

**DOWEX 88**

Ion Exchange Resin for Sweetener Applications

Product	Type	Matrix	Functional group
DOWEX™ 88	Strong acid cation	Styrene-DVB, macroporous	Sulfonate

Typical Physical and Chemical Properties

Ionic form as produced			Na ⁺
Total exchange capacity, min.		eq/L	1.8
Water content		%	42 - 48
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	800
		lbs/ft ³	50

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 30 - 45 min.
 - Displacement rinse 30 - 45 min.
 - Fast rinse (if applicable) 2 - 10 bed volumes/hour
- Total rinse requirement 3 - 6 bed volumes
- Regenerant:
 - Concentration 5 - 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 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.

Packaging

25 liter bags, 5 cubic feet fiber drums or 1 cubic meter super sacks.

Figure 1. Backwash Expansion Data

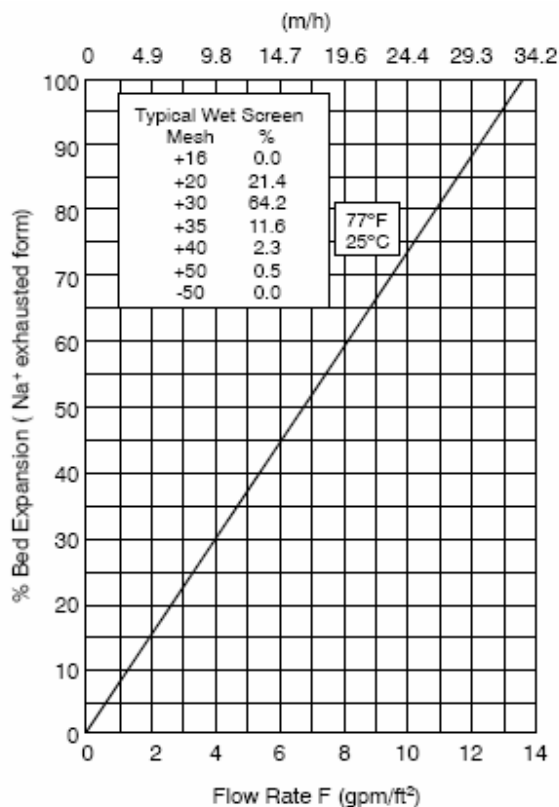
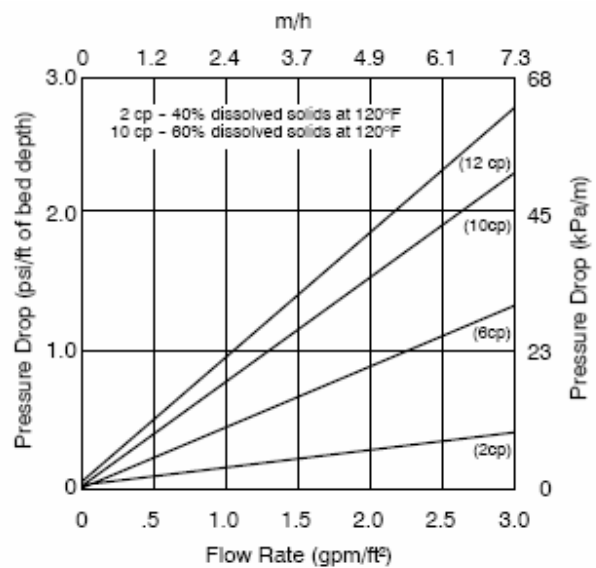


Figure 2. Pressure Drop Data



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.

Notice: No freedom from any patent owned by Seller 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. Seller 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.

