



Vegetable processing environments

Liquid desiccant solutions



For over 75 years, Alfa Laval Kathabar has engineered and manufactured liquid and dry desiccant systems for dehumidification and energy recovery applications. Our technologies improve the reliability, economy and efficiency of any manufacturing or processing operation that is humidity, temperature or microorganism-sensitive. We meet the ever-changing needs of our customers with quality products – providing reliable, precise and economical temperature and humidity control.

Alfa Laval Kathabar liquid desiccant systems provide a perfect solution for a wide range of applications for industrial, commercial, institutional and green/LEED facilities.

Applications:

- Drying
- Packaging
- Processing
- Dehydrating
- Freezing
- Storage

Advantages:

- Improve product quality
 - Extend storage life and reduce scrap with consistent temperature and humidity control (+/- 1 % RH)
 - Eliminate mold and bacteria
 - Scrub the air, neutralizing airborne microorganisms
- Energy advantage
 - Reduce utility consumption through simultaneous air cooling and dehumidification
 - Reduce refrigeration tonnage by eliminating costly sub cooling and reheat of process air
 - Use low grade energy sources for latent control
- Operational advantages
 - Maximize production rates by eliminating costly down time due to poor air quality
 - Reduce maintenance expenses
 - Safer environment
 - Eliminate fog
 - Eliminate frost

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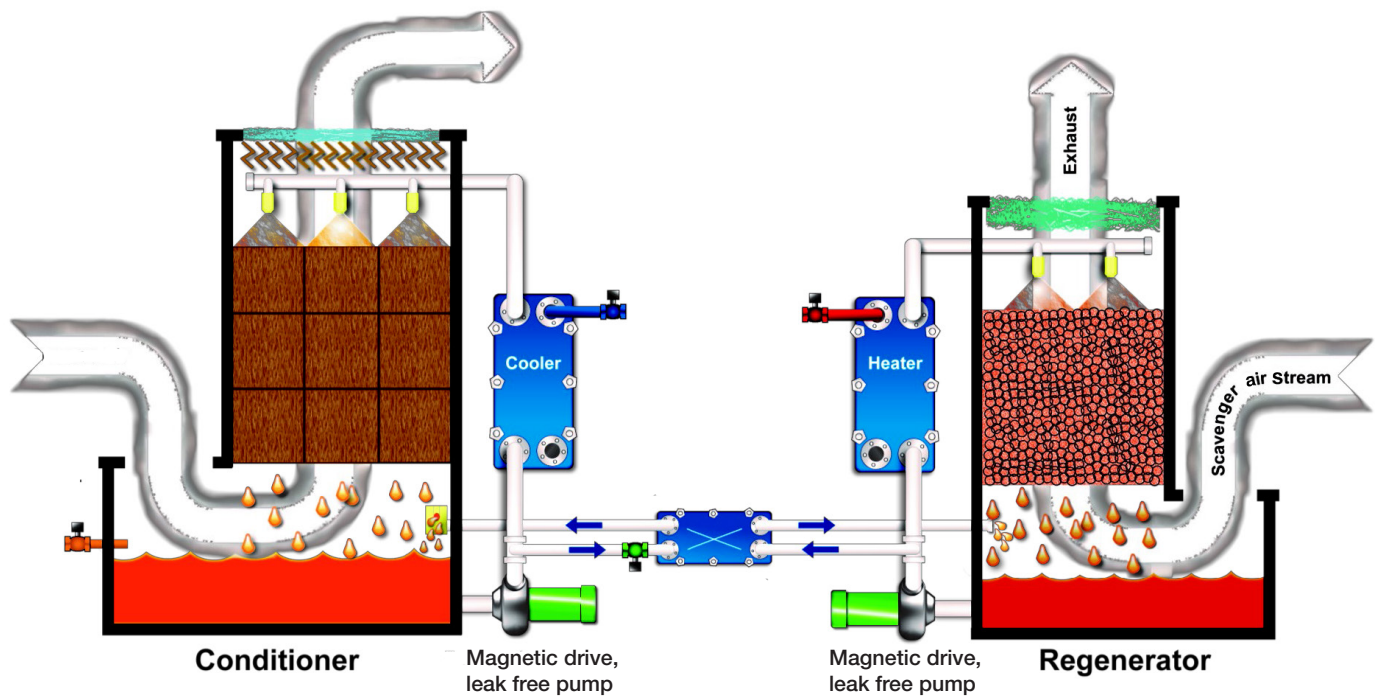
How it works

The Alfa Laval Kathabar liquid desiccant dehumidification system operates on the principle of chemical absorption of water vapor from air. Our systems utilize a liquid absorbent known as Kathene.® Kathene solution is non-toxic, will not vaporize and is not degraded by common airborne contaminants.

The temperature and concentration of the solution determines the ability of Kathene to remove or add water vapor from the air. The concentration of Kathene can be adjusted so the conditioner delivers air at any desired relative humidity between 18% and 90%. For a given Kathene concentration, lower solution

temperatures enable the conditioner to deliver cooler, dryer air.

The illustration below shows the basic elements of the liquid desiccant system. Conditioned air is cooled and dehumidified by contacting Kathene in the conditioner. By continuously circulating the desiccant through a heat exchanger, energy is extracted from the air and transferred to a coolant. The amount of heat extracted by the Alfa Laval Kathabar dehumidifier is modulated to exactly match the load $\pm 1\%$ by controlling coolant flow through the heat exchanger.



Liquid desiccant packaged conditioner

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Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

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