RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

MBD-100

MIXED BED COLOR INDICATING H/FB FORM

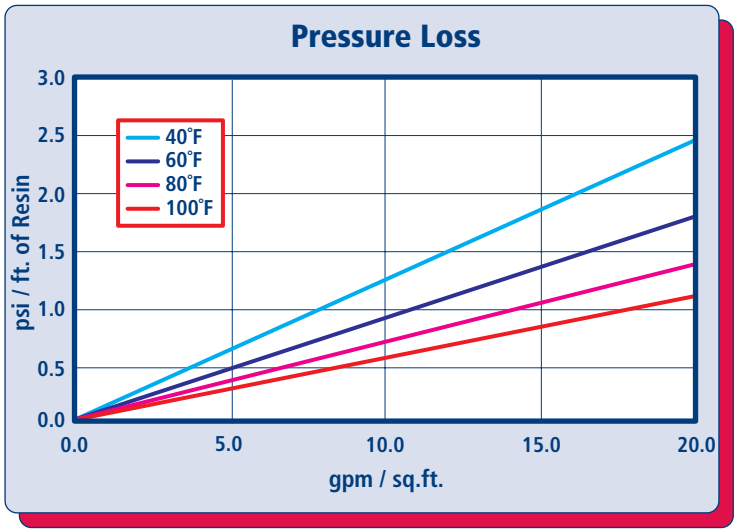
RESINTECH MBD-100 is a mixture of CG8-H-ID (a hydrogen form purple color indicating strong acid cation resin) and WBMP (a free base form macroporous weak base anion resin). *MBD-100* utilizes a macroporous weakly basic anion component for longest possible throughput in applications where carbon dioxide and silica removal is not required. *RESINTECH MBD-100* is intended for use where high resistivity is not needed, and a color indication of resin exhaustion is desired. *MBD-100* is ready to use with the cation component in the hydrogen form and the anion component in the free base form.

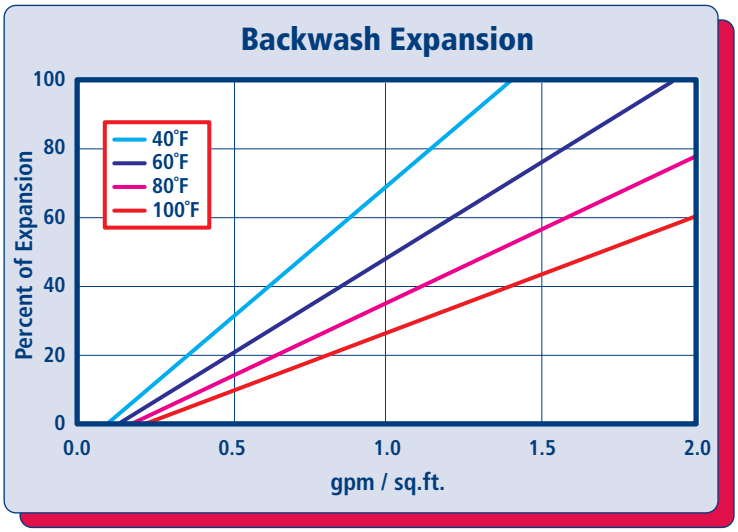
FEATURES & BENEFITS

- **HIGHEST THROUGHPUT**
  Mixture of strong acid cation and weak base anion provides high capacity for applications that do not require removal of carbon dioxide and silica
- **COLOR INDICATING RESIN**
  Color changes from royal purple to yellow as resin exhausts, providing a simple visual indication of depletion
- **DESIGNED FOR CARTRIDGE USE**
  Optimized particle size and visual indication of exhaustion make the resin an ideal product for use in clear cartridge housings
- **CONTROLLED PARTICLE SIZE**
  16 to 50 mesh size provides a low pressure drop and superior kinetics

For applications requiring very high resistivity, 10 bed volumes of rinse should be passed through the resin prior to use.

HYDRAULIC PROPERTIES





PRESSURE LOSS

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

BACKWASH

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

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RESINTECH® MBD-100

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer type	Gel
Functional Group	
Cation component	Sulfonic acid
Anion component	Tertiary Amine
Physical Form	Spherical Beads
Ionic Form as shipped	Hydrogen/Free Base
Column Capacity	>0.70 meq/mL
Volume ratio Cation/Anion	40/60 percent
Water Retention	55 to 60 percent
Approximate Shipping Weight	43 lbs per cu. ft.
Screen size distribution (U.S. Mesh)	16 to 50
Resin Color	
Cation component	Purple
Anion component	White to tan

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

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	175˚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 2 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

APPLICATIONS

MBD-100 Throughput Capacity (Gal/cu. ft.)

TDS/Conductivity (ppm as $CaCO_3$ / uS/cm)	no CO_2 or SiO_2
2/5	130,473
5/12.5	52,189
10/25	26,095
20/50	13,047
50/125	5,219
100/250	2,609
200/500	1,305
500/1250	522
1,000/2500	261

Mixed Bed throughput capacity is based on the stated inlet conductivity of neutral pH waters and run to a 50 uS/cm endpoint. MBD-100 does not remove carbon dioxide or silica. No engineering downgrade has been applied.

CARTRIDGE USE

ResinTech MBD-100 mixed bed uses a weakly basic anion exchange resin (WBMP) and a purple cation component (CG8-H-ID). MBD-100 is ideal for single use cartridge applications where the longest possible throughput capacity is desired and where silica removal and high resistivity are not needed. The cation component of MBD-100 is dyed royal purple and turns amber in color as the resin exhausts, providing a visual indication of resin life remaining. The ratio of anion to cation resin is optimized to provide balanced exchange of both cations and anions and ensure the resin changes color as it exhausts.