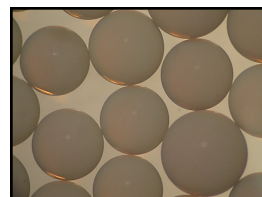


AmberLite™ HPR252 H Ion Exchange Resin

Uniform Particle Size, Macroporous, Strong Acid Cation Exchange Resin for Condensate Polishing for the Power Industry and Industrial Demineralization Applications

Description

AmberLite™ HPR252 H Ion Exchange Resin is specifically designed for use in condensate polishing beds at fossil-fired electric generating stations and industrial demineralization applications when a balance of operating performance, simple operation, long resin life, and cost-effective operation is required.



The high level of DVB crosslinker, combined with a macroporous structure, offers exceptional physical and oxidative stability, making it especially suitable for high-temperature operation. AmberLite™ HPR252 H can operate reliably under the high flowrate and pressure drop conditions that are typically used in condensate polishers.

This resin is designed to be used in combination with AmberLite™ HPR900 OH Ion Exchange Resin and AmberLite™ 600i Inert Resin in TRIOBED™ Condensate Polishers, providing an optimized balance of stability, operating capacity, low pressure drop, and regeneration efficiency. The balance of bead size distribution and bead density allows excellent separability, making it an optimal choice for layered beds in industrial demineralization.

Resin Pairings

Recommended pairing:

- AmberLite™ HPR900 OH Ion Exchange Resin (macroporous)

Additional options:

- AmberLite™ HPR900 SO₄ Ion Exchange Resin (macroporous)

Applications

- Mixed bed condensate polishing in fossil power plants
- Single bed industrial demineralization requiring high water purity
- Mixed bed polishing in industrial demineralization
- Systems requiring exceptionally high osmotic stability

Historical Reference

AmberLite™ HPR252 H Ion Exchange Resin has previously been sold as AmberSep™ 252 H Ion Exchange Resin.

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Light gray, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	H ⁺
Total Exchange Capacity	≥ 1.65 eq/L (H ⁺ form)
Water Retention Capacity	52.0 – 58.0% (H ⁺ form)
Ionic Conversion	
H ⁺	≥ 99%
Particle Size §	
Particle Diameter	950 ± 50 µm
Uniformity Coefficient	≤ 1.20
< 600 µm	≤ 1.0%
> 1180 µm	≤ 5.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	Na ⁺ → H ⁺ ≤ 7%
Density	
Particle Density	1.19 g/mL
Shipping Weight	755 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 (H ⁺ form)	5 – 150°C (41 – 302°F)
pH Range (Stable)	0 – 14

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [mixed beds](#) (Form No. 45-D01127-en) or [separate beds](#) (Form No. 45-D01131-en) in water treatment, please refer to our Tech Facts.

Hydraulic Characteristics

Estimated bed expansion of AmberLite™ HPR252 H Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ HPR252 H 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.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

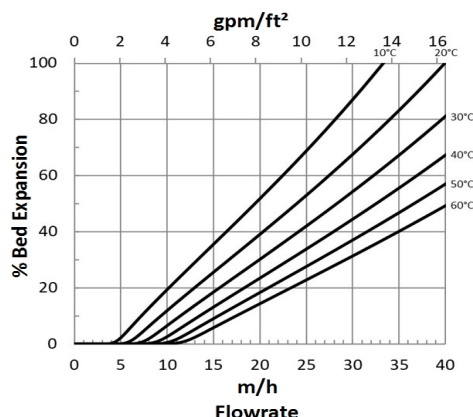
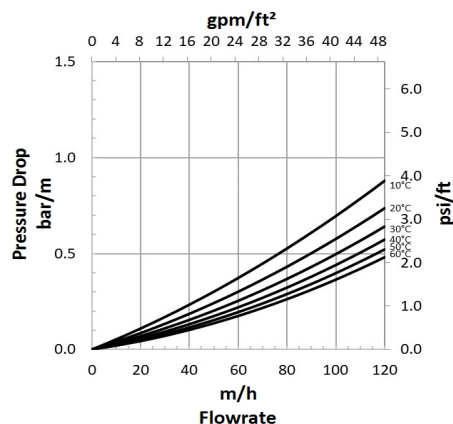


Figure 2: Pressure Drop

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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