SIR-110-HP

Grade: High Purity

PFAS & Perchlorate selective, strong base type 1 anion, styrene/DVB gel, high purity, buffered chloride form

ResinTech SIR-110-HP is a buffered chloride form perchlorate, nitrate, and PFAS selective gel strong base anion resin. The HP designation means it is Gold Seal Certified by the WQA for use in potable water applications. The buffered chloride form mitigates the pH drop at startup. Its unique functionality greatly increases the selectivity for nitrate while greatly decreasing the interference from sulfate ions. SIR-110-HP is recommended for the removal of perchlorate, nitrate, and most PFAS compounds.

FEATURES & BENEFITS

- Buffered Chloride form for pH control
- Highest Operating Capacity
- Low Sulfate Selectivity
- Superior Physical Stability
- Controlled Particle Size

APPLICATIONS

- Drinking Water Purification
- Cartridge Applications
- Iodide Removal
- Nitrate Removal
- Pertectnetate Removal
- Perchlorate Removal
- PFAS Removal
- DBP
- General Properties
- Potable Water

PHYSICAL PROPERTIES

Polymer Matrix	Styrene/DVB
Polymer Type	Gel
Ionic Form (as shipped)	Buffered Chloride (Cl^-)
Functional Group	Tributylamine
Physical Form	Spherical Beads
Uniformity Coefficient	1.60
Particle Size	20-50 US mesh (297-841µm)
< 50 mesh (300 µm) %	< 1.5%
Minimum Sphericity (%)	90
Reversible Swelling	$Cl \rightarrow No_3$ -5 to -10%
Capacity (meq/mL)	0.80
Moisture Retention (%)	35 to 50
Shipping Weight	40 - 42 lbs/cu.ft. (641 - 673 g/L)
Color	White to Tan
Regenerable	Regenerable

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SUGGESTED OPERATING CONDITIONS

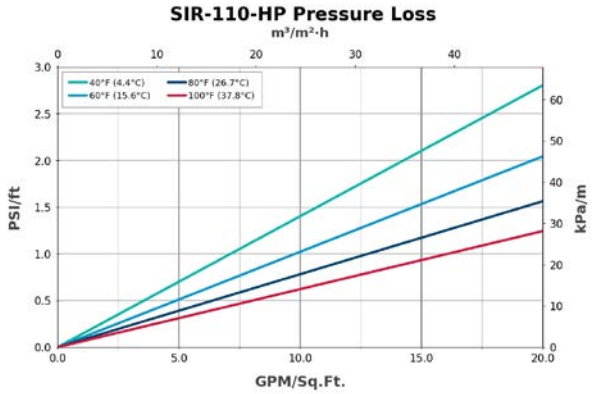
Maximum Temperature	250°F (121°C)
Minimum Bed Depth	24 in. (61.0 cm)
Maximum Pressure Loss	20 psi (138 kPa)
Operating pH Range	4.0 to 10.0
Flow Rate	
Working Service	1-3 gpm/cu.ft. (8-24 BV/h)
PFAS	2.0-4.0 gpm/cu.ft. (16-32 BV/h)

REGENERATION DETAILS

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

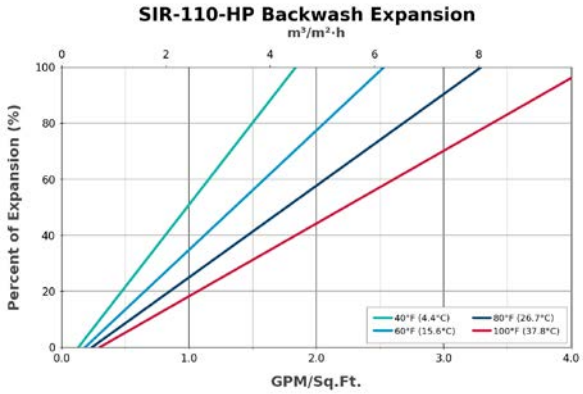
***Note:** NaCl Regeneration applicable for Nitrate Removal applications only. Media is not regenerable when used to remove Perchlorate and PFAS.

PRESSURE LOSS



The graph above shows the expected pressure loss of ResinTech SIR-110-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 SIR-110-HP as a function of flow rate at various temperatures.

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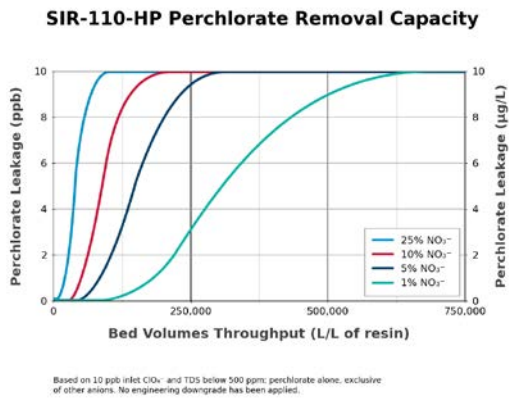
CAPACITY



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.

PERCHLORATE REMOVAL

ResinTech **SIR-110-HP** is ideal for single use perchlorate removal applications and is a cost effective method to remove trace levels of these contaminants from water. These compounds are very strongly attracted to the ResinTech **SIR-110-HP**, so much so that regeneration is impractical or impossible. However, in most cases the ions can load to almost the full capacity of the resin, resulting in very long life and eliminating the need to regenerate and re-use the spent resin.

Recommended Service Flow Rate:1-3 gpm/CuFt

PFAS REMOVAL

ResinTech **SIR-110-HP** can be used for removal of various PFAS compounds, including PFOA and PFOS, from water. Currently, this is a non-regenerable application. Testing has shown it can remove a wide range of other PFAS species in addition to these compounds. Ion exchange offers the benefit of reduced contact times and longer throughputs vs. conventional activated carbon treatment. An understanding of the influent water chemistry is needed for thorough review. Levels of TOC, VOC and individual PFAS compounds are needed in addition to the basic background water chemistry (chloride, sulfate, alkalinity, etc.). Any other contaminants that may be present are also needed to determine impact on PFAS removal (uranium, perchlorate, chromate, arsenic, etc.).

Recommended Service Flow Rate: 2-4 gpm/CuFt.

IODIDE REMOVAL

ResinTech **SIR-110-HP** has much higher selectivity for iodide than other strong base anion resins (about 7 to 10 times higher). This high selectivity allows for single use removal of iodide against rather high concentrations of other ions with reasonable throughput capacity. Regeneration, although possible, is complicated, and cannot be accomplished with salt or other common regenerants.

CERTIFICATIONS

Meets NSF/ANSI/CAN 61

Meets NSF/ANSI/CAN 372

REACH Registered

RELATED FILTERS

HYS-X00-X-3612,AF-XX-3612

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)

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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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