

Dissolved Air Flotation

For Municipal Clarification and Thickening



WESTECH[®]

 SWIRE WATER

Dissolved Air Flotation



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

Why Choose a DAF?

Dissolved air 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 provides the driving force for separation. The air 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 bubbles adhere to the incoming solids and form a buoyant blanket that rises to the surface for removal by mechanical means. The two main components of dissolved air flotation are the flotation mechanism and the pressurization system.

Haymore Pressure Control Valve

With WesTech's Haymore style valve the recycle pressure is released into the DAF at the center of the tank where the microbubbles can immediately mix with the influent. This allows the bubbles to contact the solids while they are still small, thus providing optimal performance. Without this valve, the bubbles have time to coalesce into larger bubbles, reducing their effectiveness.

Retrofits

WesTech can retrofit an existing tank (circular or rectangular) with a DAF mechanism to improve your process performance for lowered costs. Because of the DAF's capacity to handle increased rise rates (requiring smaller tankage area), a DAF mechanism is an ideal addition to existing systems for clarification and thickening.

Applications

- Waste Activated Sludge (WAS) Thickening
- Algae Removal / Thickening
- Co-Thickening (WAS & Primary)
- Desalination Plants
- Primary Clarification
- Membrane Pretreatment
- Filter Backwash Recovery

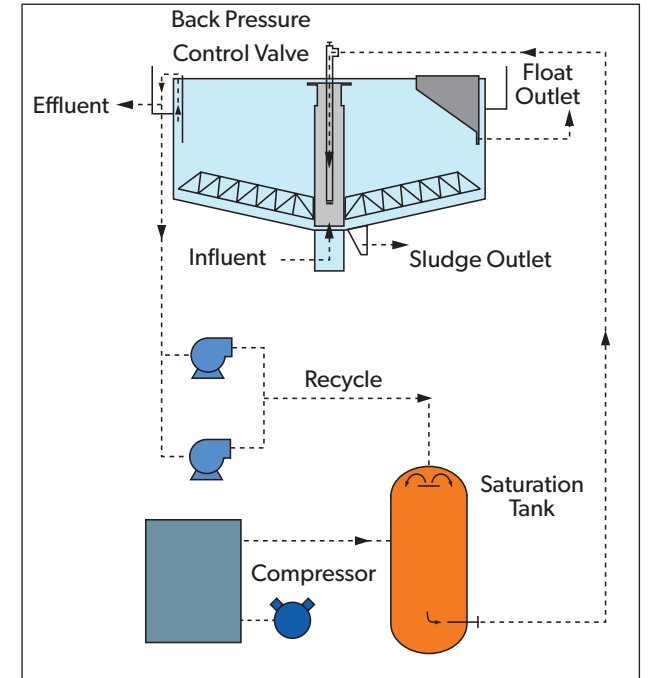
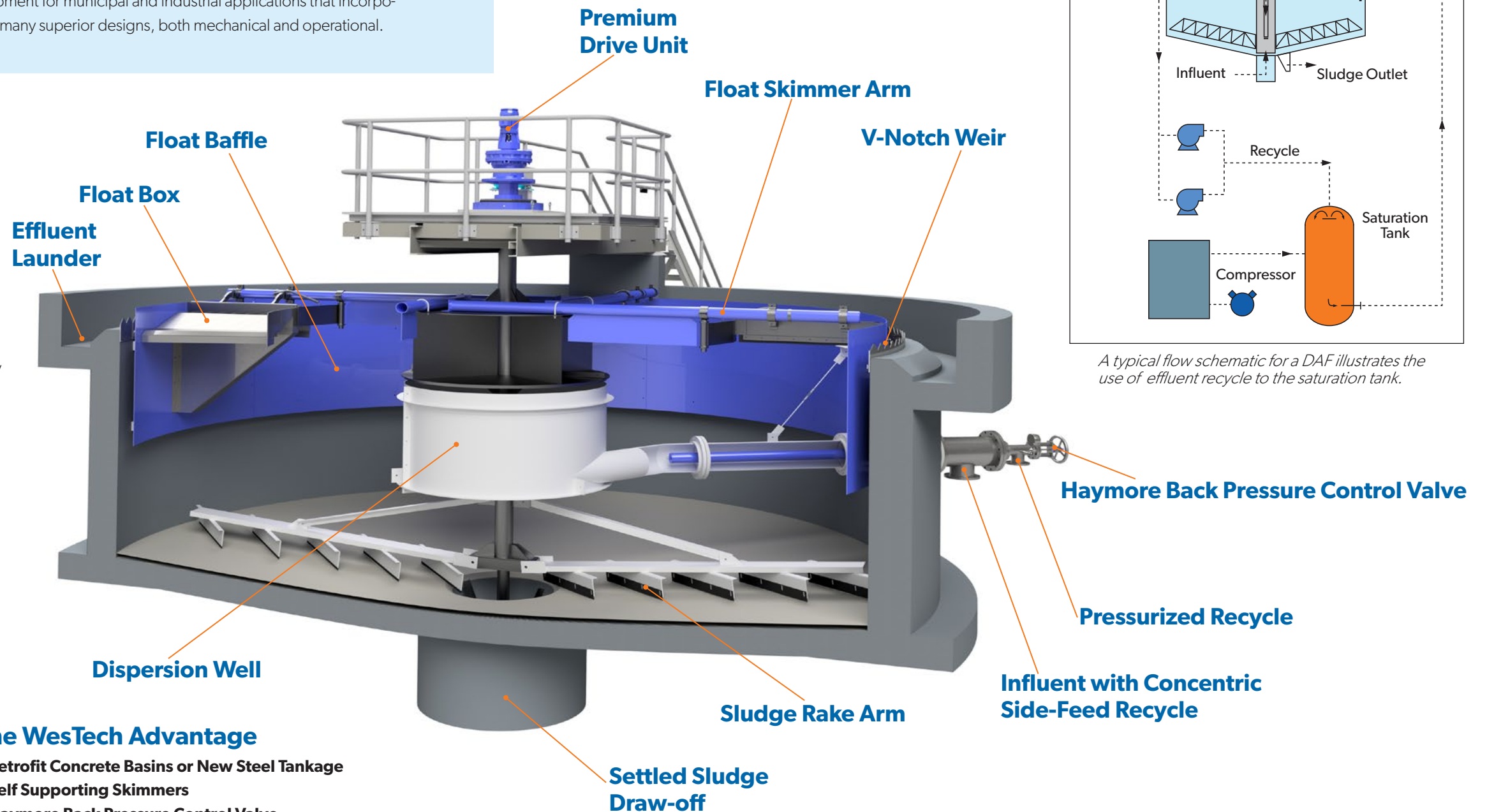
The WesTech Advantage

- Retrofit Concrete Basins or New Steel Tankage
- Self Supporting Skimmers
- Haymore Back Pressure Control Valve
- Fully Custom or Pre-Engineered Designs
- Up to 95% Removal Rate
- Infinite Turndown Ratio
- Precision Bearing Drive Units
- Media Free Saturation Tank
- Bolted Mechanism Reducing Installation Cost Time

DAF Benefits

- Smaller Footprint
- Effluent Removal of Hard-to-Settle Solids

Both Circular and Rectangular Designs



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



Rectangular tanks are easier to install while circular DAF designs require less maintenance



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