AMBERJET™ 1000 Na
Industrial Grade Strong Acid Cation Exchanger

AMBERJET 1000 Na resin is a uniform particle size, high quality, strong acid cation exchanger designed for use in all water treatment applications: softening as well as demineralisation. The uniformity and mean particle size of AMBERJET 1000 Na have been optimised for use in industrial equipment. AMBERJET 1000 Na can be directly substituted for conventional gel cation exchange resin in new equipment and in re-beds of existing installations.

PROPERTIES

Physical form_______________________________ Amber spherical beads
Matrix___________________________________ Styrene divinylbenzene copolymer
Functional group ___________________________ Sulfonic acid
Ionic form as shipped _______________________ Na +
Total exchange capacity,[1]___________________ ≥ 2.00 eq/L (Na+ form)
Moisture holding capacity [1]________________ 45 to 50 % (Na+ form)
Shipping weight ____________________________ 850 g/L
Specific gravity _____________________________ 1.26 to 1.30 (Na+ form)
Particle size
  Uniformity coefficient [1]___________________ ≤ 1.3
  Harmonic mean size______________________ 0.600 - 0.800 mm
  < 0.425 mm [1]___________________________ 2 % max
Maximum reversible swelling _________________ Na+ → H+ < 10 %

[1] Contractual value
Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____________ 135 °C
Minimum bed depth ________________________ 800 mm
Service flow rate __________________________ 5 to 40 BV*/h
Regeneration
  Regenerant ______________________________ NaCl  HCl  H2SO4
  Level (g/L) ______________________________ 50 to 240 40 to 150 40 to 200
  Concentration (%) ________________________ 10 4 to 10 1 to 8
  Minimum contact time____________________ 20 minutes
  Slow rinse ______________________________ 2 BV at regeneration flow rate
  Fast rinse ______________________________ 1 to 3 BV at service flow rate

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin
PERFORMANCE

Operating capacity and ionic leakage depend on several factors such as water analysis, temperature and regenerant level. The engineering data sheets EDS 0760 A, 0761 A, 0762 A, 0763 A, 0764 A and 0765 A provide information to calculate them in softening and demineralisation applications with co-flow and reverse flow regeneration.

LIMITS OF USE

AMBERJET 1000 Na resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERJET 1000 Na resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 1000 Na resin, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.

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Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

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