Aldex Mixed Bed Series

MB-1 (SC) Mixed Bed Resin

*Aldex MB-1 (SC) is a **highly regenerated mixed bed of a Type 1 strong base, gel anion exchange resin** and a strong acid sulfonated polystyrene cation exchange resin, **designed to provide ultra-high purity water**. The special blend of Type 1 anion exchange resins with nuclear grade cation exchange resins ensure high resistance, low TOC extractables and excellent regenerable capacities for inorganic versus organic ions. Aldex MB-1 (SC) is provided in a 60:40 anion to cation ratio (by volume).*

Physical Chemical Properties

Polymer Structure:	
Cation	Hydrogen form sulfonated polystyrene copolymer
Anion	Hydroxyl form strong base alkyl quaternary ammonium polystyrene copolymer
Ionic Form as Shipped:	Hydrogen / Hydroxide
Physical Form:	Spherical beads
Uniformity Coefficient:	≤1.25
pH Range:	0 to 14
Moisture Content	60% maximum
Conversion to ionic Form:	
Cation - Hydrogen	99% minimum
Anion - Hydroxide	95% minimum
Chloride (Cl^-)	0.1% maximum
Carbonate (CO_3^{-2})	2% maximum
Sulfate (SO_4)	0.1% maximum
Shipping Weight:	670 to 700 g/l
Total Capacity:	
Cation (H form)	1.8 eq/l minimum
Anion (OH form)	1.0 eq/l minimum

Recommended Operating Conditions

Effluent Quality	Resin should effluent quality of approximately 18 megohm but is dependent on many factors
Maximum Temperature:	
Regenerable	60°C
Non-regenerable	100°C
Slow Rinse (Displacement) Flow Rate:	16 to 50 BV/h

MB-1 (SC) Features

Very Low Metal Content

Special manufacturing conditions ensure very low metal content.

Elemental analysis, dry basis

Iron (Fe)	<100 ppm
Copper (Cu)	<50 ppm
Lead (Pb)	<50 ppm

Very Low TOC

Non solvent sulfonation and special manufacturing processes assure very low TOC leakage.

Uniform Particle Size

98% of all beads are in the minus 400 to 900 microns range giving a lower pressure drop while maintaining the superior kinetics of standard mesh size products.

Superior Physical Stability

90% plus sphericity and high crush strengths together with a very uniform particle size provide greater resistance to bead breakage while maintaining low pressure drop.

Safety Information

A material safety data sheet is available for Aldex MB-1 (SC). Copies can be obtained from Aldex Chemical Co., LTD. Aldex MB-1 (SC) is not a hazardous product and is not WHMIS controlled.

Caution: Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Before using strong oxidizing agents in contact with ion exchange resin, consult sources knowledgeable in the handling of these materials.

Since 1976

ALDEX™

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Pressure Drop

Fig. 1 shows the expected pressure loss per meter of bed depth as a function of flow rate at various temperatures.

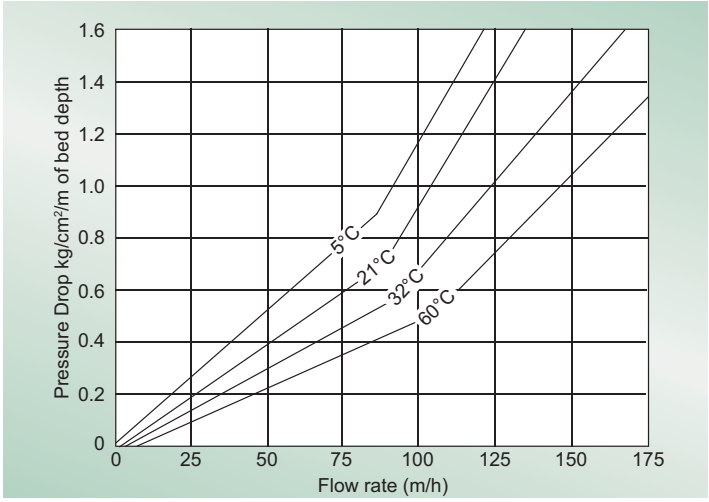

Fig. 1 Pressure Drop vs Flow Rate at various degrees Celcius (C°)

Backwash Characteristics

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. Fig. 2 shows the expansion characteristics of Aldex MB-1 (SC) in the chloride form.

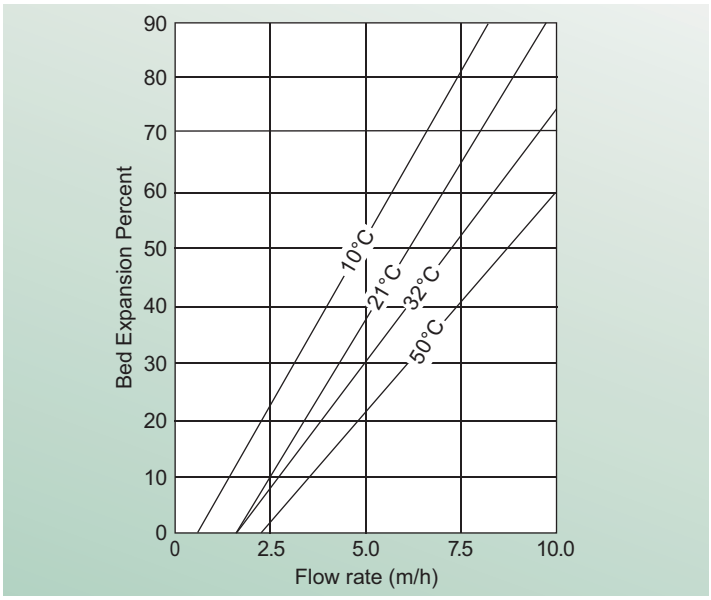

Fig. 2 Bed Expansion vs Flow Rate at various degrees Celcius (C°)

Quality Assurance

Aldex MB-1 (SC) resin is tested by Aldex Chemical for resistivity, total organic carbon, and kinetic performance and will meet stringent UPW performance requirements on these most critical parameters. Aldex will fully support the quality and performance of Aldex MB-1 (SC) resin in UPW applications in order to assure full customer satisfaction with the product as delivered. Typical TOC and resistivity curves based on our quality control procedure for Aldex MB-1 (SC) resin are shown to the right (Fig. 3).

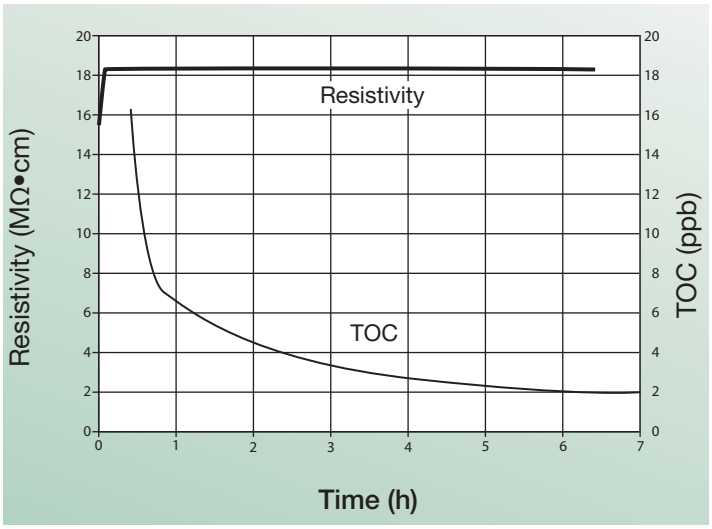

Fig. 3 Resistivity and TOC Rinse Performance

Aldex Chemical Company, Ltd. • 630 Laurent Street • Granby QC Canada J2G 8V1
450 372 8844 • Fax 450 372 2566 • info@aldexchemical.com

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