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2.1 Flotation unit - PPM series

The PPM flotation unit is an open-topped tank separator using dissolved air for separation of suspended solids from water.

The waste water is mixed with an air-water mixture with very fine air bubbles in the range of 40 µm. These air bubbles adhere to the particles through gentle mixing in the pipe run to the flotator.

The liquid enters the flotator in the inlet compartment, where heavy particles can settle. Periodic drainage is required to keep this compartment clean.

Fast rising particles and air bubbles are immediately collected in the sludge layer floating on the liquid surface in the flotator.

Slow rising particles are separated in the corrugated plate assembly. The system operates on the principle of counter-current separation. Due to the plate distance and fluid velocity, a laminar flow is maintained between the plates. Particles can travel uninterruptedly to the nearest plate. Once a particle reaches the plate, it will start moving upward against the direction of the flow. This is possible through the velocity distribution of laminar flow pattern. There the flow velocity at the plate surface is zero.