Aldex CR Series

CR 9 Gel-type Strong Base Anion Exchange Resin

*Aldex CR 9 is a **gel-type (and Aldex CR 9 MP the macroporous version), strong base anion exchange resin used in the removal of PFAS (including PFOA and PFOS) and perchlorate from water and other solutions but primarily it is used for potable water applications**. Aldex CR 9, supplied in its gel form is highly effective at removing contaminants from drinking water.*

Physical Chemical Properties

Polymer Structure:	Gel, crosslinked
Functional group:	Tributylamine
Physical Form:	Spherical beads
Particle Size (>98%):	0.315 to 1.25 mm
Moisture Content:	50 to 57%
Bulk Density:	650 to 750 g/l
Total Capacity:	≥0.6 eq/L

Recommended Operating Conditions

Maximum Temperature (Cl-):	60°C
Bed Depth:	75 cm minimum
Service Flow Rate:	8 to 40 BV/h
Backwash Flow Rate:	See Fig. 1
Regenerant:	Sodium Chloride (NaCl) or Potassium Chloride (KCl)
Regenerant Strength:	5 to 15%, usually 10%
Regenerant Flow Rate:	3 to 8 BV/h
Regenerant Contact Time:	15 to 60 minutes
Regenerant Dosage Level:	30 to 240 g/l
Slow Rinse (Displacement) Flow Rate:	3 to 8 BV/h
Slow Rinse Volume:	2 to 4 BV
Fast Rinse Rate:	8 to 40 BV/h
Fast Rinse Volume:	4 to 8 BV
Inlet Water Limitations	
Turbidity	1.0 ppm maximum
Free Chlorine	1.0 ppm maximum

CR 9 Features

Very low color, taste or odor

Aldex CR 9 meets the requirements listed in paragraph 173.25 of the Food Additive Regulation of the U.S. Food and Drug Administration.

Performance

Aldex CR 9 adsorption capacity remains high even after regeneration.

Long Life

Strong and durable beads insure long service life.

Reliability

Aldex Chemical's over 40 years of field usage by thousands of customers demonstrates the reliability of Aldex ion exchange resins, zeolites and other water treatment media.

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. 1 shows the expansion characteristics of Aldex CR 9 in the chloride form.

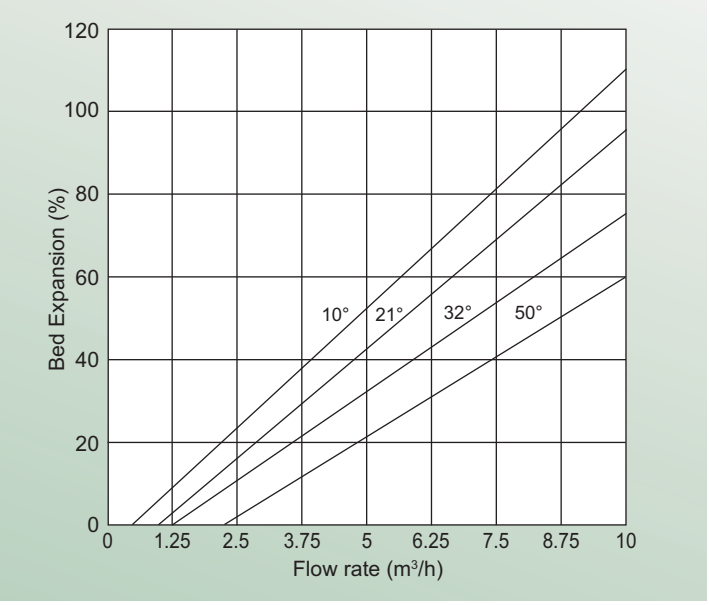

Fig. 1 Bed Expansion vs Flow Rate at various degrees Celsius (C°)

Safety Information

A material safety data sheet is available for Aldex CR 9. Copies can be obtained from Aldex Chemical Co., LTD. Aldex CR 9 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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ALDEX™

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Performance

Extensive, long-term comparative lab and pilot testing on Aldex CR 9 against several competitor's products demonstrate that when using Aldex CR 9 to remove PFAS, the adsorption capacity of PFOA and PFOS was highly competitive as shown in figures 2a and 2b below.

Even after regeneration, the Aldex CR 9 resin continues its high-performance levels as can be seen in figures 3a and 3b below.

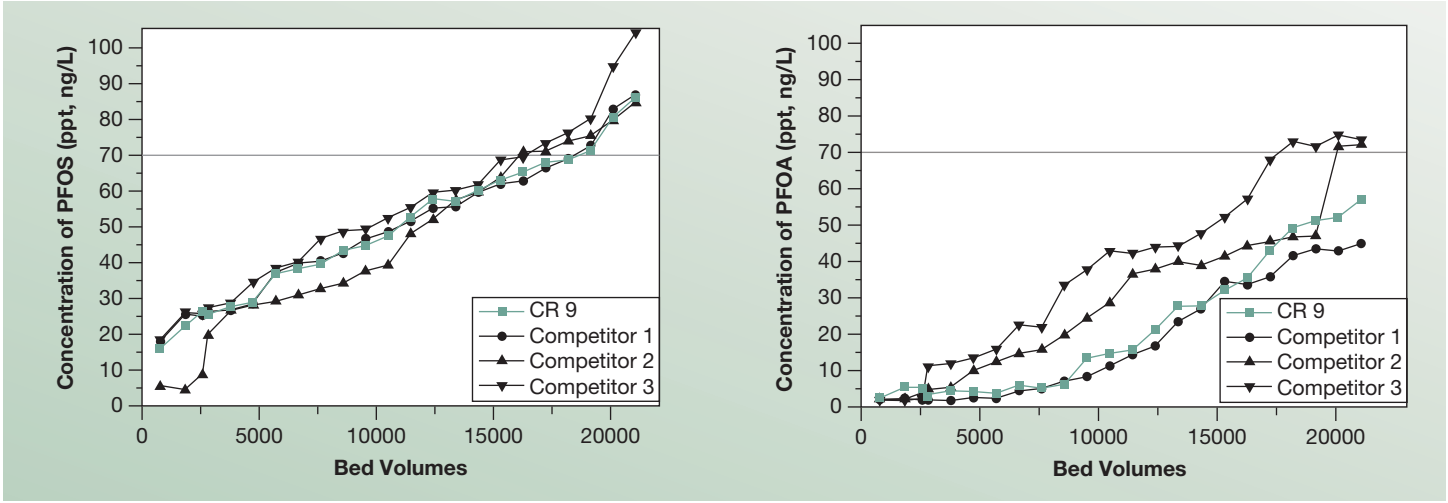

Fig. 2a and 2b Comparative testing of adsorption performance between Aldex CR 9 and other competitors (feed concentration 10 ug/L, flow rate 20 BV/h)

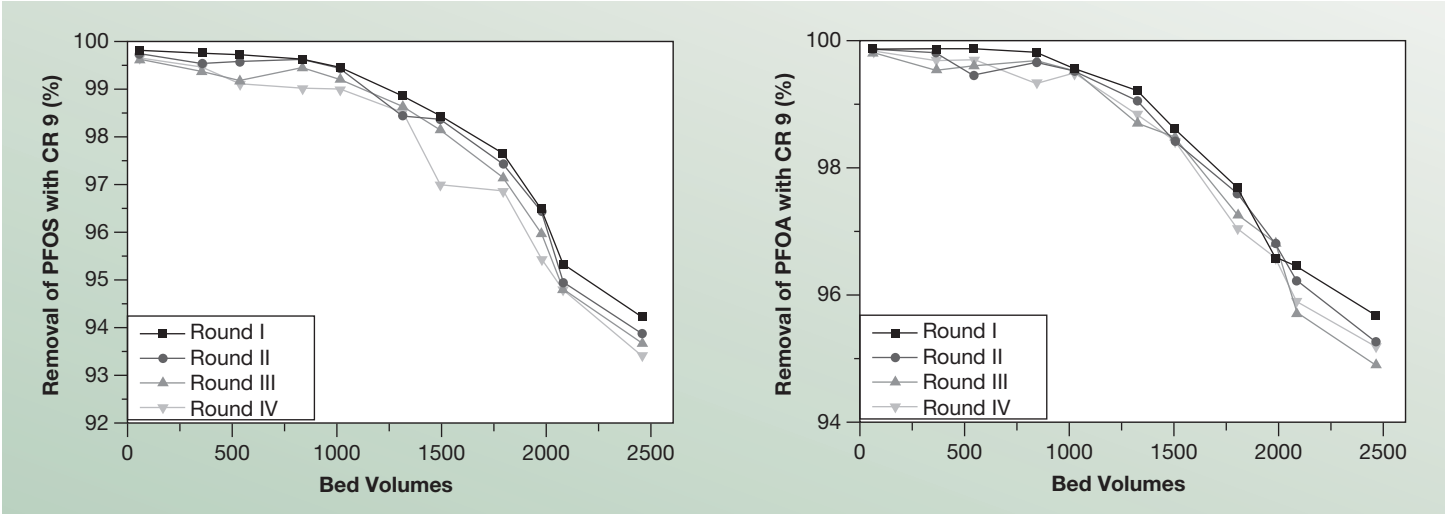

Fig. 3a and 3b Adsorption capacity after regeneration (feed concentration 50 ug/L, flow rate 20 BV/h).

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Pilot Plant

Figure 4 at right, shows recent pilot plant data on the effluent readings after using Aldex CR 9 for PFOA and PFOS remediation.

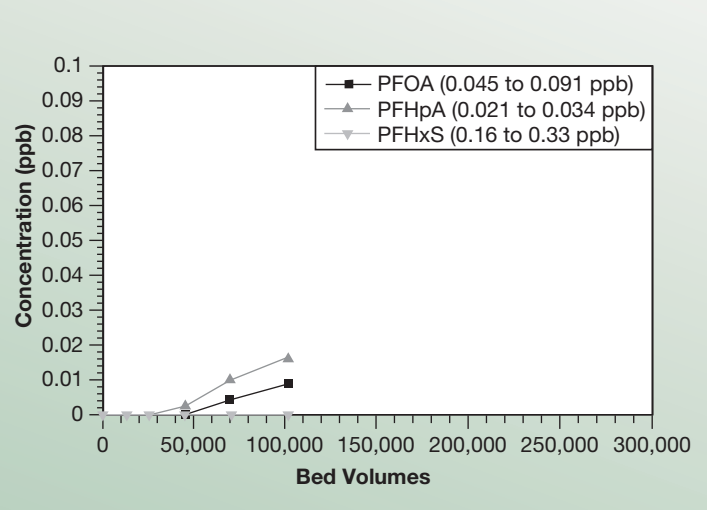

Fig. 4 Effluent readings after passing through Aldex CR 9

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