

Dissolved Air Flotation (DAF)



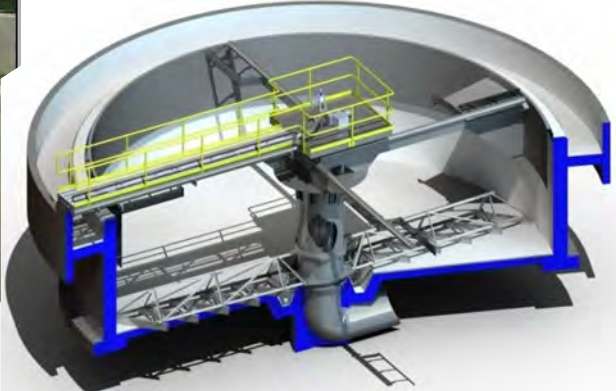
Circular Dissolved Air Flotation (DAF)

Dissolved Air Flotation units can be used in water and wastewater applications to clarify lighter solids with a SG close to that of water, as well as thickened solids from other processes prior to further dewatering and/or digestion. The drive is mounted on the walkway or bridge. The rotating portion of the drive turns a structural torque tube or shaft, which in turn rotates the solids removal mechanism.



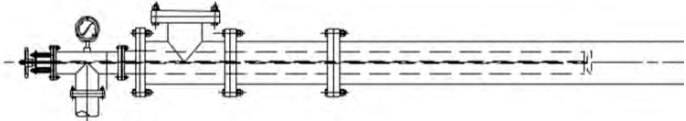
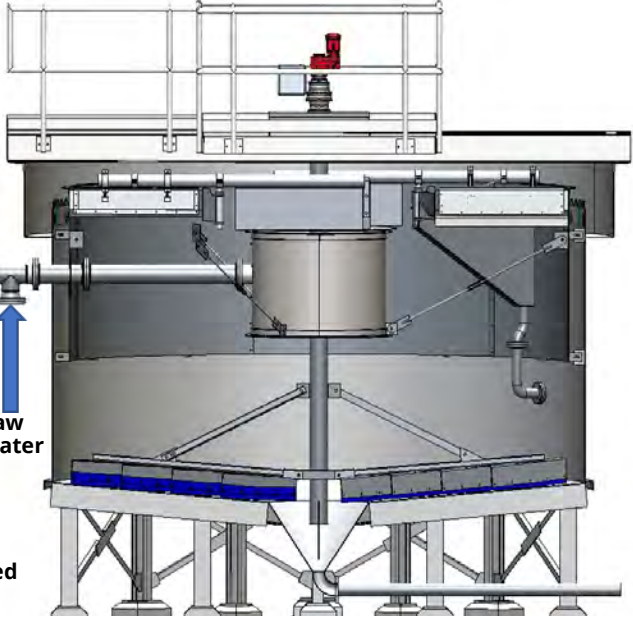
ClearStream Dissolved Air Flotation units can be installed in a variety of tanks, including concrete, anchor channel, or elevated tanks. This makes our design well suited for retrofit or upgrade installations.

All units are 3D modeled to ensure proper fit up.

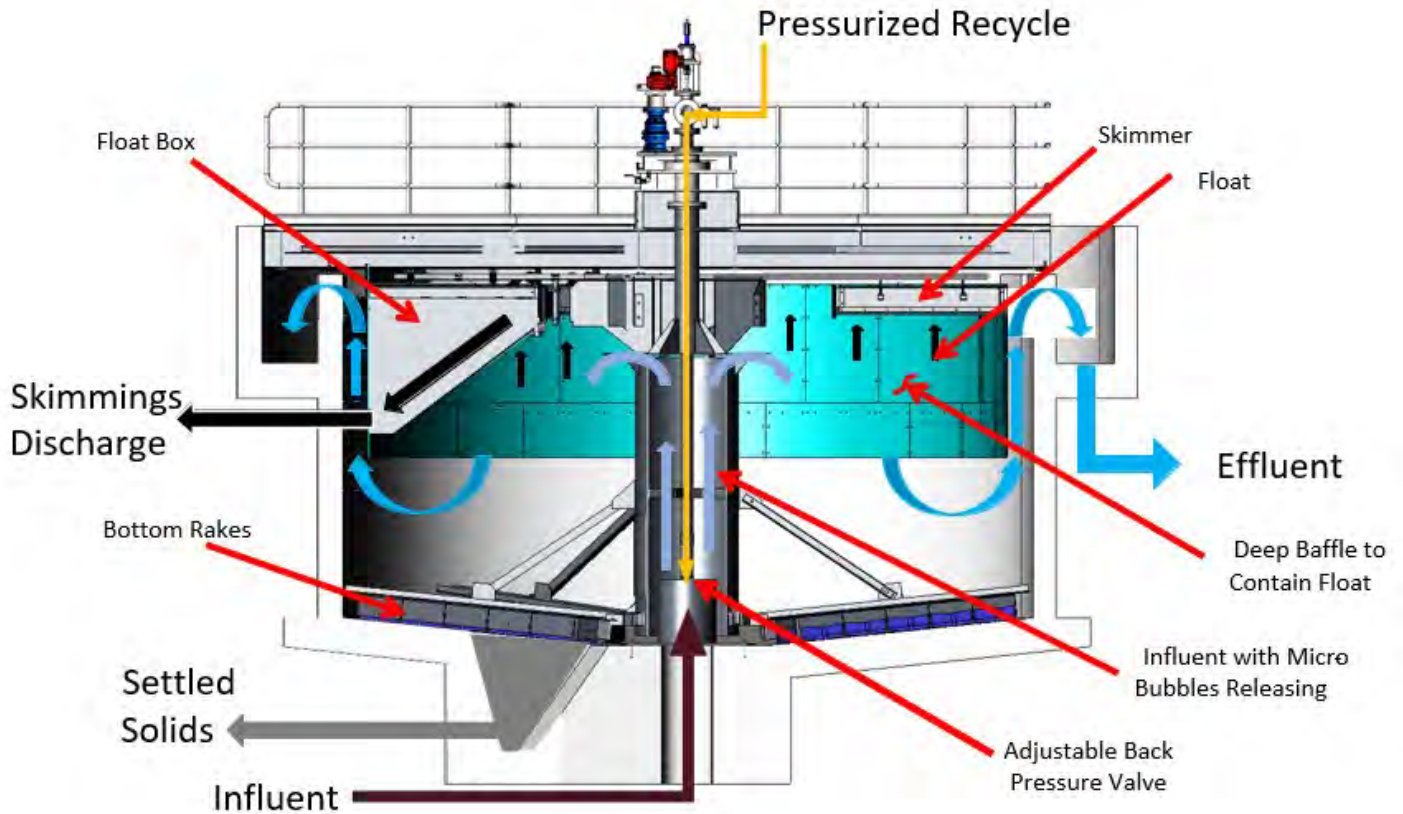


ADVANTAGES:

1. Can develop high solids concentration in compact units.
2. Torque tube is generally more economical than a torque cage in smaller units.
3. Can be installed in concrete or steel tank configurations. Generally, most economical in tanks less than 50' Dia.
4. Can be provided with cover for a gas blanket or odor control when required.



Pressure Release Valve Detail



A portion of the effluent from the Dissolved Air Flotation unit is recycled through the pressurization system. For large units this consists of a pressure vessel which is fed by a compressor in addition to the recycle pump. In this air saturation tank, the compressed air or gas is mixed with the recycled liquid under pressure, and the gas dissolves into the recycle stream.



Air Pressurization Vessel and Recirculation Pumps

This stream is then directed to the pressure relief valve which, as the name implies, relieves the pressure and allows the dissolved gas to come out of solution. The closer this is done to the center of the unit, the greater the efficiency, since large bubbles are not formed in the pressurized liquid return line. Therefore, ClearStream uses a specialized pressure relief valve to ensure that this release of pressure takes place near the very center of the unit.

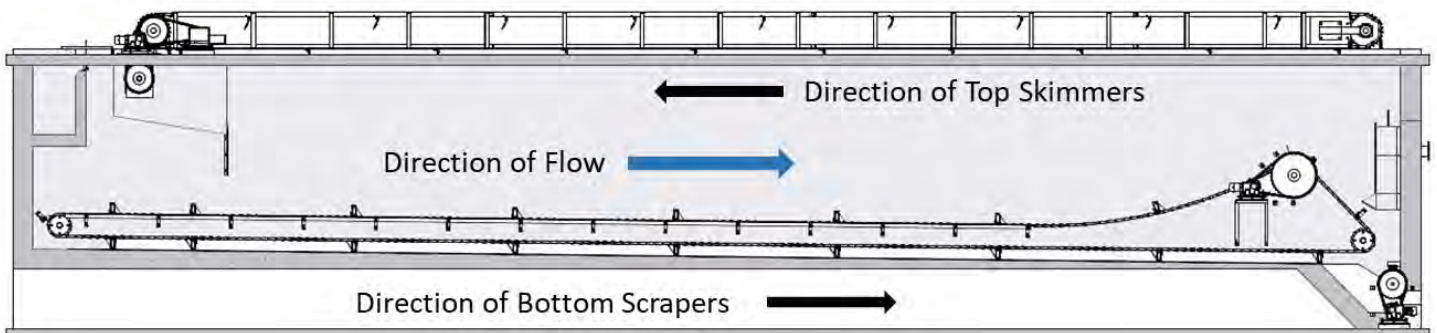
In some Dissolved Air Flotation units, the inlet feed comes up through the bottom center. In these cases the pressure relief valve is mounted vertically to ensure complete mixing of the stream with the dissolved gas and the raw influent.

Rectangular Dissolved Air Flotation (DAF)



ADVANTAGES:

1. Typically ship fully shop-assembled.
2. Can include integral coagulation and flocculation chambers.
3. Lower installed costs.
4. Can fit in narrow space i.e., between buildings / other equipment.
5. Internals and recycle components can be installed in an existing rectangular concrete basin.
6. Can be covered to maintain a gas blanket when required.



Chain and Flight Detail

