1 1
2 13
2.1 13
2.1.1 13
2.1.2 14
2.1.3 14
2.1.4 15
2.2 15
2.2.1 15
2.2.2 16
2.3 16
2.3.1 16
2.3.2 17
2.4 19
2.4.1 19
2.4.2 21
2.4.3 22
2.4.4 22
2.4.5 23
2.4.6 23
2.4.7 23
2.5 24
2.6 24
2.7 25
2.7.1 “ ” 25
2.7.3 25
2.8 26
2.8.1 26

4.4.1 59
4.4.2 61
4.4 80
5 81
5.1 81
5.1.1 81
5.1.2 81
5.1.3

6.2.4 111
6.2.5 №Ŏ..... 112
6.2.6 ....

9.1.4 142
9.1.5 143
9.1.6 145
9.2 146
9.2.1 146
9.2.2 147
10 149
10.1 149
10.2 150
10.2.1 150
10.2.2 150
10.2.3 150
10.2.4 150
10.2.5 150
10.3 151
10.3.1 151
10.3.2 151
10.3.3 151
10.3.4 152
10.3.5 152
10.3.6 152
10.3.7 152
10.4 152
10.5 154
10.6 154
10.7 154

2

4

5

Þ 6 m " n o

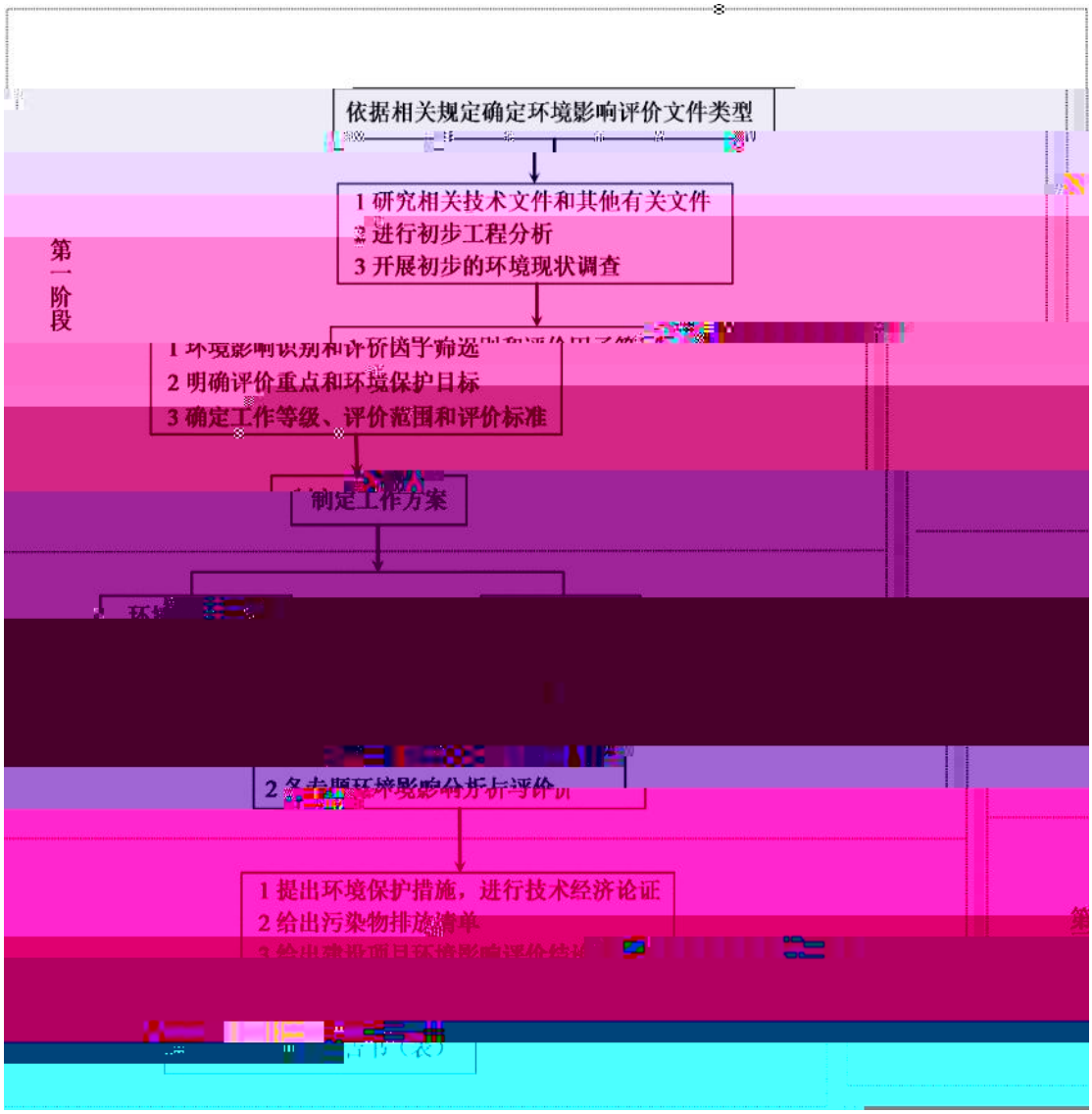
1 2021 12

2022 3

2 2022 6

3 2022 6

4 2022 7



1-1

1

GB/T 4754-2017 “CC3514

” 2019

“ ” “ ”

2 “ ”

“ ”

1-1 “ ”

[2015]16

2020 2.73 26 /	140024.75 / 1043600 0.13 / 26 /	
2019 4 1 350 /	577256 1371.93 420.76 / 350 /	

“ ”

3 “ ”

1-2 “ ”

“ ” ____	“ ”	
“ ”		

	“ ”	
“ ”		

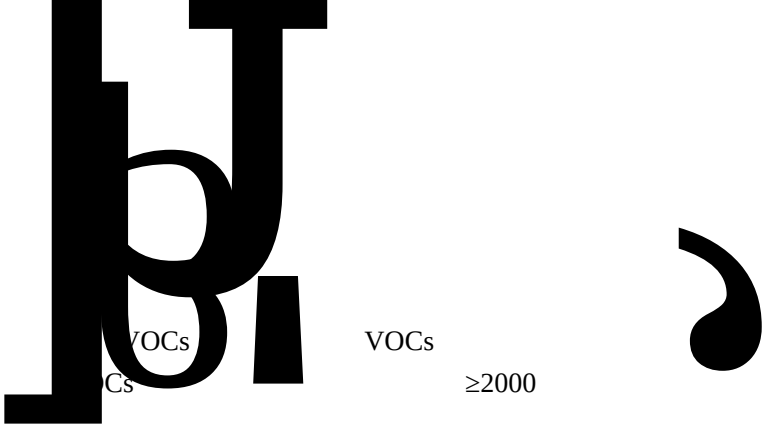
	VOCs	
“ ” “ ”		
VOCs		
+	+	

6 2020 [2020]33

1-5 2020

2020 33

VOCs VOCs VOCs	VOCs VOCs	



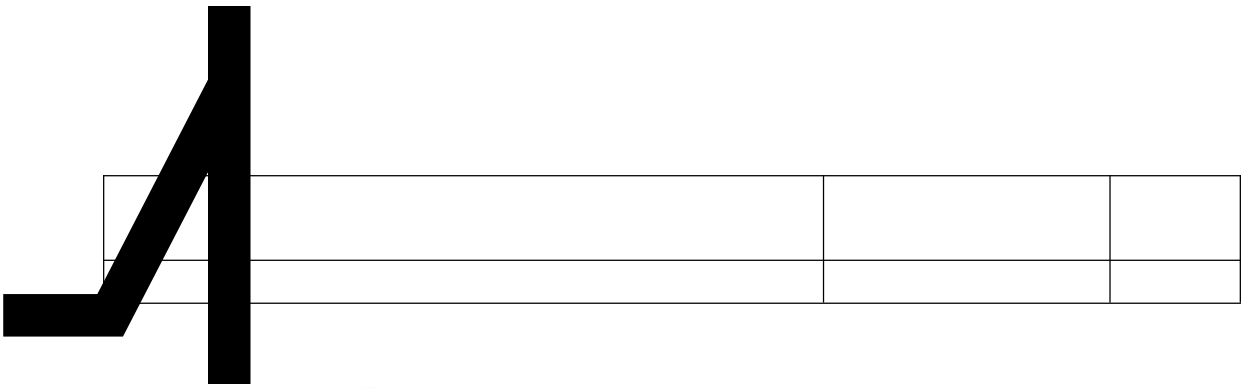
VOCs VOCs

Cs ≥2000

VOCs

2000

VOCs



VOCs

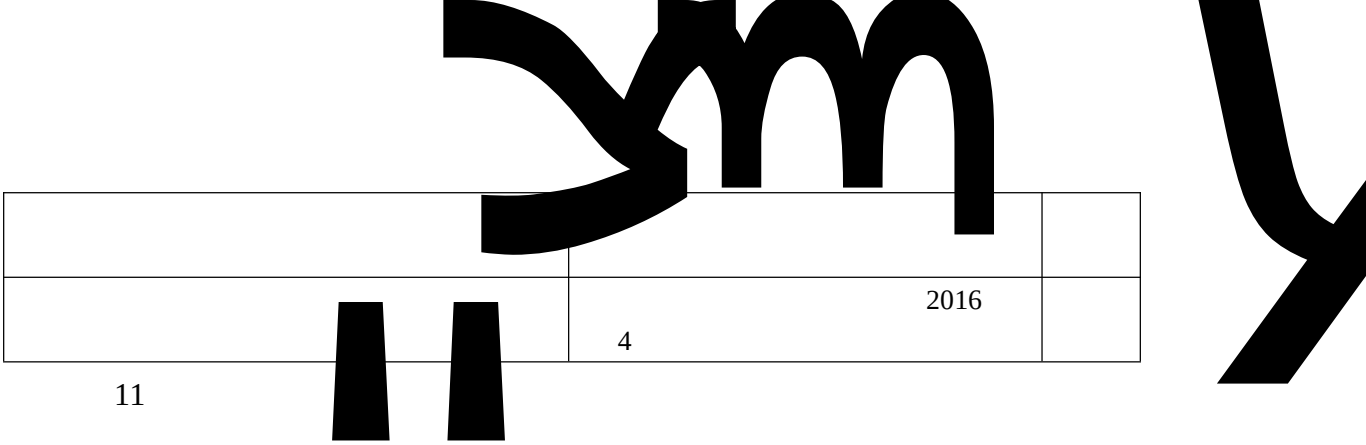
VOCs

VOCs

“ ”

VOCs

VOCs



	2016 4	

11

“

”

150m “

”

150m

1

2

3

1 2014 4 24 2015 1 1

2 2018 12 29

3 2018 10 26

4 2017 6 27

5 2018 12 29

6 2020 4 29 2020 9 1

7 2019 1 1

8 2012 7 1

9 2018 10 26

10 2016 7 2

11 2019 8 26

12 2019 4 23

13 2017 10 1

14 2021 2021 1 1

15 2015 162

16 2019 1 1

17 2019 29 2019 10 30

18 2012 2012 2012 98

19 2013 12 7

20 2021 2021 1 1

21 1999 10 1

22

2012 77

23

2017 2 7

24

2019 53

1 2019 9 28

2 2017 6 1

3 2018 1 1

4

2016 176

5 DB43 /023-2005

6 2012 39

7 2018 1 1

8

2018 10 9

9 “ ”

2020 11 17

1 HJ 2.1-2016

2 HJ 2.2-2018

3 HJ 2.3-2018

4 HJ 610-2016

5 HJ 2.4-2021

6 HJ 19-2022

7 HJ 964-2018

8 HJ 169-2018

9 2017 43

10 HJ 884-2018

11 HJ 1086-2020

1

2

2.2-1

					-1LP						
									-2S		
						-2LP			-2S	-1LP	
		-1SP	-1SP	-1SP				-1LP		-1LP	
						-1LP	-1LP		-2S		
			-1SP			-1LP			-2S		
											+2LP
							-1LP				
		-1SP	-1SP							-1LP	
		-1SP		-1SP	-1LP	-2LP		-1LP	-2S		
				-1SP	-1LP	-2LP	-1LP	-1LP		-2LP	
		1-	2-	3-			S-	L-			P-
W-			+		-						

2.2-2

	SO_2 NO_2 PM_{10} CO $PM_{2.5}$ O_3 NMHC	SO_2 NO_x NMHC
	pH COD	pH SS BOD_5 COD_{Cr} NH_3-N
	K^+ Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO_3^- Cl^- SO_4^{2-} pH - - -	
	- GB 36600-2018 1 45 +	
	A	A

1

GB3095-2012

GB3095-2012

HJ 2.2-2018 D D.1

2

DB 43/023-2005

GB3838-2002

3

GB/T 14848-2017

4

4a

2

5

					GB13271-2014
	40	25	/	2.0	DB43/1356-2017
	/			20mg/m^3	GB37822—2019
	2000	15	/	20	GB14554-93

2

GB8978-1996 4

GB/T31962-2015 B

2.3-2 pH mg/L

	6~9	500	300	400	/	20	100	20

3

* % X9 Đ ° GB12348-2008

< n̶ ̶ ̶ ̶

GB18599-2020 GB18597-2001

2013

SO_2 NOx

- HJ 2.2-2018

P_i

$$P_i = \frac{C_i}{C_{0i}} \times 100\%$$

P_i—— i %

C_i—— i 1h

μg/m^3

C_{oi}—— i μg/m^3

2.4-1

	P_{max}≥10%
	1%≤P_{max} 10%
	P_{max} 1%

2.4-2

/	/	
		4260000
		40.6
		-10.3

	/m	90
	/km	/
	/°	/

Pmax D10%

2.4-4

		Q≥20000 W≥600000
A		Q 200 W 6000
B		——
1 B		

B

HJ610-2016 A

“K 71 ”

HJ 610-2016

A III

2.4-5

	I	II	III

HJ 2.4-2009

3

3dB(A) [3dB(A)]

HJ964-2018 A

“ ” I

399240m^2

2.4-6

	I			II		III		
								-
							-	-
“-”								

HJ19-2022 6.1

6.1.8

a

Q=0.31637 1 I

2.5-1

1		5km
2		a b
3		6km^2
4		200m
5		1km
6		
7		5km

1

2

3

4

5

“ ”

1

2

3

4

5

2.7-1

1		GB 3838-2002 III
2		III GB/T 14848-2017 III
3		GB

		3095-2012
4		3 GB3096-2008 3
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

2.8-1

1		112.485038E°,28.112221N°	20		NE	425
2		112.483477E°,28.102495N°	50		SW	88
3		112.475876E°,28.104361N°	150		W	223
4		112.480107E°,28.110251N°	250		NW	130
5		112.484698E°,28.104236N°			E	100
6		112.484736E°,28.103919N°			SE	100

7		112.485324 E°,28.103865N°			SE	270
8		112.484806 E°,28.103479N°			SE	100-500

2.8-2

1	112.483477 E°,28.102495N°	15	2	SW	88
2	112.480107 E°,28.110251N°	60	2	NW	130
3	112.484698 E°,28.104236N°		2	E	-

S 100m

R

577256 11610

2.0%

9 56

		1 + + 5 1 1 3
		+ 1# 400m^3/d + 2# “ + +SWRO +MVR ” /
		525.59m^2
		280m^2
		405.35m^2

3.3-1

1	t	181830	300	3#
2	t	2424	47	1#
3	t	2435	47	1# 3# 5#
4	L	100000	1923	1# 3# 5#
5	L	802	5	
6	L	12400	350	300 50
7	L	9400	125	100 25
8	KW·h	7.3×10^7	/	/
9				

17		t	500	10	
18		t	396	7.92	

3.3-2

	100%
	0.1%

3.3-3

		25
	-1- -2-	10
	2,4-	10
	1 2 2 6 6- -4-	10
1		10
	-1 2 2 6 6- -4-	1
		1
		23
		10
		25
	2,4-	10
	-2- -	10
	1 2 2 6 6- -4-	1
2		1
	-1 2 2 6 6- -4-	1
		20
		48
3		

derivatives

9

10

ω-[3-[3-(2H-benzotriazol-2-yl)
derivatives

8

1 2 2 6 6-
-4-

6

7

-1 2 2 6 6-

3.4-1

1			13467
2			910
3			55
1			720
1			4000
			19152

3.5-1

1		12kW 4m×32m	/	7
2		12mm×3000m	/	2
3		400-2050mm	/	7
4		1000-4000mm	/	2
5		1200t 2000t 2500t 14m	/	5
6		13m	/	2
7			/	2
8			/	2
9			/	11
10			/	2
11		KRII500A	/	28
12			/	2
13			/	1
14	RGV+		/	4

15		/	1
16		/	7
17	Gn=25t	/	2
18	Gn=10t	/	12
19	Gn=10t S=22.		

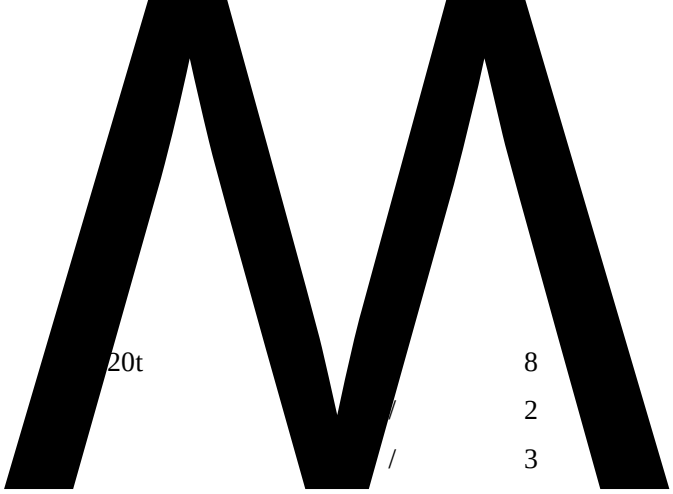
7			/	3
8			/	9
9			/	3
10			/	3
11			/	3
12			/	3
13			/	3
14	RGV		/	3
15			/	3
16			/	3
17			/	3
18			/	3
19		100A	/	48
20			/	3
21	KPK	3t 10t	/	
			/	2
23			/	2
24			/	2
25			/	2
26			/	2
27			/	3
28			/	1
			/	3
30			/	1
31			/	8
32			/	1
33	RGV		/	1
34			/	1
35			/	1
36			/	1
37			/	1
38	KPK	3t 10t	/	
39			/	30
40			/	1
41			/	1

42				/	1
43				/	1
44				/	2
45				/	1
46		CLOOS)		/	1
47				/	1
48				/	2
49				/	1
50				/	2
51				/	2
52				/	1
53				/	1
54				/	3
55				/	1
56	RGV			/	1
57				/	1
58				/	1
59				/	1
60			3t 10t	/	
61			100A	/	60
62				/	7
63				/	4
64				/	4
65				/	2
66				/	1
67				/	7
68				/7 '	8
69		⌡			

77			/	1
78		1t	/	8
79	AGV		/	1
80			/	1
1			/	3
2			/	2
3			/	2
4			/	6
5			/	13
6			/	3
7			/	3
8			/	1
9			/	1
10			/	6
11			/	4
12			/	3
13				

31			/	2
32			/	2
33			/	2
34			/	2
1			/	2
2			/	3
3			/	1
4			/	2
5			/	1
6			/	4
7	RGV		/	1
8			/	1
9			/	1
10		500A	/	13
11	KPK	20t 10t 5t	/	
12			/	
13		20t	/	11
14			/	1
15			/	1
16			/	2
17			/	1
18		20t	/	2
19			/	1
20		500A	/	6
21			/	
22	KPK	20t 10t 5t	/	
23			/	
1			/	1
2			/	2
3			/	1
4			/	3
5			/	1
6			/	1

7			/	3
8			/	1
9		1t	/	2
10	ă		/	2
11		500A	/	6
12			/	
13	KPK	10t		



13		20t		8
14			/	2
15			/	3
16			/	1
17			/	4
18			/	
19		500A	/	14
20	KPK Å	32t 20t 5t	/	
21			/	
22			/	1
23			/	1
24			/	1
25			/	1
26			/	1
27		20t	/ ‡	1
28		500A	/	84

2- 0

1			/	2
2		6M	/	1
3			/	2
4			/	1
5			/	2
6			/	1
7			/	1
8			/	20
9			/	5
10		Saturn M—190·32·30H2CT2W	/	1
11		Z30100	/	2
12		8M	/	3
13		8M	/	1
14			/	1
1			/	1
2			/	1
3			/	1
4			/	1
5			/	1
6			/	1
7			/	1
8			/	1
9			/	1
10			/	1
11			/	1
12			/	1
13			/	1
14			/	1
15			/	1
16			/	1
17			/	1
18			/	1

19		/	1
20		/	1
21		/	2
22	Ô	/	1

5	/	1
6	/	1
7	/	1
8	/	1
9	/	1
10	/	1
11	/	1
12		

1	/	1
2	/	1
3	/	1
4		

5		ZY-G10W	/	1
6	KBK	S=6m Gn=300kg	/	10
7		3m 2m 300kg	/	8
8		200-1000N.m	/	40
9		-		
1		240000mm*5100mm*3000mm * *	/	1
2		5m 8t+8t	/	1
3		S=16m Gn=10+10t	/	1
4		2t 1.5m	/	1
5		10m 16m*3m*1.8m * *	/	4
6	KBK	5.5m 500kg	/	4
7		3m 300kg	/	4
8		200-1000N.m	/	20
9			/	1
10		4000m^3/h 3KW	/	1
11		-	/	1
12		-		
13			/	1
14			/	1
15			/	1
16			/	1
17			/	2
18			/	1
19			/	1
20			/	1
21			/	1

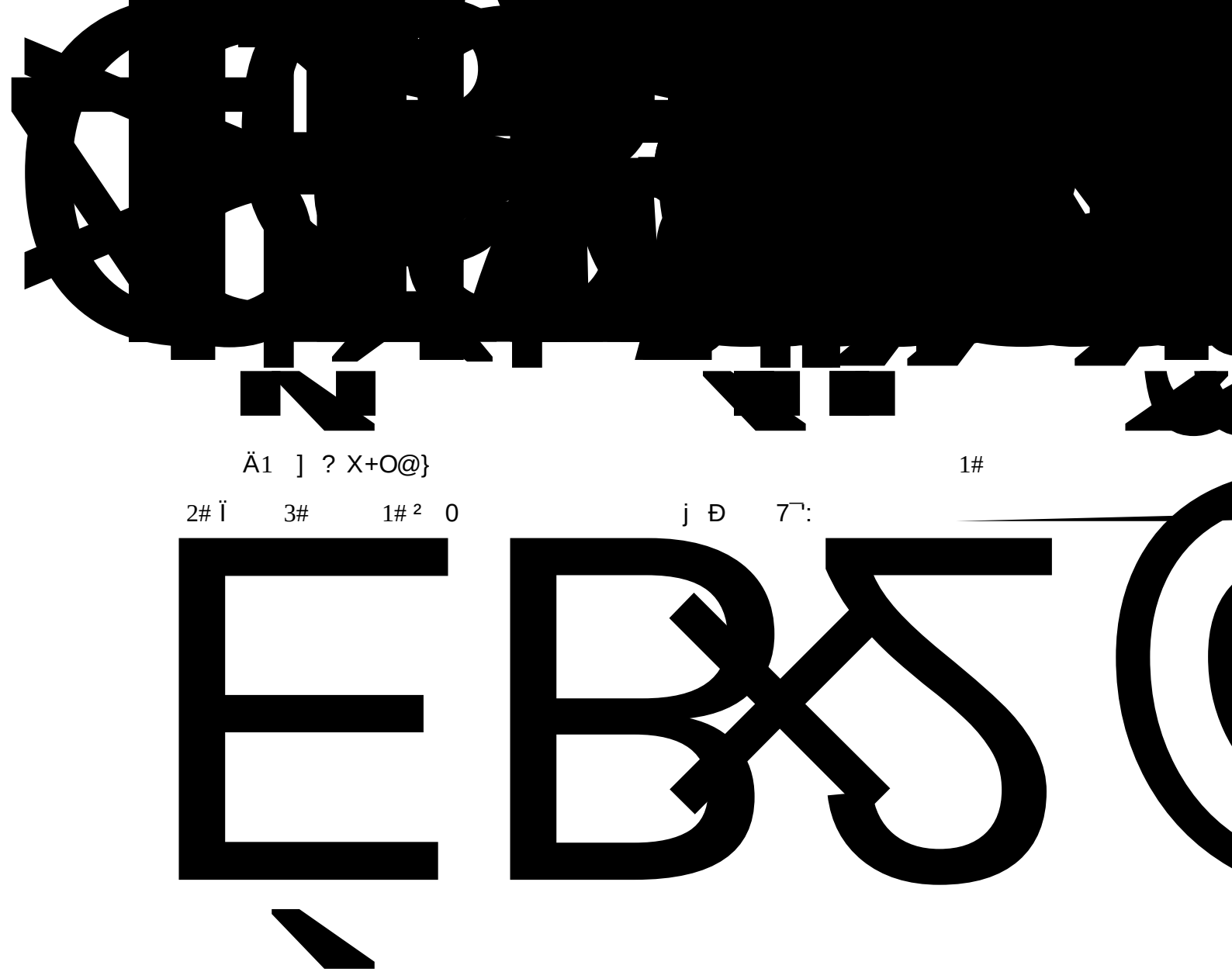
22			/	1
23			/	1
24			/	1
25			/	3
26			/	2
27	EMS		/	3
28			/	8
29			/	1
30			/	1
31			/	1
32	AGV		/	2
33	KBK		/	20
34			/	6
35			/	1
36			/	1
37		Gn=10t S=22.5m	/	4
38			/	20
1		15 L=80m	/	1
2		4000mm*2000mm*1500mm * * 5T	/	2
3		3m 2m 300kg	/	4
4		200-1000N.m	/	3
5		+ 100kg	/	1
6		+ : 300KG	/	1
7		15-36N.m	/	2
8			/	1
9			/	1
10		SR-G100	/	1
11		200-1000N.m	/	16
12	KBK	5.5m	/	8

	500kg		
13	Gn=5t	/	1
14			
15			

8	/	30
9		

1	/	1
2	/	1
3	/	1
4		

		L=1000kg		
3		L=100 3500kg	/	1
4		L=100 3500kg	/	1
5		L=154M 3500kg	/	1
6		L=240 4500kg	/	1
7		L=110m 12000kg	/	1
8		10-50	/	20
9	AGV	1-2t	/	40
10		3-8t	/	6
11		5t	/	10
12				
13				
14				
1		10-50		
2	AGV	1-10t		
3		3-8t		
4		5t		
5		20t		
6				
7				



Ä1] ? X+O@} 1#

2# Ï 3# 1# ² 0 j Đ 7¯:

3# 5#

“ ”

1#

3#

5#

1

2

1#

3#

6#

7#

1

2

40 -50 2 6

3

2

3 Si-OR Si-OH

Me-OH Si-OH

Me-OH Si-O-Me SiOH

+MeOH =SiOMe $+H_2O$ Si-OH

Si-O-Si

4

3min 28±2

UF UF UF

UF1 3 1

UF2

UF

1

5

6

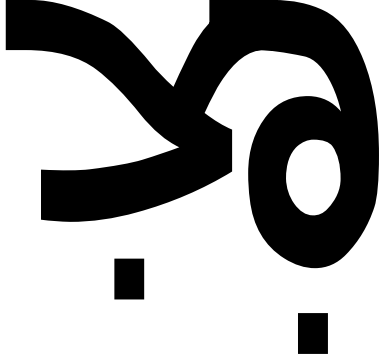
7

2#

6#


中小吨位起重机
焊接
机加工
纯水洗1
水洗
脱脂
抛丸
烘干
强冷
刮腻子
打磨
硅烷化
纯水洗2
纯水洗3
喷水洗
喷水性
下线
电泳
烘干
强冷
硅烷化
纯水洗2
纯水洗3
烘干
下线
喷底粉
喷面粉
红外预热
粉末固化
大吨位起重机
超大吨位起重机
轮胎起重机

4.1-1



4.2-1

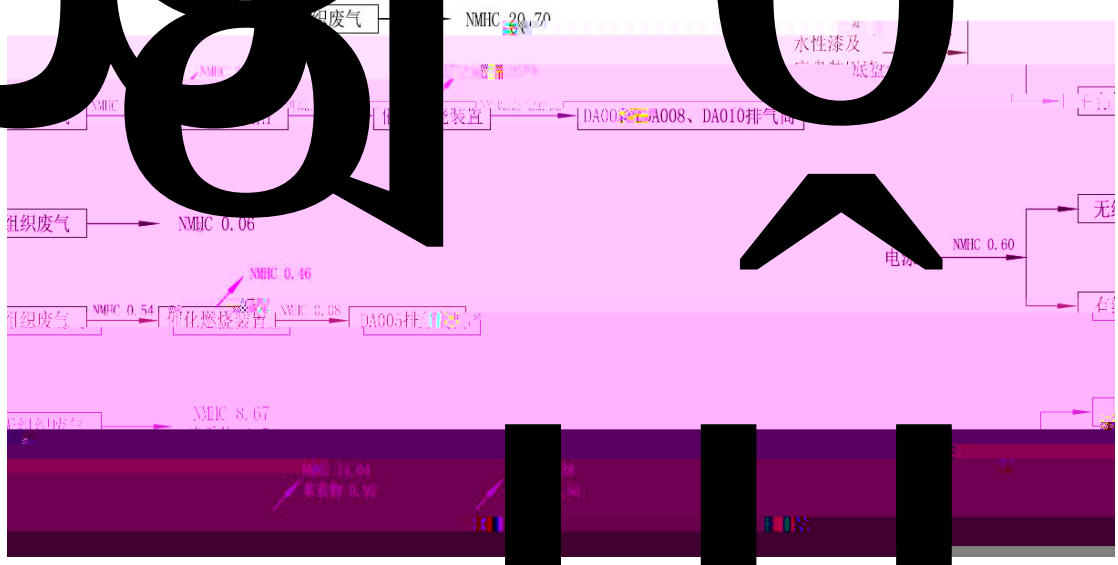
	G1		
	G2		
	G3		
	G4		VOCs
	G5		VOCs
G	G6		VOCs
	G7		
	G8		VOCs
	G9		VOCs
	G10	SO_2	NOx
	W1	COD_{Cr}	SS
	W2	COD_{Cr}	SS
	W3		

\ m φ

	S14			


99.0
12.5
99.0
62.5
37.5
3#厂房涂装线
硅烷废水
30
110
硅烷废水处理站
11.0
危险废物
137.5
7.5
37.5
6#厂房涂装线
硅烷废水
287.6
软水装置
215.7
71.9
软水浓水（清下水）
78.2
脱脂纯水洗
97.75

4.3-1 m^3/d



4.3-2

CO THC NOx

CO 5.25g/ ·km THC 20.8g/ ·km NOx 10.44g/ ·km

4.4-1

	86
	84
	110
	88
	88
	87
	85

4.4-2

			90 80 85 75

1

2 ר ז شم ضح

1

2

1

1

2021

24 “35 ”

2.19kg/t 6 1#

3# 6# 7#

6 +

90% + 95%

1# DA001

1# 93579t/a 3760h

204.94t/a 86000m^3/h 1#

9.22t/a 2.45kg/h

28.52mg/m^3 20.49t/a 5.45kg/h

1# DA004

1# 11415t/a 3760h

25t/a 34000m^3/h 1#

1.12t/a 0.30kg/h

8.80mg/m^3 2.50t/a 0.66kg/h

3# DA006 DA007

3# 68146t/a

3760h 149.24t/a

146000m^3/h 3# 6.72t/a

1.79kg/h 12.23mg/m^3

14.92t/a 3.97kg/h

2021 24 “35

” 166kg/t

7 1# 1 6# 1

7# 5

1# DA002

1# 15t/a 3760h 1#

2.49t/a 1#

90% 90%

57000m^3/h 0.22t/a 0.06kg/h

1.05mg/m^3 0.25t/a

0.07kg/h

6# DA011

6# 15t/a 3760h 6#

2.49t/a 6#

90% 90%

72000m^3/h 0.22t/a 0.06kg/h

0.83mg/m^3 0.25t/a

0.07kg/h

7# DA012 DA013

7# 2 15t/a

3760h 7#

2.49t/a 7#

90% 95%

120000m^3/h 0.11t/a 0.03kg/h

0.25mg/m^3 0.25t/a

0.07kg/h

7# DA014 DA015

7# 2 2t/a

3760h 7# 0.33t/a 7#

90%	95%	140000m^3/h

1# 3# 6#

1# DA003

1#

1# 560t/a 3760h

1# 84.0t/a 123.20t/a 1#

“ + + ”

90% 98% +

87.7% 480000m^3/h

9.30t/a 2.47kg/h

5.15mg/m^3 8.40t/a

2.23kg/h

2.22t/a 0.59kg/h

1.23mg/m^3 12.32t/a 3.28kg/h

3# DA008

3# 460t/a 3760h

3# 69.0t/a 101.20t/a 3#

“ + + ”

90% 98% +

87.7% 550000m^3/h

7.64t/a 2.03kg/h

3.69mg/m^3 6.90t/a

1.83kg/h

1.82t/a 0.48kg/h

0.88mg/m^3 10.12t/a 2.69kg/h

6# DA010

6# 360t/a 3760h

6# 54t/a 79.20t/a 6#

“ + + ”

8

90% 98% +

87.7% 850000m^3/h

5.98t/a 1.59kg/h

1.87mg/m

3000m^3/h 0.08t/a

0.02kg/h 7.18mg/m^3

0.06t/a 0.016kg/h

4.4-6

	NMHC	DA005	20	0.60		7.18	0.02	0.08
						/	0.02	0.06

5

2 7#

2021

24 “35 ”

289kg/t

72.2kg/t 220kg/t

1,2,4- MSDS

150t/a

3760h

54.18t/a 3.54t/a 33.0t/a

90t/a

3760h

32.51t/a 2.12t/a 19.80t/a

“

+ + ” 90% 98%

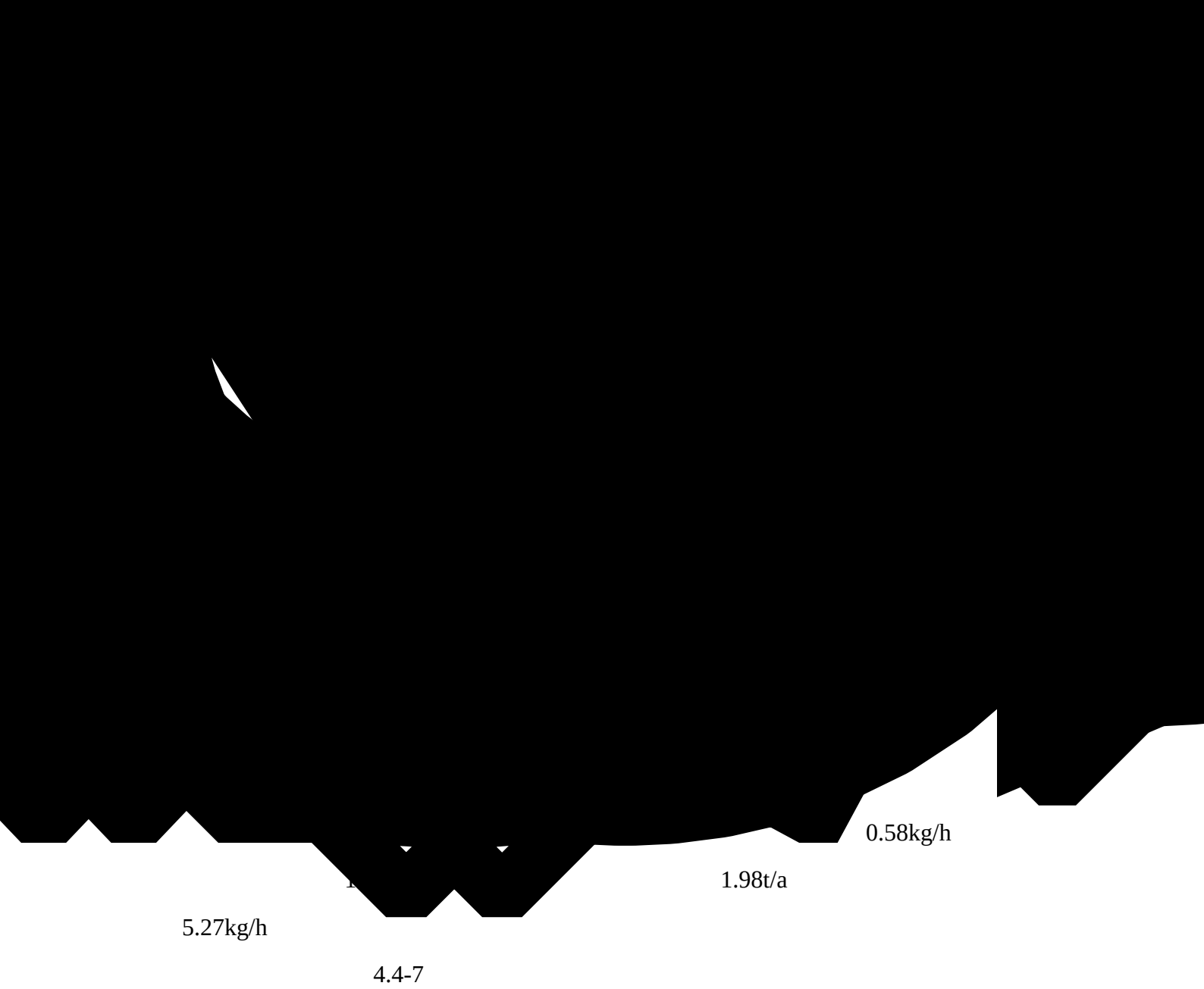
+ 87.7%

380000m^3/h

DA016

6.0t/a

1.60kg/h 4.20mg/m^3



0.58kg/h

1.98t/a

5.27kg/h

4.4-7

1# 3# 6#

2021

24 1 Nm^3

13.63 Nm^3 NOx18.71kg $SO_2$0.02×Skg

200mg/m^3 S=200 2.4kg

1# 575000Nm^3/a

5000m^3/h NOx0.54t/a 0.14kg/h 28.61mg/m^3 $SO_2$0.23t/a

0.06kg/h 12.23mg/m^3 0.14t/a 0.04kg/h 7.34mg/m^3 20m

3# 410000Nm^3/a 3500m^3/h

NOx0.38t/a 0.10kg/h 29.15mg/m^3 $SO_2$0.16t/a 0.04kg/h

12.46mg/m^3 0.10t/a 0.03kg/h 7.48mg/m^3 20m

6# 380000Nm^3/a 5000m^3/h

NOx0.36t/a 0.09kg/h 18.91mg/m^3 $SO_2$0.15t/a 0.04kg/h

8.09mg/m^3 0.09t/a 0.02kg/h 4.85mg/m^3 20m

4.4-8

1#	NOx	DA020	20	1.08		28.61	0.14	0.54
						/	/	/
	SO_2			0.23		12.23	0.06	0.23
						/	/	/
				0.14		7.34	0.04	0.14
						/	/	/
3#	NOx	DA021	20	0.77		29.15	0.10	0.38
						/	/	/
	SO_2			0.16		12.46	0.04	0.16
						/	/	/
				0.10		7.48	0.03	0.10
						/	/	/
6#	NOx	DA022	20	0.71		18.91	0.09	0.36
						/	/	/
	SO_2			0.15		8.09	0.04	0.15
						/	/	/
				0.09		4.85	0.02	0.09
						/	/	/

2

1

“35

” 9.19kg/t

2435t/a

DA001		204.94	90	+	95	86000	28.52	2.45	9.22	20.49	5.45
DA002		2.49	90		90	57000	1.05	0.06	0.22	0.25	0.07
DA003	NMHC	84.0	90	+	87.7	480000	5.15	2.47	9.30	8.40	2.23
		123.20	90		98		1.23	0.62	2.22	12.32	3.28
DA004		25.0	90	+ $	95	34000	8.62	0.30	1.12	2.50	0.66
DA005	NMHC	0.60	90								

DA010		NMHC	54.0	90	+	87.7	850000	1.87	1.59	5.98	5.40	1.44
			79.20	90		98		0.45	0.38	1.43	7.92	2.11
DA011			2.49	90		90	72000	0.83	0.06	0.22	0.24	0.07
DA012 DA013			2.49	90		95	120000	0.25	0.03	0.11	0.25	0.07
DA014 DA015			0.33	90		95	140000	0.03	0.004	0.01	0.03	0.009
DA016		NMHC	54.18	90	+	87.7	380000	4.20	1.60	6.00	5.42	1.44
			3.54					0.27	0.10	0.39	0.35	0.09
			33.0			98		0.42	0.16	0.59	3.30	0.88
DA017		NMHC	32.51	90	+	87.7	380000	2.52	0.96	3.60	3.25	0.86
			2.12					0.16	0.06	0.24	0.21	0.06
			19.80			98		0.25	0.09	0.36	1.98	0.53
DA018			1.41	90	+	95	:	0.22	0.02	0.06	0.14	0.04
DA019			6.64	90	+	98	107000	0.30	0.03	0.12	0.66	0.18
DA020	1#	NOx	1.08	100		50	5000	28.61	0.14	0.54	/	/

		SO_2	0.23	100		0	5000	12.23	0.06	0.23	/	/
			0.14	100		0	5000	7.34	0.04	0.14	/	/
DA021	3#	NOx	0.77	100		50	3500	29.15	0.10	0.38	/	/
		SO_2	0.16	100		0	3500	12.46	0.04	0.16	/	/
			0.10	100		0	3500	7.48	0.03	0.10	/	/
DA022	6#	NOx	0.71	100		50	5000	18.91	0.09	0.36	/	/
		SO_2	0.15	100		0	5000	8.09	0.04	0.15	/	/
			0.09	100		0	5000	4.85	0.02	0.09	/	/

1# 3# 6#

140.8m³/

8.8m 3


25.6m3/d
COD≤500m
≤70mg/L

Q——　　(L/s)

ψ——　　ψ=0.85~0.95

F——　　(ha)

48448m^2　　15min

1096m^3　　SS30mg/L　　50mg/L

4.4-2

		—	33088
	CODcr	750	24.82
	SS	200	6.62
		500	16.54
		—	25850
	CODcr	700	18.10
	SS	400	10.34
		60	1.55
		60	1.55
		—	5640
	CODcr	1000	5.64
	SS	200	1.13
		—	6016
	CODcr	500	3.00
		70	0.42
		—	2350
	CODcr	500	1.17
	SS	300	0.70
		10	0.02
		—	28576
	CODcr	500	14.29
	BOD_5	200	≤5.71
	SS	300	8.57
	NH_3-N	45	1.28
		—	1233m^3/
	SS	30	0.042t/

			50	0.071t/

322m^3/d

+

GB/T31962-2015 B GB8978-1996

322m^3/d

4.4-3

	mg/L	pH	—	6-9	500	200	300	45	/
		t/a	28576	—	14.29	5.71	8.57	1.28	/
+	mg/L	pH	—	6-9	425	182	210	43.6	/
		t/a	28576	—	12.14	5.20	6.00	1.24	/
	mg/L	pH	—	6-9	735.53	/	179.44	/	360.74
		t/a	47094	—	34.64	/	8.45	/	16.99
	mg/L	pH	—	6-9	294.21	/	53.83	/	108.22
		t/a	47094	—	13.86	/	2.54	/	5.10

4.4-4 dB(A)

		75~90	65~70
		80~85	60~65
		80~90	60~70
		80~85	60~65
		85~90	65~70
		80~85	60~65
		85~90	65~70
		75~85	55~65
		80~90	60~70

1

2

3

4

70dB A

4.4-5 t/a

1					184.3
2					73
3					3
4					4

5	77
6	11.5
7	1.0
8	47
9	3
10	2
11	340
12	22
13	1
14	2

				HW08	900-249-08	3	
				HW49	900-047-49	22	
				HW49	900-047-49	1	
				HW49	900-047-49	2	
				/	/	2	
				/	/	340	
				/	/	893	

1

GB8978-1996

CODcr NH_3-N

26t/a 3.3t/a

GB18918-2002 IV CODcr30mg/L NH_3-N1.5mg/L

CODcr NH_3-N 2.27t/a

0.11t/a

2

SO_2 NOx VOCs

SO_2 NOx VOCs

0.54t/a 1.28t/a 62.03t/a

4.4-7

1	COD	2.27	2.27
2	NH_3-N	0.11	0.11
3	SO_2	0.54	0.54
4	NOx	1.28	1.28
5	VOCs	62.03	62.03

CODCr 2.27t/a 0.11t/a SO_2

0.54t/a NOx 1.28t/a VOCs 62.03t/a

“ ” 319

112.482105°E 28.105557°N 1

1607.9

200

30-80 300.8

23.5

100 30

100.0m 46.5m 53.5m

60- 90m

30m

20%

600

e

2021 1 1 ~2021 12 31

2021 1 ~12

5.2-1 2021 μg/m^3

PM_{10}			52	70
$PM_{2.5}$			43	35
NO_2			29	40
SO_2			7	60
CO	95		992	4000
O_3	90	8h	126	160

HJ2.2-2018 D

2mg/m^3

5.2-3 mg/m^3

G1		ND	0	0.2	
	NMHC	0.69-0.82	0	2.0	

2mg/m^3

“ 2021 1 ~12 ”

“2021 1 ~12 ”

2021 1-12

III

1 W1 W2

2 pH COD

3 2020 3 21

4 GB3838-2002 III

5

5.2-3 mg/L pH

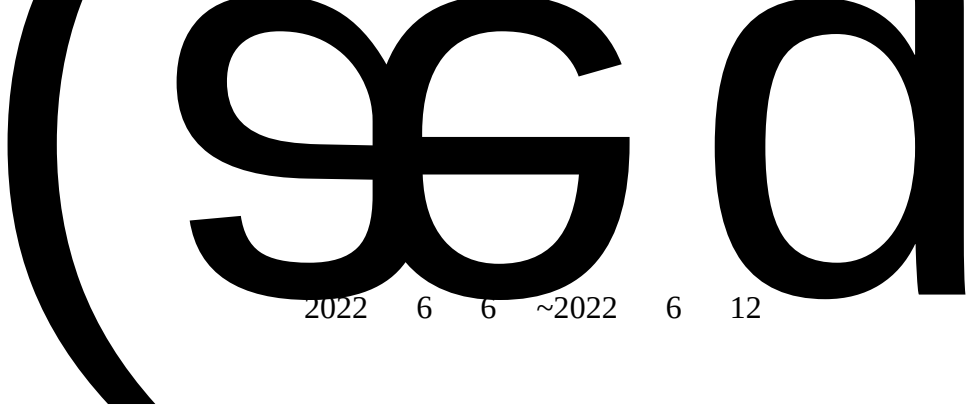
W1	2020.3.21	7.63	6.1	7	0.437	0.14

5.2-5 mg/L pH

S

D1

		0.006L	0.21-0.23	88-90	1.5	0.018L	0.7-0.706	ND	ND	ND	2	30-40
	%	0	0	0	0	0	0	0	0	0	0	0
		pH										
		6.5-8.5	≤0.50	≤20	≤1.0	≤0.002	≤0.05	≤0.01	≤0.001	≤0.05	≤450	≤0.01
		≤1.0	≤0.3	≤1000	≤3.0	≤250	≤250	≤0.50	≤3.0	≤100		



2022 6 6 ~2022 6 12

6

5.2-6

T1		112.481151°E	28.110586°N
T2	² ¡?¯ ×	112.488328°E	28.104678°N
T3			

T1~T3 T5 T4

GB36600-2018 1

T6

GB15618-2018 1

5.2-7 mg/kg

	5.2-7					mg/kg			
								1	
	12.2	0.52	ND	24	35	0.138	20	ND	ND
	60	65	5.7	18000	800	38	900	2.8	0.9
	ND	ND	ND	ND					
T4									
0-0.2m									

2022 6 6 ~2022 6 12

4 3

5.2-8

N1 1m	112.484281°E	28.105376°N	
N2 1m	112.483721°E	28.102722°N	
N3 1m	112.480620°E	28.104493°N	
N4 1m	112.482416°E	28.111123°N	

LAeq

1

GB3096-2008 2 4a



100m

1m 3mg/m^3 25m 1.53mg/m^3 60m

TSP

4~5 70%

SO_2 NO_2 CO

نم ٧

$_{0}$ $-20\lg(\ /\ _{0})-$

r r$_0$—— m

L(r) L(r$_0$)——r r$_0$ dB(A)

—— HJ2.4-2009

Aatm Agr

6.1-2 dB A

m	10	20	40	60	80	100	150	200	250	300	350	520
	82	75.9	69.8	62.3	59.1	56.6	52.0	-	-	-	-	-
	88	81.9	75.8	68.3	65.1	62.6	58.0	54.7	-	-	-	-
	82.5	76.4	70.3	62.8	59.6	57.1	52.5	-	-	-	-	-
	82	75.9	69.8	62.3	59.1	56.6	52.0	-	-	-	-	-
	100	93.9	87.8	80.3	77.1	74.6	70.0	66.7	64.0	61.8	60.0	54.9
	87	80.9	74.8	67.3	64.1	61.6	57.0	53.7	-	-	-	-

60m ~

((2015)15)

2

1

2

pH

3

4

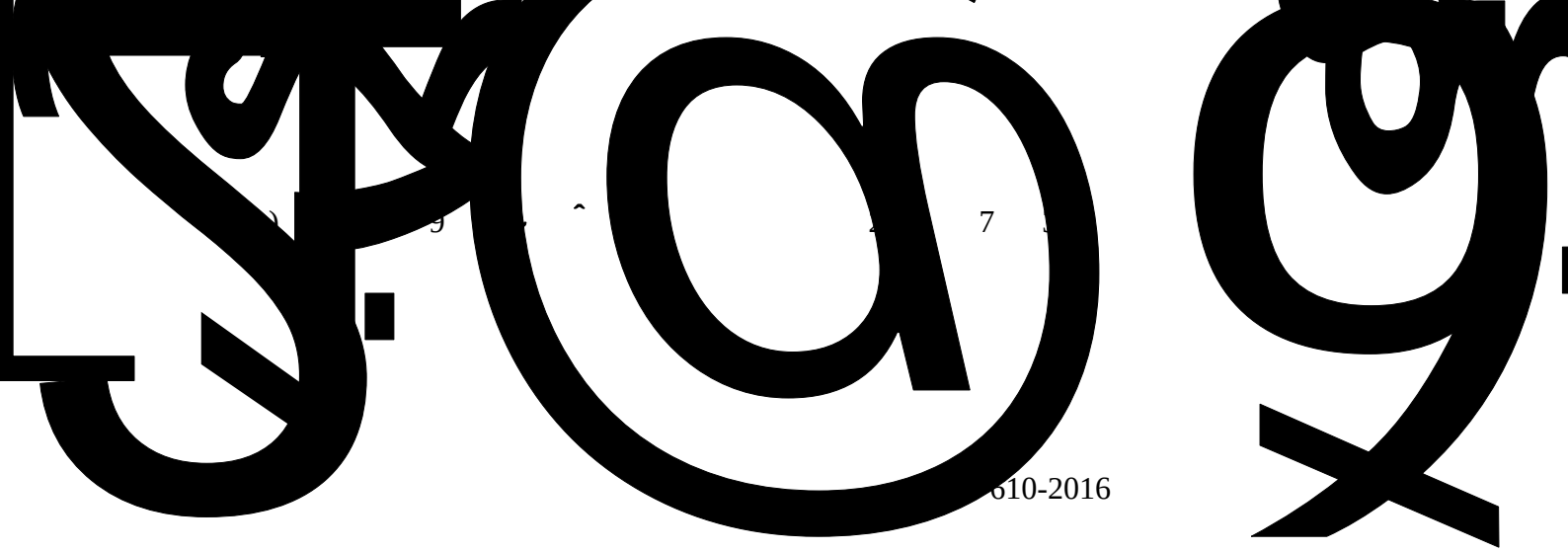
m



				149.24	1.79	12.23
					14.92	3.97	/
DA007				149.24	6.72	1.79	12.23
					14.92	3.97	/
			NMHC	54.00	5.98	1.59	1.87
DA008					5.40	1.44	/
				101.20	1.82	0.48	0.88
					10.12	2.69	/
DA009				2.78	0.12	0.03	0.19
					0.28	0.07	/
			NMHC	54.00	5.98	1.59	1.87
DA010					5.40	1.44	/
				79.20	1.43	0.38	0.45
					7.92	2.11	/
DA011				2.49	0.22	0.06	0.08
					0.25	0.07	/
DA012				2.49	0.11	0.03	0.25
	1				0.25	0.07	/
DA013				2.49	0.11	0.03	0.25
	2				0.25	0.07	/
DA014				0.33	0.01	0.004	0.03
		1			0.03	0.009	/
DA015				0.33	0.01	0.004	0.03
		2			0.03	0.009	/
			NMHC	54.18	6.00	1.60	4.20
					5.42	1.44	/
DA016				3.54	0.39	0.10	0.27
					0.35	0.09	/
				33.00	0.59	0.16	0.42
					3.30	0.88	/
			NMHC	32.51	3.60	0.96	2.52
					3.25		
DA017							

DA020	1#	NOx		1.08	0.54	0.14	28.61
					/	/	/
		SO_2		0.23	0.23	0.06	12.23
					/	/	/
				0.14	0.14	0.04	7.34
					/	/	/
DA021	3#	NOx		0.77	0.38	0.10	29.15
					/	/	/
		SO_2		0.16	0.16	0.04	12.46
					/	/	/
				0.10	0.10	0.03	7.48
					/	/	/
DA022	6#	NOx		0.71	0.36	0.09	18.91
					/	/	/
		SO_2		0.15	0.15	0.04	8.09
					/	/	/
				0.09	0.09	0.02	4.85
					/	/	/
/				22..38	/	/	/
					2.24	0.60	/
/				19.80	/	/	/
					0.99	0.26	

	SO_2		0.54
	NO_X		1.28
	NMHC		32.60
			24.69
			0.63
	SO_2		/
	NO_X		/
	NMHC		29.43
			78.65
			0.56
	SO_2		0.54
	NO_X		1.28
	NMHC		62.03
			103.34
			1.19



610-2016

0.30~7.50m

(Qd1)

95% 0.80~5.40m

(Qal) ~

95%

0.90~9.10m

(Qal) ~ 80mm 2~20mm

0.80~7.20m

(Qel) ~

95% 0.60-8.60m

(K)

RQD 30~45 V

5.9m

1

“ + ”

2

6.2-2



1

$$\frac{1}{2} \quad \frac{-}{2\sqrt{}} + \frac{1}{2} \quad \frac{+}{2\sqrt{}}$$

C——t x mg/L

C_0—— mg/L

x—— m

u—— n

t—— d

D

[redacted]

[redacted]

[redacted]

6.2-4 COD

5	321.00	442.00	469.00
10	162.00	385.00	437.00
15	69.20	329.00	406.00
20	23.90	276.00	374.00
25	6.59	228.00	343.00
30	1.45	184.00	313.00
35	0.25	146.00	283.00
40	0.03	113.00	255.00
45	0.00	86.00	228.00
50	0.00	64.10	203.00
60	0.00	33.30	157.00
70	0.00	15.80	118.00
80	0.00	6.90	86.80
90	0.00	2.74	61.90
100	0.00	0.99	42.90
110	0.00	0.33	28.90
120	0.00	0.10	18.90
130	0.00	0.03	12.00
140	0.00	0.01	7.36
150	0.00	0.00	4.39
160	0.00	0.00	2.54
3.0mg/L			

2

50m 100m 170m COD

50m 322

COD 100m 1254

COD 170m 3494

COD

6.2-5 COD mg/L

0	0.00	0	0.00	0	0.00

50	0.00	100	0.00	200	0.00
100	0.00	200	0.00	400	0.00
150	0.03	300	0.00	600	0.00
200	0.23	400	0.00	800	0.00
300	2.19	500	0.00	1000	0.00
400	6.99	600	0.03	1600	0.02
500	14.30	700	0.10	2000	0.11
600	23.20	800	0.26	2600	0.64
700	33.10	900	0.54	3000	1.43
800	43.40	1000	0.99	3600	3.43
900	53.80	1500	6.22	4000	5.35
1000	64.10	2000	16.00	4600	9.07
1500	111.00	2500	28.80	5000	12.00

“ ”

“ ”

2

10-15cm 2mm

$\leq 10^{-10}$cm/s

$\leq 10^{-10}$cm/s

40mm

2mm HDPE $\leq 10^{-10}$cm/s

GB18597-2001

$\leq 10^{-7}$cm/s

GB18599 2001

VOCs

VOCs

HJ964-2018

$$\Delta S=n(Is\quad Ls\quad Rs)/(\rho b\times A\times D$$

ΔS— g/k

Is— g

Ls— g Rs—

g

ρb— kg/m³

A— m^2

D— 0.2m

n— a

B

VOCs

0.012-ó ˘

5.12mg/kg 10.24mg/kg 21.45mg/kg

VOCs 1 5 10 20

GB36600-2018

2

$\leq 10^{-10}$cm/s

“ ”

1

405m^2

2

GB18599-2001

3

893t/a

4

HJ2025-2012

GB18597-2001

35

85%

Ş

6.2-8

/

1

“ ”

2

GB50493-2009

3

ש



Aî5$ Ò ƥ»F

1

$$V = V_1+V_2+V_{max}-V_3$$

V_1+V_2

1 350m^3

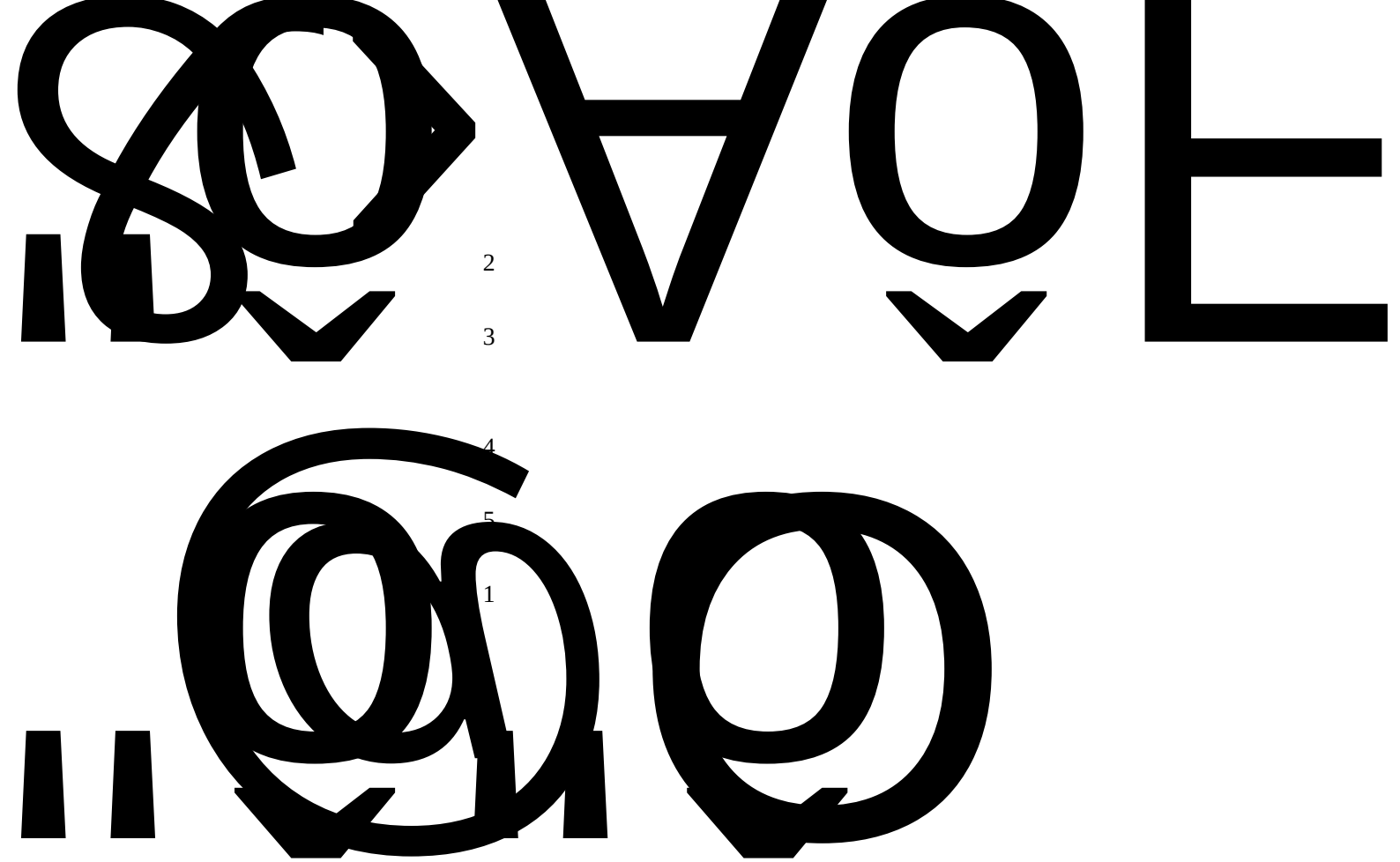
3

HJ 169-2018

/

6.2-9

	E 112.482105°	N 28.105557°
	1 2 3 4 5	
	1	



100%

100%

100%

100%

100%

100%

50%

70%

2

0#

1

GB18918-2002 A

2

3

4

5

1 2.5m

2

GB12523-2011 6 00 22 00

2

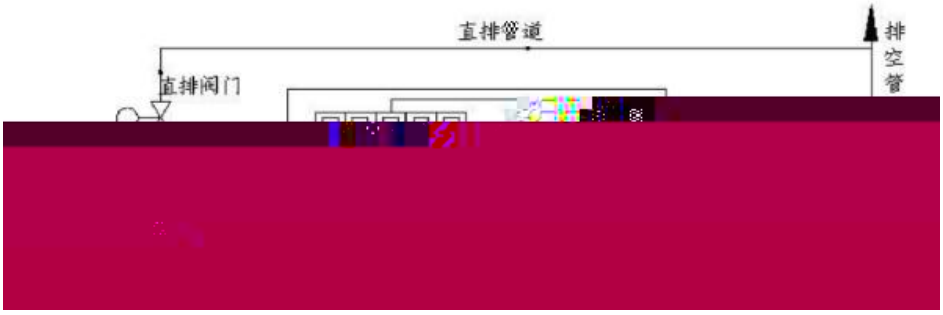
3

4

5

KEQN

CO



7.2-1 CO

CO CO

200 400

200-400 85%

95%

2.6~30mg/m^3 5~30

20~1500mg/m^3 CO

VOCs CO

85%

HJ 971-2018

1

2

+

1



pH MBR

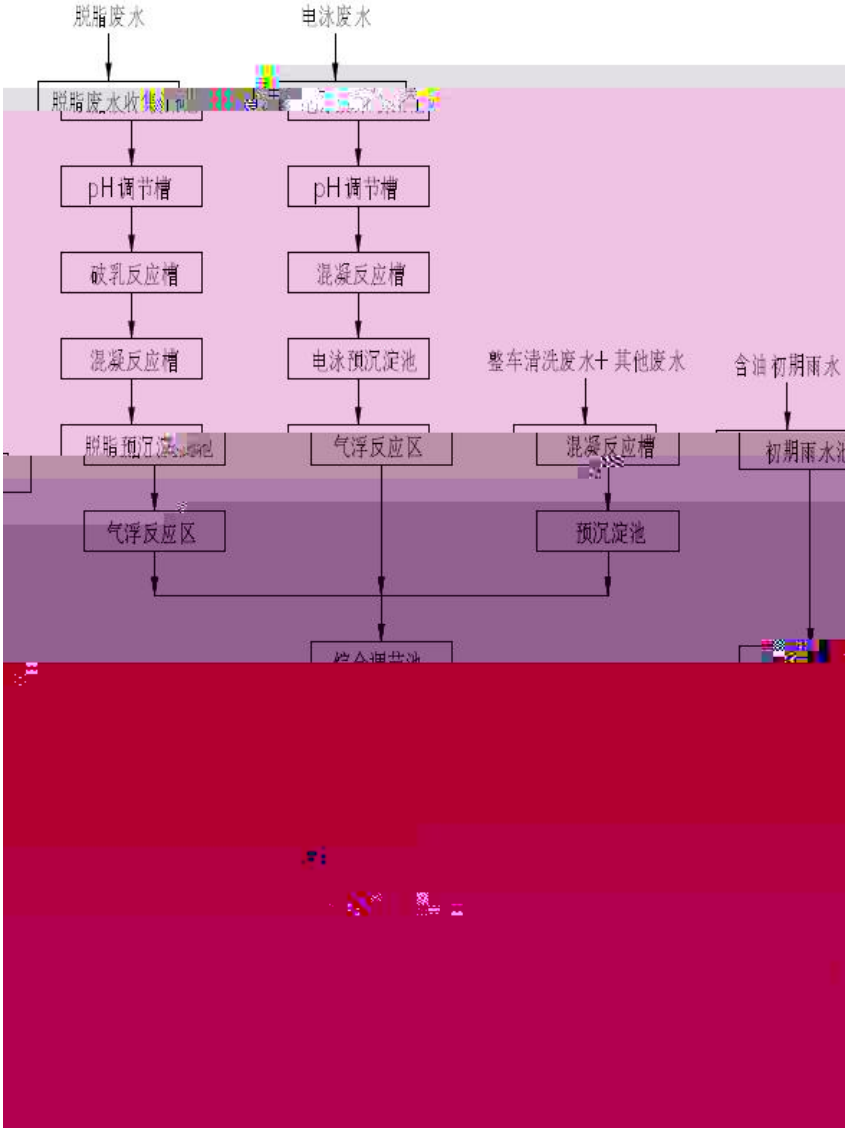
MBR

MBR SWRO MVR

SWRO

SWRO

SWR



28576m^3/a　121.6m^3/d

(GB18918-2002 TN≤10 L)

GB8978-1996

322t/d

0.2%

“

”

( )

1

10

2

6.0m 1.0×10^{-7}cm/s

1.5m 1.0×10^{-7}cm/s

3

7.2-1

1			
2			
3			
4			
5			/

65~90dB(A)

10~40dB(A)

15~30dB(A)

3~15dB(A)

1

GB 18597-2001　　2013

1999　　5

2014　22

a

b

c

1m

1.0×10^{-7}cm/s　　2mm

1.0×10^{-10}cm/s

d

e

GB 15562.2　　GB 8978

f

g

3

نم ٢

JTJ

3130-88 (2005 9)

JT 618 GB 13392-2005

1

2

3

3800

577256 36.03%

6.96

1

2

3

4

5

			3 +	90
			+	20
				2500
				5
				30
				5
				100
				10
				50
			1 $350m^3$ 2 3 4	200
			/	11610

1

2

3

4

2

1

2

3

4

5

6

7

8

9

2

3

4

1

2

3

4

2017 682 2017

10 1

9.1-2

+

+20m

+20m

+

+20m

NMHC + +

+25m

NMHC +20m

+

+20m

+

+20m GB9067-1996

NMHC + + NMHC

+25m

+

+20m DB43/1356-2017 1

+20m

NMHC + +

+25m

+20m 2

+20m 2

+

+20m

NMHC +

+25m

NMHC + +

+25m

+

+20m

1# NOx SO_2 +20m SO_2 NO_X

3# NOx SO_2 +20m GB13271-2014 3

6# NOx SO_2 +20m

GB16297-1996

COD SS

TN

CODcr BOD_5

SS NH_3-N

GB/T31962-2015 B

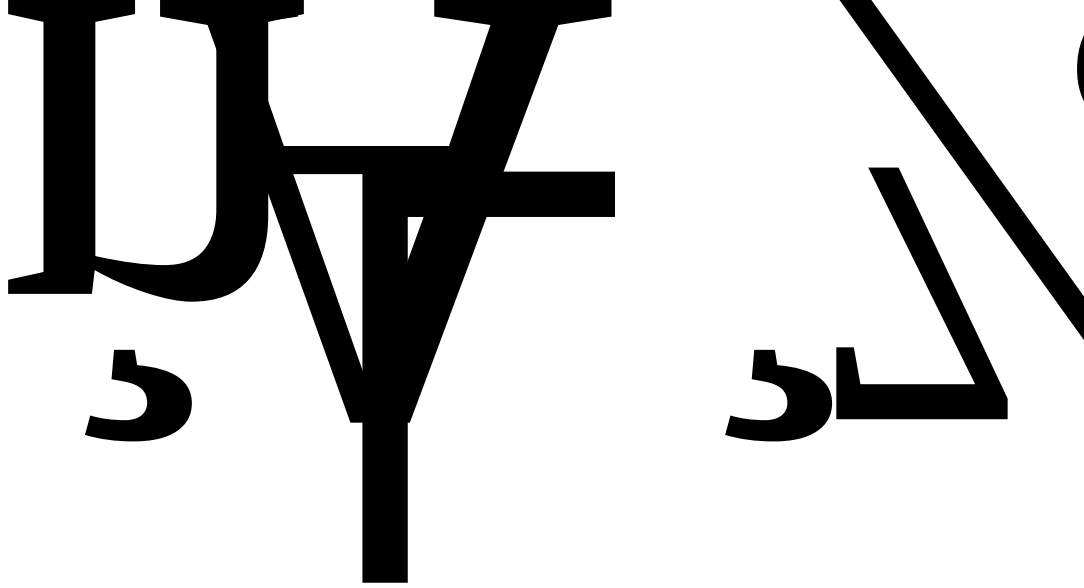
Leq A

4

/

/

3



4

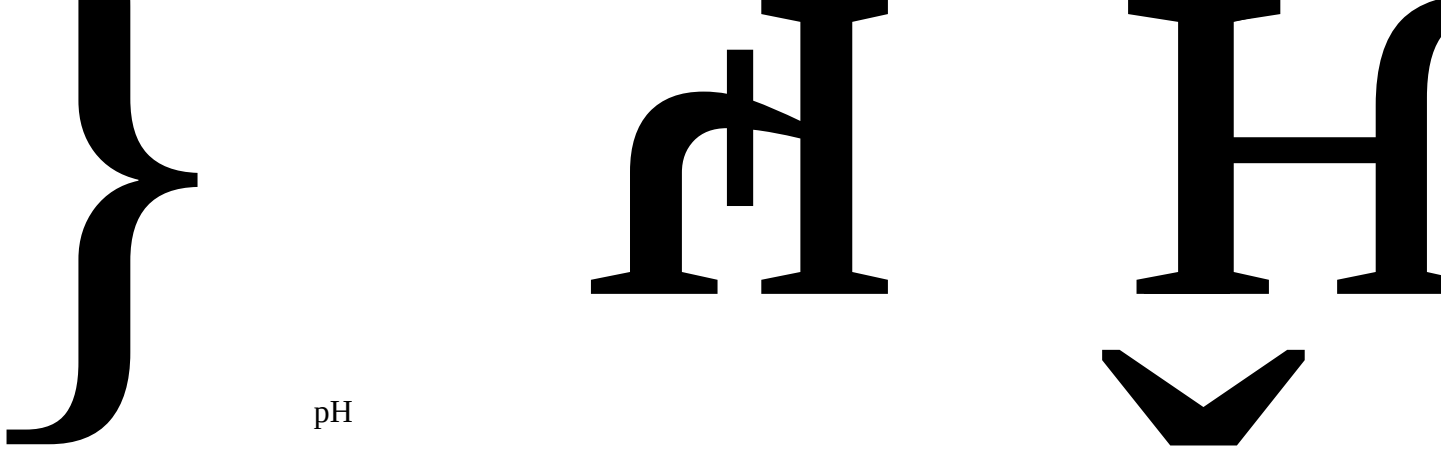
5

( )

]

1

pH



pH

)

3

5 1

4

1 4

2

A

5

3

		( )	
			1 /5
		Leq A	1 /
	DA001 DA002 DA004 DA006 DA007 DA009 DA011~DA015 DA018 DA019		1 /
	DA005	NMHC	
	DA016 DA017	NMHC	
	DA020~DA022	NOx SO_2	
		NMHC	

577256 11610

2.0%

932137.26m^2

24

3800 3760h

2021 PM_{10} SO_2 NO_2

CO 95 O_3 8h 90

GB3095-2012

$PM_{2.5}$

HJ2.2-2018

HJ2.2-2018

D

$2mg/m^3$

pH

COD GB3838-2002 III

pH COD

GB3838-2002 III

GB3838-2002 III

GB/T14848-2017

III

GB3096-2008 4a

- GB36600-2018

GB

15618-2018

5 10 20



+20m

+ +20m

NMHC + +

+25m

NMHC +20m

+ +20m

+ +20m

NMHC + +

+25m

+ +20m

+20m

NMHC + +

+25m 25m

+20m 2

+20m 2

+ +20m 0 + &

.

		/	
		/	
			350m^3

1

2

3

4