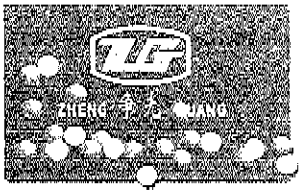


Z G A 304

Strong Base Type Ⅰ Anion Exchange Resin

DESCRIPTION

"Zheng Guang"Brand ZGA 304 is a Type Ⅰ strong-base anion exchange resin with quarternary ammonium structure based on polystryrene. It has excellent regeneration efficiency and rinse characteristics. The resin has exceptional physical and chemical stability. It also shows good kinetics of exchange, producing very low concentration levels of both strong and weak acid anions to be achieved at practical flowrate. The resin is supplied in chloride or hydroxide form.

ZG A 304 is mainly used in production of pure and ultra-pure water, decoloration for sugar, separation and purification of biochemicals and radio-elements.

FEATURES & BENEFITS

- **COMPLES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the F.D.A.
- **UNIFORM PARTICLE SIZE**
  95% all beads are in the assignation range; giving a lower pressure drop and superior kinetics
- **SUPERIOR PHYSICAL STABILITY**
  Over 93% sphericity combined with high crush strengths and uniform particle size provide greater resistance to bead breakage resulting in longer service life and lower pressure drop.
- **ORGANIC FOULING RESISTANCE AND HIGH OPERATING CAPACITY**
  The highly porous structure of ZGA 304 allows greater removal and elution of large organic molecules. High total capacity results in high operating capacity during demineralization.

ZG A 304 PROPERTIES

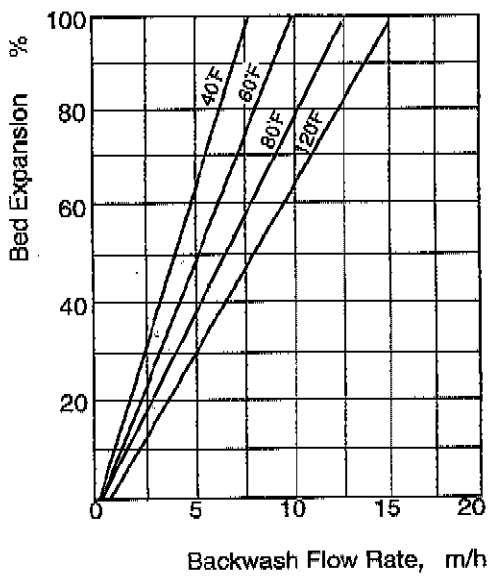
Appearance	Light yellow or golden spherical beads
Polymer Matrix Structure	Polystyrene crosslinked with DVB
Type	Gel strong base Type Ⅰ anion resin
Ionic Form	Cl^- or OH^-
Functional Group	$R-N^+(CH_3)_3X^-$
Moisture Content %	50~60
Tatol Capacity meq/g	⩾ 3.8(Cl)
meq/ml	⩾ .25(Cl) 1.25 (Cl)
Screen Size Range mesh	55~16
(U.S. standard screen)	⩾ 95
Sphericity %	⩾ 93
Uniformity Coefficient, Approx.	⩽ 1.6
Shipping Weight, Approx. lb/ft³	40~43
pH Range	1~14
Swelling, $Cl^- \rightarrow OH^-$ %	⩽ 28

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Chloride Form	170°F
Hydroxide Form	140°F
Backwash Rate	50~75 % Bed Expansion
pH range	1~14
Bed Depth (industry)	1~3 m
Regenerant	NaOH
Regenerant Flow Rate	3~5 m/h
Regenerant Contact Time	> 30 min
Regenerant Level	100~120 g/eq
Counter-flow	55~65 g/eq
Displacement Rinse Rate	3~5 m/h
Service Flow Rate	15~30 m/h

HYDRAULIC PROPERTIES

After each cycle the resin bed should be backwashed at a rate that expands the bed 50~75%. This will remove any impurity and reclassify the bed. Bed expansion is a function of flow rate and temperature. The graph below shows the expansion characteristics of ZGA 304.



CHEMICAL AND PHYSICAL STABILITY

ZGA 304 is a porous gel structure of copolymer of styrene and divinylbenzene with quaternary ammonium group. It has superior kinetics characteristic and the highest regenerable operating capacity of the Type I anion exchange resins for use in deionization and mixed beds. Especially, it has good resistance to organic fouling. The resin has good bead strength and excellent integrity, a minimum of 95%. It demonstrates a high resistance to attrition from all stresses, physical, thermal and osmotic. Usually it has a longer service life. However, exposure to significant amounts of free chlorine, "hypochlorite"ions, or other strong oxidizing agents over a period of time will degrade the resin and break down the crosslinking. This can reduce the ion exchange capacity or increase the moisture retention of the resin, decreasing its mechanical strength, and should be avoided. The resin in the hydroxide form under alkaline conditions will break down at temperatures over about 70℃ (160°F). The quaternary ammonium group losses the nitrogen and becomes weak-base groups. The salt forms of the resin are at least more stable, but can still break down at higher temperatures with loss of strong base capacity.

APPLICATIONS

WATER TREATMENT

ZGA 304 is widely used in multiple and mixed bed demineralizers, wherever remove anions and organic substances. It is importance for the production of pure water and ultra-high quality water.

ZGA 304 in hydroxide form is an effective way of providing low silica and low hardness water for medium pressure boilers.

OTHER APPLICATIONS

ZGA 304 can be used in separation and purification of biomedical products and biochemicals. It also can extract radioactive elements and decolour cane and corn syrup. The resin is also used in pharmaceutical industry.