



Sorbster

Ecologically Effective Contaminants Adsorption

Large Reduction of Dissolved Silica SiO_2 (30,000 → 100 ug/L) for Process Water

Sorbster Inc. has developed a method to reduce concentrations of dissolved silica SiO_2 in process water. Water containing 30,000 ug/l of dissolved silica was run through a media bed of Sorbster® Si-1, for a total of 180 bed volumes. This was done at flow-through rate without pressurizing the system.

The result was an almost complete reduction of dissolved silica (SiO_2) from the water. When no silica was detected, it was reported at the PQL limit 100ug/l. We saw reliable readings as low as 56 ug/l of dissolved silica.

The removal process is conducted through chemical adsorption and will be affected by pH, target 7.5-8.0.

Using this method, we can implement a cost-effect and long-term removal of dissolved silica at any flow rate. This method requires infrequent operator activity but an initial investment in infrastructure.

Sample Label	Inlet SiO_2 (ug/l)	Discharge SiO_2 (ug/l)	% Removed
Inlet 1	18,200		
Bed Volume 5		124	99.48%
Inlet 2	18,200		
Bed Volume 20		99.7	99.57%
inlet 3	26,000		
Bed Volume 40		55.9	99.76%
Inlet 4	25,800		
Bed Volume 65		177	99.41%
Inlet 5	28,000		
Bed Volume 90		98.5	99.79%
Inlet 6	37,700		
Bed Volume 110		(Non-Detect) 100	99.73%
Inlet 7	29,100		
Bed Volume 130		1310	97.57%
Inlet 8	29,100		
Bed Volume 160		(Non-Detect) 100	99.66%
Inlet 9	29,100		
Bed Volume 180		(Non-Detect) 100	99.66%

If you are interested in learning more about dissolved silica removal, please contact:

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