



# PC003

Cation Exchange Resin  
Gel Strong Acid

High Quality & Cost-Effective

## Product Description

**Pure PC003** is a high purity premium grade, high capacity, conventional gel polystyrene sulphonate cation exchange resin supplied in the sodium or hydrogen form. It is intended for use in all water softening, dealkalization, deionization and chemical processing.

## Applications

**Pure PC003** in H form (**PC003H**) can be used in multiple and mixed bed demineralizers with strong base anion exchangers such as Pure PA101, PA102 and PA103 in OH form.

**Pure PC003** is well suited for industrial, commercial or residential softening applications because of its high capacity and good physical stability.



Certificated by WQA against NSF/ANSI/CAN 61 & NSF/ANSI 44

## Typical Physical & Chemical Characteristics

Polymer Matrix Structure	Polystyrene crosslinked with DVB
Functional Group	R-(SO <sup>3</sup> )-M <sup>+</sup>
Ionic Form, as shipped	Na <sup>+</sup>
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, Na <sup>+</sup> form H <sup>+</sup> form	43-48% 47-54%
Swelling Na <sup>+</sup> → H <sup>+</sup> Ca <sup>2+</sup> → Na <sup>+</sup>	10% max. 5% max.
Shipping Weight, Na <sup>+</sup> form H <sup>+</sup> form	780-880 g/l (51 lbs/cu.ft, approx.) 770-870 g/l (50 lbs/cu.ft, approx.)
Total Exchange Capacity, Na <sup>+</sup> form H <sup>+</sup> form	2.0 eq/l min. 1.9 eq/l min.
Brine pH Range, Na <sup>+</sup> form	6-9
Color throw, as packaged at RT., max.	20 APHA

## PURE RESIN COMPANY LIMITED

No.10 Weisan Road, HSEDA, Shangyu, Shaoxing, Zhejiang 312369, China  
P. +86-571-8721-1518 F. +86-571-8721-1508 info@pureresin.com

[WWW.PURERESIN.COM](http://WWW.PURERESIN.COM)



# PC003

Cation Exchange Resin  
Gel Strong Acid

High Quality & Cost-Effective

## Suggested Operating Conditions

Maximum Temperature

Na+ form	120°C (248°F) max.
H+ form	100°C (212°F) max.

Minimum Bed Depth 0.6 m (24 inches)

Backwash Expansion 25-50% Bed Expansion

Regeneration

Hydrogen Cycle	10% HCl or 1-8% H <sub>2</sub> SO <sub>4</sub>
Sodium Cycle	10-15% NaCl
Flow Rate	2 to 7 BV/h (0.25 to 0.90 gpm/cu.ft)
Contact Time	At least 30 Minutes

Displacement Rinse Rate Same as Regenerant Flow Rate

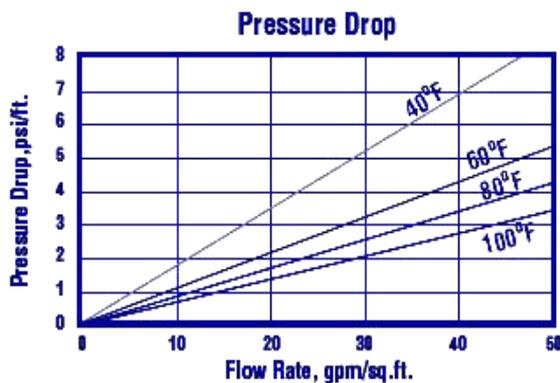
Displacement Rinse Volume 10-15 gallons/cu.ft

Fast Rinse Rate 8-40 BV/h (1.0-5.0 gpm/cu.ft)

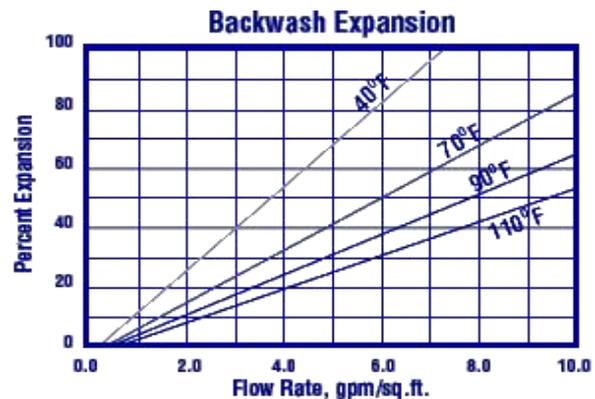
Fast Rinse Volume 3-10 BV (24-45 gal/ft<sup>3</sup>)

Service Flow Rate 8-40 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.



**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of **PC003** in Na form.

### PURE RESIN COMPANY LIMITED

No.10 Weisan Road, HSEDA, Shangyu, Shaoxing, Zhejiang 312369, China  
P. +86-571-8721-1518 F. +86-571-8721-1508 info@pureresin.com

[WWW.PURERESIN.COM](http://WWW.PURERESIN.COM)