

TANK CLEANING SYSTEM FOR RAINWATER RETENTION BASINS

REFERENCE: NASTÄTTEN | GERMANY

The basin cleaning system in the Nastätten rainwater retention basin was to be renewed and modernised in 2018. Our task was to implement a tank cleaning system that would allow the operation of the tank to be as deposit-free as possible.

Challenge:

Realisation of a basin cleaning system, which enables a preferably deposit-free operation of the basin.

Built-in components:

2 x BR100/150S-A /CR

2 x MXS2446-ET64 EX (3PH ST/DR)

Field of business:

Industrial and waste water technology

DEPOSIT-FREE OPERATION OF THE RAINWATER RETENTION BASIN

Rainwater retention basins are becoming increasingly important in the course of the further development of flood management. It is important for the effective use of these basins that the solids contained in the water do not form deposits that impair the function of the basins in the long term.

The tank cleaning system in Nastätten was to be renewed and modernised in 2018. Our task was to implement a cleaning system that would enable the operation of the basin to be as deposit-free as possible.

IMPLEMENTATION

A solution was worked out with two injector jet heads. The HOMA jet pipe system generates a strong horizontal flow in the basin and thus keeps the sludge and solids content in the water in suspension. The system in Nastätten consists of two robust MXS submersible sewage pumps

with a clog-free single-channel impeller, both positioned as close as possible to the drain channel, so that the radiators can be operated for a long time. The pumps are also equipped with the PermaCool system to allow the radiators to operate even when the motor is submerged.

Water is pressed through an injector nozzle flanged to the pump's discharge nozzle and accelerated in such a way that a suction effect is created via a vertical pipe and air is thus supplied. The air-water mixture is pressed out by the jet pipe at high speed parallel to the bottom of the pool. The combined effect of water jet and air bubbling creates an effective water movement with high jet intensity and strong turbulence.

The HOMA basin cleaning system thus ensures operation in several ways. On the one hand, the jet pipe system generates a strong horizontal flow in the basin and thus

keeps the sludge and solid particles in the water in suspension so that no deposits can form. On the other hand, the enrichment of the water with air during longer residence times of the water in the basin considerably delays the formation of rot and odours.

In addition, the deep arrangement of the jet pipe ensures that the water jet, shortly before the end of emptying, effectively rinses and cleans the bottom of the pool of dirt and sand when the water level is low.

PROJECT PICTURES

