



AMBERLITE™ IRA910 Cl Ion Exchange Resin

Macroporous, Strong Base Anion (Type II) Exchange Resin for Industrial Demineralization Applications

Description

AMBERLITE™ IRA910 Cl Ion Exchange Resin is a general-purpose demineralization resin with a long-established track record of reliable performance in co-flow regenerated industrial water treatment systems.

The macroporous structure of AMBERLITE IRA910 Cl provides excellent resistance to organic fouling and physical stresses. When operated under challenging conditions, it allows increased resin lifetime in operation compared to a gel Type II resin.

Compared to a Type I strong base anion resin, a Type II resin will yield greater operating capacity due to more complete regeneration. It is best-suited to treat water in which silica and carbon dioxide do not exceed 30% of the total anions and the service and caustic regeneration temperature does not consistently exceed 35°C (95°F).

For systems that require low silica in the effluent or that operate at higher temperatures, a Type I strong base anion resin is recommended, such as AMBERLITE™ IRA900 Cl Ion Exchange Resin.

Applications

- Demineralization, when the treatment goal is:
 - High organic fouling potential
 - Removal of strong and weak acids
- Dealkalization

System Designs

- Co-current

Typical Physical and Chemical Properties**

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong base anion, Type II
Functional Group	Dimethylethanolammonium
Physical Form	Pale yellow, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl ⁻
Total Exchange Capacity	≥ 1.0 eq/L (Cl ⁻ form)
Water Retention Capacity	54.0 – 61.0% (Cl ⁻ form)
Particle Size	
Particle Diameter §	530 – 800 μm
Uniformity Coefficient	≤ 1.80
< 300 μm	≤ 2.0%
> 1180 μm	≤ 5.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	Cl ⁻ → OH ⁻ : 15%
Density	
Particle Density	1.09 g/mL
Shipping Weight	700 g/L

§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 177-01775).

Suggested Operating Conditions**

Temperature Range	
OH ⁻ form	5 – 35°C (41 – 95°F)
Cl ⁻ form	5 – 80°C (41 – 176°F)
pH Range	
Service Cycle	1 – 14
Stable	0 – 14

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [separate beds](#) (Form No. 177-03729) in water treatment, please refer to our Tech Fact.

Hydraulic Characteristics

Estimated bed expansion of AMBERLITE™ IRA910 Cl Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AMBERLITE IRA910 Cl as a function of service flowrate and temperature is shown in Figure 2. These pressure drop expectations are valid at the start of the service run with clean water and a well-classified bed.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

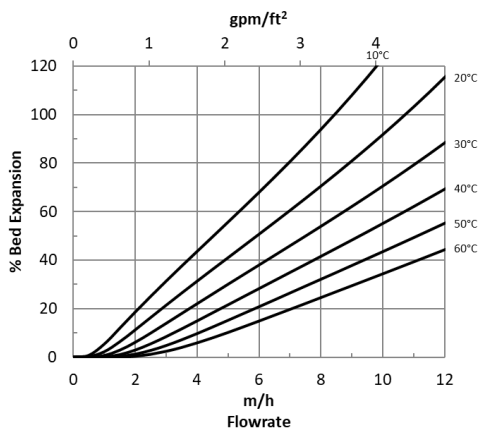
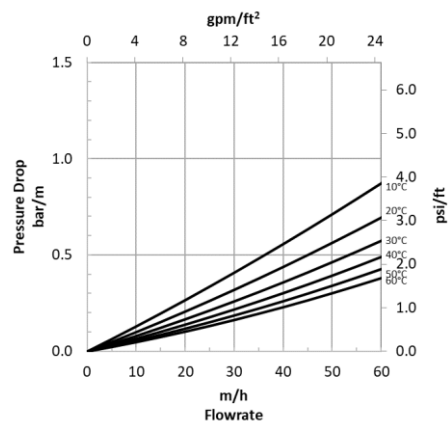


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



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WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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