2012-5-28

“ ”

2011

2011 6

1

1

8

1970 12

1992

2007

“ ” “

”

/

2004 2006

1998

ISO9002 2002

BVQI ISO9001-2000

2011 BVQI

ISO9001-2008 ISO14001-2004 OHSAS

18001-2007 SA 8000-2008

2005

2005 6

2001 2002

2003 2006

DNV KR

ABS BV RINA

PED 2007 “

”

0519-88737346

213111

1300 280

30 130

18000 / 5000 /

10 / 2

2009 30555 2010 35517

2011 19291

157198

09 15.9 10 15.8 11

70750

09 0.52 10 0.95 11 0.7767

2006 5

2007 8

2

2011 6

4

1

18 15

15 100% / 3 3

100% 1121.11 354.25 /

2

1238.97 / 139.25 kwh/

42 / 2471.61 /

SO_2 13 / 10.86 /

706 /

3

1

1989 12 26

2

2003 1 1

3

2004 10 1

4

2008 4 1

5

2011 2 1

6 GB/T15587-2008

7 GB/T3485-1998

8 GB16297-1996

9 CJ343-2010

10 GB12348-2008

11. GB/T 12452-2008

12.

[2008]60

13. [2010]54

1.1

1.2

1-1

1-1

1.3

1-2

1-2

1.	1 2 3 4	6 2 - 6 12		1 2 3 4

2.	1 2 3 4 5 6 /	6 13 - 6 23		1 2 3 4 /
3.	1 2 3 4	6 24 - 6 30		1 2
4.	1 2 3 4 5 / 6 /	7 1 - 7 10		1 2 3 /
5.	1 2 3 4 5	7 11 - 7 15		1 2
6.	1 2 / 3 / 4	7 16 - 9 25		 1 2
7.	1 2 3 4	9 26 - 9 31		1 2 3

1.4

1-1

2011 6 12

1

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3

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7

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1-3

	1 2	1 , . 2
	1 , 2 3	1 2 3
	1 2	1 2 /
	1	1
	1	1 / /

/

2.1

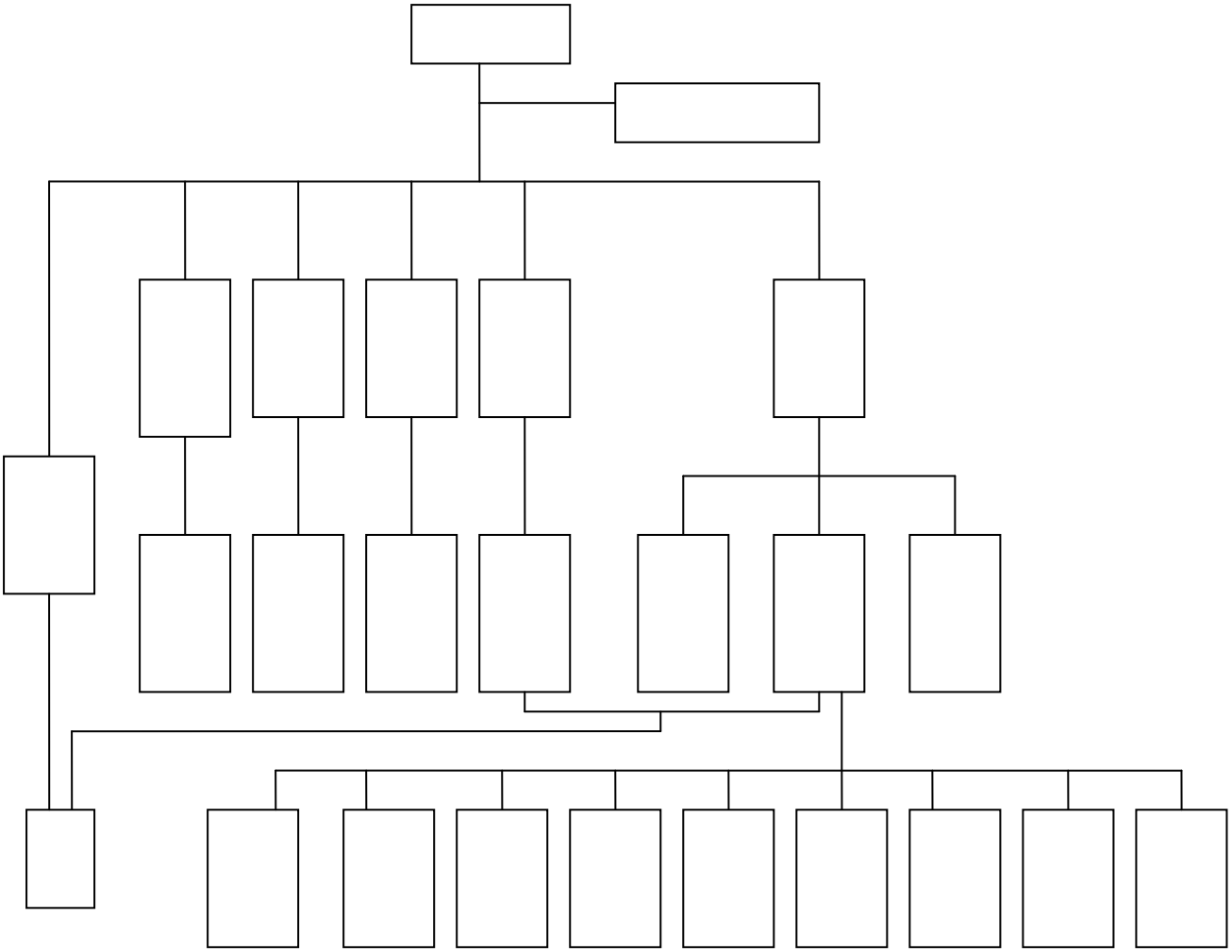
2.1.1


马家头
花园村
双润粉末冶金公司
可达光电仪器公司
北洋建材公司
荒田村
X304
X304
X304
S232
S232
G42
常州渊博文化用品公司
芳茂山服务区-餐厅
科能电力机械公司
东湖城

2-1

4 30

2.1.2 2-2



2-2

2.1.3

1

2.2

2.2.1

1

2

3

2.2.2

1

2

3

2.2.3

1

9

2-1 3

	/t		
	2009	**2010**	**2011**
	22000	25000	13000
	8200	10000	6000
	323	472	265
	32	45	26
t	30555	35517	19291
	15.9	15.8	7.075
	0.52	0.95	0.7767

2

2-2

2-2

	HF	7664-39-3	:20.01 120 35.3% -83.1 1.26 75%	LC_{50}1276mg/L 1 33-41mg/m3, 1-5	,
	HNO3	7697-37-2	1.51 g/cm^3 -42 83		

			1.5		

2-3

		t					
		2009		**2010**		**2011**	
	40%	55	0.002464	45	0.001767	20	0.001508
	98%	147	0.006585	136	0.005339	59	0.004448
	3	33	0.001478	36	0.001413	18	0.001357
		24200	1.084084	28000	1.099246	15000	1.130795
		8600	1.04878	10300	1.03	6200	1.033333
	40%	20	0.002439	18	0.0018	8	0.001333
	98%	53	0.006463	50	0.005	24	0.004
	3	12	0.001463	14	0.0014	8	0.001333
		340	1.052632	496	1.050847	278	1.049057
		35	1.09375	49	1.089	28	1.0769

2-3

MSDS

3

2-4

					kw	
1		1	1000*3000	CZ61100	50	
2		1	600*2800	C630	60	
3		2	50* 131	/	37	
4		7	400mm	GB4240	35	
5		2	250KG	C41-250	16	
6		3	60- 160	W56-160	12	
7		5	/	/	204	
8		2	/	195	16	
9		2	/	MC-275	4.4	
10		1	315T	Y32-315	30	
11		1	/	/	1	
12		1	/	/	45	
13		1			160	
15		1	DD2320/0.5	/	100	
16		1	/	/	7.5	
17		2	/	/	20	
18		1	/	DSB-25	5.5	
19		6	/	/	45	
20		2	/	/	13	
21		2	/	/	1300	
22	/	6	/	/	200	
23		1	20A-630A	ZX5630B	40	
24		1	100A	PC/00	15	
25		9	/	ZZJ-01	2260	
26		9	/	LG60-H	1950	
27		2	5T	LD5-22.5A5D	18	
28		1	14.73 ×9.5	EJ016	80	

29		6	/	/	47	
30		7	19.5 ×5T	LD5-19.5A5D	63	
31		5	19.5 ×5T	QD5-19.5A5D	65	
32		6	/	LG60-H	870	
33		2	/	/	77	
34		1	≤ 57	FHC-315SA	3	
35		1	208- 630	STPG600		
36		4	320×400×400	DK7732	12	
37		1	150KG	C41-150	7.5	
38		1	≤ 194	16.2M	50	
39		1	≤ 150	39.6M	45	
40		1	≤ 150	20M	50	
41		2	/	/	18	
42		1	≤219	CHT4106	70	
43		1	4-16	133- 610	110	
44		2	7.23 ×5T	MH5-7.23A3D	18	
45		2	/	/	160	
46		3	11 ×0. 5T	SJY0.5-11	9	
47		7	/	/	2210	
48		5	/	/	257	
49		33	19.5 ×5T	LD5-19.5A5D	297	
50		7	19.5 ×5T	QD5-19.5A5D	91	
51		6	/	/	272	
52		4	/	/	1425	
53		3	/	/	17	
54		2	/	MC-275	4.4	
55		2	208- 630	STPG600	13	
56		4	150KG	C41-150	31.5	
57		2	/	/	45	
58		1	100T	LB100	13	
59		10	/	/	305	
60		1	250m^3/h 0.1mpa	14.5*1.5*1.2m 3	50	
61		1	22M	≤ 219	45	
62		1	/	/	160	
63		2	/	/	15	
64		3	/	ZZJ-01	1330	
65	/	1	40A-400A	ZX5-400-2	200	
66		3	/	/	85	
67		2	20A-630A	ZX5630B	80	
68		1	10A/10V-200A	WS-200	7.5	
69		1	/	G160-D	20	

70		8	/	/	59	
71		2	/	/	1100	
72		1	14 114.3	CUA-120	10	
73		1	16 114	/	8	
74		1	10 50	/	10	
75		1	15 89	/	7	
76		1	89 508	/	8	
77		1	160KVA	/	160	
78		4	Φ2m	/	100	
79		4	20*1.8m	/	100	
80		3	/	/	20	
81		4	/	/	400	
82		5	/	CW6163D	250	
83		2	25	/	16	
84		1	50	ZX6350A	8.5	
85		3	/	/	20	
86		1	50* 131	/	20	
87		10	19.5 ×5T	LD5-19.5A5D	297	
88		2	19.5 ×5T	QD5-19.5A5D	91	
89		1	/	BODA-4000-I-0	15	
90		1	/	PC 200-D	20	
91		2	/	B81070A	30	
92			/	2000T	20	
93		4	/	YU32-500	15	
94		2	/	STPG-600	13	
95		1	/	JCB-22	17	
96		1	/	ZS7550C	20	
97		1	/	/	80	
98		3	/	/	50	
99		1	/	/	15	
100		1	/	/	10	
101		1	/	/	25	
102		1	/	/	30	
103		2	/	CAK4058	30	
104		8	/	CA6140A	50	
105		3	/	Z5150	100	
106		5	/	GX4250X	60	
107		3	/	PK-400	80	
108		2	/	RT3-160-11	200	
109		12	630*1500	CA6163A	50	
110		3	500	B6050B	30	
111		1	35	Z535	20	

112		2	315×1000	M131	40	
113		1	300×1000	X5030	15	
114		21	10.97 × 3T	LD3-10.97A3D	189	
115	40	1	/	40	20	
116		2	10m 450mm 850 ±50	/	40	
117		17	19 45	LG30-H	5355	
118		10	15 36	LGE30	3150	
119		2	/	NGL-135-11Q	160	

( )

4

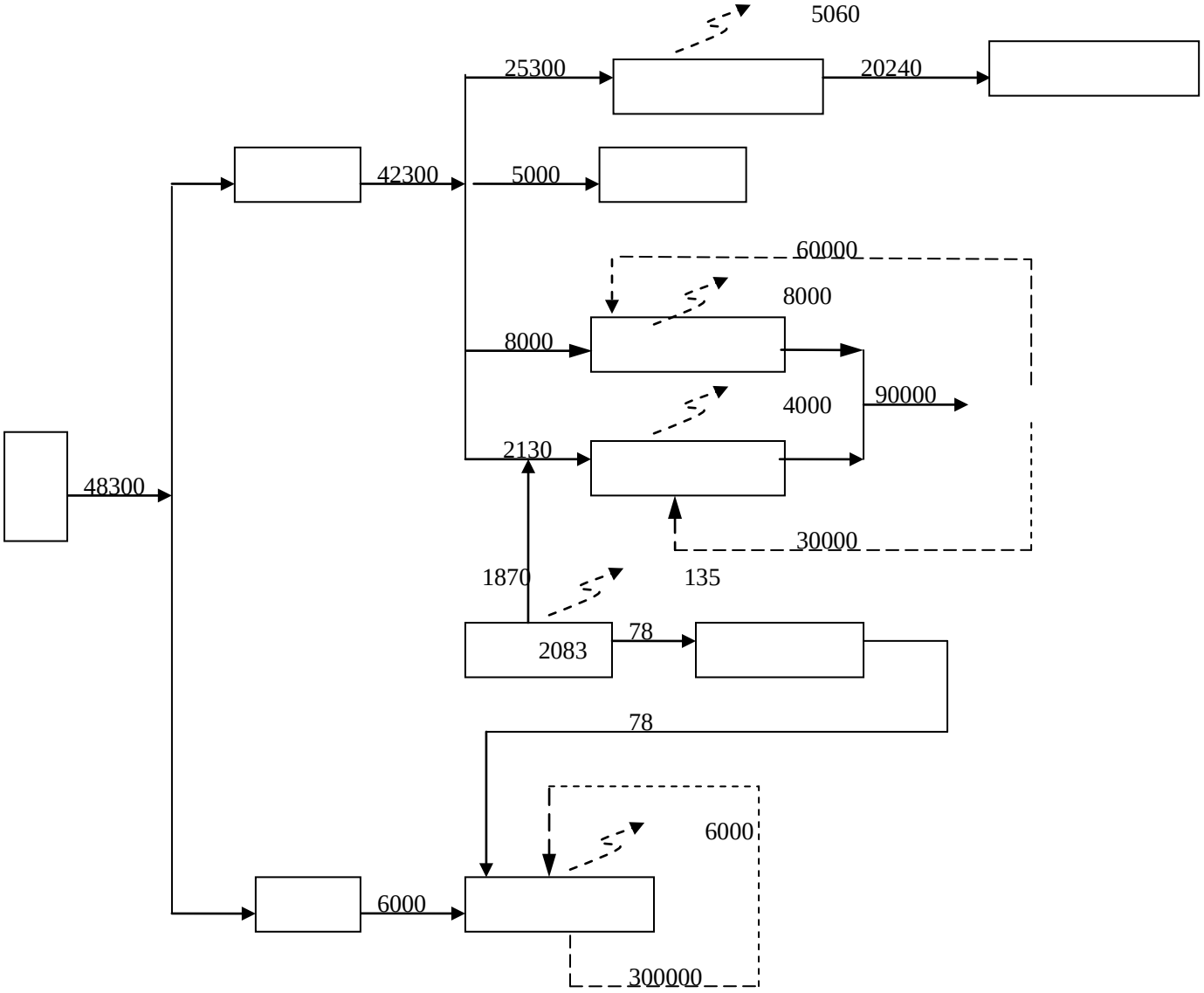
2-5

2-5

		2009	**2010**	**2011**
/t		30523	35472	19265
	t)	36830	42300	20800
		13	22	11
	t	5000	6000	3000
t/t		1.370442	1.361637	1.235401

2-3 2010

40%



2-3 t/a

90000t/a

300000t/a

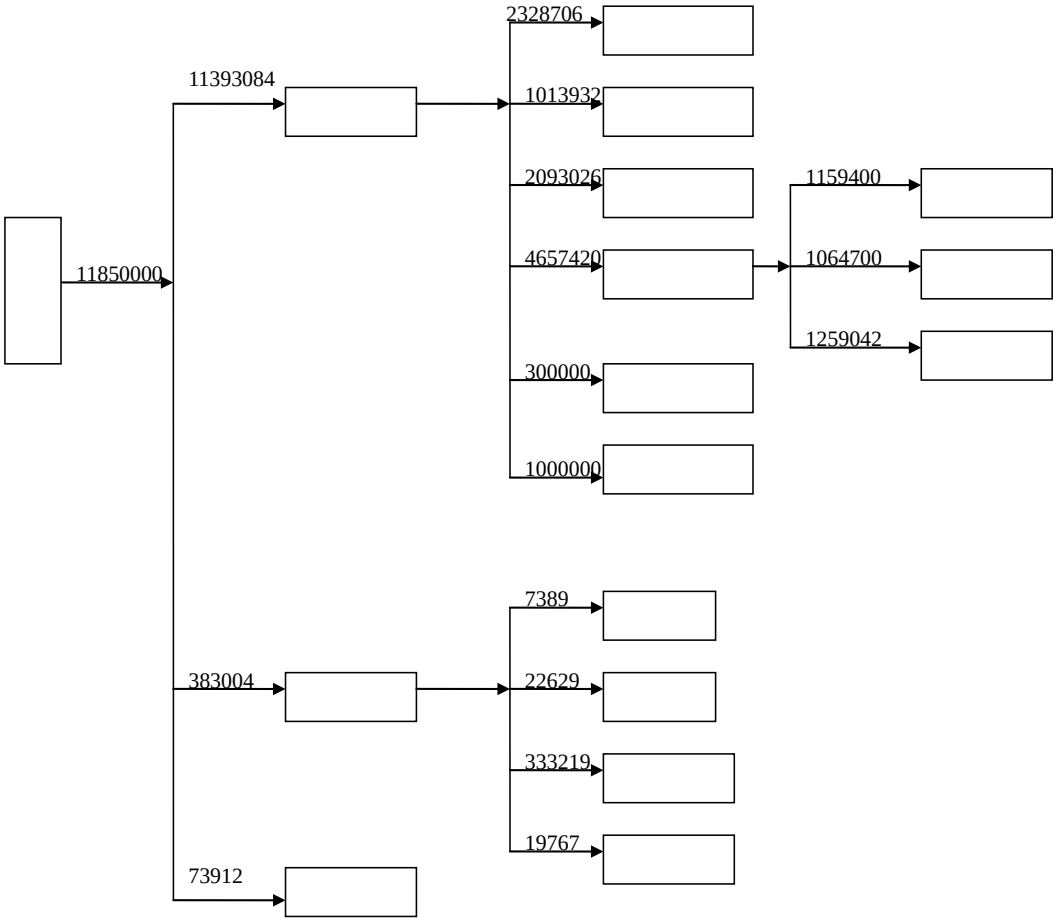
5

2-6

		2009	2010	2011
/t		30523	35472	19265
		1035	1185	557
		776	1185	560
	/t	339.0886	334.0663	289.1254
		388	378	201
		1629	1588	854
	/t	127.1173	106.5629	104.3343
		1890	2083	1079
		68	75	39
	t/t	0.0619	0.0587	0.056
		4517.4	4664.44	2173.48
		452	467	217
	t/t	0.148	0.1315	0.1128
		1374	1577	833
		234	268	142
	t/t	0.045	0.0445	0.0432

2-6

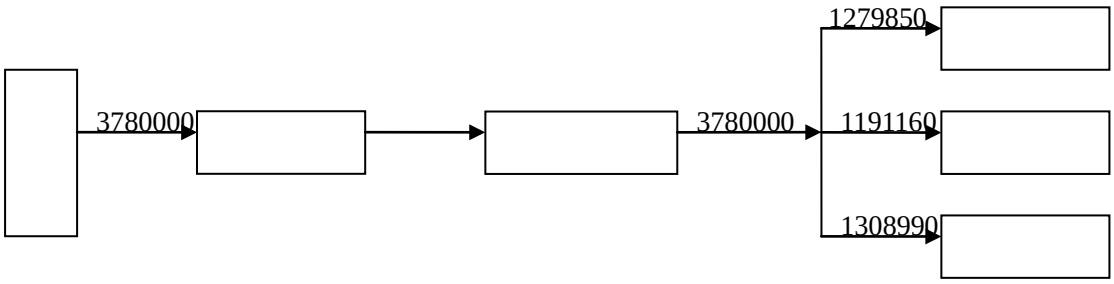
2010



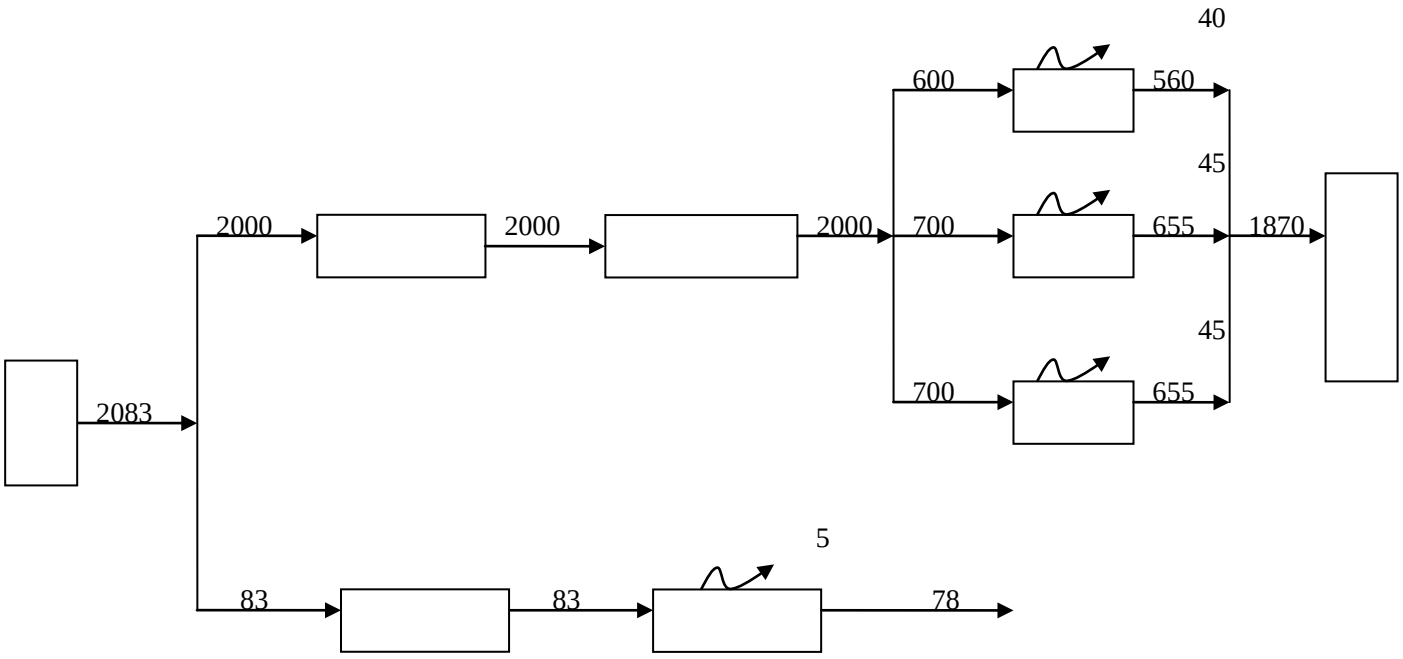
2-4 /a

6.23%

GB/T 3485-1998



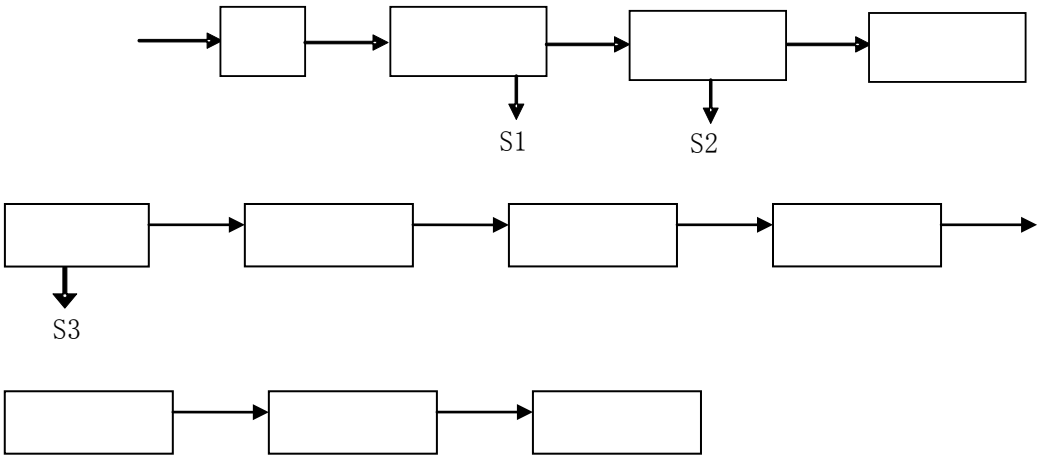
2-5 m^3/a


40
600
560
45
2000
2000
2000
700
655
1870
45
2083
700
655
5
83
83
78

2-6 t/a

6

—


S1
S2
S3

a)

b)

c)

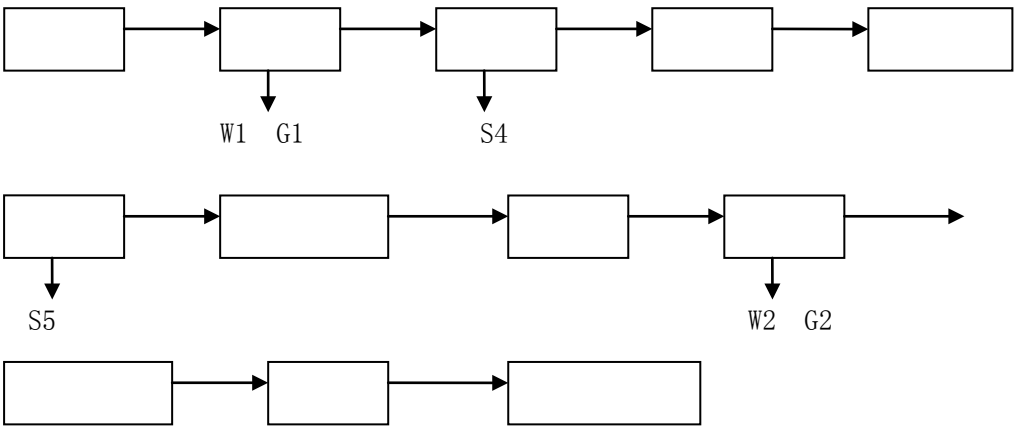
d)

e)

f)

g)

h)



a)

b)

50-60

15%HNO_3

8%HF 77%

15

c)

d)

e)

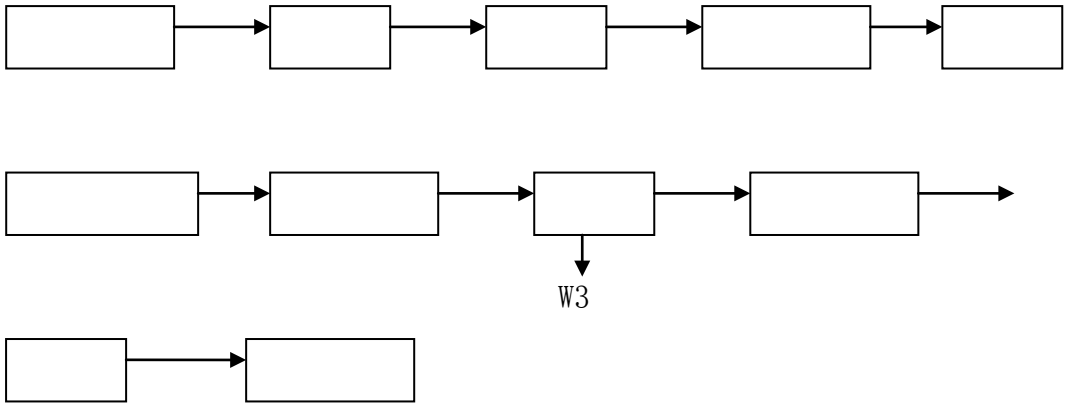
3

f)

g)

600-700

h)



a)

b)

c)

d)

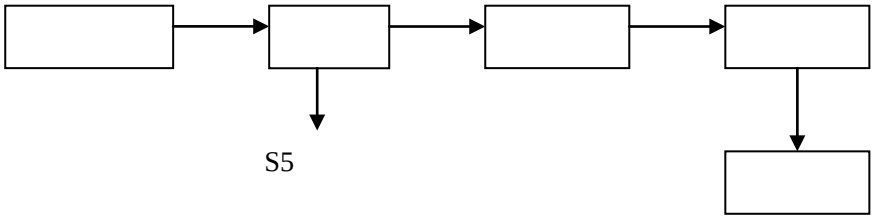
e) 8mm

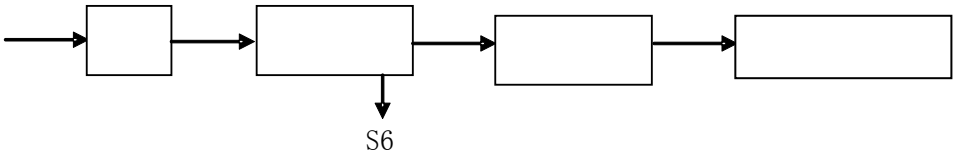
8mm

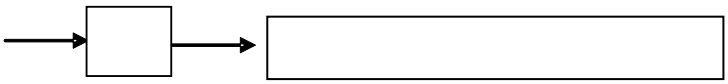
f)

g)

h)







2.3

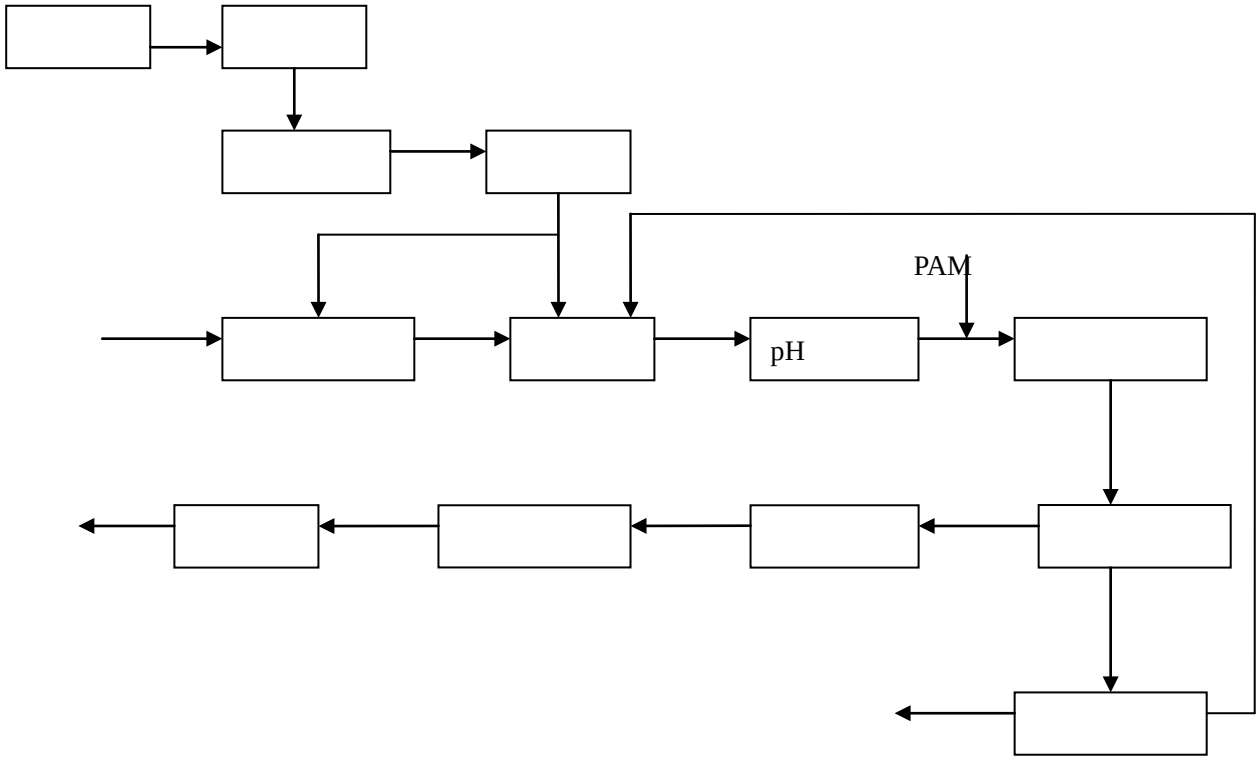
2.3.1

1

2-7 2010

	t	COD_{Cr}		SS		NH_3-N		TP								pH	
		mg/L	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a		
	90000	300	27	300	27	6	0.54	/	/	100	9	70	6.3	2	0.18	1-3	
	20240	400	8.096	250	5.06	30	0.6072	5	0.1012	/	/	/	/	/	/	6-7	

2



2-7

a)

pH 5

pH pH 8

PAM

b)

2-8 2-9

2-8

1			3	
2			3	
3			3	
4			3	
5	pH		3	
7			3	
8			3	
9			3	
10			3	
12			3	

2-9

1		Φ1800×3600		3	
2		/		3	/
3		/		9	/
4		/		3	/
5		/		3	/
6		/		3	/
7		XAJ60-800-UB		3	/
8		/		3	/
9		/		6	/

c)

2−10

2-10 **mg/L**

COD_{Cr}			SS		
		(%)			(%)
300	50	/	300	10	96.7
pH					
1-3	7-8	/	100	0.3	99.3
2	0.054	97.3	70	0.043	99.9

5

30t/h

10t/h

2-11 GB18918-2002

A

2-11 **mg/L**

	pH	COD_{Cr}	SS	NH_3-N	TP
	6 9	500	400	35	8

①pH

2-12

		2009	**2010**	**2011**
1	t	18400	20240	11960
2	COD (t)	7.36	8.096	4.784
3	SS (t)	4.63	5.06	3.1
4	t	0.55	0.6072	0.36
5	TP (t)	0.095	0.1012	0.059

2.3.2

1

HF NOx

SO_2 NO_X

2

5

98% 15

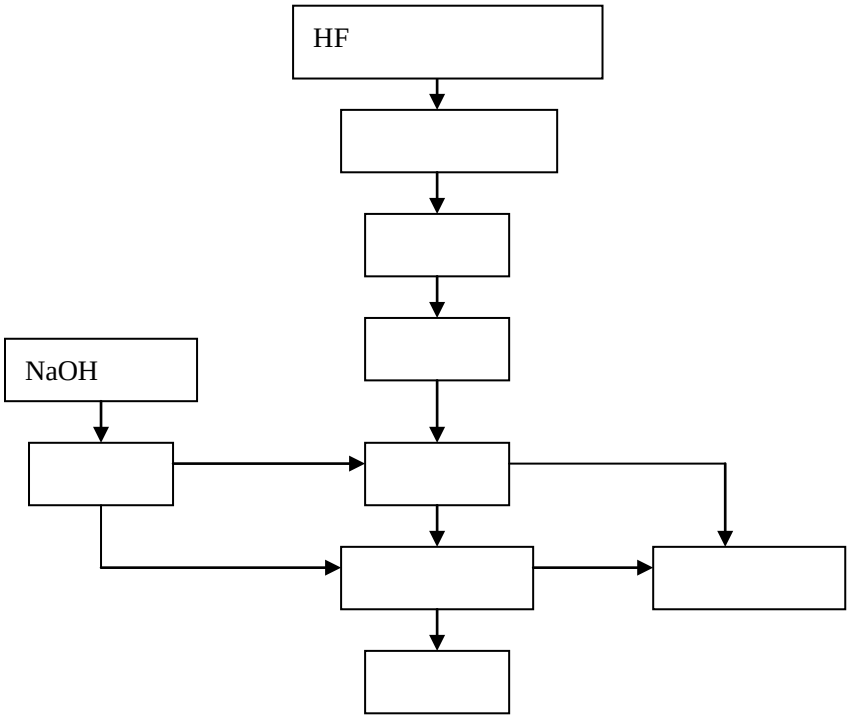
90% 40000m^3/h

GB16297-1996 2

≤ 0.10kg/h

≤ 9.0mg/m3 ≤ 0.77kg/h

≤ 240 mg/m^3



2-8

GB16297-1996 2

15 9000m^3/h

50

1

SO_2

SO_2

90% 70% 15

12000m^3/h

GB16297-1996 2

2-13

		2009	2010	2011
1	t	18.24	19.45	9.44
2	NOx t	2.457	2.394	1.273
3	t	0.976	0.82	0.364
4	SO_2 t	21.89	23.34	11.33
5	(t)	0.608	0.565	0.252

2.3.3

2-14

	2009 /t	2010 /t	2011 /t	
	45	40	20	
	2277	2828	1935	
	1185	1320	600	
	3	3.5	1.5	
	659	933	435	

2.3.4

2-15

		dB(A)		
1		95		(GB12348-2008)II
2		80		
3		85		
4		85		
5		80		
6		85		

(GB12348-2008)II

≤60dB A ≤50dB A

2.3.5

1

2-15

		/a	**/a**

1	2009	82	
2	2010	79	
3	2011	36	

2

2.4

2.4.1

1

2

3 “ ”

4

5

6

2.4.2

2-16

2-16

	W					
		R	W·R	R	W·R	R	W·R
	10	5	50	9	90	8	80
	9	5	45	8	72	8	72
	8	6	48	7	56	6	48
	7	8	56	7	49	7	49

	6	6	36	6	36	5	30
	5	7	35	5	25	5	25
∑W·R	450	270		328		304	
	/	3		1		2	
R	1-10						

2-18

2.5

2-17

2-17

		2011		2012	
/t	0.7115	0.0671	9.43%	0.1797	25.26%
t/a	23.34	3.25	13.92%	13	55.7%

2.6 /

/

2-18

/

2-18 /

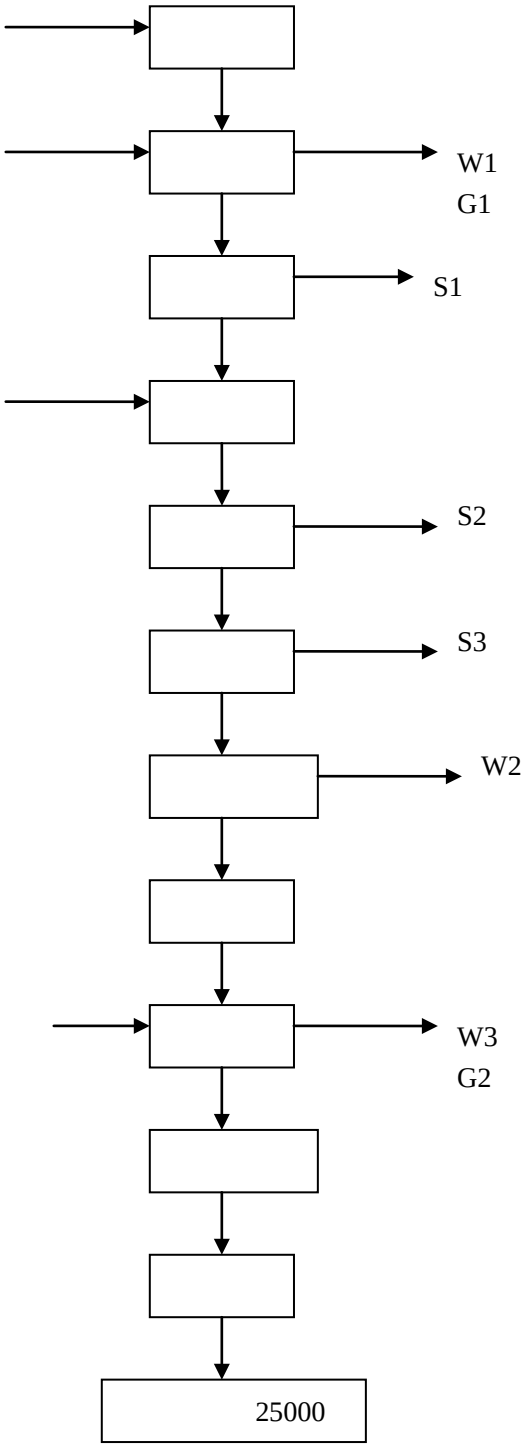
	1			0	,	3 /
	2			0	, , .,	2 /
	3			2		2 /
	4			5		--
	5			2		2 /
	6		2	0.18		1.2 /
	7			3	, ,	2 /
	8			0.1	, ,	0.2 /

	9			1		1.8 /
	10			0	2.25 kwh/a	1.8 /
	11			3		
	12			0.2		
	13			0.1		
	14			0		
	15			0.03		

3.1

3.1.1

3.1.1.1



3-1

i)

j)

50-60

15%HNO3

8%HF 77%

15

k)

l)

m)

3

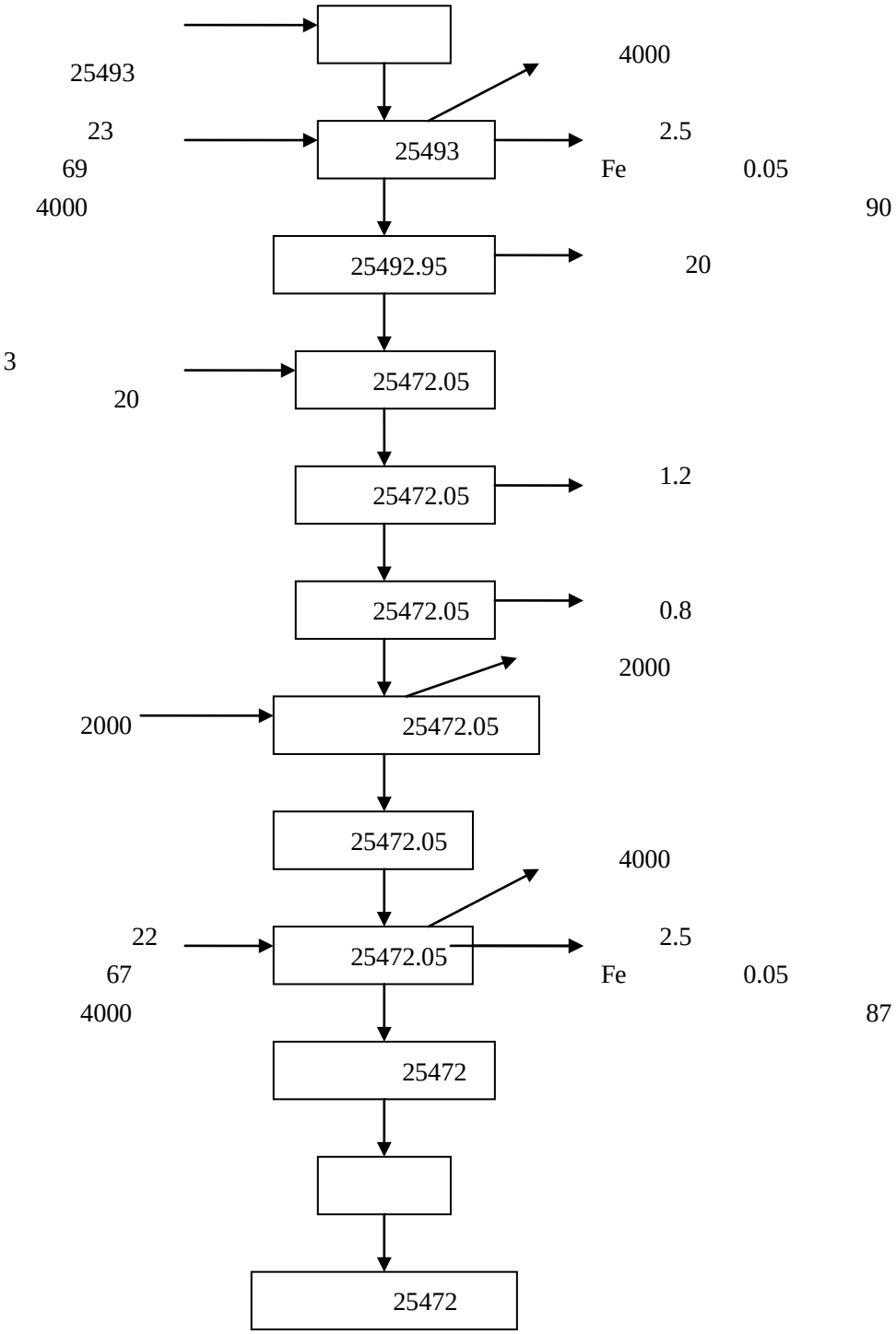
n)

o)

600-700

p)

3.1.1.2

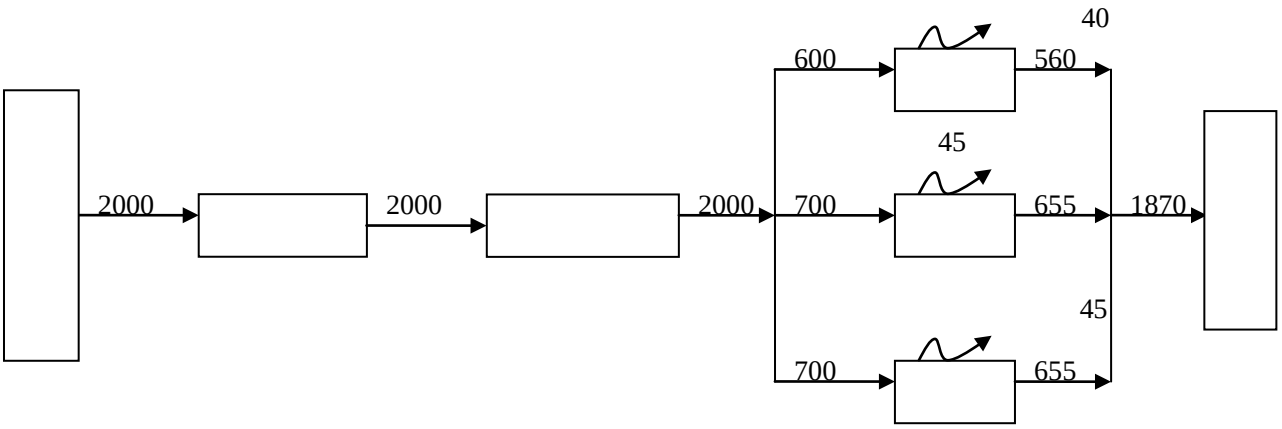

25493
4000
23
25493
2.5
69
Fe
0.05
4000
90
25492.95
20
3
25472.05
20
25472.05
1.2
25472.05
0.8
2000
2000
25472.05
25472.05
4000
22
25472.05
2.5
67
Fe
0.05
4000
87
25472
25472

3-2 t/a

5%

3.2.1

1



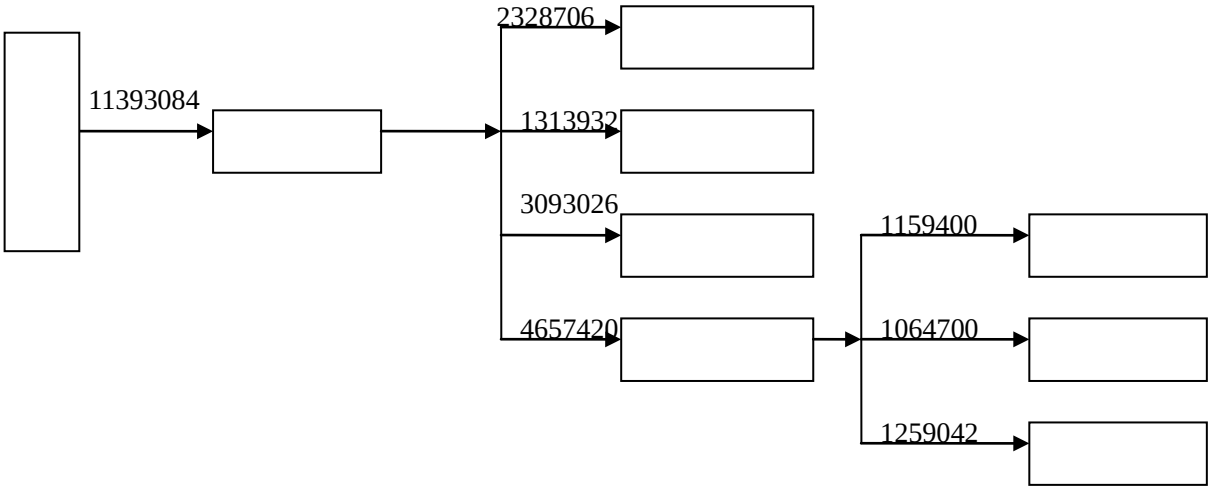
3-3 **t/a**

2

3-4

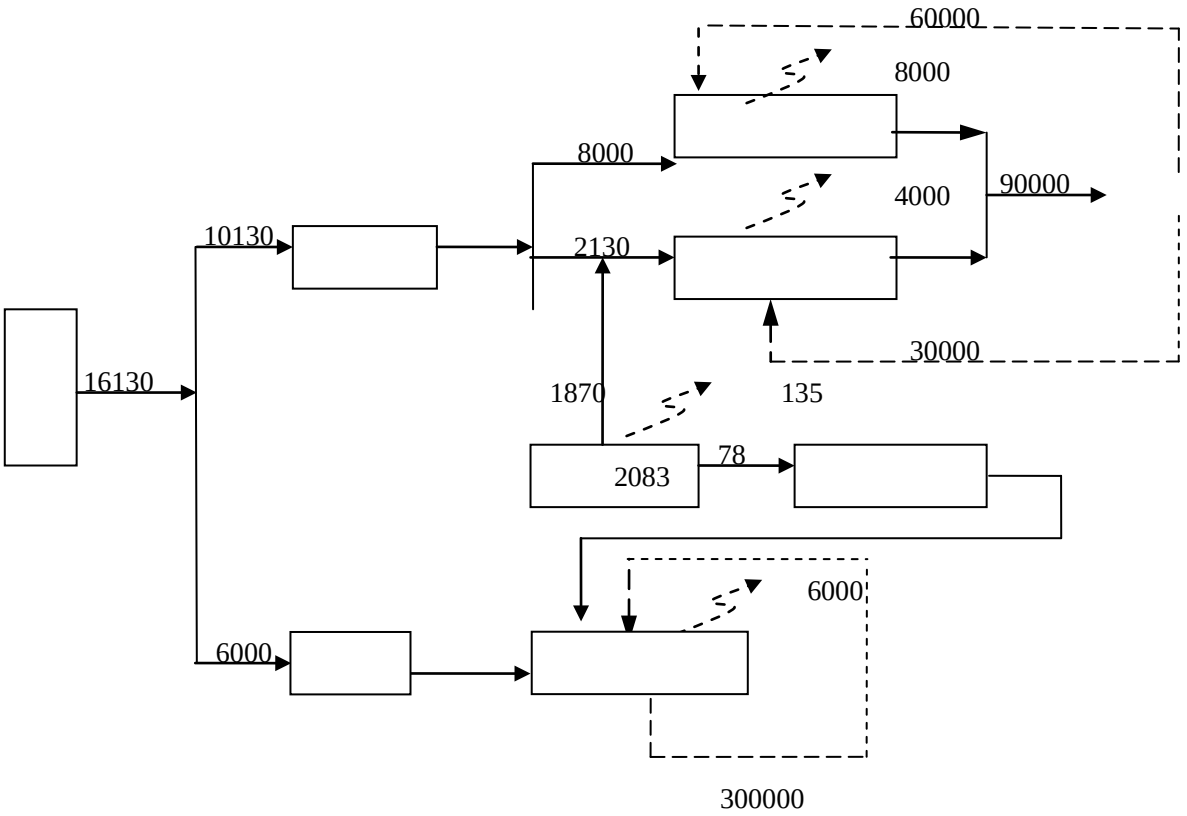
98%

2-4


11393084
2328706
1313932
3093026
4657420
1159400
1064700
1259042

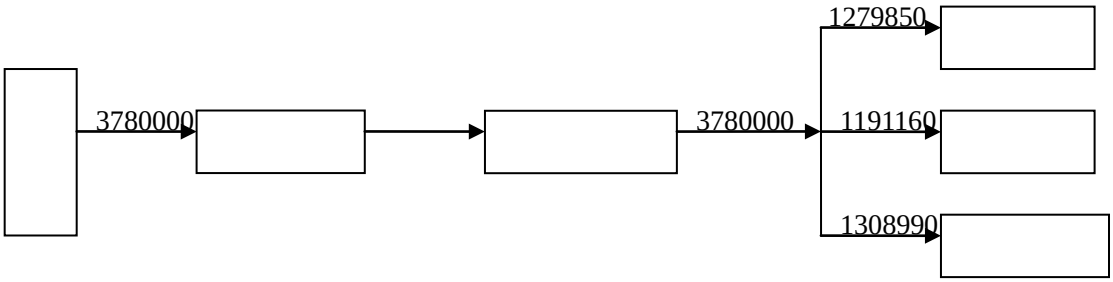
3-4 kwh/a

3


60000
8000
8000
4000
90000
10130
2130
16130
30000
1870
135
78
2083
6000
6000
300000

3-5 t/a

4



3-6 m^3/a

3.2

8

1

96%

61.3%

96%

2

5

/

/

3

4

5

6

7

8

3.3

3-2

/

4.1

4.2

18 4-1

4-1

1				0	,	3 /
2				0	’ , .,	2 /
3			4 4	230	SO_2	182.5
4				860		168.01
5				2		2 /
6				14.5		50.04 /

7				5		--
8				2		2 /
9			2	0.18		1.2 /
10				3	,	2 /
11				0.1	,	0.2 /
12				1		1.8 /

13				0	2.25 kwh/a	1.8 /
14				3		
15				0.2		
16				0.1		
17				0		
18				0.03		

:

1 10 10 /

2 10-20 20

3 20

5-1 / 15

/ 3

4.3

/ /

/ /

4.3.1

/

/

4.3.2

4-2

4-2

3	√	√	√	√	√
4	√	√	√	√	√
6	√	√	√	√	√

3 4 6 3 /

4.4

/

/

4-3

4-3

/	1 2 ,5 7-18
/	3 4 6

3 /

5.1

3

5.2

1

2

3

4

5

6

5.2.1 3

3 ,

≤50

≤300 ;

4

230

4 1331.96 /

, SO_2 13 / 10.86 /

706 /

5.2.2 4

4

13

13

/

5

/ /

860

876

5.2.3 6

6

300

250-350 1

14.5

260.88

5.3

1

2

2

3

4

5

5-1

3		1	4 1331.96 /
		2	SO_2 13 / 10.86 / 706 /
		3	--
		4	--
		5	
		6	--
4		1	786
		2	--
		3	--
		4	--
		5	
		6	--
6		1	260.88
		2	--
		3	--
		4	--
		5	
		6	--

3

5.4

/

3

,

. 7.74 ,

4.92 ,

, , 0.26

, 0.17 , 100

7.74×0.7143+4.92×0.9714 ×260

0.26×0.7143+0.17×0.9714 ×100 2715.16 /

250 ^{3}/ 260

1040000 ^{3}

104×13.3 1383.2 /

2715.16-1383.2 1331.96 /

1370

I 230

F +

0.137×1331.96+23 205.48

N I÷F 230÷205.48 1.12

(NPV) =205.48×7.024-230=1213.29

n=10 7

7.024

NPVR =NPV/I×100 =1213.29÷230=5.28

N<10 NPV>0

4

5 (/

/)

45KW / 28KW

22KW / 33KW 24

90KW 100 ^{3}/

1 = 45×2.5 + /

28×0.8+ / 22×1+ / 33×0.4+ 90×0.6

×5=1120.5Kwh

=0.138

55 / 1 /

20 =0.055×0.4×5=0.11

=0.11×0.7143=0.08

=100×0.6×5=300 ^{3}/

=13.3×0.03=0.399

=0.138+0.08+0.339=0.557 ;

:

55KW, / 28KW

22KW / 33KW 24

90KW 100 ^{3}/

1 = 55×4 + /

28×0.8+ / 22×1+ / 33×0.4+ 90×0.6

×2=663.6Kwh

=0.082

=100×0.8×2=160 ^{3}/

=13.3×0.016=0.213

=0.082+0.213=0.295 ;

=0.557-0.295=0.262

3000 / ;

=3000×0.262=876

1370 :

I 860

F +

876×0.137+86 206.01

N I÷F 860÷206.01 4.17

(NPV) =206.01×7.024-860=587.01

n=10 7

7.024

NPVR =NPV/I×100 =587.01÷860=0.68

N<10 NPV>0

6

1T, 15000-20000m^3/h

250-350 4Kg

330

0.9T

=0.9×24×330=7128T

=0.0366×7128=260.88

1370 :

I 14.5

F +

260.88×0.1370+1.45 37.2

N I÷F 14.5÷37.2 0.39

(NPV) =37.2×7.024-14.5=246.8

n=10 7

7.024

NPVR =NPV/I×100 =246.8÷14.5=17

N<10 NPV>0

5.5

3 /

3

:

/

6.1

/

6-1 6-3

6-1

		2011			
		7	8-9	10	
1					
2					
3					
4					
5					
6					

6-2

		2011					
		7	7	8	9	10	
1							

2							
3							
4							
5							
6							

6-3

		2011				
		7	8	9	10	
1						
2						
3						
4						
5						
6						

6.2

6.2.1

18 18 / 15

6-5 / 3 6-6

/ /

6-5 /

1				0	,	3 /
2				0	’ , .,	2 /
5				2		2 /
7				5		--
8				2		2 /

9			2	0.18		1.2 /
10				3	, ,	2 /
11				0.1	, ,	0.2 /
12				1		1.8 /
13				0	2.25 kwh/a 2.77 /	1.8 /
14				3		

15				0.2		
16				0.1		
17				0		
18				0.03		

3

6-6 /

3				230	1331.96 SO_2 13 / 10.86 / 706 /	182.5 /
4				860	876	120.01 /
6				14.5	260.88	35.74 /

6.2.2

6-7 6-8

6-7 /

		15		15
		3		3
		1121.11		
		354.25		
	(/)	2471.61		

6-8 /

1	0	,	3 /
2	0	, ,	2
3	230	1331.96 SO_2 13 / 10.86 / 706 /	182.5 /
4	860	137 kwh/a 876 /	120.01
5	2	--	2
6	14.5	7128 260.88 /	35.74
7	5		--
8	2		2 /

9	0.18		1.2 /
10	3	---	2
11	0.1	---	0.2
12	1	---	1.8 /
13	0	2.25 kwh/a 2.77 /	1.8 /
14	3	---	---
15	0.2	---	---
16	0.1	---	---
17	0	---	---
18	0.03	---	---
	1121.11	2471.61 / SO_2 13 / 10.86 / 706 /	354.25

6.3

6-9

6-9

		2011			%
/t	0.7115	0.0671	9.43%	0.0713	106.2
t/a	23.34	3.25	13.92%	9.75	300

7.1

“

”

7.2

7.3

7-1

1

2

3

4

7-1

		2012.2	
		2012.2-2012.5	
		2012.2	
		2012.3-2012.6	
		2012.7-2012.12	
		2012.7-2012.8	
		2012.9-	
		2012.9-	
		2012.9-	

2011 6

8.1

18 15

3 1121.11 2012 4

15 3

354.25

2138.62

8.2

“ ”

8.3