DiaFellow NR solutions

DiaFellow NR

Uses-1
Recovery of useful metals
Features | Recovers high concentrations of valuable metals such as Ni and Cu from wastewater.

Uses-2
Compaction to reduce sludge volume
Features | Renders metal ions insoluble with alkaline chemicals (without using flocculants or high-polymer coagulant) to effectively reduce sludge volume.

Uses-3
Compliant with wastewater regulations
Features | Compliant with stricter wastewater regulations.

Uses-4
Wastewater recycling
Features | Purifies wastewater for recyling and reuse.

DiaFellow NR specifications

① Base unit

② Chemical feed unit (optional)

③ Water supply unit (optional)

Equipment type	NR100	NR200	NR400
Standard treatment capacity ※1 (m³/d)	40	80	160
Dimensions: Consists of three main units			
① Base unit	1,500W×3,850L×3,300H	2,250W×4,350L×3,500H	2,450W×6,050L×3,600H
② Chemical feed unit (optional)	1,500W×2,700L×1,000H	2,200W×4,300L×1,600H	2,200W×4,800L×2,100H
③ Water supply unit (optional)	1,500W×2,200L×1,500H	1,700W×3,100L×1,600H	2,000W×3,600L×2,000H
Key components	Hollow fiber membrane module 100m²	Hollow fiber membrane module 200m²	Hollow fiber membrane module 400m²
① Base unit	Pretreatment tank, membrane separation tank, sludge drawing pump, membrane filtration pump, blower, control panel, common foundation		
② Chemical feed unit (optional)	Chemical tank, chemical feed pump, common foundation		
③ Water supply unit (optional)	Raw water tank, raw water pump, treated water tank, treated water pump, common foundation		
Machinery weight (operating weight = kg)			
① Base unit	6,000	12,000	18,000
② Chemical feed unit (optional)	2,000	5,000	8,000
③ Water supply unit (optional)	2,000	3,000	5,000

※Treatment capacity determined through preliminary testing.

Caution
■Read all warnings before using this system, and operate properly.
■Product specifications may be altered without notice for improvement or other purposes.

Distribution Source

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Packaged Treatment System for Wastewater Containing Metals

DiaFellow NR

- Recovery of useful metals
- Compaction to reduce sludge volume
- Compliant with wastewater regulations
- Wastewater recycling

There are many complex issues associated with treatment of wastewater containing metals.
The DiaFellow NR from Mitsubishi Chemical Aqua Solutions tackles these issues.

MITSUBISHI CHEMICAL AQUA SOLUTIONS CO.,LTD.

Packaged Treatment System for Wastewater Containing Metals

DiaFellow NR

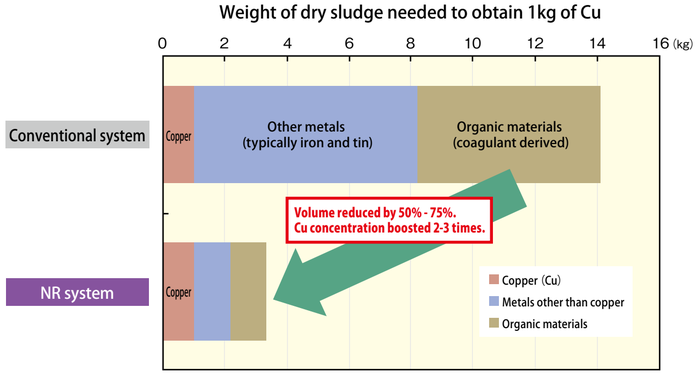
DiaFellow NR is effective in treating wastewater containing metals.

DiaFellow NR performance table

1 Recovery of useful metals

2 Compaction to reduce sludge volume

Example:
Reduced sludge volumes by 50% - 75%.
Boosted concentration of useful Cu metal by two to three times.



Metal ions are rendered insoluble using only alkaline chemicals,
without flocculants (such as PAC or iron chloride) or high-polymer coagulant (PAM),
in order to reduce volume and boost the concentration of useful metals.

DiaFellow NR performance table

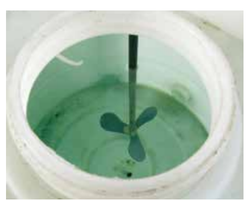
3 Compliant with wastewater regulations

Example: Ensures compliance with strict wastewater regulations.

Number	Company name	Metal	Raw water	Treated water	Wastewater regulations
1	D Co.	Ni	6.5mg/L	<0.05mg/L	<0.1mg/L
2	U Co.	Ni	15mg/L	<0.05mg/L	<0.1mg/L
3	K Co.	Ni	0.18mg/L	<0.05mg/L	<0.1mg/L
4	S Co.	Ni	0.18mg/L	<0.05mg/L	<0.1mg/L
5	M Co.	Ni	30mg/L	<0.05mg/L	<0.1mg/L
		Cu	3.4mg/L	<0.05mg/L	<0.3mg/L
6	S Co.	Ni	210mg/L	<0.05mg/L	<0.1mg/L
7	A Co.	Ni	95mg/L	<0.05mg/L	<0.1mg/L
8	K Co.	Cu	100mg/L	<0.05mg/L	<0.3mg/L
9	E Co.	Ni	500mg/L	<0.05mg/L	<0.1mg/L
Appearance					

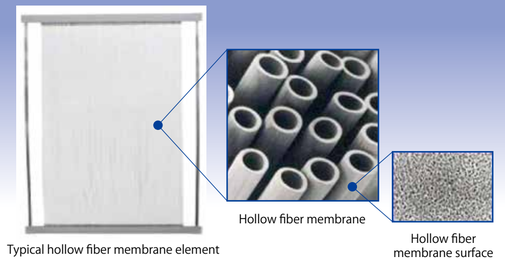
4 Wastewater recycling

Example: Treated water can be reused for applications such as washing.



Treated water held in washing tank.

Hollow-fiber membrane used in DiaFellow NR

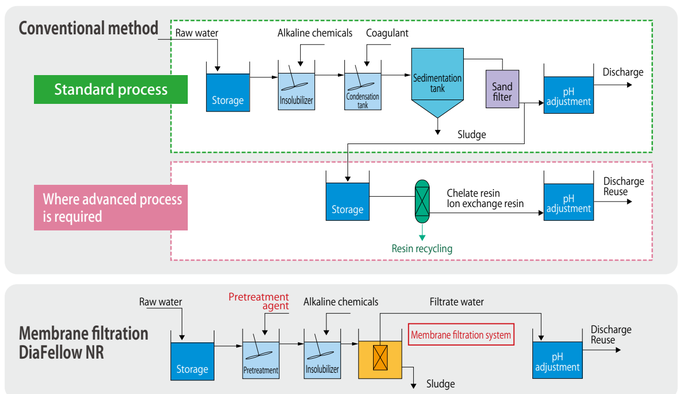


Hollow fiber membrane - features

1. Excellent chemical resistance
   - Uses PVDF for improved acid and alkaline resistance
2. High mechanical strength
3. High flux (water permeability)

DiaFellow NR reliability and compact design

DiaFellow NR flow sheet



DiaFellow NR application table

Name	Suitability	Standard value Standards for elimination of electroplating contaminants (GB21900-2008)
Flourine	○	10
Hexavalent chromium	◎	0.1
Nickel	◎	0.1
Copper	◎	0.3
Zinc	◎	1
Cadmium	◎	0.01
Mercury	×	0.005
Lead	◎	0.1

(Key: ◎ Best、○ Suitable、×Unsuitable)