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DOWEX™ MONOSPHERE™ C-600 B

A Uniform Particle Size, High Capacity Cation Exchange Resin for Quentin and Gryllus Applications

Product	Type	Matrix
DOWEX™ MONOSPHERE™ C-600 B	Strong acid cation	Styrene-DVB, gel

Guaranteed Sales Specifications		Na^+ form
Total exchange capacity, min.	eq/L kgr/ft³ as $CaCO_3$	2.1 45.9
Water content	%	41 - 46
Mean particle size†	µm	600 ± 50
Whole uncracked beads, min.	%	95
Crush strength Average, min. > 200 g/bead, min.	 g/bead %	 350 95
Uniformity coefficient, max.		1.1

Typical Physical and Chemical Properties		Na^+ form
Total swelling ($Na^+ \rightarrow H^+$)	%	8
Particle density	g/mL	1.28
Shipping weight**	g/L lbs/ft³	820 51

Recommended Operating Conditions

• Maximum operating temperature	120°C (250°F)
• pH range	0 - 14
• Bed depth, min.	1,000 mm (3.3 ft)
• Flow rates:	
Service/fast rinse	2 - 30 m/h (0.8 – 12 gpm/ft²)
Backwash	See Figure 1
Co-current regeneration/displacement rinse	1 - 10 m/h (0.4 - 4 gpm/ft²)
• Total rinse requirement	2 - 5 bed volumes
• Regenerant	4 - 6% MgCl or 8 - 12% NaCl

† 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.

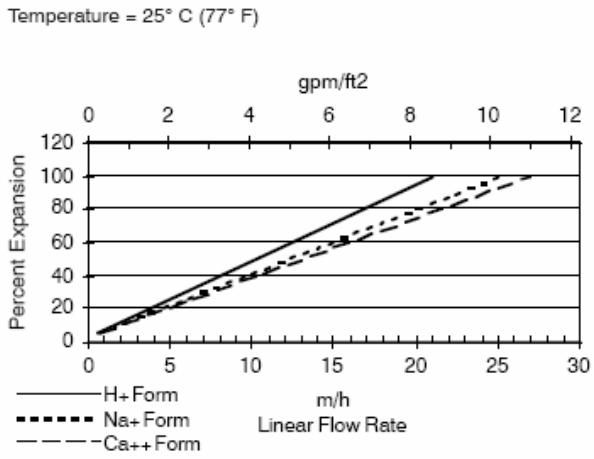
Typical Properties and Applications

DOWEX™ MONOSPHERE™ C-600 B strong acid cation exchange resin is a uniform particle size resin designed for Quentin and Gryllus applications. The small uniform beads exhibit faster kinetics than conventionally sized resins. The improved kinetics results in improved regeneration efficiency, higher operating capacity, reduced regenerant usage and less waste water. DOWEX MONOSPHERE C-600 B resin also shows outstanding stability to compressive and osmotic stress.

Packaging

25 liter bags

Figure 1. Backwash Expansion Data

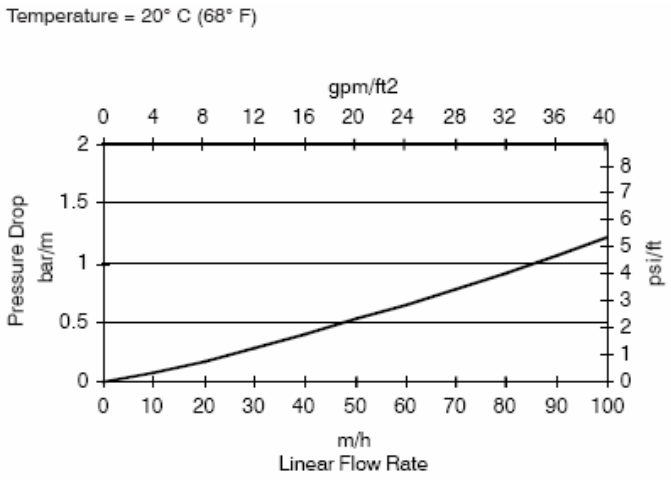


For other temperatures use:

$F_T = F_{77°F}$ [1+ 0.008 ($T_{°F}$ -77)], where F gpm/ft^2

$F_T = F_{25°C}$ [1+ 0.008 (1.8$T_{°C}$ - 45)], where F m/h

Figure 2. 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

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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