# CG8-C

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

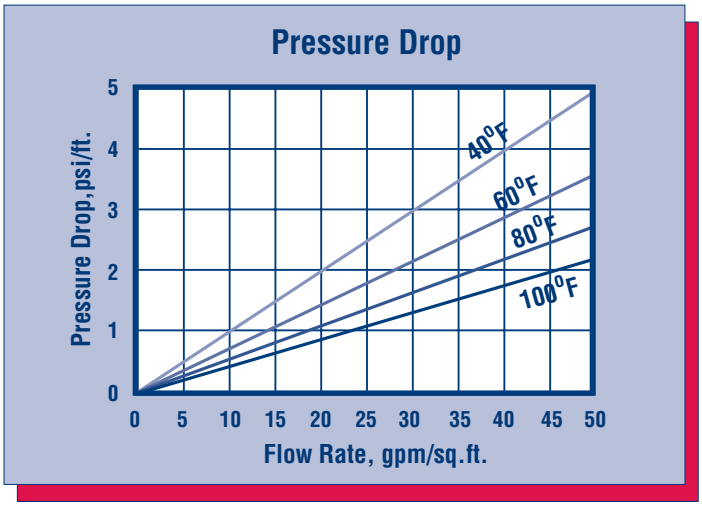
**RESINTECH CG8-C** is a premium grade, high capacity, gelular, sulfonated, polystyrene cation resin supplied in the sodium or hydrogen form as moist, tough, uniform, spherical beads. *RESINTECH CG8-C* is intended for use in all water softening, dealkalization, deionization and chemical processing applications. It has a bead size range of 16x30 mesh which provides reduced pressure losses than standard 16x 50 mesh resins which makes it especially useful in high flowrate applications

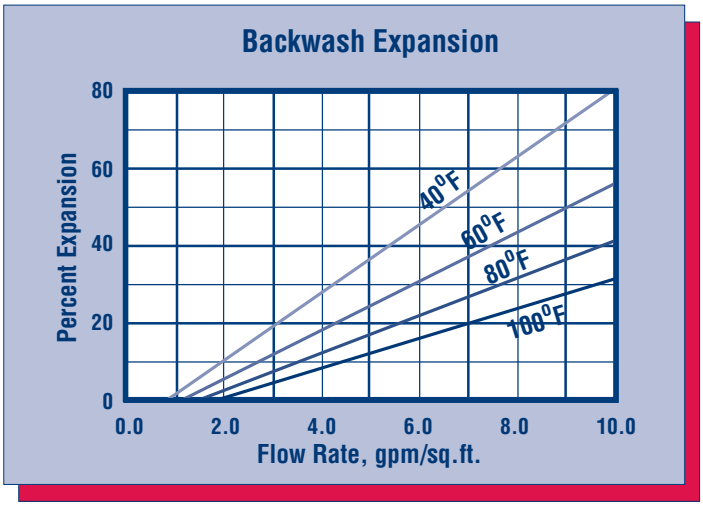
## FEATURES & BENEFITS

- **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.
- **AVAILABLE AS NSF/ANSI-61 CERTIFIED**
  WQA Gold Seal Certified when ordered as CG8-C-HP
- **HIGHLY UNIFORM PARTICLE SIZE, LOW PRESSURE DROP**
  90 percent of all beads are in the 16 to plus 30 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.

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# RESINTECH® CG8-C

## 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 | 16 to 50 |
| +16 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. |

This product has been tested and certified by the Water Quality Association according to NSF/ANSI 61 for materials safety only

## OPERATING CAPACITY

The Sodium cycle operating capacity of *RESINTECH CG8-C* 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-C* 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-C* 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.

**Material Safety 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.