

Kiln

Perfect Temperature / Perfect Humidity

The **HumidiFlex System (IAHS): The Future of Commercial Humidity Control**

Say goodbye to overpriced dehumidifiers. The **HumidiFlex System** is a breakthrough innovation that transforms standard off-the-shelf air conditioners into **high-performance, precision-controlled dehumidifiers**—without the premium price tag.

- **Cost-Efficient:** Achieve superior humidity control at a fraction of the cost of traditional systems.
- **Advanced Control:** Enjoy robust, customizable humidity management tailored to your commercial environment.



Controlling humidity is crucial in wood kilns because wood is a hygroscopic material, meaning it constantly gains or loses moisture to balance with the surrounding environment. In kiln drying, a controlled environment is essential for a high-quality final product.

The kiln operator controls the temperature and humidity to ensure the wood dries at a specific rate without defects.

Why Humidity Control is Important

- **Preventing Defects:** If the humidity is too low, the wood will dry too quickly, causing the outer surface to dry and shrink faster than the inner core. This can lead to defects like case hardening, surface checking, splitting, and warping. Case hardening is a condition where the outer shell becomes set in a stretched position, which can cause the wood to cup or deform later.
- **Achieving Equilibrium Moisture Content (EMC):** The goal of kiln drying is to bring the wood's moisture content to a specific level, known as the equilibrium moisture content (EMC), which is the moisture level it will eventually reach in its final environment (e.g., a house or outdoor deck). Controlling humidity ensures the wood reaches this target EMC and remains stable, preventing future dimensional changes like swelling or shrinking.
- **Optimizing the Drying Process:** A kiln's controlled humidity allows the operator to create a "drying schedule" that gradually reduces the moisture content. This prevents the wood from drying too fast at the beginning and too slowly at the end, which can be inefficient. The humidity is often kept high at the start to allow for a gentle, even drying process, then gradually lowered as the wood's moisture content decreases.

www.InnoTekair.com

For support in the designing process contact; support@innotekair.com