



ZG D891

ANION EXCHANGE RESIN
NITRATE AND
PERCHLORATE SELECTIVE

DESCRIPTION

ZHENG GUANG ZGD891 is a strong base anion resin supplied in the chloride form as moist, tough, uniform spherical beads. It exhibits an unusually high preference for perchlorate and a very low affinity for multivalent ions, It is the resin of choice for single-use perchlorate removal applications. It is also suggested for nitrate removal applications where brine recovery is practiced.

The use of **ZhengGuang ZGD891** essentially eliminates all monovalent “dumping” making it also highly useful in nitrate removal applications. Its nitrate and perchlorate operating capacity is virtually unaffected by the presence of sulfates.

FEATURES&BENEFITS

- **EXTREMELY LOW SULFATES SELECTIVITY**

The selectivity preference for monovalent ions, especially perchlorate and nitrates, is higher than any other anion resins, including **ZhengGuang ZGD891**.

- **SUPERIOR PHYSICAL STABILITY, NO SLOUGHING**

95 percent plus sphericity, high crush strengths, uniform particle size mean lower pressure drop, greater resistance to bead breakage.

ZHENG GUANG ZGD891

PHYSICAL PROPERTIES

Polymer Structure	Styrene with DVB
Functional Group	R-N-(R) ₃ ⁺ Cl ⁻
Ionic Form as shipped	Chloride
Physical Form	Tough, Spherical Beads
Screen Size Distribution	0.315mm ~1.25mm
>1.25mm	< 4 percent
<0.425mm	< 2 percent
<0.315mm	< 1 percent
pH Range	0 to 14
Water Retention	
Chloride Form	52 to 62 Percent

Solubility	Insoluble
Approximate Shipping Weight	
Chloride Form	0.65 ~ 0.73 g/ml
Swelling	
Cl ⁻ to OH ⁻ Form	Approx. 18 Percent
Total Capacity	Approx. 0.9mmol / ml
Sphericity	> 95 Percent

SUGGESTED OPERATING CONDITIONS

Temperature Range	
Salt form	2 to 60 °C
Minimum Bed Depth	600mm
Backwash Rate	50 to 75 % Bed Expansion

OPERATING CAPACITY

Pounds of NaCl per cu.ft	Capacity, Kgrs./cu.ft. as CaCO ₃ WATER ANALYSES: Cl ⁻ /HCO ₃ ⁻ =1:1 NO ₃ ⁻ =100ppm as CaCO ₃ Percent sulfate			
	0	25	50	75
5	6.9	6.8	6.8	6.8
10	8.4	8.3	18.3	8.3
15	9.1	9.0	9.0	8.9
20	9.4	9.4	9.3	9.3

Perchlorate Removal Regeneration Information

ZHENGQUANG ZG D891 is not easily regenerated from the perchlorate form and for that reason is not normally recommended for regenerable service with traditional regeneration techniques. However, in combined nitrate and perchlorate removal applications, counter current regeneration based on nitrate break through can often give excellent results. Also, regeneration using specific perchlorate removal techniques can be used. For more information, contact our technical support department. Operating capacities and breakthrough curves will be supplied on a case-by-case basis.

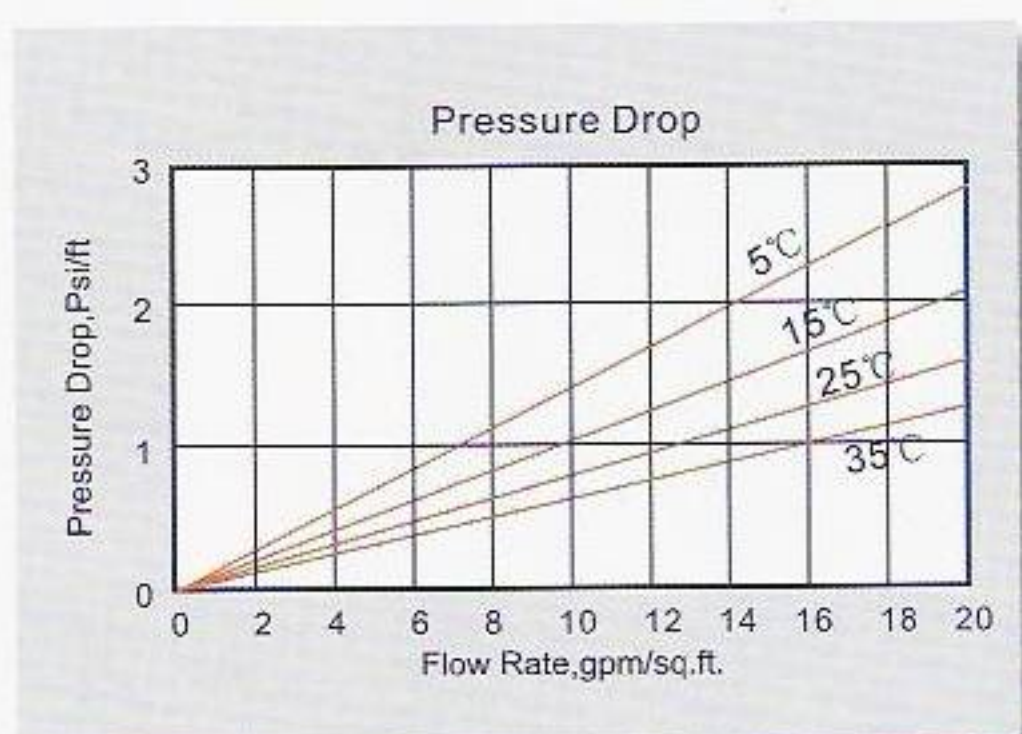
APPLICATIONS

ZHENGQUANG ZG D891 is also intended for use in all applications involving monovalent and divalent ions where the monovalent ion must be removed. Chemical Processing and Resource

Recovery - ZHENGGUANG ZG D891 can be used to remove certain monovalent ions like nitrates, bromides, iodides, etc. from streams containing multivalent ions. Consult your ZhengGuang technical representative for recommendations for specific applications.

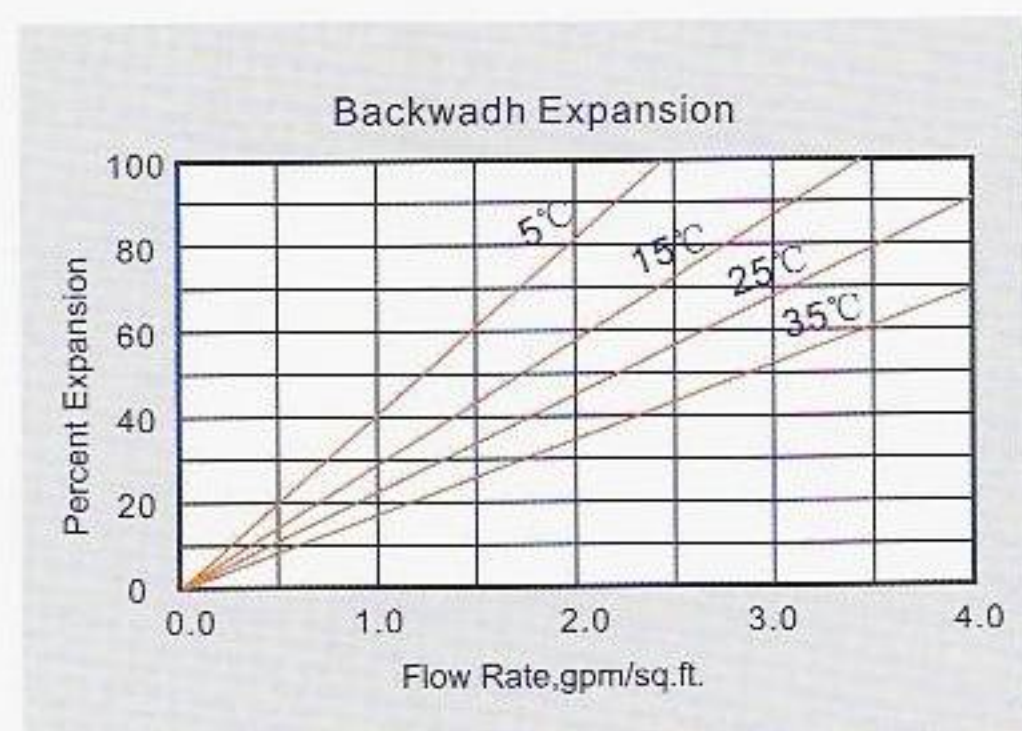
Because of its extremely high selectivity for nitrate and perchlorate, **ZHENGGUANG ZG D891** can be used in brine regeneration systems to reclaim spent brines. In these applications, **ZHENGGUANG ZG D891** can often be discarded at a lower cost than the discharge of the contaminated regenerant.

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.



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.

• 1m/h equals 0.41 Usgpm/ft²

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.