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AMBERJET™ 4600 CI

Industrial Grade Strong Base Anion Exchanger

Introduction

AMBERJET 4600 CI resin is a uniform particle size, high quality, strong base type 2 anion exchanger designed for use in all general demineralisation systems. The uniformity and mean particle size of AMBERJET 4600 CI resin have been optimised for use in industrial equipment including co-flow, reverse flow regenerated units and packed bed systems. It can be directly substituted for conventional gel anion exchange resin in new equipment and in rebeds of existing demineralisers.

Properties

Physical Form	Yellow translucent spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Dimethyl ethanol ammonium
Ionic form as shipped	Cl ⁻
Total exchange capacity	≥ 1.25 eq/L (Cl ⁻ form) 45 to 51 % (Cl ⁻ form)
Moisture holding capacity	1.085 to 1.115 (Cl ⁻ form)
Specific gravity	680 g/L
Particle Size	
Uniformity coefficient	≤ 1.25
Harmonic mean size	0.60 to 0.80 mm < 0.425 mm 0.5 % max
Maximum reversible swelling	Cl ⁻ → OH ⁻ : 20 %

Suggested Operating Conditions

Water Treatment	
Maximum operating temperature	35 °C
Minimum bed depth	800 mm
Service flow rate	5 to 50 BV*/h
Maximum service velocity	60 m/h
Regeneration	
Regenerant	NaOH
Level	30 to 100 g/L
Concentration	2 to 5 %
Minimum contact time	20 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	3 to 6 BV at service flow rate

Performance

AMBERJET 4600 CI resin has better regeneration efficiency than type 1 resins, resulting in a higher capacity. However its affinity for silica is lower. Operating capacity and silica leakage depend on several factors such as water analysis, temperature and regenerant level. The engineering data sheets EDS 0410 A and 0411 A provide information to calculate them.

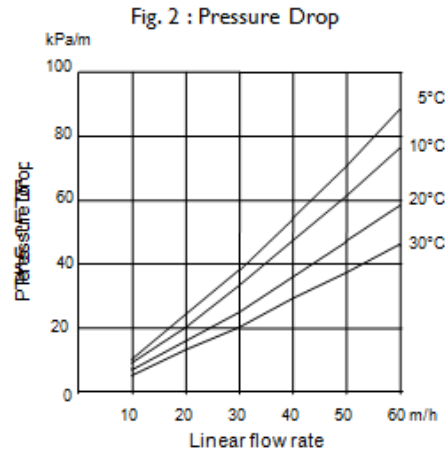
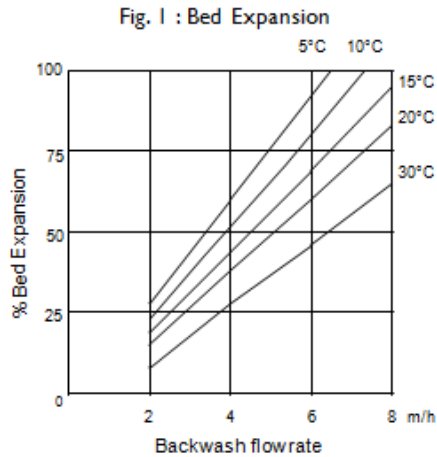
Limits of use

AMBERJET 4600 CI 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 Water & Process Solutions in order to determine the best resin choice and optimum operating conditions.

Caution: as all type 2 anion exchangers, AMBERJET 4600 CI resin tends to lose its strongly basic groups when the fluid to be treated or the regenerant solution has a temperature exceeding 35°C.

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERJET 4600 CI resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 4600 CI 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.



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

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