

## Features

- ✦ Construction in A-36 carbon, 304 or 316 stainless steel. Welds are dye penetrant tested.
- ✦ Compact design saves floor space
- ✦ Variable speed flight and chain skimmer design that allows for the driest float cake possible
- ✦ Adjustable effluent weir disc for easy adjustment of water level
- ✦ Highly efficient recycle system produces dissolved air without the need for a dedicated air supply
- ✦ Nema 4 and Nema 7 control packages available
- ✦ Operator friendly design

## Options

- ✦ Chemical pre-treatment
- ✦ Expanded float chamber
- ✦ Feed and effluent pump systems
- ✦ Sludge/float pump systems
- ✦ Nema 7 control panel
- ✦ Sludge auger
- ✦ Expanded effluent chamber
- ✦ Walkway

## M.W. Watermark

M.W. Watermark is a leading supplier of water and wastewater equipment, parts and service. We serve both industrial and municipal markets globally.

Our team strives to provide unmatched service and value to customers, helping reduce their costs while keeping the environment clean.

Ideally suited for these applications and more

- Automotive
- Chemical Processing Plants
- Food & Beverage
- Frac Applications
- Mining & Minerals
- Petrochemical
- Petroleum & Gas
- Manufacturing



High efficiency in a small footprint

### SPECIFICATION TABLE

DAF MODEL	Width	Length	Height	Inlet Ø	Outlet Ø	Sludge Ø	Float Ø	Empty Weight (LBS.)	Operating Weight (LBS.)	Surface Area ft <sup>2</sup>	Flow Rate Maximum (GPM)
DAF-30	4'-5"	11'-9"	7'-10"	4"	4"	4"	4"	4,000	15,000	30	60
DAF-50	7'-0"	11'-9"	8'-2"	6"	6"	4"	4"	5,500	22,000	50	100
DAF-90	7'-5"	17'-0"	8'-5"	8"	8"	4"	4"	9,000	39,000	90	180
DAF-140	10'-0"	19'-0"	9'-6"	8"	8"	4"	4"	12,000	75,000	140	280
DAF-190	10'-6"	23'-0"	10'-6"	10"	10"	4"	4"	15,000	100,000	190	380
DAF-240	9'-3"	33'-0"	8'-6"	12"	12"	4"	4"	18,000	135,000	240	480
DAF-290	9'-8"	36'-0"	8'-6"	12"	12"	4"	4"	21,000	175,000	290	580
DAF-400	10'-6"	45'-0"	9'-0"	14"	14"	4"	4"	28,000	240,000	400	800
DAF-500	10'-6"	55'-0"	9'-6"	14"	14"	4"	4"	42,000	265,000	500	1,000

\*Information subject to change without notice, dimensions are approximate, values may vary based on process conditions.

The M.W. Watermark Dissolved Air Flotation (DAF) clarifier is a very effective tool in removing suspended solids, fats, oils, metals and non-soluble BOD from a waste stream. Microscopic air bubbles are produced and mixed with the incoming wastewater. The air bubbles attach themselves to the contaminants, which gives them buoyancy. The buoyant mixture of particles and air bubbles float to the surface and are removed by a skimming mechanism.

Air bubble production is achieved by pressurizing a portion of the clean effluent and recycling it back to the influent to be mixed with the waste stream. As the super saturated water enters the DAF the pressure is removed and millions of microscopic air bubbles are produced. The bubbles become entrained in the solids, rise to the surface and form a bed of material that is skimmed into an isolated chamber.

The effluent quality of a DAF is greatly improved with chemical pre-treatment. Our Snake-Blend™ and CAT systems offer the latest in design technologies. Removal rates for FOG and TSS are typically 95% to 97% with proper chemical pretreatment.

**The Snake-Blend** system is an effective way to introduce and mix a chemical recipe using water turbulence in a series of winding pipes. The design features winding, clog free mixing zones for ideal mixing of the chemistry. The design is compact and has no moving parts.

**The Chemical Addition Tank (CAT)** system is designed based on flow and retention time. They are typically used when greater contact time and mixing are required to effectively mix the chemistry. The systems are custom designed to match the flow requirement of the DAF and are offered in A-36 carbon, 304 or 316 stainless steel. Mixers and chemical pumps are supplied as standard.

**Proudly Manufactured and Assembled in the U.S.A.**

## System Design

### Inlet Diffusion Chamber

The raw influent enters the DAF with the pressurized recycle flow through a distribution baffle that spans the entire width of the tank. Initial mixing takes place as the two flows merge.

### Separation Chamber

As the pressurized recycle flow reaches atmospheric pressure, millions of small bubbles form and attach themselves to the contaminants in water, floating them to the surface.

### Skimmer

A flight skimmer system moving in a concurrent direction skims the float from atop the separation chamber into a float collection chamber. The skimmer system includes an adjustable speed gear motor to adjust the speed of the skimmer blades.

### Solids Chamber

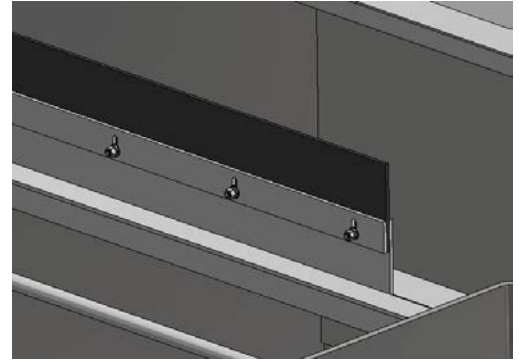
Heavy solids that settle descend into a bottom sludge chamber. The sides are pitched to provide near complete removal of the sludge.

### Effluent Chamber

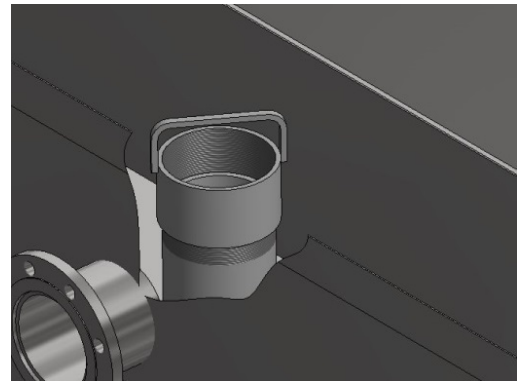
Clean water passes under a strategically placed retention baffle and into the effluent chamber. A portion of the clean effluent water is recycled back to the influent and mixed with the incoming waste stream, with the balance discharged.

### Pressurization Pump System

A portion of the effluent stream is directed to an air aspirating pump that generates highly saturated dissolved air efficiently and reliably. The pump eliminates the need for a dedicated air source. The pressurized recycle flow exits the pump and is mixed with the influent raw waste stream.



*Adjustable Skimmer*



*Adjustable Weir Disc*