RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

CG8-UPS

CATION EXCHANGE RESIN
UNIFORM PARTICLE SIZE
STRONG ACID GEL
8 % DVB, Na OR H FORM

RESINTECH CG8-UPS is a sodium form 8% crosslinked gel strong acid cation resin. *CG8-UPS* is a uniform particle size resin with high void space and low coefficient of drag. *RESINTECH CG8-UPS* is intended for use where resin uniformity is an important attribute to help reduce pressure loss or prevent strainer plugging. *CG8-UPS* is available in the sodium or hydrogen form (when ordered as *CG8-H-UPS*).

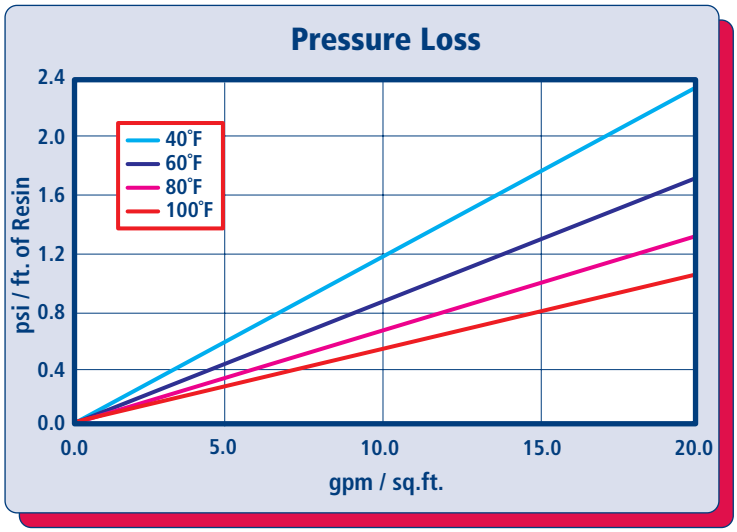
C US
NSF/ANSI 61 CERTIFIED FOR MATERIAL SAFETY
WQA Gold Seal Certified when ordered as CG8-UPS-HP

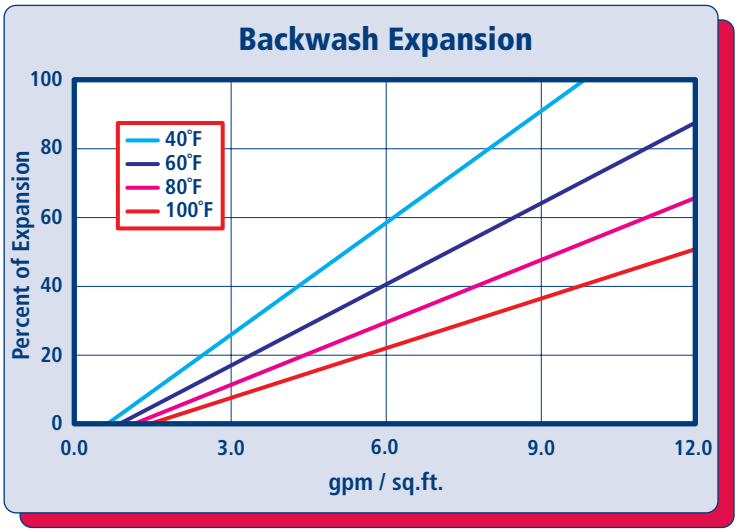
FEATURES & BENEFITS

- **HIGHLY UNIFORM PARTICLE SIZE**
  20 to 40 mesh size, provides low pressure drop and superior kinetics
- **LOW COLOR THROW**
- **SUPERIOR PHYSICAL STABILITY**
  95% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop
- **COMPLIES WITH US FDA REGULATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

NSF/ANSI-61 compliance requires conditioning with a minimum 20 bed volume rinse prior to first use.

HYDRAULIC PROPERTIES





PRESSURE LOSS

The graph above shows the expected pressure loss of *ResinTech CG8-UPS* per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH

The graph above shows the expansion characteristics of *ResinTech CG8-UPS* as a function of flow rate at various temperatures.

1801 Federal Street • Camden, NJ 08105 USA • p: 856.768.9600 • f: 856.768.9601• e: info@resintech.com • w: resintech.com

RESINTECH® CG8-UPS

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Gel
Functional Group	Sulfonic Acid
Physical Form	Spherical beads
Ionic Form as shipped	Sodium or Hydrogen
Total Capacity	
Hydrogen form	>1.8 meq/mL
Sodium form	>2.0 meq/mL
Water Retention	
Hydrogen form	47 to 56 percent
Sodium form	42 to 49 percent
Approximate Shipping Weight	
Hydrogen form	50 lbs./cu.ft.
Sodium form	52 lbs./cu.ft.
Swelling, Na to H	5 to 9 percent
Screen Size Distribution (U.S. mesh)	20 to 40
Maximum Fines Content (<50 mesh)	0.5 percent
Minimum Sphericity	95 percent
Uniformity Coefficient	1.15 approx.
Resin Color	Amber

Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	
Hydrogen form	265˚F
Sodium form	280˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	0 to 14 SU
Regenerant Concentration	
Hydrogen cycle	5 to 10 percent HCl
Hydrogen cycle	1 to 8 percent H_2SO_4
Salt cycle	10 to 15 percent NaCl
Regenerant level	4 to 15 lbs./cu.ft.
Regenerant flow rate	0.5 to 1.5 gpm/cu.ft.
Regenerant contact time	>20 minutes
Displacement flow rate	Same as dilution water
Displacement volume	10 to 15 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	1 to 10 gpm/cu.ft.

Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.
For operation outside these guidelines, contact ResinTech Technical Support

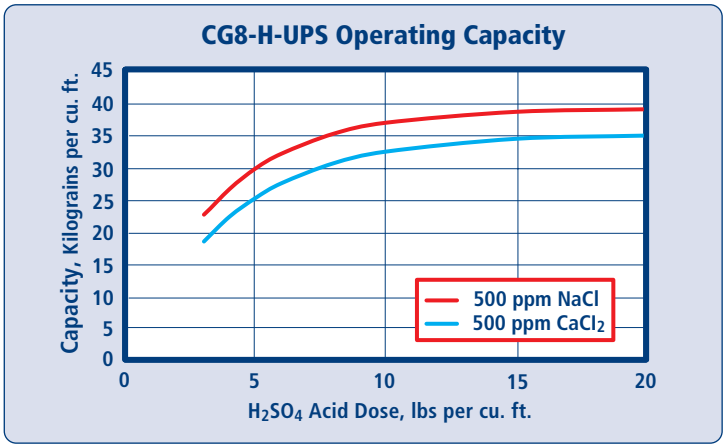
APPLICATIONS

SOFTENING

RESINTECH CG8-UPS is an 8% crosslinked cation resin optimized for industrial softening applications. CG8-UPS has higher total capacity than standard crosslinked resins such as CGS and has higher operating capacity when relatively large brine doses are used during regeneration. CG8-UPS is suitable for hot water applications and for waters that contain modest levels of chlorine.

DEMINERALIZATION

RESINTECH CG8-H-UPS can be used as the cation component in a variety of demineralization applications where a hydrogen form cation resin is coupled with a hydroxide form anion resin. Common configurations include separate beds, mixed beds and other more complicated arrangements. Regeneration is accomplished with stepwise sulfuric acid or with hydrochloric acid.



Capacity based on 500 ppm of stated salt (as $CaCO_3$) with 0% alkalinity, 36 in. bed depth, flow rate of 2 to 4 gpm per cu. ft. and >30 min. chemical injection time. Sulfuric acid concentration must be stepwise when calcium concentration exceeds 20% of total cations. No engineering downgrade has been applied.

PACKED BEDS

RESINTECH CG8-UPS has a very narrow particle size range. The uniformity allows a slightly smaller bead size to be used which results in faster exchange of ions, more efficient regeneration and lower leakage. CG8-UPS is ideal for packed beds and other types of countercurrent ion exchangers where consistent operation is important cycle after cycle. Higher void space and minimal fine mesh beads provide low pressure loss and helps prevent channeling and other distribution problems. Packed beds typically have limited freeboard (only a few inches with the resin in the swollen form).