

AmberLite™ IRA900 Cl Ion Exchange Resin

Gaussian, Macroporous, Strong Base Anion Exchange Resin for Industrial Demineralization Applications

Description

AmberLite™ IRA900 Cl Ion Exchange Resin is a general-purpose demineralization resin with a long-established track record of reliable performance in the industry. This industry-staple resin is designed to provide a long lifetime for co-flow regenerated systems in variety of industrial water treatment applications.



The macroporous structure of AmberLite™ IRA900 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 I resin.

Applications

- Demineralization
 - Ideally when treating water with:
 - High organic fouling potential
 - High percentage of silica
 - When the treatment goal is:
 - Removal of strong and weak acids
 - Lowest silica leakage
- Organic scavenging

System Designs

- Co-current

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong base anion, Type I
Functional Group	Trimethylammonium
Physical Form	Tan, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl ⁻
Total Exchange Capacity	≥ 1.0 eq/L (Cl ⁻ form)
Water Retention Capacity	58.0 – 64.0% (Cl ⁻ form)
Particle Size [§]	
Particle Diameter	640 – 800 μm
Uniformity Coefficient	≤ 1.6
< 300 μm	≤ 0.5%
> 1180 μm	≤ 2.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	Cl ⁻ → OH ⁻ ≤ 25%
Density	
Particle Density	1.06 g/mL
Shipping Weight	700 g/L

[§] For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 45-D00954-en).

Suggested Operating Conditions

Temperature Range	
OH ⁻ form [‡]	5 – 60°C (41 – 140°F)
Cl ⁻ form	5 – 100°C (41 – 212°F)
pH Range	
Service Cycle	1 – 14
Stable	0 – 14

[‡] Operating at elevated temperatures, for example above 60 – 70°C (140 – 158°F), may impact resin life. Contact our technical representative for details.

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [separate beds](#) (Form No. 45-D01131-en) in water treatment, please refer to our Tech Fact.

Hydraulic Characteristics

Estimated bed expansion of AmberLite™ IRA900 Cl Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ IRA900 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)

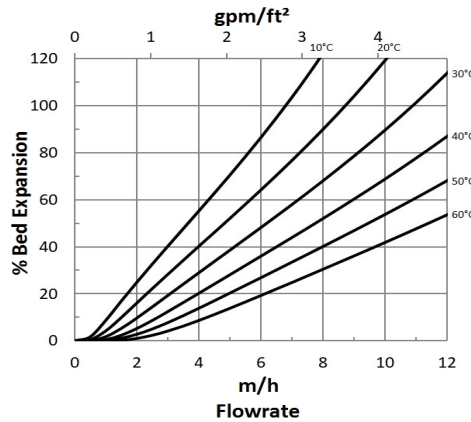
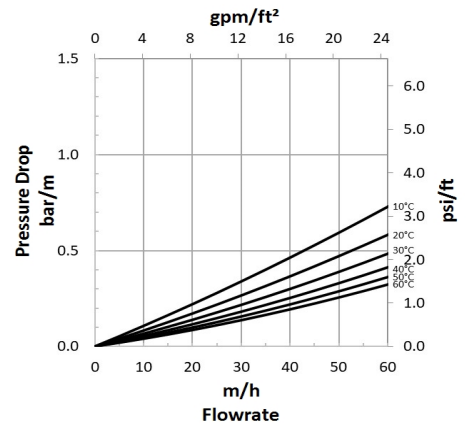


Figure 2: Pressure Drop
Temperature = 10 – 60°C (50 – 140°F)



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Please be aware of the following:

- **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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