

## Aldex Mixed Bed Series

# MB-2 (SC) Mixed Bed Resin

Aldex MB-2 (SC) is a highly regenerated mixed bed of a Type 2 strong base, gel anion exchange resin and a strong acid cation exchange resin, designed to provide **ultra-high purity water**. It can provide as much as 20 percent more throughput capacity than older style mixed beds while maintaining effluent purity levels in excess of 15 megohms. The special blend of Type 2 anion exchange resin with nuclear grade cation exchange resin ensure high effluent resistivity, low TOC extractables and excellent regenerable capacities for inorganic versus organic ions. It is recommended for all **polishing demineralizer** applications where high sensitivity, low silica water is required and is especially well-suited for cartridge applications.

## 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

### Particle Size Distribution:

16 mesh (U.S. Std.)	2% maximum
-40 mesh	2% maximum

pH Range: 0 to 14

Moisture Content 60% maximum

### Conversion to ionic Form:

Cation - Hydrogen	99% minimum
Anion - Hydroxide	95% minimum
Chloride (Cl <sup>-</sup> )	0.5% maximum
Carbonate (CO <sub>3</sub> <sup>2-</sup> )	2% maximum
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	0.1% maximum

Shipping Weight: 45 lbs per cubic foot

### Total Capacity:

Cation (H <sup>+</sup> form)	1.8 meq/ml
Anion (OH <sup>-</sup> form)	1.2 meq/ml

## Recommended Operating Conditions

Effluent Quality Resin should provide effluent quality of 15 to 17 megohm but is dependent on many factors

### Maximum Temperature:

Regenerable	40°C
Non-regenerable	60°C

Slow Rinse (Displacement) Flow Rate: 2 to 10 US GPM per cubic foot

## MB-2 (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 16 to plus 40 mesh 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-2 (SC). Copies can be obtained from Aldex Chemical Co., LTD. Aldex MB-2 (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.

**Aldex Chemical Company, Ltd.** • 630 Laurent Street • Granby QC Canada J2G 8V1  
450 372 8844 • Fax 450 372 2566 • [info@aldexchemical.com](mailto:info@aldexchemical.com)

These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However, we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents. Further, we assume no liability for the consequences of such actions.



[aldexchemical.com](http://aldexchemical.com)

# MB-2 (SC) Mixed Bed Resin

## Pressure Drop

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

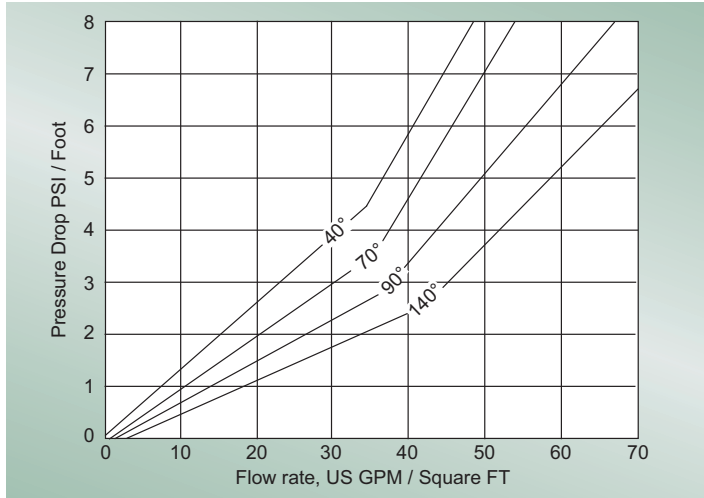


Fig. 1 Pressure Drop vs Flow Rate at various degrees Fahrenheit (F°)

## 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-2 (SC) in the chloride form.

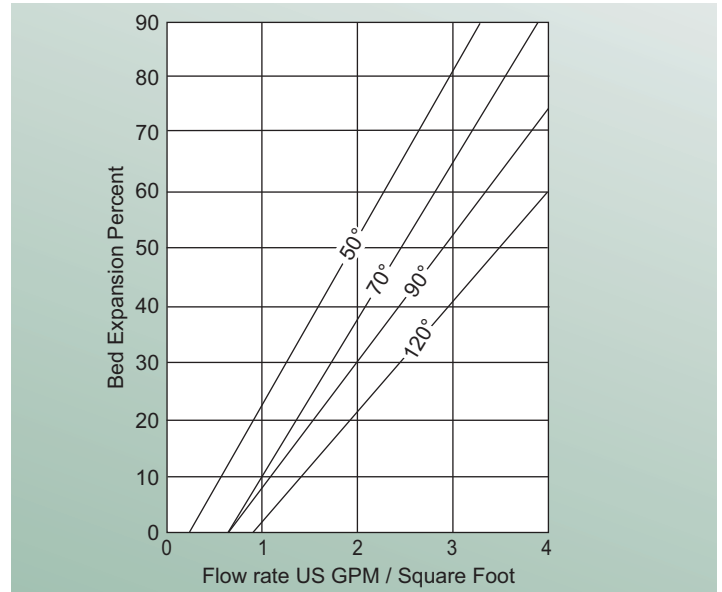


Fig. 2 Bed Expansion vs Flow Rate at various degrees Fahrenheit (F°)

