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267

(72) 101526/6 5 - 104

91 - 68 101 - 403

907 114 - 1401

106 - 1 106 - 1304

(74)
:

(54) .

F), (MF), , (RO) . , , (MM
, , .

가 가 , , , 가 가 , 가 , 가
가 , (MMF), (MF) (RO) , 가

1

, , , , , ,

1 (MMF), (MF) (RO)

.

10: 20:

30: 40:

50: 60:

70: 80: pH

90: 100:

110:

2 1 (60), (70)

.

F), (MF), , (RO) . , , (MM

가

(,)

(COD), (TN),

0.5m/sec	(30)	24	10psi(0.7kg/cm ²)	(a)	(20)
(Catridge) 2	1~10μm, (Depth Filter)	59~69mm,	700~800mm	1	60 가
2~6				(b)	(70)
H ₁₂ Na ₄ N ₂ O ₈), (HCl)	(100) (Na - DDS, C ₁₀ H ₁₂ Na ₄ N ₂ O ₈) (C ₃ H ₄ (OH) (COOH) ₃) H ₂ O)		1	(b)	(70) (Na - EDTA, C ₁₀
			pH	1	
				가	
~8m/hr		15m/hr		가	7
					가
(20) (Alum) (20) (70)	(10) (Ferric Compound)	0.5~1μm 5~10mg/L	가	66.7m ³ /hr	
(fouling)	(Spiral Wound)	5	가	(Jar test) (SDI: Silt Density Index)	(50)
SDI	SDI 1.5			5~10mg/L	

(20) 2,700mm, 2,400mm 3 (2). 0.5m/sec
 (30) 10psi (0.7kg/cm²)
 24 1
 가

(20) (Antiscalant) 4~5mg/L
 (30) 12% - (NaOCl) 18~20mg/L (50)
 (ORP meter) , ORP 150~200
 (Sodium Bi - Sulphate) 7~8mg/L

(housing)
 (cartridge) 0.1~150μm
 가 가
 acrylic) (phenolic)
 (50) 5μm (Catridge)
 64mm, 750mm 1 70 2 (50)
 Depth Filter) 가

(50) (60) (70) (70)

(RO) 가 (Membrane) 가 85%~99.5% ()
 (Raw water)가 (Permeate water)
 (Concentrate water) (Drain)

2 1 (70)

2 (70) (Membrane Element) 108
 (Vessel) 6 가 (70) 3 . 1

11 , 2 5 , 3 2 가
 (100) (Na - EDTA, C₁₀ H₁₂ Na₄ N₂ O) 1
 8), (Na - DDS, C₁₀ H₁₂ Na₄ N₂ O₈) 가 , 1000m³ 4.69kg 1
 (HCl) (C₃ H₄ (OH) (COOH)₃)H₂ O) 1000m³ 2.35kg

(70) pH (80) 6.5 (90)
(40) (110)

< 1

1

1,600m³/

1

5~10mg/L

(SS), COD

[1]< , SS, COD

	(%)	(%)
	50 60	90 95
SS	70 90	90 98
COD	10 20	50 60

1
SS COD

2

[2]<

	(mm)	(mm)	(L)	
() ()	1.0~2.00.45~0.71~55~1	500300200200	3,0001,8001,2001,2	:6.15m ²
	010~1515~20	200150	001,100700	:1,550mm

3

[3]<

	(m ³ /ha)	(m ³ /ha)	(m ³ /ha)	(L/m ²)	(kg/cm ²)		(x)
1	67.8	11.1	4.9	30.3	16.1	66	11 x 6
2	23.8	10.8	6.1	23.3	14.0	30	5 x 6
3	6.1	15.2	12.2	14.9	10.4	12	2 x 6

4

[4]

pH	-	6.3	6.65	7.0	6.0	6.5	6.8
SS	mg/L	1.5	3.6	6.5	0.1	1.2	3.8
CODmn	mg/L	8.6	12.8	18.6	0.8	2.7	4.0
BOD	mg/L	2.3	8.2	14.6	0.5	1.1	4.1
	μs/cm	982	1,069	1,160	39	52.8	72
TN	mg/L	8.4	15.4	21.6	0.8	2.3	3.0
TP	mg/L	0.3	1.0	2.2	0.02	0.08	1.1
TDS	mg/L	950	1,232	1,560	20	32	43
Cd	mg/L	ND*	ND	ND	ND	ND	ND
Cr	mg/L	ND	ND	ND	ND	ND	ND
Cu	mg/L	ND	ND	ND	ND	ND	ND
Fe	mg/L	0.2	0.2	0.2	ND	ND	ND
Mn	mg/L	0.2	0.2	0.2	ND	ND	ND
Ni	mg/L	0.2	0.2	0.2	ND	ND	ND
Pb	mg/L	ND	ND	ND	ND	ND	ND
Zn	mg/L	0.1	0.1	0.1	ND	ND	ND

* ND: (Not Detected)

4 , , TN 7ppm , 가

가 가 , , 가 가 , 가 , (MMF), (MF) (RO)

(57)

1. (10) (20) , (30) (50) , (a); (a) (60) (70) (b); (b) (70) , pH (80) (90) (c);

(b) (110) (70) 가 (40) (d)

2.

1 ,

(a) (Ferric Compound) 0.5~1 μ m 가 (Alum) (20) 5~10mg/L

3.

1 ,

(a) (20) 2,200~3,200mm, 1,900~2,900mm 2

4.

1 ,

(a) (20) 0.5m/sec (30) 10ps i(0.7kg/cm³) 24 1

5.

1 ,

(a) (50) (Catridge) 1~10 μ m, 59~69mm, 700~800mm 1 60 가 (Depth Filter) 2

6.

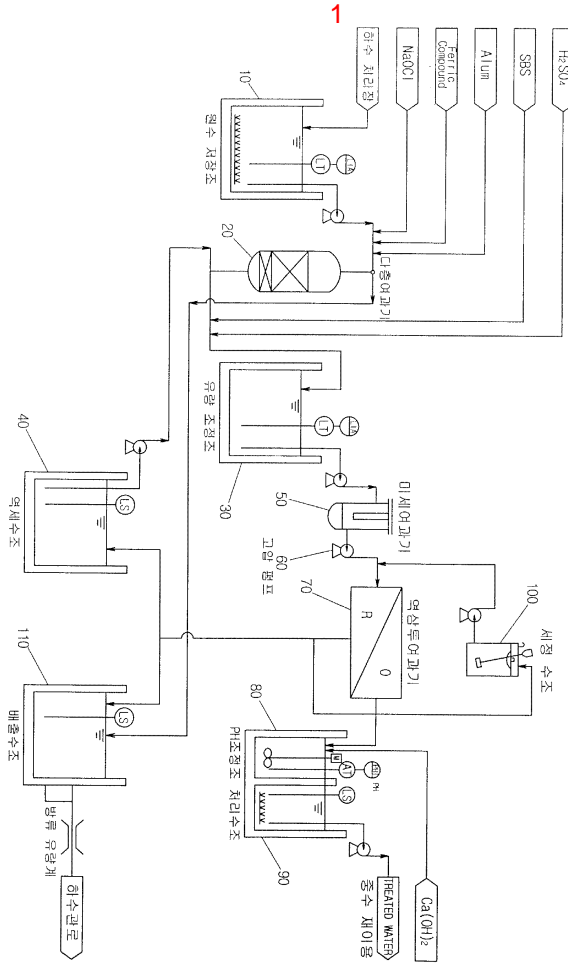
1 ,

(b) (70) 2~6

7.

1 ,

(b) (70) (100)
 (Na - EDTA, C₁₀ H₁₂ Na₄ N₂ O₈), (Na - DDS, C₁₀ H₁₂ Na₄ N₂ O₈)
 1 , (HCl) (C₃H₄(OH)(COOH)₃H₂O)



2

