



Exterran Water Solutions is a wholly owned subsidiary of Exterran. As a global leader in process and production equipment Exterran offers its customers a world of energy solutions through a comprehensive products and services portfolio with operations worldwide.

Exterran Water Solutions products and services focus on produced water treatment. The technologies we have commercialized are proven to enhance the industry standard methods of Oil/Water/Solids separation and improve them by making them more efficient, capital cost effective and at reduced operating costs.

Exterran Water Solutions has a complete line of Hydrocyclone, Coalescence, Flotation & Filtration products which can be designed and built for a new facility or easily retro-fitted into an existing one. We are the developer and manufacturer of all of our product lines. Product Lines include the following:

**1) Micro-Bubble Flotation (MBF™)**

Micro-Bubble Flotation (MBF™) is our primary product offering. Technology used by our competitors uses large bubbles for flotation, but size really does make a difference. By creating small bubbles, the mass transfer area between the gas and liquid phases is maximized. This substantially increases the efficiency of the transfer of the gas to the liquid. Trillions of small bubbles have a high probability of contact to even the smallest of emulsified oil droplets and efficiently adhere and lift them to the surface for skimming. Exterran Water Solutions has developed two unique technologies for creation of these micro-bubbles; the 1<sup>st</sup> is the Gas Liquid Reactor and the 2<sup>nd</sup> the ONYX pump. Once these bubbles are created they are applied in a flotation vessel with appropriate internals. Exterran Water Solutions has pioneered the conversion of conventional gravity skim tanks (i.e. API 650 tanks) to be used for high performance flotation. Alternatively we also design and build convention pressurized flotation vessels (horizontal or vertical) marketed under the RevoLift™ trade name that compete with competitors Induced Gas Flotation (IGF's) or Induced Static Flotation (ISF's) but with the significant benefit of Micro Bubble Flotation.

**2) Gas Liquid Reactor (GLR™)**



This Microbubble generator uses patented fluid dynamic processes to generate shear, impaction and pressure, creating "Micro-Bubbles". A liquid containing entrained gas is passed through the GLR™ unit, resulting in the production of bubbles with a diameter ranging from 5-50 microns. The Gas Liquid Reactor™ contains no moving parts and is virtually maintenance free and can be used with any gas. By creating the high surface area created for mass transfer between the gas and liquid the GLR increases process efficiency, thereby decreasing the size of the process equipment. This can greatly reduce capital and operating costs for a project. The Gas Liquid Reactor has proven successful and reliable in some of the largest and most difficult produced water applications that can ever be encountered in the industry.



3) **ONYX™ Pump**



The Onyx pump is the most reliable pump based method of micro bubble generation on the market. The Onyx pump utilizes a multi-stage centrifugal design to allow for site specific pressure and temperature environments. The Onyx pump is the only micro-bubble generating pump on the market that meets API 610 requirements for its castings, couplings, bearings, labyrinth oil seals, mechanical seals, shafts & sleeves which gives a high reliability for the demanding oilfield environment. Use of the Onyx pump for Micro Bubble Flotation applications allows for smaller footprints and weights which are critical in offshore applications.



4) **REVOLIFT™ - Induced Gas Flotation**



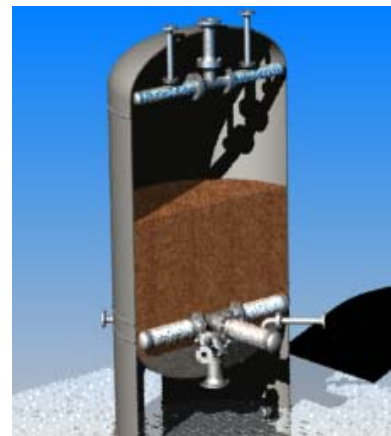
Exterran Water Solutions has developed a line of pressurized flotation vessels of both horizontal and vertical configurations. The Revolift™ products compete with IGF's or ISF's made by others but have significant performance advantages due to the use of micro bubbles and a 100% hydraulic design (no mechanical bubble creation, diffusers, or skimmers). Internal design is unique to the industry in that chambers are completely isolated from each other (no underflow weirs) eliminating the short circuits prevalent in competitors products. The Vertical Revolift is the only multi-chamber vertical IGF/ISF in the industry which provides a huge performance advantage. The Revolift packages provide a very high oil removal efficiency in a self contained small footprint package.



5) **SABIAN™ Filters**



Exterran Water Solutions has developed a unique line of high performance and reliable filters which we market under the SABIAN™ trade name. The SABIAN line includes our patent pending Black Walnut Shell (BWS) Filter technology which has one of the lowest backwash volumes in the industry, clean in place media, no mechanical agitators, and no backwash pump. We also offer Cartridge and Multimedia Filters within the Sabian line of filters. The designs utilized are of proven reliability to ensure that equipment can operate even under extreme conditions and are demonstrated to provide our customers with a high return on their investment.



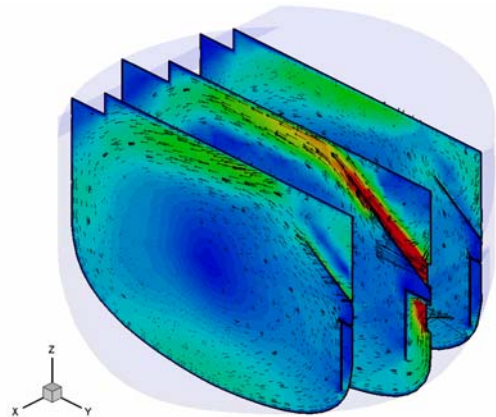
## 6) ***pKlone™ - Hydrocyclones***

P-klone™ Hydrocyclone separators are compact, centrifugal separators with no moving parts. They are insensitive to motion and are unmatched in their small size and high capacity. These devices can be used for deoiling and desanding produced water streams. Hydrocyclones require differential pressure to operate, and can be installed where at least 25psig is available. Higher pressures reduce the size and cost of the equipment, as well as improve the turn-down performance. Hydrocyclones are used to pre-treat produced water before polishing with a Skimmer/Degasser or with Gas Flotation Equipment



## 7) ***Computational Fluid Dynamics (CFD)***

Computational Fluid Dynamics Modeling on multiphase fluids is a powerful tool offered through Exterran Water Solutions. This service is part of all large industrial projects that we are involved in and allows designs to be tested prior to construction or modification of existing facilities, to ensure optimization of the solution. CFD modeling is also available from Exterran Water Solutions as a contracted service separate from our equipment.



As you look at the information contained on this CD, we look forward to answering any questions that arise. Please see the “Contacts” page and request additional information or a Budgetary Quotation.