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Belt Dryer BT 8 in Nova Gorica, Slovenia

HUBER received the first order for a Belt Dryer BT installation in Slovenia. Besides a number of other HUBER products, the BT 8 will be installed on the sewage treatment plant of the town Nova Gorica in western Slovenia, not far from the Italian border. The dryer is designed for an annual throughput of 9,300 t dewatered sewage sludge.



Fig. 1: Fine Screen HUBER ROTAMAT® STAR with a throughput capacity of 1.000 m³/h each providing excellent dewatering results of > 35 % DR



Fig. 2: HUBER Belt Dryer BT 8



Fig. 3: HUBER Belt Dryer BT 8, rear view

In summer 2014, HUBER received the order to supply the complete equipment for mechanical wastewater treatment and sludge treatment. The mechanical equipment comprises two coarse screens type HUBER Multi-Rake Bar Screen RakeMax®, two fine screens type HUBER Fine Screen STEP SCREEN® SSF-HE with 6 mm bar spacing and three fine screens type HUBER Perforated Plate Screen ROTAMAT® STAR 1800 with 1 mm perforation.

When planning the three-stage preliminary treatment system, which is to protect the downstream membrane filtration plant, the end customer relied on HUBER's positive long-term experience in the Slovenian market. Two HUBER Sludge Acceptance Plant ROTAMAT® Ro3.1 units, one HUBER Screenings Wash Press WAP® 4 and one HUBER Coanda Grit Washer RoSF4 complete the range of HUBER products installed in this complex plant.

The sludge treatment plant is equipped with two HUBER Screw Press RoS3Q 800 units for sludge dewatering and a HUBER Belt Dryer BT 8. Both plant components ensure that the sludge from the membrane biology is first dewatered to about 20 % and then dried to > 90 % DR.

The BT 8 belt dryer is operated with a flow temperature of 140 °C. The dryer thus achieves a water evaporation of just over a ton per hour on a comparatively small drying surface. The electric power that is necessary for drying is only 57 kW per kg water evaporation. This extremely low value is achieved through the dryer's unique HELIX air-flow routing system which ensures that maximum air saturation is achieved and minimizes the volume of air required for drying. This has a very positive effect on power demand as the ventilators are the major power consumers in a drying plant.

Furthermore, the BT dryer is equipped with a heat recovery system which recovers the heat that is released as the vapours condensate and makes it available to be utilized for heating purposes on the sewage treatment plant. The useful heat energy generated from condensation amounts to up to 450 kW. This reduces operating costs and helps reduce CO₂ emissions.

Facts and figures – HUBER Perforated Plate Screen ROTAMAT® STAR

- Maximum flow rate each: 1,000 m³/h
- Perforated plate: 1 mm
- Dewatering result: > 35 % DR

Facts and figures – HUBER Belt Dryer BT

- Site: Nova Gorica, Slovenia
- Size: BT 8
- Dryer length: 11 m
- Water evaporation: 964 kg/h
- Throughput: 9,300 t/a (1,240 kg/h)
- Operating time: 7.500 h/a
- Drying: from 20% DR to 90% DR
- Heat source: gas boiler, 140 °C

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