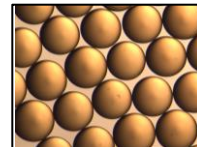


**DOWEX MARATHON™ 1300 H Ion Exchange Resin**

Uniform Particle Size, Strong Acid Cation Exchange Resin for Industrial Demineralization Applications

Description

DOWEX MARATHON™ 1300 H Ion Exchange Resin is designed for water utility operators and power plant chemists who are concerned with achieving maximum water and chemical efficiency. The polymer density and particle size of the resin have been designed to operate with DOWEX MARATHON 8300 in new and retrofitted layered beds.



Additionally, DOWEX MARATHON 1300 H can be used in working and polishing mixed beds when very low sodium leakage and conductivity is a chief concern.

Typical Physical and Chemical Properties**

Matrix	Styrene-divinylbenzene, gel
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Dark brown, translucent, spherical beads
Ionic Form as Shipped	H ⁺ Form
Total Exchange Capacity	≥ 2.0 eq/L
Water Retention Capacity	45 – 51%
Particle Size	
Particle Diameter ^b	650 ± 50 µm
Uniformity Coefficient	≤ 1.1
< 300 µm	≤ 0.1%
Whole Uncracked Beads	≥ 95%
Swelling	Na ⁺ → H ⁺ : 7%
Bulk Density, as shipped ^c	785 g/L

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

^c As per the backwashed and settled density of the resin, determined by ASTM D-2187.

Suggested Operating Conditions**

Maximum Operating Temperature	130°C (266°F)		
pH Range	0 – 14		
Bed Depth, min.	800 mm (2.6 ft.)		
Flowrates			
Service	5 – 60 BV*/h (1 – 7.5 gpm/ft³)		
Backwash	See Figure 1		
Regeneration			
Chemical Injection			
HCl	2 – 4 BV/h (0.25 – 0.5 gpm/ft³)		
H₂SO₄	2 – 20 BV/h (0.25 – 2.5 gpm/ft³)		
Displacement Rinse	1 – 2 BV at 2 – 4 BV/h (0.25 – 0.5 gpm/ft³)		
Fast Rinse	2 – 4 BV at 5 – 50 BV/h (1 – 6 gpm/ft³)		
Total Rinse Requirement	3 – 6 BV		
Regenerant	H₂SO₄	HCl	NaCl
Concentration	1 – 8%	4 – 8%	8 – 12%

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Hydraulic Characteristics

Bed expansion of DOWEX MARATHON™ 1300 H Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Pressure drop data for DOWEX MARATHON 1300 H as a function of service flowrate and temperature is shown in Figure 2. Pressure drop data are valid at the start of the service run with clean water.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

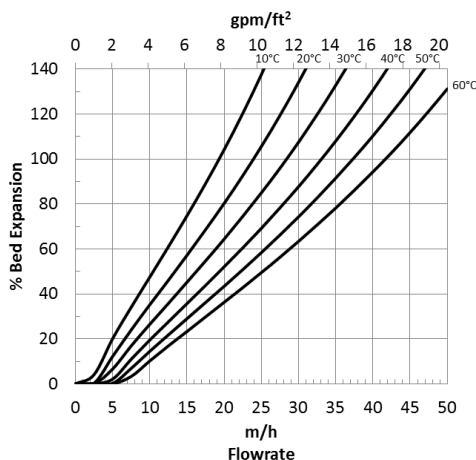
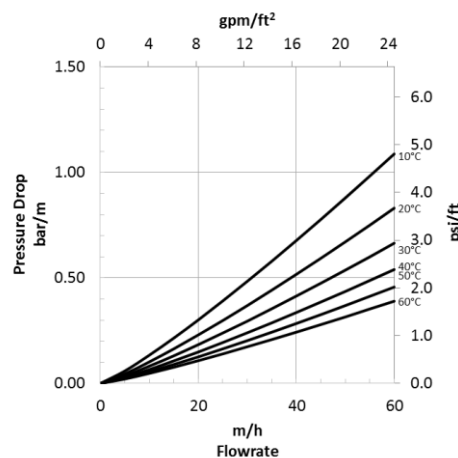


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



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Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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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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