

Aldex Strong Base Series

TOC Tannins, Organics and Color Removal

Aldex TOC is comprised of a **blend of strong base, type 1 anionic resins selected and combined in a unique ratio to provide maximum removal efficiency**. Aldex TOC will remove a wide spectrum of organic contaminants such as fulvic and humic acids along with lignins and tannins from soil and sedimentary organic matter. Aldex TOC is effectively regenerated with sodium or potassium chloride brine solutions.

Physical Chemical Properties

Polymer Structure:	Macroporous and styrenic 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:	56 to 72%
Shipping Weight:	40 to 44 lbs per cubic foot
Total Capacity Cl ⁻ Form:	0.8 eq/l
Specific Gravity:	1.08
Temperature Limit:	
Cl ⁻ Form	60°C
OH ⁻ Form	40°C

Recommended Operating Conditions

Maximum Temperature (Cl ⁻):	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

TOC Features

Very low color, taste or odor

Aldex TOC 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.

Superior Physical Stability

Over 90% sphericity combined with high crush strengths and uniform particle size provide greater resistance to bead breakage due to mechanical, thermal or osmotic stresses.

Potable Water

For potable water applications the resin must be properly pretreated to insure compliance with extractable levels.

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 TOC. Copies can be obtained from Aldex Chemical Co., LTD. Aldex TOC 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

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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.

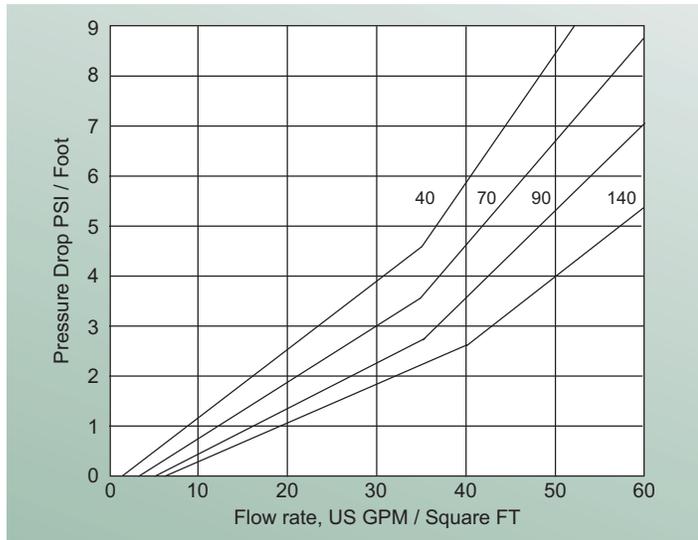


Fig. 1 Pressure Drop vs Flow Rate at various degrees Fahrenheit (F°)

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 TOC in the chloride form.

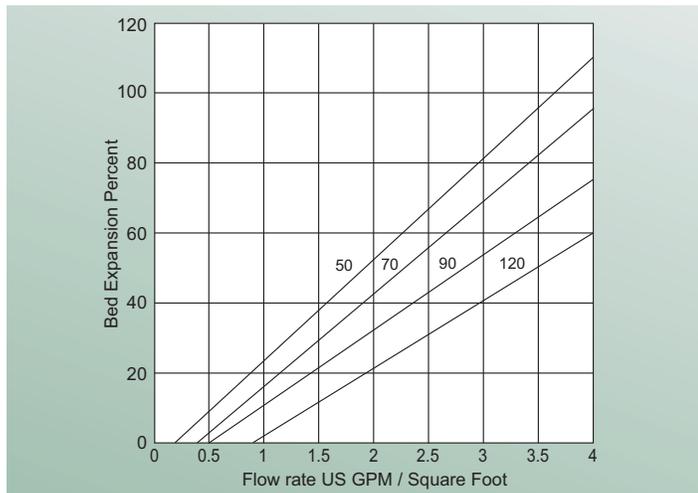


Fig. 2 Bed Expansion vs Flow Rate at various degrees Fahrenheit (F°)

Applications

Aldex TOC 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 TOC should be regenerated prior to vacation periods or seasonal shut down.

Aldex TOC 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 TOC can be layered above the cation resin in a conventional water softener.



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