

# **DFT<sup>®</sup> - PROCESS**

**STEAM FLUID DRYING**

## The process of DFT<sup>®</sup> Steam Fluid Drying by VER

VER Ltd. engineers, designs, constructs and operates plants and appliances for thermal waste treatment and specializes in the drying of problem materials.

The DFT<sup>®</sup> Drying Process has been developed mainly for sludges but can also be applied to other types of feedstock. This VER Technology is based on many years of experience and technological know-how.

### DFT<sup>®</sup> Features – The process in detail

The DFT<sup>®</sup> Reactors are continuously operated horizontal drum-type dryers with inner agitators equipped with a steam jacket for indirect heating. The steam – generated via natural gas or other appropriate fuel – condenses and thus provides the heat required for evaporating the moisture from the feedstock inside the dryer.

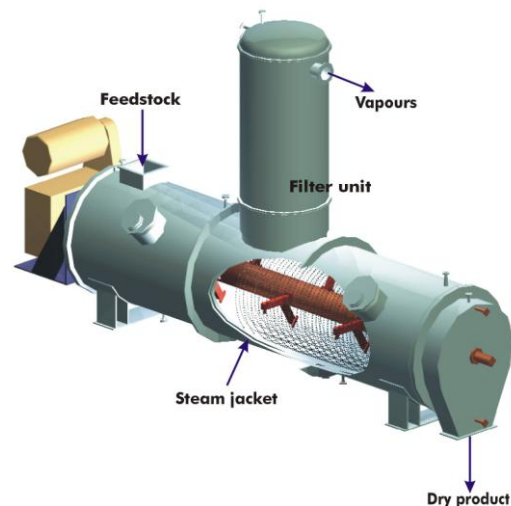
The rotating agitator with specially designed shovels leads to an intensive material fluidization. That means an efficient heat transfer (keeping the dryer to compact dimensions).

The vapors are condensed after filter purification. The condensate receives further treatment, depending on environmental and quality demands.

Due to the almost complete absence of air inside the appliance – the drying atmosphere contains only the evaporated moisture – the DFT<sup>®</sup> Dryers provide maximum process safety.

Features of DFT<sup>®</sup>:

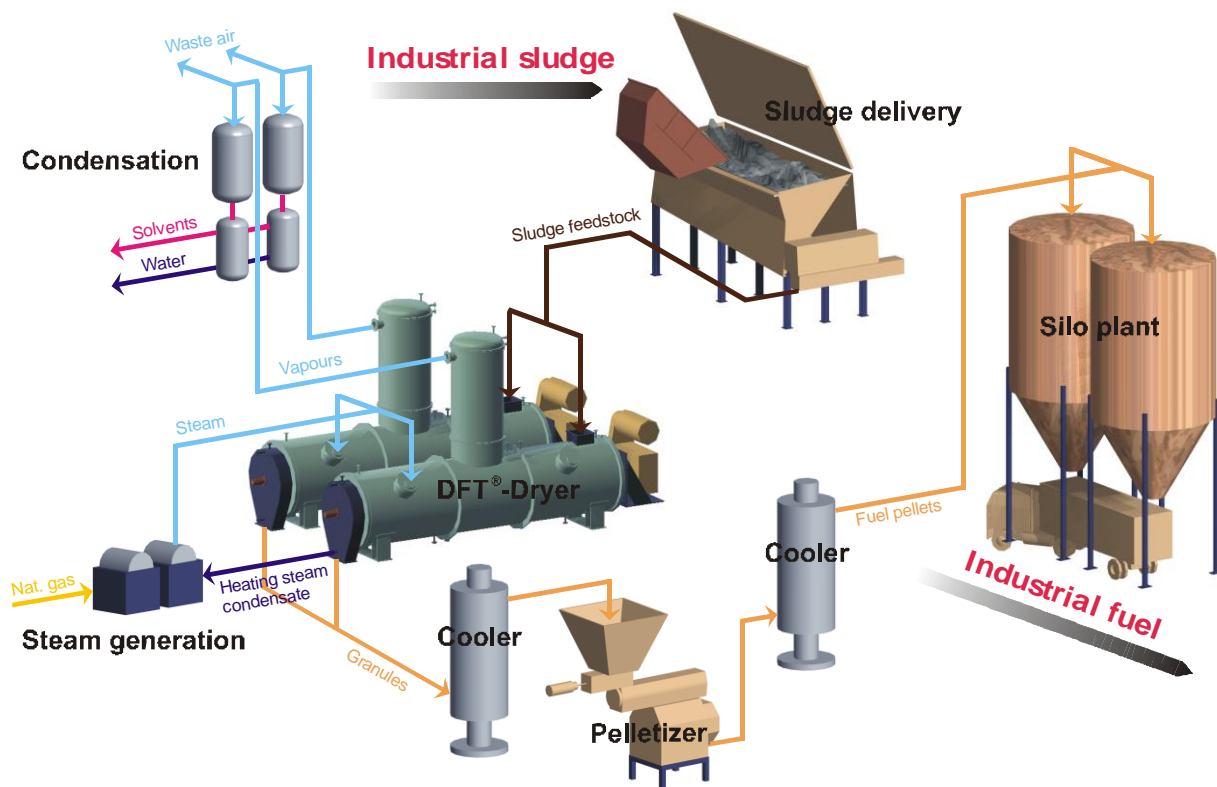
- can be used for a wide range of materials particularly sticky and difficult-to-handle materials, such as waste sludges and pastes
- suitable for solid, semi-solid or liquid feedstock
- continuous drying process with built in protection against overheating
- minimum exhaust air quantities due to drying in vapor atmosphere
- high feedstock flexibility, no material pretreatment required in many applications
- safe and reliable plant performance
- low operating and maintenance costs
- high energy efficiency due to small heat losses
- homogeneous dryer output with adjustable moisture content
- safe handling and complete utilization of environmentally harmful materials



## Selected DFT® Applications

- ⇒ Industrial sludges – from paint, tar, sewage and sludge from chemical processes
- ⇒ Solid materials, shredded municipal waste, fluffy materials, biomass
- ⇒ ... and many more

Drying tests carried out in our laboratory and testing facilities ensure exact engineering and designing of the VER drying technology.



Processing of paint sludge with the DFT® Process

## Performance data

Max. evaporation capacity of one DFT® Dryer:  
Heating steam pressure:  
Drum diameter:  
Dryer length (excl. drive and discharge):

1500 kg/h (water)  
5 ... 35 bar (ca. 160 ... 244°C)  
max. 2,0 m  
max. 8,0 m

## Feedstock requirements

Consistence: solid, semi-solid or pasty, liquid

Feed size: 100 mm (max.)

## DFT® examples

- 'VZR' Recycling Center Reichstaedt (operated by VER Ltd.)  
Drying of paint sludge with a total plant capacity of 20,000 tons/ year  
Commissioned in 1997



- Customer: SVZ Schwarze Pumpe Ltd., Saxony/ Germany  
Drying of tar sludge with a capacity of 120,000 tons/ year  
Commissioned in 2000/2001







*Manufacture 03/2000*



*Official acceptance 06/2000*



*Delivery 07/2000*



*Delivery 07/2000*



*General view 10/2000*