



Conservação de alimentos  
pelo controle da umidade

Prof. Dr. Luiz Antonio Gioielli



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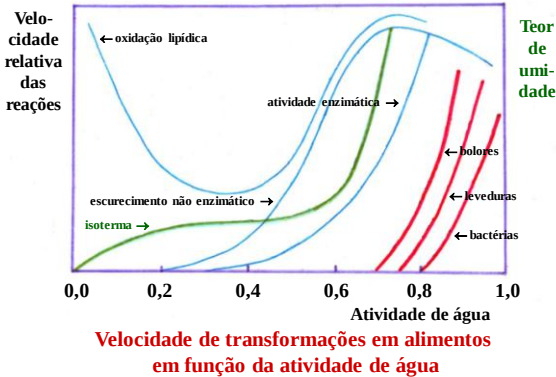
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Rendimentos de produtos desidratados e liofilizados

| Produto                  | Rendimento(%) |
|--------------------------|---------------|
| Batata desidratada       | 10,0          |
| Beterraba desidratada    | 7,7           |
| Beterraba em pó          | 7,7           |
| Carne liofilizada        | 20,0          |
| Cebola desidratada       | 7,0           |
| Cebolinha desidratada    | 5,0           |
| Cenoura desidratada      | 6,0           |
| Espinafre em pó          | 5,0           |
| Frango liofilizado       | 20,0          |
| Mandioquinha desidratada | 20,0          |
| Milho verde liofilizado  | 25,0          |
| Morango liofilizado      | 5,0           |
| Palmito liofilizado      | 6,6           |
| Tomate em pó             | 5,0           |

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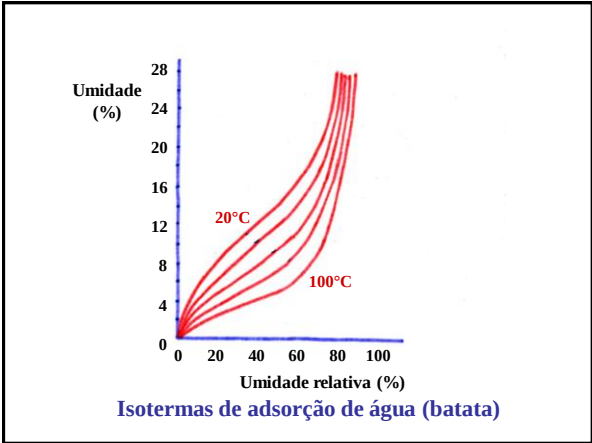
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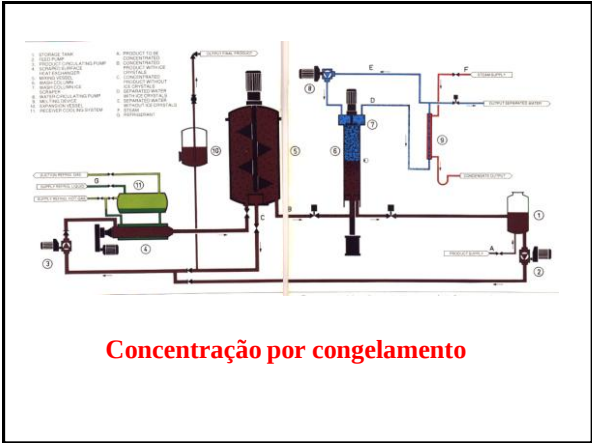
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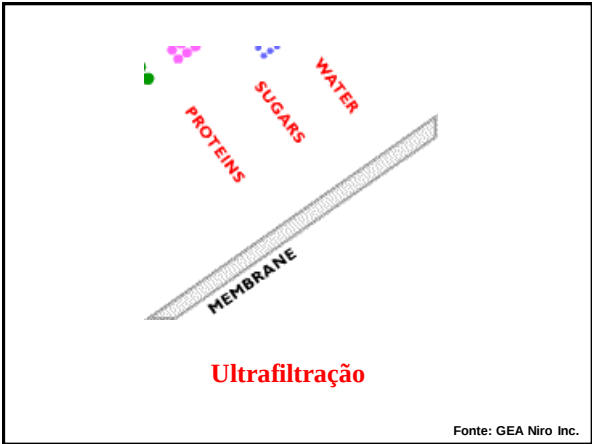
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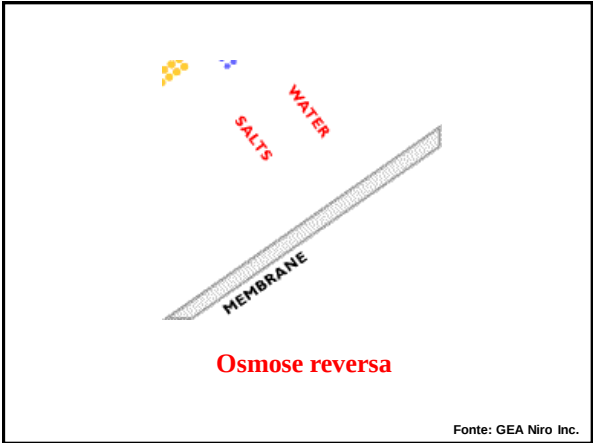
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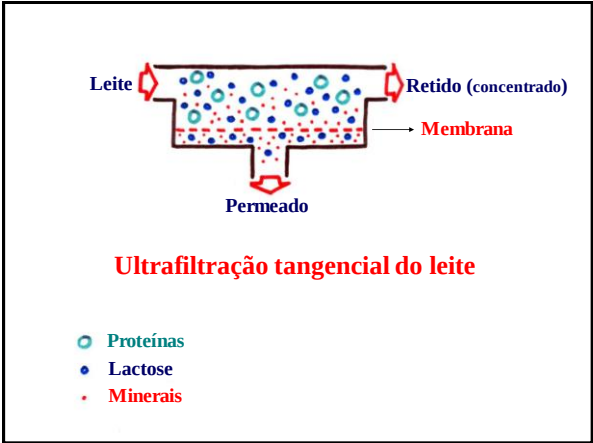
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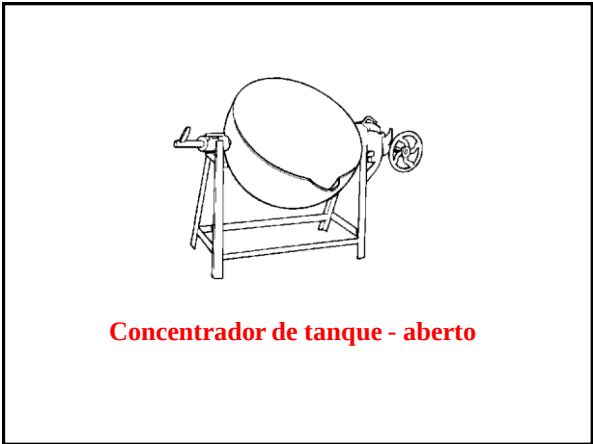
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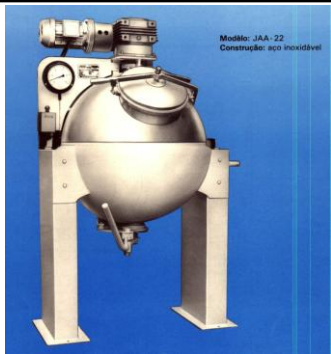
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**Concentrador de tanque - fechado**

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**Concentrador de tubos longos**

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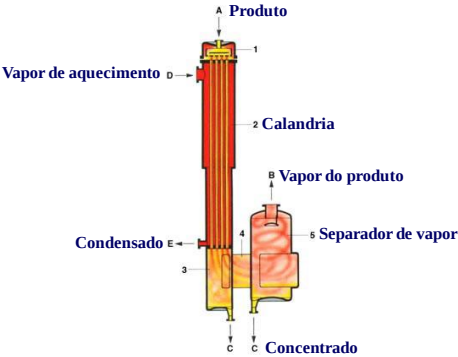
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**Concentrador de tubos longos**

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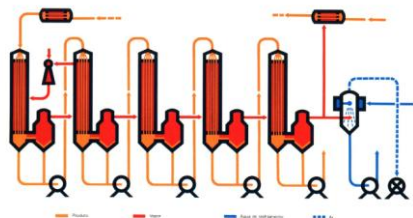
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**Concentrador de tubos longos de cinco efeitos**

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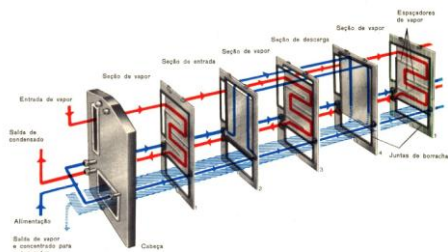
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**Concentrador de placas**

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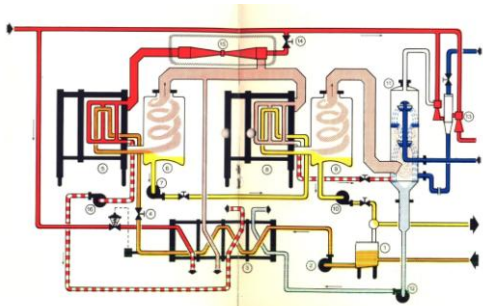
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**Concentrador de placas de dois efeitos**

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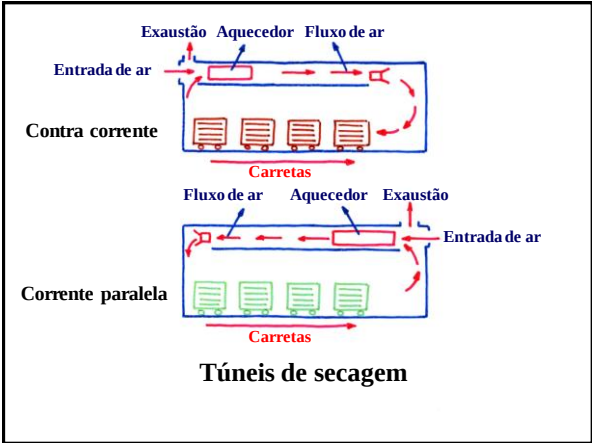
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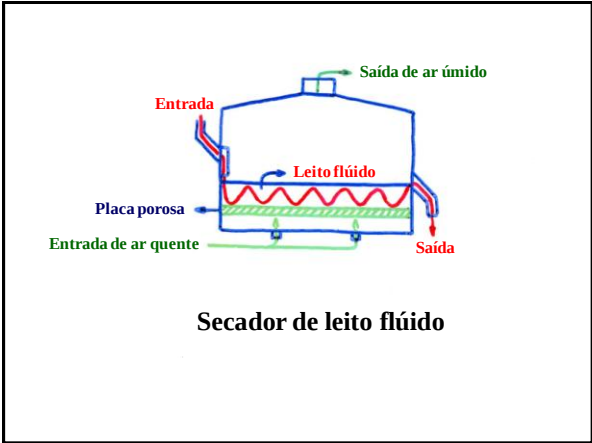
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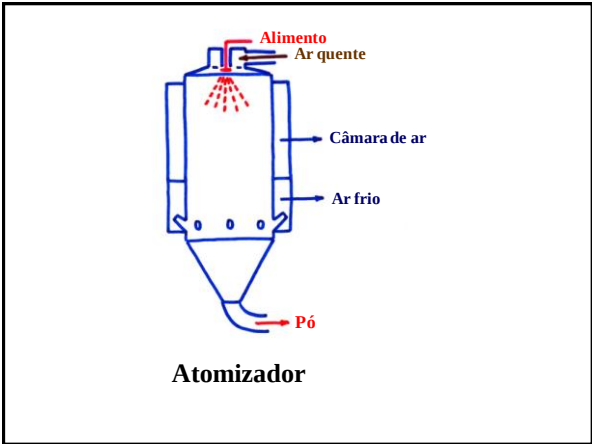
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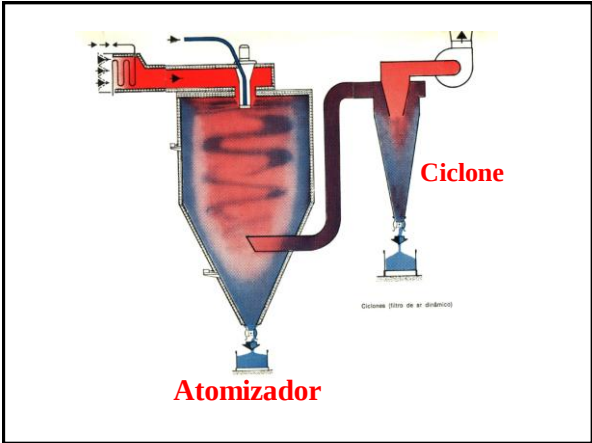
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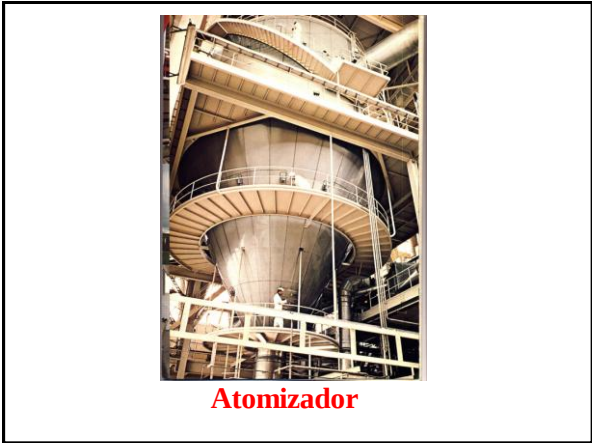
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**Atomizador**

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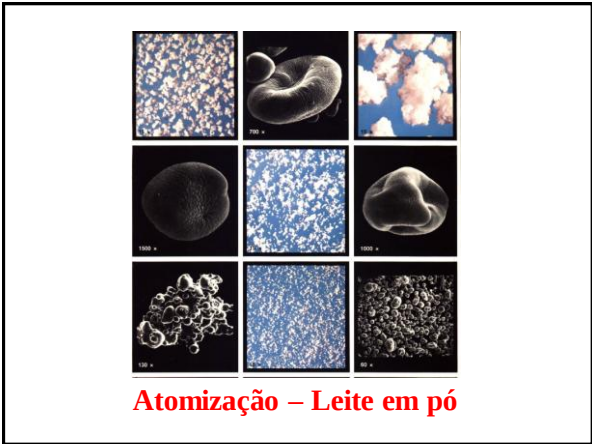
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**Atomização – Leite em pó**

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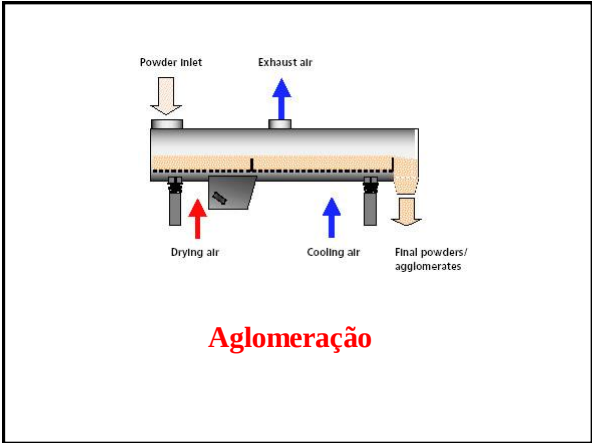
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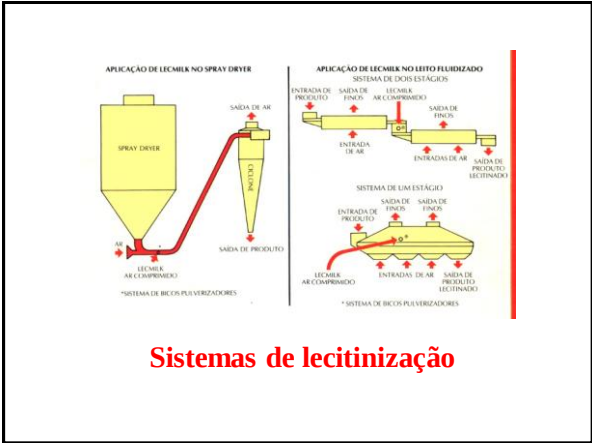
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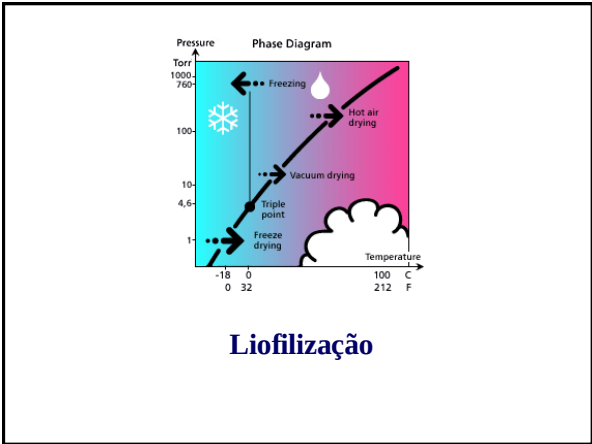
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**Liofilizadores**

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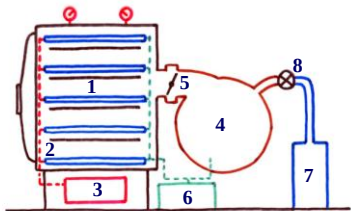
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**Liofilizador**

- 1. Câmara de desidratação
- 2. Prateleira e sistema de fechamento
- 3. Sistema de aquecimento
- 4. Condensador
- 5. Válvula de isolamento da câmara
- 6. Sistema de refrigeração
- 7. Bomba de vácuo
- 8. Válvula de isolamento da bomba de vácuo

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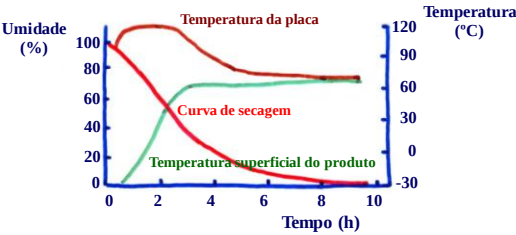
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**Curvas de liofilização**

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