

Demineralizer Effluent Quality

In a normal operating two bed demineralizer, the effluent quality is primarily indicated by the amount of sodium leaking off of the cation unit. The cation bed is operated in the hydrogen form. The anion bed is operated in the freebase form if it is a weak base anion unit; the hydroxide form if it is a strong base anion unit.

After exiting the cation unit, the sodium ion remains as a salt when it subsequently exits a weak base anion unit. When passing through a strong base anion unit, however, it becomes NaOH which causes a higher effluent pH.

RESISTIVITY AND pH OF TWO BED EFFLUENTS

SODIUM LEAKAGE FROM THE CATION UNIT ppm as CaCO ₃	WEAK BASE ANION EXCHANGE RESIN		STRONG BASE ANION EXCHANGE RESIN	
	pH	Resistance (<i>leakage as NaCl</i>) (ohm-cm)	pH	Resistance (<i>leakage as NaOH</i>) (ohm-cm)
0.02	neutral	10,000,000	7.5	5,000,000
0.14	neutral	2,500,000	8.4	1,000,000
0.4	neutral	1,000,000	9.0	500,000
0.8	neutral	500,000	9.5	250,000
4.0	neutral	100,000	10.0	50,000