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## AMBERSEP™ 900 SO<sub>4</sub>

Industrial Grade Strong Base Anion Exchanger

### Introduction

AMBERSEP 900 SO<sub>4</sub> resin is a macroreticular polystyrene type 1 strong base anion exchange resin containing quaternary ammonium groups. This allows complete removal of all anions, including weakly dissociated ones like silica. In addition the macroreticular structure imparts superior resistance to mechanical and osmotic shock. AMBERSEP 900 SO<sub>4</sub> resin has been specially developed for use in mixed bed applications. Due to its excellent mechanical strength and good kinetics, it is particularly recommended for applications such as condensate polishing where these resins can be operated at flow rates up to 120 m/h.

### Properties

Physical form	Ivory spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional groups	Trimethyl ammonium
Ionic form as shipped	SO <sub>4</sub> <sup>-</sup>
Total exchange capacity	≥ 1.00 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity	60 - 68 % (Cl <sup>-</sup> form)
Shipping weight	690 g/L (approx)
Particle size	52 - 58 % (H <sup>+</sup> form)
Uniformity coefficient	≤ 1.45
Harmonic mean size	0.500 – 0.700 mm > 1.180 mm 1.0 % max < 0.300 mm 0.5 % max
Maximum reversible swelling	Cl <sup>-</sup> → OH <sup>-</sup> : 25 %

### Suggested Operating Conditions

Maximum operating temperature	60 °C
Service flow rate	10 to 120 BV*/h
Regeneration	
Regenerant	NaOH 4 %
Level	80 to 150 g/L
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4 to 8 BV at service flow rate

\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin

### Limits of use

AMBERSEP 900 SO<sub>4</sub> resin is suitable for industrial uses. For other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Dow Water & Process Solutions in order to determine the best resin choice and optimum operating conditions.

## Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERSEP 900 OH resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERSEP 900 OH resin as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed. These data are valid for water treatment and have to be corrected according to the solution to be treated.

Figure 1: Bed Expansion

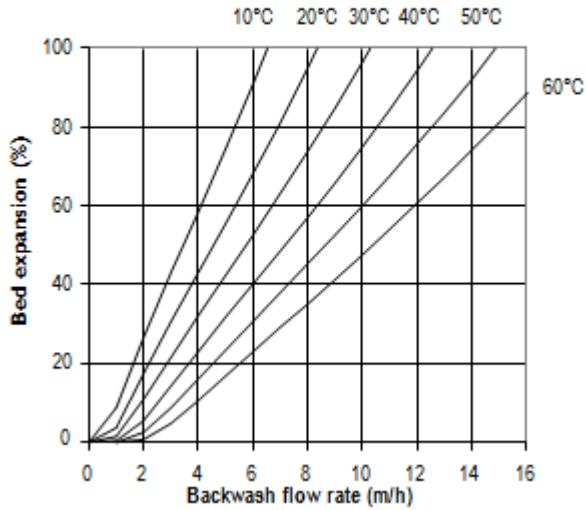
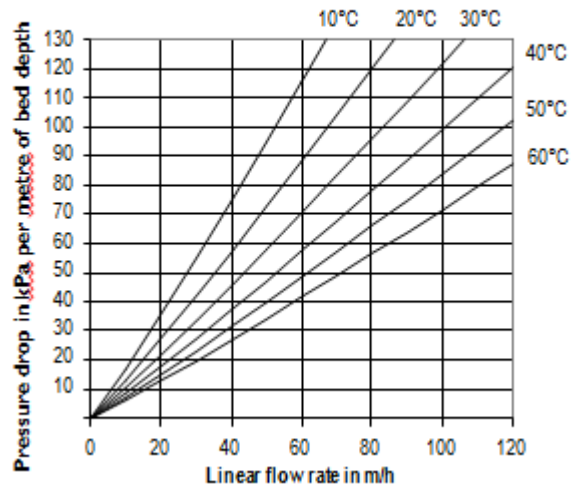


Figure 2: Pressure Drop



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