

DOWEX MB-50

A Ready-for-use Regenerable Mixed Bed Resin for Production of High Quality Water in Lab and Industrial Applications

Product	Resin ratio	Matrix	Functional group
DOWEX* MB-50	1.2:1 by equivalent, cation:anion	Styrene-DVB gel	Sulfonic acid, quaternary amine

Guaranteed Sales Specifications		OH ⁻ form	H ⁺ form
Total exchange capacity, min.	eq/l	1.2	1.8
	kgr/ft ³ as CaCO ₃	26.2	39.3
Water content	%	60 max.	50-56
Bead size distribution [†] :			
0.3-1.2 mm, min.	%	90	90
Conversion (OH), min.	%	90	—
Cl, max.	%	1	—

Typical Physical and Chemical Properties		OH ⁻ form	H ⁺ form
Particle density	g/ml	1.08	1.22
Shipping weight	g/l	720	720
	lbs/ft ³	45	45

Recommended Operating Conditions

- Maximum operating temperature 60°C (140°F)
- pH range 0-14
- Bed depth, min. 800 mm (2.6 ft)
- Flow rates:
 - Service/fast rinse 5-50 m/h (2-20 gpm/ft²)
 - Backwash 10-15 m/h (4-6 gpm/ft²)
 - Regeneration/displacement rinse 2-10 m/h (0.8-4 gpm/ft²)
- Total rinse requirement 3-6 Bed volumes
- Regenerant 1-8% H₂SO₄ or 4-8% HCl and 4-8% NaOH
- Operating capacity, typical 0.5 eq/l (11 kgr/ft³ as CaCO₃)
- Treated water quality, typical
 - Conductivity < 0.2 μS/cm
 - Silica 20-30 ppb

[†] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

Typical Properties and Applications

DOWEX MB-50 resin is a ready-to-use regenerable mixture of DOWEX HCR-S (H) cation exchange resin and DOWEX SBR LC NG (OH) anion exchange resin.

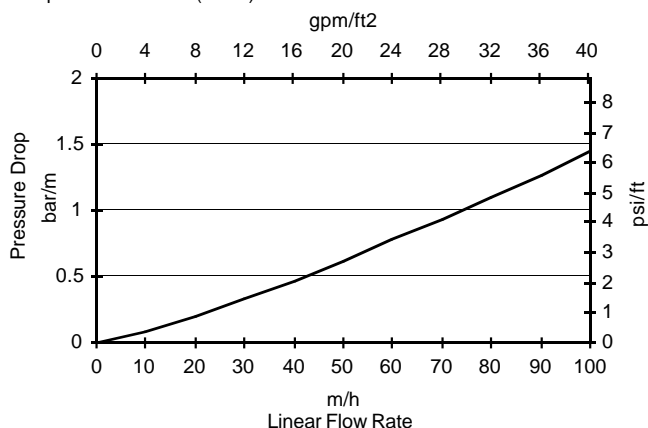
DOWEX MB-50 resin is used for production of high quality water for laboratory and industrial use.

Packaging

25 liter bags

Figure 1. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

$$P_T = P_{20^\circ\text{C}} / (0.026 T_{\text{C}} + 0.48), \text{ where } P = \text{bar/m}$$

$$P_T = P_{68^\circ\text{F}} / (0.014 T_{\text{F}} + 0.05), \text{ where } P = \text{psi/ft}$$

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Warning: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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