

PURE RESIN

Macroporous Weak Acid Cation Exchange Resin

## **Product Description & Applications**

**Pure PC200** is a macroporous poly-acrylic weak acid cation resin. It can be supplied in the hydrogen (H) form or sodium (Na) as spherical beads.

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- 1. **Pure PC200** in H cycle is used for dealkalization, deionization and chemical processing applications.
- 2. **Pure PC200** supplied in sodium cycle for use in applications such as softening and removal of heavy metal cations. This requires a two stage regeneration process using a strong acid first and then a neutralization rinse to put the resin into the sodium form and is especially effective in high solids softening applications.

Typical Physical & Chemical Characteristics	
Polymer Matrix Structure	Acrylic-Divinybenzene
Functional Group	R-(COOH) <sup>-</sup>
Ionic Form, as shipped	H⁺
Physical Form And Appearance	Clear Spherical Beads
Sphericity	95% min.
Screen Size Range U.S. Standard Screen	16-50 mesh, wet
Particle Size Range	+1.2 mm < 5%, -0.3 mm < 1%
Uniformity Coefficient	1.6 max.
Water Retention, H <sup>+</sup> form	45-52%
Swelling $H^+ \rightarrow Na^+$	65% max.
Shipping Weight, H <sup>+</sup> form	720-800g/l (46 lbs/cu.ft, approx.)
Total Exchange Capacity, H <sup>+</sup> form	4.2 eq/l min.
pH Range	4-14

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**2C200** 

## Suggested Operating Conditions

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Maximum Temperature, H<sup>+</sup> form

Minimum Bed Depth

**Backwash Rate** 

Regeneration, Hydrogen Cycle Flow Rate Contact Time

**Displacement Rinse Rate** 

**Displacement Rinse Volume** 

Fast Rinse Rate

Fast Rinse Volume

Service Flow Rate

120°C (248°F) max.

0.8 m (30 inches)

50-75% Bed Expansion

 5 -10% HCl,
 0.5 -1% H2SO4

 2 to 7 BV/h
 8-20 BV/h

 At least 30 Minutes

 Same as Regenerat Flow Rate

 10-15 gallons/cu.t

Same as Service Flow Rate

35-60 gallons/cu.ft



## 4-8 BV/h (1.0 - 5.0 gpm/cu.ft) Hydraulic Properties



**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.

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Flow Rate, gpm/sq.ft.

8

4

12 14

16 18

20

**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC200.

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