ION EXCHANGE RESINS

Transforming water & process purification, one bead at a time!

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Softening & Dealkalisation

Strong Acid Cation exchange (SAC) resin resistant to chlorine oxidation. Suitable for potable use and solvent-free. Ideal for Sodium dealkalization and softening applications. Low PSSA leakage.

Weak Acid Cation exchange (WAC) best suitable for dealkalization and softening applications. Temporary Hardness & Alkalinity associated with hardness ions

In certain situations, the outcomes may be remarkable when using these resins together & as a great RO pre-treatment step.

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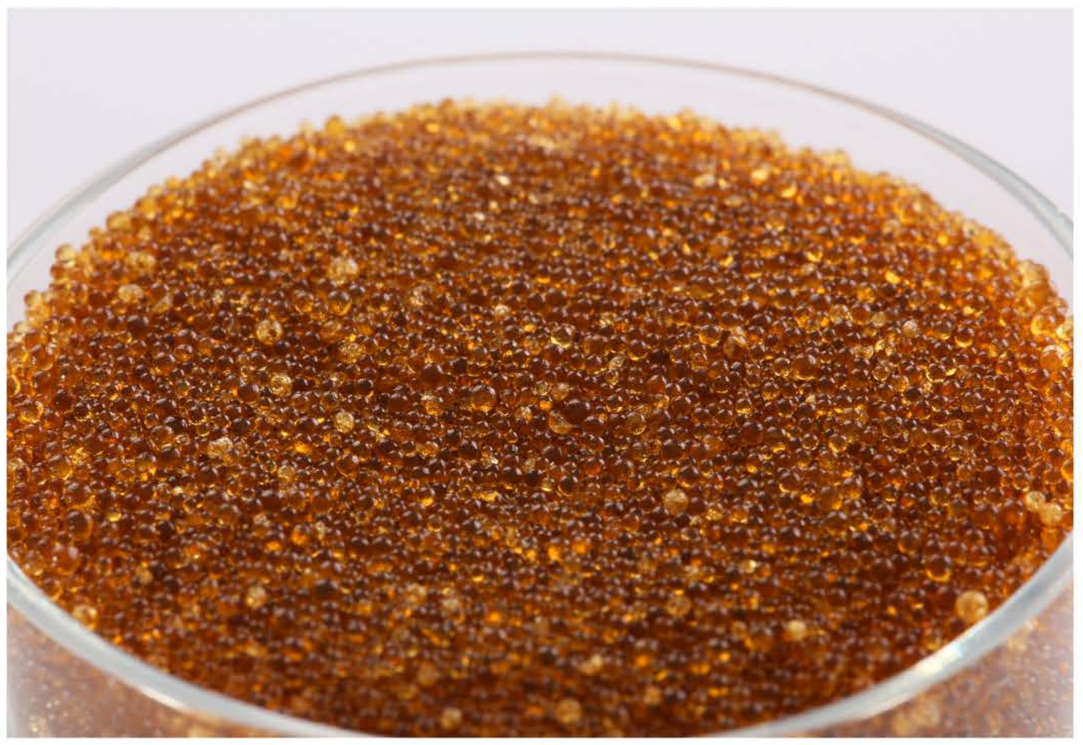
De-Ionisation & Demineralisation

Strong Acid Cation exchange (SAC)resins are designed with a high degree of cross-linking and optimized bead size distribution to efficiently remove cations. They are mechanically stable and robust.

In multistage cation removal systems, Weak Acid Cation exchange (WAC) resins are utilized along with other components to effectively remove divalent ions.

Avert the preventable PSSA fouling issue on SBA resins!

Strong Base Anion exchange (SBA) resins offer high selectvity for anions and soft anions like silica and carbonate/bicarbonate ions.



The most suitable choice for strong anions is the Weak Base Anion (WBA) exchange resins. The proportion of SBA groups can be tailored for the best outcomes.

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Mixed Bed Resins & Condensate Polishing

Specialty SAC resins have a high degree of cross-linking and well-optimized bead size distribution to effectively eliminate trace cations. They offer high purity and fast kinetics in a mixed bed system.

Regeneration stands out as the pivotal stage in the design and operation of a mixed bed plant or CPP unit. The morphology and chemical attributes of the resin hold significant importance in this process.

Premium quality SBA resins are designed for high temperature stability and surface treated for high stress mixed bed applications. They offer excellent separability, mechanical stability, and osmotic stability.

When the temperature goes over 60C, the deterioration of SBA Resin accelerates!

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Ready To USe or Non-Regenerable Mixed Bed Resin (RTU/NRMB)

There are pre-formulated resin mixtures offered in various stoichiometric proportions to facilitate the production of ultrapure water (UPW). Common applications include stator cooling, Semiconductor,* Pharma, labortaory, medical and RO permeate polishing.

NRMB/UPW resins of premium quality are engineered to achieve high specific flow rates and are delivered in a highly regenerated state. Proper storage and packaging play a critical role in minimizing rinse times.

Selection criteria for NRMB include:

Target Conductivity
Total Organic Carbon (TOC)
Silica levels
CO_2 load
Particle concentration
Boron*

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Heavy Metals Removal

Iminodiacetic Acid (IDA) and AminoMethylphosphinic Acid (AMPA) are specialized chelating resins designed to effectively remove trace levels of various heavy metals such as Cu, Ni, Co, Zn, Cd, and Pb. They can also target trivalent metals like Al^{3+} and Cr^{3+} under specific conditions.

Chealting resins can be used as single use or regenerable with common chemicals. Special functional groups for contaminants like Hg are also well established.

These resins are highly efficient for brine softening and high total dissolved solids (TDS) applications. Additionally, Fe and Mn Catalytic adsorbers demonstrate great effectiveness in handling concentrations below 10 and 5ppm, respectively.

pH holds the crown!

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Selective Anionic Resins for Dissolved Contaminants Removal

Nitrates- Multiple options are available. Background sulfate concentrations drive the resin selection.

Sulfates- AIX resins with complex amine functionality show high capacity

Phosphates- Selective removal is better with granular ferric hydroxide adsorbers

Chromate (VI)- Special chelating functional group is extremely effective

Perchlorate- Single-use Tributyl Amine resin exhibits extremely high selectivity

Cyanides- Various anionic resins have been proven for this application. These can be extended to Uranium removal

Selenates & Arsenic- Regenerable chelating resins & GFH adsorbers

Boron- Macroporous Chelating anionic resins

Flouride- Doped chelating resins based on IDA & AMPA functionality

When you prioritize selectivity, regeneration is impacted as a trade-off!

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PFAS Selective AIX Resins

By employing a combination of adsorption and ion exchange mechanisms with proper pre-treatment, PFAS selective IX resins offer a superb solution for achieving extremely high removal efficiency and ultra-low concentrations in the treated stream. When coupled with effective pre-treatment and controlled co-contaminant levels, PFAS AIX can be seamlessly integrated into any treatment flowsheet, serving as a pivotal step or a final polisher.

Weak Base Anion Resins
SBA with moderate Selectivity
Super Selective AIX
Gel & Macroporous
Uniform Particle Size
Drinking Water Certification

Maximize capacity and selectivity balance with a range of resin options!

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ADSORBER PORTFOLIO

High Capacity Macroporous Adsorbers for VOC
Customised bead morphology
BTEX Removal
Chlorinated Hydrocarbons
Alkanes
CO_2 Capture
Steam regeneration

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Hydrometallurgy- Value recovery, concentration and Purification

Gold

Uranium Extraction

Direct Lithium Extraction (DLE) Adsorbent

Battery & Critical Minerals: Li, Ni, Co Cu, V

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Food & Consumer Products

Sugar Decloursation
Sweetner Demineralisation
Juice Debittering
Wine Stabilisation- Tartarate Removal
Protien Seperation and Purification

Ion exchange resins play a crucial role in food purification by selectively removing or exchanging specific ions in food ingredients or water used in food processing. These resins are typically made of synthetic polymers with functional groups that can attract and hold onto ions with the ability to be regenerated and re-used.

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Chemical Processing-Chloralkali

Chelating Ion Exchange Resins for Brine Purification

In the chloralkali industry, ion exchange resins are essential for maintaining the purity of the brine, preventing scale buildup, enhancing electrolysis efficiency, and improving the quality of the produced chlorine, caustic soda, and hydrogen. Their ability to selectively remove unwanted ions and their cost-effectiveness due to regeneration make them a vital component of the chloralkali production process.

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Contact your technical sourcing partner

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