Always at your disposal
All around the world

Belt Dryer BDS
for drying of biomass
The ANDRITZ drying process creates a vacuum inside the dryer, thus keeping the amount of dust leaving the drying system to a minimum.

All requirements of EC Machinery Directive 2006/42/EC and ATEX explosion protection directive 94/9EC are met.

The system is very simple to operate due to the high degree of automation, with quick start and quick stop and no need for operator attendance.

**Biomass as energy source**

In most cases, biomass (bark, wood chips, sawdust) has to be dried before being used in pelleting, briquetting, incineration, and gasification. By reducing the water content, the calorific value increases from 2 kWh/kg to approximately 4.5 kWh/kg. This cuts the transport and storage costs, as well as creating the ideal conditions for direct firing or optimum pelletizing properties, both for industrial and for high-grade wood pellets.

As a result of the drying process, less fuel input is required to generate energy, which also reduces the pollutant emission caused by the firing process.

**Biomass as basic material**

Biomass or saw mill residue is used in the wood processing industry to make such products as panel-boards, blocks, and so on. The demands made on the drying process in this case are high because a very constant and very low moisture content is required in the dried biomass. This requirement is met by the ANDRITZ biomass dryer.

The process and its advantages

ANDRITZ biomass drying uses convective drying processes (open or closed drying air loop). The product is fed continuously to the dryer. The process can utilize waste heat from combined heat and power cycles (e.g. steam turbine or ORC process) in addition to other low-temperature waste heat as a source of thermal energy.

**Plant operation, safety**

The ANDRITZ drying process creates a vacuum inside the dryer, thus keeping the amount of dust leaving the drying system to a minimum. All requirements of EC Machinery Directive 2006/42/EC and ATEX explosion protection directive 94/9EC are met. The system is very simple to operate due to the high degree of automation, with quick start and quick stop and no need for operator attendance.

**The ANDRITZ belt drying system**

<table>
<thead>
<tr>
<th>Water evaporation:</th>
<th>up to 25 tons per hour in “once-through” and “closed-air-loop” operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity:</td>
<td>approx 45 tons of biomass with 50% DS per hour</td>
</tr>
<tr>
<td>Belt width:</td>
<td>up to 8 m</td>
</tr>
<tr>
<td>Active belt length:</td>
<td>up to 50 m</td>
</tr>
</tbody>
</table>

The ANDRITZ belt dryer offers the following advantages in its mechanical design:

- The solid steel construction of the dryer makes it suitable for supporting structural components, platforms, pipework and walkways.
- All screw conveyors and built-in parts are designed for easy removal.
- The saw dust feed system, with frost protection, allows variable settings.
- There are no rotating parts to support the belt in the dryer housing.
- Care has been taken to find a water-saving solution for automatic belt cleaning.
- Very long belt tensioning range for easy belt mounting and for the temperature, time, stretching and tensioning properties of the belt.
- Automatic belt guiding.
- Solid, adjustable belt tensioning unit for central belt running.
- Rubber-covered drive and regulating roll, deflection rolls with special coating.
- The anti-static belt has an endless woven butt connection.
- In order to optimize energy efficiency and minimize exhaust air volume, the drying system can also be designed in a circulating air version.