

SPECIALTY RESIN



PROSELECT™ NITRATE

ProSelect™ Nitrate (P/N 20002) represents one of the newest advancements in ion exchange technology. This is one of the first resins to be preferential to nitrates over sulfates and other ions in the water. It removes and then holds onto nitrates so they aren't dumped back into the water supply. This makes ProSelect Nitrate the perfect choice to solve nitrate contamination problems in well water applications.

FEATURES

- Highest operating capacity of any nitrate selective resin
- Highly uniform particle size
- Low pressure drop, superior kinetics
- Superior physical stability
- Low sulfate selectivity and high operating capacity
- Certified to NSF/ANSI Standard 61

Physical Properties

Polymer StructureStyrene with DVB
 Functional GroupR-N-R₃+Cl⁻
 Ionic Form, as shippedChloride
 Physical FormTough, spherical beads
 Screen Size Distribution16 to 50 nominal
 +16 mesh (U.S. Std.)5% maximum
 -40 mesh (U.S. Std.)2% maximum
 -50 mesh (U.S. Std.)1% maximum
 pH Range0 to 14
 Sphericity95% minimum
 Water Retention
 Chloride Form52 to 60%
 SolubilityInsoluble
 Approximate Shipping Weight
 Chloride Form42 lbs/cu.ft.
 Swelling Cl⁻ to OH⁻ Form12% approximate
 Total Capacity
 Chloride Form0.85 meq/ml min

Note: These suggestions and data are based on information we believe to be reliable. However, we do not make any guarantee or warranty. We caution against using these products in any unsafe manner or in violation of any patents. Further, we assume no liability for the consequences of any such actions.

Suggested Operating Conditions

Maximum Temperature
 Chloride Form170°F (77°C)
 Minimum Bed Depth24 inches
 Backwash Rate (see next page)
 50% Bed Expansion @ 60°F1.8 gpm/sq.ft.
 Regenerant Concentration [†]2%
 Regenerant Flow Rate0.25 to 1.0 gpm/cu.ft.
 Regenerant Contact Time30 minutes minimum
 Regenerant Level2 to 15 lbs/cu.ft.
 Displacement Rinse RateSame as Regenerant
 Flow Rate
 Displacement Rinse Volume10 to 15 gal/cu.ft.
 Fast Rinse RateSame as Service Flow
 Rate
 Fast Rinse Volume35 to 60 gal/cu.ft.
 Service Flow Rate2 to 4 gpm/cu.ft.
 Pressure DropSee next page

Operating Capacity

The operating capacity of ProSelect Nitrate for nitrate removal at various regeneration levels when treating an influent with a concentration of 500 ppm, as CaCO₃, is shown in the following table.

Pounds NaCl/cu.ft.	Capacity, Kilograins/cu.ft. as CaCO ₃			
	0%	25%	50%	75%
5	9.2	8.4	7.7	7.1
10	11.2	10.2	9.4	8.7
15	12.1	11.0	10.1	9.4
20	12.6	11.5	10.5	9.8

Above capacities are based on the following water analysis:

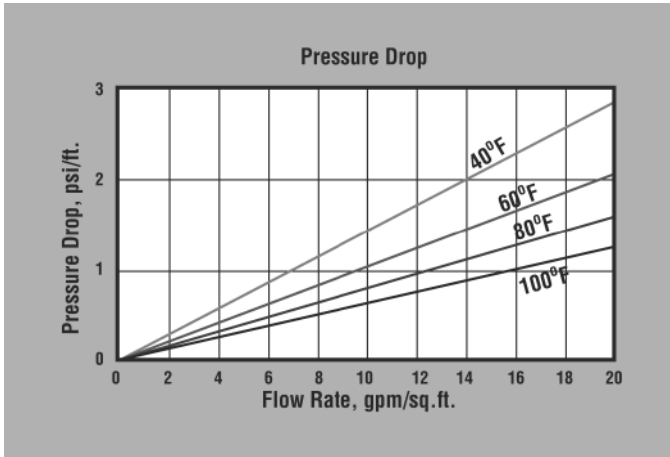
Cl⁻/HCO₃⁻ = 1:1 NO₃ = 100 ppm as CaCO₃

† CAUTION: DO NOT MIX ION EXCHANGE RESINS 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.

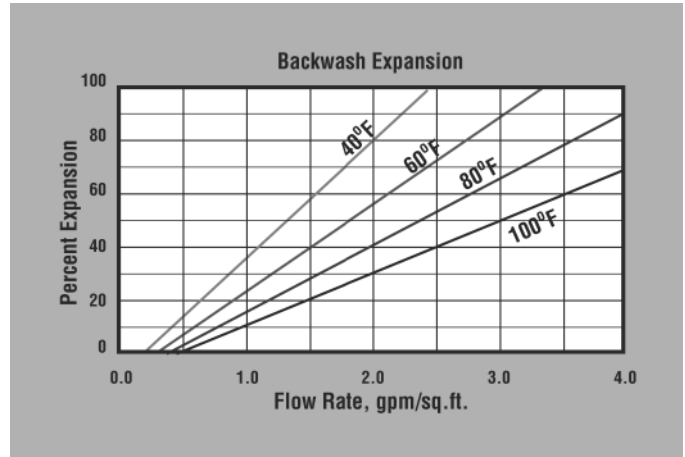
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PRESSURE DROP — The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.



BACKWASH — After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of ProSelect™ Nitrate in the chloride form.