



ENERAMA
Environmental Technologies

DRAGON
WORLD'S MOST
EFFICIENT & POWERFUL
CLIMATE CONTROL SYSTEM



**FOOD PROCESSING
& STORAGE**

The humidity levels in a food processing plant or a food storage warehouse needs to be carefully managed in order to prevent protect product shelf-life, quality and its healthcare compliance.

Humidity driven problems leads to food products to rapidly accumulate mold, fungi and bacteria. This often leads to the use of chemicals that reduce shelf life while losing competitiveness due to current consumer trends towards chemical free products.

While the temperature and the relative humidity of the ambient air are important factors to consider, the water content of the food is equally important to consider as it dictates the sensory attributes of the food like texture, crispness or firmness. As the water content of the food is directly correlated with the ambient temperature and relative humidity, a well thought out HVAC strategy and its careful execution is of paramount importance.

PATENTED TECHNOLOGY



With its patented **“liquid desiccant”** system, Dragon is considered to be the most energy efficient climate control technology. Due to its unique and powerful dehumidification methodology, **Dragon** is able to ensure optimum climate conditions and superior air quality at a fraction of the energy consumption.

Dragon is able to absorb **1.32** Gallons of water while filtering the air from airborne pathogens by consuming **1 kWh** of energy. This leads to Dragon’s value proposition of improving revenues, decreasing operating expenses and enabling regulatory compliance.



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ENERGY-SAVING



From processing and storing, climate control has a considerable impact on the energy consumption of the operation. Relative humidity directly impacts the energy requirements to achieve desired temperature levels from heating or cooling. Moreover specific to frozen storage, excess relative humidity in the freezers (usually in the range of 30%-35%) could lead to icing. Icing in turn would lead to reduction of performance at the expense of additional energy consumption and maintenance.

Integrating automated Dragon Dehumidification technology into the HVAC strategy unlocks considerable energy savings. These savings are achieved from both the low energy footprint of the patented technology and its overall performance that leads to solve the common energy draining bottlenecks specific to this industry.

UNIQUE VALUE PROPOSITIONS



Revenue	Increase	High Quality Produce
		Healthy Produce
		Higher Yields
Operating Expenses	Decrease	Energy Consumption
		Chemical Filtration
		Labor
Facility Depreciation	Decrease	Mold and Rust from Humidity
Regulatory Compliance	Improvement	Reduction in Healthcode Violations
Risk Management	Improvement	Predictable Revenue Streams
		Automated Disaster Recovery



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ELIMINATING RISKS



Humidity the major issue contributing to food products to moisten, soften, produce mold, fungi and bacteria. This leads to the use of chemicals products to fight off the health risks and to regain the shelf life.



REMOTE MONITORING AND MANAGEMENT SYSTEM



Thanks to its robust service oriented architecture, Enerama's remote monitoring and management system called MekaSense is able to scale both vertically and horizontally. In other words MekaSense is able to integrate with an unlimited number of devices to read real-time data from in order to process it automated behavior all the while being able to add an unlimited number of equipments to control individually and in sync with an automated strategy. This powerful decision making engine is the core of Enerama's patented Dragon Dehumidification technology.



Automation and controls aside maintenance procedures are also performed remotely by Enerama Support Team utilizing the gateways to MekaSense embedded in the Dragon units.

Client operations and management teams enjoy increased visibility and control through the remote monitoring and management features accessible from the mobile or web applications. Automated alarms and disaster recovery strategies allow effective risk management for critical components of the business.

REMOTE MONITORING AND MANAGEMENT SYSTEM



Dragon's patented closed circuit liquid desiccant dehumidification technology consists of scalable core components that comes in different variations in order to fit different facility design requirements. The technology revolves around its core unit named Regenerators that are scalable to enable hourly water extraction from 26.4 gallons to 158.5 gallons. Moreover multiple regenerators can be installed in parallel to further scale the dehumidification capacity to any desired amount.

The other two core components of Dragons are the Regeneration Towers and the Conditioners. The Regeneration Towers are where the humidity extracted from the indoor environment is ejected from the closed circuit. The conditioners on the other hand is where the air brought into the closed liquid desiccant circuit in order to dehumidify, filtre and condition the air to supply it into the indoor environment.

The conditioners have multiple options to accommodate both indoor and outdoor placements. In both approach ducts can be further integrated into the system for improved air circulation. Finally the outdoor units can also be utilized in order to plug into a central HVAC ducting system.



GENERAL FEATURES

- Consistently achieve optimum climate conditions to maximize product quality and to minimize product loss
- Unmatched energy consumption at 1.32 gallons per 1 kWh
- Consistent performance independent of most outdoor and indoor condition
- Considerable energy savings from the efficient use and transfer of latent energy
- No unwanted heat transfer during dehumidification
- Contributes dynamically to cooling or heating based on needs
- Prevent humidity driven biohazards including mold, fungi, bacteria and pests among many others
- Destroy considerable airborne pathogens during the liquid desiccant dehumidification
- Closed circuit liquid desiccant system with built in regenerative properties to eliminate running material costs
- Self diagnosis, remote support and in depth troubleshooting to streamline maintenance and to minimize downtime
- Reduces icing in freezers resulting in improved performance and reduced energy consumption
- Improves workforce conditions in freezers and deep freezers

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