Dissolves Air Floation (DAF)

Circular and Rectangular Designs for Municipal and Industrial Waste Treatment

Circular Dissolve Air Floatation

Dissolved Air Floatation is a equipment and a method for separating and removing suspendedsolids from liquid based on changes in the solubility of gas as pressure varies. Air is dissolved under pressure in a clean liquid, usually recycled effluent from the DAF unit, and injected into the raw feed stream. Upon entering the DAF unit, the air pressure is released and combined with the liquid, which becomes super saturated with micron-sized air bubbles. Suspended materials attach to the anionically-charged, micronsized air bubbles producing a lower specific gravity for the agglomerateto less than that of water, thus effectively raisingthe suspended particles to the liquid surface, forming a floating sludge layer that is removed by skimmers. Heavier solids settle to the bottom of the tank and are raked to a sludge pocket for removal. Clear subnatant liquid is withdrawn under the tank baffle and over the weir for disposal or reuse.

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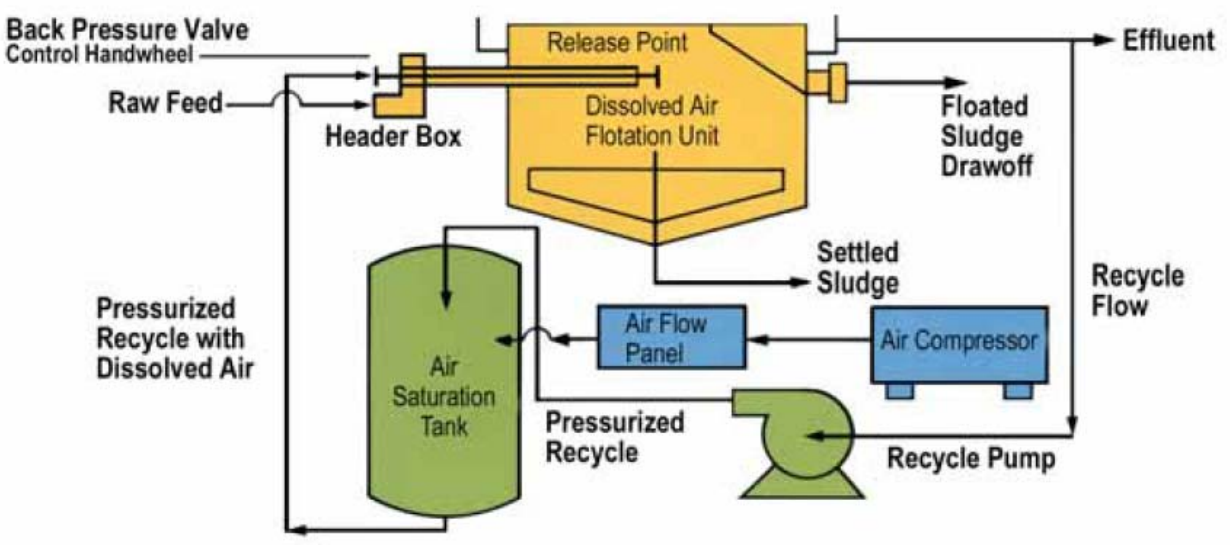
Floatation of suspended solids is achieved by three methods of attaching waste particles with the gas. All three methods of bubble to solids attachment are very fragile and turbulence in flotation units must be kept to a minimum to prevent deterioration of operating performance.



Principle Of Dissolves Air Floatation

Circular units are equipped with a heavy-duty drive with overload protection. A variable speed drive or constant speed drive with adjustable timer is provided to control the float removal rate for maximum float concentration. Positive removal of non-floatable materials is achieved by a bottom-raking mechanism, driven by the same motor that operates the float skimmer. Low maintenance and operating costs are provided with the simple but rugged design of circular DAF units. There are no stuffing boxes, underwater bearings or chains to require maintenance. Hydraulic principles of circular units have been demonstrated in many thickening and clarifying applications.

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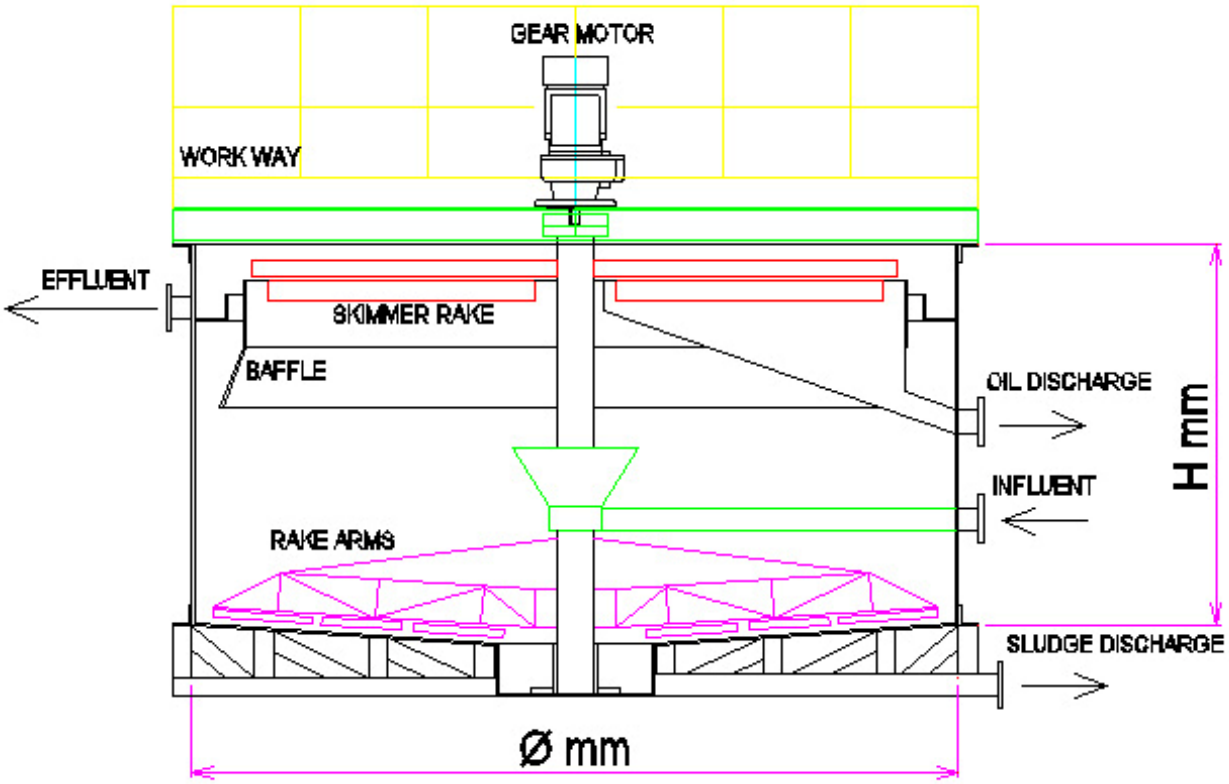
Circular Floatation:



Structure of Circular Floatation

Rotating Center Feedwell For Applications with Chemical Additions

We offer an optional rotating center feedwell in place of the center cage. The rotating center feedwell provides a low-velocity chamber in which the pressurized air stream comes in contact with the incoming feed, allowing for good dispersionof chemicals and enhanced floc formation. The feed inlet is located at the bottom of the tank, and the pressurization line is fed in from the top. This arrangement has been proven to be effective in both municipal and industrial applications.

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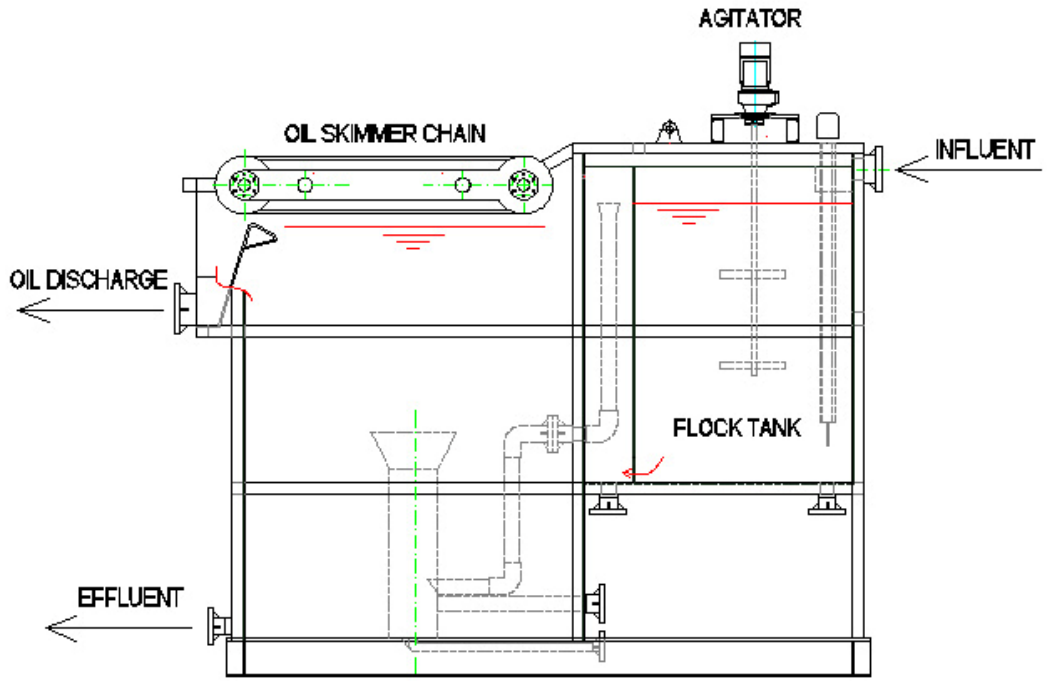
Retangular Floatation:



Structure of Retangular Floatation

Floatation Construction:

- Circular Floatation: Made of Concrete or Mild Steel.
- Retangular Floatation: Made of Composite or Mild Steel.

Applications for DAF Flotation Systems:

- Industrial
- Poultry Processing
- Meat Packing
- Rendering
- Canning
- Prepared Foods

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- Seafood Processing
- Snack Foods
- Railroads
- Refinery
- Storm Water Treatment
- Power Plants
- Chemical Processing Plants
- Stock-yard and Feedlot Run-Off
- Tanning
- Pulp and Paper
- Ballast Water Treatment
- Produced Water
- Tank Truck Cleaning
- Textile
- Fiber Recovery
- Mining
- Algae Removal
- Heavy Metals Removal
- Automotive
- Aircraft Maintenance
- Durable Goods
- Sludge Thickening
- Algae Removal
- Clarification

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