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DOWEX HGR NG (H)

A High Capacity Strong Acid Cation Exchange Resin for Water Demineralization in Nuclear Applications

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

Guaranteed Sales Specifications		H^+ form
Total exchange capacity, min.	eq/L	2.0
	kgr/ft³ as $CaCO_3$	43.7
Water content	%	46 - 52
Bead size distribution†		
> 1,200 µm, max. (16 mesh)	%	2
< 420 µm, max. (40 mesh)	%	1
< 300 µm, max. (50 mesh)	%	0.1
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	800
	lbs/ft³	50

Recommended Operating Conditions

- Maximum operating temperature: 130°C (265°F)
- pH range: 0 - 14
- Bed depth, min.:
  - Mixed bed: 450 mm (1.5 ft)
  - Single bed: 800 mm (2.6 ft)

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

Typical Properties and Applications

DOWEX HGR NG (H) strong acid cation exchange resin is a high capacity gel resin with excellent physical and chemical stability. It is supplied with low residual metallic impurities and greater than 99.7% of its ionic sites in the hydrogen form.

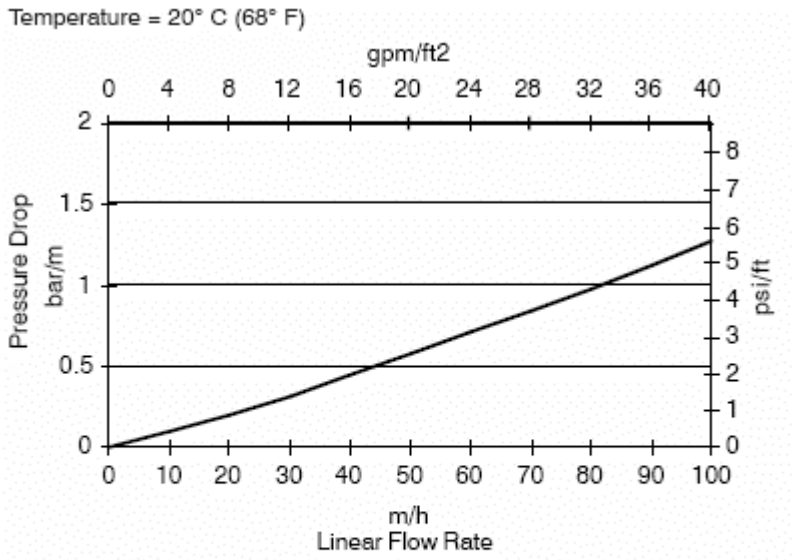
DOWEX HGR NG (H) resin may be used to removed cationic radioisotopes in the following applications:

- radwaste treatment
- pond water treatment
- reactor coolant cleanup

Packaging

50 liter or 5 cubic foot fiber drums

Figure 1. Pressure Drop Data



For other temperatures use:

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

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

DOWEX Ion Exchange Resins

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.