



TTV THÖNI HIGH SOLIDS ANAEROBIC DIGESTION

Plant data

Customer:
Bioabfallverwertung GmbH Leonberg (BVL)



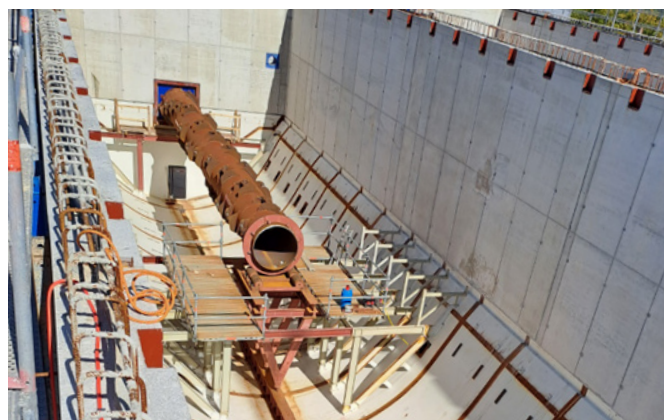
Plant data

Commissioning:
2024

Input:
72,000 t/a biowaste, green waste

Digester:
2xTTV2250 (double digester); concrete

Raw biogas:
9,400,000 Nm³/a



PLANT AND PROCESS

After the fire in 2019, Bioabfallverwertung Leonberg decided to turn an initially planned plant expansion of the burnt-down existing plant into a new building. The starting signal for the new and largest municipal digestion plant in Baden Württemberg.

Waste processing begins with the delivery of organic and green waste from the Böblingen and Esslingen area to the receiving hall, where it is shredded, sieved and temporarily stored in the flat bunker. Next, the substrate is conveyed to the digester feeding system by an automated crane and conveyor. The double digester is fed via two mixers, which homogenize the substrate with recirculated inoculum and dilution liquid. After homogenization, the substrate is fed to the digester vessels by piston pumps. The homogenized substrate is then heated up to 55°C and digestered in a plug-flow double digester. The digestion substrate remains in the heated digesters for an average of three weeks.

In the end of the digestion process, the substrate residue is pumped by piston pumps to the vibrating sieves and screw presses, where it is separated into solid fraction and press water. Some of the press water is used directly to moisten the input material. The rest is further processed in a multi stage decanter system. This separates sand and organic matter - the treated press water is then discharged into the sewage system. After a short aeration phase, the substrate residue is transported to the Kirchheim composting plant, where it is processed into valuable compost.

80% of the biogas obtained is processed in the newly constructed biogas treatment plant. The biomethane processed to natural gas quality is fed into the local city gas grid and the separated carbon dioxide is used as liquid CO₂ for industrial purposes. This means that the High Solids Anaerobic Digestion makes significant contributions to reducing CO₂ emissions.