

# PRODUCT SPECIFICATION SHEET

## MAGNA MBD-10-SC

MIXED BED

**SEMICONDUCTOR GRADE  
HIGH CAPACITY MIXED BED  
POLYSTYRENIC GEL  
H / OH FORM**

ResinTech MBD-10-SC is a 2:3 volumetric mixture of CG8-H-BL (a dark-colored hydrogen form cation resin) and SBG1-OH (a hydroxide form type 1 strong base anion resin). The SC grade means it has been functionally tested to produce > 18 megohm resistivity and under 50 ppb of TOC. MBD-10-SC is intended for use in all mixed bed deionization applications that require high resistivity and high throughput capacity.

### APPLICATIONS

- Cartridge Applications
- Portable Exchange Deionization (PEDI)
- High Temperature Applications
- In Place Regeneration

### TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS

<b>Polymer Matrix</b>	Styrenic Gel
<b>Ionic Form</b>	Hydrogen & Hydroxide
<b>Functional Group</b>	Sulfonic Acid / Trimethylamine
<b>Physical Form</b>	Spherical Beads
<b>Particle Size</b>	16 to 50 US Mesh (297 - 1190 µm)
<b>% &lt; 50 mesh (300µm)</b>	< 1%
<b>Reversible Swelling</b>	H/OH to Na/Cl -15% to -17%
<b>Temp Limit</b>	160°F (71°C)
<b>Capacity (meq/mL)</b>	0.6
<b>Moisture Retention</b>	53% to 62%
<b>Shipping Weight</b>	42 - 44 lbs/ft <sup>3</sup> (673 - 705 g/L)
<b>Color</b>	Amber & Amber
<b>Regenerability</b>	Yes

### PACKAGING OPTIONS

- 1 ft<sup>3</sup> bags
- 1 ft<sup>3</sup> boxes
- 1 ft<sup>3</sup> drums
- 7 ft<sup>3</sup> drums
- 42 ft<sup>3</sup> supersacks

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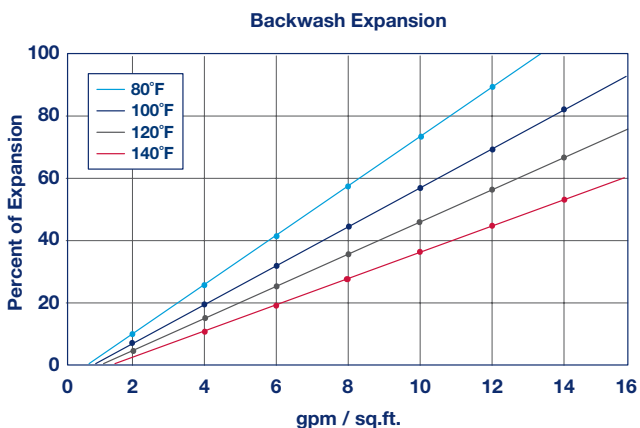
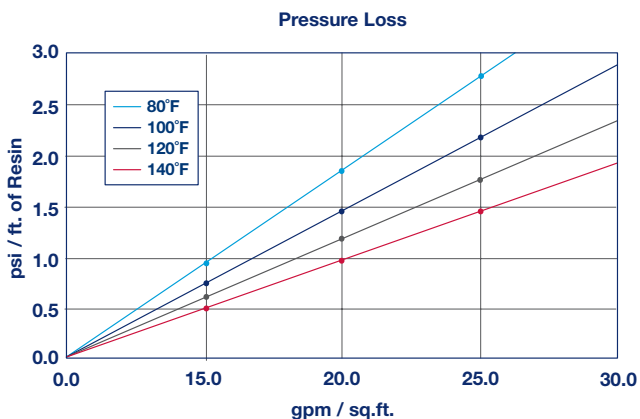


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### PORTABLE EXCHANGE DEIONIZATION (PEDI)

ResinTech MBD-10-SC can be used in PEDI applications to remove bulk TDS from raw waters or to remove trace levels of TDS following reverse osmosis or other desalination processes. MBD-10-SC can be separated into its components, CG8-H-BL and SBG1-OH, for regeneration, and reused hundreds or thousands of times. The cation component, CG8-H-BL, is black in color and provides optimized color difference from SBG1-OH. This color difference is very helpful to verify resin separation during backwash.

### THROUGHPUT CAPACITY (Gal/cu. ft.)

TDS (ppm as CaCO <sub>3</sub> ) Conductivity (uS/cm)	No CO <sub>2</sub> or SiO <sub>2</sub>	5 ppm CO <sub>2</sub> or SiO <sub>2</sub>	10 ppm CO <sub>2</sub> or SiO <sub>2</sub>
<b>2/5</b>	111,834	31,953	18,639
<b>5/12.5</b>	44,734	22,367	14,911
<b>10/25</b>	22,367	14,911	11,183
<b>20/50</b>	11,183	8,947	7,456
<b>50/125</b>	4,473	4,067	3,728
<b>100/250</b>	2,237	2,130	2,033
<b>200/500</b>	1,118	1,091	1,065
<b>500/1250</b>	447	443	439
<b>1,000/2500</b>	224	223	221

Mixed Bed throughput capacity is based on the stated inlet conductivity of neutral pH waters and run to a 1 uS/cm endpoint. TDS is based on NaCl (2.5uS/cm/ppm as CaCO<sub>3</sub>). Different salts may have different contributions to TDS. Capacity is based on the anion component and is for virgin resin. Following the initial exhaustion and regeneration subsequent cycles will likely be shorter, depending on how skillfully the resins are separated, regenerated, and remixed.

### CATRIDGE USE

ResinTech MBD-10-SC premixed mixed bed is ideal for single use cartridge applications where the longest possible throughput capacity is desired.

### SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	140°F
Maximum intermittent temperature	180°F
Minimum bed depth	24 inches
Backwash expansion	50 to 100 percent
Maximum pressure loss	25 psi
Operating pH range	2 to 12 SU
Service flow rate	
Working	1 to 5 gpm per cu. ft.
Polishing	3 to 15 gpm per 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