HYDROFLUX epco

INT: +61 2 9089 8833 **Toll Free:** 1300 417 697
Level 26, 44 Market Street Sydney, NSW 2000
Email: info@hydrofluxepco.com.au

SEWAGE SLUDGE DRYING ON STP INGOLSTADT – A SUCCESS STORY

CASE STUDY

Two HUBER belt dryers type KULT BT 80 were put into operation on STP Ingolstadt in August 2005. The installed total dryer surface is 160 m² which is the same as that of our new dryer type BT 16.

The scope of supply of HUBER SE included not only the drying plants but also the sludge bunkers and thick sludge pumps. The exhaust air treatment system has already been installed.

The special feature of sewage sludge drying on STP Ingolstadt is that the drying process takes place on a very low temperature level. Warm water with a temperature of 53 °C is available as heat carrier medium. This warm water is heated in the adjacent waste incineration plant via a water-vapour heat exchanger. The exhaust steam from a condensation turbine is available all year round. As this hot water is free for the sewage treatment plant, their operating costs for sewage sludge drying are very low. The dry sewage sludge, which is dried to 90% DS, is thermally utilised in the waste incineration plant, this closes the loop.

Due to the fact that the wastewater treatment plant is within intermediate proximity to the waste incineration plant Ingolstadt, the following advantages could be achieved:

- 294,000 driving kilometres saved per year
- 88,000 litres of diesel saved per year
- CO2 emissions reduced by 225,000 kg per year
- No use of primary energy
- Utilisation of secondary energy in the form of cost-free exhaust heat from the waste incineration plant
- Use of current that has been generated from regenerative sources on the waste incineration plant

Most maintenance work (e.g. cleaning the pelletising system) can normally be carried out without having to interrupt plant operation. There are hardly any standstill times, most of the time the dryers operate 7 days a week. The sludge drying plants therefore achieve an avg. annual operation time of significantly more than 8,000 h.

The technical plant manager, Rudolf Beck, is especially enthusiastic about the low maintenance requirements.

The technical data of the sludge drying plant are specified:	
Sludge input	12,000 t/a
Number of drying lines	2
Input DS	30%
Output DS	90%
Operating time	> 8,000 h/a
Throughput per line	approx. 900 kg/h
Max. water evaporation per line	approx. 600 kg/h
Hot water flow temperature	approx. 53°C
Heat demand	approx. 7,500 MWh/a from waste incineration plant
Current demand	approx. 150 kW