



# Ion Exchange Systems

## Product Brochure

### Product overview

Softening, demineralization, and selective contaminant removal for municipal and industrial applications using ion exchange resins tailored to the target ions.

Ion exchange removes dissolved ionic contaminants by exchanging them for harmless ions bound to a resin bed. As water passes through the vessel, unwanted ions — PFAS, hardness (calcium and magnesium), nitrate, boron, or heavy metals — are captured and replaced. When the resin nears exhaustion it is regenerated on-site, restoring full capacity for the next cycle.

Etaniv specifies the resin chemistry (strong- or weak-acid cation, strong- or weak-base anion, or selective resins) and the regeneration scheme to match each site's water quality and discharge constraints, delivering consistent treated-water quality with efficient chemical and water use.

### Key features

Key technical and commercial advantages:

- Selective removal of PFAS, hardness, nitrate, boron, heavy metals, and other target ions
- Consistent treated-water quality across the full service cycle
- On-site regeneration restores capacity — low ongoing media cost
- Resin chemistry matched precisely to the application
- Compact, automated skid or vessel configurations
- Reliable, well-proven technology with straightforward operation

### Typical applications

Typical application types include:

- Water softening for municipal and industrial supply
- Nitrate and boron removal for drinking water compliance
- Demineralization for boiler feed and process water
- Heavy-metal and selective-ion removal in industrial effluent polishing

**Technical specifications**

|                                  |                                                                       |
|----------------------------------|-----------------------------------------------------------------------|
| <b>Flow rate (m³/hr)</b>         | Tailored to project at any flow rate                                  |
| <b>Resin type</b>                | Strong/weak-acid cation, strong/weak-base anion, or selective resins  |
| <b>Target ions</b>               | PFAS, hardness, nitrate, boron, heavy metals and other dissolved ions |
| <b>Regeneration</b>              | On-site regeneration (co- or counter-current) with automatic control  |
| <b>Vessel dimensions</b>         | Sized per flow, capacity and cycle time; FRP or steel vessels         |
| <b>Configuration</b>             | Single, duplex (duty/standby), or multi-train skids                   |
| <b>Materials of construction</b> | FRP, rubber-lined or 316 stainless steel per duty                     |
| <b>Operating pressure (bar)</b>  | Typical 2–6 bar; designed to site hydraulics                          |
| <b>Temperature range (°C)</b>    | Effective across normal water-supply temperatures                     |

## Product photo



## Why Etaniv

Etaniv B.Y. Ltd is an Israeli manufacturer and integrator of environmental technologies for water, wastewater, and odor control. We design, supply, install, and maintain our systems in-house — backed by 20+ years of field experience and international technology partnerships.

- Full lifecycle service — design, installation, and maintenance by one team
- Own manufacture — quality controlled from design to delivery
- Compliant with Israeli Drinking Water Standard
- Backed by international technology partnerships
- 50+ active clients across Israel

## Contact us

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### Office hours

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*24/7 emergency support available*