

Direct fired wood dryer

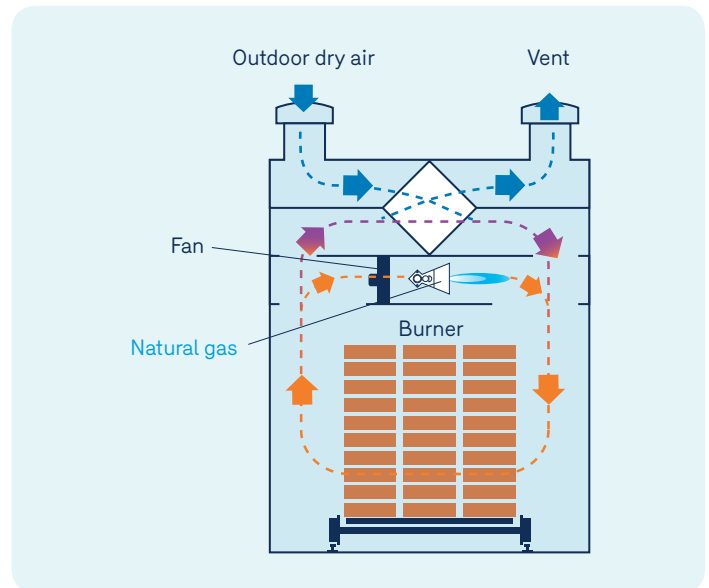
Concept

Drying wood is a process for removing the water and sap present in wood fibre. Once dried, the wood can be conserved and worked without warping, which eliminates production losses and improves the final quantity of wood produced. The process to remove the water from the wood fibre involves increasing the temperature of the ambient air above that of the boiling point of water, that is, 100°C (212°F). Once that temperature is reached, the wood grain opens and the moisture evaporates. The process can be applied to all wood species. However, the softer the wood, the faster the drying cycle. Also, the process requires precise control of the rate of humidity and the temperature inside the drying cells.

A well-designed installation will be able to maintain the temperature and humidity levels precisely so that the moisture can progressively escape from the wood without its warping or yellowing.

The use of a direct gas-fired burner, like the heating system inside the wood dryer, is common and is recommended since it has high power (it is often used in winter for melting snow or ice), ensuring an efficient and rapid rise in temperature inside the wood dryer.

Lastly, a fan circulates the warm air across the wood pallets (like a convection oven) and ensures a uniform temperature in the dryer.



Advantages

- Potential annual savings of up to 10% compared with an indirect fired dryer with a heat exchanger.
- Since latent heat also serves to humidify the wood, efficiency can reach levels as high as 95% and over.
- Easy maintenance.
- Can efficiently dry all species of wood.
- A direct gas-fired burner makes wood dryers efficient and their production economical.

Energy Efficiency Financial Assistance*

Technology eligible for the Feasibility Studies and Implementation of Energy Efficiency Measures Grants, according to defined criteria. See energir.com for more details. The assistance is subject to a calculation of energy savings by the engineer of the customer requesting the assistance.

List of manufacturers

Here is a non-exhaustive list of manufacturers. This list may be revised and amended as needed.

- Cathild inc.
- KDS
- MSIM
- Séchoir MEC inc.

Selection criteria

- The wood drying cells are selected based on the type of products and the production desired.
- Direct fired burners are available in a very wide range of power and modulation.
- The dryer manufacturer will choose the appropriate burner based on the customer's production objective.

Installation standards

The installation must respect the CAN/CSA-B149.1 gas code in force, as well as the manufacturer's instructions.

.....

* Certain conditions apply. The financial assistance is subject to change without prior notice.

These data are provided for guidance only. This Information Sheet is for general use and must not be considered advice. Please ask for assistance on the questions that concern you and do not rely only on the text in this Information Sheet.

Last updated December 3, 2010.
MKTG_06-2019_8782 Colpron