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# CAT100E

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## CATION RESIN

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### **Aquatrol CAT100E cation resin**

provides a high purity, premium cation resin designed for the treatment of foods, beverages, potable waters, and water used in the processing of food. Aquatrol CAT100E resin is a high grade resin which complies with the U.S. Food & Drug Administration (USFDA) CFR 21, Title 173.25 for use in the treatment of foods for human consumption.

### **Aquatrol CAT100E cation resin**

has excellent hydraulic characteristics for optimal flow rate and backwash flow rates. Its high capacity and porosity characteristic provide exceptional kinetic behavior along with good physical, chemical and thermal stability.

### **Chemical and thermal stability**

Aquatrol CAT100E is insoluble in dilute or moderately concentrated acids, alkalis, and in all common solvents. Thermally stable to higher than 248°F (120°C) in alkali's such as, sodium or alkaline earth like calcium and magnesium salt forms.

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## CATION RESIN

Fig. 1 PRESSURE DROP VS FLOW RATE

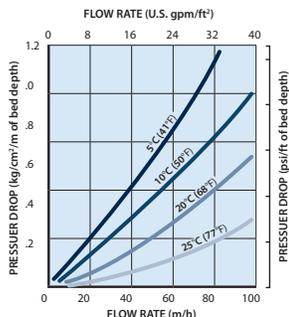


Fig. 2 BACKWASH EXPANSION

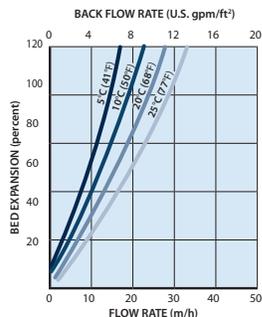


Fig. 3 OPERATING CAPACITY, C<sub>g</sub>

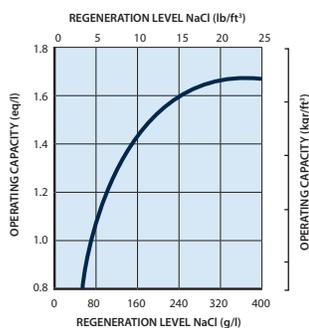


Fig. 4 EFFECT OF FLOW RATE & TDS ON OPERATING CAPACITY

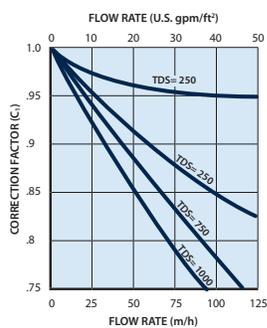


Fig. 5 HARDNESS LEAKAGE

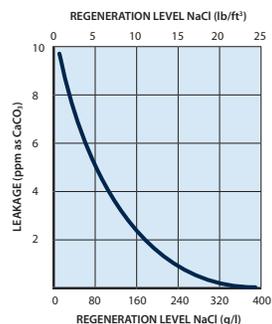
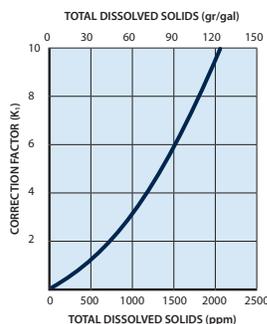


Fig. 6 CORRECTION FOR TDS



### Typical Physical & Chemical Characteristics

Polymer Matrix Structure	Crosslinked Polystyrene Divinylbenzene
Physical Form and Appearance	Brownish Yellow - Brown, Amber
Whole Bead Count	95% min.
Functional Groups	R-SO <sub>3</sub>
Ionic Form, as shipped	Na <sup>+</sup>
Screen Size Range - US Standard Screen	16 - 50 mesh, wet
Particle Size Range	+1.2 mm <5%, -0.3 mm <1%
Moisture Retention, Na <sup>+</sup> form	46 - 50%
Swelling Na <sup>+</sup> → H <sup>+</sup>	8 - 10%
Specific Gravity, Moist Na <sup>+</sup> Form	1.27
Total Exchange Capacity, Na <sup>+</sup> Form	
Wet, volumetric	1.9 eq/l min.
Dry, weight	4.5 eq/kg min.
Operating Temperature, Na <sup>+</sup> Form	248°F (120°C)
pH Range Stability, Na <sup>+</sup> Form	0 - 14
pH Range Operating, Na <sup>+</sup> Form	6 - 10

#### FLOW RATE OF REGENERATE SOLUTION

17.6 - 26.4 gpm (4 - 6 m/hr)

#### REGENERATE CONTACT TIME

30 - 60 min

#### RINSE FLOW RATE

44 - 88 gpm (10 - 20 m/hr)

#### RINSE TIME

30 min

#### OPERATING FLOW RATE

44 - 198 gpm (10 - 45 m/hr)

#### CROSSLINK

8%

#### APPLICATION

This product is mainly used for softening hard water and preparing pure and high purity water. In addition, it is used in separation and purification of trace elements as well as hydro-metallurgy and pharmaceutical industry.

#### INTERNATIONAL EQUIVALENTS

- Amberlite SR1L (American)
- Diaion SK-1 (Japan)
- Dowex HCR-SS (American)
- Lewatit S100 (German)
- Purolite C100, C100E (England)



Backwash Expansion 50% to 75%  
Design Rising Space 100%  
"Gallons" refer to U.S. Gallon = 3.785 liters