

# Industrial DGF

Dissolved Gas Flotation System



**WESTECH**<sup>®</sup>

# Dissolved Gas Flotation

# Both Circular and Rectangular Designs



WesTech builds a complete line of Dissolved Air Flotation (DAF) and Dissolved Nitrogen Flotation (DNF) equipment for both municipal and industrial applications. The equipment incorporates many superior designs, both mechanical and operational.

## Why Choose a DGF?

Dissolved Gas Flotation is used in applications where the specific gravity of the solids or contaminants is very close to or less than 1.0. Dissolved air or nitrogen provide the driving force for separation. The gas is dissolved into a liquid (water) under pressure in a specially designed saturation tank. The saturated liquid flows under pressure to the mechanism. The pressure is then released by the back pressure control valve near the influent.

The sudden release of pressure causes the gas to come out of solution and form microscopic bubbles. These microscopic bubbles adhere to the incoming solids and form a buoyant blanket which rises to the surface for removal by mechanical means. The two main components of dissolved air/nitrogen flotation are the flotation mechanism and the pressurization system.

## How it Works

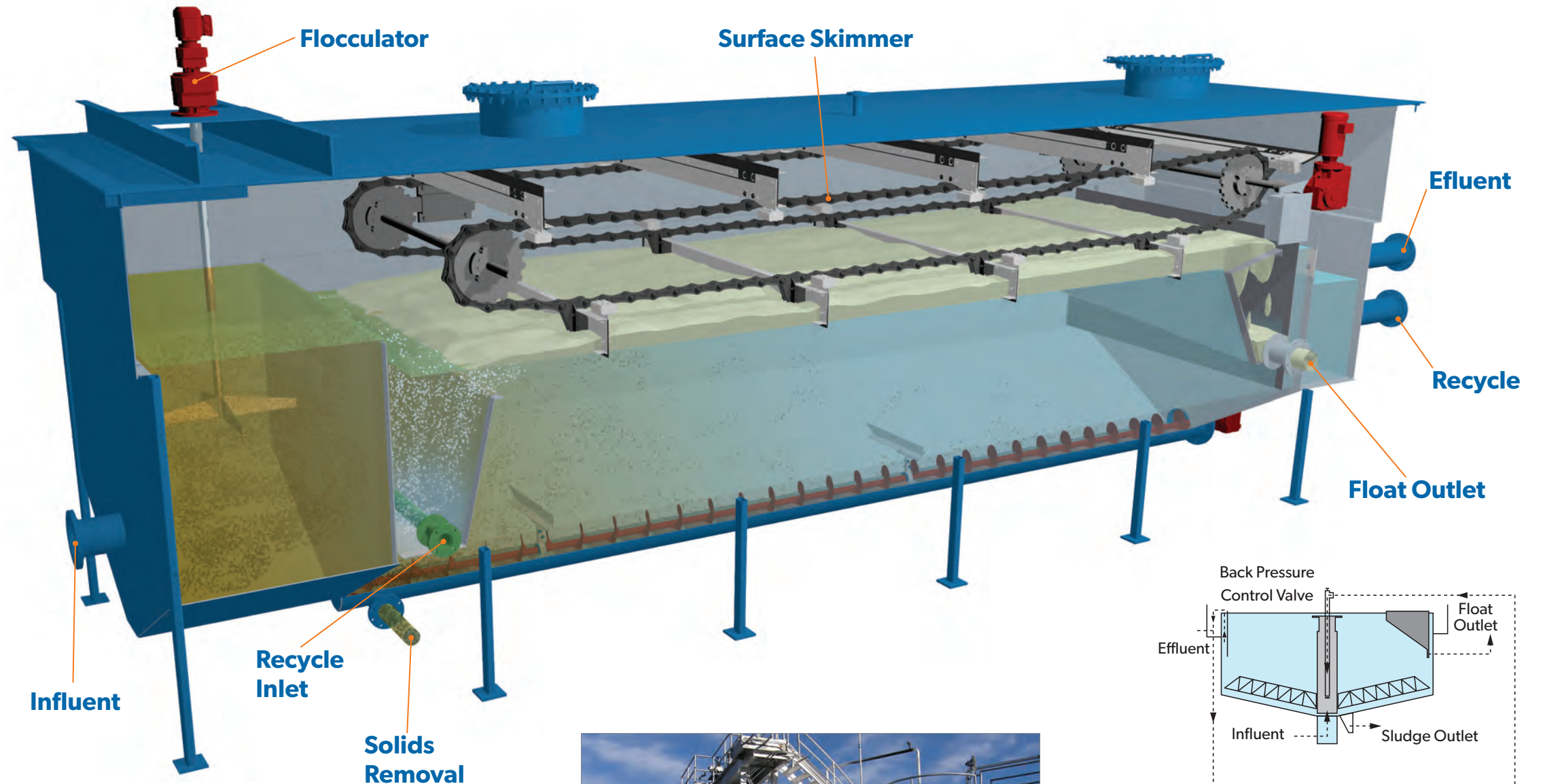
Dissolved gas flotation is used to remove solid or liquid particles from water. The untreated water is introduced into a basin, and gas (usually air) is added to facilitate separation of the material from the water. Rising gas bubbles adhere to, or are trapped in, the particle structure of the material. The particles then rise to the surface, forming a floating layer which is removed by a surface skimming mechanism. Clarified liquid exits the tank from a point well below the surface.

## The WesTech Advantage

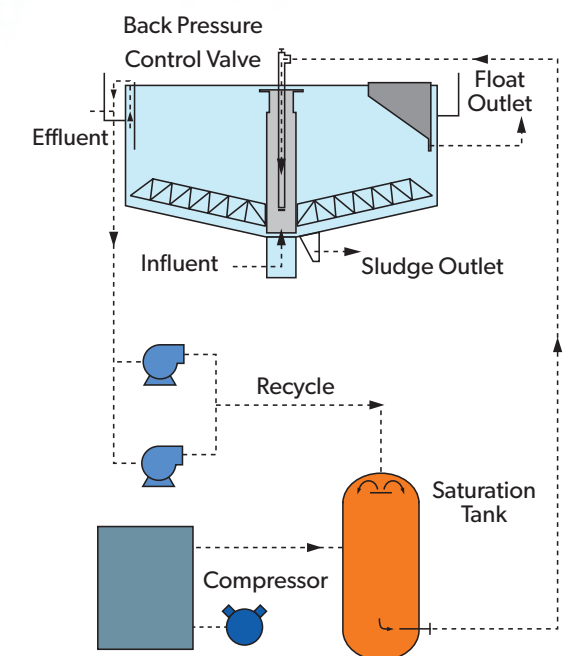
- Fully Custom or Pre-engineered Designs
- Retrofit Concrete Basins or New Steel Tankage
- Up to 95% Removal Rate
- Lab and Pilot Testing
- Infinite Turndown Ratio
- Precision Bearing Drive Units

## Applications

- Refineries and Power Plants
- Industrial Water Treatment
- Food Processing and Packaging
- Chemical Processing



Circular DGF designs are used for higher flow rates while rectangular tanks offer higher residence time.



A typical flow schematic for a DAF illustrates the use of effluent recycle to the saturation tank.





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