SIR-100

Grade: Standard

Nitrate selective, strong base anion, styrene/DVB macroporous, chloride form

ResinTech SIR-100 is a chloride form macroporous nitrate selective strong base anion resin. Its unique functionality increases the selectivity for nitrate and decreases selectivity for sulfate, often resulting in higher operating capacity and lower leakage than type 1 or type 2 anion resins. SIR-100 is intended for the removal of nitrate and/or perchlorate from otherwise potable water.

FEATURES & BENEFITS

- Highest operating capacity efficient brine regeneration
- Low sulfate selectivity
- Superior physical stability
- Controlled particle size

APPLICATIONS

- Cartridge Applications
- Nitrate Removal
- Perchlorate Removal

PHYSICAL PROPERTIES

Polymer Matrix	Styrene/DVB
Polymer Type	Macroporous
Ionic Form (as shipped)	Chloride (Cl^-)
Functional Group	Triethylamine
Physical Form	Spherical Beads
Uniformity Coefficient	1.60
Particle Size	16-50 US mesh (297-1190µm)
< 50 mesh (300 µm) %	< 1%
Minimum Sphericity (%)	95
Reversible Swelling	$Cl \rightarrow No_3$ -5 to -10%
Capacity (meq/mL)	0.90
Moisture Retention (%)	46 to 56
Shipping Weight	40 - 42 lbs/cu.ft. (641 - 673 g/L)
Color	White to Tan
Regenerable	Regenerable

SUGGESTED OPERATING CONDITIONS

Minimum Bed Depth	24 in. (61.0 cm)	Flow Rate	
Operating pH Range	4.0 to 10.0	Working Service	1-4 gpm/cu.ft. (8-32 BV/h)

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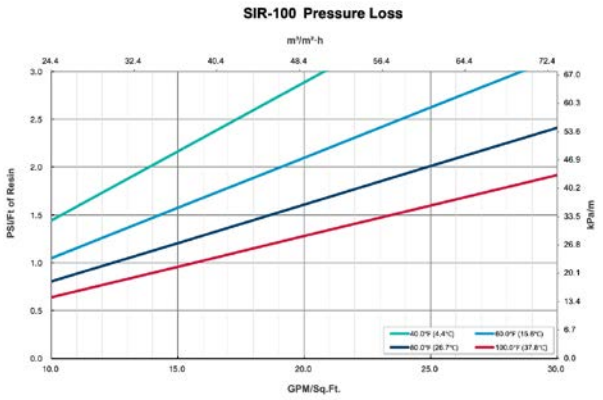
REGENERATION DETAILS

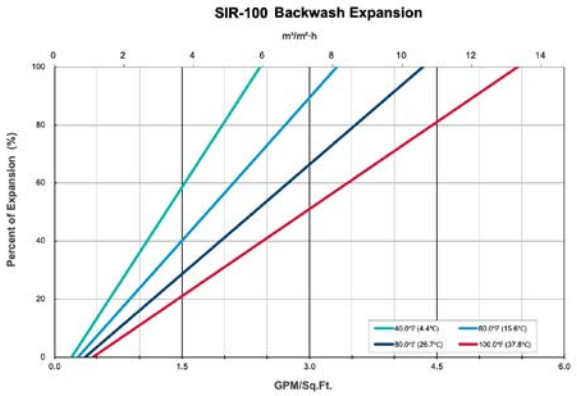
Salt Cycle (NaCl)	10 to 15%	Displacement Flow Rate	Same as dilution water
Regenerant Level	3-10 lbs/cu.ft. (48.1-160.2 g/L)	Displacement Volume	10-15 gals/cu.ft. (1-2 BV)
Regenerant Flow Rate	0.25-1.0 gpm/cu.ft. (2-8 BV/h)	Rinse Flow Rate	Same as service flow
Regenerant Contact Time	> 30 minutes	Rinse Volume	35-60 gals/cu.ft. (5-8 BV)

PRESSURE LOSS



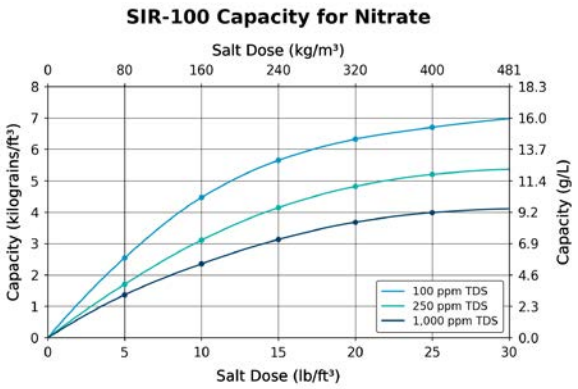
The graph above shows the expected pressure loss of ResinTech SIR-100 per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH EXPANSION

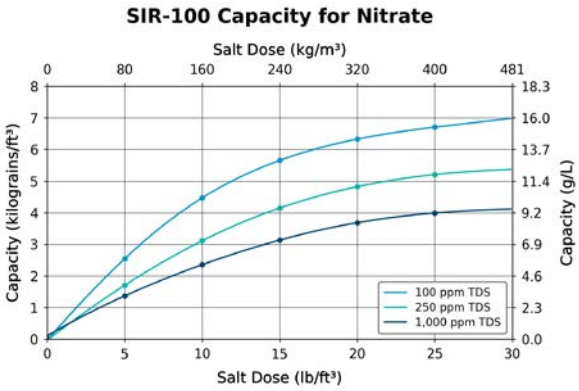


The graph above shows the expansion characteristics of ResinTech SIR-100 as a function of flow rate at various temperatures.

CAPACITY



Capacity and leakage data are based on the following: 2:1 Ca:Mg ratio, 500 ppm TDS as CaCO3, 0.2% hardness in the salt and 10% brine concentration applied co-currently through the resin over 30 minutes. No engineering downgrade has been applied.



Capacity and leakage based on 10% NO3 and 40% SO4 in the feed and 35.7 ppm NO3 endpoint (all as CaCO3). Capacity and leakage are for nitrate alone. TDS is for total anions as CaCO3. No engineering downgrade has been applied.

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NITRATE REMOVAL

ResinTech **SIR-100** is used in the chloride form to remove nitrates from potable water. It has a unique amine functional group that eliminates the possibility of nitrate dumping. **SIR-100** has reduced affinity for sulfate which provides high operating capacity and efficient regeneration. When treating waters with high hardness the brine dilution and displacement waters should be softened and a low hardness salt used to prevent scaling.

CERTIFICATIONS

Meets NSF/ANSI/CAN 61

Meets NSF/ANSI/CAN 372

PACKAGING

Standard

1 cu.ft. Bag | 7 cu.ft. Drum
200L Drum | 25L Bag

Metric

42 cu.ft. Supersack | 5 cu.ft. Drum
1000L Supersack | 140L Drum

Shipping Weight

40 - 42 lbs/cu.ft. (641 - 673 g/L)

MATERIAL SAFETY DATA SHEETS (MSDS)

Material Safety Data Sheets (MSDS) are available for all products on the ResinTech website. They contain important health and safety information that 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.

Safety Data Sheets (SDS) are available at resintech.com

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