



ADVANCED WATER TECHNOLOGY



Providing tertiary and polishing treatment solutions for a wide array of produced, process and waste water streams.

WHO WE ARE

ProSep is an industry-leading, proprietary technology solutions company. Operating since 2005, ProSep has established a track record of providing best in class technology solutions to the upstream, midstream and downstream segments of the oil and gas industry.


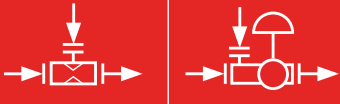

WHAT WE DO

ProSep offers best-in-class proprietary water treatment technologies. These technologies, in addition to our conventional offerings, are utilized to meet our customer's needs for produced water use, re-use, injection, or discharge. ProSep partners with our clients from the design stage to understand the complete process design, local regulations, and long-term requirements in order to engineer, design, and deliver a fit for purpose solution. ProSep's technologies often assist clients in meeting strict regulatory discharge limits, selectively treat contaminants, or recover valuable chemicals – all achieved with low OPEX and “plug and play” configurations.

OUR SPECIALTIES

- Overboard discharge
- Produced Water Reinjection (PWRI)
- Water treatment after hydrate inhibition
- Oil capture from process streams
- Injection well assurance
- Aromatic (BTEX/PAH) removal
- Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) reduction (hydrocarbon based)

PROSEP WATER TECHNOLOGY

PID Symbol			
Commercial Name	Osorb®	CTour™ Process	TORR™
Description Name	Organically modified sorbent for the adsorption and absorption of soluble, free, and dispersed oils	Named after Charles Cagniard de la Tour – who first studied and observed supercritical fluids	Total Oil Removal and Remediation
Underlying Principle	Osorb® is an organically-modified, swellable, adsorbent silica media capable of capturing and removing soluble, free, and dispersed oils from produced water streams. The organic link between the tethered array of silica bonds provides active sites for hydrocarbons, but can be reversed to free the hydrocarbons and regenerate the media.	The CTour™ Process is a scaled up solvent extraction technology. Condensate, typically from high pressure gas scrubbers, is injected into produced water streams exiting production separators. The light condensate mixes and coalesces with the smaller OiW droplets from the separator, creating lighter and larger droplets for easier removal.	TORR™ is a 4-step OiW separation process that relies on a proprietary compressed media. As water flows through the media, oil is 1) adsorbed, 2) coalesced, 3) desorbed, and 4) gravity separated. The separated dry oil accumulates in the top of the vessel while clean water exits the bottom.
Characteristics	<ul style="list-style-type: none">Removes BTEX components to < 1 ppmRemoves free and dispersed hydrocarbons to < 1 ppmHigh adsorption capacity5 year media lifeCapable of removal to ppb levels	<ul style="list-style-type: none">Enhances primary and secondary separation unitRetrofits into existing systemAchieves < 5 ppm TPH- 0.5 to 2.0% volume condensate required	<ul style="list-style-type: none">Removes >2 micron oil dropletsSmall footprint to capacity ratioHigh turndown99% removal efficiencyInlet OiW concentrations up to 2,000 ppm.
Process Flow Condition	Best used as tertiary treatment to achieve low discharge limits	Best used when condensate is available and API oils > 14	Best used for high turndown, emulsions, and fluctuating OiW levels

PROPRIETARY EFFLUENT WATER TREATMENT TECHNOLOGIES

ProSep’s effluent water treatment assist operators to manage and treat their effluent water streams, providing solutions that meet or exceed regulatory and/or other operational requirements.

OSORB® MEDIA

Osorb® Media is a revolutionary, regenerable, organically-modified silica adsorbent utilized for the treatment of oilfield, refinery, petrochem and other industrial waste or effluent water and gas streams. It adsorbs free, dispersed, and water soluble hydrocarbons, as well as many non-polar chemicals.

BENEFITS

- Regenerable – multiple methods
- High adsorption capacity
- Small footprint
- Long lifecycle
- Rapid Capture Mechanism

APPLICATIONS

- Polishing technology
- BTEX removal
- HC and PAH removal
- Overboard discharge
- RO membrane protection
- Polymer EOR

CTOUR™ PROCESS

The patented CTour™ Process removes both dispersed oil and water soluble organics through condensate injection into water streams via a solvent extraction process.

BENEFITS

- Removes TPH to below 5 ppm
- Reduces (PAH, phenols, BTEX) by 80 – 95%
- No waste products
- No chemicals required
- Simple retrofit
- Low OPEX
- Robust process, low maintenance

APPLICATIONS

- Overboard discharge
- Enhance existing primary separation
- Compliant with EIF standards
- Re-Injection for EOR

TORR™


TORR™ hydrocarbon coalescing technology, with its small footprint and ability to replace less efficient oil removal equipment, removes greater than 90% of 2 micron and larger oil droplets from effluent water streams. TORR's standardized, modular configuration lends itself for easy scale up to address future water cut increases for operators.

BENEFITS

- Small footprint and low weight
- Increased polishing
- Dry oil recovery
- De-bottlenecks flow capacity
- Minimal pressure drop
- High turndown
- Effectively breaks emulsions

APPLICATIONS

- Produced water polishing
- Continuous and intermittent service
- Overboard discharge
- Process upset treatment



ProSep has been providing Best Available Technology in water treatment, advancing the limits of what is possible for over a decade.



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