

THERMOENERGY™ Mobile FracGen® 6000



Production of Hydrofracking-Quality Water from Local, Non-Potable Water Sources

ThermoEnergy's FracGen® System processes brackish and saline water from wells, ponds, streams or other similar sources with TDS (Total Dissolved Solids) content of less than 30,000 ppm. Typical throughput is 6,000 barrels or 250,000 gallons of water per day with an estimated recovery of 85% or better than 500 ppm Total Dissolved Solids in the permeate.

The system consists of a primary automated valve that regulates the flow of feed water to the H₂S degasifier. The degasifier removes H₂S gas from the incoming feed water. The extracted H₂S is destroyed and retained for disposal in a two-stage wet gas re-circulated scrubber. Additionally, the degasser product water is pH adjusted, disinfected and treated with a coagulant and flocculent prior to filtration by a multimedia filtration system. The degasser and scrubbers are mounted on one skid. The balance of the System is mounted on a second skid containing a multimedia filtration system, cartridge filters, nano-filtration and reverse osmosis. The multimedia filtration system removes the majority of the total suspended solids from the feed water. The filtered feed water is re-filtered by cartridge filters to remove additional total suspended solids and degraded filtration media. Filtered water is then processed by the nano-filter to remove the balance of the total suspended solids and the di-valent cations and their counter ions. The nano-filtered water is then processed by reverse osmosis to remove 99% of all remaining

Eliminate the high cost of trucking fresh water to frack sites. Reduce your carbon footprint.

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total dissolved solids, including ionic and organic soluble solids. The final product or permeate from the reverse osmosis system is pH adjusted and disinfected prior to final discharge.

In addition to the primary components, the FracGen 6000 System is fitted with a fully automated PLC driven control panel with touch screen HMI, SCADA, remote monitoring and control, and video monitoring. All motors are driven by programmable variable speed drives with overload and circuit protection contained in two NEMA 4X FRP power distribution panels. The System is fitted with multiple chemical meter pumps and storage tanks. Where appropriate, secondary containment is provided. The system requires a 30 kw, 480 volt, 3 phase, 60 Hertz power supply. The system’s structural components are welded carbon steel painted with chemical resistant, UV stabilized epoxy. Additional information is available upon request.

Sample Field Performance on Brackish Water		
Chemical Property	Inflow	Outflow
Specific Gravity at 60° F	1.0180	1.0015
pH (When Received)	7.0	7.9
Bicarbonate as HCO ₃	410	39
Total Hardness as CaCO ₃	3,250	8
Calcium as Ca	920	2
Magnesium as Mg	231	1
Sodium and/or Potassium	4,201	31
Sulfate as SO ₄	2,725	21
Chloride as Cl	6,534	16
Iron as Fe	0.20	0.10
Barium as Ba	–	–
Total Solids, Calculated	15,020	110
Hydrogen Sulfide	32	–
General Characteristics		
Electrical	Load 72 kw; delivery 480 volt, 3 phase, 60 Hertz	
Chemistry	TDS	Intake < 30,000 ppm
		Outflow < 500 ppm
Reject Range	About 15-30% depending on feed water quality	

Learn why ThermoEnergy’s FracGen® is the ideal choice for brackish water recovery and treatment at your fracking site. Email info@thermoenergy.com or visit our website at www.thermoenergy.com.

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