



## In-line Oxygen Stripping Systems



*Industrial System Options*



*Sanitary System Options*

### Reduce Oxidation with Gas Stripping

The presence of oxygen will produce undesirable results in many areas of food and beverage processing. Avoiding oxidation greatly lowers the chance of developing cardboard/paper flavors, unpleasant bitterness, darker color and product instability. The Linde in-line stripping systems greatly reduce the dissolved oxygen in process water to reduce oxidative reactions throughout the brewing and beverage processes as well as other liquid/pumpable food. Eliminating oxygen in other liquid processes also reduces oxidative reactions and may help prevent spoilage.

Either nitrogen, which is an inert gas, or the process gas carbon dioxide can be easily and quickly dispersed in the form of small bubbles. When introduced into process water at a given flow rate, the gas bubbles create a concentration gradient that forces dissolved oxygen to diffuse into a gas phase. The oxygen is then vented from the process along with the stripping gas. The effectiveness of the stripper systems is dependent upon the uniformity of the bubble distribution throughout the process water, the contact time allowed and the level of dissolved oxygen in the process water or liquid food products.

### Choose the System That Meets Your Needs

Linde offers several in-line stripping system configurations to meet a variety of needs. Trained field specialists assist you in determining the feasibility and selection of a system that yields optimum processing efficiency for your operation.

**In-line Stripping Systems** – Designed for batch or continuous processing and installed directly into your process water piping. This provides a space-saving convenience for single stage stripping of fluids being transferred from one processing phase to another. Multiple in-line systems installed along the same line can greatly minimize stripping time.

## Choose the System That Meets Your Needs

**Batch Stripping** – Used with a recycle loop. Performs more efficiently than traditional gas sparging, deaeration or sintered metal discs.

**Multi-Stage Stripping** – For various applications that require extremely low oxygen levels.

**Special Situations** – Unique operating needs or equipment constraints are identified by Linde experts. A specially designed configuration addresses your particular need.

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|-----------------|---|---|
| <b>Features</b> | → Sanitary design uses food grade stainless steel | → Simple design, low maintenance                        |
|                 | → In-line orientation                             | → Flexible, adjustable system meets wide range of needs |
|                 | → Sized to fit                                    |   |
| <b>Benefits</b> | → Economical                                      | → Improves shelf life and yield                         |
|                 | → Preserves product integrity                     | → Removes oxygen, improves product quality              |
|                 | → Increases color and flavor stability            | → Easily installed and maintained                       |

## A Wealth of Experience and Support

When you choose Linde, you are selecting more than a leading, global supplier of industrial gases. You are also selecting a support team that includes:

- Experienced food scientists and engineers.
- A complete array of services, including on-site evaluation, installation, design, start-up support and process optimization – Linde’s Total System Approach.
- Most everything you need to improve the quality and consistency of your products.

## Contact Linde Today

For more information on our food and beverage applications that cover carbonation, oxygen stripping, pressurization and inerting with process and atmospheric gases, call Linde at **1-844-44LINDE**, or visit our website at [www.lindefood.com/beverage](http://www.lindefood.com/beverage).

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