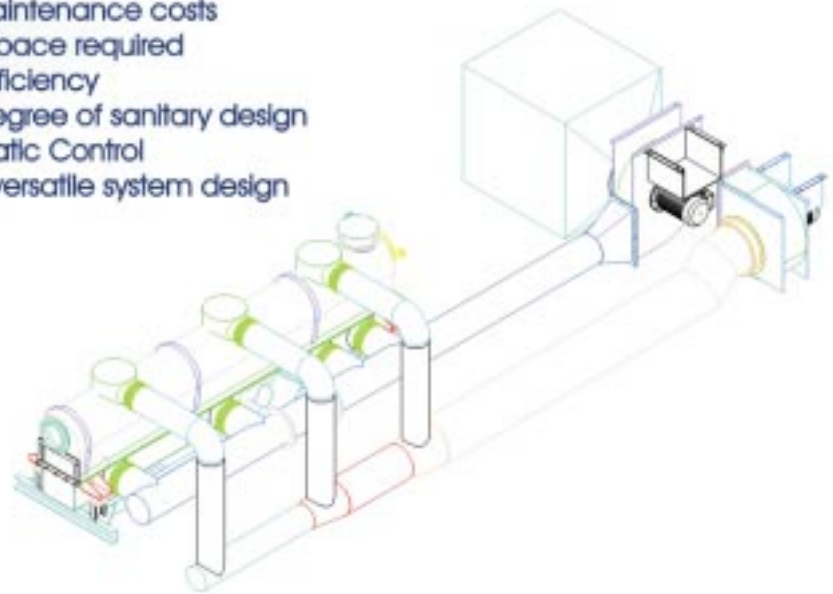


Fluidbed Technology



Saurin Fluidbed features

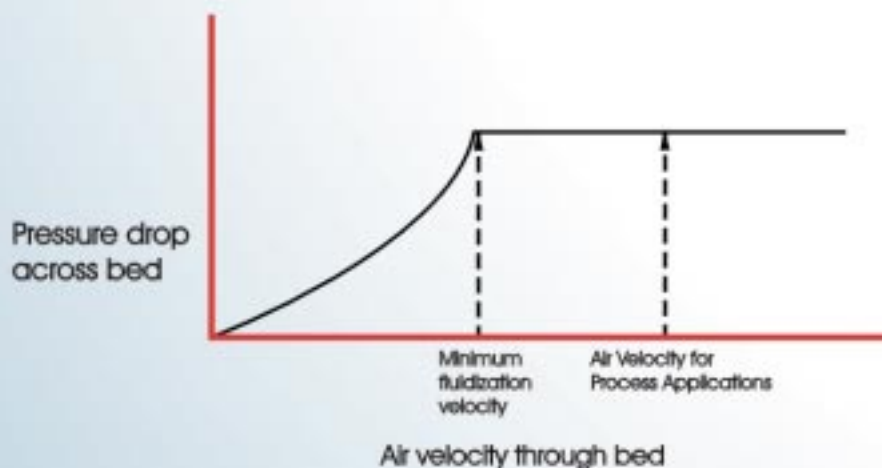
- Low energy consumption
- Low operating costs
- Low maintenance costs
- Small space required
- High efficiency
- High degree of sanitary design
- Automatic Control
- Highly versatile system design



How a Fluidbed works

Fluidization is a method of gas-solids contacting, with many successful commercial applications. Consider a bed of granular particles through which a stream of air is flowing upwards. As the air velocity is increased, the bed expands and assumes a more open structure. A point is reached where the particles are widely separated and become suspended by the upward airflow. At this point the particles behave like a liquid and circulate freely- hence the term "fluidise"

In the fluidised state, there is intimate contact between the airflow and the particles and this provides a perfect system for heat transfer. The velocity at which particles will fluidise can be estimated from theoretical first principles, however operating condition for fluidbeds are generally determine on a test unit, as variables such as product stickness, particle size distribution etc play a significant role.





Large continuous vibrating fluidbed for processing milk products

Example Applications - drying and cooling

- Sugar - Dry from 1% to 0.05% moisture
- Foundry sand - Drying and cooling
- Non hygroscopic whey powder - Dry from 12% to 3% moisture
- Puffed rice - Expand, dry and cool
- Lactose - Dry from 25% to 2% moisture
- Agglomerated coffee - Dry from 12% to 2% moisture
- Agglomerated whole milk powder - Dry from 6% to 2.5% moisture
- Starch powder - Dry from 8% to 1% moisture
- Resin particles - Dry from 3% to 0.5% moisture
- Vitamin powder - Dry from 9% to 2.5% moisture
- Soy Beans - Dry from 30% to 4% moisture
- Salt drying - Dry from 6% to 0.1% moisture
- Bread crumbs - Dry from 33% to 10% moisture
- Parmesan cheese - Dry from 35% to 16% moisture
- PVC/Polyolefins - Dry from 30% to 0.2% moisture
- Roasting cereals, seeds, coffee.

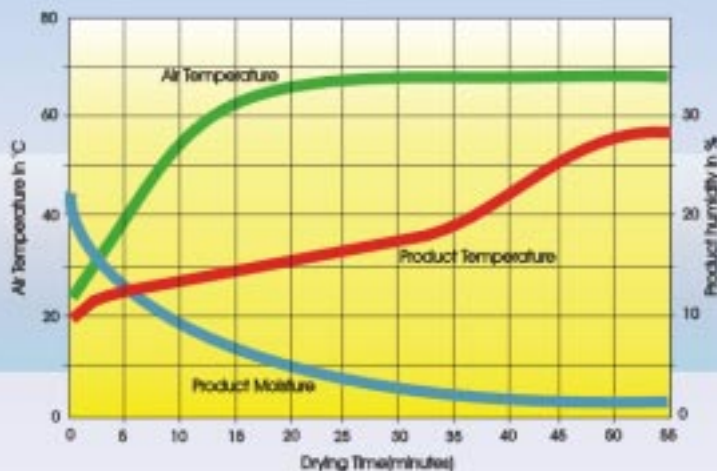


Design Scope

Fluidbeds have a wide range of design options. Including:

1. Drying Time - can be fixed from seconds to hours.
2. Capacity - equipment sized from a few kg per hour to 100 tonnes per hour
3. Flexibility - plant in operation in many industries - pharmaceutical, food, chemical
4. Feed Moisture - from a few % moisture to 90% plus
5. Product Moisture - dry down to as low as 0.01% moisture
6. Batch or Continuous - both type are available over a wide capacity range
7. Particle Size Range - Any free flowing powder can be processed, with a particle size from 0.1mm to 50mm. The system maintains fragile agglomerates.
8. Sticky/Adhesive materials - can be dried using specialised equipment and processing technique. Can handle high fat material
9. Versatile Design - Roasting/Drying/Cooling can take place in one machine
10. Cooling - Can cool product to 0°C or lower.

Typical Test Drying Curve



Saurin has a wide range of pilot test equipment. Contact our offices to discuss your test requirements.

Saurin

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