

DESCRIPTION

ZHENG GUANG ZGC259FD is a premium grade, weak acid, macroporous, cation resin supplied in the hydrogen form as moist, tough, uniform, spherical beads. Its ion exchange functionality is derived from the carboxylic group, which is easily converted to the hydrogen form and has a high affinity for divalent ions. ZhengGuang weak acid cation resin is intended for use in hydrogen cycle dealkalization, deionization, and chemical processing applications. Especially used in the food Industry process. **ZhengGuang ZGC259FD** can also be supplied in the sodium form for use in sodium cycle applications such as softening and removal of heavy metal cations.

FEATURES & BENEFITS

- **CARBOXYLIC FUNCTIONAL GROUPS**

Gives extremely high regeneration efficiencies and high operating capacities.

- **METALS REMOVAL**

Useful as a scavenger for copper, nickel, hardness and most multivalent ions.

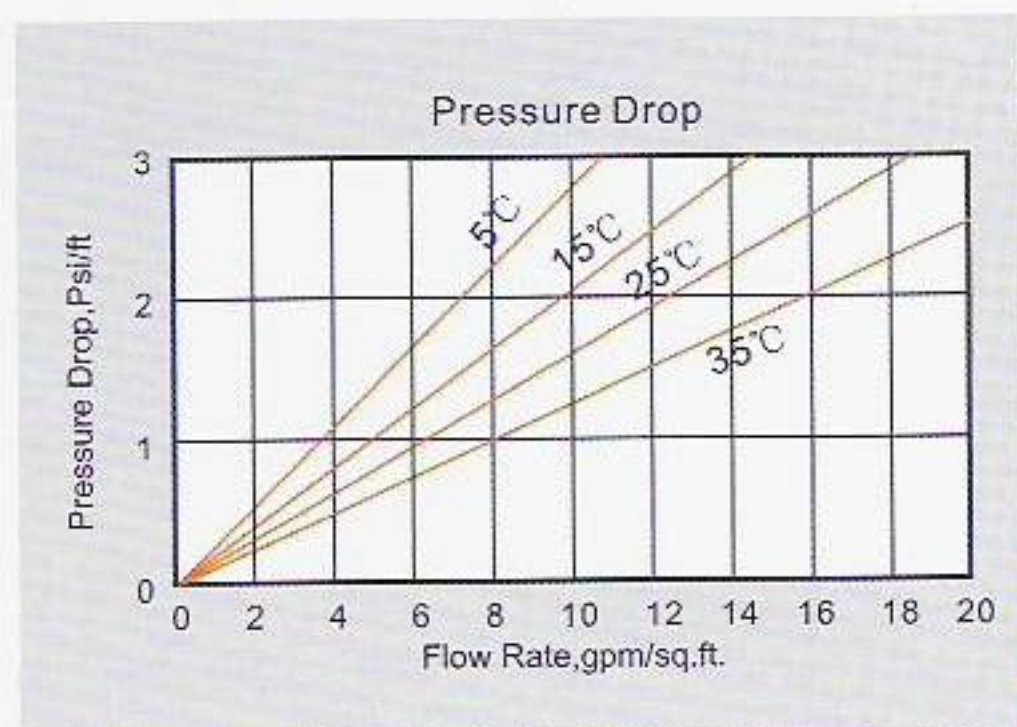
- **UNIFORM PARTICLE SIZE, LOW PRESSURE DROP**

0.315mm to 1.25mm size range; giving a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.

- **SUPERIOR PHYSICAL STABILITY**

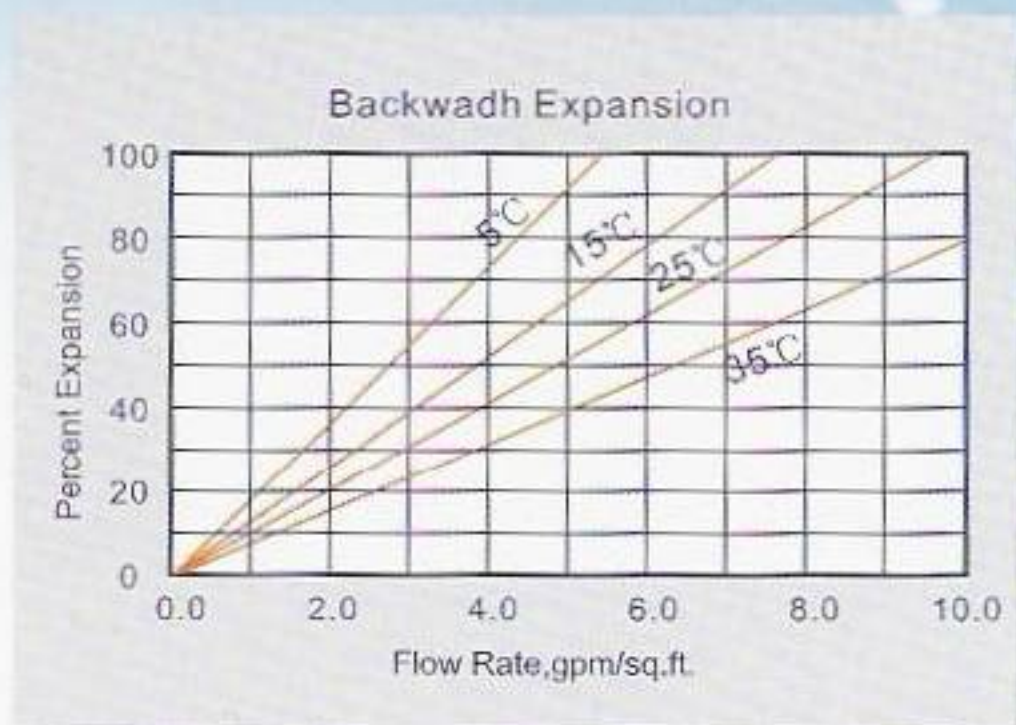
95% plus sphericity and low swelling together with a macroporous structure and a very uniform particle size provide greater resistance to bead breakage.

HYDRAULIC PROPERTIES



PRESSURE DROP

The graph shows the expected pressure loss per foot of bed depth as a function of flow rate, at various water temperatures.



• 1m/h equals 0.41 Usgpm/ft²

BACKWASH--

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed.

ZHENGGUANG ZGC259FD

TYPICAL PROPERTIES

Polymer Structure	Acrylic/Divinylbenzene
Functional Group	R-COOH
Ionic Form, as shipped	H (can be ordered as Na)
Physical Form	Tough, Spherical Beads
Screen Size Distribution	0.315mm to 1.25mm
>1.25mm	< 5 percent
<0.315mm	< 1 percent
pH Range	4 - 14
Sphericity	> 95 percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Hydrogen Form	45 to 52 percent
Sodium Form	56 to 66 percent
Solubility	Insoluble
Approximate Shipping Weight	
Hydrogen Form	0.72~0.80g/ml
Sodium Form	0.77~0.87g/ml
Swelling H ⁺ to Na ⁺	≤65 percent
Ca ²⁺ to Na ⁺	≤30 percent
Total Capacity	
Sodium Form	2.0 mmol/ml min
Hydrogen Form	4.2 mmol/ml min

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Hydrogen Form	≤100°C

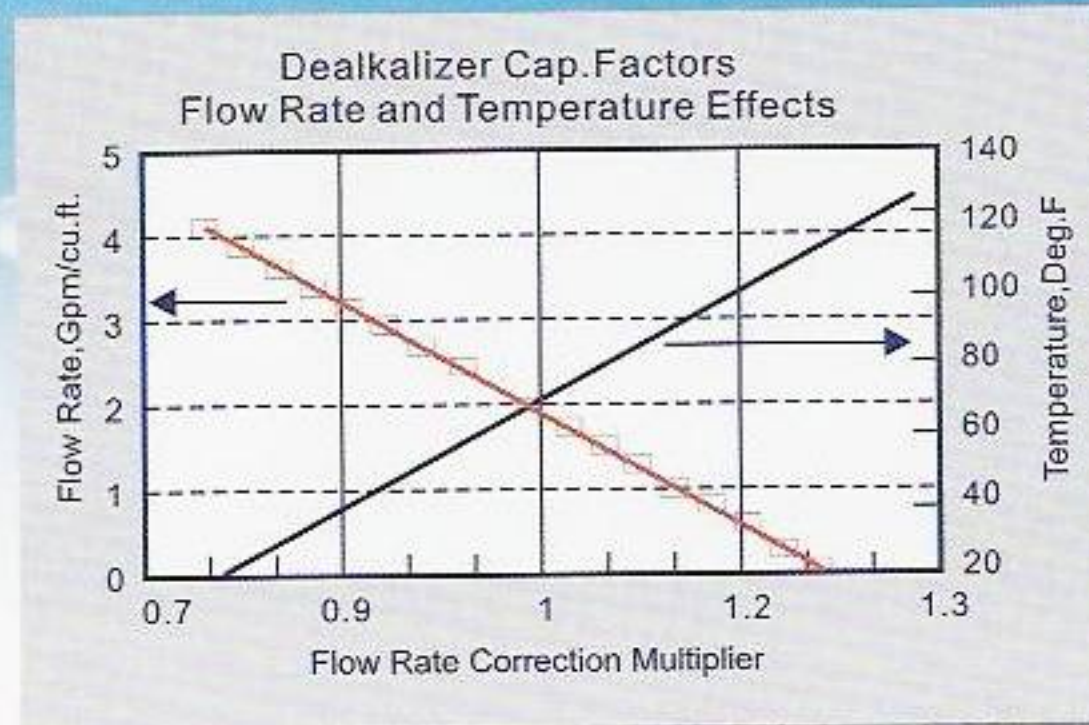
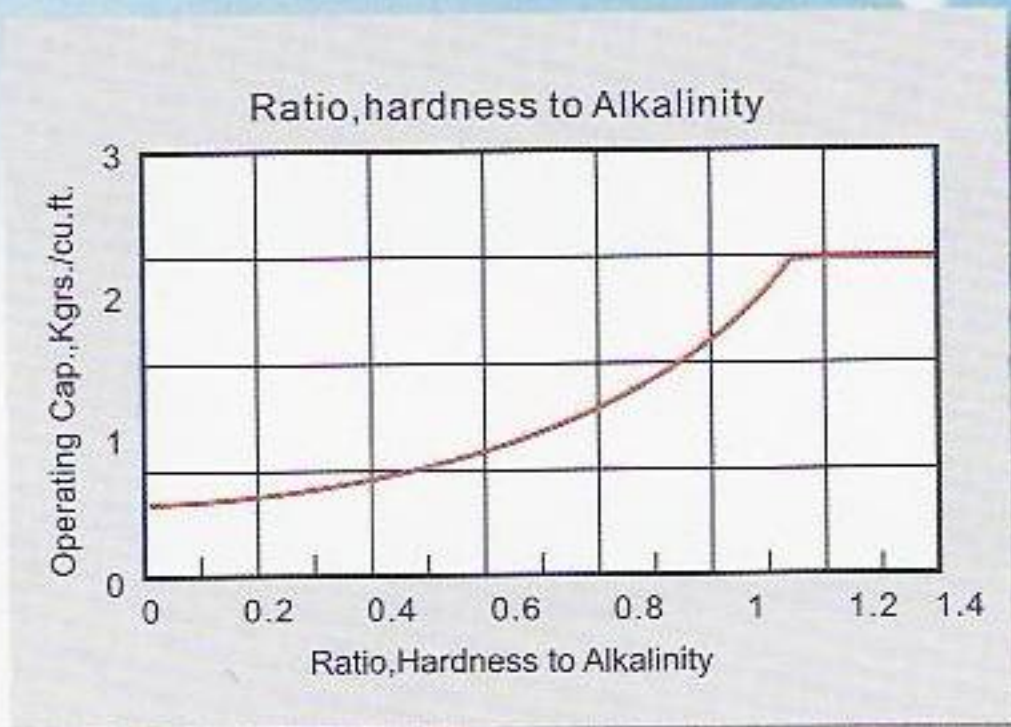
Minimum Bed Depth	800mm
Backwash Rate	50 to 75 Percent Bed Expansion
Regenerant Concentration	3 to 5 % HCl Or 0.8 to 2% H ₂ SO ₄
Regenerant Flow Rate	3 to 5 m/h
Regenerant Contact Time	At least 30 Minutes
Regenerant Level	Depends on Alkalinity
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Time	20 to 40 Minutes
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Time	10 to 20 Minutes
Service Flow Rate	15 to 30 m/h

APPLICATIONS

Metal Removal ZhengGuang ZGC259FD can be operated in the sodium or hydrogen cycle to remove heavy metals from waste streams with a pH above 5.5 in the absence of hardness. Operation in the sodium form provides a neutral pH effluent but requires a two stage regeneration as described above.

Softening ZhengGuang ZGC259FD can be operated as a softener in the sodium cycle. This requires a two stage regeneration process using a strong acid first and then a neutralization rinse to put the resin into the sodium form and is especially effective in high solids softening applications.

Dealkalization -Bicarbonate alkalinity associated with multivalent cations such as hardness can be effectively removed using **ZhengGuang ZGC259FD** in the Hydrogen form. When operated in this manner both hardness and alkalinity are removed. The reaction is limited by the amount of alkalinity and the ratio of hardness (multivalent cations) to alkalinity. The graphs to the right show the base operating capacity according to the ratio of hardness to alkalinity and the effects of exhaustion flow rate and temperature. When the hardness to alkalinity ratio is greater than 1.0, **ZhengGuang ZGC259FD** will produce some free mineral acidity during the first 10% of the service exchange. Alkalinity leakage will occur after approximately 60 to 70% of the run. The operating capacity is based on 10% alkalinity leakage at the end of the run.



All our products are produced in ISO 9001-2000 certified manufacturing facilities.

***CAUTION:DO NOT MIX ION EXCHANGE RESIN WITH STRONG OXIDIZING AGENTS.** Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials, such as ion exchange resins.

Material Safety Data Sheets (MSDS) are available for all ZhengGuang Resin Co., Ltd. products. To obtain a copy, contact your local ZhengGuang sales representative or our corporate headquarters. They contain important health and safety information. That information may be needed to protect your employees and customers from any known health and safety hazards associated with our products. We recommend that you secure and study the pertinent MSDS for our products and any other products being used these suggestions and data are based on information we believe to be reliable. They are offered in good faith. However we do not make any guarantee or warranty. Our caution against using these products in an unsafe manner or in violation of any patents; further we assume no liability for the consequences of any such actions.