



HCl recycle ion exchanger

Brief introduction

There is a vertical partition separation in the middle of the recycle ion exchanger, and the treated water and regeneration liquid are from top to top. The countercurrent regeneration process with the flow direction of regeneration liquid opposite to that of water during equipment operation is adopted. According to the requirements of water treatment process, strong or weak cation (anion) ion exchange resins can be filled respectively to form different water treatment equipment. The equipment can meet the requirements of industrial boiler, power station boiler, textile, printing and dyeing, electroplating, cooling, beverage and other water.



Characteristic:

It has the advantages of large working exchange capacity, large periodic water production, high effluent quality, low regenerant consumption, good energy-saving effect, no disordered layer of exchanger and small equipment space (the height of new equipment is 1.5-2.0m lower than that of old equipment).

Technical data:

Model	Work P (MPa)	Inlet water hardness (mg/L)	Treatment flow rate (m/h)	Resin filling height (mm)	Output (t/h)	Periodic water yield (t)
HCL-500	0.2~0.4	≤250	15~25 (Max.30)	2000	1.3~2.2	66.1
HCL-800				2000	3.4~5.6	181.8
HCL-1000				2370	5.3~8.8	341.4
HCL-1200				2310	7.6~12.7	393.6
HCL-1500				2360	11.8~19.7	790.4
HCL-1800				2460	17.2~28.6	1191.0
HCL-2000				2540	21.2~35.3	1533.7
HCL-2600				2490	35.8~59.7	2578.7
HCL-3000				2510	47.~79.5	3311.2



Reference data for exchanger design:

Name		Na Bed	H Bed	OH Bed	Cl Bed
Resin grade		732"		717"	
Exchange	Operating filtration rate(m/h)	15~25			
	Exchange end point control	Residual hardness \leq 1.5 (mg/L)	Na $^{+}$ \leq 60 (ug/L)	SiO $_2$ \leq 20 (ug/L)	Picking degree \leq 17.5~25 (mg/L)
Small backwash	Velocity(m/h)	5~10			
	Time(min)	5~10	10~15	10~15	10~15
Regenerate	Regenerant	NaCl	HCl	NaOH	NaCl
	Consumption (g/g-eq)	70~80	45~50	50~64	70~80
	Concentration (%)	8~10	4~6	2~4	8~10
	Velocity(m/h)	3~5			
Washing	Velocity(m/h)	10~15			
	End point control	Drainage hardness \leq 1.5 (mg/L)	Drainage acidity reaches the target	SiO $_2$ \leq 100 (ug/L)	Picking degree \leq 25 (mg/L)
Working exchange capacity (g-eq/m 3 resin)		900~1100	1000~1200	300~350	300~350

Operation process:

- exchange: raw water flows from 1 to 2, and its flow rate is optional, generally 20 ~ 25m / h.
- small backwashing: from 3 to 4, the time is 5 ~ 10min.
- regeneration: the regeneration liquid is discharged from 5 to 4, and its flow rate is optional, generally 3 ~ 5m / h.
- washing: clean water enters from 1 to 6, and its flow rate is optional, generally 10 ~ 15m / h. Discharge until the effluent is qualified.

Generally, the large backwashing of counter current regeneration fixed bed and external scrubbing of floating bed do not need to be carried out on the equipment, because there will be no dirt at the bottom of the equipment bed. Under the promotion of exchange and regeneration liquid, the resin layer can be pushed in two directions to adjust its resistance.