

ROTEK Softener Resin

Strongly Acidic Styrene Cation Exchange Resin IR100FD

This product is a styrene and divinylbenzene cross-linked copolymer molecule with sulfonic acid group ion exchange resin. Its acidity is equal to sulfuric acid and hydrochloric acid. It has the features of high strength and high exchange capacity.

Key Application

- **Water softening** - Softener resins are employed to remove hardness causing ions, primarily calcium and magnesium, from water. This is crucial for preventing scale build-up in pipes and appliances, enhancing the efficiency of water heaters, and extending the lifespan of plumbing systems.
- **Pure water production** - Softener resins contribute to pure water production by removing unwanted minerals and impurities, ensuring the water meets specific quality standards. This is essential for various industrial processes and laboratories requiring high water purity.
- **Hydrometallurgy** - Softener resins play a key role in hydrometallurgical processes, where they help in extracting and purifying metals from ores through ion exchange mechanisms. This is significant in industries such as mining and metal extraction.
- **Rare metal separation** - The resin's ability to selectively exchange ions makes it distinctive in separating rare metals, a critical process in industries involved in the production of electronic components, catalysts, and special alloys.
- **Antibiotics production** - Softener resins may be utilized in the pharmaceutical industry for the purification of water used in the production of antibiotics. Ensuring water purity is vital in maintaining the quality and safety of pharmaceutical products.



Volume: 25L/Bag

Physical and chemical property

Item	IR100 FD NA+ FORM
Mass total exchange capacity mmol/g(dry)	≥4.50
Volume total exchange capacity (mmol/ml)	≥1.90
Moisture content %	45-53
Wet apparent density (g/ml)	0.77-0.87
Wet true density (g/ml)	1.25-1.29
Effective grain size(mm)	0.40-0.70
Uniform coefficient	≤1.60
Particle size(%)	(0.315-1.250mm) ≥95.0 (<0.315mm) ≤1
Sphericity after attrition(%)	≥90
Leave factory form:Na ⁺	Appearance: gold yellow to tan sphericity particles

Suggested Operating Conditions

PH range : 1-14	Regeneration liquid flow rate : 5-8 m/h
Maximum service temperature : Hydro-gan type≤100°C · Na type≤120°C	Regeneration contact time : 45-60 min
Na-H : (Na ⁺ →H ⁺) 8-10%	Washing flow rate : 10-20 m/h
Industrial resin layer height : >1.5m	Washing time : around 30 min
Regeneration liquid concentration: NaCl:8-10%, HCl:4-5%	Working flow rate : 15-30 m/h
Regeneration liquid dosage : NaCl (8-10%) volume : resin volume=1.5-2:1	Working exchange capacity : ≥1000mol/m ³
HCl(4-5%)volum : resin volume=2-3:1	