

Flotation units for water treatment.

BIO-AQUA flotation systems are using gas bubbles to remove polluting components and particles from wastewater. The flotation systems effectively remove suspended solids, fat, oil and decrease the BOD/COD of the treated water. After treatment oxygen content in the water is very high.

The gas is introduced into the water using micro/nano bubbles – so small, that they will attach to even the smallest particles.

BIO-AQUA is offering various solutions, depending on customer demands:

BIO-AQUA Micro-DAF: Microbubbles are formed by simple air only, no chemicals are used.

BIO-AQUA Poly-Micro-DAF: Polymer is used to flocculate the wastewater before the microbubble flotation.

BIO-AQUA Micro-Ozoneflotation: Ozone is used to coagulate the organic matter before flocculation and flotation, (patent pending)

Also BIO-AQUA uses different configurations depending on wastewater type and goal.

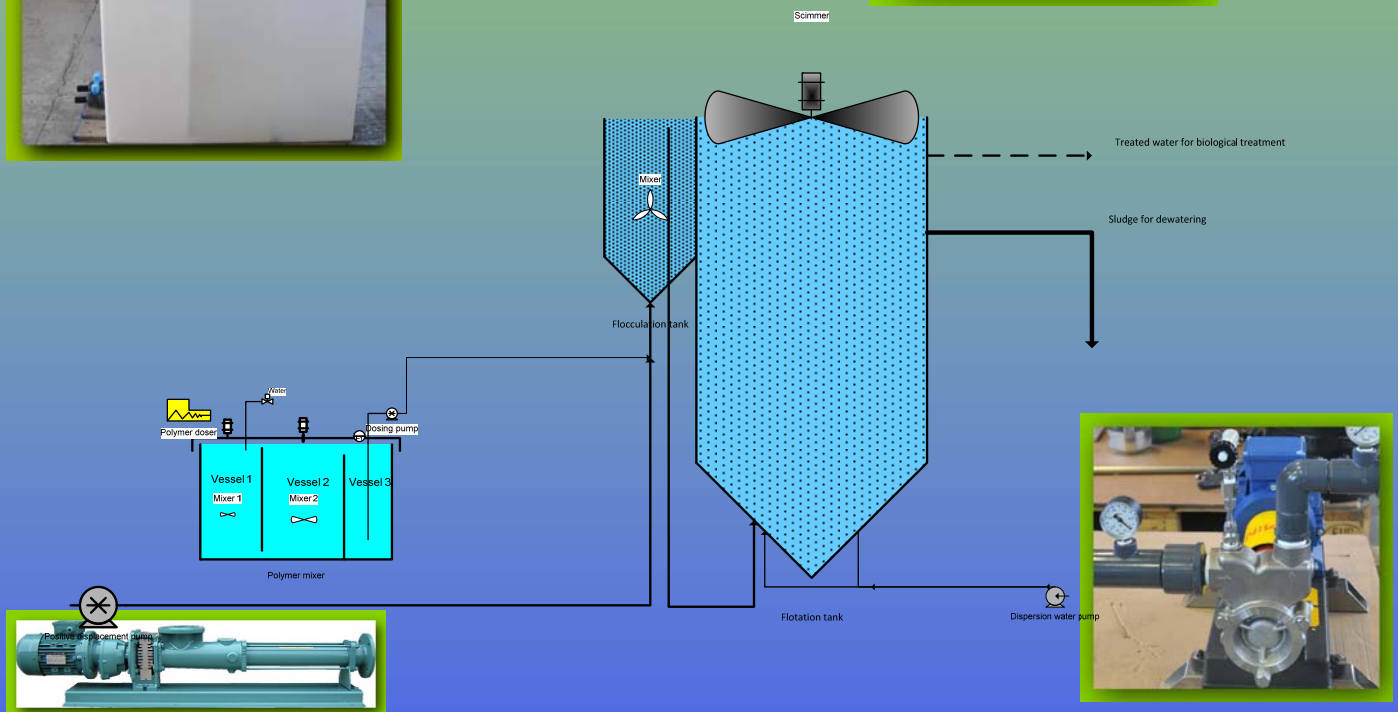
For example, for pre-treatment of big volumes of heavy polluted water circular tanks are used, while after-treatment of less polluted water call for high-volume, low-flow systems.

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Example1:

System configuration:

Poly-Micro-DAF



The wastewater is pumped into the system by a positive displacement pump. The water is mixed with a polymer – prepared by a dry polymer station. While mixing polymer and water in the flocculation tank - flocs will form. The flocculated water runs by gravitation to the flotation, where it is mixed with the dispersion water. The tiny bubbles will attach all particles and they are brought to the top of the flotation tank, where they are concentrated to form foam of solids. This sludge is scraped off by a rotating scraper and goes for further dewatering, while the cleaned water goes for biological treatment.

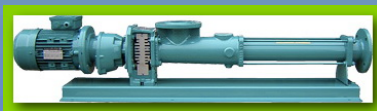
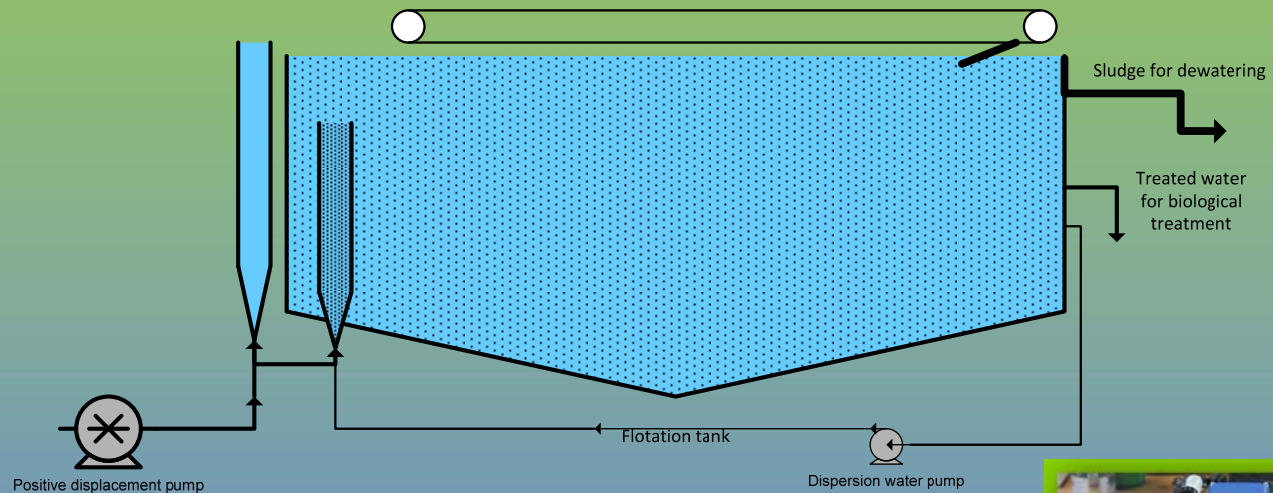
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Example2:

System configuration:

Micro-DAF



The wastewater is pumped into the system by a positive displacement pump. The water is mixed with micro bubbles from the dispersion water. The tiny bubbles will attach to all particles and they are brought to the surface of the flotation tank, where they are concentrated to form foam of solids. This sludge is scraped off by a scraper and goes for further dewatering, while the cleaned water goes for biological treatment.

No chemicals are used.

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