

Typical Types of IER (for water treatment)

		Gel Type	Porous Type (MCC only)	Highly Porous Type
CER	SAC	SK1B UBK08	PK216	
	WAC		WK40L	
AER	SBA Type I Strongly Basic Anion	SA10A, SA12A UBA100, UBA120	PA312	
	SBA Type II Strongly Basic Anion	SA20A UBA200	PA418	
	WBA Weakly Basic Anion			WA30



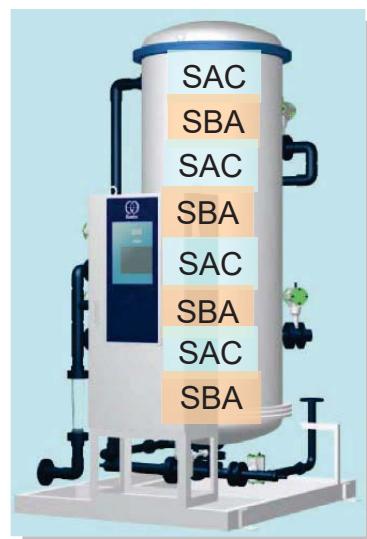
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P.1

System of Water Treatment

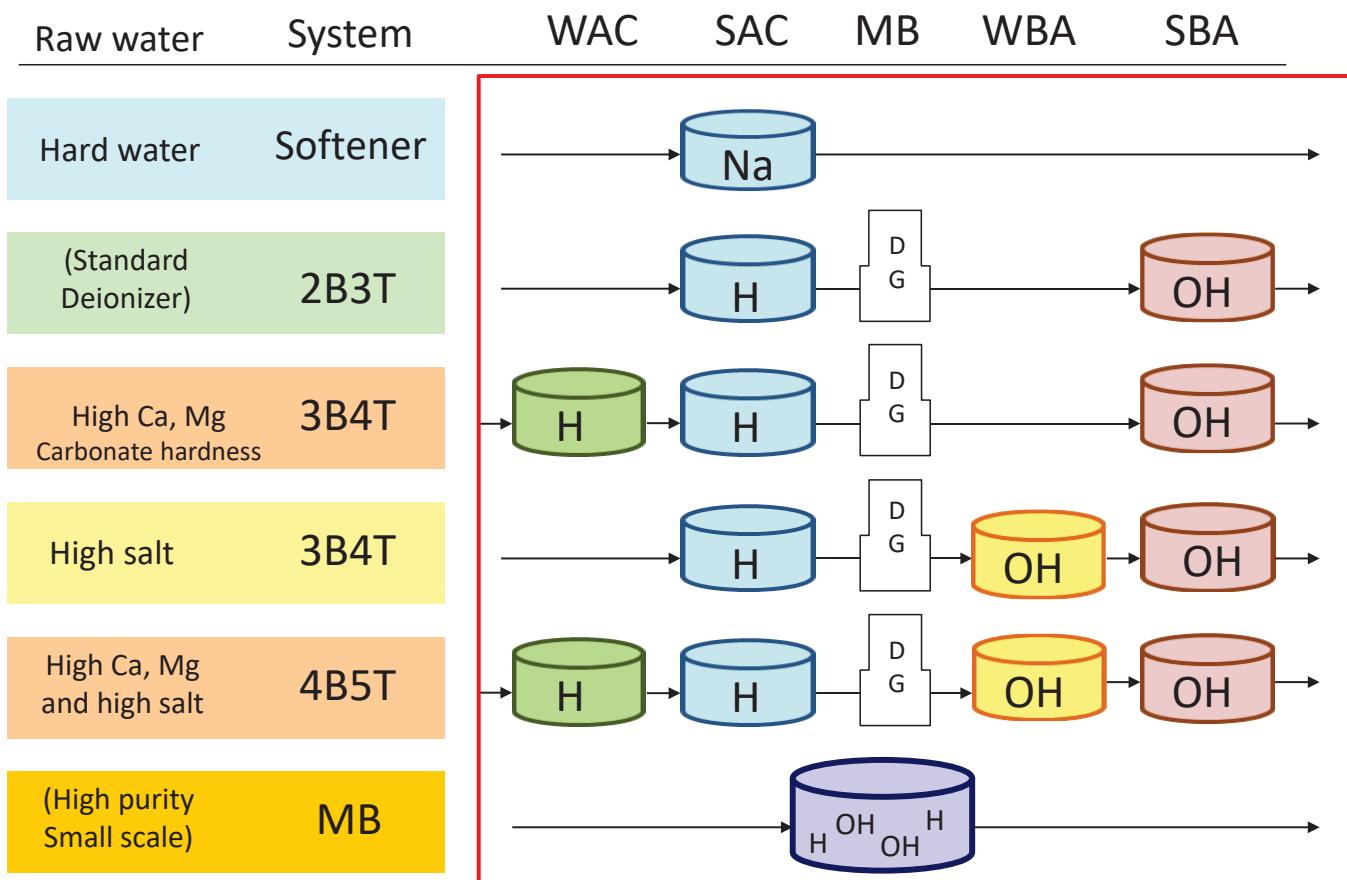


2 Beds 3 Towers (2B3T)



Mix Bed (MB)

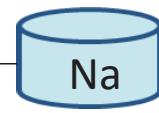
System of Water Treatment



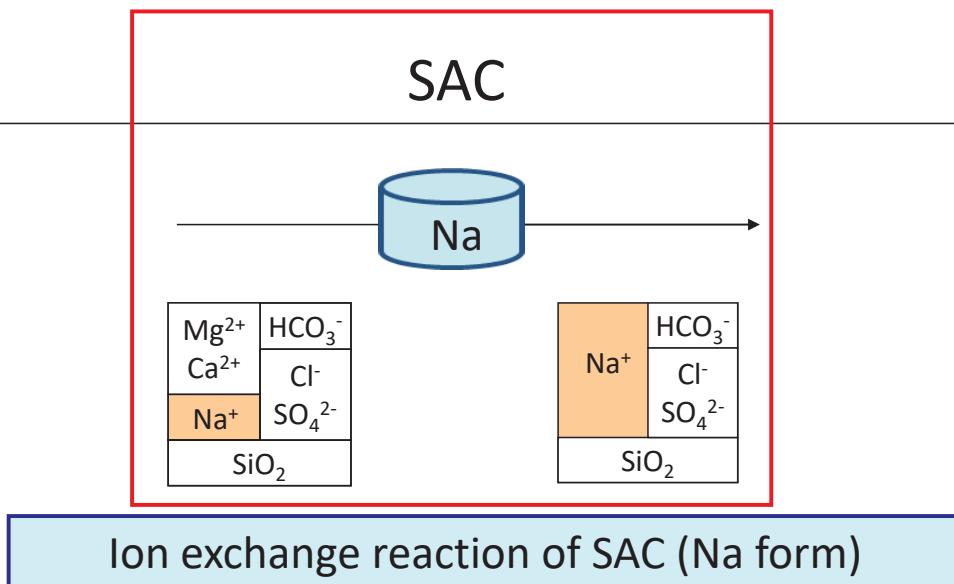
2B3T: 2 Beds 3 Towers, MB: Mix Bed, DG: Degasifier H and OH: Ionic form

P.3

DIAION™ for Softener

Raw water	System	SAC	SBA
Hard water	Softener		
	Standard	SK1B	
	Uniform	UBK08	

Cation Exchange Reaction (e.g. Softener)



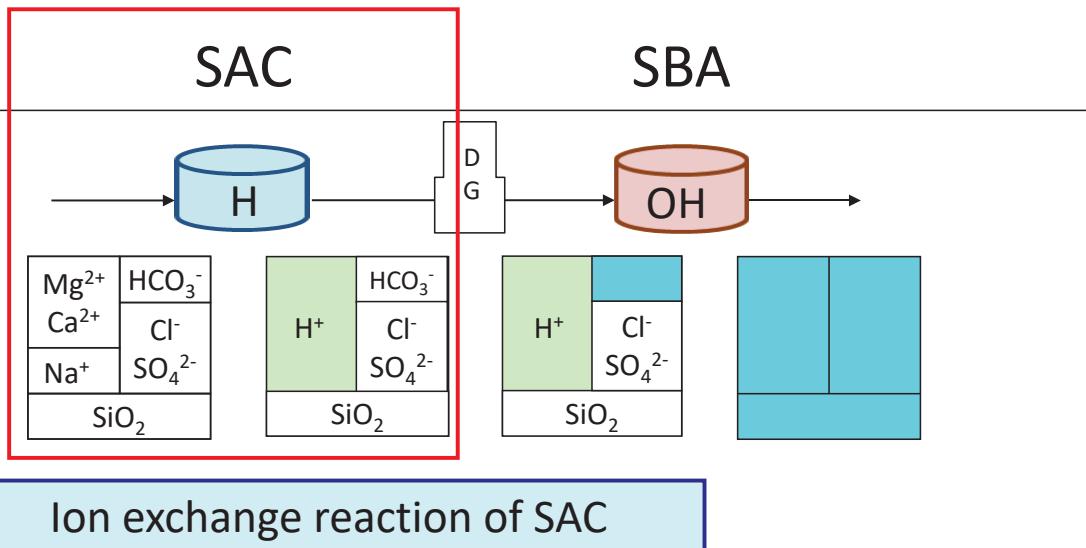
<Softening>



DIAION™ for 2B3T, 3B4T

Raw water	System	WAC	SAC	SBA
(Standard deionizer)	2B3T			D G
Standard		SK1B		+ SA10A
Uniform		UBK08		UBA100
High Ca, Mg	3B4T			D G
Standard		WK40L	+ SK1B	+ SA10A
Uniform		----	UBK08	UBA100

Cation Exchange Reaction (e.g. 2B3T)



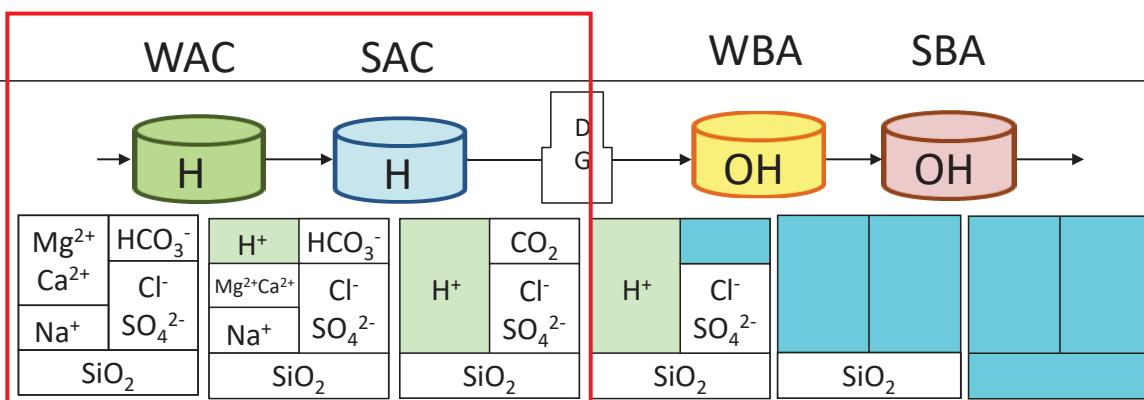
<Salt Splitting>



<Softening>



Cation Exchange Reaction (e.g. 3B4T, 4B5T)



<Softening>



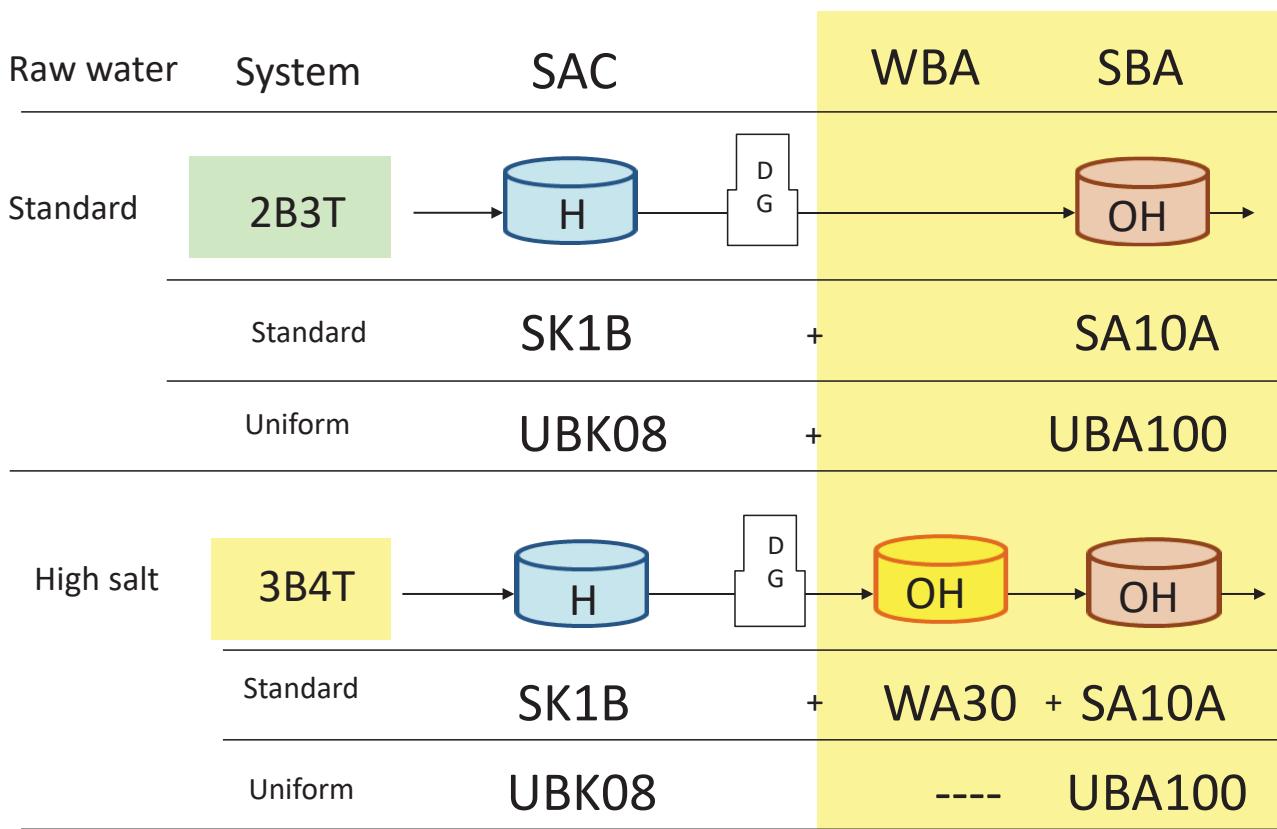
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**Ion exchange reaction of SAC**

<Salt Splitting>



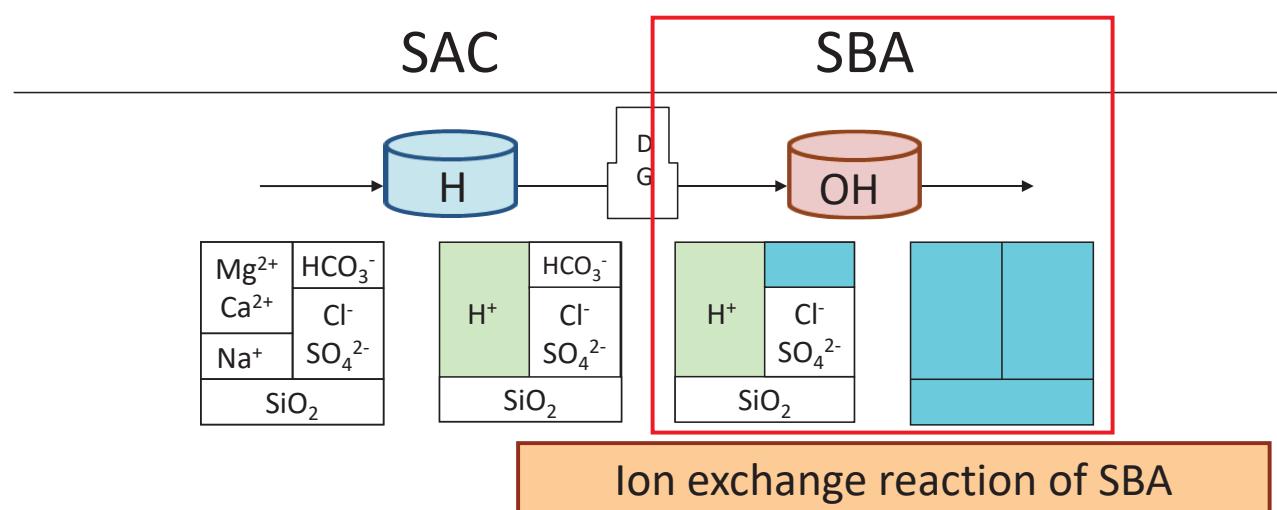
DIAION™ for 2B3T, 3B4T



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P.9

Anion Exchange Reaction (ex. 2B3T)



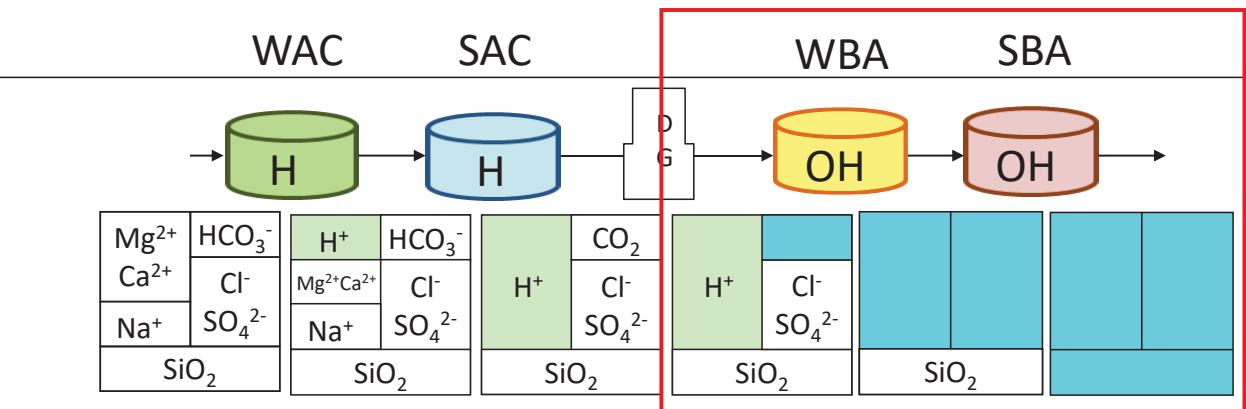
SBA can split salt



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P.10

Anion Exchange Reaction (e.g. 3B4T, 4B5T)



Ion exchange reaction of WBA

<Salt Splitting>
 $\text{R-NOH} + \text{NaCl} \xrightarrow{\text{Regen.}} \text{R-NCl} + \text{NaOH}$

WBA can not split salt

<Neutralization>
 $\text{R-NOH} + \text{HCl} \rightarrow \text{R-NCl} + \text{H}_2\text{O}$

Ion exchange reaction of SBA

<Silica removal>
 $\text{R-NOH} + \text{SiO}_2 \rightarrow \text{R-NHSiO}_3$



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P.11

DIAION™ for 4B5T & MB

