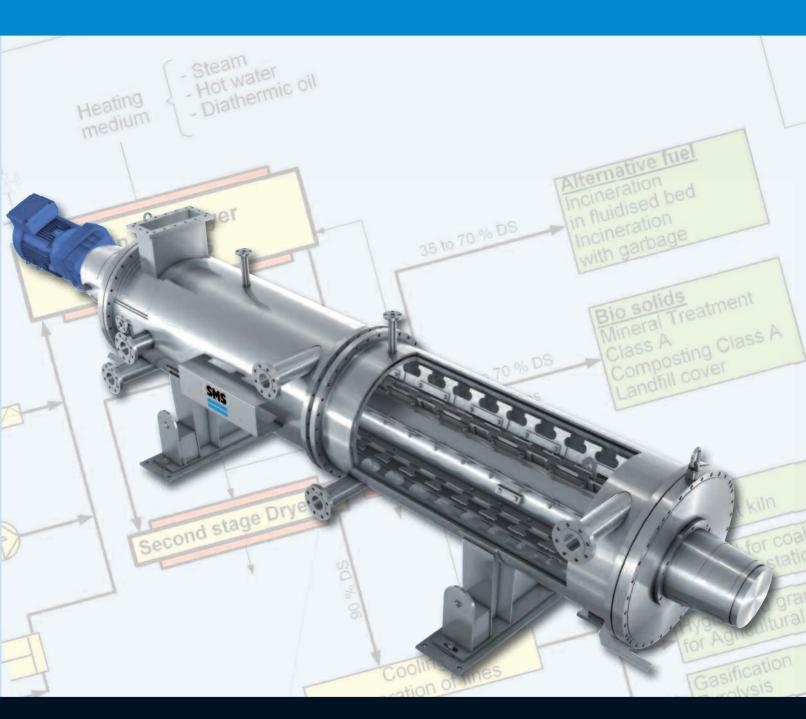
Drying Technology for Sewage Sludge



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Horizontal Thin Film Dryer

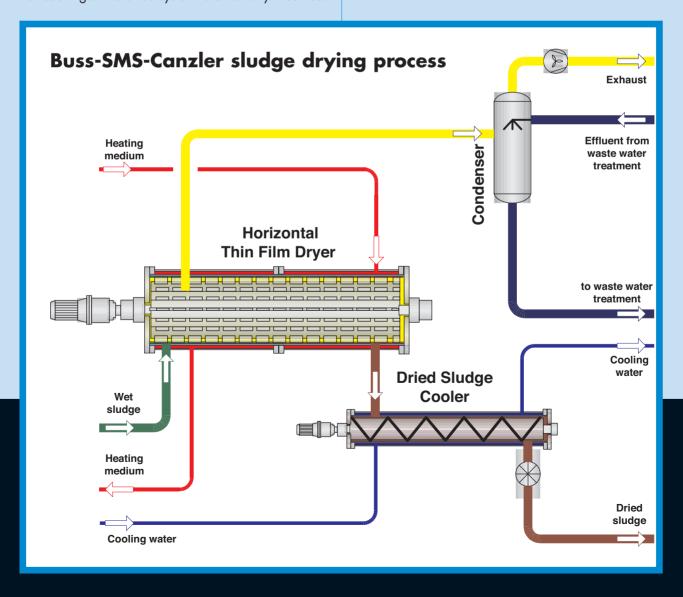
Buss-SMS-Canzler drying technology, and in particular the Horizontal Thin Film Dryer has been supplied and successfully operated in the field of sludge drying for more than 25 years. This technology has been well proven in a large number of drying plants, and we have supplied plants with throughputs of up to 800 wet tons per day.

Horizontal Thin Film Dryer

Horizontal Thin Film Dryers are continuously operating contact dryers. The dryer vessel consists of a cylindrical shell and end covers, the vessel is provided with an external heating jacket. Internally an agitator is provided with demountable blades bolted to the agitator. The agitator is supported at both ends by external bearings. The drive system is externally mounted.

The agitator blades maintain a thin layer of product on the heated walls, and convey the product along the heated vessel walls to the discharge nozzle.

Vapours pass counter currently to the product flow, and are discharged through a vapour nozzle adjacent to product feed nozzle.



Buss-SMS-Canzler Sludge Drying Process

PRE - DRYING

The Thin Film Dryer offers an ideal solution for drying of municipal and industrial sludges to intermediate or high dry solid levels. The Buss-SMS-Canzler Thin Film Dryer can provide a fully dried product in various forms, suitable for the final purpose either in a single stage or in combination with a segmented disc dryer type Linear Dryer or Rovactor®.

Dry solid content of 35 - 50%

• Solid fuel for fluidised bed incinerators



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FULL DRYING 85 to 95% dry solid

2-stage drying system - full drying

The Linear Dryer is a perfect solution for drying the predried granules from the Thin Film Dryer up to 90% dry solids. The Linear Dryer is a heated U-type conveyor with a slow moving, heated shaft with specially designed transport scoops. The slow rotation of the impeller in combination with a relatively low filling height ensures gentle movement and transportation of the granules.

Thermal utilisation

- As solid fuel for cement kilns or for coal fired power stations
- For pyrolisis, gasification or other conversion processes

2-stage drying

Biosolids

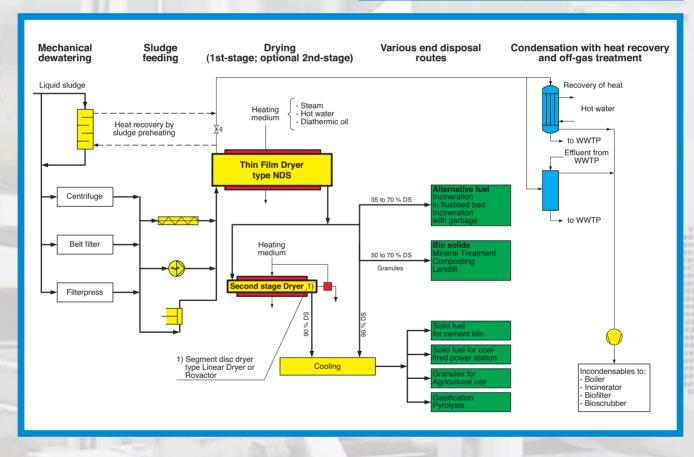
"Class A" granules for agricultural use, for composting and for soil reclamation



Thin Film Dryer

The following graph gives an overview of the customized Buss-SMS-Canzler sludge drying systems and how they can be integrated in the overall biosolid disposal process.





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Advantages of Buss-SMS-Canzler **Sludge Drying Technology**

Simple

- single pass operation over the sticky or pasty phase; hence no back mixing of dried product
- contact drying without using sweeping air /gas
- no special preconditioning of the wet sludge

Economical

- minimum energy consumption
- integrated heat recovery (optional)
- self cleaning heat exchange surface
- short start-up and shut down time
- low maintenance costs
- minimum supervision

Flexibile

- applicable to all types of sludges
- suitable for any initial dry solid content
- any final dry solid content
- different heating media
- single stage or two stage operation

Ecological and Safe

- enclosed system under slight negative pressure
- self inertisation by the evaporated water

References

- more than 80 sludge drying installations
- references worldwide (Europe, USA, China, Arabia ...)
- dryers in operation for more than 20 years

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