

RSM-50-HP

Radium selective hybrid media, strong acid cation, styrene/DVB macroporous, high purity, sodium form

ResinTech RSM-50-HP is a sodium form macroporous highly crosslinked hybrid strong acid cation resin. It is WQA Gold Seal Certified for use in potable water applications. Barium sulfate is monoatomically dispersed into the polymer resulting in a very long throughput capacity for radium on a one-time basis. RSM-50-HP is intended for radium removal from otherwise potable waters that contain modest concentrations of sulfate and neutral pH.



FEATURES & BENEFITS

- Enhanced Radium Capacity
- Intended For Single Use
- Superior Physical Stability
- Complies With US FDA Regulations

APPLICATIONS

- Radium Removal



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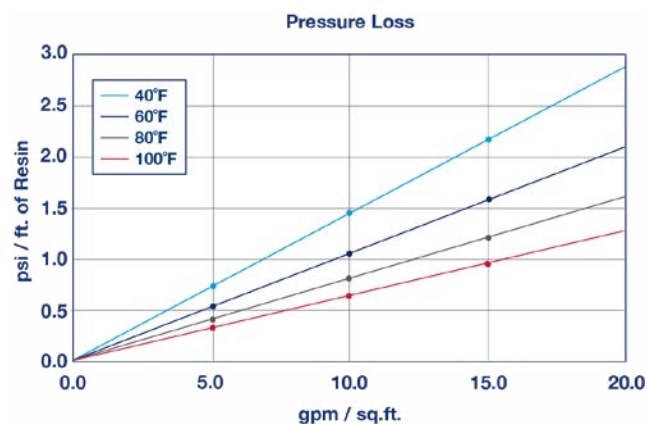
Meets NSF/ANSI/CAN 61

Meets NSF/ANSI/CAN 372

RSM-50-HP

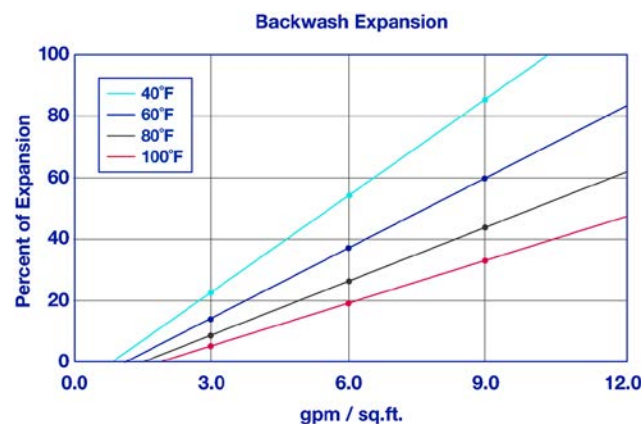
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|----------------------------|---------------------------|------------------------|------------------------------------|
| Polymer Matrix | Styrene/DVB | Minimum Sphericity (%) | 95 |
| Polymer Type | Macroporous | Reversible Swelling | 3 to 5% (Na → Ca) |
| Ionic Form (as shipped) | Sodium (Na ⁺) | Uniformity | Gaussian |
| Functional Group | Hybrid | Uniformity Coefficient | 1.60 |
| Physical Form | Spherical Beads | Capacity (meq/mL) | 1.80 |
| Particle Size US Mesh (µm) | 16 (1190) to 50 (297) | Moisture Retention (%) | 40 to 50 |
| < 50 mesh (300 µm) % | < 1% | Shipping Weight | 59 - 61 lbs/cu.ft. (945 - 977 g/L) |
| | | Color | Tan to Brown |

PRESSURE LOSS



The graph above shows the expected pressure loss of ResinTech RSM-50-HP 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 RSM-50-HP as a function of flow rate at various temperatures.

SUGGESTED OPERATING CONDITIONS

| | | | |
|------------------------|------------------|--------------------|-----------------------------|
| Maximum Temperature | 250°F (121°C) | Operating pH Range | 4.0 to 10.0 |
| Minimum Bed Depth | 24 in. (61.0 cm) | Flow Rate | |
| Maximum Pressure Loss | 25 psi (172 kPa) | Working Service | 1-10 gpm/cu.ft. (8-80 BV/h) |
| Backwash Expansion (%) | 25 to 50 | | |



RADIUM REMOVAL

ResinTech **RSM-50-HP** is a specially prepared potable water grade sodium form cation exchanger with barium sulfate precipitated inside the gel phase and in the pores of the polymer. **RSM-50-HP** acts as a hybrid combining ion exchange and adsorbent properties. Radium ions in water are preferentially exchanged. Once inside **RSM-50-HP**, radium replaces barium in the barium sulfate precipitant and barium is released back onto the ion exchange groups. The hybrid properties give **RSM-50-HP** greatly increased life for radium removal over ordinary cation exchangers.

TYPICAL SYSTEM CONFIGURATIONS

Municipal systems may be provided with single or multiple tank systems as needed to provide the necessary flow rate. Residential systems that are infrequently monitored should include two tanks in series so that monitoring for radiation can be performed in between the worker tank and the polisher tank. In either case, it is suggested the radium removal tanks be followed by a carbon filter to capture any radon produced (as the radium adsorbed by the ResinTech **RSM-50-HP** continues to decay). Radium removal systems can become substantially radioactive during use. Care must be taken to limit the treatment life of the resin to ensure that radioactivity levels do not exceed thresholds for safe handling and disposal of the spent media. Spent resins and tanks should be disposed of safely according to applicable state and federal regulations.

PREFILTRATION

Pre-filtration for suspended solids removal is usually advisable ahead of the ResinTech **RSM-50-HP** system. Ion exchange resins are good filtration medias and suspended solids present in the feed water will likely be trapped within the resin bed. **RSM-50-HP** remains in service for months or years without regeneration, thus even a low level of suspended solids can accumulate in the resin bed over time.

REGENERATION DETAILS

Rinse Volume -60 gals/cu.ft. (-8 BV)

PACKAGING

Standard

1 cu.ft. Bag | 7 cu.ft. Drum
5 cu.ft. Drum | 42 cu.ft. Supersack

Metric

140L Drum | 1000 L Supersack

SAFETY DATA SHEETS (SDS)

Safety Data Sheets (SDS) 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](https://www.resintech.com)

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