LENNTECH
info@lenntech.com Tel. +31-152-610-900
www.lenntech.com Fax. +31-152-616-289

DOWEX™ MONOSPHERE™ MP-525C (H)

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

Product	Type	Matrix	Functional group
DOWEX™ MONOSPHERE™ MP-525C (H)	Strong acid cation	Styrene-DVB macroporous	Sulfonic acid

Guaranteed Sales Specifications		H^+ form
Total exchange capacity, min.	eq/L	1.6
	kgr/ft³ as $CaCO_3$	35.0
Water content	%	50 – 54
Bead size distribution†		
Mean particle size	µm	500 ± 50
Uniformity coefficient, max.		1.1
< 300 µm, max.	%	1
Whole beads, min.	%	95
Crush strength		
Average, min.	g/bead	350
> 200 g/bead, min.	%	95

Trace metals, ppm dry resin, max.

Na	Fe	Cu	Al	Heavy metals (as Pb)
100	50	50	50	20

Typical Physical and Chemical Properties		
Total swelling ($Na^+ \rightarrow H^+$)	%	4
Particle density	g/mL	1.18
Shipping weight**	g/L	760
	lbs/ft³	47

Recommended Operating Conditions

- Maximum operating temperature: 150°C (300°F)
- pH range: 0 - 14
- Bed depth, min.: 450 mm (1.5 ft)
- Flow rates:
  - Service/fast rinse: 5 - 50 m/h (2 - 20 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 Bed volumes
- Regenerant: 1 - 10% H_2SO_4, 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

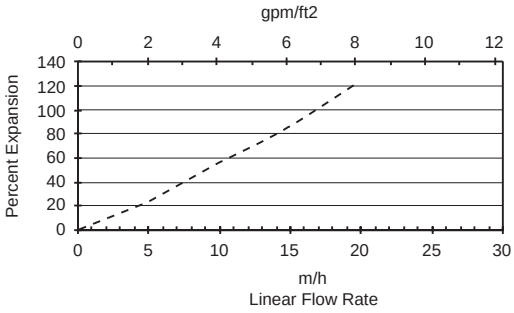
DOWEX™ MONOSPHERE™ MP-525C (H) strong acid cation exchange resin is a condensate grade macroporous resin with uniform particle size, exceptional physical stability and resistance to osmotic shock. This resin is specially sized to give excellent separation after backwash when used in conjunction with DOWEX MONOSPHERE MP-725A (OH) anion exchange resin in mixed beds. In addition, the smaller bead size of DOWEX MONOSPHERE MP-525C (H) is intended to improve insoluble iron removal and reduce the regeneration and rinse water requirements compared to larger conventional type macroporous resins.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

Temperature = 25° C (77° F)



- - - 2:1 volume ratio of DOWEX MONOSPHERE MP-525C and DOWEX MONOSPHERE MP-725A (OH)

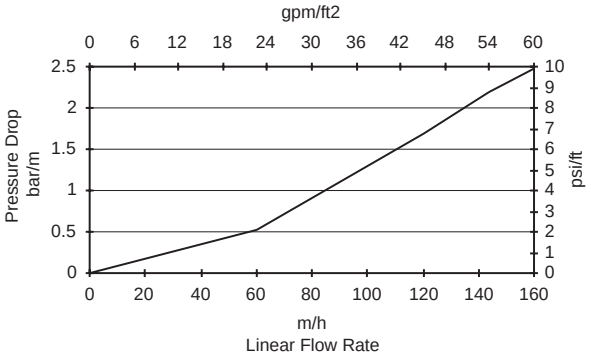
For other temperatures use:

$F_T = F_{77°F}$ [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

Temperature = 100° F (37.8° C)



—— 2:1 volume ratio of DOWEX MONOSPHERE MP-525C and DOWEX MONOSPHERE MP-725A (OH)

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.

Notice: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.