

Experiences with the drum thickener Siljan RotoMaster and the polymer control unit Siljan PolySave, in the waste water treatment plant in Smedjebacken, Sweden ***The drum thickener Siljan RotoMaster, installed before a digester***

In 1989, the first drum thickener of type Siljan RotoMaster SF 17, was installed in the waste water treatment plant in Smedjebacken, Sweden. The Siljan RotoMaster is situated before a digester and it thickens sludge, coming from a sedimentation tank. The incoming DS-content (Dry Solids) varies between 0.5-1.5 %;

The experiences during these 12 years of Siljan Ro-

toMaster service are as follows:

1. The digester incoming sludge DS-content was increased up to about 5%, close to the upper DS-content limit of the stirring unit in the digester.
2. 2-3 times higher gas production was obtained, due to the more efficient digestion of the sludge.
3. A large reduction in energy consumption was obtained, due to the increase in gas production and decrease of water in the sludge, water that no longer had to be heated in the digester.
4. The increased digestion reduced the volume of the digested sludge with 50-60%. As a result, the operation time and amount of polymer required for the thickening of digested sludge was reduced by 50%.

Siljan PolySave, attached to the filtrate-pipe via a plastic hose; An installation very easy to perform on existing drum thickeners



The first Siljan RotoMaster SF 17 drum thickener (above) was delivered and installed 1989 and is still in service and in excellent condition. This unit thickens sludge from a sedimentation tank and delivers the outgoing sludge to a digester. The Siljan PolySave, seen in the back-drop at the arrow, significantly enhances the performance of the Siljan RotoMaster.

Siljan PolySave control system

The Siljan PolySave control system was installed during year 2000.

The results were as follows:

1. The polymer consumption was reduced by at least 25 %.
2. The operators workload was significantly reduced and is currently down to one high-pressure cleaning of the filter cloth and cleaning of the Siljan PolySave sampling probe per week. The DS-content of the outgoing sludge is also controlled on

weekly basis, to verify that it still is within limits.

3. By keeping the DS-content of the filtrate at a specified level, the DS-content of the thickened sludge was held almost constant, at 5-6% and an increased and more uniform gas production was achieved.

24-7 continuous operation !

The Siljan -RotoMaster and -PolySave combination is very reliable and is currently run 24 hours per day, every week, all year around.