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[www.AppliedMechTech.com](http://www.AppliedMechTech.com)



## *Water / Wastewater Division*



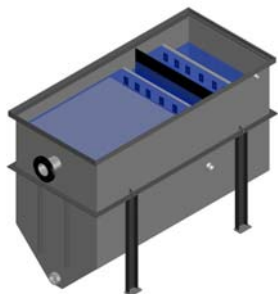
**CLARIFIERS** – We offer several models of High Performance Inclined Plate Clarifiers that are excellent for separating and removing sinking solids, metallic floc, coagulated solids, sand and grit and any other settleable material from water or wastewater at any flow rate. The clarifiers are available in a variety of configurations and materials to suit any water and wastewater treatment application including NSF61. The ultra smooth steep angle inclined plates and adjustable effluent troughs are designed to get the best possible flow distribution and settling performance. The bottom sludge chambers gently thicken the sludge. Bottom augers available on some models.



**FLOTATION** – We offer a complete line of dissolved air flotation (DAF) systems. Our systems are carefully designed to create high efficiency dissolved air that is comingled with the wastewater in a specially designed reaction chamber to ensure excellent bubble impingement. Bubbles and particulate create a strong bubble-particle bond that ensures good flotation and a stout float blanket. Design velocities are carefully controlled to ensure a non-turbulent separation cell. The surface skimmer removes the solids allowing the clean treated water to exit. Our DAF is available in a variety of materials.



**FILTERS & IX** – We offer a complete line of filters and Ion Exchange Systems including MultiMedia, Silica, Anthracite, Activated Carbon, OrganoClay, Demineralizers, Metal Ion Specific, Organic Traps and Manganese Greensand filters. Our filters are offered in a variety of materials and configurations. Automatic backwash, manual backwash, single and multicell, same source and separate source backwashing, mixed media and IX regeneration. Materials of construction include fiberglass, steel, ASME rated, stainless steel, and various other alloys. Operator interface control panels are provided with large intuitive displays for easy operation without extensive training.



**OIL WATER SEPARATORS** – Our line of oily water separators provide high performance in a relatively small package. We offer high performance coalescing media separators, open channel separators, and enhanced gravity separators (see DAF below). The high performance coalescing media separators pack a lot of coalescing surface in each cubic foot and are well suited for most industrial oils or other lighter than water non aqueous products. Our open channel separators are ideal for thick non-flowable material with their mechanical surface skimmers and optional bottom augers. Our oil water separators are available in a variety of materials and coatings to suit.

**COMPLETE SYSTEMS** – Applied Mechanical Technology designs and builds the core technologies and can provide them as individual components, or in a complete water/wastewater treatment system. Our in-house engineering, fabrication and strategic relationships with suppliers for instruments, dosing pumps, mixers, pumps etc enable us to provide a complete, fully integrated system with complete system responsibility. From Treatability to Turnkey, we can provide a successful project from start to finish.



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## Statement of Qualifications

Applied Mechanical Technology has been making advanced technology components and systems for the industrial cleaning and wastewater industries since 1997.

We have two divisions; The Industrial Water Wastewater Equipment and Systems Division making oily water separators, clarifiers, DAF flotation, filters and controls and the Industrial Cleaning Systems Division making industrial wash systems for tank trailer, railcar, tanks and ISO containers. Both divisions operate from design to fabrication building the best industrial quality systems in the industry.

Applied Mechanical Technology is a wholly owned subsidiary of Bulk Resources L.L.C. Bulk Resources is a company that specializes in industrial bulk liquid transportation infrastructure and environmental equipment and systems.

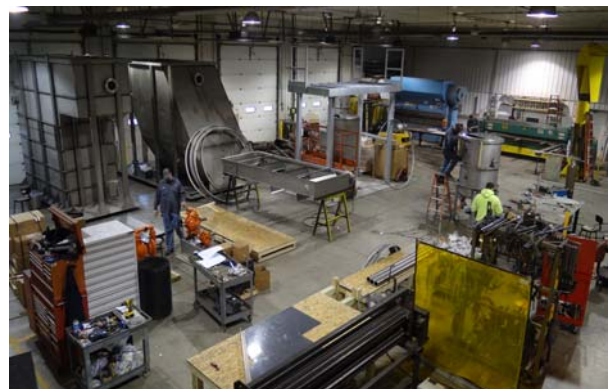
With over 80 years of collective experience in these industrial fields we are uniquely positioned to apply that experience and provide our customers with robust solutions to the various applications that challenge our customers today. We're not just an industrial wastewater equipment/systems maker, we're experts in the field.



Our broad base of core technologies are designed and built in our facility in Mokenca IL. These core technologies are perfectly suited as standalone technologies such as Oil Water Separator, Inclined Plate Clarifiers, DAF and Filter Systems and Chemical, Food Grade, and Kosher grade CIP systems. In addition, our systems group utilizes our core technologies to design complete systems solutions for those who need it.

Applied Mechanical Technology is an industry accepted expert in designing and fabricating high quality industrial wastewater treatment systems and tank and railcar CIP wash systems. Our 12,000 ft<sup>2</sup> facility in Mokenca, IL (suburb of Chicago) houses our engineering offices, assembly and light manufacturing facility, machine shop, control panel shop, and parts and inventory.

Applied Mechanical Technology has complete in-house design and fabrication capabilities including steel and stainless steel structural fabrication including ASME B31.3 pipe, complete state of the art 3D engineering department, process designs, electrical design and complete in-house UL-58A style industrial control panel shop capable of complete SCADA, PLC, and HMI programming in several standard platforms.



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## Industrial Wastewater Systems - Project Examples

**Customer:** US Navy  
**Date:** 2011 to present  
**Site:** Puget Sound Naval Shipyard  
**Engineer:** US Navy Dry Dock Engineering Group Code 980  
**Application:** Industrial bilge water and contaminated dry-dock water. Removal of FOG, Cu, and Zn  
**Project Value:** >\$5,000,000



**Overview:** We provided process and controls design and supplied a complete 200 gpm system including Oil Water Separator, Chem Feed Systems, Flash/Floc mixing, high profile Clarifier, Effluent Polishing, and IX System for residual Cu and Zn. The entire system fits into a 22'x30' foot print in a two story configuration. The influent has ~1000 mg/L Oil and Grease, ~15 ppm Cu and ~15 ppm Zn. The performance goal is to achieve ND on hydrocarbons and < 4 PPB on metals. The contract was for two systems with options for 2 more. After delivery, performance testing and acceptance of the first two the US Navy ordered the others.

**Customer:** Atkore Conduit (Tyco)  
**Date:** May 2011 to Oct 2011  
**Site:** Philadelphia PA mfg facility  
**Engineer:** MWH Philadelphia and Chicago offices  
**Application:** Industrial oily wastewater with Zn and Cr from metal drawing, galvanizing, and brightening.  
**Project Value:** >\$465,000



**Overview:** We provided a complete system including an Oil Water Separator, Chem Feed Systems, Flash/Floc mixing, Clarifier, Effluent polishing filter and complete controls package. The entire system was installed in an existing facility with limited space. Our low profile clarifier was provided conservatively sized. We made several value added recommendations that saved cost up front and allowed them to double flow rate in the future.

**Customer:** Gulf Gateway Terminals  
**Date:** August 2012 to March 2013  
**Site:** New Orleans East  
**Engineer:** WS Nelson  
**Application:** Crude oil trans-loading facility. Taking oil from railcars to pipeline to barge or tank.  
**Project Value:** >\$650,000



**Overview:** We provided overall project design assistance as project manager for the owners, controls design and systems, and environmental systems. The controls package incorporated pumps, flow monitoring, LACT data generation and flare gas treatment system. The controls package was central located in the Master Command Center with rekote local panels with HMI located strategically in 3 other locations around the plant and the dock. The environmental systems included collection sumps and Oil Water Separator system.

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**Customer:** ARAMCO (Saudi Arabian Oil Company)  
**Date:** Mar 2011 to April 2013  
**Site:** Yanbu Industrial City K.S.A.  
**Engineer:** KBR  
**Application:** Oily water separator for high temperature and high pressure cooling water application.  
**Project Value:** >\$1,300,000



**Overview:** We provided designs and fabricated equipment for a multi cell (6) 3800 gpm, 200F, 140 PSI Oil Water Separator with automatic air scour cleaning system. The Oil Water Separator treats process cooling water for removal of free and dispersed hydrocarbons. The design incorporates tangential inlet and centrifugal force in combination with API 421 style coalescing plates made from stainless steel. The design is very efficient at oil removal and solids reduction.

**Customer:** BRP Bombardier Recreational Products  
**Date:** August 2013  
**Site:** Spruce Pine NC  
**Engineer:** Rivers Bend Engineering  
**Application:** Plating and CCC wastewater with Cr  
**Project Value:** >\$965,000



**Overview:** We provided a Cr treatment package including flow thru Cr reduction and flash/floc mix tanks, Clarifier, and Chemical feed systems to designs mutually determined between us and the Engineer. This is the second system thru this engineer to this customer. The first system was ~7 years ago and designed for 75 gpm.

**Customer:** Hart Engineering  
**Date:** July 2013  
**Site:** TF Green Airport - RI  
**Engineer:** Gresham Smith and Partners  
**Application:** DAF system for removal of biologic floc from biologic wastewater process treating glycol based aircraft de-icing fluids.  
**Project Value:** >\$100,000 our portion, multi million total project.

**Overview:** We provide the DAF Dissolved Air Flotation system that is used to remove residual boil solids from bio wastewater that is treating de-icer fluids at an airport. Our design was customized to meet project specific requirements for oxygenation of effluent. We provide the local controls and instruments for the DAF system.

