



DOWEX 88 (H)

Ion Exchange Resin for Sweetener Applications

Product	Type	Matrix	Functional group
DOWEX* 88 (H)	Strong acid cation	Styrene-DVB, macroporous	Sulfonate

Typical Physical and Chemical Properties

Ionic form as produced			H ⁺
Total exchange capacity, min.		eq/l	1.7
Water content		%	50 - 56
Bead size distribution			
Range		μm	300 - 1,200
> 1,200 μm 16 mesh		%	< 5
< 420 μm 40 mesh		%	< 5
Total swelling (Na ⁺ → H ⁺)		%	5
Whole uncracked beads, min.		%	95
Particle density, approx.		g/ml	1.2
Shipping weight, approx.		g/l	770
		lbs/ft ³	48

Recommended Operating Conditions

- Maximum operating temperature (H⁺ form) 150°C (300°F)
- pH range 0 - 14
- Bed depth, min. 91 cm (3 ft)
- Flow rates:
 - Service 2 - 4 bed volumes/hour
 - Backwash See Figure 1
 - Regeneration time, minimum 30 - 45 min.
 - Displacement rinse, minimum 30 - 45 min.
- Total rinse requirement (new) 3 - 6 bed volumes
- Regenerant:
 - Concentration 7% HCl
 - Level, 100% basis[†] 6 - 7 lbs/ft³
 - 96 - 112 kg/m³
 - Temperature, max. 93°C (200°F)

[†] Regeneration level may be lower for counter-current regeneration systems.

Typical Properties and Applications

DOWEX 88 (H) resin is a macroporous strong acid cation resin for use in deashing, softening and demineralization. This macroporous matrix provides excellent mechanical strength and good operating capacity. This product is used primarily in processing sweeteners, juices and beverages.

Packaging

5 cubic feet fiber drums or 1 cubic meter super sacks.

Figure 1. Backwash Expansion Data (Exhausted)

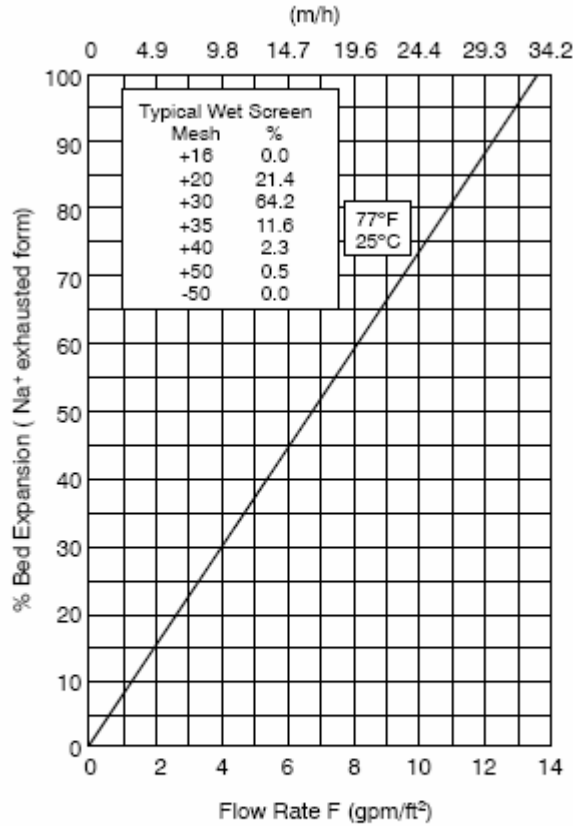
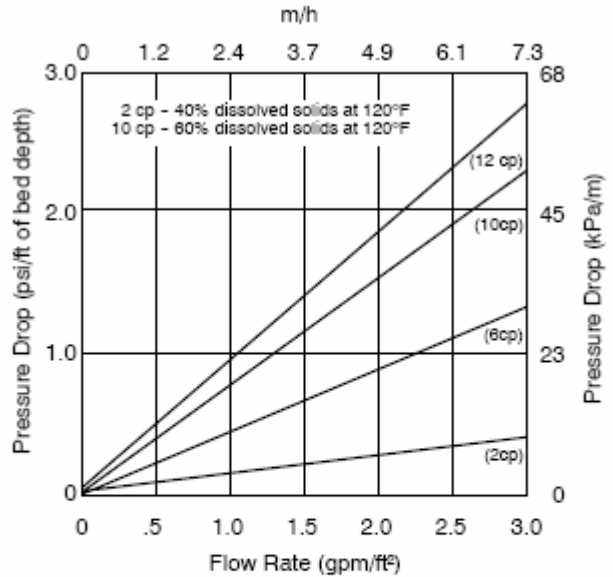


Figure 2. Pressure Drop Data



For other temperatures use:

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

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

For other temperatures use:

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

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

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: +60 3 7958 3392
Japan: +813 5460 2100
China: +86 21 2301 9000
<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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