Aldex Chelation Resin (CR) Series

CR 2012 Chelation Resin Series

*Aldex CR 2012 is an **extremely durable** macroporous resin containing amino phosphonic group attached to polystyrene copolymer matrix. Aldex CR 2012 is used for **selective removal** of bivalent metal cations from a solution of primarily monovalent cations. For example, Aldex CR 2012 is used for **decalcification** of brine solutions in chloralkali industry.*

Physical Chemical Properties

Polymer Structure:	Macroporous, Styrene Divinylbenzene
Functional Group:	Amino phosphonic
Ionic Form as Shipped:	Na
Physical Form:	Spherical, hard, tan beads
Particle diameter:	550 ± 50 µm
Particle density:	1.1 to 1.14 g/mL
Coefficient Uniformity	1.3
Moisture Content	64 to 69%
Swelling (approx):	H+ to Na+ 45%
Total Exchange Capacity:	1.75 eq/L
Shipping Weight:	755 g/L

Recommended Operating Conditions

Maximum Temperature:	80°C (180°F) in non-aqueous media
pH Range:	dependant on application
Bed Depth:	700 mm (2.3 ft)
Service Flow Rate:	Up to 5 US GPM per cubic foot
Regeneration (HCl):	1 to 2N
Conversion to Na+ form:	1 to 4% NaOH at flowrate of 2 to 4 BV/h

Safety Information

A material safety data sheet is available for Aldex CR 2012. Copies can be obtained from Aldex Chemical Co., LTD. Aldex CR 2012 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.

CR 2012 Features

Superior Physical Stability

The macroporous structure with high divinylbenzene content and uniform particle size provides greater resistance to bead breakage.

Long Life

Strong and durable beads insure long service life.

Reliability

Aldex Chemical has over 40 years of field usage by thousands of customers in water, wastewater, and specialty purification market segments.

Applications

Brine Purification

Aldex CR 2012 can be used in the removal of trace quantities of Calcium, Magnesium, and other bivalent metal cations from brine.

Zinc Separation

Aldex CR 2012 can be used in the separation of zinc from media.

Lead Separation

Aldex CR 2012 can be used for lead removal from industrial effluents.

Since 1976

ALDEX™

aldexchemical.com

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Application Specifications

The Aldex CR 2012 characteristic reaction:

$$R–CH_2–NH–CH_2–PO3Na_2 + M^{2+} \rightarrow R–CH_2–NH–CH_2–PO_3M + 2\ Na+$$

Aldex CR 2012 relative affinity for the various cations decreases in the order shown below:

$$Pb^{2+} > Cu^{2+} > Zn^{2+} > Mg^{2+} > Ca^{2+} > Cd^{2+} > Ni^{2+} > Co^{2+} > Sr^{2+} > Ba^{2+}$$

Aldex CR 2012 can operate in a neutral, acidic, or alkaline medium. Its capacity, however, is dependant on the pH level. The following chart shows minimum pH values recommended for various cations:

Minimum pH	2	2.5	3	4.5
Cations	Cu2+	Zn2+	Cd2+	Mg2+
	Pb2+		Ca2+	Ni2+
				Co2+

Backwash Characteristics

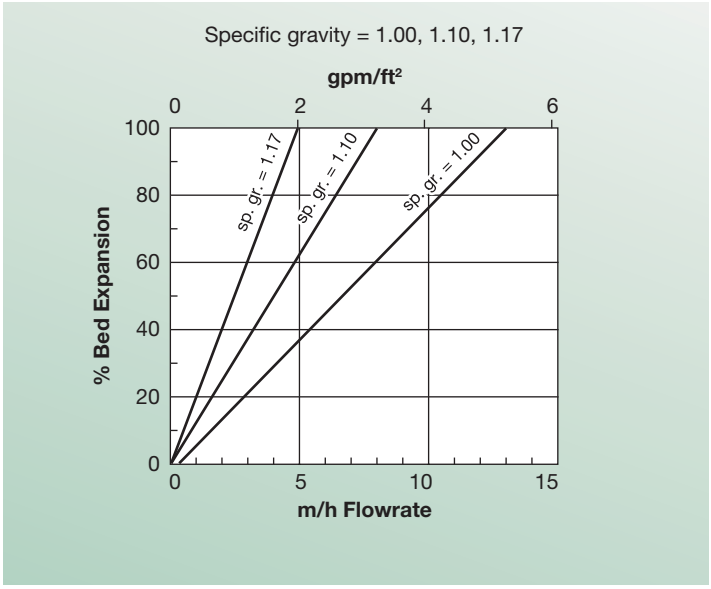

Fig. 1 Expansion vs Flow Rate at specific gravity

Pressure Drop

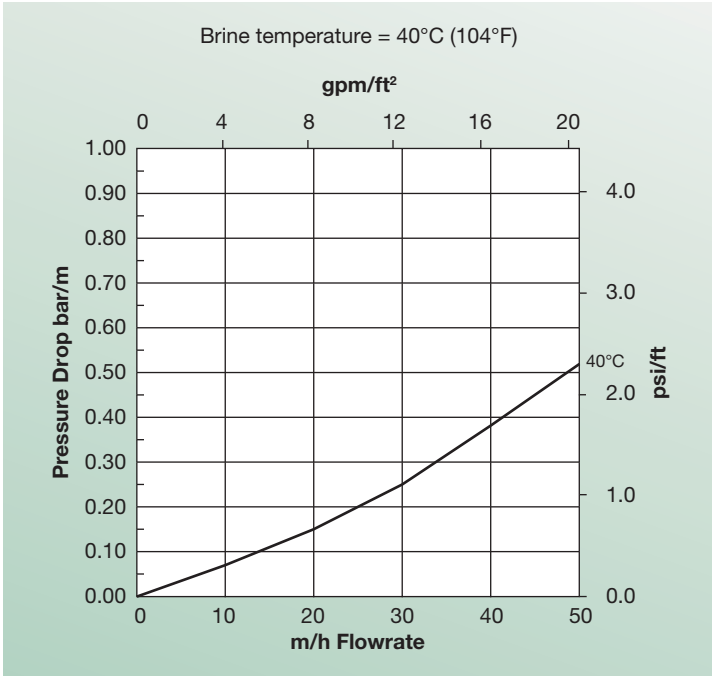

Fig. 2 Pressure Drop vs Flow Rate in Brine solution

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