



MB-420

Gel polystyrene crosslinked with divinylbenzene resin
(For use in mixed bed applications)

Technical Data

Akualite MB-420 is a high quality resin mixture for direct purification of water. It is suitable for use in regenerable or non-regenerable cartridges and in large ion exchange units. Passage of water at recommended flow rates through the resin as supplied can achieve almost complete reduction of total dissolved solids. The residuals produce average conductivity values of about $0.1 \mu\text{s cm}^{-1}$ for a major portion of the service run which may be extended depending upon the final water quality acceptable. Equivalent volumes of ultra pure water may be obtained after regeneration but only if sufficient regenerant quantities are employed to achieve the percentage conversion levels equivalent to those of the "as supplied" resin. Generally acceptable capacity and quality is obtained economically at lower regeneration levels.

Equivalent: MB400

Typical physical & Chemical characteristics

Polymer Structure	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Groups	Sulphonic acid and quaternary ammonium
Ionic Form - as shipped	Hydrogen - H ⁺ , Hydroxide - OH ⁻
Shipping Weight	0.66-0.75g/ml
Particle Size Range (mm)	0.68-0.85 \geq 95%
Moisture Retention - as shipped	65% max
Total Exchange Capacity	
Cation component (Na ⁺ form)	1.9 eq/l min
Anion component (Cl ⁻ form)	1.3 eq/l min
Percentage by volume	
Cation component	40%
Anion component	60%
Temperature Limit	
Non-regenerative bed	100° C (212° F)
Regenerative bed	60° C (140° F)
pH Limits	None

Notes

This resin mixture is manufactured with a very high percentage conversion to the hydrogen and hydroxide forms. Exposure to the atmosphere for more than half an hour can result in uptake of substantial quantities of carbon dioxide which can affect the performance of this product. Hence bags should be opened shortly before use and unused bags re-sealed carefully. This product should not be left in direct sunlight.

Applications

Pure deionised water of the quality obtainable from Akualite MB-420 has uses in many applications and industries. A few of these are included in the following list: in chemical and photographic laboratories, for water conditioning for steam irons, for topping up car batteries, for stain prevention in glazing industry, in the cleaning of glassware in catering and licensed trade, in the food industry (where E grade resin is required) and in hospitals.

Water may be passed either intermittently or continuously at flow rates up to 40 bed volumes per hour depending upon the total dissolved solids of the water to be treated. Where use is intermittent the provision of a recycle system will ensure that the treated water quality is the best possible. Alternatively after a period of shutdown the first water obtained when starting up can be discarded until the quality is satisfactory.

Many alternative ready to use resin mixtures are available from the Akualite range. They include other mixed beds including self-indicating resins, mixtures especially designed for operation at higher than average flow rates, and mixtures offering high capacity where purity is not critical, or where the feed water quality makes an alternative more suitable. For further details please contact us.