

Dissolved Air Flotation (DAF)

Key Features & Benefits:

- Primary treatment of Potable Water
- Tertiary treatment of Wastewater
- Heavy-duty scraper system designed for continuous use
- Robust construction designed to suit each application
- Stainless steel construction

How We Create Value:

- Most reliable dissolved air system on the market
- Most flexible system on the market
- Built and tested off site
- Counter-Current sludge removal system with high loading capacity
- Cost-effective design removes and thickens solids automatically



Dissolved Air Flotation (DAF)

The JacopaDAF system is a compact clarification process for the primary treatment of potable water and tertiary treatment of wastewater. JacopaDAF is particularly suited to raw water supplies that are vulnerable to unicellular algal blooms and high colour. In wastewater treatment it has applications in the removal of oils, fats and low density solids. It works through a process of flocculation and flotation. Feedwater is usually (although not always) dosed with a coagulant and/or a flocculant to conglomerate the colloidal particles into larger clusters. Dissolved air under pressure is then introduced to the process which floats the suspended particles to the surface forming a froth layer which is removed by a scraper system.

DAF is ideally suited to particles and flocs that are of neutral density, slow-settling or buoyant. This is particularly relevant to water, food and other industries where wastewater frequently carries large volumes of low density solids, unsuited to settling. DAF also takes up considerably less space than settling methods: generally less than 25% of the equivalent surface area is required.

Our high-quality systems are specially engineered to suit each application. Most are constructed from stainless steel, although other materials can be used to suit unusual or highly corrosive environments.

A JacopaDAF system is just one of the separation systems that form part of a complete wastewater treatment plant. Generally the design also incorporates: collection wells, pumping systems, primary screening, chemical dosing systems, equalizing tanks, sludge dewatering, electrical control systems, instrumentation and secondary treatment methods.

Our extensive knowledge and understanding of the processes that generate potable water and wastewater is critical to the successful implementation of DAF systems as a treatment stage.



Features and Benefits

Integrated Chemical Reaction Tanks:

The JacopaDAF system can be manufactured with any number of chemical reaction tanks for upstream pH control or coagulation. The reaction tank is constructed in stainless steel, with a retention time to suit each application. High quality mixers, pH controllers and dosing line connectors are all fitted as standard.

Counter-Current Scraping:

The JacopaDAF system features a counter-current sludge removal system. Unlike co-current or circular systems, the reversed profile of the counter-current system allows a constant lift of air bubbles under the sludge blanket in the removal zone, resulting in vastly improved performance.

Heavy Duty Scrapers:

The surface scraper is based on a six-sprocket guide system, ensuring accurate tracking of the scraper blades over the beach. Extra heavy-duty roller chains, sprockets and drive motor/gearbox are designed for continuous duty. Scraper blades can be any composition (rubber, MDPE).

Built off site:

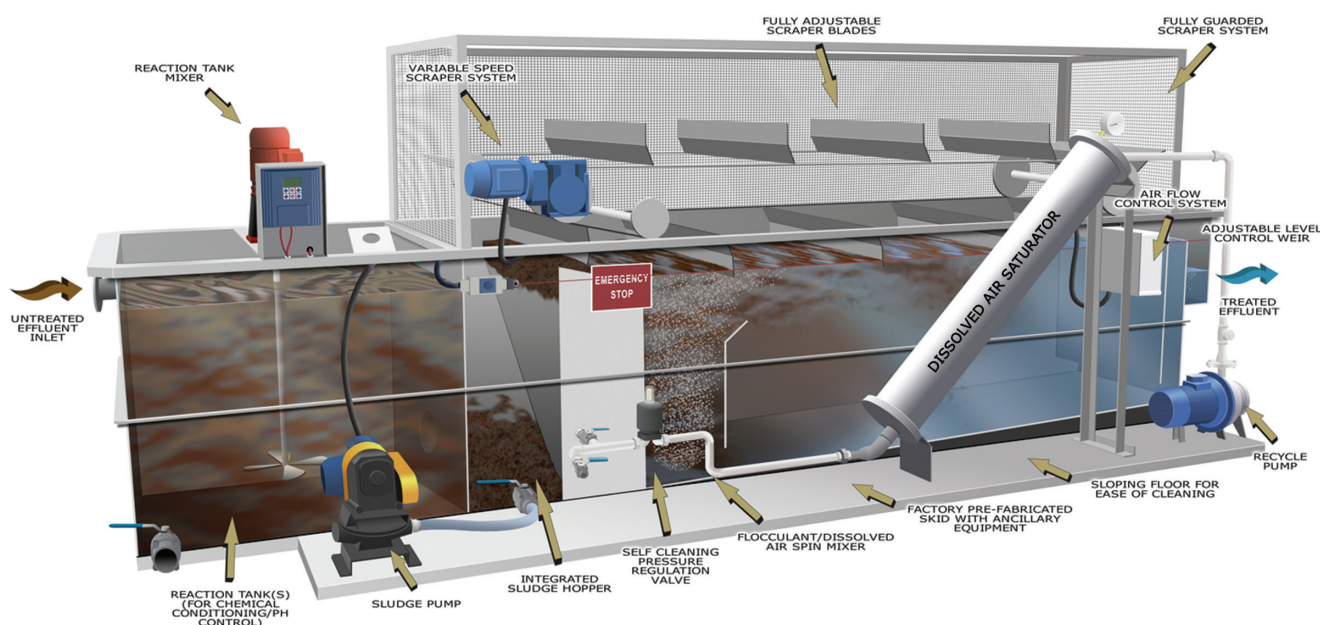
The pre-assembled system is usually supplied as pre-tested units to simplify installation.

True Dissolved Air Process:

Treated water from the base of the DAF is mixed with compressed air in a Dissolved Air Saturator (DAS). At the entry to the DAF, the pressure is released to ensure production of uniformly sized micro-bubbles that are key to optimizing bubble attachment.

Bottom Sludge Removal:

For ease of cleaning, the DAF systems are designed with a sloping base to allow any settled solids to be drained. On any DAF systems our hopper bottom is a proven method of automatically removing solids.



Range of Capabilities

| Capacities and Sizes* | | | | |
|------------------------------|---------------|--------------------|-------------------|--------------------|
| Model | M3/hr | Length (mm) | Width (mm) | Height (mm) |
| JAC 2/7 | 2.0 - 7.0 | 2830 | 1000 | 1800 |
| JAC 7/12 | 7.5 - 12.5 | 3300 | 1200 | 1800 |
| JAC 12/18 | 12.0 - 18.0 | 3650 | 1500 | 1800 |
| JAC 12/20 | 12.5 - 20.0 | 4350 | 1500 | 1800 |
| JAC 20/30 | 20.0 - 30.0 | 4850 | 2000 | 1800 |
| JAC 40/60 | 40.0 - 60.0 | 5900 | 2500 | 2085 |
| JAC 60/80 | 60.0 - 80.0 | 7400 | 2500 | 2085 |
| JAC 70/100 | 70.0 - 100.0 | 9100 | 2750 | 2085 |
| JAC 100/150 | 100.0 - 150.0 | 9300 | 3500 | 2800 |
| JAC 150/200 | 150.0 - 200.0 | 10400 | 4000 | 2800 |
| JAC 200/300 | 225.0 - 300.0 | 12400 | 4000 | 2800 |
| JAC 300/400 | 300.0 - 400.0 | 13900 | 5000 | 2800 |

* Dimensions and capacities are only a guide and are subject to change. Please confirm with Jacopa prior to using the above.

Applications:

For the following industries & applications, a JacopaDAF system is usually the most appropriate separation device for wastewater treatment:

- Industrial fog removal chemical reclamation
- Municipal tertiary treatment
- Raw water primary treatment