



DOWEX MONOSPHERE 545C (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* 545C (H)	Strong Acid Cation	Styrene-DVB gel	Sulfonic Acid

Guaranteed Sales Specifications							H ⁺ form
Total exchange capacity, min.		eq/L					2.5
Water content		%					36-42
Bead size distribution							
Mean particle size		μm					525 ± 50
Uniformity coefficient, max.							1.1
>800μm, max.		%					3
<300μm, max.		%					1
Whole uncracked beads, min.		%					95
Crush strength							
Average, min		g/bead					500
>200 g/bead		%					95
Ionic conversion, min.		%					99
Trace metals, ppm dry resin, max.							
Na	Fe	Cu	Al	Co	Pb	Heavy Metals (as Pb)	
100	50	50	50	30	10	20	

Typical Physical and Chemical Properties			H ⁺ form
Total swelling (Na ⁺ → H ⁺)		%	5
Shipping weight		g/L	820
		lbs/ft ³	51
Particle Density		g/mL	1.27

Recommended Operating Conditions

- Maximum operating temperature 130°C (265°F)
- pH range (optimum) 0-14
- Bed depth, min. 450 mm (1.5 ft)
- Flow rates:
 - Service/fast rinse 5-60 m/h (2-24 gpm/ft²)
 - Service/condensate polishing 40-150 m/h (16-60 gpm/ft²)
 - Backwash See Figure 1
 - Co-current regeneration/displacement rinse 1-10 m/h (0.4-4 gpm/ft²)
- Total rinse requirement 3 - 6 BV
- Regenerant 4-8% HCl or 1-10% H₂SO₄

Typical Properties and Applications

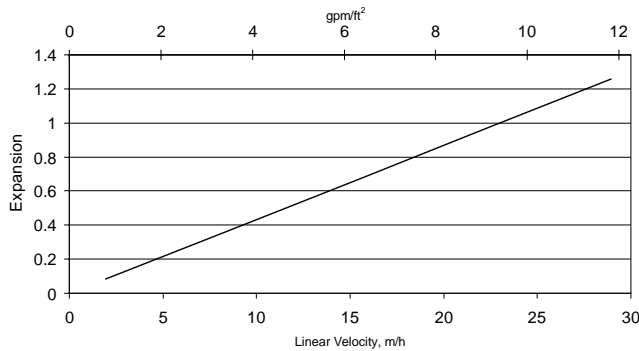
DOWEX MONOSPHERE 545C (H) is a high capacity, uniform particle size gel cation exchange resin with outstanding purity and performance.

DOWEX MONOSPHERE 545C (H) can be used as a single resin or in mixed beds together with DOWEX SBR-C (OH) anion exchange resin or DOWEX MONOSPHERE 550A (OH).

Packaging

5 cubic foot fiber drums.

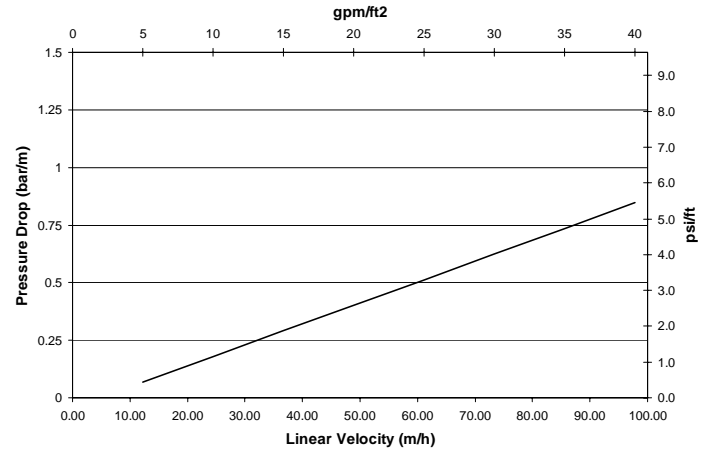
Figure 1. Backwash Expansion DOWEX MONOSPHERE 545C (H), 20°C (68°F)



For other temperatures use:

$$F_T = F_{20C} [1 + 0.008 (1.8T^{\circ}C - 45)], \text{ where } F = /h$$

Figure 2. Pressure Drop DOWEX MONOSPHERE 545C (H), 20°C (68°F)



For other temperatures use:

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

DOWEX Ion Exchange Resins

For more information about DOWEX resins, call the Dow Liquid Separations business:

North America: 1-800-447-4369
 Latin America: (+55) 11-5188-9222
 Europe: (+32) 3-450-2240
 Pacific (ex. China): +800-7776-7776
 China: +10-800-600-0015
<http://www.dowex.com>

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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