



## DOWEX™ MONOSPHERE™ 750C (H)

A Uniform Particle Size Strong Acid Cation Exchange Resin for Mixed Bed Demineralization and Condensate Polishing Applications

Product	Type	Matrix	Functional group
DOWEX™ MONOSPHERE™ 750C (H)	Strong acid cation	Styrene-DVB gel	Sulfonic acid

Guaranteed Sales Specifications			H <sup>+</sup> form
Total exchange capacity, min.		eq/L kgr/ft <sup>3</sup> as CaCO <sub>3</sub>	2.0 43.7
Water content		%	46 – 51
Bead size distribution†			
Mean particle size		μm	765 ± 25
Uniformity coefficient, max.			1.15
> 900μ, max.		%	5
< 400μ, max.		%	0.5
Whole uncracked beads, min.		%	95
Crush strength			
Average, min.		g/bead	500
> 300 g/bead, min.		%	95
Trace metals, ppm dry resin, max.			
Na	Fe	Cu	Al
60	50	10	50

## Typical Physical and Chemical Properties

Total swelling (Na <sup>+</sup> → H <sup>+</sup> )	%	7
Particle density	g/mL	1.22
Shipping weight**	g/L lbs/ft <sup>3</sup>	784 49

Recommended Operating Conditions	• Maximum operating temperature	130°C (265°F)
	• pH range	0-14
	• Bed depth, min.	800 mm (2.6 ft)
	• Flow rates:	
	Service/fast rinse	5-60 m/h (2-24 gpm/ft <sup>2</sup> )
	Service/condensate polishing	40-150 m/h (16-60 gpm/ft <sup>2</sup> )
	Backwash	See figure 1
	Co-current regeneration/displacement rinse	1-10 m/h (0.4-4 gpm /ft <sup>2</sup> )
	• Total rinse requirement	3 – 6 Bed volumes
	• Regenerant	1-10% H <sub>2</sub> SO <sub>4</sub> or 4-8% HCl

† 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

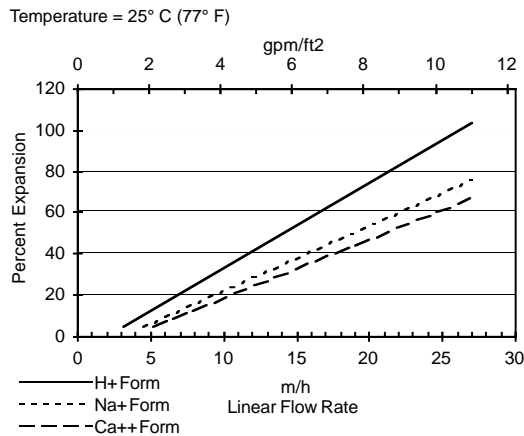
DOWEX™ MONOSPHERE™ 750C (H) cation exchange resin is a condensate polishing grade resin with high total exchange capacity, uniform particle size, exceptional bead integrity and a distinguishable dark color. It is ideally suited to the high flow rate demands of condensate polishing applications.

The combination of uniform particle size and a 765-micron average bead diameter makes this resin an excellent choice for use with the DOWEX MONOSPHERE 700A (OH) anion resin. The uniform particle size will enable excellent separation to reduce contaminant ion leakage, while the larger bead diameters will minimize pressure drop across the mixed bed resin. This is especially important in high velocity condensate polishing conditions of systems with a Tripol-design.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

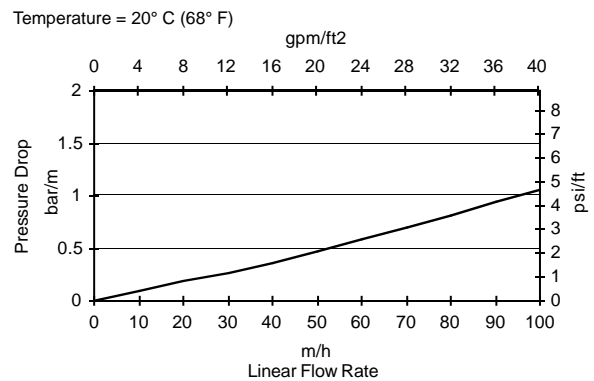


For other temperatures use:

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

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

Figure 2. Pressure Drop Data



For other temperatures use:

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

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

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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