AMBERJET® 9000 OH

Macroreticular Strong Base Anion Exchange Resin

PRELIMINARY PRODUCT DATA SHEET

AMBERJET 9000 OH is a uniform particle size, MR type, strong base anion exchange resin specifically designed for use in regenerable mixed bed condensate demineraliser systems. Amberjet 9000 OH now combines a proven MR (macroreticular) structure with the hydraulic and kinetic benefits of uniform particle size to deliver the best possible condensate polishing performance and resin life in both PWR nuclear and high pressure fossil power plants. One of the most critical parameters for an anion exchange resin in mixed bed polishing applications is fast kinetics for sulphate removal. In condensate polishing plants the anion resin is often exposed to materials which can foul the resin surface and dramatically reduce its capability to remove sulphate at high flow rates. In many power stations, loss of sulphate mass transfer kinetics is the most frequent cause of water chemistry problems, and the leading cause of polisher resin replacement. As compared to gel type uniform size anion resins which are commonly used, the unique MR structure of Amberjet 9000 OH is specifically designed to provide improved resistance to surface fouling and the resulting loss of sulphate mass transfer coefficient.

Amberjet 9000 OH is best paired with Amberjet 1600 H, for the ultimate in polisher performance. Amberjet 1600 H is a highly crosslinked uniform size gel cation exchange resin with exceptional resistance to release of polystyrene sulfonate leachables, which can foul anion resins. The combination of a low leachables cation resin, with a fouling resistant anion resin delivers the lowest possible sulphate levels in steam generators and the longest possible resin life. This is especially critical in PWR plants where organic amines are used.

PROPERTIES

Matrix	Macroreticular styrene-divinylbenzene copolymer
Functional groups	Quaternary ammonium
Physical form	Light tan opaque beads
Conversion to OH form	93% minimum
Total exchange capacity	≥ 0.8 eq/L (OH form)
Moisture holding capacity	66 to 75% (OH form)
Shipping weight	660 g/L
Harmonic mean size	0.58 to 0.70 mm
Uniformity coefficient	≤ 1.25
Fine content	< 0.425 mm : 1% maximum
Coarse beads	> 0.850 mm : 5% maximum

SUGGESTED OPERATING CONDITIONS

Operating temperature	15 to 60 °C
Service flow rate (linear velocity)	120 m/h, maximum
Regenerant	NaOH
Dosage (100% basis)	120 to 240 g/L
Flow Rate	2 to 4 BV*/h
Concentration	4 to 6%
Slow Rinse Volume (at regeneration flow rate)	1 to 2 BV
Fast Rinse	4 to 8 BV

** 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin*

Transfer of mixed beds in condensate polishers : take steps to minimise re-separation of mixed beds, including minimising the volume of free water or transfer water used. A remix is recommended in the service vessel before use.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERJET 9000 OH, as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 9000 OH, as a function of service flow rate and water temperature.

Pressure drop data are for clean, classified beds which have not accumulated solids during the service run. If the bed accumulates solids, the pressure drop would increase. The pressure drop of a mixed bed can be approximated by summing the component pressure drops.

Figure 1: Pressure Drop

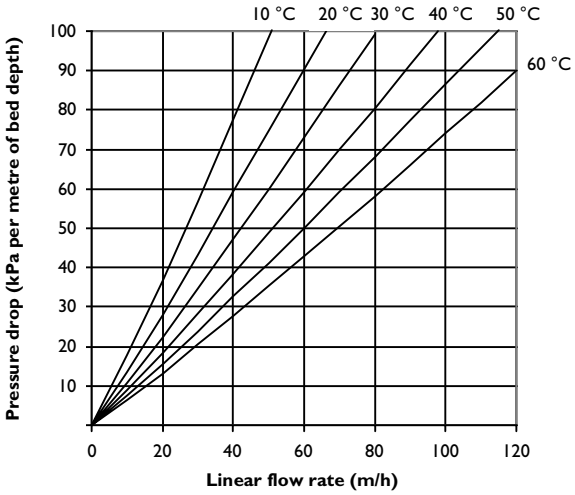
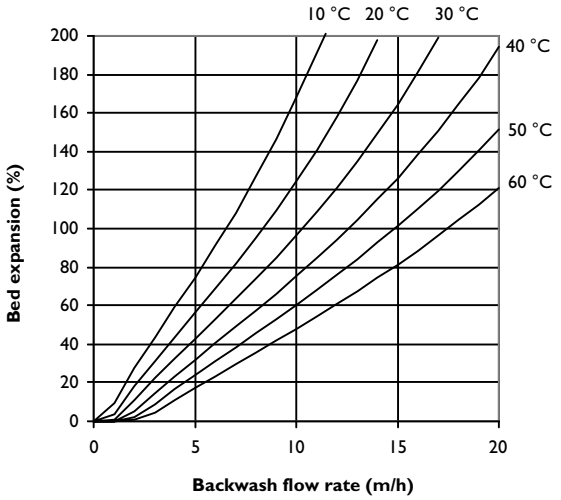


Figure 2 : Bed Expansion



Rohm and Haas/Ion Exchange Resins - Philadelphia, PA - Tel. (800) RH AMBER - Fax: (215) 409-4534
Rohm and Haas/Ion Exchange Resins - 75579 Paris Cedex 12 - Tel. (33) 1 40 02 50 00 - Fax : 1 43 45 28 19

WEB SITE: http://www.rohmhaas.com/ionexchange