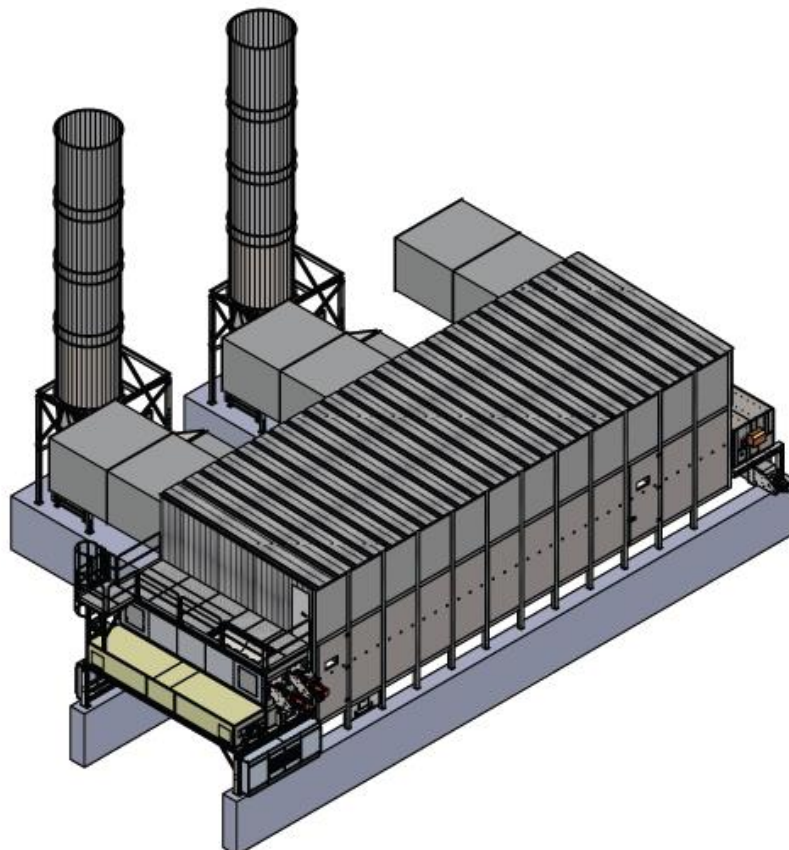


Process specification

Kunde / Customer:	Subcoal Production TSP LTD. Pera Business Park, Office Suite F1-01 TO F-03, Nottingham Road, LE 13 OPB Melton Mowbray, Leicestershire UK
Projekt / Project:	Subcoal Production, Project Drying of RDF in UK. Huntsman Drive, Port Clarence, Stockton-On-Tees, TS2 1TT Middlesbrough UK
Fabrik-Nr.: EPlan-Nr.:	B0600 E4134
Bezeichnung / Description: Typ / Type:	Belt drying plant BT 1/6200-18



preliminary design

1. process specification:

The wet material is fed by the customer into the feeding station and is distributed over the belt width via two conveyor screws. The suitable depth of the product layer is variably adjustable and can be adapted optimally, fast and easy to the respective requirements.

Having been distributed, the product is fed into the drying zone by the belt motion. Inside the drier tunnel, hot air flows through the product. While the hot air flows through the product layer, the moisture is dried off convectively. The heat for this convective evaporation is taken from the air that cools down.

Two fans provide the necessary ventilation of the convective drying. The fans are placed at flow side in the exhaust zone so that the complete plant is operated in suction mode (low depression). Each fan is controllable to its ventilation capacity by frequency-controlled drives. The exhaust air is emitted to the ambient air via pipes.

The product layer is ventilated from top to bottom. Fines are separated by the product layer itself, similar to a filter pad. Additionally, the conveyor belt is a second filtering of the exhaust air.

The drying zone is sealed off from the feeding and discharge zone so that there are only few leakages. Additionally, the complete drying and hot air zone are operated in slight depression so that any emission of leak air is impossible.

2. control of the belt speed:

Controlling and monitoring is carried out by measuring the respective product moisture at the drier discharge. The belt speed is adjusted finely graduated by a frequency-operated gear motor and adapted to various initial moistures.

3. cleaning:

A continuous dry cleaning system as well as a discontinuous wet cleaning system is used to clean the drying belt.

The dry cleaning means a belt blow-off system and a brush at the perforated drying belt discharge side. The cleaning remnants are fed to the discharged product.

For further cleaning of the belt, a high-pressure wet cleaning system is used. One high pressure nozzle is charged by means of a high-pressure water pump. The resulting water jet cleans the belt reliably from sticking deposits (resin, lignin, oil). The nozzle moves over the belt width by a mechanical chain drive and can thus clean the complete belt. The dirty water is collected by a collecting tray and fed to the disposal system of the customer via a drain pipe. The wet cleaning should be executed by exceeding the designed low-pressure.

4. construction:

The belt drier is manufactured in stable steel construction. A steel frame supporting structure supplies the static skeletal structure. This frame structure is covered by sandwich elements partially heat-insulated. Galvanized sheet steel and stainless steel is used for supporting elements. Cover plates, sandwich elements as well as other parts without supporting static function are designed in aluminium or galvanized sheet steel. The ventilators have a fan made of high-strength carbon steel as well as a stainless steel housing.

The drying belt is a very finely perforated synthetic belt with antistatic finishing.

5. performance data:

customer parameter:

product	RDF, 30 mm (loose, not frozen, dust-free, without coarse material, 10 °C)
drier input capacity	17,4 t/h
initial moisture	35 % water content
product bulk weight	approx. 100 kg/m ³ (wet)
fresh air parameters	temp. 10 °C, 50 % rel. moisture
drying temperature	approx 90 °C

stela parameter:

drier output capacity	12,5 t/h
waterevaporation	4,9 t/h
final moisture	10 % water content
maximum dust loading of the exhaust air	10 mg/Nm ³ (dry)