

## Aldex Strong Base Series

# CRA Macroporous Strong Base Anion Exchange Resin- Acrylic

Aldex CRA is a **strongly basic, type 1 anion built on a macroporous, cross-linked acrylic polymer matrix having quaternary ammonium functionality**. The porous structure allows more efficient removal of large organic molecules using both adsorption and ion exchange properties to capture those contaminants. The acrylic polymer matrix allows for excellent adsorption and desorption of natural organics matter from surface water when regenerated with NaCl or an alkali solution. Aldex CRA is **used in potable water applications to remove tannins or color bodies and may also be used as an organic scavenger in industrial systems**. In non-water installations Aldex CRA may be used in series flow with styrenic macroporous resins to remove a broad spectrum of organic compounds found in sugar juices and cane syrups, citric acid purification and capturing metal complexes.

## Physical Chemical Properties

Polymer Structure:	Macroporous polyacrylic crosslinked with divinylbenzene
Functional group:	Quaternary Ammonium
Ionic Form as Shipped:	Chloride
Physical Form:	Spherical beads
Particle Size:	16 to 50 mesh
pH Range:	0 to 14
Moisture Content:	66 to 72%
Shipping Weight:	43 to 45 lbs per cubic foot
Total Capacity Cl <sup>-</sup> Form:	0.8 eq/l
Specific Gravity:	1.08
Temperature Limit:	
Cl <sup>-</sup> Form	60°C
OH <sup>-</sup> Form	40°C

## Recommended Operating Conditions

Maximum Temperature (Cl <sup>-</sup> ):	140°F
Bed Depth:	30" minimum
Regenerant Strength:	8% to 12% Sodium Chloride
Regenerant Flow Rate:	0.3 to 0.5 US GPM per cubic foot
Regenerant Dosage Level:	10 lbs per cubic foot minimum
Slow Rinse Volume:	20 US GPM per cubic foot
Service Flow Rate:	1 to 5 US GPM per cubic foot
Slow Rinse Flow Rate:	0.3 to 0.5 US GPM per cubic foot
Fast Rinse Rate:	2 to 5 US GPM per cubic foot
Fast Rinse Volume:	30 US GPM per cubic foot
Inlet Water Limitations	
Turbidity	1.0 ppm maximum
Free Chlorine	1.0 ppm maximum

## CRA Features

### Very low color, taste or odor

Aldex CRA meets the requirements for paragraph 173.25 of the Food Additive Regulation of the U.S. Food and Drug Administration.

### Long Life

Strong and durable beads insure long service life.

### Reliability

Aldex Chemical has over 40 years of field usage by thousands of customers demonstrating the reliability of Aldex ion exchange resins and other water treatment media.

## Safety Information

A material safety data sheet is available for Aldex CRA. Copies can be obtained from Aldex Chemical Co., LTD. Aldex CRA 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.



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### Pressure Drop

The graph below shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.

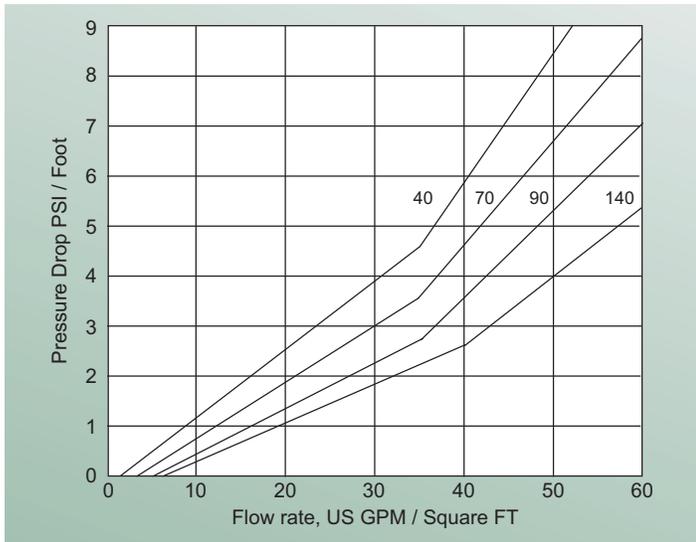


Fig. 1 Pressure Drop vs Flow Rate at various degrees Fahrenheit (F°)

### 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 CRA in the chloride form.

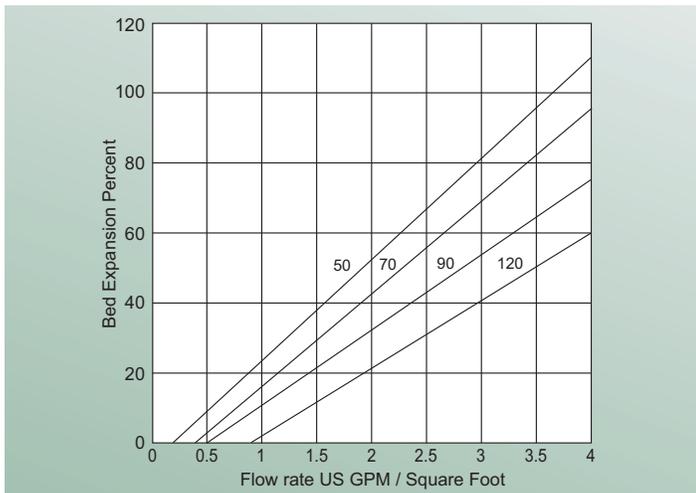


Fig. 2 Bed Expansion vs Flow Rate at various degrees Fahrenheit (F°)

### Applications

Aldex CRA should be regenerated with 10% sodium chloride at a minimum of 10 lbs NaCl per cubic foot. If color bleeds after regeneration either the frequency or the salt level should be increased.

Once the tannins have been adsorbed on the resin and the resin has been exhausted, it should be regenerated as soon as possible. This prevents the tannins from permanently fouling the resin. Aldex CRA should be regenerated prior to vacation periods or seasonal shut down.

Aldex CRA can be used on waters with moderate hardness, 5 to 10 grains/USG depending upon the sulfate and carbonate concentrations. Higher hardness waters require a softener prior to the tannin removal step.

On low hardness waters Aldex CRA can be layered above the cation resin in a conventional water softener.

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ADX CRA-AUG17