

**DOWEX™ UPCORE™ Mono WB-500**

A Uniform Particle Size, Weak Base Anion Exchange Resin Specifically Designed for the UPCORE System in Either Single Bed or Layered Bed Applications

Product	Type	Matrix	Functional group
DOWEX™ UPCORE™ Mono WB-500	Weak base anion	Styrene-DVB, macroporous	Tertiary amine

Guaranteed Sales Specifications		FB (freebase) form
Total exchange capacity, min.	eq/L kgr/ft <sup>3</sup> as CaCO <sub>3</sub>	1.3 28.4
Water content	%	52 - 60
Bead size distribution†		
Mean particle size	µm	540 ± 50
Uniformity coefficient, max.		1.1
>850 µ, max.	%	5
<300 µ, max.	%	0.5
Whole beads, min.	%	95

Typical Physical and Chemical Properties		FB (freebase) form
Total swelling (FB → HCl)	%	20
Particle density	g/mL	1.04
Shipping weight**	g/L lbs/ft <sup>3</sup>	640 40

**Recommended Operating Conditions**

- Maximum operating temperature:
  - FB form 60°C (140°F)
  - HCl form 100°C (212°F)
- pH range 0 - 7
- Bed depth, min.:
  - Layered bed 600 mm (2 ft)
  - Single bed 1,200 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<sup>2</sup>)
  - Regeneration/displacement rinse 4-10 m/h (1.6-4 gpm /ft<sup>2</sup>)
- Total rinse requirement 2 - 4 Bed volumes
- Regenerant 2-5% NaOH

† 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™ UPCORE™ Mono WB-500 weak base anion resin is a uniform particle size, macroporous resin designed for use in the UPCORE system. The particle size is specially selected to maintain excellent separation in layered beds when used with DOWEX UPCORE Mono A-625 strong base anion resin. It can also be used as a single resin. The small, uniform bead size provides excellent kinetics and resistance to organic fouling.

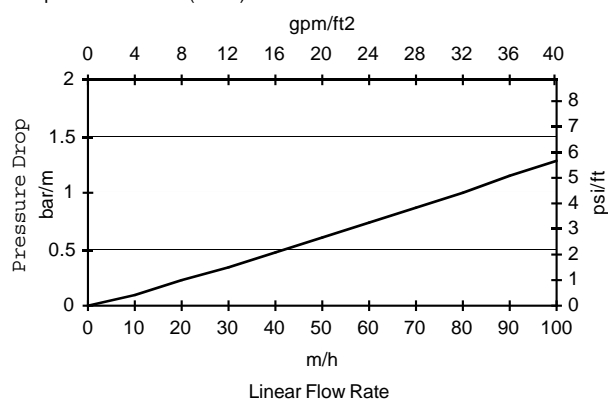
DOWEX UPCORE Mono WB-500 resin has an excellent resistance to attrition and osmotic stress.

## Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Pressure Drop Data

Temperature = 20° C (68° F)



### For other temperatures use:

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

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

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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