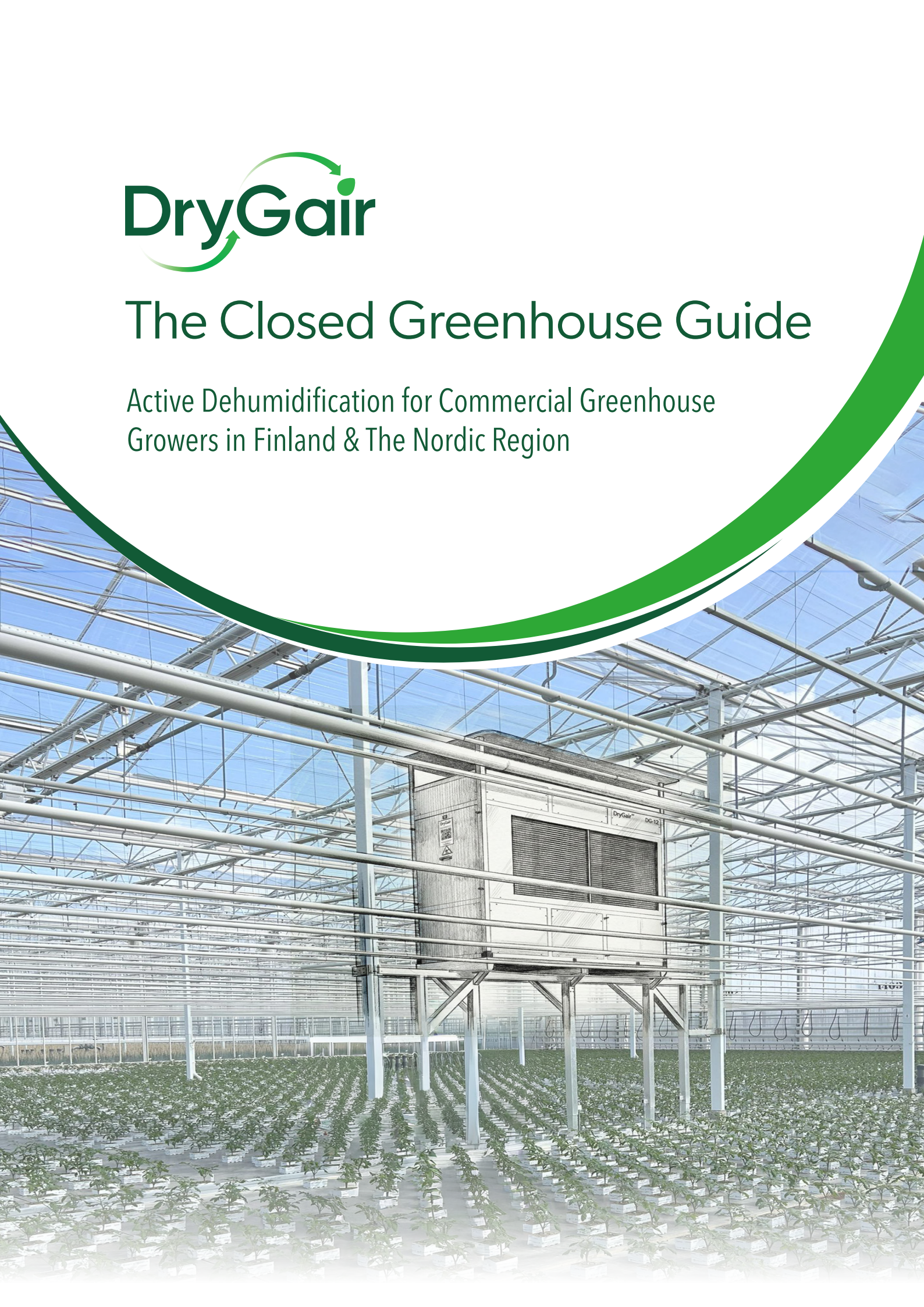
DryGair

The Closed Greenhouse Guide

Active Dehumidification for Commercial Greenhouse Growers in Finland & The Nordic Region



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Hello to the resilient members of the Finnish and Nordic greenhouse community,

From the high-tech vegetable hubs in Närpiö to the advanced greenhouse ranges across the entire Nordic region, climate management is a constant balancing act.

Nordic growers face the most extreme climate challenges in the global horticultural industry:

- **Arctic Winters**: Sub-zero temperatures as low as -35°C force growers to vent expensive warm air outside just to remove humidity.
- **The Energy Survival Gap**: With energy prices recently doubling and a transition toward domestic bioenergy, traditional humidity control is no longer financially sustainable.

This guide introduces a practical solution – the "**Closed Greenhouse" strategy** – which is now a requirement for operational survival in Northern Europe.

The goal is simple:

Keep valuable heat and CO_2 inside, maintain total control over humidity, and reduce energy consumption by up to 50%.

The Nordic Resilience Challenge

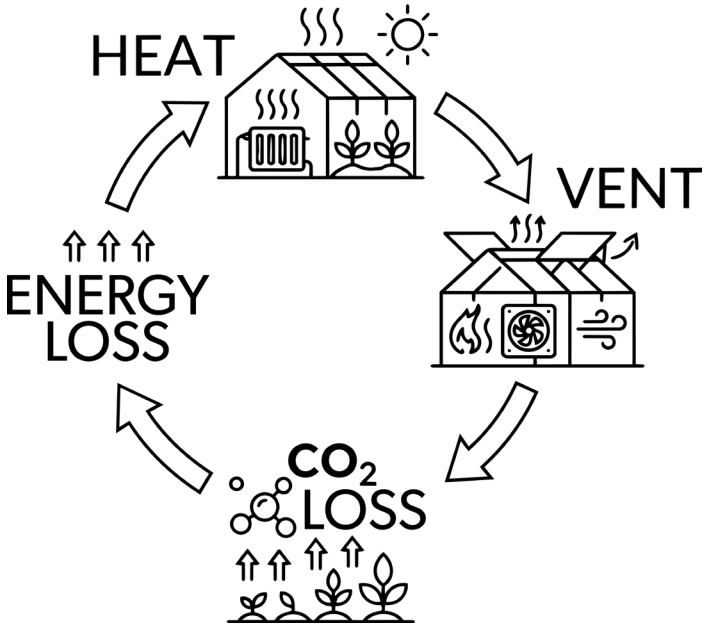
Why traditional humidity control fails in the North:

For decades, the standard practice was to “vent and reheat.” To lower humidity, growers open the roof vents. This creates a destructive cycle:

Heat Loss
Expensive heat escapes instantly into the Arctic air.

CO_2 Waste
Your enrichment efforts are lost to the atmosphere.

The Reheat Demand
You must burn more fuel (wood chips, peat, or gas) to warm up the cold, damp air that entered.



In Finland, where winter light is scarce and heating costs dominate the balance sheet, this cycle is the single biggest threat to profitability.

Key Concepts Nordic Growers Should Know

The LED Transition

Finland is a pioneer in LED technology. However, LEDs do not provide the radiant heat of HPS lamps. Without that "heat from above," moisture stays on the leaves. Active dehumidification is the critical missing link for successful LED growing.

Energy Balance & Bioenergy

As the industry shifts to domestic bioenergy, maximizing the efficiency of every kW is essential. DryGair allows you to recycle the latent heat from the condensation process back into the greenhouse.

The Sisu Factor

Finnish growers achieve record-breaking yields through precision. A closed greenhouse allows for the stable, "goldilocks" climate needed for elite-level production.

Crop-Specific Benefits for Finnish Greenhouses

Cucumbers

For growers achieving world-class yields (up to 245 kg/m^2), air movement is vital.
DryGair's 360° circulation prevents humid microclimates in dense canopies, ensuring high transpiration and nutrient uptake.

Tomatoes

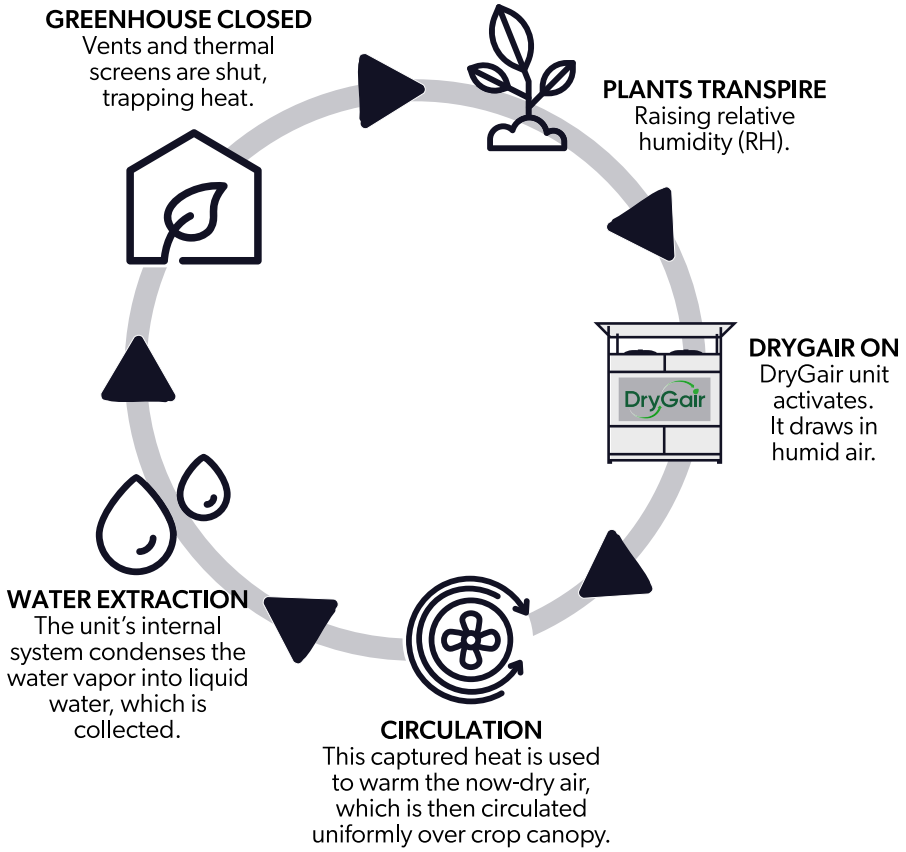
High-value winter tomatoes (selling for up to €5.50/kg) require zero disease pressure.
DryGair reduces the risk of Botrytis and fruit cracking by preventing dew point spikes.

Leafy Greens & Herbs

In vertical farms or tiered growing systems common in Finland,
DryGair ensures uniform humidity from the floor to the ceiling.

Closed Greenhouse Protocol

To maximize your results with DryGair



Keep Screens Closed

Keep your thermal and energy screens closed longer to retain heat.

Active Airflow

Use DryGair's patented 360° circulation to ensure air reaches the center of the crop.

Visual Verification

Work with Hatec Baltic to perform a smoke machine test. This shows exactly how the air moves through your specific crop rows.

Integration

Connect your DryGair units to your climate computer to automate the balance between humidity and temperature.

Glossary for Nordic Growers

Latent Heat
The "hidden" energy in water vapor. DryGair captures this and releases it as sensible heat, helping warm the greenhouse.

Mollier Diagram
The map of air physics. In Finland's cold climate, understanding the relationship between temperature and humidity is the key to preventing "rain" inside the greenhouse.

Active Dehumidification
Removing water using a specialized refrigeration cycle rather than simply "swapping" air with the outside.

2026 DryGair Innovations

The new DG-12

Optimized for Narrow Spaces

The new, slim design fits easily into vegetable rows and tight aisles, making it perfect for both large and small facilities.

More Power, Less Energy

A flagship unit that removes 43 L/hour while using 4.5 L/kW.

Healthier Crops Everywhere

New airflow engineering prevents "dead zones" in the canopy, protecting your entire crop from humidity-related diseases.

The new DG-3

Fit for Any Space

The versatile new DG-3 is here to offer top-tier efficiency for spaces with strict regulations or low ceilings.

The Defrost Coil

A mandatory feature for the Nordic area. It allows the unit to operate continuously even when greenhouse temperatures drop to 6°C, preventing humidity spikes during cold transitions.

Smart DG Controller

Full remote monitoring, so you can manage your greenhouse climate from your office or smartphone.

Moving Toward
Energy-Efficient Production

In today's market, energy efficiency is no longer just an "optimization" – it is resilience.
By shifting to a closed greenhouse strategy, Finnish operations protect themselves from energy price shocks while simultaneously improving crop quality and yield.

Get Expert Climate Recommendations
Ready to secure the future of your operation?

Contact our regional partner for Finland and the Baltics:

Matts-Erik Lindqvist
Owner, Oü Hatec Baltic
Specializing in helping Nordic growers implement the Closed Greenhouse Strategy.

DryGair **Features**

Designed for Horticulture
Optimized for cultivation conditions, DryGair units enhance your growing environment with precision.

Air Circulation
Patented 360° air dispersal system ensures uniform climate conditions throughout your facility.

Energy Efficiency
High efficiency, measured in liters of water extracted per kW, reduces energy consumption while maintaining optimal humidity levels.

Climate Control Integration
Seamless integration with leading greenhouse and climate control systems, allowing for automated humidity control.

Flexible Installation
Compact design with flexible placement options, including adjustable hoods and split units, ensures easy installation and space optimization.

Remote Control & Display
Comes equipped with a remote control and external display for convenient access and configuration from anywhere.

Temperature Control
Offers optional heating and/or cooling functions, utilizing external hot or cold water sources for precise climate management.

Environmental Compliance
Utilizes low GWP refrigerant gas, adhering to global environmental standards.

Easy To Clean & Maintain
Designed for minimal maintenance with easy access to parts, GMP compliance, and a removable drainage tray for hassle-free cleaning.

Technical **Specifications**

Durable Construction
Built from corrosion-resistant stainless material. DryGair units are engineered for longevity, with easy access to internal components for smooth operation and minimal maintenance.

High-End Coils
Features high-grade copper evaporator and condenser coils, maximizing humidity extraction and energy efficiency. Optional chemical-resistant coatings are available for added protection.

Powerful Circulation Fans
Equipped with 28" / 71 cm diameter fans, designed for powerful air circulation, with built-in protection mechanisms to prevent damage.

Precision Sensors
High-accuracy humidity and temperature sensors safeguard your crops and optimize the unit's performance.

Patented Air Circulation Canopy
Patented canopy ensures optimal air circulation. Made of 1.25 mm thick galvanized tin, with electrostatic coating for maximum resistance to rust and corrosion.

User-Friendly Electrical Panel
Simple operation and maintenance with easy access to globally available components. High-durability electrical parts ensure reliable performance.

Reliable Refrigerant System
Closed-loop systems with easy-to-monitor sight glass, filter driers, and electronic expansion valves, all managed by a high-end controller to ensure compressor protection and optimal cooling.

Advanced & Intuitive Smart Controller
Manages humidity and temperature with programmable set points and flexible operation modes, including real-time monitoring and climate and operational data collection.

Quality Assurance
Each unit is thoroughly tested before shipping to ensure fault-free operation, providing reliable, long-lasting performance with minimal downtime.

DryGair 15 Years of Leading Dehumidification Solutions

info@drygair.com | drygair.com