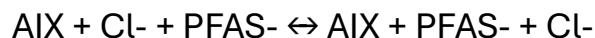


Anionic Ion Exchange (AIX)

A proven water treatment method that can effectively remove PFAS

Ion exchangers are solid materials consisting of a polymer matrix, capable of exchanging dissolved ions with other ions of the same charge. They have proven effective in removing negatively charged PFAS ions from solutions and can be integrated into stationary, fixed-bed reactors for municipal drinking water and industrial wastewater treatment.



Technology Advantages

Compared to other water treatment technologies, ion exchangers show the following advantages and benefits:

- ❖ **Higher Sorption Capacity:** A higher PFAS load per unit mass sorption material is achievable, enabling more compact systems
- ❖ **Higher Sorption Kinetic:** Ion exchangers require significantly less contact time compared to granulated activated carbon (GAC)
- ❖ **Removal of Short- and Long-Chain PFAS:** Ion exchanger materials can be modified to remove Short-Chain PFAS as well.
- ❖ **Economy:** Operating costs depend on plant lifetime and flow rate; ion exchangers are comparable in costs to activated carbon

Industry Applications

Ion exchangers can reach PFOA, and PFOS targets below non-detect levels. Optimum efficiency correlates with the amount of dissolved PFAS, the occurrence of other ions and sulfate levels in solution. Quality of process design and stability of sorption material are additional success factors, requiring consistent operating conditions. Ion exchangers can be used in various process layouts such as a two-pass operating configuration using different, customized types of Ion exchangers

Inflow -> **IX Module** -> **IX Module** -> Ultrapure Water (UPW) as Input Factor

Typical applications for ion exchangers in inhouse manufacturing processes:

- ❖ **The Beverage Industry:** Fruit Juice, Wine, Gelatine Production
- ❖ **The Cosmetic Industry:** Supplements, Skin Care Manufacturing
- ❖ **The Electronics Industry:** UPW for Manufacturing Processes
- ❖ **Municipal Drinking Water:** Water Works, Local Utilities

In British Columbia, the following regions are seen as process advantageous:

- ❖ **Southern Interior, Vancouver Island and Victoria, Skeena, Vancouver and Lower Mainland, West Kootenays, Cariboo.**

At **MEDSTERN CANADA LLP**, we support Business-to-Business processes and provide technology transfer and project coordination support to Local Leaders in Canada and the United States in their efforts to build, secure, and maintain drinking water infrastructures of excellence:

- ❖ Interested in learning more about PFAS Removal procedures?
- ❖ Looking for established B2B Partners active in Clean Water?
- ❖ Are you seeking help navigating technical norms, and standards?
- ❖ A trusted guide to harmonize your Clean Tech B2B Partnerships?

For more information on evolving technologies for PFAS removal, please email medsterncanadallp@proton.me, visit us at <https://medstern.ca>, or follow us on LinkedIn <https://lnkd.in/g6eDX9FD>.

Upcoming Trends

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Abbreviations:

PFAS, Perfluoroalkyl and polyfluoroalkyl substances

UPW, Ultrapure Water

Hashtags: #Waterworks #Drinking_Water #Clean_Water #Raw_Water
#Ultrapure_Water #UPW #Contaminant_Treatment #PFAS #PFOS #PFOA