

axion s220

Ion Exchange Resins

Efficient Water Softening



Resins used during the processes of Water Softening and Demineralisation for removal of calcium and magnesium ions determine the quality of the treated water.

Axion S220 are strongly acidic, cation exchange resins. These ion exchange resins are supplied moist in sodium form and are used for softening in Na⁺ form.

As per
EEC & US FDA
Regulations

Why Axion S220?

- Outstanding physical, chemical and thermal stability
- High exchange capacity
- Good ion exchange kinetics
- Applicable in treatment of food and water for human consumption
- Resin properties tested under IS: 7330-1988 specifications
- Available at competitive prices

Applications

Boiler Feed Water, Cooling Water Treatment, Process Water, Hot Water Systems

Industry Focus

- Textiles
- Food & Beverages
- Pharmaceuticals
- Chemicals
- Electronics
- Automobiles
- Hospitality
- Townships



S220

Properties

Functional groups _____	Sulphonates
Physical form _____	Amber beads
Ionic form as supplied _____	Sodium
Total exchange capacity _____	Minimum 1.85 eq / L (Na ⁺ form)
Particle size _____	0.3–1.2mm
Operating pH range _____	0-14
Chemical stability _____	Insoluble in dilute acids or bases and common solvents



The Operating Cycle

Softening process is usually a four- step operation including: Service, Backwash, Regeneration & Rinse.

Service

During this stage, raw water passes through the resin bed 0.7 to 1.8m deep. During softening, the calcium and magnesium ions are replaced by sodium ions.

Backwash

The resin bed is de-compacted during 5 to 15 minutes of backwash with an upward flow of water. The backwash flow rate must be adjusted to get an expansion of at least 50%.

Regeneration

Maintenance of minimum contact time of 30 minutes with the regenerant (salt solution) is recommended. The flow rates and concentrations shall be provided by your Aventura sales representative.

Rinse

Rinsing is carried out in two stages:

- Displacement rinse: The excess regenerant and reaction products are flushed away and the regeneration process completed
- Fast rinse: Remaining traces of reaction products are removed during this process

Performance

The operating capacity of the softening method depends on several factors. Water analysis and level of regeneration are key factors affecting the process of water treatment.

Caution

Acidic and basic regenerating solutions are corrosive in nature, thus eye and skin contact should be prevented. Nitric acid and other strong oxidizing agents can cause explosive type reactions when mixed with Ion Exchange Resins. Proper design of process equipment to prevent rapid build-up of pressure is necessary if use of an oxidizing agent such as nitric acid is contemplated.

A Material Safety Data Sheet is available for each product. To obtain a copy contact your Aventura representative.



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