

DOWEX UPCORE Mono C-600

A Uniform Particle Size Strong Acid Cation Exchange Resin Specifically Designed for the UPCORE System

Product	Type	Matrix	Functional group
DOWEX* UPCORE* Mono C-600	Strong acid cation	Styrene-DVB, gel	Sulfonic acid

Guaranteed Sales Specifications		Na ⁺ form	H ⁺ form
Total exchange capacity, min.	eq/l	2.0	1.8
	kg/ft ³ as CaCO ₃	43.7	39.3
Water content	%	42 - 48	50 - 56
Bead size distribution†			
Mean particle size	µm	585±50	600±50
Uniformity coefficient, max.	%	1.1	1.1
>850 µ, max.	%	5	5
<300 µ, max.	%	0.5	0.5
Whole uncracked beads, min.	%	95	95

Typical Physical and Chemical Properties		Na ⁺ form	H ⁺ form
Total swelling (Na ⁺ → H ⁺)	%	8	8
Particle density	g/ml	1.28	1.22
Shipping weight	g/l	820	800
	lbs/ft ³	51	50

Recommended Operating Conditions	
Maximum operating temperature	120°C (250°F)
pH range	0-14
Bed depth, min.	1200 mm (4 ft)
Pressure drop, design max.	1.5 bar (22 psi)
Pressure drop, max.	2.5 bar (37 psi)
Flow rates:	
Service/fast rinse	5-60 m/h (2-24 gpm/ft ²)
Regeneration/displacement rinse	5-20 m/h (2-8 gpm/ft ²)
Total rinse requirement	1-3 Bed volumes
Regenerant	8-12% NaCl, 4-6% HCl, 1-4% H ₂ SO ₄

†For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775/CH 171-476-E).

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Typical properties and applications:

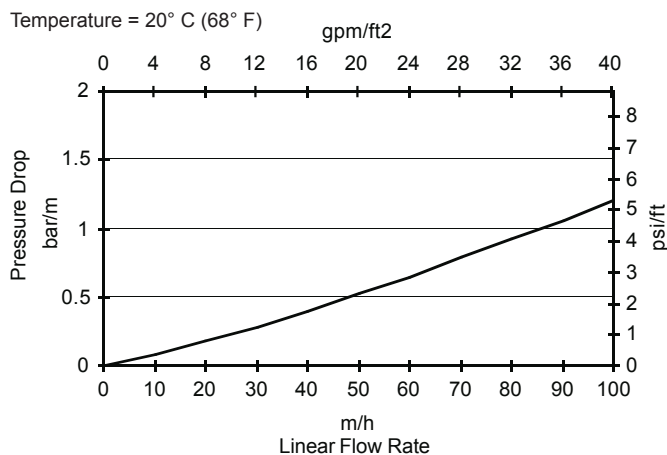
DOWEX* UPCORE* Mono C-600 strong acid cation exchange resin is a uniform particle size resin specifically designed for use in the UPCORE packed bed counter-current regeneration system. It is well suited for use in both demineralization and softening applications. DOWEX UPCORE Mono C-600 resin has a smaller average particle

diameter than conventional polydispersed cation resin. Its smaller, uniform size enhances operating capacity and regeneration efficiency while maintaining a moderate pressure drop. DOWEX UPCORE Mono C-600 resin also has outstanding resistance to attrition due to compressive and osmotic stress.

Packaging

25 liter bags or 5 cubic feet fiber drums.

Figure 1. Pressure Drop Data



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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