

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

## FEATURES & BENEFITS

- **MACROPOROUS STRUCTURE**

Gives greatly increased life in stressful applications where resin degradation due to thermal and oxidative effects is anticipated

- **HIGHLY UNIFORM PARTICLE SIZE**

20 to 40 mesh size, provides low pressure drop and superior kinetics

- **SUPERIOR PHYSICAL STABILITY**

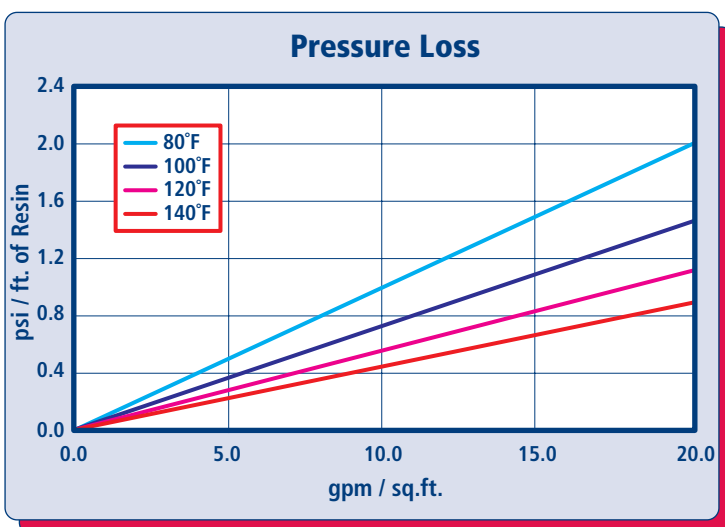
95% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop

- **COMPLIES WITH US FDA REGULATIONS**

Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

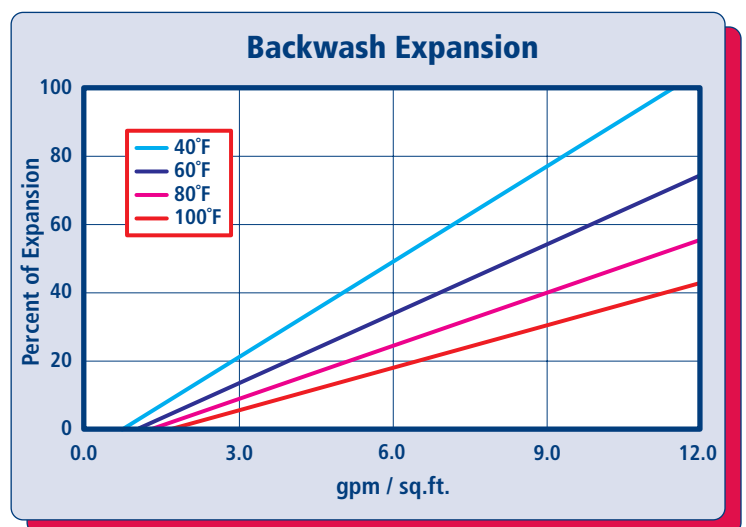
Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

## HYDRAULIC PROPERTIES



### PRESSURE LOSS

The graph above shows the expected pressure loss of ResinTech SACMP-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 SACMP-UPS as a function of flow rate at various temperatures.

## PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Macroporous
Functional Group	Sulfonic Acid
Physical Form	Spherical beads
Ionic Form as shipped	Sodium or Hydrogen
Total Capacity	
Hydrogen form	>1.65 meq/ml
Sodium form	>1.7 meq/mL
Water Retention	
Hydrogen form	50 to 60 percent
Sodium form	45 to 55 percent
Approximate Shipping Weight	
Hydrogen form	48 lbs./cu.ft.
Sodium form	50 lbs./cu.ft.
Swelling, Na to H	3 to 5 percent
Screen Size Distribution (U.S. mesh)	20 to 40
Maximum Fines Content (<50 mesh)	0.5 percent
Minimum Sphericity	98 percent
Uniformity Coefficient	1.25 approx.
Resin Color	Tan

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

## SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	
Hydrogen form	280°F
Sodium form	300°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 <sub>2</sub> SO <sub>4</sub>
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 15 gpm/cu.ft.

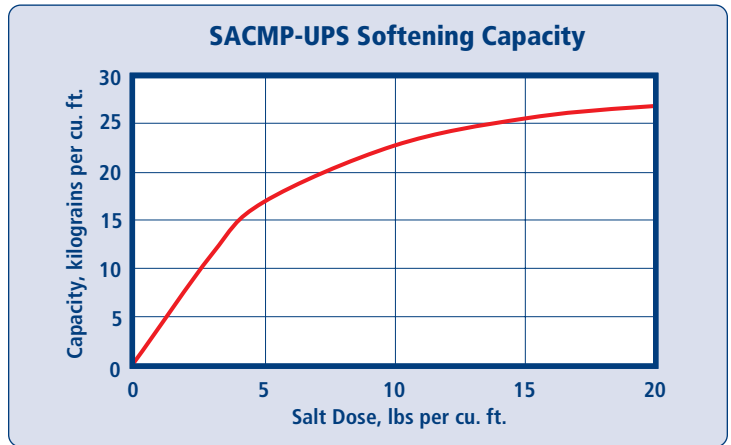
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.

For operation outside these guidelines, contact ResinTech Technical Support

## APPLICATIONS

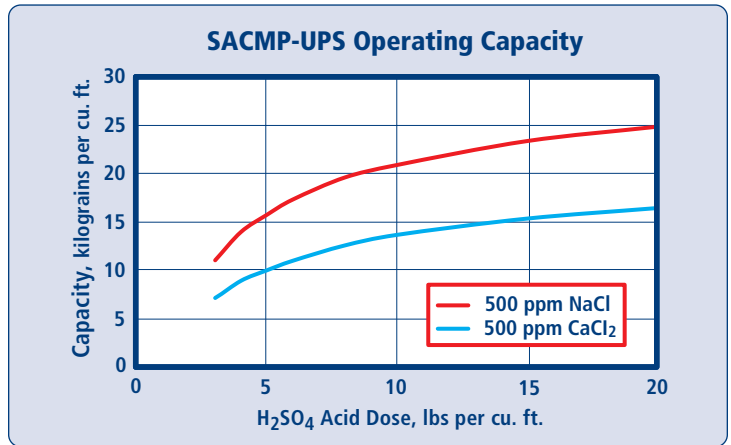
### SOFTENING

RESINTECH SACMP has somewhat lower total capacity and lower regeneration efficiency than gel cation resins. SACMP provides long service life in high stress applications such as softening waters at up to 300°F where other cation resins would rapidly fail.



### DEMINERALIZATION

RESINTECH SACMP-H-UPS can be used in a variety of demineralization configurations. SACMP-H-UPS is ideal for high flow rate polishers and where high resistance to mechanical, thermal, and oxidative stress is required.



Capacity based on 500 ppm of stated salt (as CaCO<sub>3</sub>) 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 SACMP-UPS has a very narrow particle size range. This allows a slightly smaller bead size to be used which results in faster exchange of ions, more efficient regeneration and lower leakage. SACMP-UPS is ideal for packed beds and other types of countercurrent ion exchangers where consistent operation is important cycle after cycle.