

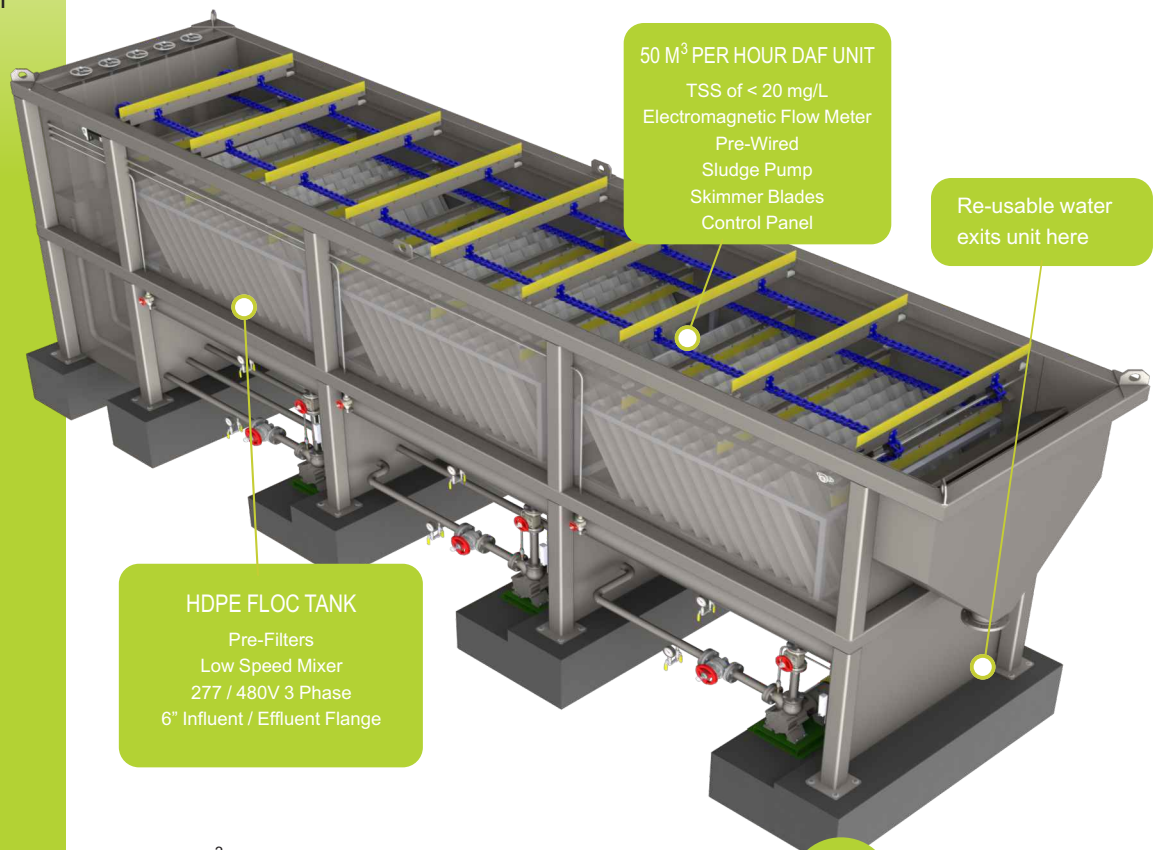
# Recycle Your Frac-Flow Back Water

Contaminated water from the fracturing process can be treated to be used again, with better than a 99% return

Compared to other conventional technologies the DAF system is compact, highly efficient and easy to use

## Highlights Include:

- Complete with Polymer / Alum pump and mixer
- Sludge management
- Eliminates harsh minerals
- Chemical treatment available
  - Biocide ·Scale ·Clay Control
  - Post recycling
- PLC logic
- On-site Reporting
- Mobile



50 M<sup>3</sup> PER HOUR DAF UNIT

TSS of < 20 mg/L  
Electromagnetic Flow Meter  
Pre-Wired  
Sludge Pump  
Skimmer Blades  
Control Panel

Re-usable water  
exits unit here

HDPE FLOC TANK

Pre-Filters  
Low Speed Mixer  
277 / 480V 3 Phase  
6" Influent / Effluent Flange

- 1000 M<sup>3</sup> per day trailer  
c/w Automatic Polymer / Alum Feed System
- All Motors meet or exceed TEFC Class
- One DV II Requirements
- Engineered Designed and Supported

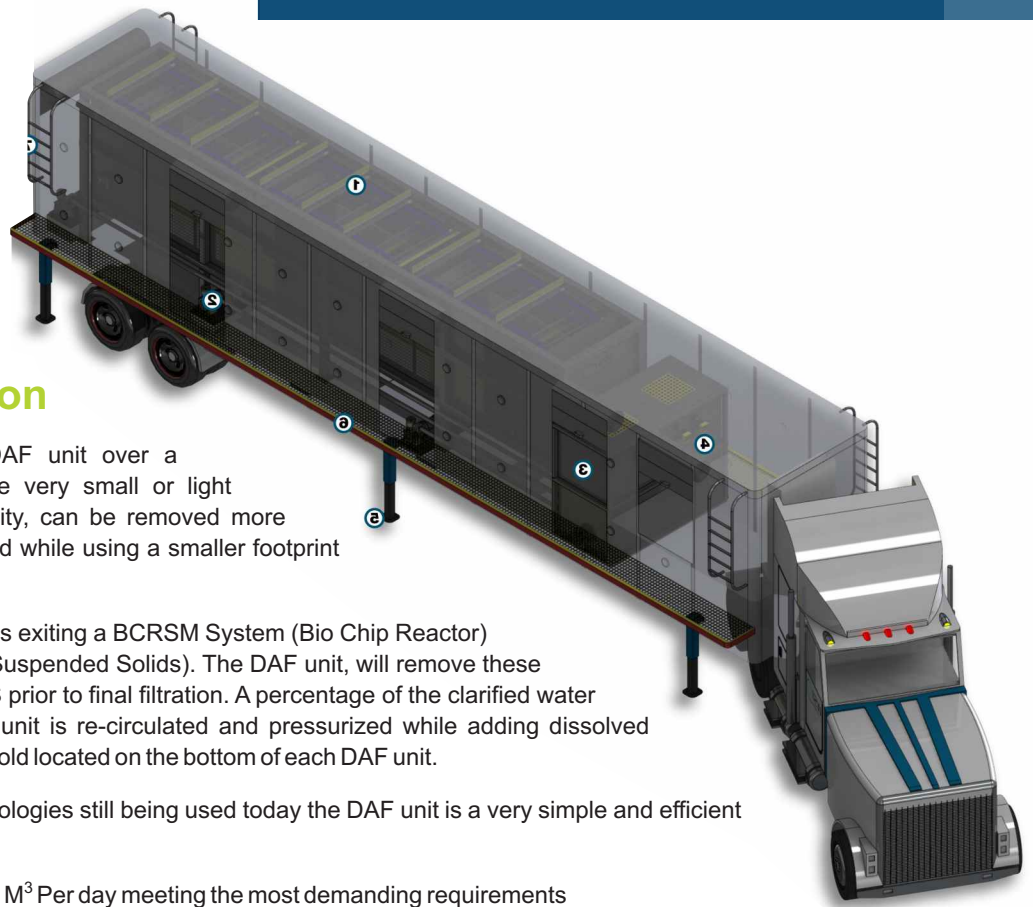


**raymac**  
water treatment services

Contact the Raymac team today

toll free 1.866.753.6696 - sales@raymac.com

www.raymac.com



## Dissolved Air Flotation

A major advantage of using our DAF unit over a traditional settling clarifier is that the very small or light particles, which settle slowly by gravity, can be removed more completely and in a shorter time period while using a smaller footprint than existing settling clarifiers!

The typical amount of suspended solids exiting a BCRSM System (Bio Chip Reactor) range from 150-250 mg/L TSS (Total Suspended Solids). The DAF unit, will remove these solids down to a range of 10 mg/L TSS prior to final filtration. A percentage of the clarified water coming from the effluent of the DAF unit is re-circulated and pressurized while adding dissolved oxygen and then discharging to a manifold located on the bottom of each DAF unit.

Compared to other conventional technologies still being used today the DAF unit is a very simple and efficient process.

Our DAF is designed to treat over 1,000 M<sup>3</sup> Per day meeting the most demanding requirements

## Automatic Polymer System

A polymer preparation system is used to fully hydrate or uncoil the polymer molecule in order to expose the maximum number of charged sites to the treatment process. The process of the polymer activation and blending system is to gently and thoroughly activate the polymer without damaging the fragile molecular chain.

Maintaining a uniform shear field of energy is vitally important to the polymer activation process. This polymer system is designed to apply the ultra-high mixing energy at the point of initial polymer and water contact to prevent the polymer from gelling or agglomeration. The non-mechanical high hydrodynamic shear energy which disperses the polymer into small particles is created by using a mixing educator.

The high velocity jet stream produces a strong suction in the mixing chamber of the mixing educator causing the neat polymer to be drawn through the suction port into the mixing chamber. The well mixed polymer is diffused into the aging tank. A pump is provided to re-circulate the polymer in the aging tank and will switch to pump the well blended polymer to the polymer solution tank when the level drops in the solution tank. A feed pump is supplied to inject the polymer solution into the DAF unit. Polymer addition to the DAF unit is utilized to enhance the solids separation effectiveness. The polymer system is comprised of a neat polymer dispensing system, dilution, mixing, aging and solution injection systems.



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