

Wastewater Treatment Application

For Laor Engineering, Israel

2020.09.14

Turbowin Blowers are used in the following WWT processes,

1. Primary sedimentation

In the primary sedimentation stage, sewage flows through large tanks. These tanks are used to settle sludge while the grease and oil rises to the surface and is skimmed off. Primary settling tanks are usually equipped with mechanically driven scrapers that drive the collected sludge continually towards a hopper in the base of the tank where it is pumped to treatment facilities using blowers or similar technologies. As a result, biological materials remain on the surface and the heavy components (mainly sand) are isolated.

2. Aeration process in WWTP

The aeration tanks in wastewater treatment plants are activated with oxygen by using compressed air. A thorough mixing of the sludge with oxygen increases the gas yield and reduces its retention time in the tank. Even better results are achieved with warm compressed air. Blower technologies

can be found in various types of wastewater treatment plants, including **aerobic activated sludge systems**, SBR, nitrification denitrification in a single basin and MBR.

3. Slurry liquid pumping

Using slurry pumps, tough, abrasive, viscous liquids and particles in suspension can be transferred from one tank to another of the wastewater treatment plant.

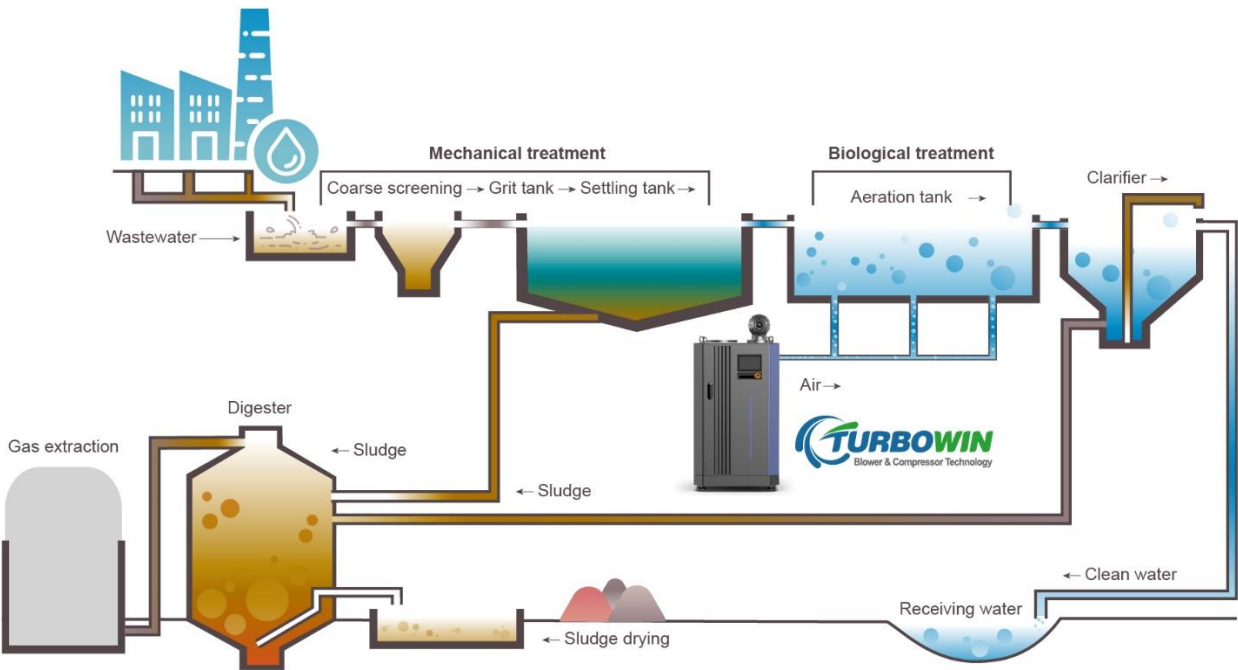
4. Back washing and sand filtration

Air is used to expand the filter bed, breaking up compacted material. Clean backwash water is pumped in, suspending the loose material from where the particles are lifted through and carried away.

5. Sludge treatment

Removing and reintroducing the activated sludge to and from the wastewater treatment process. Loading & unloading from tankers and other transport methods. The activated sludge is the main product of wastewater treatment and needs to be removed from the facility on a regular basis, however some product may be required to remain on site for reintroduction

into the process in times of high inlet flow and long periods of wet weather to ensure the efficiency and operating life of the plant. Once removed from site the activated was once just taken to landfill but is now used in various applications such as CHP power, farming, and animal feed. Depending on the conveying process, the operating pressure is normally at around 1-2 bar.



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