

## Softening and Demineralization Resin

### Strong Acid Cation Exchange Resin (Uniform Particle Size)

**DOSHION CSA 9 D UPS** is a uniform particle size, high quality, strong acid cation exchange resin designed for use in all water treatment applications: softening as well as demineralisation. The uniformity and mean particle size of CSA 9 D UPS have been optimized for use in industrial equipment.

**DOSHION CSA 9 D UPS** can also be supplied with such particle size and density characteristics that will assure fast and sharp separations when used in combination with DOSHION GA 13 UPS anion resin in mixed bed applications.

Properties	
Matrix	Cross Linked Polystyrene Gel
Functional group	SO <sub>3</sub> (Sulphonic)
Ionic Form	H <sup>+</sup> – Hydrogen Na <sup>+</sup> – Sodium
Physical Form	Hard Moist Beads
Particle Size (mm)	0.50 – 0.70
Moisture Content %	52- 56 H <sup>+</sup> form 43-49 Na <sup>+</sup> form
Total Exchange Capacity (Min) (eq/L)	1.8 H <sup>+</sup> form >= 2.0 Na <sup>+</sup> form
Conversion (Min)	99.0 % H <sup>+</sup> form
Bulk Density or Shipping Weight (gms/ltr)	780 – 820
Effective Size (mm)	0.55-0.65
Osmotic Stability %	>= 96
Uniformity Coefficient (max)	1.2
Solubility in common solvents	Insoluble
Volume Change %(Max): Na <sup>+</sup> to H <sup>+</sup>	6-8

Operating Conditions		
Operating temperature °C (max)	°C	120
Operating pH range		0-14
Minimum bed depth	mm	750
Regenerant Concentration	%	1-5 (H <sub>2</sub> SO <sub>4</sub> ) <sup>Φ</sup> 4 – 5 (HCl)
Regenerant flow rate	*BV/hr	2-8
Regenerant contact time	Minutes	30 min
Regeneration level	Kg/ m <sup>3</sup> of Resin	60-150 (H <sub>2</sub> SO <sub>4</sub> ) 40 -150 (HCl)
Displacement Rinse rate	*BV/hr	2-8
Displacement Rinse volume	#BV	1-2
Fast Rinse rate	*BV/hr	10-40
Fast Rinse volume	#BV	4-10
Service flow rate	*BV/hr	10-40

\* Bed Volume/ Hour ; # Bed Volume

Φ Sulfuric Acid concentration must be adjusted according to calcium content in the feed water

## Full Range of Ion Exchange Resins

Cation Exchange Resin	Anion Exchange Resin	DM Resin
CSA 121	GA 11	DMB 13
CSA 121 - FG	GA 11 UPS	DMB 13 UPS
CSA 9	GA 12	DMB 13 S
CSA 9 UPS	GA 13	
CSA 9 - FG	GA 13 UPS	
CSA 9 L	ASB 108	
CSA 9 L Na - FG	ASB 171	
CSA 29	ASB 8010 D	
CSA 29 UPS	ASB 8010 D UPS	
CSA 609 D	ASB 8020 D	
CWA 63	AWB 7020 D	
CWA 92 D	AWB 7030 D	
CSA 309	AWB 7050 D	
	AWB 7050 D UPS	
	GA 711	
Special Application Ion Exchange Resin		
DCHR 74	CGC 1200	DBR 108
DCHR 78	CMC 1900	FRC 10
DIRM	CMC 2400	ASB 108 H UPS
DCR 11	DAAR 85	GA 13 H UPS
DMB 10	DAAR 312	CWS 66 D
DMB 11	DAAR 313	IPSR 550
DMB 13 S	DAAR 412	

**doshion®**  
*Translating Source Into Resource*

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