

DI H2O

Frequently Asked Questions

What is DI Water?

Deionized water is water that has gone through an electrochemical process to remove the dissolved mineral content.

How is Water Deionized?

Water is passed through resin beads that have an electrical charge, causing an affinity for oppositely charged ions. As the water passes through, dissolved salts and ions are "exchanged" for hydrogen or hydroxide ions.

What is Deionized Water used for?

Purified water has many uses in manufacturing, including parts cleaning, formulating, cooling and testing.

How Much Does it Cost?

There is typically a capital and operating cost associated with DI water. The capital cost is in a treatment "system" that incorporates the DI tanks. Exchanging the DI tanks and maintenance are the operating costs. Generally speaking, DI water can be provided for pennies per gallon.

How Does the Exchange Program Work?

Every DI tank has a given capacity based on its size. The resin in the tank becomes "exhausted" when the resin is saturated with contaminant ions. At that time the tank can no longer effectively deionize the water. The tank is exchanged for a fresh DI tank as routine service. The exhausted tank is regenerated in our plant through a chemical process. The customer is charged the "exchange" price that includes delivery.



Typical Water Quality Capability (Single Pass):

- Two Bed DI: 200 kohm
- Two Bed-Mixed Bed DI: 1 megohm (+)
- Mixed Bed DI: 1 megohm (+)
- Mixed Bed-Mixed Bed: 18 megohm
- RO-Mixed Bed: 18 megohm

Typical Tank Capacity Based on 25 grain hardness feed:

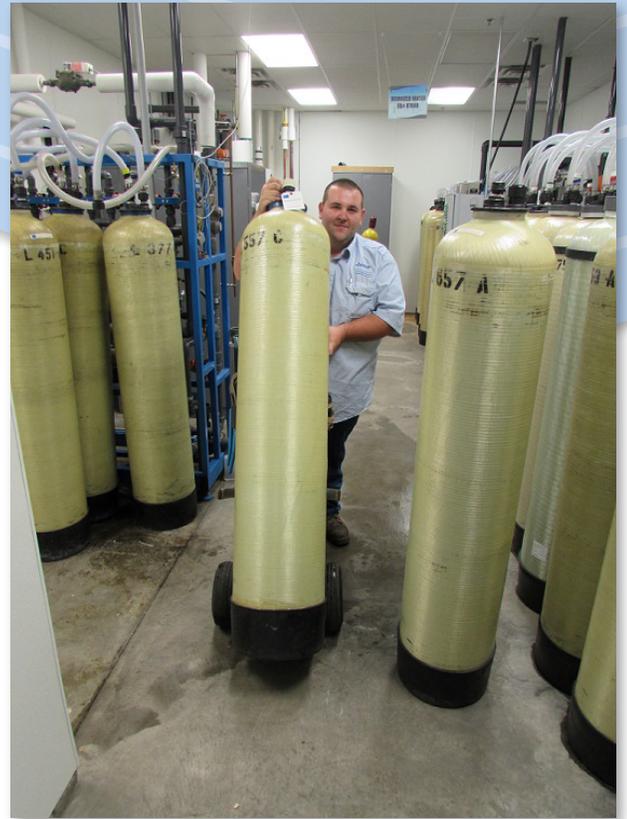
Size	Type	Capacity (gallons)
10"	Two Bed	1440
12"	Two Bed	2400
14"	Two Bed	4000
10"	Mixed Bed	480
12"	Mixed Bed	800
16"	Mixed Bed	1600

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Exchange Services

Smith Engineering's skilled technicians handle all tank exchanges & maintenance.

Smith Engineering operates its own Deionization plant in Chaska, Minnesota. With multiple route service trucks on the road daily an exchange is never far away. Typically Smith Engineering is capable of providing 24 hour response to exchange requests and Emergency Service is also available 7 days per week. The exchange DI service allows you to have deionized water without the use of concentrated acids or bases at your manufacturing site.



Our exchange fleet provides customers with the water quality and quantity they need, when they need it without the hassle of on-site regeneration.

Our exchange DI systems are custom designed to meet our customer's water requirement ranging from basic demineralization to more purified quality like USP and "cold" WFI.



Smith-Link!

**Remote exchange notification system!
Eliminates customer monitoring requirements. Utilizes customer ethernet or cellular router. Signals an exchange requirement to Smith Engineering, customer building maintenancesystem, or both.**