

RESINTECH SIR-100-HP is a chloride form macroporous nitrate selective strong base anion resin. SIR-100-HP has a unique functionality that increases selectivity for nitrate and decreases selectivity for sulfate. This results in higher operating capacity, lower leakage, and freedom from nitrate dumping if operated past sulfate break. SIR-100-HP is intended for all nitrate removal applications, and can also be used to remove perchlorate. SIR-100-HP is supplied in the chloride form.



**NSF/ANSI-61 CERTIFIED FOR
MATERIAL SAFETY**

FEATURES & BENEFITS

- **HIGHEST OPERATING CAPACITY AND EFFICIENT BRINE REGENERATION**

Unique amine functional group provides the highest possible operating capacity

- **LOW SULFATE SELECTIVITY**

Eliminates the possibility of nitrate dumping

- **SUPERIOR PHYSICAL STABILITY**

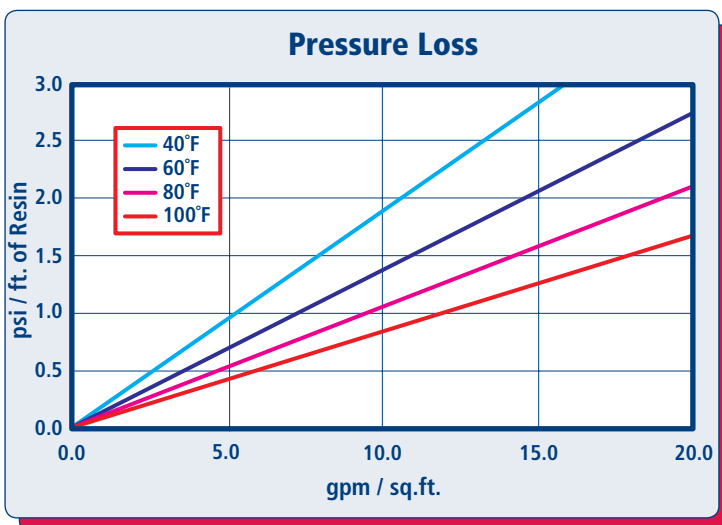
95% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop

- **CONTROLLED PARTICLE SIZE**

16 to 50 mesh size provides a low pressure drop and superior kinetics

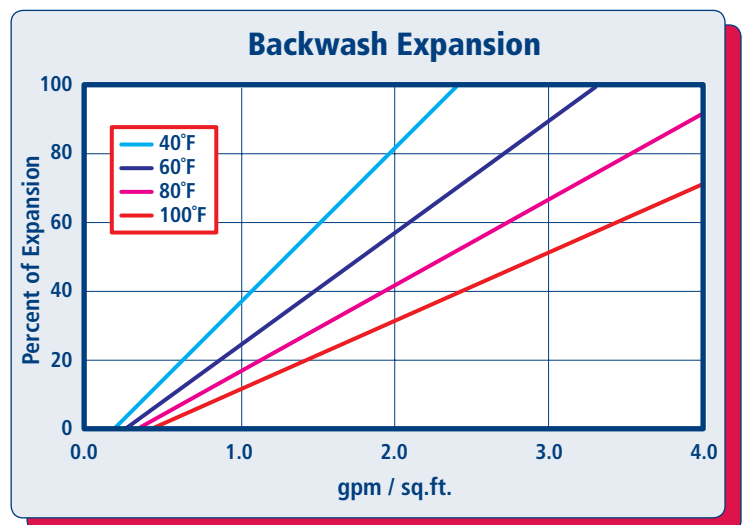
Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES



PRESSURE LOSS

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



BACKWASH

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

RESINTECH® SIR-100-HP

PHYSICAL PROPERTIES

| | |
|--|------------------|
| Polymer Structure | Styrene/DVB |
| Polymer Type | Macroporous |
| Functional Group | Triethylamine |
| Physical Form | Spherical beads |
| Ionic Form as shipped | Chloride |
| Total Capacity Chloride form | ≥ 0.9 meq/mL |
| Water Retention Chloride form | 46 to 56 percent |
| Approximate Shipping Weight Chloride form | 41 lbs./cu.ft. |
| Screen Size Distribution (U.S. mesh) | 16 to 50 |
| Maximum Fines Content (<50 mesh) | 1 percent |
| Minimum Sphericity | 95 percent |
| Uniformity Coefficient | 1.6 approx. |
| Resin Color | White to tan |

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

SUGGESTED OPERATING CONDITIONS

| | |
|---|-------------------------|
| Maximum continuous temperature Chloride form | 170°F |
| Minimum bed depth | 24 inches |
| Backwash expansion | 25 to 50 percent |
| Maximum pressure loss | 20 psi |
| Operating pH range | 4 to 10 SU |
| Regenerant Concentration Salt cycle | 5 to 10 percent NaCl |
| Regenerant level | >10 lbs/cu.ft. |
| Regenerant flow rate | 0.25 to 1.0 gpm/cu.ft. |
| Regenerant contact time | >30 minutes |
| Displacement flow rate | Same as dilution flow |
| 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 Average flow | 1 to 4 gpm/cu.ft. |
| Peak Flow | <10 gpm/cu.ft. |

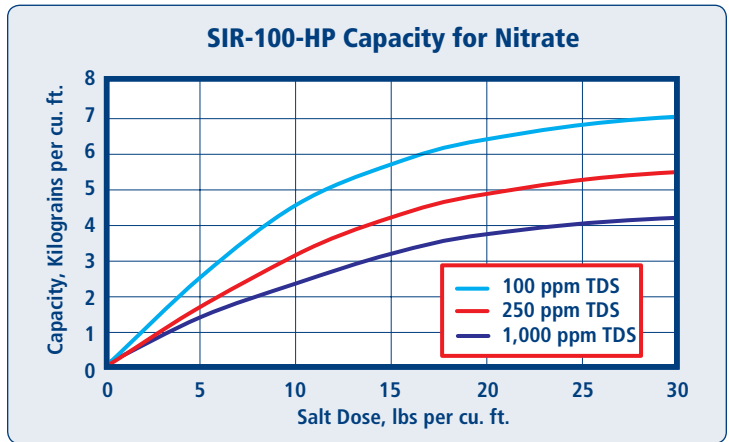
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.

For operation outside these guidelines, contact ResinTech Technical Support

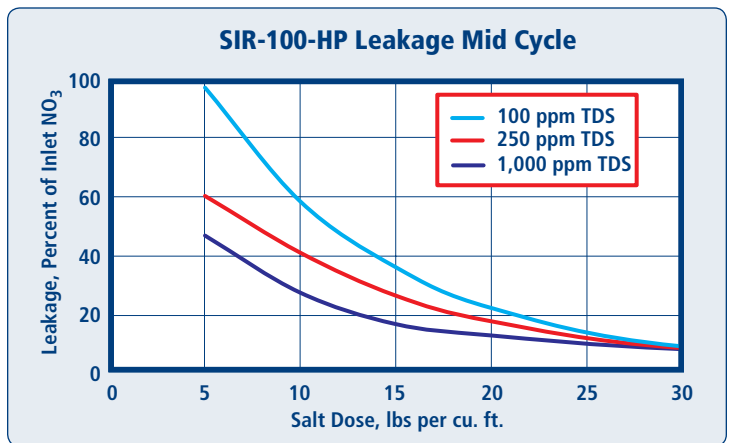
APPLICATIONS

NITRATE REMOVAL

RESINTECH SIR-100-HP 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-HP 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.



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.



PERCHLORATE REMOVAL

ResinTech SIR-100-HP can be used for the removal of perchlorate from groundwater supplies. The perchlorate ion is so strongly attracted that in some cases it makes regeneration impractical.



East Coast - West Berlin, NJ p:856.768.9600 • Midwest - Chicago, IL p:708.777.1167 • West Coast - Los Angeles, CA p:323.262.1600

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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