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AMBERLITE™ IRA410 CI

Industrial Grade Strong Base Anion Exchanger

Introduction

AMBERLITE IRA410 CI resin is a type 2 strongly basic anion exchange resin, with a clear gel structure. It is based on crosslinked polystyrene and has a high bead integrity, good regeneration efficiency and excellent rinse performance. It is particularly suited for use in two-column water demineralisation plants (one cation, one anion unit). AMBERLITE IRA410 CI resin has better regeneration efficiency than type 1 resins, resulting in a higher operating capacity. However, its affinity for silica is lower. Therefore, AMBERLITE IRA410 CI resin will be mainly used to treat waters with a silica to total anion ratio of less than 30 %. It should be regenerated at ambient temperature.

Properties

Physical form	Pale yellow translucent spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Dimethyl ethanol ammonium
Ionic form as shipped	Chloride
Total exchange capacity	≥ 1.25 eq/L (Cl ⁻ form)
Moisture holding capacity	45 to 51 % (Cl ⁻ form)
Shipping weight	680 g/L
Particle size	
Uniformity coefficient	≤ 1.60
Harmonic mean size	0.600 to 0.750 mm < 0.300 mm 1.0 % max
Reversible swelling	Cl ⁻ → OH ⁻ ≤ 20 %

Suggested Operating Conditions

Maximum operating temperature	35°C
Minimum bed depth	700 mm
Service flow rate	5 to 40 BV*/h
Regeneration	
Regenerant	NaOH
Level	40 to 100 g/L
Concentration	2 to 4 %
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4 to 8 BV at service flow rate

Limits of use

AMBERLITE IRA410 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 Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE IRA410 CI resin as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for AMBERLITE IRA410 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.

Fig. 1: Bed Expansion

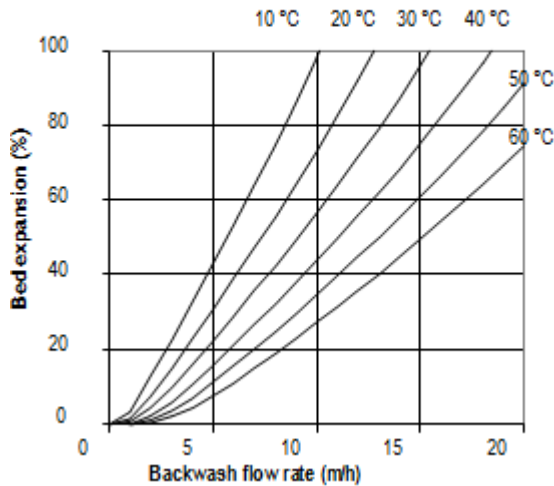
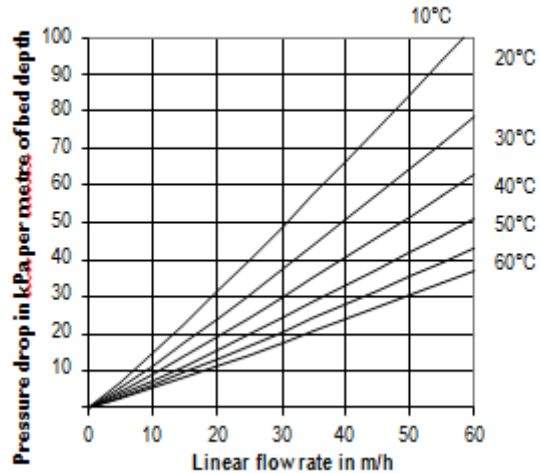


Fig. 2: Pressure Drop



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