

BELT DRYER BD 3000/8 Tomaszów (POL)



Belt Dryer BD 3000/8 with direct operated horizontal condenser and exhaust air fan



Burner plenum for natural gas with combustion chamber and blower for combustion air



Dewatering centrifuges next to the Belt Dryer

In 2015, the **Belt Dryer BD 3000/8** was commissioned for the full drying of undigested municipal sewage sludge generated in the mechanical and biological treatment phase of the **wastewater treatment plant in the Polish town of Tomaszów Mazowiecki**.

The Polish water utility company **Zakład Gospodarki Wodno - Kanalizacyjnej w Tomaszowie Mazowieckim Spółka z o.o.** builds and operates water supply and wastewater treatment plants in the Łódź region. The company has been responsible for wastewater and sludge treatment at the wastewater treatment plant since 2000. The Polish construction company **Budimex S.A.** was the **general contractor** for the construction of the **sludge dewatering and drying system** and the client of SEVAR AG.

The mainly municipal wastewater from the city and surrounding rural communities is biologically treated in the wastewater treatment plant. The occurring sewage sludge, which is collected and dewatered with centrifuges to 20 % DS at a rate of 2.9 t/h [5,700 lb/h], is dried to 90 % DS in a Belt dryer of size BD 3000/8 with a **water evaporation capacity of 2.2 t/h [4,400 lb/h]**. The back-mixing of the dewatered sewage sludge with approx. 0.4 t/h of dried sewage sludge to an average dry solids content of 30 % ensures an optimum volume/surface ratio of the wet material before it is fed onto the dryer belt. The dried sewage sludge is conveyed via a bucket elevator to the twin screw mixer for back-mixing and the remaining partial stream is transferred via belt and screw conveyors into containers and used as a **soil conditioner and fertilizer**.

The **drying air is heated to approx. 275 °F** by mixing recycled, condensed dryer exhaust air with hot flue gas produced during the combustion of natural gas in the gas burner. The humid, warm drying air is condensed in a horizontally installed spray condenser, cooled to approx. 104 °F and returned to the burner.

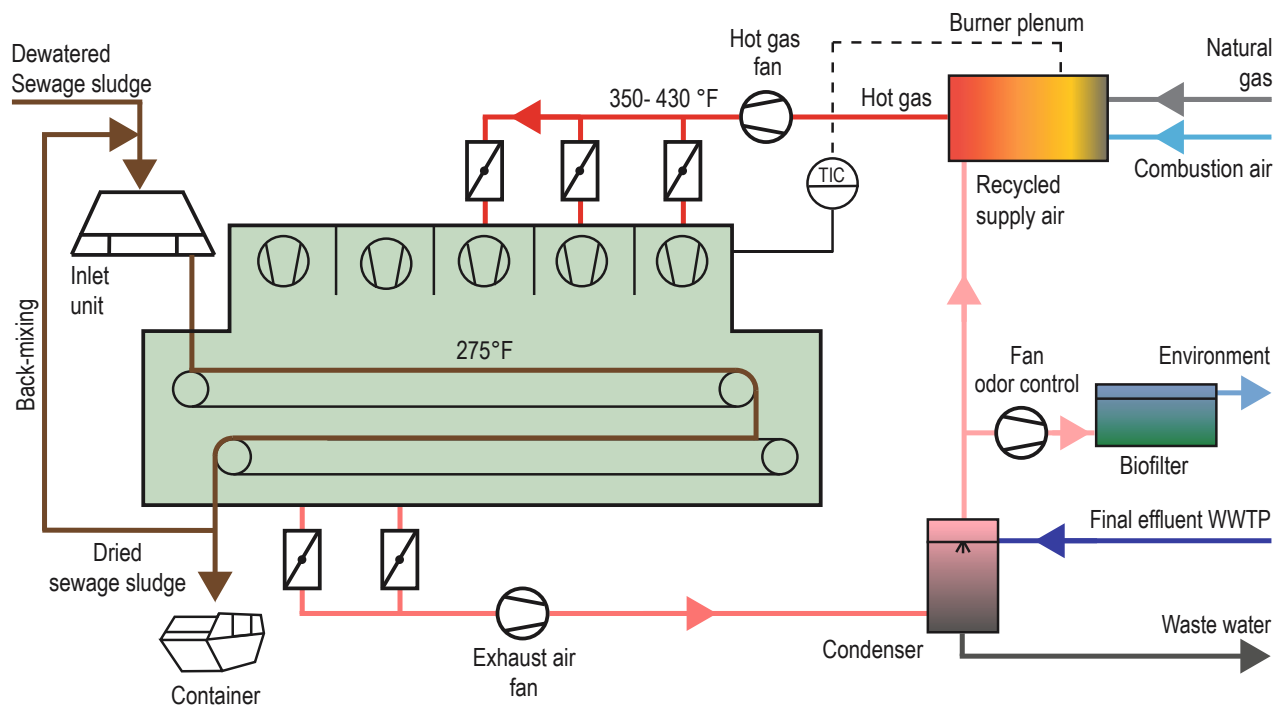
This leaves only a small amount of exhaust air that has to be removed from the system for balancing purposes. The odorous exhaust air is treated in a biofilter.



SEVAR

Drying Technologies

FUNCTIONAL PRINCIPLE



Source: SEVAR AG

TECHNICAL SPECIFICATION

t = tn.sh. (US unit)

Scope of supply:	Belt Dryer BD 3000/8 with back-mixing, gas burner with mixing chamber, horizontal spray condenser direct operated, dry material conveying system into containers
Type of drying:	Full-drying
Heating source:	Direct heating with natural gas [Drying temperature 275 °F]
Material	Undigested municipal sewage sludge
DS input:	20 %
DS output:	90 %
Throughput_wet:	22,400 t/a (2.9 t/h) [45,900,000 lb/a (5,70 lb/h)]
Water evaporation:	2.2 t H ₂ O/h [4,400 lb H ₂ O/h]
Operating hours:	24 h/d, fully automatic
Commissioning:	2015

SEVAR AG

SEVAR AG emerged in 2020 from the environmental technology division of Haarslev Industries A/S. The over 30 years proven **technology of belt drying** is continued under the already well-known name SEVAR with a motivated team. The young German company with headquarters and production near Karlsruhe is supported by an international network of partners and agents.

SEVAR designs and manufactures plants for the **thermal treatment of municipal and industrial sewage sludge**, fermentation residues and wood residues. The treatment of the humid exhaust air resulting from the drying process with **condensation and odor treatment** is also considered. Reference plants are available for inspection worldwide.

We reserve the right to alter the specifications at any time without prior notice.