

DISSOLVED AIR FLOTATION, "DAF"

Superior Water-Solids Separation

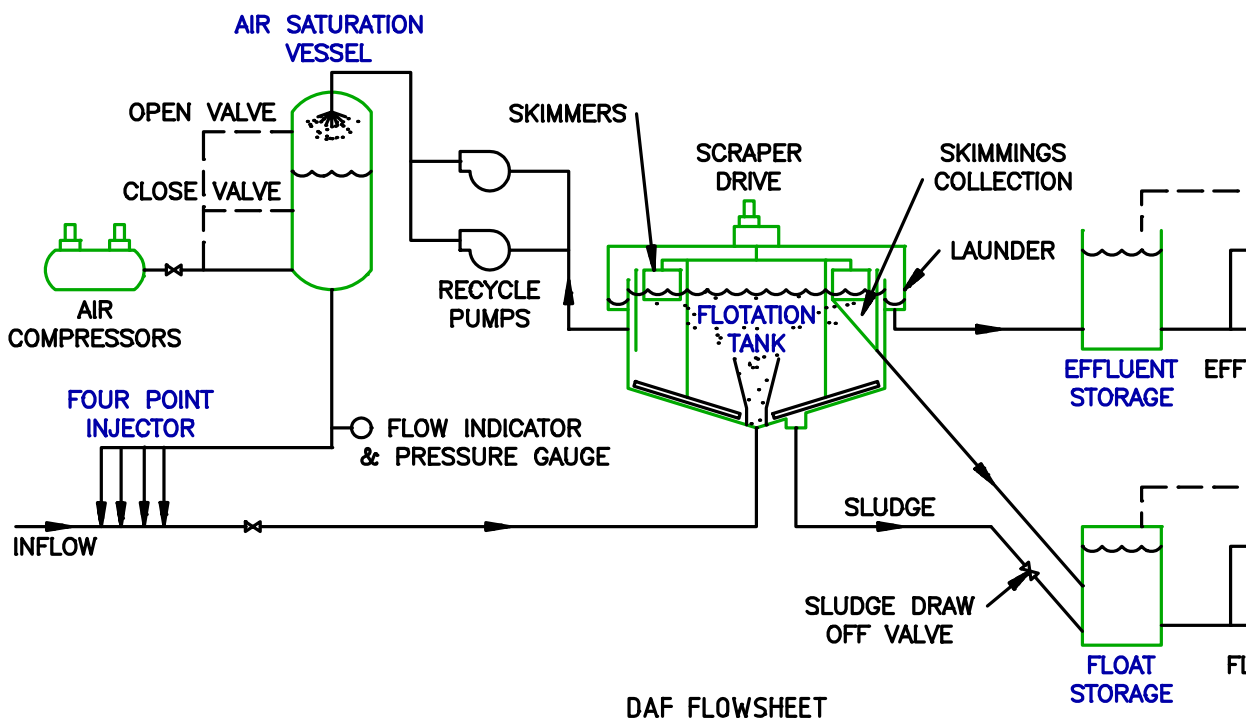
DAF is a process by which small, micron-size bubbles are made to attach to suspended material in water and carry the solids to the liquid surface. Once at the surface the solids are mechanically skimmed to produce a thickened sludge of 2 to 5%. Similarly, mixed liquors and sludges can also be thickened.

The process operates at higher hydraulic and solids loadings than gravity devices, is space efficient and particularly suitable for a wide range of municipal biological sludges, industrial wastewaters, and oily material.

Aquatec-Maxcon Can Offer Tailored DAF Designs to Suit Particular Industrial and Municipal Applications

Design Advantages

- Mechanical simplicity through a bridge-mounted drive unit for collection of float and bottom floc, thus avoiding greasy chain collectors and screw conveyors found in other designs
- Simple on/off controls throughout to ensure ease of operation and to avoid unnecessary complex control loops
- Fabrication can be in steel, concrete, or composite materials
- Over **99% solids capture** is regularly obtained even on thickening applications
- Proven performance over many years of service



- Standard circular design provides minimum hydraulic gradient for optimum solids separation and enables a single drive unit for both float and floc scrapers
- Design incorporates ability to build substantial float layers above the liquid level to enable gravity drainage and maximum float solids content

Thickening of Waste Activated Sludge to 5% Without Polymer Addition is Possible

Design Features

- Aquatec-Maxcon uses a high efficiency saturator to dissolve air into a portion of the wastewater at a pressure of 300 to 600 kPa. This portion is then recombined with the main wastewater under pressure
- A valve subsequently reduces the pressure to near atmospheric, upon which an effervescence is induced in the wastewater by the formation of small bubbles of the order of 20 to 50 µm in diameter
- These bubbles attach themselves to suspended solids and transport the solids to the surface, forming buoyant rafts or 'float'. The depth of this float is controlled by adjustable height skimmers

- In thickening applications, the float is allowed to form a thick raft of optimum depth (through adjustment) to enable gravity drainage of the liquid for maximum performance

Coagulation & DAF Can Also Reduce BOD, NFR and Fats, Oil and Grease by up to 80%, 90% and 95%, Respectively

Applications

- Abattoirs
- Activated sludge systems
- Pulp & Paper Mills
- Tanneries
- Purification of Potable Water Sources
- Waste Paper Mills
- Wastewater from Chemical Processes
- Wood Panel Industries,
- Most other Industrial Wastewaters

The manufacturer reserves the right to alter performance, specification or design without notice.



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