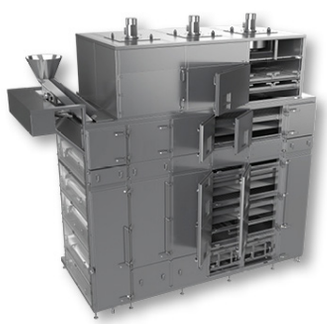
For any type of pasty sludge

Heat Pump Based Sludge Drying

Sludge is normally produced in wastewater treatment plants. If such sludge is only pre-dewatered for transport to the disposal site the operator pays some 60 percent for the water contained in the sludge. Sludge drying can reduce sludge weight and volume and curtail transport and disposal cost. An additional positive energy and carbon balance is obtained if a heat pump based dryer is chosen.

Harter produces highly efficient dryers with integrated special heat pump technology and heat recuperation for sludge drying. Sludge dryers are often to be found in electroplating shops of industrial plants. They use chamber filter presses for mechanical dewatering. The semi-solid sludge may be batch dried. Standard batch dryers consist of a heat pump module, a drying cabinet and two drying containers. The heat pump module provides the process air and is also responsible for the condensation process. The drying cabinet accommodates one container for drying while the other container is placed below the chamber filter press waiting to be filled with sludge.



Single and multiple belt, heat pump based dryers are offered for continuous drying of pasty sludge

Belt Dryer for Sewage Sludge

Series of sludge drying tests were prompted by an inquiry received from a municipality. Harter realised the first project at Erpfendorf, Tirol, Austria. Sewage sludge is pre-dewatered using a screw press, decanter or centrifuge. It has a higher humidity than filter pressed sludge and also differs in consistency. The expertise accumulated in previous sludge drying projects was combined with the know-how obtained from belt drying applications in the pharmaceutical and food industry for the purpose of drying pasty sludge. The Erpfendorf belt dryer consists of two horizontally arranged belts and five heat pump modules. The conveyor belt has a sophisticated design with several features that allow the passage of air through the sludge. The extremely dry process air is evenly passed through the sludge to obtain the desired uniform dry matter content. Being modular the system may be readily expanded. The pre-dewatered sludge enters the dryer with a water content of some 75 percent and leaves it with only about 15 percent. Drying always takes place within the limits of 30 °C to 60 °C. The heat pump allows drying in a closed air circuit - without any exhaust air. A conveyance system complements the drying system. Belt drying is now also suitable for any pasty sludge resulting from industrial processes, that is waste sludge from the production of plastics, paper, chemical products and much more. Drying system manufacturer Harter has an in-house Test Center - which is also their powerhouse for innovative ideas - to run tests of sludge samples for their properties. Later on, Harter offers a rental drying system for interested parties to perform larger scale tests at their sites.

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