



Water Treatment Applications:

- SOFT / RO WATER FOR STEAM GENERATORS / BOILERS
- PRE-TREATMENT TO PROTECT EQUIPMENT / EXTEND LIFESPAN
- COOLING TOWER MAKE-UP
- OIL PLATFORM DRINKING WATER SYSTEMS
- MICRO ORGANISM CONTROL
- WATER RE-USE AND WASTEWATER MINIMIZATION

Industrial Oil and Gas Solutions

Unleash the Power of Pure Energy.

Oil and gas companies depend on clean, quality water for recovery, exploration and production in the field. For example, many need ultra-soft water for oil field steam generators and boilers, to reduce scaling and protect their equipment. Culligan® Industrial Solutions uses patented technology to facilitate recovery processes and help lengthen the lifespan of steam generators and other types of equipment, leading to accelerated revenue capture.

CULLIGAN® WATER WORKS HARDER:

Flexibility - Containerized mobile systems, which can be moved across drilling sites, offer a high degree of flexibility.

Cost Savings - Dramatically improve your bottom line with cleaner water. The Culligan® Industrial Solutions helps maintain a continuous flow of water through your cooling towers with reverse osmosis treatment to reduce dissolved solids.

Improve Energy Efficiency - In some cases, re-use water can be treated with an UF/RO system, pre-treatment, ion exchange, and multi-media filters, which may result in higher quality product water depending on feed water conditions. This may improve the energy efficiency of equipment and processes leading to additional cost savings.

Reduce Wastewater - The superior membrane technologies and ion exchange systems of the Culligan® Industrial Solutions can reduce wastewater discharge. These processes may aid refineries in meeting both local regulations and strict EPA regulations.

Advanced Electronic Capabilities - The most advanced water treatment system features historical operating data logging, remote monitoring, and telemetry as a standard option at a very cost effective price. Additionally, there are full PLC capabilities available from Culligan® Industrial Solutions based on the integration requirements of the client.



END-TO-END SOLUTIONS.

We Ask the Right Questions so You Get the Right Solution.

Our consultative approach begins with a Culligan® professional working with you to identify your specific water quality needs. By understanding these needs we can customize a system that gives you everything you require and nothing you don't – saving you money and helping you increase your return on investment (ROI). At Culligan®, we take pride in working closely with our customers so we can provide comprehensive industrial water treatment solutions.

WATER TREATMENT SOLUTIONS FOR THE OIL AND GAS INDUSTRY.

Water Treatment for Oil Field Steam Injection

Oil and gas companies depend on clean water for oil field steam injection. Modules from the Culligan® Industrial Solutions product arsenal, including filters and softeners can be used to decrease hardness and other contaminants in the raw water supply. Pre-treatment filters and softening can reduce scaling and pro-long the life of equipment. For instance, Culligan® was tapped to provide a custom engineered system for an Oil Sands Project in Alberta, Canada. Our customer required ultra soft water for the steam generators in their bitumen and heavy oil recovery processes. Culligan® proposed a solution including a 10' x 40' skid-mounted; PLC controlled four tank duplex alternative softener system producing 50 GPM influent to the steam generators. Pre-treatment filters ahead of the softener system were used to reduce sediments in the raw water supply.

Process Water Treatment

In oil recovery, exploration and production, treating process water can lead to significant cost savings and accelerated revenue capture. For instance, treating boiler feed water make-up with a reverse osmosis system from the Culligan® Industrial Solutions arsenal can reduce dissolved solids. This will enable the boiler to operate at more cycles of concentration, thus reducing the blow down and make-up water requirements. Reduced make-up and blow down results in direct energy

and chemical savings. Other technologies in the Culligan® Industrial Solutions that could be used to treat process water include softening, microfiltration, ultra-filtration, nano-filtration, portable exchange deionization and continuous electro deionization.

“For oil and gas companies, minimizing downtime reduces business risk. And, consistency of water quality in the recovery, exploration and production processes helps to accelerate revenue capture.”

Wastewater Minimization

Today, stringent local and national discharge requirements are creating a need for overall onsite water management and wastewater minimization. These new demands at times require water system modifications, equipment retrofits, or system replacements to enable refineries to minimize the use of water and wastewater. With our comprehensive discovery process and consultative approach, we can design a solution that meets your overall onsite water management and wastewater minimization needs.



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For over 80 years, Culligan®, has made better water. Our global network, comprised of 800+ dealers and international licensees in over 90 countries, is dedicated to addressing your water-related problems. As a worldwide leader in water treatment, our sales representatives and service technicians are familiar with the local water conditions in your area. Being global and local position us to deliver customized solutions to commercial and industrial water issues that affect your business and your bottom line.

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