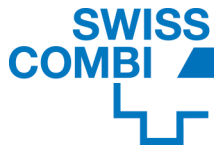




Belt Dryer Low Temperature Dryer



References sawdust drying for pellets



Belt dryer size: 307m² (49m length, 7.2m width)
 Drying capacity: 16'000kg/h water evaporation
 Heat source: hot water (100°C from CHP plant)

References biomass fuel predrying



Belt dryer size: 2 x 200m² (40.0m length, 6m width)
 Drying capacity: 2 x 5'000kg/h water evaporation
 Heat source: hot water (56°C from CHP plant)
 Biomass type: Wood chips / Forest residues

Application field

- Predrying of biomass to increase heating value of biomass fuels
- Drying of biomass from ca. 40-75% moisture to <2% residual moisture
- Production of green fuels or animal feed
- Customisation such as multi-storey dryers, use of flue gas, exhaust air recirculation, energy efficiency measures etc.

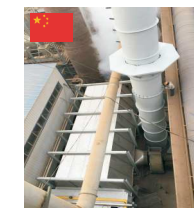
Technical specification

Drying surface: 46m² - 442m²
 Length of drying unit: 15m - 75m
 Width of belt: 6m or 7.2m
 Width of drying unit: 10m - 15m
 Product layer: 1 layer system or 2 layer system incl. product recirculation
 Water evaporation: 1t/h up to 30t/h (per unit)
 Drying temperature: 55°C - 120°C
 Thermal efficiency: 0.6kWh/kg - 1kWh/kg water evaporation depending on heat source and ambient air temperature
 Heat source: Hot Water, Steam, hot and dry gas
 Temperature of heat source: 60°C - 140°C (hot and dry gas up to 120°C)
 Inlet moisture content: up to 75% water content
 Outlet moisture content: <2% water content is possible

Products to be dried

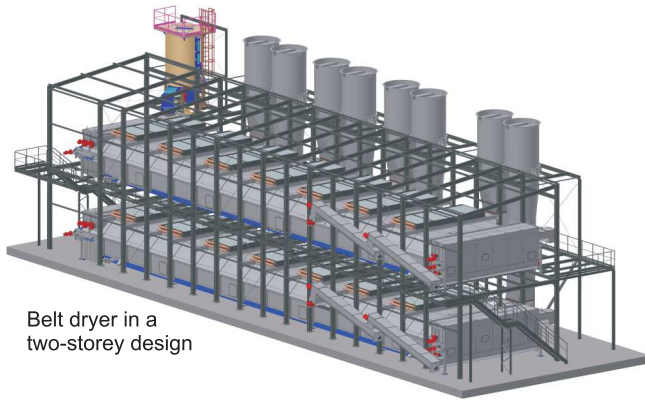


References wood flakes drying for particle boards



Belt dryer size: 74m² (19m length, 6m width)
 Drying capacity: 2'200kg/h water evaporation
 Heat source: drum dryer flue gas (120°C)
 Biomass type: wood flakes

Belt Dryer Low Temperature Dryer



Belt dryer in a two-storey design



Belt dryer with full exhaust air recirculation



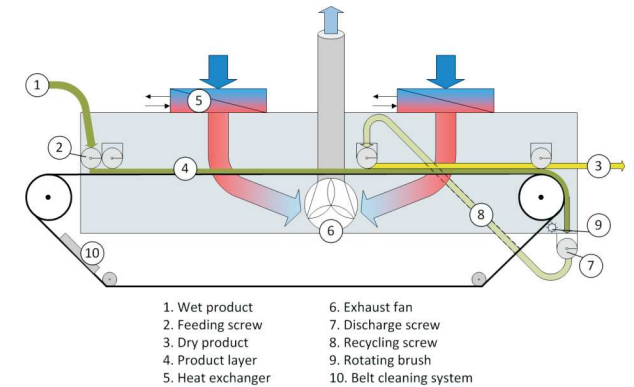
Why low temperature drying?

Advantages of belt dryers

- Efficient utilisation of low temperature (waste) heat, such as hot water, condensate, saturated steam or directly hot gas/air
- Gentle low temperature drying for highest product quality
- Low electrical power consumption
- High availability
- Low maintenance cost
- For a large variety of free flowing products

Design / Customisation

SWISS COMBI belt dryers achieve a water evaporation of 1 to 30 tons per hour depending on its size. Continuous drying until 10%, if demanded down to 2% residual moisture content is possible. Every belt dryer can be seen as a custom built and individually engineered project. Therefore, there is a solution for every customer. For example multiple dryers can be installed one above the other. Another possibility is partial or full exhaust air recycling where exhaust air at the end of the dryer is redirected into the first part of the drying channel. The air recirculation leads to higher saturation of the drying air and therefore higher energy efficiency. Furthermore, flue gas of existing burners can be delivered into the drying channel to lower the waste energy as much as possible. In addition, the product layer serves as a filter to dedust the flue gas. Another big advantage of the SWISS COMBI belt dryer is the possibility of drying different products with the same dryer without any manual adjustments. Depending on the season, the drying and pelletising process can be adjusted due to the available material and run at full capacity. Because of the modular configuration, the dryer can be extended at any time to increase its drying capacity.



Functional principle

In the inlet module (2), the product to be dried (1) is evenly and continuously applied onto the whole width of the belt as a product layer (4) by the feeding screw. The powered belt can be regulated by its speed in order to constantly achieve the requested moisture content of the dry product (3). Therefore, the residence time of the product inside of the drying channel is adjusted. This also means that the time changes in which the drying air flows through the product layer to extract water. The drying air enters the drying channel through heat exchangers (5) to be heated up. The necessary air stream is generated by highly efficient exhaust fans (6) and released to the environment via exhaust ducts at low noise emissions.

To further improve the efficiency of the drying process, the product to be dried - after a first passage through the dryer - is redirected by recycling screws (7 & 8) into the drying channel once again and applied on top of the existing product layer. After the second application onto the belt, the product achieves the requested residual moisture content, is discharged by a discharge screw and passed to the following process.



W. Kunz dryTec AG
 Taubenlochweg 1
 CH-5606 Dintikon
 Switzerland
 Tel. +41 56 616 60 30
 info@swisscombi.ch
 www.swisscombi.ch