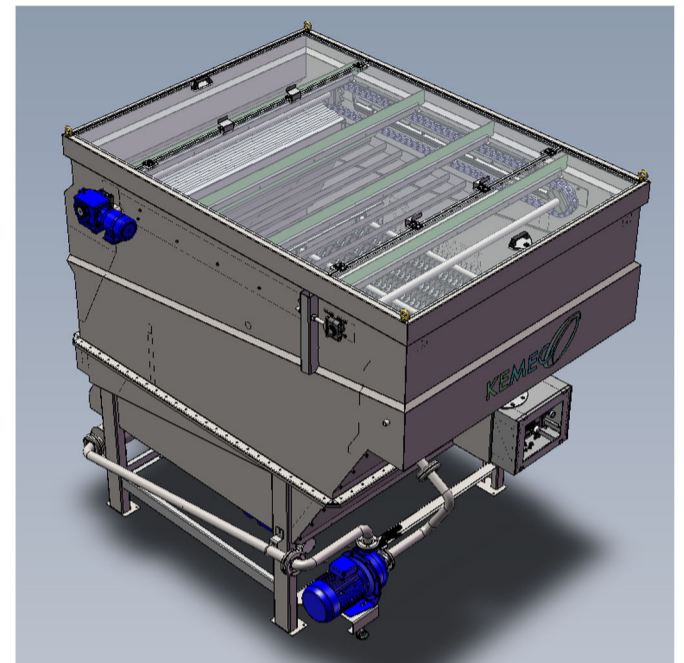




U. S. AQUATREAT CO.

## DISSOLVED AIR FLOATATION SYSTEM



### Process application:

Dissolved air flotation is used in treating the industrial wastewater effluents from oil refineries, petrochemical and chemical plants, natural gas processing plants, paper mills, general water treatment and similar industrial facilities.

The feed water to the DAF float tank is dosed with a coagulant (such as ferric chloride or aluminum sulfate) to coagulate the colloidal particles and a flocculent to conglomerate the particles into bigger clusters.

A portion of the clarified effluent water leaving the DAF tank is pumped into a small pressure vessel (called the air drum) into which compressed air is also introduced. This results in saturating the pressurized effluent water with air. The air-saturated water stream is recycled to the front of the float tank and flows through a pressure reduction valve just as it enters the front of the float tank, which results in the air being released in the form of tiny bubbles. Bubbles form at nucleation sites on the surface of the suspended particles, adhering to the particles. As more bubbles form, the lift from the bubbles eventually overcomes the force of gravity. This causes the suspended matter to float to the surface where it forms a froth layer which is then removed by a skimmer. The froth-free water exits the float tank as the clarified effluent from the DAF unit.

### Construction:

It consists of MS or civil tank equipped with pre react zone. The micro bubbles along with solids & oils are released in this zone. For removal of foam the scraping mechanism is installed at the surface. For collection of foam a separate tank made of civil or MS is provided.

