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Mineral fertiliser from sewage sludge



HUBER Grit Washer RoSF4/t for selective removal of MAP crystals from sewage sludge

elimination") and finally end up in the sewage sludge in the course of the continued treatment process.

Depending on pH and phosphate concentration the phosphorus bound in the microorganisms (sewage sludge) can however be set free again. Frequently, undesired MAP crystallisation processes (MAP = magnesium ammonium phosphate) take place in the digester or

later in the mechanical sludge dewatering system. MAP crystals settle in these systems and, in the course of time, form tenacious layers which later lead to severe operating troubles and uncalculable costs.

In Berlin, they have made a virtue out of a necessity. They apply a patented method to control the crystallisation in a separate process and selectively remove the crystals from the sewage sludge [source: www.bwb.de]. The desired size of the crystals can be adjusted by changing the residence time. A suspension of digested sludge and crystals is discontinuously removed from the process and passed to a HUBER Grit Washer RoSF4/t with a fluidised bed system which separates the suspension simultaneously into sludge and MAP



Tenacious MAP-layers in pipelines



Washed MAP - a high quality fertilizer

crystals.

The homogenous fluidized bed system with pressure measurement has clear advantages compared to fixed bed systems as MAP density is always the same, irrespective of grain size. As also the majority of the organic particles are washed out, the end product does actually not have much to do with a sewage treatment plant or with sewage sludge anymore. The HUBER Grit Washer RoSF4/t has operated to the full satisfaction of the customer in Berlin for more than a year meanwhile and produces about 3 tons of clean MAP a day. The produced MAP material, which contains also the nutrients nitrogen and magnesium in addition to phosphorus, is of excellent quality. The MAP undergoes routine analysis before it is sold to be used for agricultural purposes. Even if the sales revenues cannot cover the ongoing costs, the investment pays off nevertheless as a lot of operational problems in digesters, pipelines and centrifuges are avoided. As a side effect, this solution saves phosphorus – after all, a resource we need more urgently than mineral oil.

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