CG8-F

CATION EXCHANGE RESIN
FINE MESH STRONG ACID
8 % DVB, Na or H FORM

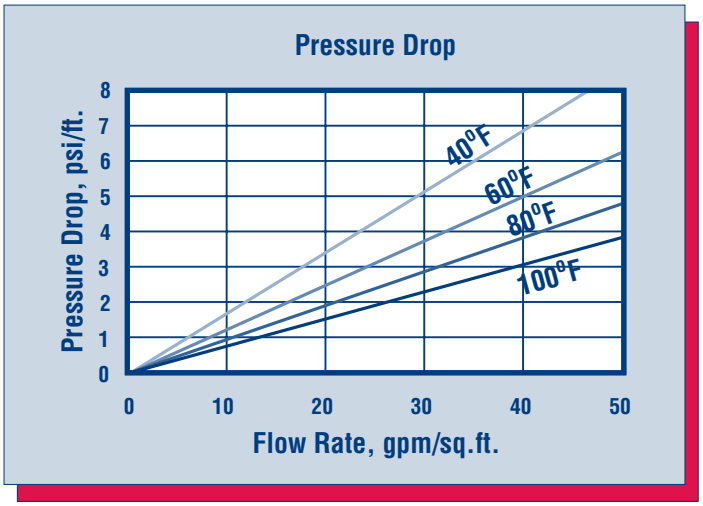
RESINTECH CG8-F is a premium grade, high capacity, gelular, sulfonated, polystyrene cation resin supplied in the sodium or hydrogen form as moist, tough, uniform, spherical beads. *RESINTECH CG8-F* is intended for use in all water softening, dealkalization, deionization and chemical processing applications.

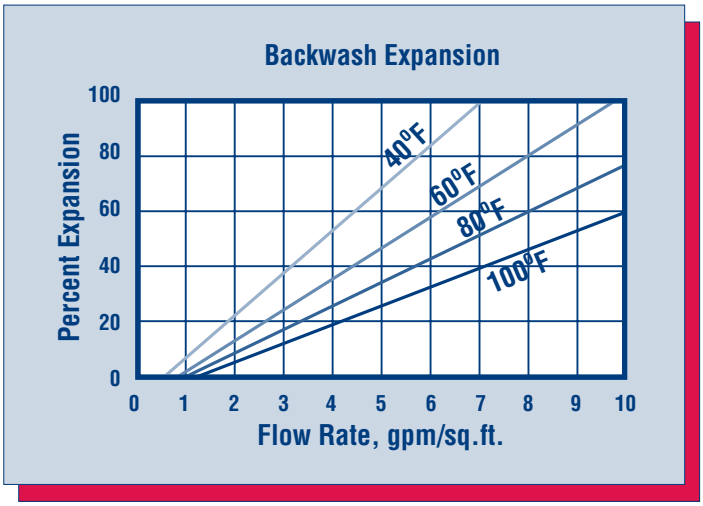
FEATURES & BENEFITS

- **COMPLIES WITH FDA REGULATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the F.D.A.*
- **COMPLIES WITH USDA REGULATIONS FOR POTABLE WATER SYSTEMS**
  Meets standards for use in systems operating under the Federal meat and poultry products inspection program.
- **NSF/ANSI-61 CERTIFIED FOR MATERIAL SAFETY**
  WQA Gold Seal Certified when ordered as CG8-F-HP
- **HIGHLY UNIFORM PARTICLE SIZE, LOW PRESSURE DROP**
  90 percent of all beads are in the minus 30 to plus 50 mesh range; giving LOW PRESSURE DROP.
- **SUPERIOR PHYSICAL STABILITY**
  93 percent plus sphericity and high crush strengths together with a very uniform particle size provide greater resistance to bead breakage.
- **LOW COLOR THROW**

* For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to ensure compliance with extractable levels.

HYDRAULIC PROPERTIES





PRESSURE DROP

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

BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. This will remove any foreign matter and reclassify the bed. The graph below shows the expansion characteristics of *RESINTECH CG8-F* in the sodium form.

1 Resintech Plaza • 160 Cooper Road • West Berlin,NJ 08091 • Phone:(856)768-9600 • Fax:(856)768-9601 • E-mail:ixresin@resintech.com • Web Site:www.resintech.com

RESINTECH® CG8-F

PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	$R\text{-}(SO_3)^-M^+$
Ionic Form, as shipped	Sodium or Hydrogen
Physical Form	Tough, Spherical Beads
Screen Size Distribution	30 to 50
+30 mesh (U.S. Std)	< 10 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to 14
Sphericity	> 93 percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Hydrogen Form	47 to 54 percent
Sodium Form	42 to 49 percent
Solubility	Insoluble
Approximate Shipping Weight	
Hydrogen Form	50 lbs/cu.ft.
Sodium Form	52 lbs/cu.ft.
Swelling Ca^{+2} or Na^+ to H^+	5 to 9 percent
Total Capacity	
Sodium Form	1.9 meq/ml min
Hydrogen Form	1.8 meq/ml min

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Sodium Form	280°F
Hydrogen Form	265°F
Minimum Bed Depth	24 inches
Backwash Rate	25 to 50% Bed Expansion
Regenerant Concentration	
Hydrogen Cycle	10% HCl or 1 to 8% H_2SO_4
Sodium Cycle	10% to 15% NaCl
Regenerant Flow Rate	0.5 to 1.5 gpm/cu.ft.
Regenerant Contact Time	At least 20 Minutes
Regenerant Level	4 to 15 pounds/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gallons/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gallons/cu.ft.
Service Flow Rate	2 to 10 gpm/cu.ft.

OPERATING CAPACITY

The Sodium cycle operating capacity of *RESINTECH CG8-F* for hardness removal at various regeneration levels with an influent calcium/magnesium ratio of 2/1 and a hardness level of 500 ppm, as $CaCO_3$, is shown in the following table:

Pounds NaCl/cu.ft.	Capacity Kilograins/cu.ft.
5	20.0
7.5	25.4
10	29.0
15	33.0

The following table shows the hydrogen cycle relationship between operating capacity and regeneration level when using sulfuric acid as the regenerant:

Pounds H_2SO_4/cu.ft.	Capacity Kilograins /cu.ft.	
	500 ppm as $CaCO_3$ NaCl	500 ppm as $CaCO_3$ $CaCl_3$
5	19.0	11.5
7.5	23.0	12.8
10	25.3	13.6
15	28.1	14.5
20	29.7	15.0

The capacity data is based on an acid concentration of 2 percent in order to avoid calcium sulfate precipitation. Higher operating capacities could be obtained using a stepwise increase in acid concentration to avoid the calcium problem.

APPLICATIONS

DEMINERALIZATION –

RESINTECH CG8-F can be used in multiple and mixed bed demineralizers with strongly basic anion exchangers such as *RESINTECH SBG1P, SBMP1* and *RESINTECH SBG2*.

SOFTENING –

RESINTECH CG8-F is ideally suited for industrial softening applications because of its high capacity and good physical stability.

***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.

MaterialSafety Data Sheets (MSDS) are available for all ResinTech Inc. products. To obtain a copy, contact your local ResinTech 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. We 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.