SBG2

ANION EXCHANGE RESIN
TYPE TWO GEL
Cl OR OH FORM

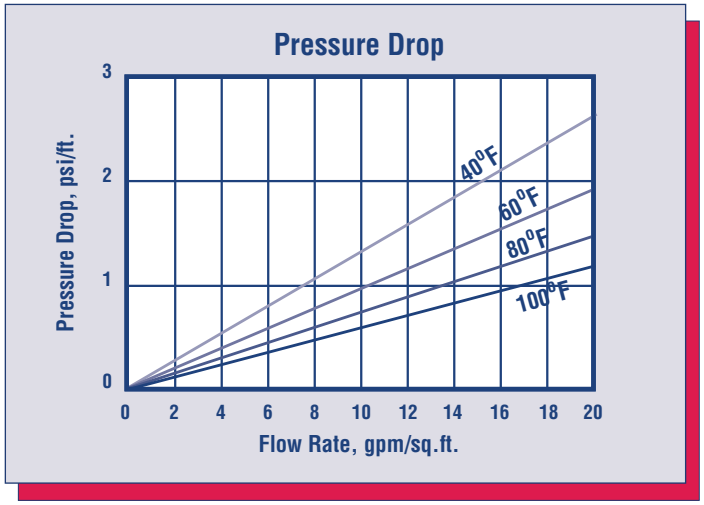
RESINTECH SBG2 is a high capacity, gelular, Type Two strongly basic anion exchange resin supplied in the chloride form as moist, tough, uniform spherical beads. It provides superior regeneration efficiency and greater resistance to organic fouling than Type One strongly basic anion exchange resins. *RESINTECH SBG2* is intended for use in all types of dealkalization, deionization and chemical processing applications.

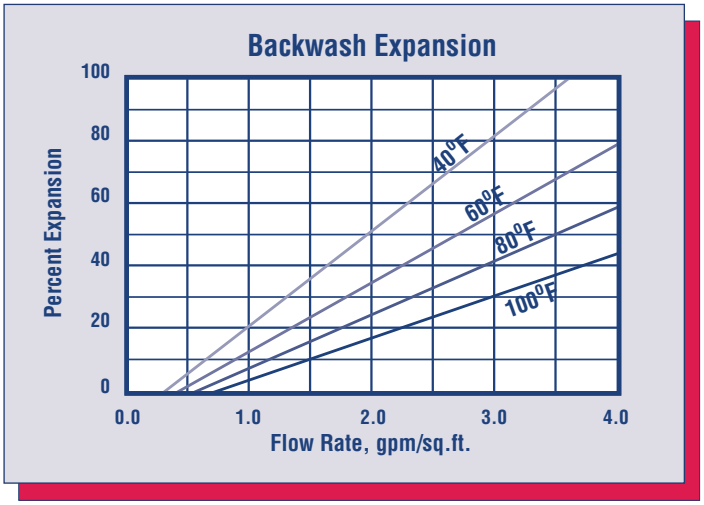
FEATURES & BENEFITS

- **HIGH OPERATING CAPACITY**
  The high regeneration efficiency of ResinTech SBG2 equates to higher throughputs per pound of regenerant chemical.
- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS**
  Conforms to paragraph 21 CFR173.25 of the Food Additives Regulations of the F.D.A.*
- **SUPERIOR PHYSICAL STABILITY**
  93% plus sphericity combined with high crush strengths and uniform particle size provide greater resistance to bead breakage. This results in longer resin life and lower pressure drop.
- **ORGANIC FOULING RESISTANCE**
  Type Two exchange functionality provides a dramatic increase in resistance to organic fouling compared to other types of strongly anion exchangers.

* 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 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. The graph below shows the expansion characteristics of *RESINTECH SBG2*, in the chloride form.

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RESINTECH® SBG2

PHYSICAL PROPERTIES

Polymer Structure	Styrene cross-linked with DVB
Functional Group	$R^{-}N^{-}(CH_3)_2\ C_2H_5OH^{+}\ X^{-}$
Ionic Form, as shipped	Chloride
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 2 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to 14
Sphericity	> 93 Percent
Uniformity Coefficient	Approx. 1.7
Water Retention Cl Form	37 to 45percent
Solubility	Insoluble
Approximate Shipping Weights	
Chloride Form	44lbs/cu.ft.
Hydroxide Form	41lbs/cu.ft.
Swelling... Cl– to OH– Form	10 to 15 percent
Total Capacity	> 1.45 meq / mL

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Hydroxide Form	95º F
Salt Form (Cl)	170º F
Minimum Bed Depth	24 inches
Backwash Rate	50 to75percent Bed Expansion
Regenerant Concentration*	2 to 6 percent
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	At least 60 Minutes
Regenerant Level	4 to 10 lbs/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gal/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gal/cu.ft.
Service Flow Rate	2 to 4 gpm/cu.ft.

OPERATING CAPACITY

The operating capacity of *RESINTECH SBG2* for acid removal at various regeneration levels when treating an influent of 500 ppm of HCl, as $CaCO_3$, is shown in the following table.:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
4	21.0
6	22.5
8	23.5
10	24.4
12	24.9

The salt splitting capacity of *RESINTECH SBG2*, at various regeneration levels, based on an influent water containing 500 ppm of NaCl, as $CaCO_3$, is shown in the following table:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
4	19.5
6	20.7
8	21.6
10	22.2
12	22.6

APPLICATIONS

DEMINERALIZATION –
RESINTECH SBG2 is generally used in both multiple bed systems where its tremendous operating capacity is best utilized. Its use should be re-stricted to where water temperatures are less than 85°F and carbon diox-ide plus silica do not exceed 30% of the exchangeable anions.

In waters where natural organics are found, Type Two resins such as *RESINTECH SBG2* will retain their original operating capacity longer than Type One resins, such as ResinTech SBG1P, operating at similar regeneration levels.

RESINTECH SBG2 is less susceptible to becoming fouled by naturally occurring organics and can often be used alone as a "working resin" on waters that would normally require extensive pretreatment or an organic scavenger ahead of the demineralizer.

DEALKALIZATION –
RESINTECH SBG2 can be regenerated with sodium chloride and used to remove alkalinity. A small amount of sodium hydroxide can be mixed with the salt to obtain a higher operating capacity. A regeneration level of 5 pounds of salt mixed with 0.25 pound of caustic per cubic foot will provide an operating capacity of up to 15 Kgrs. per cubic foot on waters containing 100% bicarbonate alkalinity.

OTHER APPLICATIONS

NITRATE REMOVAL – *RESINTECH SBG2* can be used in the chloride cycle to reduce nitrates. Consult our technical department for detailed information. Performance comparisons are available between *RESINTECH SBG2* and ResinTech SIR-100 (nitrate selective).

OXYGEN REMOVAL – *RESINTECH SBG2* can also be supplied in the sulfite salt form for remov-ing oxygen from demineralized or distilled water. Consult our technical department for detailed information.

***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.

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