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AMBERJET™ 1000 Na industrial grade strong acid cation exchanger

Introduction

AMBERJET™ 1000 Na resin is a uniform particle size, high quality, strong acid cation exchanger designed for use in water treatment applications including softening as well as demineralization. The uniformity and mean particle size of AMBERJET 1000 Na have been optimized 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	≥ 2.00 eq/L (Na ⁺ form)
Moisture holding capacity	43.0 – 50.0 %
Shipping weight	850 g/L
Specific gravity	1.26 – 1.30 (Na ⁺ form)
Particle Size	
Uniformity coefficient	≤ 1.3
Harmonic mean size	0.540 – 0.720 mm
< 0.425 mm	2% max
Maximum reversible swelling	Na ⁺ → H ⁺ < 10%

Test methods are available on request.

Suggested Operating Conditions

Maximum operating temperature	135°C / 275°F		
Minimum bed depth	800 mm (2.6 ft)		
Service flow rate	5 – 40 BV*/h (0.62-5.0 gpm/ft ³)		
Regeneration			
Regenerant	NaCl	HCl	H ₂ SO ₄
Level (g/L)	50 - 240	40 – 150	40 – 200
Level (lbs/ft ³)	3 – 15	2.5 – 3.4	2.5 – 12.5
Concentration (%)	10	4 – 10	0.7 – 8
Minimum contact time	20 minutes		
Slow rinse	2 BV at regeneration flow rate		
Fast rinse	1 – 3 BV at service flow rate		

*1 BV (Bed Volume) = 1 m³ solution m³ resin per 7.5 gals per ft³ 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 demineralization applications with coflow 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 Dow in order to determine the best resin choice and optimum operating conditions.

Hydraulic characteristics

Figure 1 shows the bed expansion of AMBERJET 1000 resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 1000 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.

Fig 1 : Bed Expansion

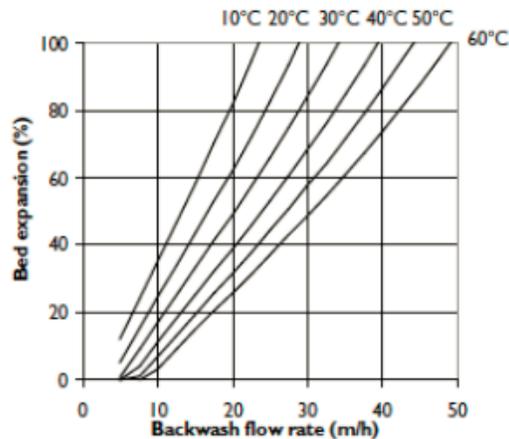
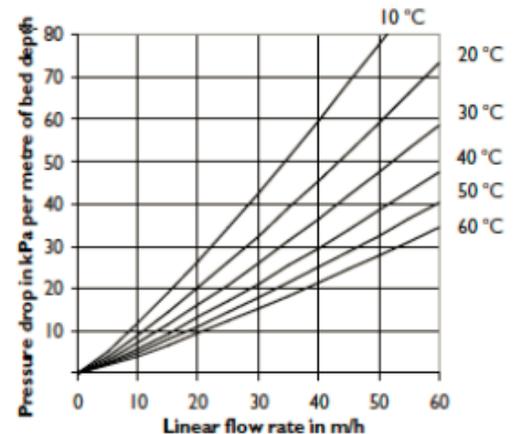


Fig 2 : Pressure Drop



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Customer notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Currently safety data sheets are available from Dow.

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.

For more information about DOW™ resins, call the Dow Water & Process Solutions business:

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