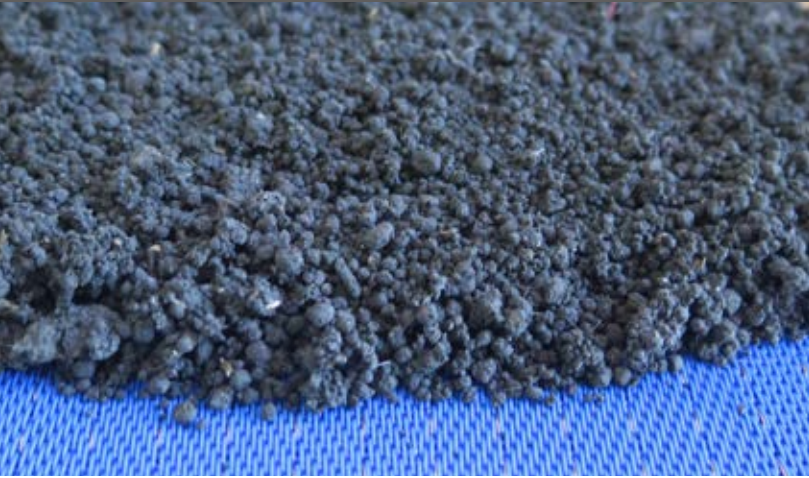


# Low-Temperature Belt Dryer



**STELA Laxhuber GmbH**

- ... is an international operating company setting sustainable successful technological standards in low-temperature belt drying.
- ... is a family owned manufacturer from Southern Bavaria, with strong regional ties, focusing on continuous improvement and development.
- ... is a technology leader that meets its clients' challenges through sustainable growth



# STELA Drying Technology — World-Leading BERLIE Integration Partner — North American Specialist

## Berlie Falco Technologies inc.

- ... is a process & engineering company specialised in drying technology integration
- ... is a Canadian company with over 40 years experience in major drying projects in North America and Middle East
- ... is focused on partnering with state of the art manufacturers to meet our performance and quality driven mentality

## What we offer

Berlie designs and integrate your drying system according to your needs, local regulations & engineering best practices



Client  
Need



Feasibility  
Study



Engineering  
& Design



Project  
Management



Manufacturing  
& Procurement



Transport  
& Logistic



On Site  
Installation



Training  
& Commissioning

## Types of technologies that can be integrated to Belt Dryer



Boilers



Conveying  
Systems



Automation



Product  
Sizers



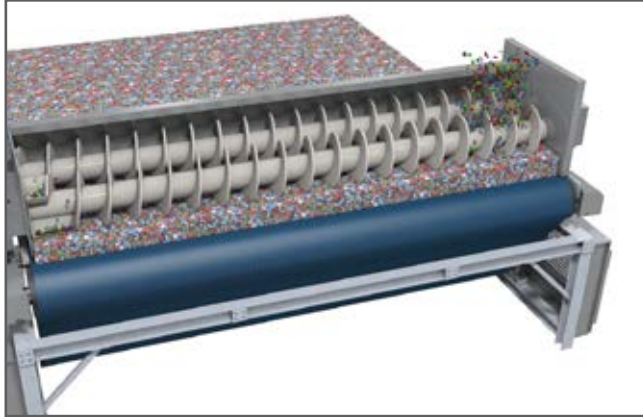
Burners



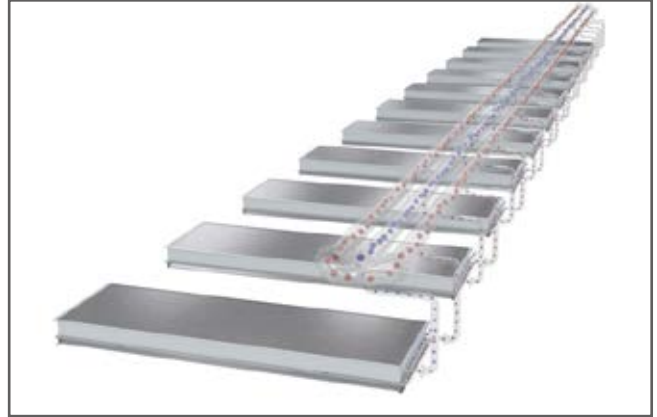
*Edmonton, Canada Drying Plant*



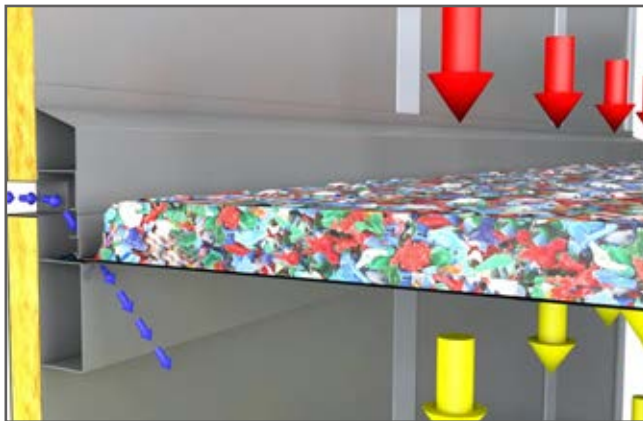
*Doha, Qatar Drying Plant*



*Belt Feeding Screw*



*Indirect Heat Exchangers*



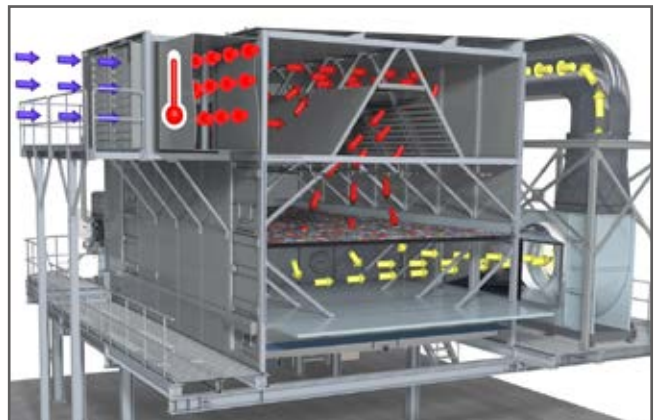
*Air Flow Through the Web Belt*



*Dryer Turning Device*



*Fresh Air Intake Tunnel*

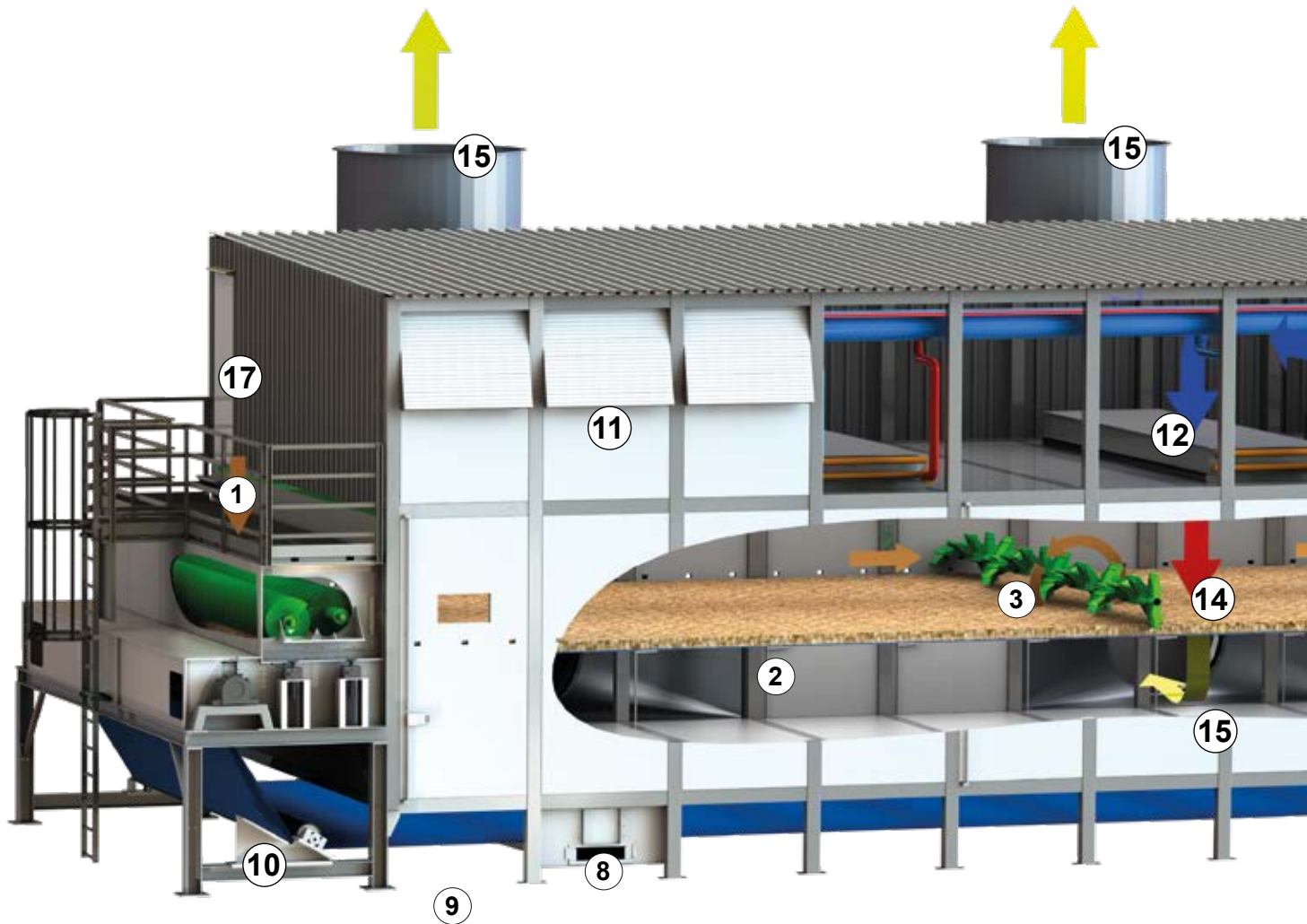


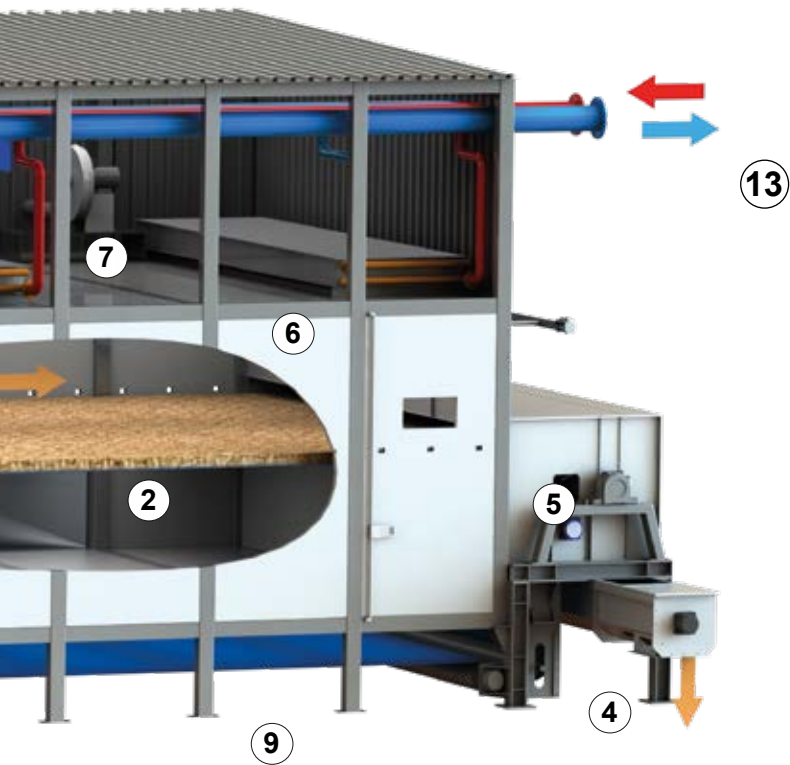
*Direct Heated Dryer*

## Belt dryer type BT

### Main Features

- ... efficient air distribution due to direct-coupled and frequency-controlled multi-vent radial fans
- ... modular plant system, easily expandable
- ... low heat and electricity consumption thanks to perfectly coordinated components
- ... large doors for easy maintenance
- ... enclosed design allows outdoor use in temperatures down to -40°C (insulated dryer tunnel)
- ... optimum product distribution thanks to double distribution screws
- ... product-turning device for even final moisture content and energy-efficient product ventilation
- ... top-down ventilation





- 1 Feeding station
- 2 Product
- 3 Turning device
- 4 Discharge screw
- 5 Belt cleaning system (dry)
- 6 Heat exchanger
- 7 Fan for belt cleaning system
- 8 Belt cleaning system (wet)
- 9 Web belt
- 10 Belt alignment
- 11 Fresh air intake
- 12 Fresh air
- 13 Heat supply
- 14 Drying air
- 15 Exhaust air
- 16 Exhaust air fan
- 17 Maintenance access

**Belt dryer type BTU RecuDry®  
with air recirculation for heat recovery and condensation**

**Main Features**

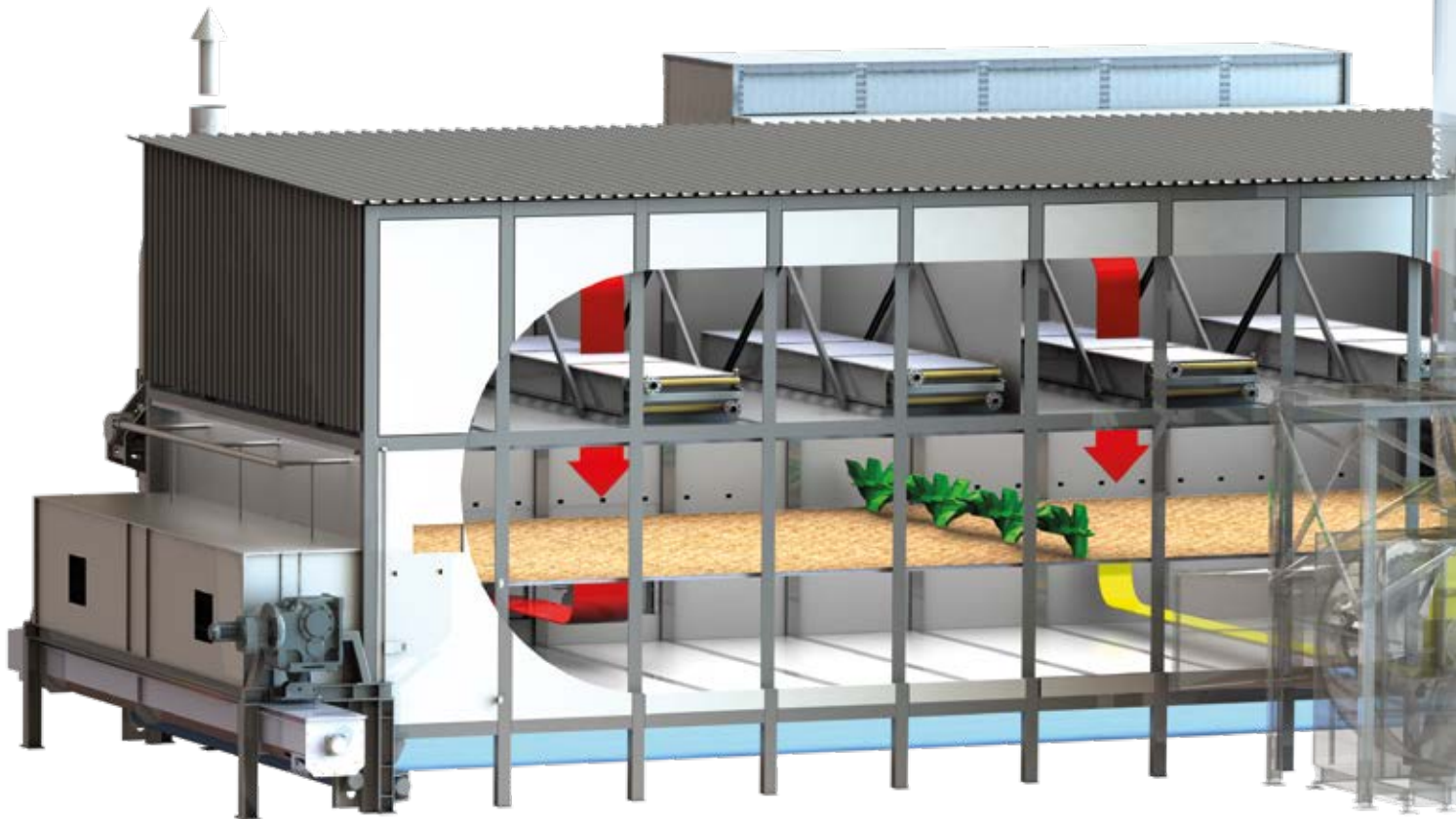
Conventional drying technology divided into two drying areas:

**The Recu module enables**

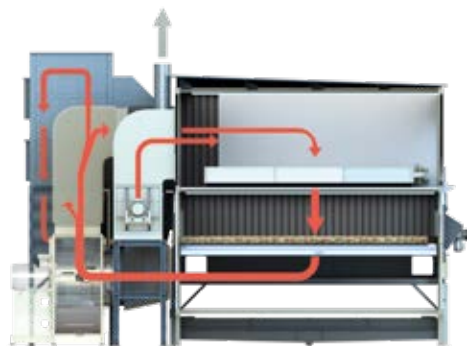
- ... optimal saturation using circulation and reheating
- ... use of this energy-rich air in the condensation module

**The condensation module ensures**

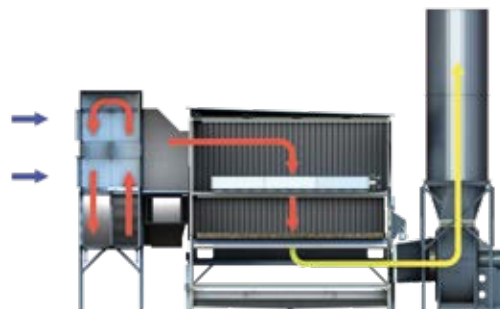
- ... latent energy is used to pre-heat the fresh air
- ... maximum drying efficiency due to the majority of the energy used being recovered thanks to an air-to-air heat exchanger
- ... energy saving of 35 – 55%, depending on the drying surface area used
- ... low exhaust airflows and emissions
- ... retrofitting option for existing systems with the RecuDry® system







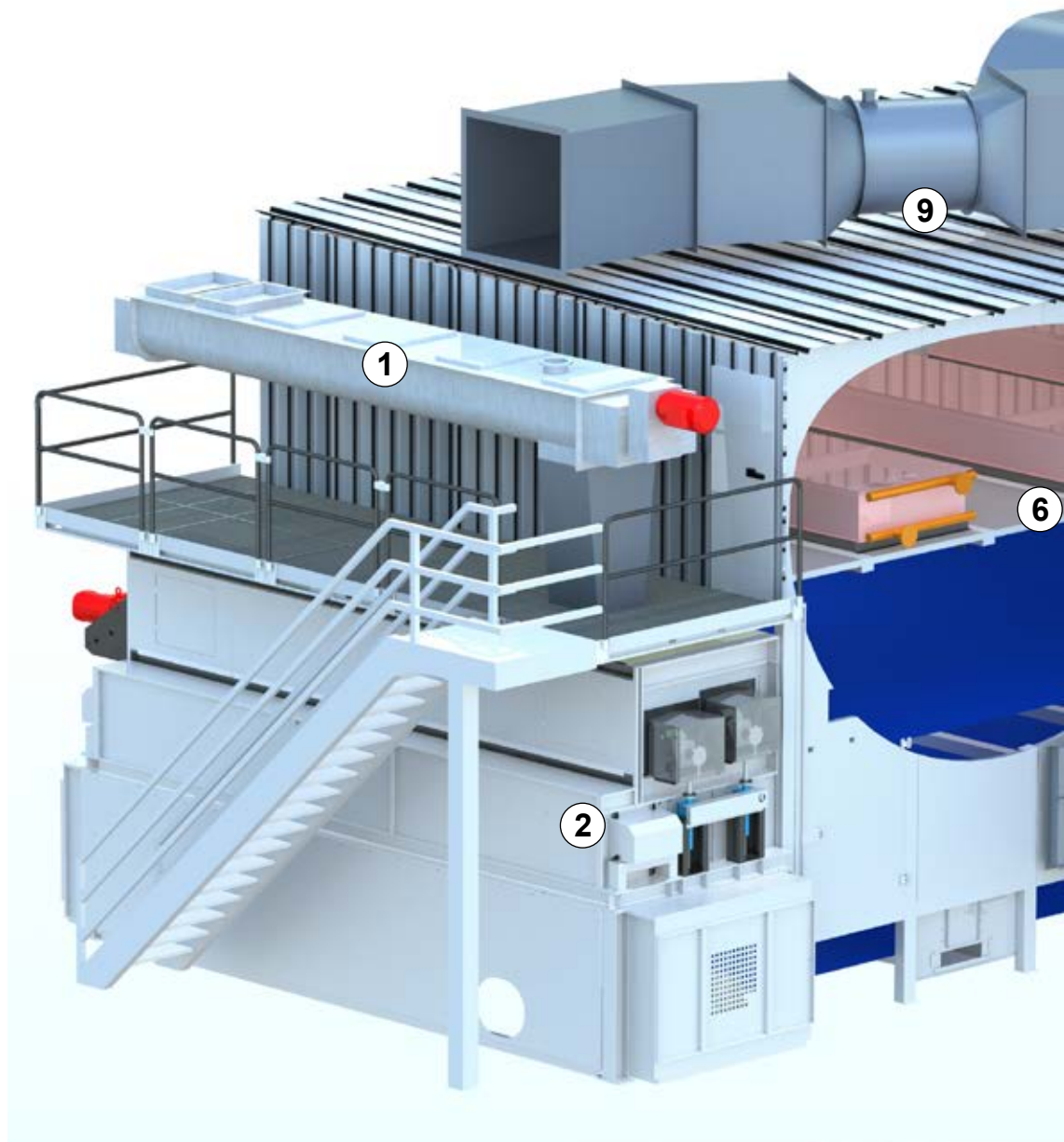
Recu module

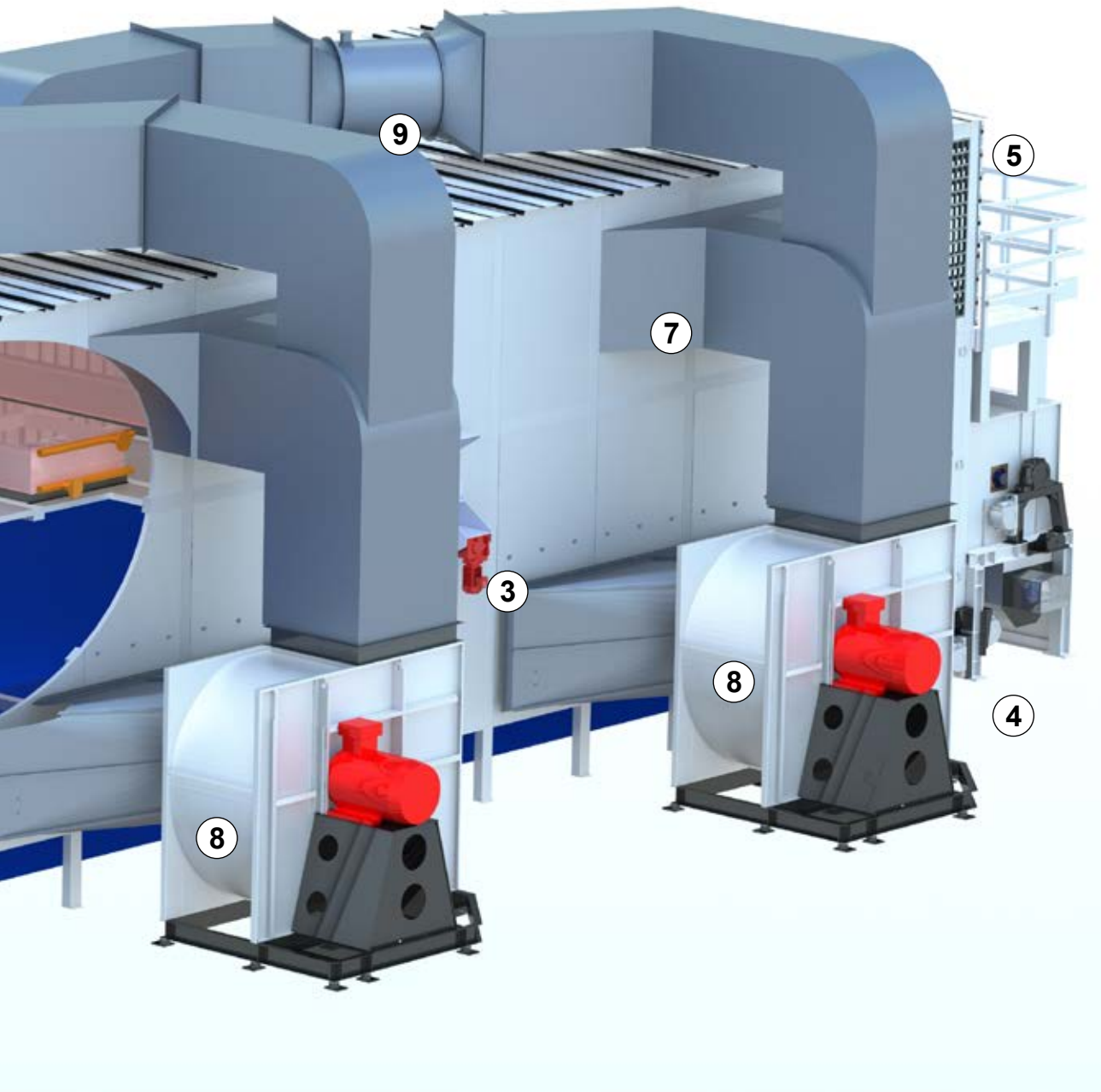


Condensation module

Belt dryer type BTL

- 1 Backmixing screw
- 2 Distribution screw
- 3 Turning unit
- 4 Discharge screw
- 5 Fresh air
- 6 Hot air generation
- 7 Recuperation air
- 8 Circulation fans
- 9 Exhaust air fan





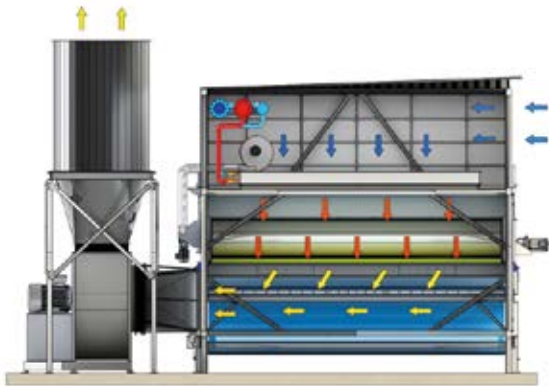
**Belt dryer type BTU**  
Indirect drying with backmixing

**Main Features**

- ... cost-efficient drying system in the lower and medium output ranges
- ... modular plant system that can be easily expanded
- ... top-down ventilation
- ... optimum product distribution thanks to double distribution screws
- ... product-turning device for an even final moisture content and energy-efficient product ventilation



## Heat sources



### Indirect drying

- ... finned pipe heat exchangers are used
- ... for hot water to 130°C
- ... for hot water from cogeneration (CHP) or flue gas condensation
- ... for saturated steam to 15 bar
- ... plate heat exchangers can be used for special media (geothermal energy, thermal oil)



### Direct drying

- ... with hot air < 120°C
- ... raw gases are used, depending on the composition and application
- ... e.g. clinker cooling air is used after dust extraction in cement plant



### Direct drying high temperature

- ... with hot air > 120°C
- ... the raw gas temperature is homogenised with fresh air in a mixing chamber
- ... e.g. clinker cooling air is used prior to dust extraction in cement plant

## Low temperature dryer

### **STELA Laxhuber GmbH**

Your professional partner in the sewage sludge drying field. Our professional and knowledgeable team is happy to help at any stage, from design to commissioning or from construction to after-sales service. A wide range of sludges of different compositions are dried in drying systems around the world in a reliable and energy-efficient manner.

### **Areas of application for conveyor dryers**

- Municipal and industrial sewage system
- Paper and cellulose industry
- Chemical industry
- Food Industry
- Animal feed industry

### **stela belt dryer**

- with granulator or backmixing
- with a fabric or metal conveyor belt
- with heat recovery (recovery unit) in different designs
- easy to operate due to a high degree of automation
- a wide range of energy sources can be used (hot water, natural gas, bio gas, steam, exhaust gases, thermal oil)

### **Sizes available**

- Water evaporation capacity from 1000 kg/h to 25,000 kg/h (2200 lb/h to 55 000 lb/h)
- Specific thermal energy consumption from 0.80 kWh per kg/H<sub>2</sub>O (0.36 kwh per lb/H<sub>2</sub>O)
- Specific electrical energy consumption from 0.05 kWh per kg/H<sub>2</sub>O (0.02wh per lb/H<sub>2</sub>O)
- Various conveyor widths for any output size

### **Concept of belt dryers**

- Inhomogeneous sludge qualities can be handled
- Backmixing is used to ensure homogeneous infeed product
- The drying process is homogenised with constant wet sludge qualities
- Waste heat temperature from 60 °C ( 140°F)
- Dust minimised in crude gas
- Adhesion minimised
- Automated cleaning options
- Drying surface areas up to 600 m<sup>2</sup> ( 6 450 ft<sup>2</sup>)

### **Concept of plate belt dryers**

- Granulators can be used keeping dust to a minimum
- Homogeneous input material structure
- Robust, durable dryer design
- Process temperatures up to 220°C can be achieved
- Can be implemented in multi-belt systems

## Worldwide References



Project: Schwenk Latvija SIA  
Country: Latvia  
Type: BT 1/6200-13.5  
Product: RDF  
Water evaporation capacity:  
7.7 t/h from 25% - 3% MC



Project: Schwenk Zement KG  
Country: Germany  
Type: BTL 1/3000-14  
Product: RDF  
Water evaporation capacity:  
8.9 t/h from 15% - 5% MC



Project: UPM  
Country: Uruguay  
Type: 2x PBT 2/4000-21  
Product: Biological and phosphorus sludge  
Water evaporation capacity:  
8 t/h from 30% - 5% MC



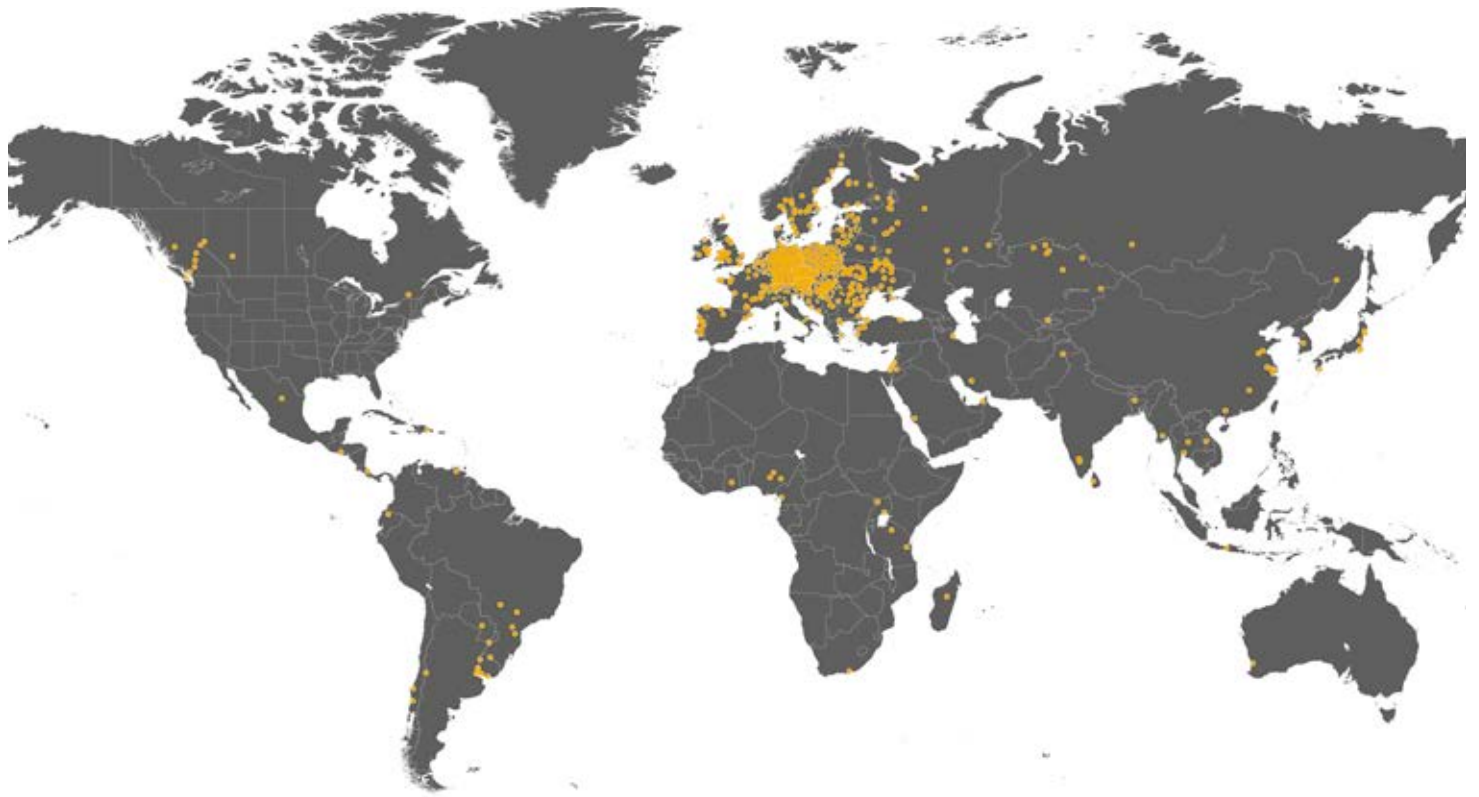
Project: Edmonton Waste Management  
Country: Canada  
Type: BTU 1/6200-18-3-2  
Product: RDF  
Water evaporation capacity:  
4.1 t/h from 40% - 10% MC



Project: Ziegler  
Country: Germany  
Type: BTU RecuDry 1/6200-60  
Product: sawdust  
Water evaporation capacity:  
36.4 t/h from 40% - 10% MC



Project: VGM  
Country : Lithuania  
Type: 2 X BTU RecuDry 1/6200-34.5  
Product: Wood Chips  
Water Evaporation Capacity:  
14 t/h from 47% - 2% MC



All information subject to change © stela laxhuber GmbH 04/2023



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