Water Technologies & Solutions
fact sheet

STC System* belt dryers

sludge and biowaste thermal drying at low temperature

overview

SUEZ's line of patented STC System belt dryers is based on in-depth experience of thermal drying at low temperatures. By enabling the use of low grade waste heat, it also optimizes the global process efficiency.

Where the feed is sludge, it is extruded to produce a homogenous layer of "spaghetti". Then, the product goes through the drying modules on 2 consecutive belts moving in opposite directions and discharged.

The STC system uses a unique modular concept, designed from the operator's point of view. Its high adaptability and reliability have been proven throughout various projects in municipal and industrial sectors.

benefits

Energy efficient: savings

- Low operating temperature enhances potential for waste heat recovery (e.g. CHP cooling water usable).
- Heat pump technology available.
- Production of a high quality fuel.
- Perfect fit with waste to energy schemes (combustion, pyrolysis and gasification processes).

Safe

- Outside the range of application of the ATEX Directive (zero risk of explosion or fire). T < 80°C.
- Dust-free.

Reliable

- Over 20 years experience and over 21 references.
- High quality materials.
- Fully engineered and manufactured in-house.
- Specially fit-for-purpose extruder and belt design.
- Long-lasting commitment with the client.

Adaptable

- Quick start-up and fully automated process.
- Easy operation and access to all equipment.

why thermal drying

- Reduce weight and volume for transportation.
- Produce safe and hygienic biosolids.
- Biologically stable, long term storage.

equipment integrator

Auxiliary equipment offered by our division:

- Sludge reception.
- Heating plant (boiler, heat pump).
- Condensate system.
- Granulate handling and storage.
- Odour control unit.

biosolids recycling: new resource

- Cement factory (biofuel).
- Energy production, replacing coal & wood.
- Agricultural reuse as fertilizer.

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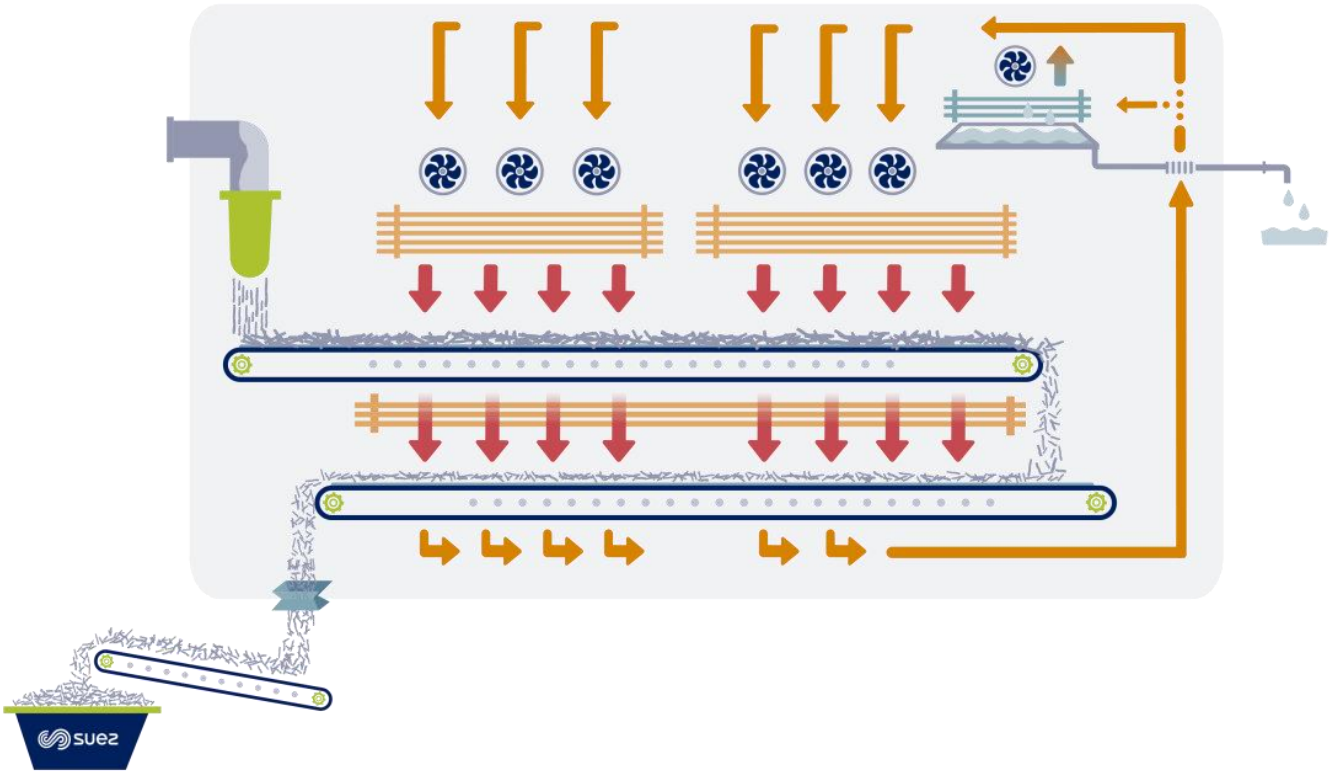
capacities

200 to 8000 kg H_2O/h per line.



how it works

The STC thermal drying system is based on hot air convection inside a closed tunnel. This system has been designed for products where thermal energy is needed in order to remove the remaining water content, to obtain a final product with over 90% dry solids content.

It can operate with any hot energy source with a temperature above 80ºC (even lower for certain biomass applications), thus maximizing energy recovery.

Feed and extrusion

The product is placed into a small hopper, from where it is transferred through the extrusion system. This system enables the proper distribution of the product along the whole width of the belt, facilitating the passage of air evenly through it.

Belts

Two belts (one on top of the other) loaded with the product move in opposite directions. The absence of relative movement during the process avoids dust generation and the subsequent chances of blockage.

Fans

They generate the circulation of hot air between 65 and 80ºC within a closed circuit. The air direction is perpendicular to the belts, extracting the water contained in the product by hygroscopic equilibrium.

typical applications

Examples of feed: Municipal sludge, Industrial sludge, AD digestate, Woodchips, Paper refuse, Spent grains, Eucalyptus bark biomass, Solid Recovered Fuel (SRF).

some references

Guadalhorce (Spain)	2 lines	7250 kg H_2O/h.
Cemex Alicante (Spain)	2 lines	6000 kg H_2O/h.
Lugo (Spain)	1 line	2000 kg H_2O/h.
Shanganagh (Ireland)	2 lines	2520 kg H_2O/h.
Karlovy Vary (Czech Rep)	1 line	558 kg H_2O/h.
Targu Mures (Romania)	1 line	1200 kg H_2O/h.
St Marcellin (France)	1 line	540 kg H_2O/h.