



DOWEX™ MONOSPHERE™ 650C NG (H)

A Uniform Particle Size Strong Acid Cation Exchange Resin for Demineralization in Nuclear Water Applications

Product	Type	Matrix	Functional group
DOWEX™ MONOSPHERE™ 650C NG (H)	Strong acid cation	Styrene-DVB, gel	Sulfonic acid

Guaranteed Sales Specifications						H ⁺ form			
Total exchange capacity, min.		eq/L		kgr/ft ³ as CaCO ₃		2.0			
						43.7			
Water content		%				46 - 51			
Bead size distribution†									
Mean particle size		μm				650 ± 50			
Uniformity coefficient, max.						1.1			
< 300 μm, max.		%				0.2			
Whole uncracked beads, min.		%				95			
Crush strength									
Average, min.		g/bead				500			
> 300 g/bead, min.		%				95			
Ionic conversion, min.		%				99.7			
Trace metals, ppm dry resin, max.									
Na	Fe	Cu	Al	Mg	Ca	Co	Pb	Hg	Heavy metals (as Pb)
50	50	10	50	50	50	30	10	10	10

Typical Physical and Chemical Properties		H ⁺ form
Particle density	g/mL	1.22
Shipping weight**	g/L lbs/ft ³	785 49

Recommended Operating Conditions	• Maximum operating temperature	130°C (265°F)
	• pH range	0 - 14
	• Bed depth, min.	450 mm (1.5 ft)

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

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

Typical Properties and Applications

DOWEX™ MONOSPHERE™ 650C NG (H) uniform particle size, nuclear grade cation resin has outstanding purity and performance.

This resin is supplied with a minimum of 99.7% of ionic sites in the H⁺ form. It also has excellent physical and chemical stability and low metallic impurity levels.

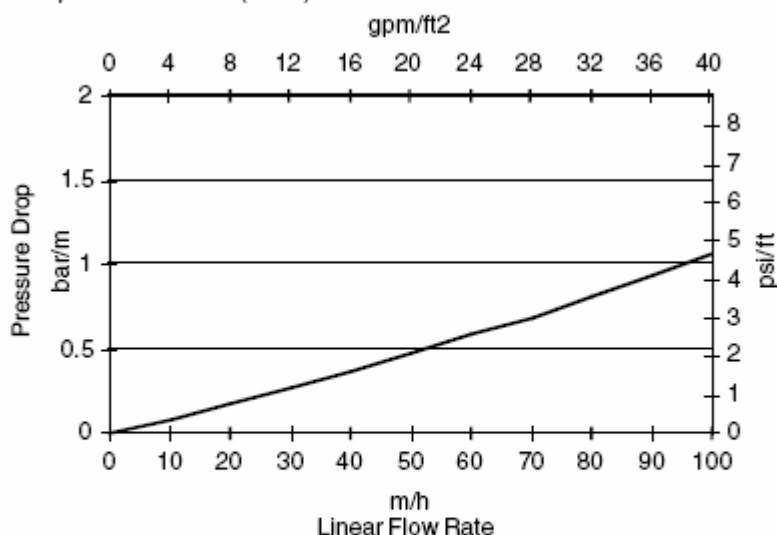
DOWEX MONOSPHERE 650C NG (H) resin can be used as a single resin or in mixed beds together with DOWEX MONOSPHERE 550A LC NG (OH) anion exchange resin.

Packaging

50 liter or 5 cubic foot fiber drums

Figure 1. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

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

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

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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