



Exhausted Lye recovery in Ion Exchange Process

Lye help to clean the Ion exchange resin to reuse in IE process, these lye turn into waste after work. "Organic Tubular Membrane+NF" can purify and recovery the waste lye.

Organic tubular membrane system (with 10000 Dalton) can remove the SS particles and small molecule impurities of the waste lye; then the permeate flow into NF system. It secures NF system to have a desired flux, longer life and stability.

The system adopt Kaimi special series tubular membrane, PH range 0-14, Max NaOH tolerance is 25%.

Project Brief

- Project site: [Hebei China](#)
- Treatment capacity: [1600T/D](#)
- Start at: [August of 2010](#)
- Model: [KMTc-0512-SD](#)
- Specification: [12.5mmPES, E30 TM](#)

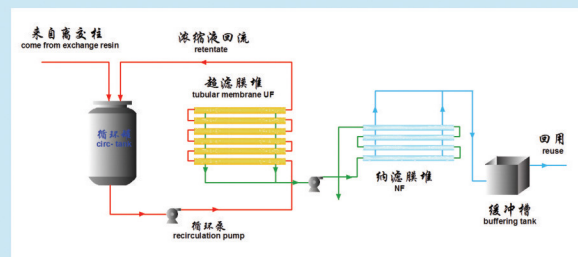
Project Brief

- Module mode: [Braced membrane module with 37 channels;](#)
- Membrane flux: [65LMH;](#)
- Membrane per set: 48pcs; series connection: [12pcs](#)
- Distribution: [4 × 12 /set; total 5 sets](#)
- Capacity per set: [16m³/H](#)

Project Overview



Tubular Membrane System



Project Case >>>

· Process Characteristics

- 1、Alkali concentration: 2-4%;
- 2、Transmittance of mixed samples after treatment $\geq 90\%$ (measured about 470nm);
- 3、Color of recovery Lye: colorless and clear (meet the recovery requirement);
- 4、Tubular membrane system recycle rate $> 90\%$; NF system recycle rate is 83%.

· Economic Benefits

Annually savable Solid alkali		Equipment	
Lye contain	2%-4%	UF&NF Equipment	15,000,000 RMB
Recovery-able Lye	1600 tons/day*90%*83%= 1195.2 tons/day	Power consumption	
Savable alkali	1195.2 tons/day*3%= 35.86tons/day	UF equip power	310KW
Savable Solid alkali	35.86 tons/day*1800 Yuan* 300day=19,364,400RMB/year	NF equip power	262KW
Annually water save		Electricity cost	572KW*20h*1RMB* 300 days=3,432,000RMB
water save	1195.2 tons/day*97%= 1159.3 tons/day	Wages =450,000 RMB (3 shifts, 3 workers /each shift)	
Water bill save	1159.3tons/day*3 RMB*300days= 1,043,400 RMB/year	TOTAL: 13,882,000 RMB	
Annually Cost Save: 20,407,800 RMB			

· The UF-NF system help to recovery the capital in one year, also recovery a large amount of NaOH and water. It optimize resources allocation, benefit to environment and society.

Jiangsu Kaimi Membrane Technology Co., Ltd

Address: 9 Huangma Rd, Maqun Technology
Zone, Nanjing 210049, P.R. China
Email: kaimitech@163.com

TEL: 0086-25-84815076
FAX: 0086-25-84813190
Web: www.kaimitech.com