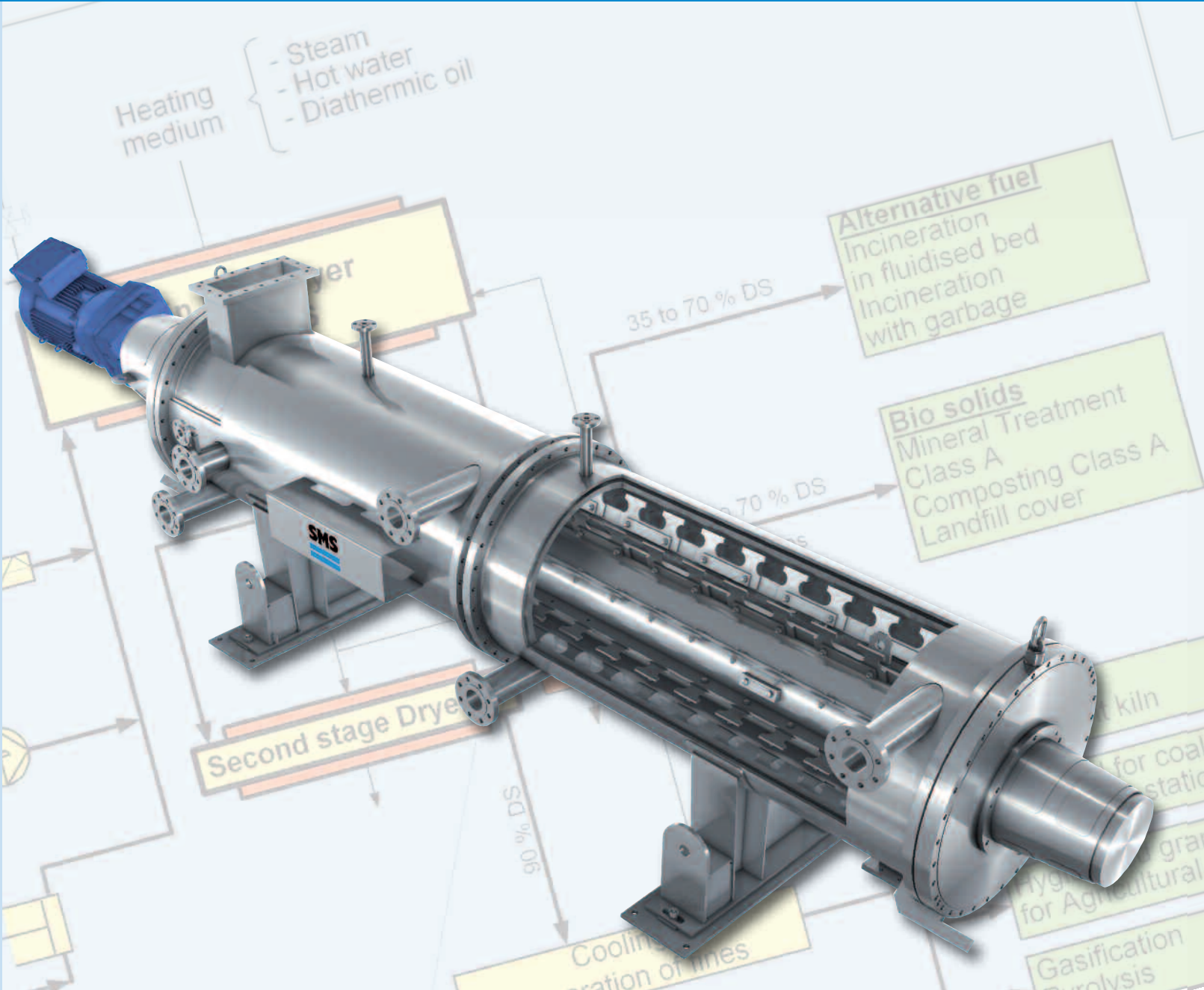


Drying Technology for Sewage Sludge



Specialist in thermal separation
and membrane technology

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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.

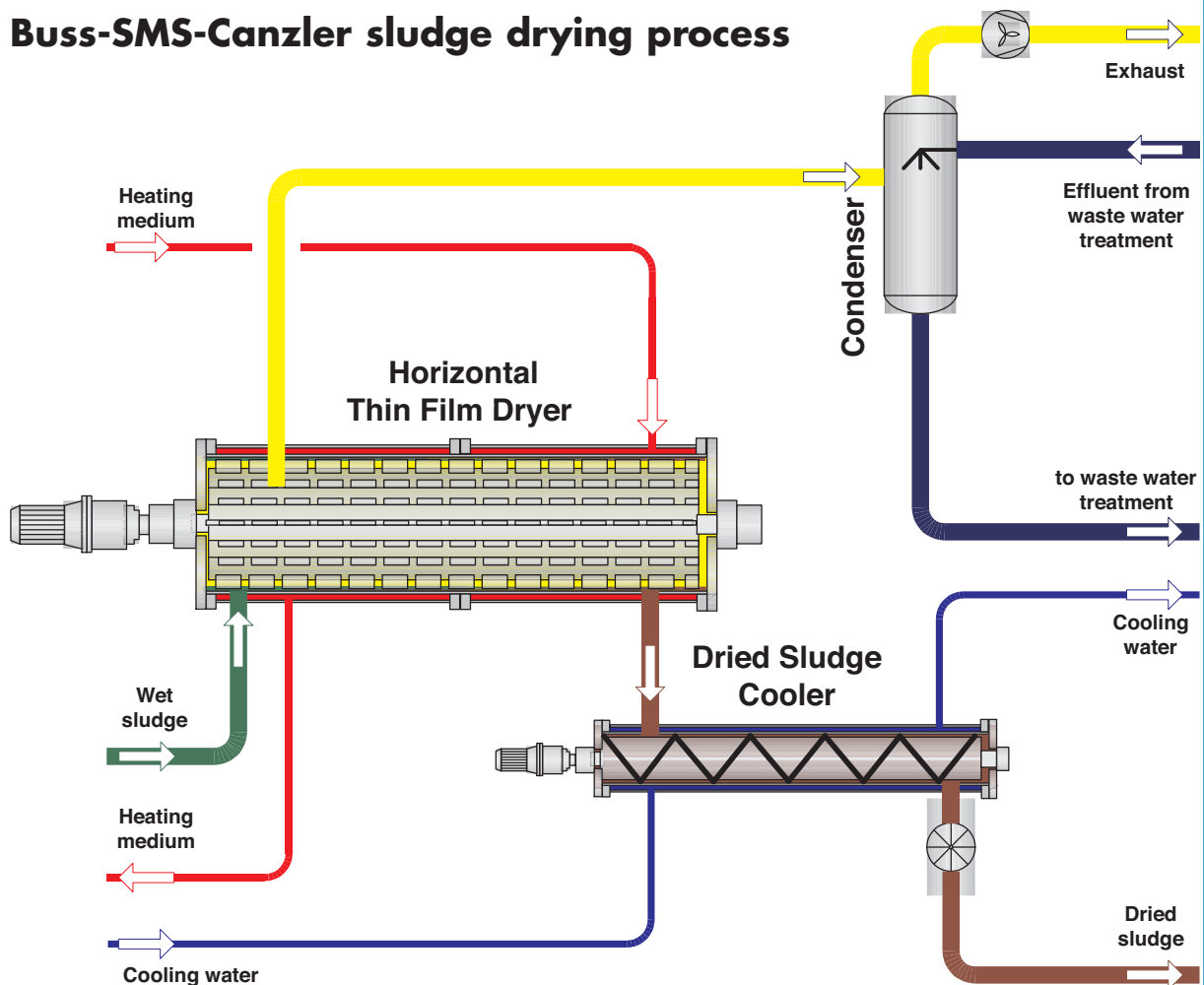
Horizontal Thin Film Dryer

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



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**

**Dry solid
content of 50 - 70%**

- **for combined incineration with garbage**
- **biosolids to mineral treatment, composting or landfill**



1-stage drying



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**FULL
DRYING**
85 to 95%
dry solid

Thermal utilisation

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

2-stage drying system - full drying

The Linear Dryer is a perfect solution for drying the pre-dried 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.

Biosolids

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

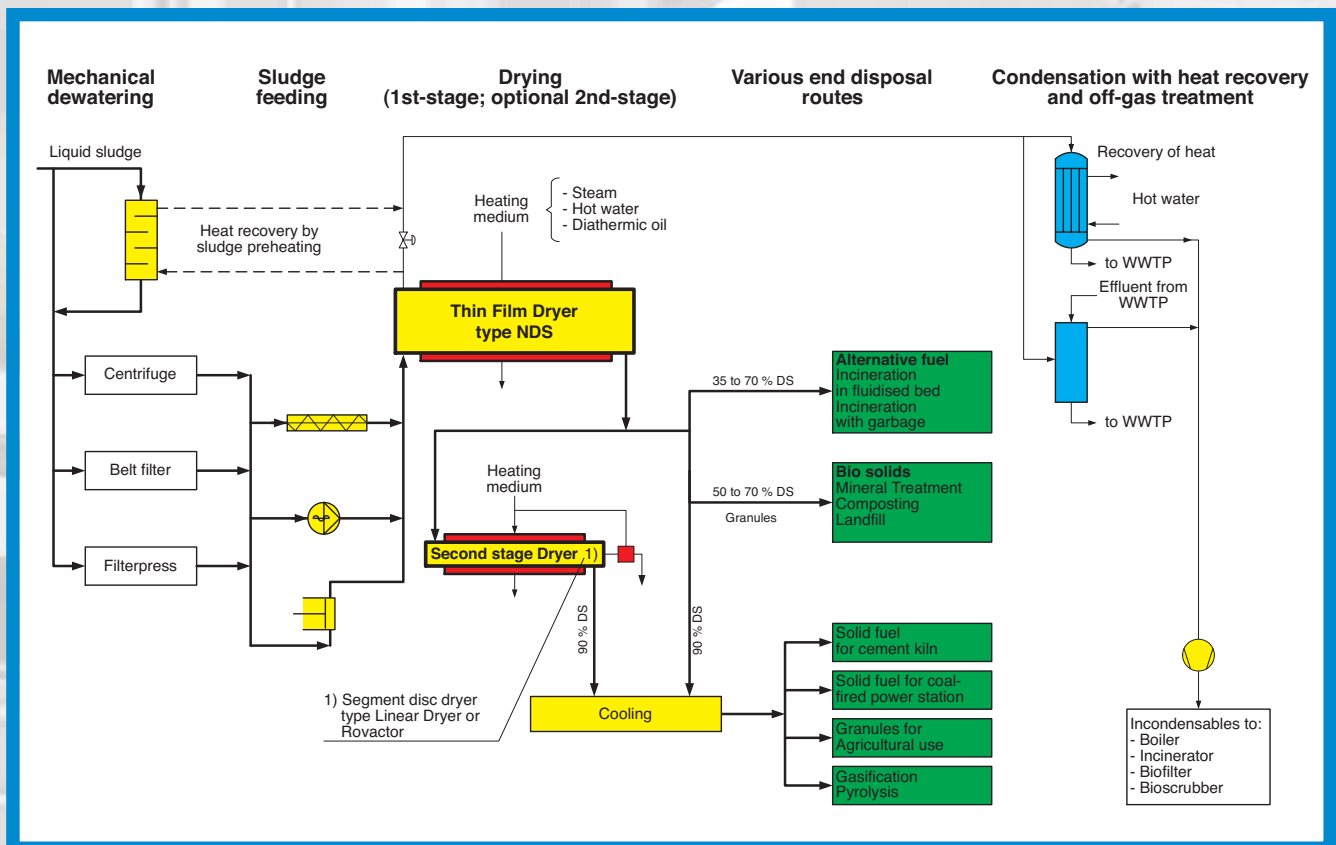


2-stage drying

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

Flexible

- 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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