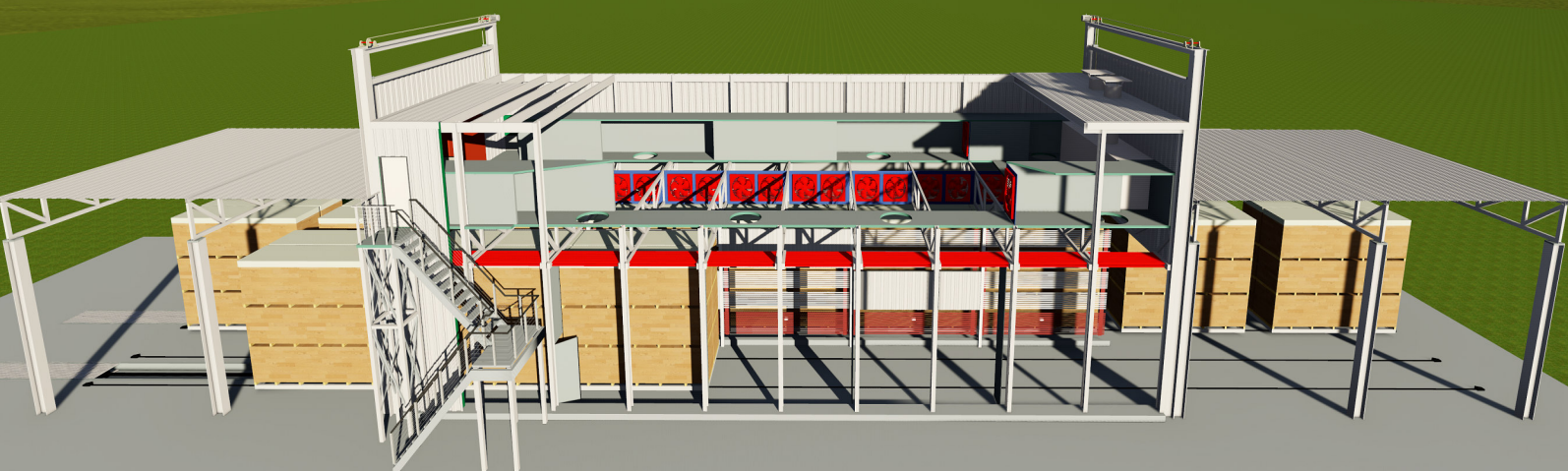




Discover the new flexibility with

Continuous Kilns from HILDEBRAND

...The pioneer of modern lumber drying



Our continuous kilns will make your current drying with expensive and intensive a more industrial high effective production due to

- ✓ **State-of-the-art technology and innovative developments (HTT, KPZ, GreenKilns®, ...)**
- ✓ **Over 60 years of know-how in lumber drying - worldwide**
- ✓ **Innovative drive-, ventilation and heating systems**
- ✓ **State-of-the-art high-performance control systems**

Thanks to our "KILN-PRIME-ZONE (KPZ)" you are able to dry on one channel/ track in a row different lumber thicknesses, species, initial moisture content, continuously.

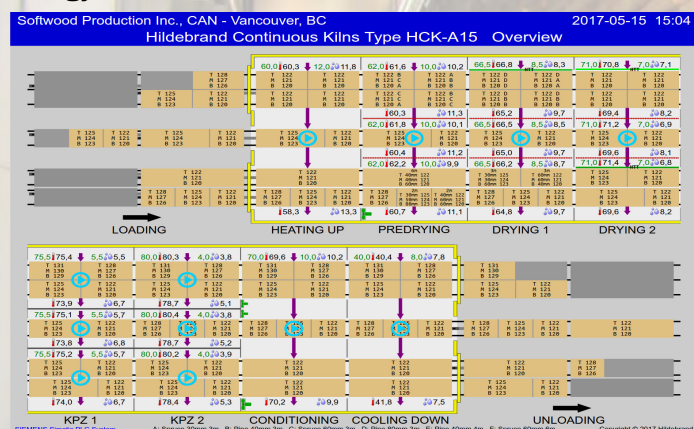
Controlling continuous kiln "Alexander" by THE FOX und MERLIN - hydraulic pressure frames to increase quality

The FOX and MERLIN

Fully automated control of the entire drying process for up to 50 kiln dryers in simultaneous operation. The system is suited for controlling continuous kilns as well as conventional or vacuum kiln dryers.

BRUNNER has asserted its market leadership position ever since we first introduced computer control into the field of lumber drying. We were also the first to utilize voltage-frequency control in lumber drying and pioneered the field in many other ways.

Due to the complexity of lumber drying, the demands of our energy-conserving computer control for continuous kilns system HCK are really challenging. THE FOX and MERLIN do the job with great precision! Within split seconds, the control system decides how many and also which climate zones can be coupled best for saving energy.



Alle Daten auf einen Blick

A multitude of parameters have to be considered for task:

- ✓ Initial and final mc
- ✓ External temperature
- ✓ Drying phase
- ✓ Direction of air flow
- ✓ Air speed
- ✓ Positioning of HTT baffles for increasing/ reducing air speed
- ✓ Temperature and climate in respective drying zone
- ✓ Enthalpy
- ✓ Actuation of optimized alternating climate
- ✓ Actuation of intermediate heating system
- ✓ Lifting and closing of doors
- ✓ etc.

All this is accomplished in a most economic manner with reference to energy cost, quality and drying times for each individual drying zone within the continuous kiln dryer HILDEBRAND HCK - A.

MERLIN enables convenient operation by using state-of-the-art web technology in HTML 5 standard. This also allows for control of the drying process via remote devices like smartphone, tablet, office PC and also service computers at HILDEBRAND head quarter in Germany.

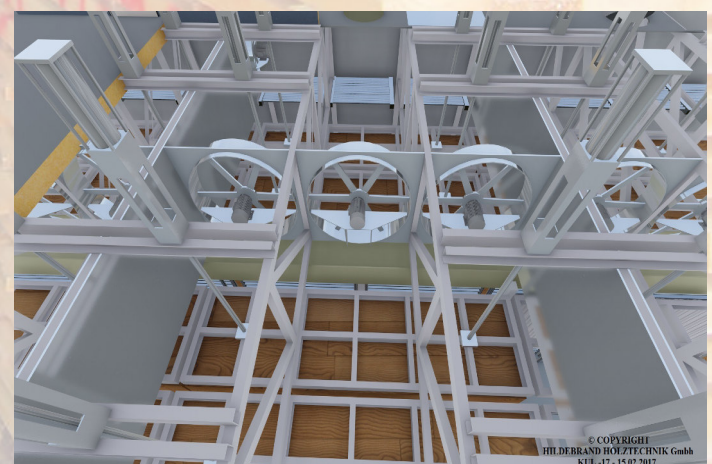
All important drying data are available on screen on call (basic nominal values, optimized nominal drying values, measured values, drying conditions, regulation ratio of heating valves and vents, time and date, air speed of fans, elapsed cycle time, position of HTT baffles etc.). Drying data can be stored in the memory with a code number for repeated use later on.

Hydraulic Pressure Frame System

In order to meet the most demanding quality requirements not only in the field of control technology, but also mechanically, we can optionally equip our HCK with vertical pressure frames for the drying zones.

By means of these hydraulically actuated frames, a strong contact pressure is applied to the topmost wooden layers of the packages. Before moving the packages into the next drying zone, the pressure frames are automatically raised and then lowered again.

This reliably prevents the top layers from being discarded during drying - you get a consistent quality across the entire package cross-section.



top view on the Pressure Frame System

KILN-PRIME-ZONE

The KILN-PRIME-ZONE allows drying of lumber with different thicknesses and initial moisture contents on each track of the continuous kiln.

Also suitable for two lumber thicknesses on one track providing maximum flexibility in loading of the kiln.

KILN-PRIME-ZONE has the following features:

- ✓ Separation of the lumber stacks in the channel with continuous vertical walls
- ✓ Multi-row arrangement of the fans
- ✓ Heating coils individual controlled for each zone
- ✓ Additional heating coil for fast drying combined species

The KILN-PRIME-ZONE acts as separately controlled dry kilns.



principle of HILDEBRAND-TURBO-TECHNOLOGY

HILDEBRAND TURBO TECHNOLOGY

The energy saving system HILDEBRAND HTT is based on hight-adjustable aluminium baffles moving up and down the lumber stacks in guiding rails.

Depending on the determined drying data the HTT baffles will be repositioned by the computer in heights continuously.

As a result , parts of the lumber stacks are temporary shut of from the air flow.

In that section of the zone, air flow will be reduced towards zero, while the remaining stacks have an increased air flow.

The lumber still maintains drying gently and with no stress even without air movement due to the steam partial pressure difference of between the core and shell of the lumber.

Fixed baffles on the side and on the floor are also part of the concept.

Our patented HTT technology allows saving electrical energy without sacrificing time.

Air speed is greatly increased in the areas without HTT baffles which could normally only be achieved with larger fans and higher energy usage.

Since these increased air speeds are not required in every drying stage of the process, HTT is in targeted for specific zones.

HTT has the possibility to increase the efficiency of up to 40%.

Drying with HILDEBRAND TURBO TECHNOLOGY means:

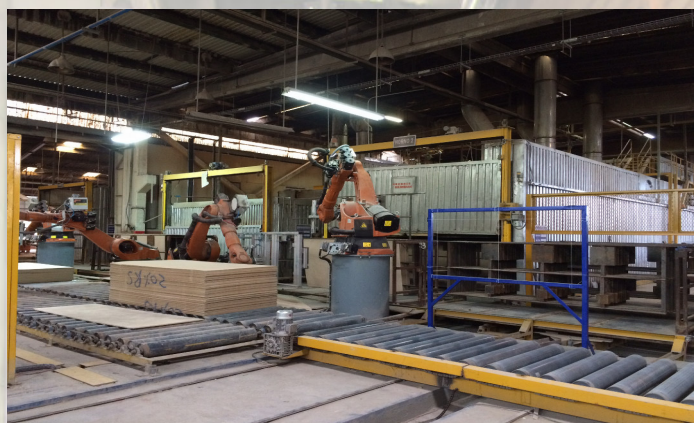
- ✓ Lower energy consumption
- ✓ Higher accuracy of the airflow control and higher airflow speeds
- ✓ Avoiding air blockages in all directions of the lumber charge will result in better utilization of the airflow capacity
- ✓ Better final moisture distribution due to constant turbulent air movement
- ✓ Better drying quality
- ✓ Less moisture pockets
- ✓ Less drying stresses
- ✓ Lower drying costs



construction year 2012/ South Africa



construction year 1975/ England



construction year 2015/ Central America



construction year 1985/ Germany

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Wood Technology: Conventional Lumber Dry Kilns, all systems and capacities, HIGH VAC large capacity vacuum kilns, Steamers, pallet heat treating kilns, continuous kilns, heat recovery systems

Electric and Computer Technology: Kiln Controls, computerized kiln control systems, software, variable speed drive systems, programmable controllers

Halls: Lightweight halls, steel halls, shelters

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