

We invented the Exergy steam drying technology in late seventies and have over 35 years' experience in designing and delivering drying plants using our technologies integrated with other processes. We strongly believe in long term trust based relationship with our clients, partners and suppliers. Our drying solutions reinforces your process.



EXERGY DRYING FOR SLUDGE

– Environment, energy and money saving drying technology

Sludge contains 75% to 80% water and removing it requires a lot of energy. With Exergy Superheated Steam Dryer the water that is removed from the wet sludge is turned into steam thus allowing 80% of the energy input to be recycled. The Exergy Superheated Steam Dryer can also be used a sanitation method as the sludge is 100% sterilized in the process.

GENERATING PROFITABILITY

We analyse our customers' needs to provide effective drying processes that leads to a cost effective complete solution with high productivity and energy efficiency.

LOW OPERATING COST

- 150 kWh/ton water evaporation – Energy saving
- Few rotating parts – High availability and low maintenance
- Waste to energy – No support fuel needed

COMPACT AND DURABLE DESIGN

- Small foot print, built on height – Save on land
- First plant built 1979 and still in operation – Long lifetime

ENVIRONMENTAL FRIENDLY AND SAFE

- No emissions to atmosphere – No VOC or odor treatment needed
- Oxygen free – No fire and explosion protection systems needed

ADDING VALUE TO YOU END-PRODUCT

Exergy steam drying technology does more than just drying. The dried product receives many unique benefits and improvements compared to other drying methods.

MUNICIPAL AND INDUSTRIAL SLUDGE

- Sterilized product
- Odor free product
- Reduced volume
- Long term storage
- Easy to spread as fertilizer



EXERGY SUPERHEATED STEAM DRYER

The steam dryer is a closed, pressurized system where the wet product is exposed to superheated steam. The steam serves as a transport gas for the product in the dryer. The heat for drying is transferred from the drying medium through the super heater surfaces to the steam and the suspended product. Flue gas, steam or thermal oil can be used as heat source for the dryer. Dried product and superheated steam are separated in a cyclone and the steam is recirculated. Part of the dried product is recirculated back to the mixer where it is mixed with wet product and the partially dry mixture is fed into the dryer. Water in the wet product becomes steam in the dryer and is discharged through a pressure control valve to maintain constant pressure in the dryer. Typical residence time for the product is 10 seconds in the steam dryer.

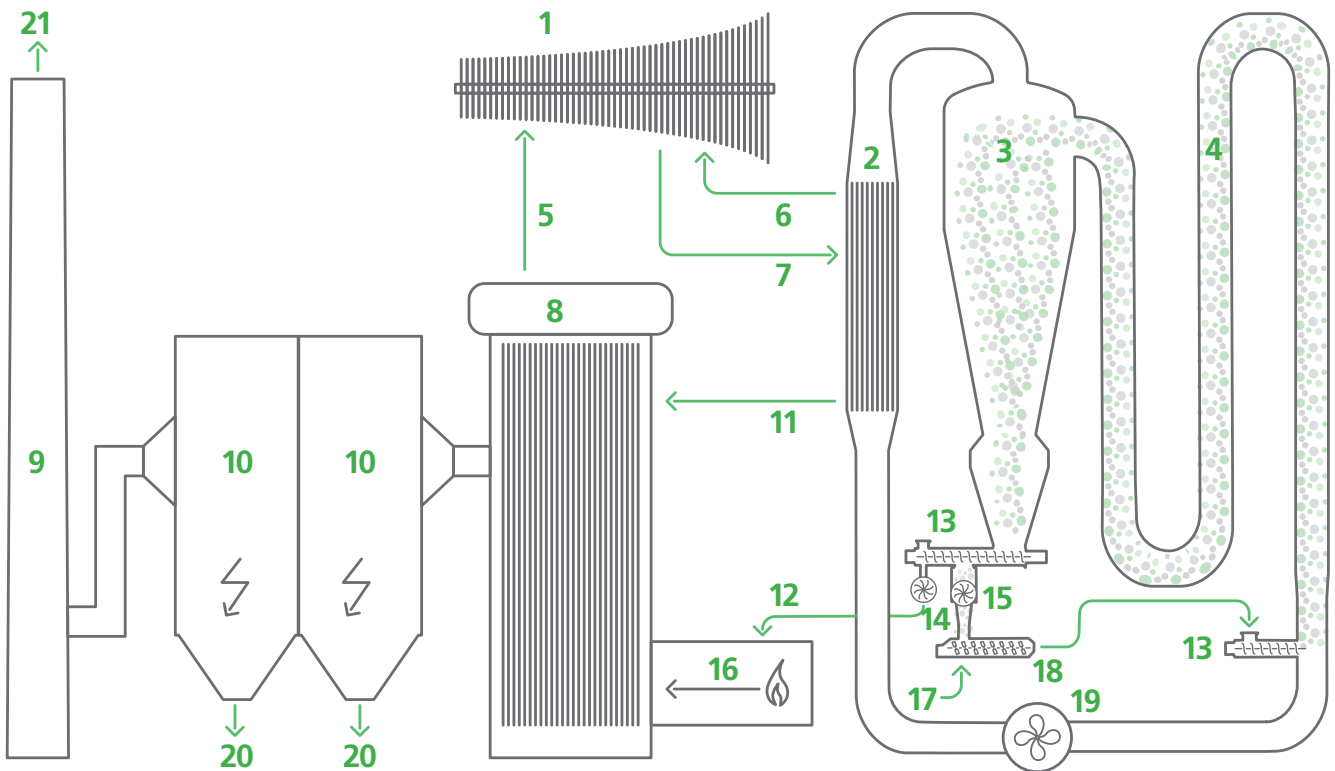
MONOCOMBUSTION

The Exergy dried sludge is a bio-fuel. Even bio-digested sludge has a heat value about 12 MJ/kg dry solids. Together with recovered energy from the Exergy SHSD, 80% of heat value can be used for electrical power and/or district heat production without any need for support fuel. The phosphorous can be recovered from the ashes and used as a fertilizer.

Municipal sewage sludge



EXERGY DRYING FOR SLUDGE



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|-----------------------|-------------------------------|-------------------------|---------------|---------------------|
| 1 Steam turbine | 6 Generated steam | 11 Condensate | 16 Burner | 21 Flue gas exhaust |
| 2 Superheater | 7 Steam extraction | 12 Dry sludge | 17 Wet sludge | |
| 3 Cyclone | 8 Steam boiler | 13 Screw conveyor | 18 Mixer | |
| 4 Drying ducts | 9 Stack | 14 TroMaxx rotary valve | 19 Fan | |
| 5 High pressure steam | 10 Electrostatic precipitator | 15 Rotary valve | 20 Ashes | |



SWEDISH EXERGY AB | EXPERIENCE & KNOW-HOW FOR OPTIMAL SOLUTIONS

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