

HUBER SE COMMISSIONS ONE OF THE LARGEST SEWAGE SLUDGE BELT DRYING PLANTS WORLDWIDE

CASE STUDY



HUBER BELT DRYER BT 30 IN COLOMBIA

Located in the second largest Colombian city of Medellin, the new Bello wastewater treatment plant (2.75 million population equivalents) with a maximum inflow of 6.5 m³/s went into operation in mid-2018. For drying the sewage sludge treated in the 6 digesters, the HUBER Schrader-Camargo consortium installed the proven HUBER Belt Dryer BT, thus implementing an international mega project. The contract value for the consortium for the construction of the turnkey drying plant is over 44 million Euros.

Every day 310 tons of dewatered sewage sludge are produced at maximum inflow at the Bello wastewater treatment plant. A further 90 tons are coming daily from the San Fernando wastewater treatment plant, which



HUBER conveyor technology for sludge transport

is located in the centre of Medellin. The sewage sludge from San Fernando is transported by truck to Bello and fed into the plant via a special sludge acceptance bunker. Three HUBER Belt Dryer BT 30 units dry the 400t dewatered sewage sludge per day from an average of 28% DR to over 90% DR. Furthermore, HUBER supplied the sludge bunkers, conveyor technology, vapour condensation, cooling towers, exhaust air treatment and the control system for the drying plant. The consortium partner from Colombia supplied the buildings, turbines and the electrical equipment.

SUSTAINABILITY

For the end customer, Empresas Publicas de Medellin (EPM), one of the largest energy and water supply companies in Colombia, the focus is on sustainable and



Cooling towers and exhaust air treatment

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Control system for the drying plant

economical disposal of the sewage sludge produced. The plant concept therefore provides for the use of combined heat and power generation. Two highly efficient gas turbines produce, depending on the load, the electricity required for the sewage treatment process. The resulting waste heat is used to dry the sewage sludge. By combining the highly efficient HUBER Belt Dryer BT with a modern gas turbine, the plant achieves an efficiency of approx. 90% related to the energy content used. Due to the high degree of automation, the plant requires very little staff attention for operation.

Since January 2019, HUBER SE as consortium leader has operated the plant together with its Colombian partner. The plant is currently in the adaptation phase. Step by step, the plant capacity will be adapted to the amount of sewage sludge produced. This depends on the inflow

of wastewater to the treatment plant and will reach its maximum in the coming months.

The sewage sludge treatment concept implemented here is not only ground-breaking for the whole of Latin America. The use of highly efficient drying technology in combined heat and power generation can also be applied economically in Europe. The flexible heat utilisation concept of the HUBER Belt Dryer BT allows the utilisation of various waste heat sources and offers a suitable, tailor-made solution for any application.