

ClearFox[®] DAF Dissolved Air Flotation

Advanced physical-chemical
process for industrial wastewater
treatment

clearfox.com



ClearFox® DAF dissolved air flotation is a physical-chemical process for the separation of a wide range of pollutants from wastewater. The specially developed flotation reactor enables efficient separation of pollutants from wastewater, with lower OPEX costs than a standard dissolved air flotation system.

Physical-chemical treatment of wastewater with high pollutant removal and a compact footprint.



Up to **99%**

Treatment efficiency in the separation of oils, fats, suspended solids and other pollutants.

ClearFox® DAF

The ideal solution for industrial wastewater treatment.

The applications

ClearFox® DAF is suitable for numerous applications in industrial wastewater treatment. Thanks to its special design, it can be used to remove a wide range of pollutants from industrial wastewater.

ClearFox® DAFs are successfully installed worldwide, treating wastewater from a wide range of applications including:

- Food and beverage sector
- Plastic recycling sector
- Landfills
- Pharmaceutical sector
- Oil and gas sector
- Refineries
- Agricultural wastewater
- Mining sector
- Wood industry
- Energy sector
- Other heavy industries

The advantages

Removal of **BOD, COD, TSS, FOGs and heavy metals**

No mechanical scraper

Suitable for wastewater with **high TDS value**

Full utilisation of the flotation space

Easily expandable

For a wide variety of **industrial wastewater**

Compact design

Fully automatic and simple operation

Fast installation and commissioning

High efficiency in pollutant removal

Clogging-free saturation system

Available as **containerized DAF** or **free-standing**

All modules made of **corrosion-resistant HDPE**

Low sludge disposal costs thanks to efficient compression

Economical and efficient chemical dosing

No odours

Registered and protected design

ClearFox® DAF

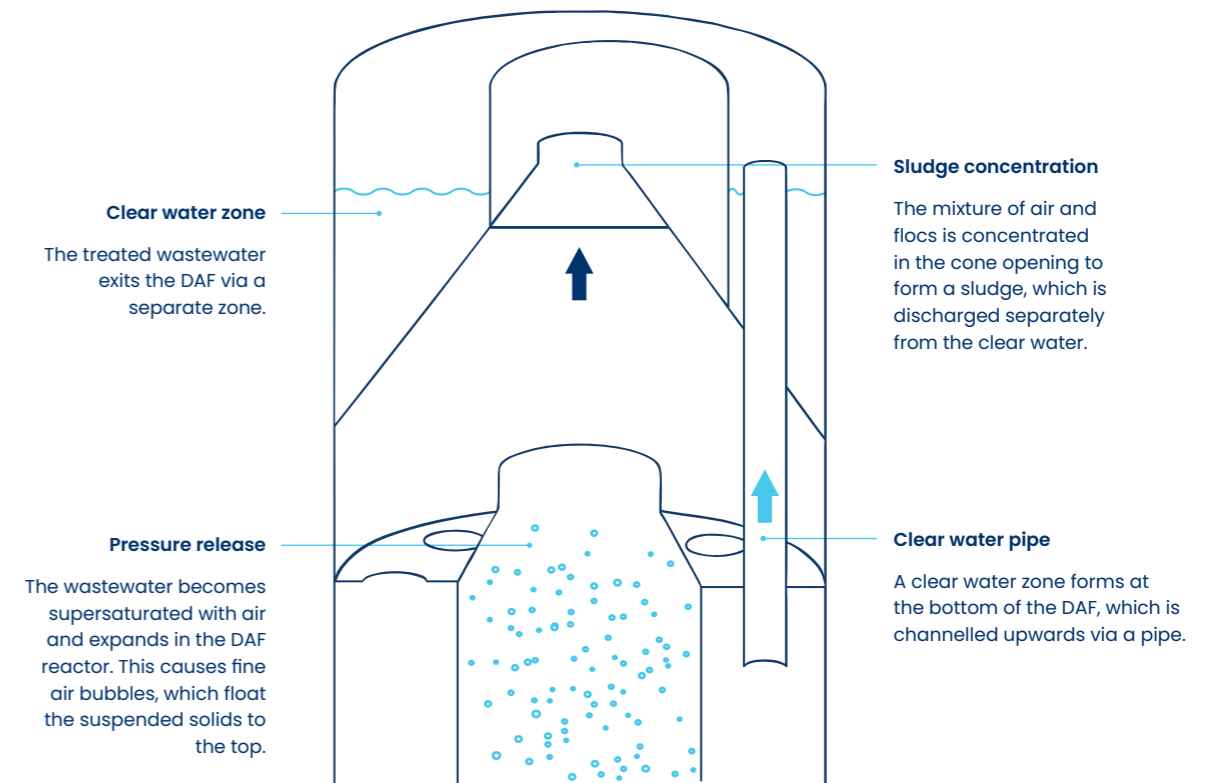
Compact and efficient. Just clever.



DAF-Reactor
A complete solution with all process steps preinstalled, including:
Automatic inline pH adjustment
Automatic chemical dosing systems
Automatic flocculation / mixing system
Flotation Reactor
Control panel for automatic operation
Suction pump to feed the DAF
Separate sludge and clear water outlet
Plug and play - ready to use

ClearFox® DAF

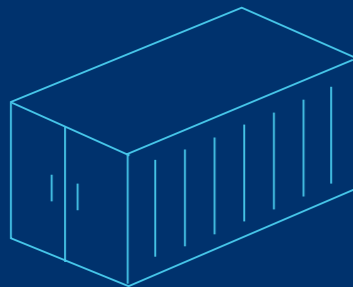
A unique, highly efficient flotation process.



Container-DAF

The solution for large wastewater volumes

The containerised dissolved air flotation is suitable for large volumes of wastewater. PPU Umwelttechnik GmbH has developed its own inlets for this purpose in order to fully utilise the available space. Thanks to the preinstallation, the containerised system is completely suitable for plug & play. Customised modules are used depending on local requirements.



Round DAF

The customised solution

The round dissolved air flotation system from ClearFox® is available in various sizes with a capacity of 20 to 400 m3 per day. Depending on requirements, it is either installed within a container with pH neutralisation and polymer preparation station or freestanding on a rack. The special design reliably separates the flotation sludge from the clear water.



The ClearFox® DAF works with a **chemical-physical process** to remove the suspended solids from the wastewater.

- Step 1 The wastewater passes through a **neutralisation unit**, which adjusts the pH value to the required level.
- Step 2 A chemical dosing station then adds flocculants/polymers to the wastewater, and they are mixed in a special mixing line. These join the suspended solids in the wastewater into larger flocs.
- Step 3 A multiphase pump supersaturates the wastewater with high pressure air before it enters the DAF reactor. With a pressure release in the reactor, **air bubbles** form and rises in the water column. Due to the very slow buoyancy, the bubbles adhere to the flocs and float the pollutants/flocs upwards.
- Step 4 The floated pollutants and flocs exit the system as sludge. As the sludge is pushed through a cone shaped opening, the sludge is **compressed**.
- Step 5 The remaining **clean water** at the bottom of the reactor exits the DAF.

The ClearFox® DAF works completely **automatically**. As it does not require a mechanical scraper, it is particularly low maintenance. The operator is only responsible for topping up the chemicals and disposing of the sludge. This reduces operating and maintenance costs to a minimum.



Leasing? Of course!

All containerized DAF systems are available to lease or buy-to-lease. The leasing period can be between a few months and several years.

The leasing wastewater treatment plants bridges the gap during new construction projects or refurbishments in industrial plants. The possibilities are endless.

A purchase option is available at the end of the leasing period.

We are happy to advise you!

Purchase? No Problem!

When you purchase a ClearFox® DAF, you are guaranteed process reliability in the treatment of your wastewater.

PPU Umwelttechnik GmbH tests all systems extensively before they leave the production plant.

The purchase includes comprehensive customer service, which supports the continual operation of the wastewater treatment system throughout its use.

We are happy to advise you!

Cleaning efficiency of the ClearFox® DAF at a glance

Wastewater type	Raw sewage (mg/l)			Clear water (mg/l)		
	Suspended solids	Etherl. fat	BOD ₅	Suspended solids	Etherl. fat	BOD ₅
Edible oil factory	230	460	2.900	20	25	94
Margarine factory	5.000	3.900	-	200	40	-
Cosmetics factory	15.000	5.405	25.400	1.800	485	5.880
Wool laundry	4.000	2.100	970	60	30	90
Slaughterhouse	700	892	1.900	10	32	39
Poultry processing	874	3.139	1.136	40	18	100
Rendering	5.353	4.614	-	780	775	-
Tannery	5.093	462	2.221	384	43	547
Potato processing	2.600	-	2.760	60	-	260
Fibreboard factory	1.700	-	6.170	127	-	3.000



**Do you have any questions?
We are happy to advise you!**
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Further information
about our ClearFox[®]
DAF can be found here



Innovation made in Germany

PPU Umwelttechnik GmbH provides wastewater treatment to the private, municipal, industrial and decentralised sectors. Under the brand name ClearFox[®], the company sells wastewater treatment plants produced in Bayreuth all over the world. The focus is on biological, chemical-physical and oxidising processes for wastewater treatment. PPU Umwelttechnik GmbH offers selected processes in ISO sea containers. This makes them compact, mobile, modular and available anywhere in the world within a very short time. Each containerised wastewater treatment plant is tailored to individual requirements, making each project unique.

As a general contractor, PPU takes on the planning, production and commissioning of each individual wastewater treatment plant. Every customer can count on reliable co-operation with PPU Umwelttechnik GmbH.

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