

ROTAMAT® DISC THICKENERS ROS 2S FOR SMALL TREATMENT PLANTS

CASE STUDY

ROTAMAT® DISC THICKENER ROS 2S UK TRIAL

We recently conducted trials with our unique ROTAMAT® disc thickener RoS 2S at two wastewater treatment plants in the southern part of England. There are many small wastewater treatment plants in the United Kingdom where sludge needs to be shipped by tanker vehicles to larger plants for dewatering. We conducted the trials to demonstrate that sludge thickening prior to transportation is a financially viable option. We wanted to demonstrate that the capital expenditure is paid back after 3 years or less, and that our disc thickeners can be operated without supervision at unmanned sites.

The first trial was thickening of surplus activated sludge with a solids concentration varying in a range of 0.9 to 1.6 %DS. We thickened the sludge to between 4.5 and 5.5 %DS. The unit was capable of thickening even to higher than 5.5 %DS, but tanker offloading became difficult beyond this concentration. The solids capture rate was above 98%. Sludge feed rate was 6.5 to 7.5 m³/h and consumption of powder polymer 2.4 g/kgDS.

The second trial was at another plant where we thickened primary sludge. We wanted to demonstrate how the disc thickener could cope with the presence of rags in the feed sludge. Because no clogging problems were experienced this trial was also considered as successful by the operator personnel.



OUTCOME

The end users assessed our Disc Thickener with regard to all aspects of its design, operating costs and life cycle costs. They were particularly impressed by the simplicity of the unit, which has only a single moving part, i.e. the disc. We already received orders for the supply of disc thickeners to two Thames Water plants. Two sizes of the RoS 2S disc thickener are now available. Size 1 has a hydraulic feed capacity of 20 m³/h and a solids feeding capacity of 400 kg/h, whichever is lower. The corresponding capacities of the bigger size 2 are 40 m³/h and 400 kg/h respectively.