2025 1

2311-320582-89-01-484784

120 34 5.86 31 58 49.51

C3033 56

303

/ /

2023 966

30000 1500

5% 18

%

☑

☐ _____ **m²** 67192.35

1-1

1-1

500

		40.48	
	1		
	2		
	1		
	2		
	3		
	2		
	1		
			60
m3/d		100%	
	2		

1.2 m^3/d

3 m^3/d 2.4

m^3/d 0.6 m^3/d

3

35kV

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“ ”

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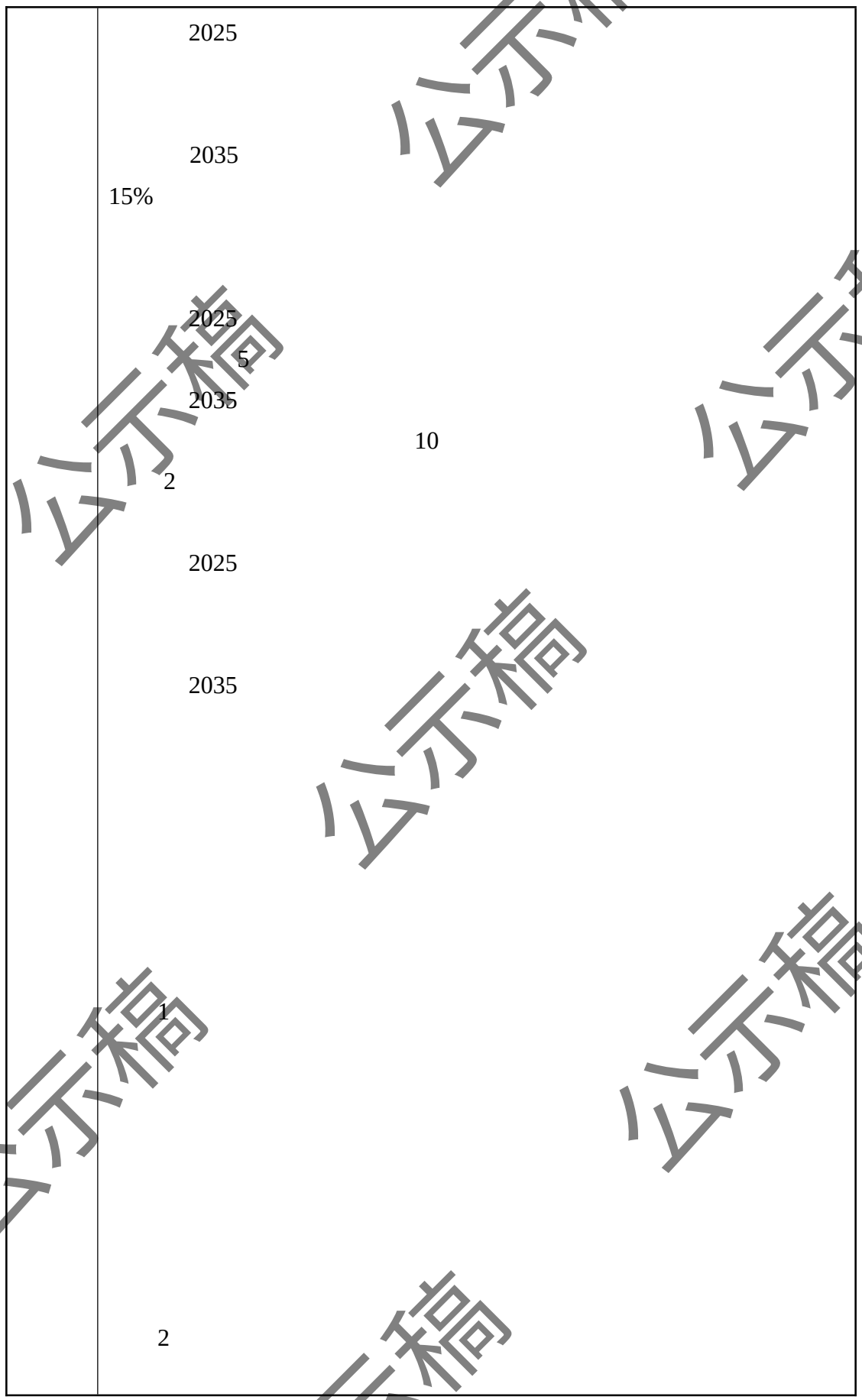
5

300t/h 8 5 8…TPD’‰ " (

3



3

“ ”

1 “ ”

7

1000 /

3000 /

5000 / 2500 /

1500 / 500 / 440

/ CVC / C 440 / 220 /

/

4

“ ”

2

4-3

4 **2022-2035**

2023 4

2022-2035

2023 10 7

2023 7

1-2

1-2

1	2020-2030 2020-2030 2021 36	
2		

3			
4			
5			

2022-2035

5 **2021-2035**

2021-2035

4-2

6

2022

2022 2207 2022 10 14

6

1

1

2022

2022 2207 2022 10 14

1.71km

2020 1

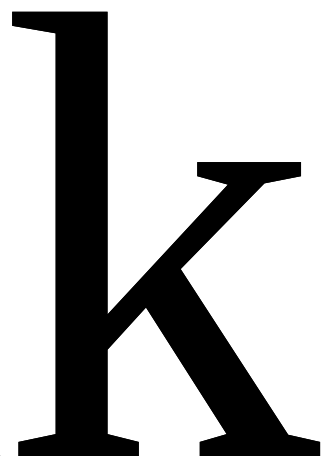
2021 102

2022 145

1.63km 1-3 1-4

1-3

km



				km
			12329.4462	1.63
	8		149.3206	2.87
	5.5	500	135.6696	5.52

1.71km

5.52km 1.63km

2.87km

2

2

2023

115 186 82.5%

4.18 8.0%

2.8%

12.3% 14.9% 13.8%

2023 2023

15 36 II

38.9% 16.7 I~

100% V

4 7 I~III 100%

V

31 ( ) 15 16 III

II 48.4% 25.7

13 10 17 ±1 AUX™ 2 P '™™ Ž±?!$ P" P

100.0% 2023 5

1-5

1-5

1 2 2019 2021 2024 2007 129 2021 129 2022 3 2022 2022 + + +RTO 2022 55 VOCs 4 VOCs		
	1 2 C3033 3 4	

		1 2 3	
		1 “ ” 2 3 “ ”	
		1 2 3 4	
	1 “ ” 2	1 3 2 34.5	4- 2 3

		4 5
	3 38.06 “ ”	
	4 34.77 5 “ ”	
	1 2 3 5.11.5-1	
	1	1 2023 9 7 2 432m³ 3

2

“

/ ”

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	1		
	2		
	3		
	1		

	2		

2023

5 **2023**

2023

477

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1-7

1-7

	1		
		1	
			2024
		2	
	2	3	
	3		
		4	
		5	
	4		
	5		
	1	1	

2 2

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2023 9 7

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2023

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2012 221

604 2021 9 29

1-8

		2022	
1	2035	2015 2030 2017	
2			
3			
4			
5			

6

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3				
4				
5				

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7	34		
8			
9			
10			
11			
12	2022	2021 2024 2024 4	
13			
14			

15

16

17

		/
		HJ942-2018 HJ819-2017 HJ954-2018 HJ820-2017 2022 2022 5

9

2021 45

1-10

1-10 2021 45

1			
2	( )		
3			

-

<

>

2021

364

4

2021 45

10

1

2021 65

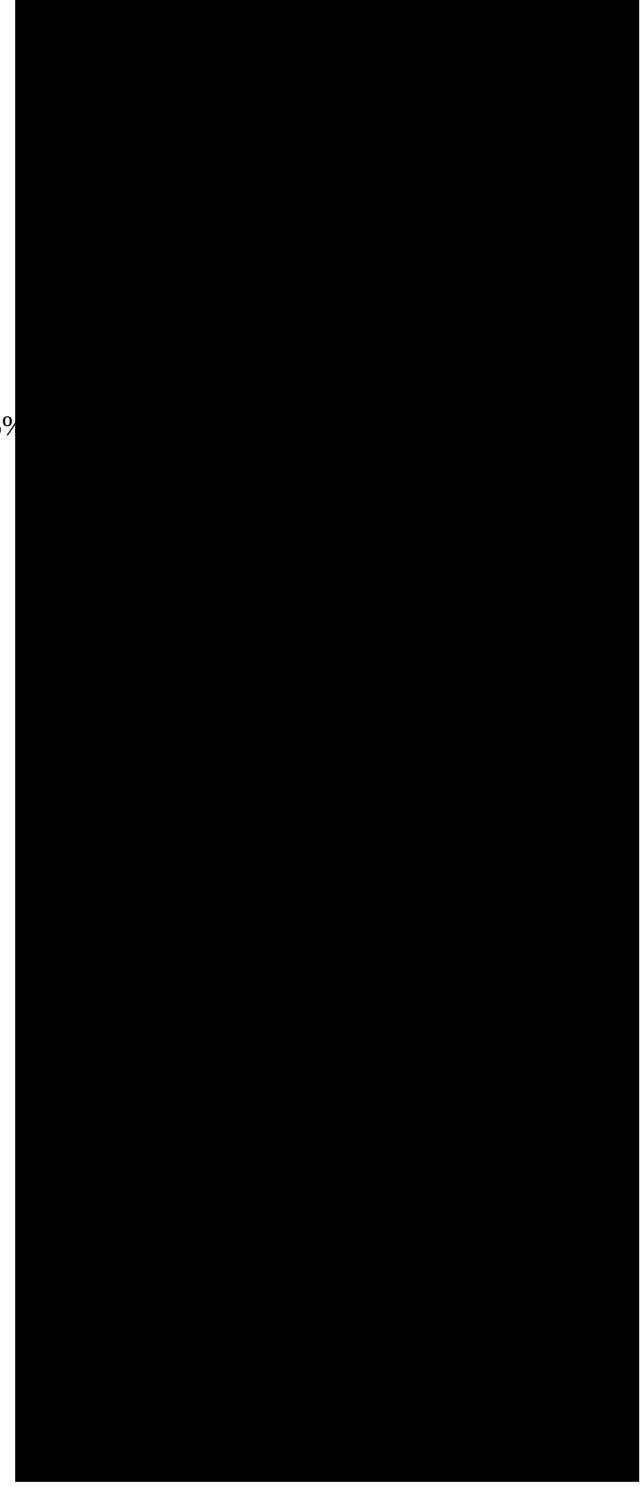
2021 65

1-11

	VOCs	

VOCs

0.3m/s



0.5%

5

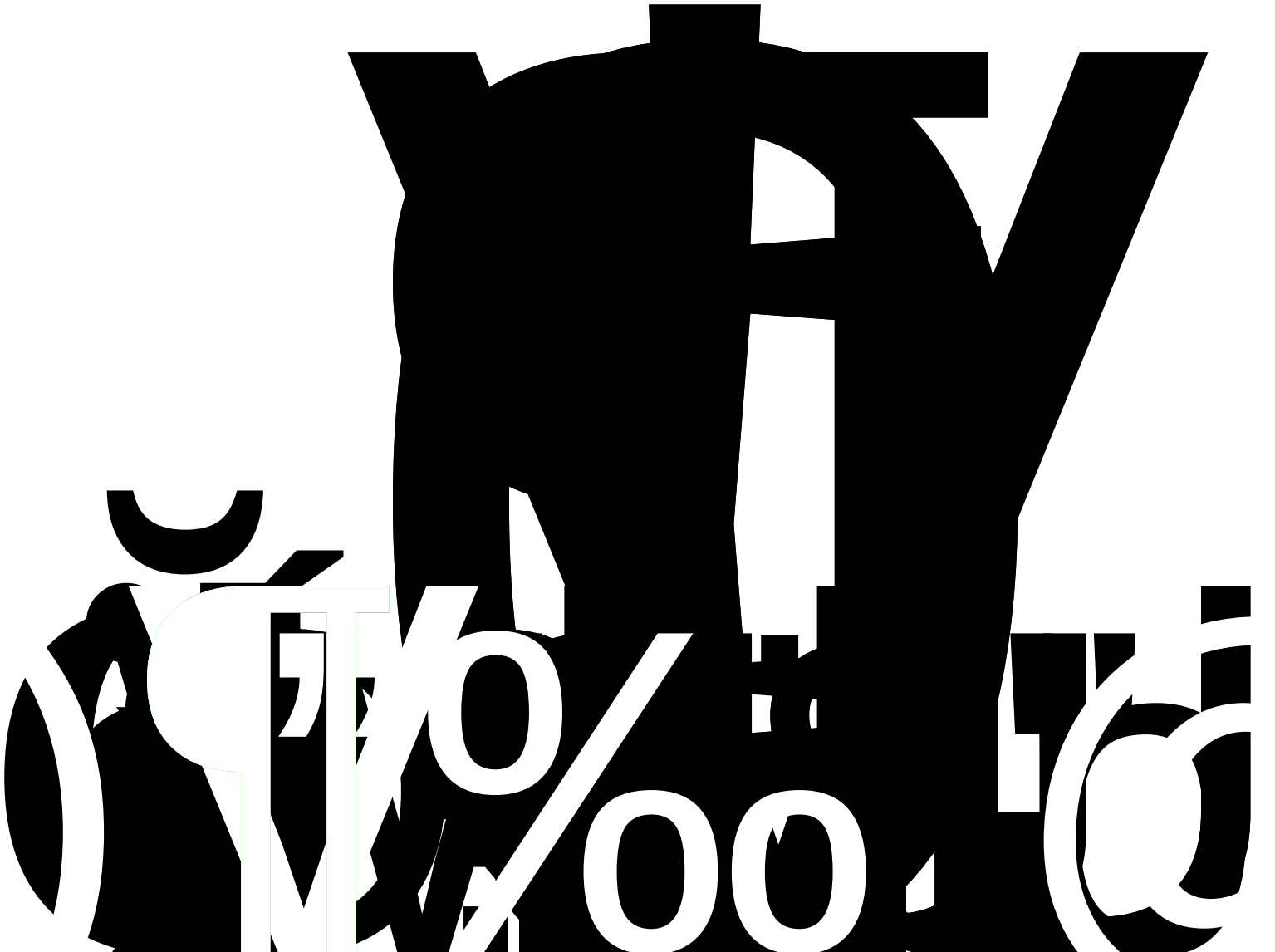
	VOCs RTO 760 CO 300 VOCsV VOCs	

2021 65

2 J

119

1-12



HJ954-2018

3

HJ820-2017

2022

2022 5

3

119

11

1 2017 278

2017 278

2017 278

2

2022 70

1-13　　　　　　　　　　　2022　70

2022 70

2.1

2021

30000

67192.35

173117.08 16718.8

ڑ P ò2 B" Y•!$ • Ae ˜”

4

1

5400 4

220 50

300 3

39

					/	5400	+5400		
			20kg/25kg	JC/T984-2011	50	50	0	7200	

			30kg/ 10m 1m 3mm/4m m	GB18242- 2008 GB18243- 2008 Q/SY YHF011-2005	/	4 0 /	+4 /	7200	

30kg/ 10 / 4 /
1350 /

2.2.2

2-2

1		m^2	67192.35	67192.35
2		m^2	16718.8	/
3		m^2	33125.98	/
4		m^2	17138.8	/
5		/	1.8	1.6~3
6		%	59.99	40~65
7		%	6	6%
8		m	23.9	40

2.2.3

4

5400

1 4

2-3

2-3

			/				
1		RDI—A22925-00	4	5	+1		
2		RDI—A12992-03	4	5	+1		

3	RDI—A20453-01	4	5	+1
4	RDI—A20454	4	5	+1
5	RDI--E44072-00	4	5	+1
6	DP-30	4	5	+1
7	RDI--=m			

25		RDI-A20461-01	4	5	+1		
26	2#	R107DV132M4/V	4	5	+1		
27		RDI-A20461	4	5	+1		
28		COP--01	4	5	+1		
29		RW20-LS	4	5	+1		
30		/	4	5	+1		
31		LX-JC1600	4	5	+1		
32		HDMD-00	4	5	+1		
33	*	only-1215	1	2	+1		/
34		NYP320B-LU-T1-J-W12	3	5	+2		
35		NYP80B/1.0	0	2	+2		
36		NYP320B-R97-235-30KW	4	6	+2		
37		NYP220B-LU-T1-J-W12	3	6	+3		
38		SM-D3/HK	3	5	+2		
39		YZ55-6t	6	6	0		
40		YZ55-14t A17352A13	8	8	0		
41		YZ55-16t	4	4	0		
42		630	0	8	+8		
43		YH-2010/HP	1	1	0		
44		LS250*250	2	4	+2		
45		LS250*6000	0	2	+2		
46		GL300	0	6	+6		
47		HDSJJ1.0-00	0	1	+1		
48		TD250*11950	2	2	0		
49		LS250*14000	3	3	0		
50		CDI-90	1	1	0		
51		LS250*16000	3	3	0		

52	300m³/h 70m	1	1	0	
53	9-26NO5.6A	1	1	0	
54	NX-YR-40	1	1	0	
55	0.32MPa	1	1	0	
56	ISW200-400	2	2	0	
57	150ZW180-38	2	2	0	
58	700m³/h	1	1	0	
59	15.8m³/min	2 1	2 1	0	
60	LY-D150AC	2	2	0	
61	YH01Z03	0	1	+1	
62	NYP220	0	1	+1	
63	² CD-2T	0	2	+2	
64	16T	0	2	+2	
65	–hò •?5 „s’ 7 " P ?, ð % ë ¡5;RS Φ400	0	1	+1	

1	20t/h	1	1	0	/	
2	20t/h	1	1	0	/	
3	/	20	20	0	/	
4	/	22	22	0	/	
5	/	2	2	0	/	/
6	FJD3000	1	1	0	/	
7	FJD2000	4	4	0	/	
8	/	2	2	0	/	

1 Ή

12		/	1	1	0	/	
13		16.3Nm³/min	1 1	1 1	0	/	
14		/	1	1	0	/	
15		/	1	1	0	/	
1		V=10m³ 3000*3000*1200mm	5	5	0		
2		630mm	5	5	0		
3		6500m³	3	3	0		
4		1200m³*3;100m³*3;300m³*1	7	7	0		
5		500m³	1	1	0		
6		500m³	1	1	0		
7		RCB-60/1.0	1	1	0		/
8		W6.4ZK-90ZIM1W73	4	4	0		
9		W6.4ZK62Z1M1W73	3	3	0		
10		W4.2Z70Z1MbW81	7	7	0		
11		RCB-38/1.0	1	1	0		
12		RCB-38/1.0	4	4	0		
1		RDI—A22925-00	0	4	+4		
2		RDI—A12992-03	0	4	+4		
3		RDI—A20453-01	0	4	+4		

4		RDI—A20454	0	4	+4		
5		RDI--E44072-00	0	4	+4		
6		DP-30	0	4	+4		
7		RDI--E44008-00	0	4	+4		
8		Q=20m/h P=1.0MPa n=136r/min 190	0	9	+9		
9	1#	RDI-E28293	0	4	+4		
10		RDI-A18206	0	4	+4		
11	1#	RDI-A20348-02	0	4	+4		
12	1#	RDI-A20363	0	4	+4		
13		RDI-A20567	0	4	+4		
14	2#	RDI-A20361	0	4	+4		
15		RDI-44127	0	4	+4		
16	1#	HDZQ-00	0	4	+4		
17	2#	HDYT-00	0	4	+4		
18	3#	HDFM-00	0	4	+4		
19	2#	HDSC-00	0	4	+4		
20	4#	HDFM-00	0	4	+4		
21	2#	TD160*8.5	0	4	+4		
22		A19300-01	0	4	+4		
23	SBS	HFY-HP10A21	0	4	+4		
24		HFY-HP10A21	0	4	+4		
25		RDI-A20461-01	0	4	+4		

26	2#	R107DV132M4/V	0	4	+4		
27		RDI-A20461	0	4	+4		
28		COP--01	0	4	+4		
29		RW20-LS	0	4	+4		
30		LX-JC1600	0	4	+4		
31		HDMD-00	0	4	+4		
32		only-1215	0	4	+4		
33		LX-JC1600	0	1	+1		
34		NYP320B-LU-T1-J-W12	0	8	+8		
35		NYP320B-R97-235-30KW	0	6	+6		
36		NYP220B-LU-T1-J-W12	0	3	+3		
37		SM-D3/HK	0	8	+8		
38		YZ55-6t	0	6	+6		
39		YZ55-14t	0	20	+20		
40		YZ55-16t	0	12	+12		
41		630	0	17	+17		
42		YH-2010/HP	0	1	+1		
43		LS250*2500	0	2	+2		
44		TD250*11950	0	2	+2		
45		LS250*14000	0	3	+3		
46		250*250mm	0	9	+9		
47		CDI-90	0	1	+1		
48		100m^3	0	2	+2		
49		250*250mm	0	1	+1		
50		LS250*16000	0	1	+1		
51		300m^3/h 70m	0	2	+2		
52		7185m^3/h	0	1	+1		

53		NX-YR-40	0	1	+1		
54		0.32MPa	0	1	+1		
55		10m³	0	1	+1		
56		6m³	0	1	+1		
57		ISW200-400	0	4	+4		
58		150ZW180-38	0	4	+4		
59		350m³/h	0	2	+2		
60		15.8m³/min	0	2	+2		
61		10m³	0	1	+1		
62		26m³/min	0	2	+2		
63		26m³/min	0	2	+2		
64		26m³/min	0	2	+2		
65		14.5m³/min	0	2	+2		
66		SCS-150	0	1	+1		
67		40STD-290WSI3	0	1	+1		
68		50m³ 0.32MPa	0	2	+2		
69		35m³ 0.20MPa	0	2	+2		
70		3000mm*3000mm*2000mm	0	1	+1		
71		YZ55-14t	0	6	+6		
72		YZ55-14t	0	2	+2		
1	[1]	350	1 1	2 2	+1 1		/

1

5

5400 / 4 / 1350 /

1 0.2

/ 1440 /

			mm	**mm**	
1	200#	20#	200/150/100	6.0/4.5/4.0	203
2	90#	20#	200/150/100	6.0/4.5/4.0	159
3		20#	150/125/100/80	4.5/4.5/4.0/4.0	112

2.2.3

1

2-6

2-6

t/a

t/a*

90#		6500m^3	131732	263464	+131732	19500
	98%	500m^3	7000	14000	+7000	500
SBS	3% - -	25kg/	22950	45900	+22950	800
APAO		20kg/	7056	14112	+7056	3
SBR						

200	/	100kg/	2868	5736	+2868	/		
250	/	100kg/	1720	3440	+1720	/		
	/	20~70 10~20 500kg/	25	50	+25	5		
200#		500m³	0	20000	+20000	500		
	98% 3%	500m³	0	6252	+6252	500		
SBS	- -	25kg/	0	4000	+4000	800		
APAO		20kg/	0	3000	+3000	3		
SBR		20kg/	0	3000	+3000	60		
C5		20kg/	0	2000	+2000	30		
		/	0	35	+35	/		
		100m³ 0.075-0.085mm	0	1500	+1500	/		
200	/	100kg/	0	145	+145	/		
250	/	100kg/	0	85	+85	/		

	/	20~70 10~20 500kg/	0	5	+5	5		
1	/	60-120	20000	20000	0	60		
2	/	200	37500	37500	0	60		
3	/	20-40	37500	37500	0	60		
4	/	40-80	17500	17500	0	60		
1	/	40-80	37500	37500	0	200		
2	/	70-140	37500	37500	0	/		
	/	/	32500	32500	0	/		
32.5	/		32500	32500	0	/		
42.5	/		32500	32500	0	/		
	/		20000	20000	0	/		
	/		17500	17500	0	60		
	/	325-400	42500	42500	0	/		
1	/	200	42500	42500	0	90		
2	/	400	42500	42500	0	90		
	/	800	12500	12500	0	30		

	/	/	37500	37500	0	30		
		/	30	60	+30	60		
			243.81 m³/	423.81 m³/	+180 m³/	/	/	
	C H O P	170kg/	0.1	0.2	+0.1	0.1		

2

2-7

2-7

90#	470 204.4 0.1mm 80~100 42~52 =1)1.15 1.25 (		LD_{50} 5000mg/kg LC_{50} 94.4mg/kg LD_{50} 2000mg/kg
200#	470 204.4 - 25~27 19~28 =1)1.15 1.25 (		LD_{50} 5000mg/kg LC_{50} 94.4mg/kg LD_{50} 2000mg/kg

	60 100 15.0mm²/s 50.0mm²/s		/
	- - SBS SBS 0.92~0.95 SBS		
SBS	SBS SBS SBS SBS SBS		
SBR	1.5-4 ×10⁵ 2-10 ×10⁵ 40±1 pH3~5 0.99		
C5	3 1000~2500 0.97-1.07 70~140 1.512 I C9 SBR		

α-

280 ~380

Mg_3 Si_4O_{10} (OH)

/ /

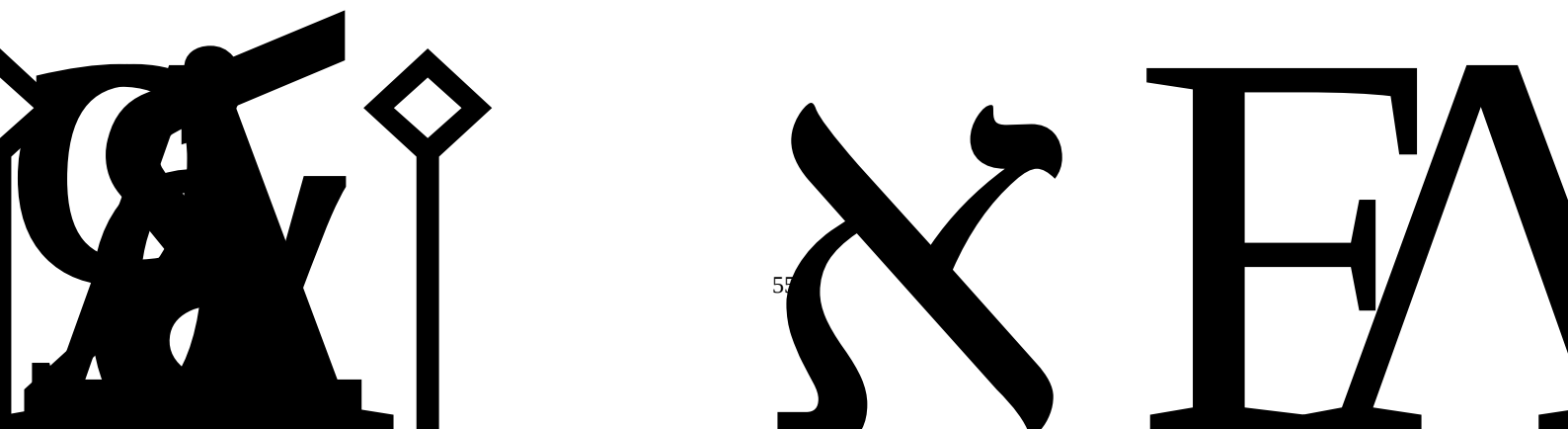
/

‡

280

>320°C 890kg/m^3 20°C

APAO



	0.7174kg/m^3 =1 0.45 650		

2.2.4

2-8

2-8

7631.36m^2 4 7631.36m^2 4

1 /

ő 1

/ 17067.76m^2

2

1

1 2 700m³/h /

700m³/h 350m³/h 2

350m³/h

31441.51 4031.54 35473.05 /

DA006

DA006

28.7m

28.7m

1

+ +

+RTO

2 + 2 +

+ DA002 +

+RTO 30m +RTO

DA001

2 +

+

30m +RTO

DA002

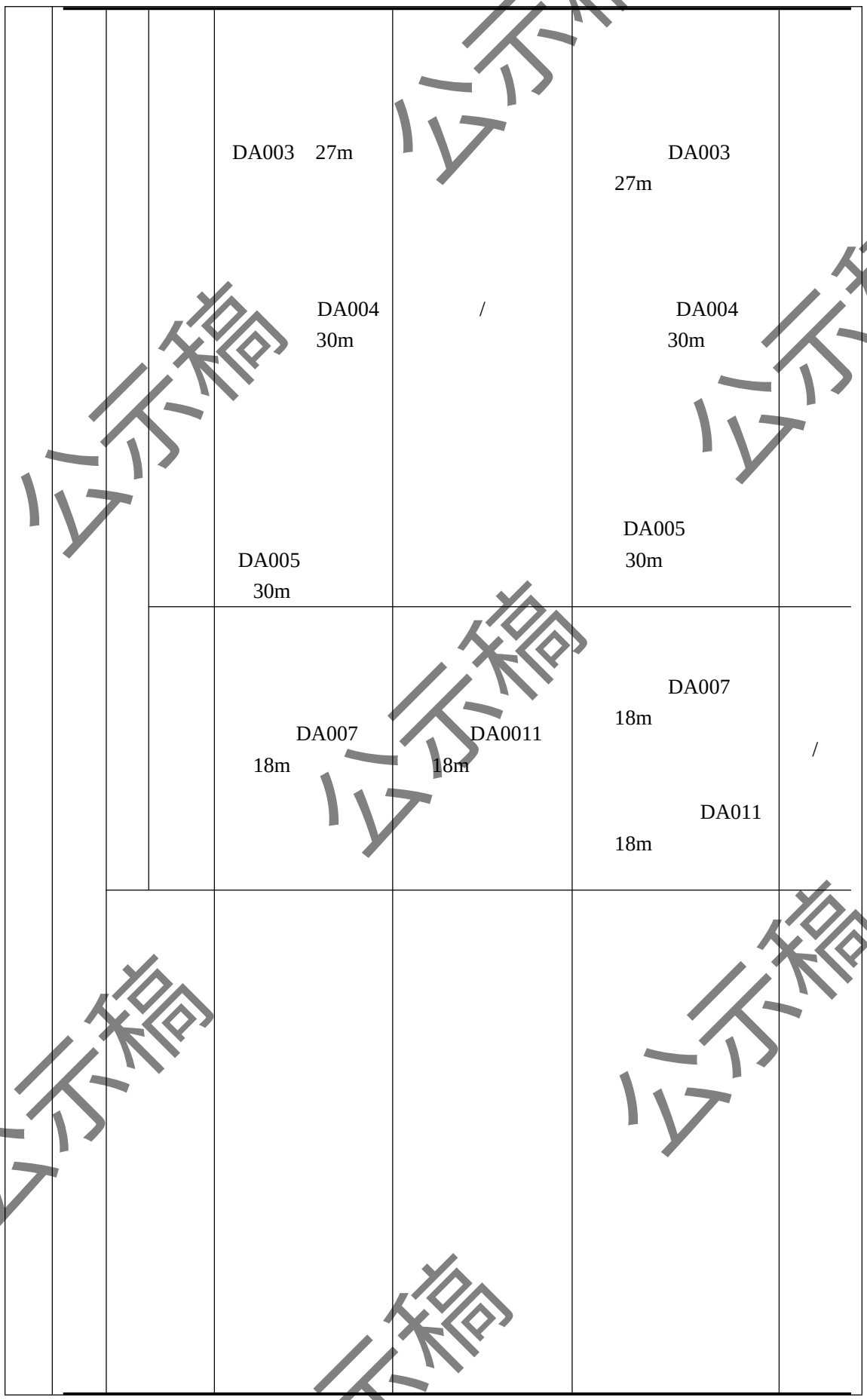
30m

DA001

30m

DA002

30m


DA003 27m
DA003
27m
DA004
30m
/
DA004
30m
DA005
30m
DA005
30m
DA007
18m
DA007
18m
DA0011
18m
/
DA011
18m

			267m^2		267m^2	/
			599.76m^2		599.76m^2	/
			432m^3		432m^3	/
			425.2m^3	/	425.2m^3	/

2.2.5

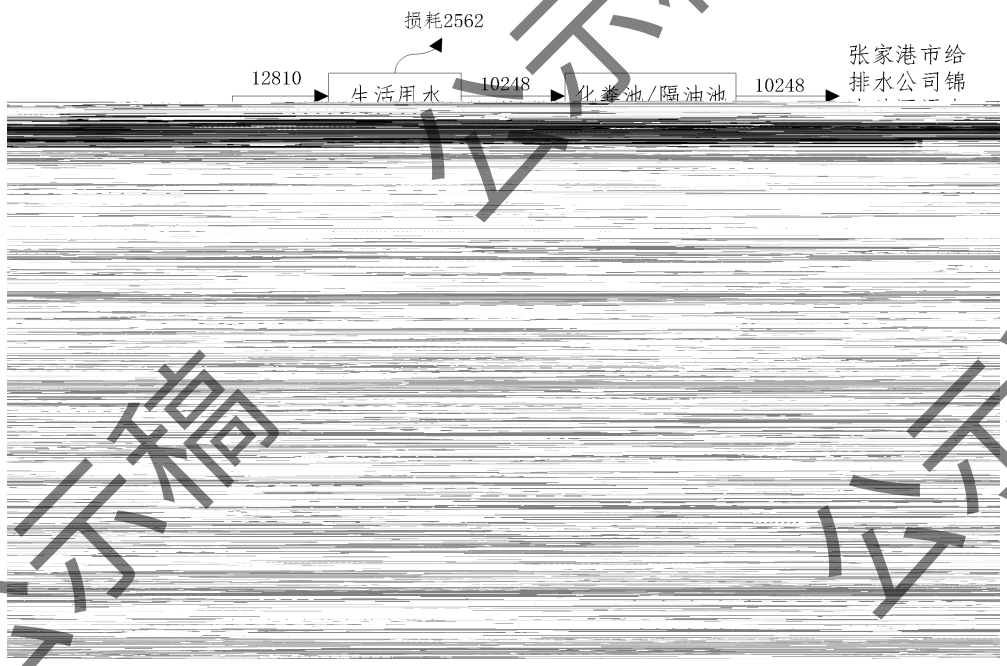
1 2

/

2-1

2-1 **t/a**

2-2



2-2

2.2.6

67192.35

1

4

3

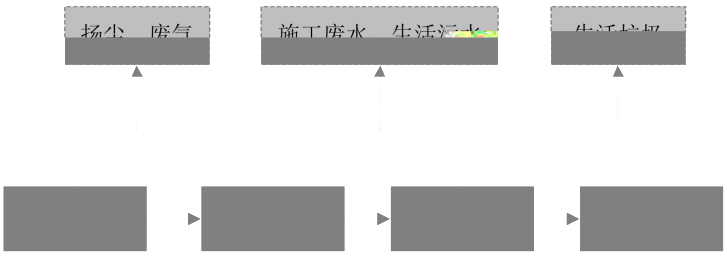
2.2.7

500

380

2.3

2.3.1



2-3

18

1

W4

3

5

S4

S5

S6 S7

S8

S9

S10

2.3.3

2-11

2-11

			G1	
			G2 G3 G4 G5	[a]
			G6	
		RTO	G7	SO_2 NO_X
			G8	[a]
			G9	
			W1	COD SS
			W2	COD SS
			W3	COD SS
			W4	COD SS
			/	COD SS
			S1	
			S2 S3	
			S4	
			S5	
			S6	

			S7	
			S8	
			S9	
			S10	
			/	
			/	

2.4

2.4.1

2021 7

2021 9

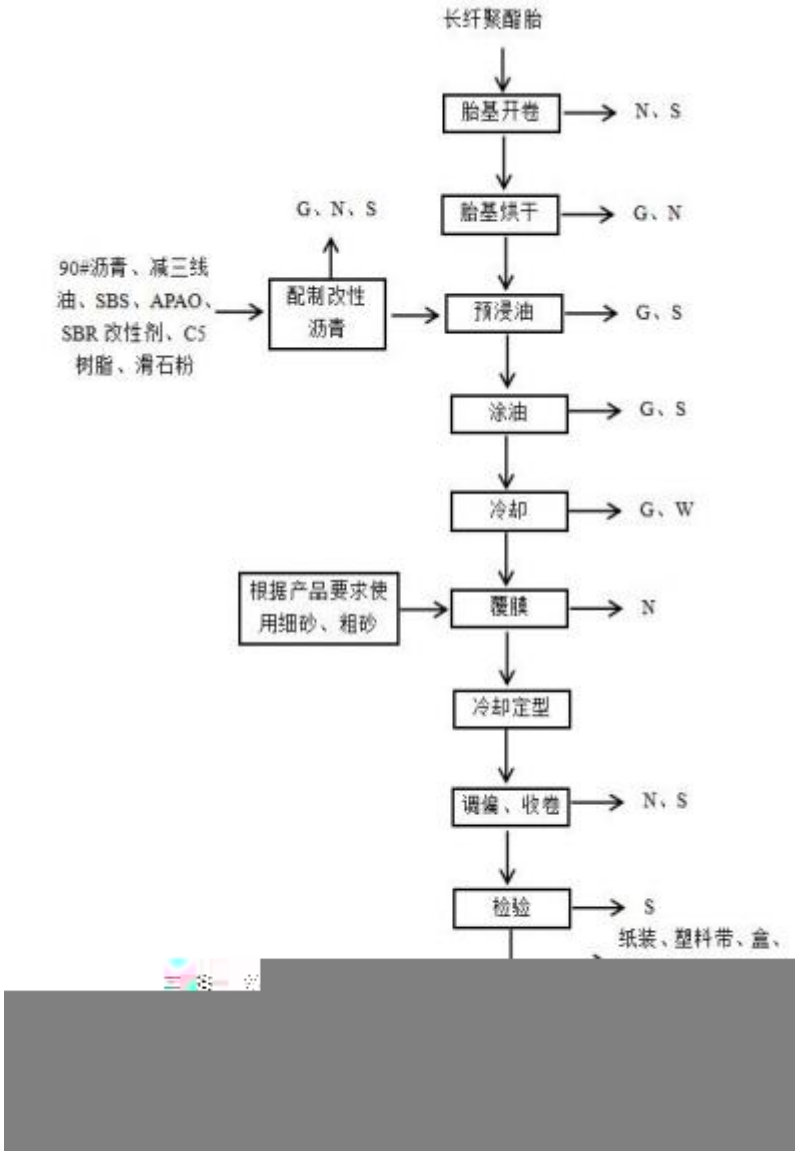
2022 3 14

2022 82 0034

2023 10 27

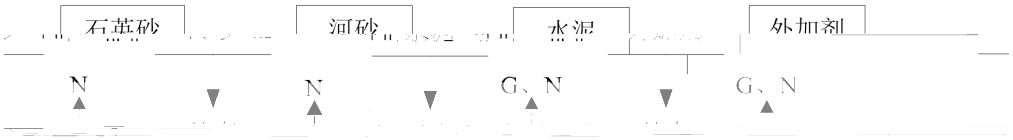
2.4.2

1


长纤聚酯胎
胎基开卷
N、S
胎基烘干
G、N
G、N、S
90#沥青、减三线油、SBS、APAO、SBR 改性剂、C5 树脂、滑石粉
配制改性沥青
预浸油
G、S
涂油
G、S
冷却
G、W
根据产品要求使用细砂、粗砂
覆膜
N
冷却定型
调偏、收卷
N、S
检验
S
纸装、塑料带、盒、

2-5

2



2-6

3

4

DA003 27m

DA004 30m

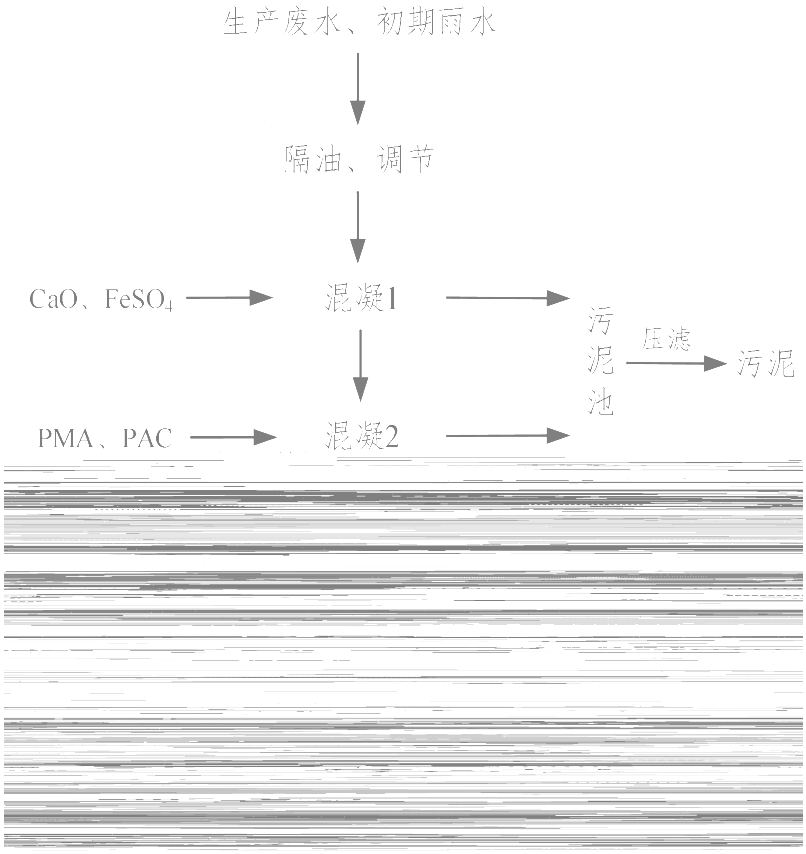
DA005 30m

2 + + +RTO

2

/

2-7



2-7

3

4

2-15

2-15

			/
1	/	99	0.5
2	/	99	5

3		HW08	900-249-08	5

				1					
		*		0.65	$1.3*10^{-2}$		60	3	
2023.9.17	DA002		20851	4	$7.6*10^{-2}$	DB32/4149-2021	200	/	
				ND3	/		200	/	
				ND1	/		20	1	
		*		0.96	$2.0*10^{-2}$		60	3	/
2023.9.18	DA003		1394	1.1	$1.6*10^{-3}$		10	/	
2023.9.19	DA003		1305	1.2	$1.6*10^{-3}$		10	/	
2023.9.16	DA004		5670	1.2	$7.0*10^{-3}$		10	/	
2023.9.17	DA004		5432	1.3	$6.9*10^{-3}$		10	/	
2023.9.16	DA005		6949	1.3	8.6×10^{-3}		10	/	
2023.9.17	DA005		6579	1.3	8.5×10^{-3}		10	/	
2023.9.16	DA006		436	ND1	/	DB32/4041-2021	20	1	
2023.9.17	DA006		436	ND1	/		20	1	
2023.9.16	DA007		4691	ND3	/	DB32/4385-2022	35	/	
				42	0.15		50	/	
				ND1	/		10	/	

				ND 3	9.6×10^{-3}			35	/
202 9			4885	43	0.16			50	/
				ND 1	/			10	/

ND DA001 DA002

VOCs

DA007

2-17

1D ! „ L 5 i PR K õ,@ ð " P			"u CV“ mg/m³			mg/m³
2023.9.16	DA007		ND 3	7.8%	3.5%	/
			32	7.8%	3.5%	42
			ND 1	7.8%	3.5%	/
2023.9.17	DA007		ND	7.6%	3.5%	
			33	7.6%	3.5%	43
			ND 1	7.6%	3.5%	/

2-18

				2021		
		[a]	ND 0.0000009		0.000008	

ND

DA001 DA002 DA006

DB32/4041-2021 DA003 DA004

DA005 DB32/4149-

2021 DA007

DB32/4385-2022 [a]

DB32/4041-2021

GB14554-93

2

2-19

			mg/m³		**mg/m³**	
2023.9.18			42	GB/T 19923-2024	50	
			0.168		5	
			12		/	
			20		20	
			0.13		1.0	
2023.9.19			39		50	
			0.17		5	
			12		/	
			20		20	
			0.15		1.0	

3

2-20

			dB A		**dB A**		
2023.9.18	1	GB12348-2008	65	55	57.3	54.0	
	1				61.3	51.9	
	1				57.0	53.0	
	1				54.8	54.3	
2023.9.19	1				57.4	53.8	
	1				60.7	51.4	
	1				57.0	52.9	
	1				53.6	54.6	

GB12348-2008 3

GB/T 19923-2024

2.4.5

89%~90%

		2.002	1.116
	[a]	0.000002	/
		0.904	/
		2.292	0.1894
		0.008	/
		1.3	
	[a]	0.000001	/
		0.476	/
		1.207	/
		8488	0
	COD	3.379	0
	SS	1.690	0
		0.296	0
		0.0338	0
		0.507	0
		0	0
		0	0
		0	0

= * /

2.4.6

100

2.4.7

1

“ ”

2

3 /

DA006

28.7m

2 +

+ +RTO

(DA001

) RTO DA002

30m 30m

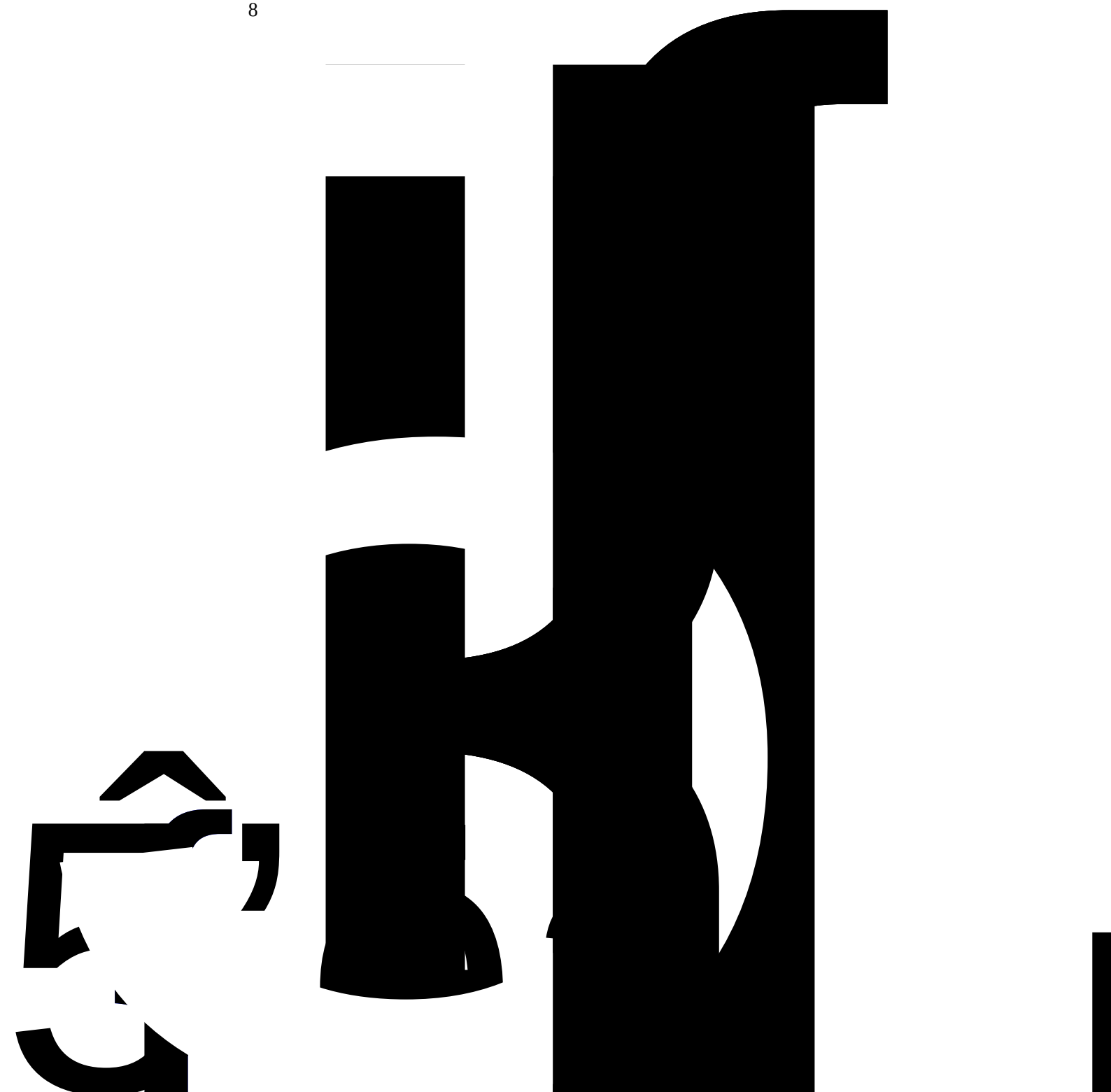
18m

DA003

4 30m 27m

599.76m^2

8



2023 10 23

14

(2015

162)

16

2022 3

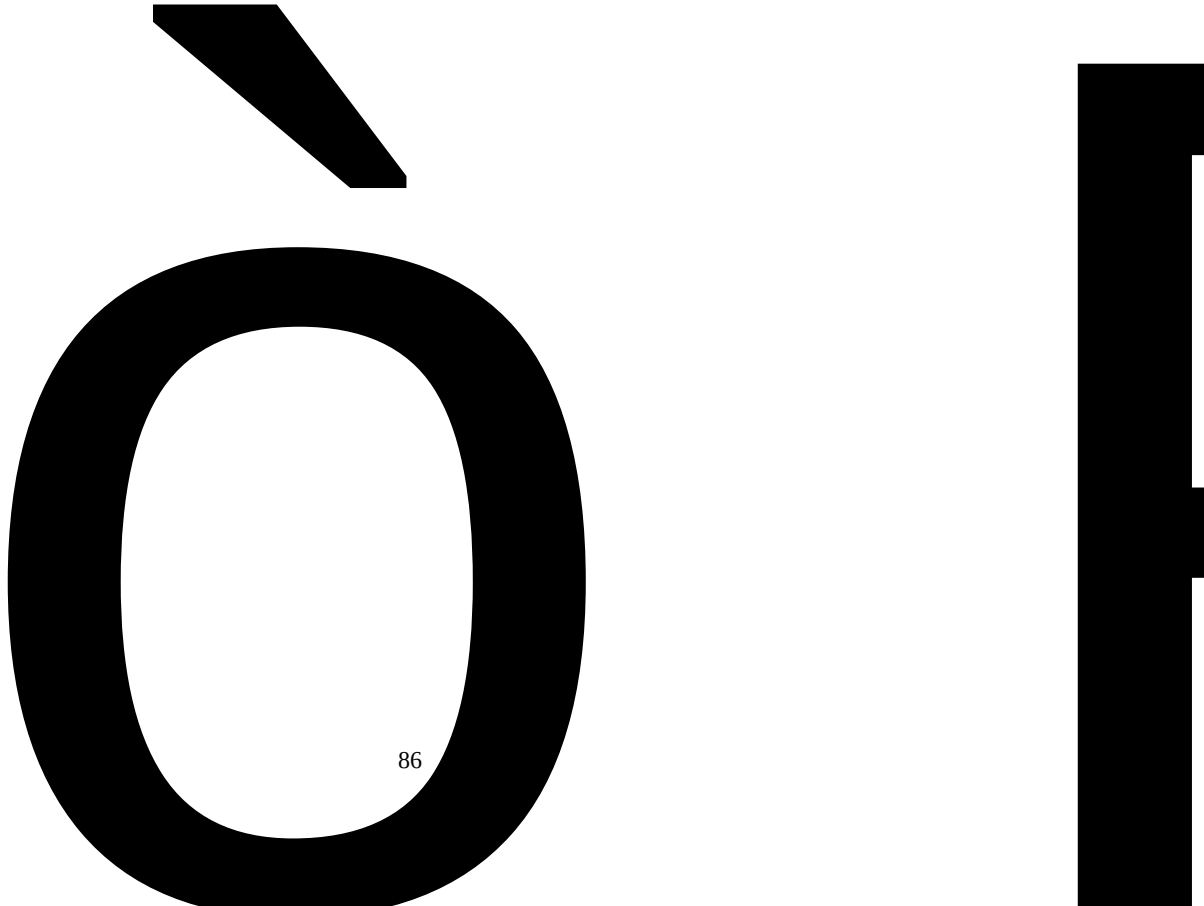
2022 4

17

5

5

í



3.1

3.1.1

1996 133

GB3095-2012 2023

2023

115 186 82.5%

4.18 8.0% 2.8%

12.3% 14.9%

13.8%

3-1 2023

		μg/m³	μg/m³	
SO_2		10	60	
		14	150	
NO_2		32	40	
		73	80	
PM_{10}		54	70	
		94	150	
$PM_{2.5}$		32	35	
		74	75	
CO mg/m³	24 95	1.2	4	
O_3	8 90	166	160	

2023

2024 50 2025 PM2.5 30

/ 1 VOCs

2020 10%

2022-2035

2022 5 23 2022 5 29

[a]

2024 11 30 2024

12 7

3-2

		/m UTM							
		X	**Y**		**ug/m^3)**	**ug/m^3)**	**%**		
		557587	13405728		2000	440~1950	97.5	0	
	[a]				0.0025	ND ($1*10^{-4}$)	/	0	

ND

[a] [a]

[a] GB3095-2012

3.1.2

2023 2023

15 36 II

38.9% 16.7 I~ 100%

V

4 7 I~III 100%

V

31 ( ) 15 16 III II
48.4% 25.7 13
10 17
100.0% 2023 5

2023
1 2023 3-3

3-3

			pH	COD_{Cr} mg/L	BOD_5 mg/L	mg/L	mg/L	mg/L
			7.5	6.1	0.9	0.06	1.61	0.005
			8.4	13.6	2.4	0.76	4.82	0.02
			7.5~8.4	10.0	1.5	0.28	2.7	0.01
			0	0	0	0	/	0
			/	/	/	/	/	/

3-3

2023.11.21~2023.11.23
W1 500m W2
500m 3-4

3-4

		pH	COD_{Cr} mg/L	SS mg/L	mg/L	mg/L	mg/L
		7.5	10	35	0.317	0.11	0.03
		7.9	14	38	0.416	0.16	0.04
	III	6-9	20	/	1.0	0.2	0.05
		0.45	0.7	/	0.416	0.8	0.8
500m W1		0	0	0	0	0	0
		7.4	15	32	0.246	0.1	0.03
		7.7	18	36	0.386	0.13	0.04
	III	6-9	20	/	1.0	0.2	0.05
		0.35	0.9	/	0.386	0.65	0.8
500m W2		0	0	0	0	0	0

GB 3838-2002 III

3.1.3

50m

3.1.4

3.1.5

HJ610-2016 A

IV J

70

HJ964-2018 A III

- -

3.1.6

3.2

500m 3.2-1 7

50m 500

3-5

	UTM						
	X	**Y**					**m**
	558005	13406413				SW	380

3.3

1

DB32/4385-2022 1

[a]

DB32/4041-2021 1

GB14554-93 1 RTO SO2 NOx

DB32/4041-2021 1

[a]

DB32/4041-2021 2 3

GB14554-93 2 3-7

3-6

		mg/Nm³	**kg/h**		**mg/Nm³)**	
		60	3		4.0 1h 6 20	DB32/4041-2021 1 2 3
	[a]	0.0003	0.000009		0.000008	DB32/4041-2021 1 3
DA001 DA002 DA009 DA010		20	0.11			DB32/4041-2021 1 3
		20	1		0.5	DB32/4041-2021 1 3
		15000	/		20	GB14554-93 1 2
		200	/	/	/	DB32/4041-2021

		200	/	/	/	DB32/4041-2021 1
DA006 DA008		20	1		0.5	DB32/4041-2021 1 3
DA011*		10	/	/	/	DB32/4385-2022 1
		35	/	/	/	DB32/4385-2022 1
		50	/	/	/	DB32/4385-2022 1
		1	/	/	/	DB32/4385-2022 1

DA001 DA002 DA009 DA010 VOCs

DA011 3.5%

VOCs

VOCs

GB37822-2019

3-7

TSP[a]	500
PM_{10}[b]	80

a (TSP) 15min HJ633 AQI 200~300 PM_{10} $PM_{2.5}$ TSP 200 g/m^3

b (PM_{10}) 1h PM_{10} PM_{10}

2

GB/T 19923-2024

2018 77

GB18918-2002 1 A 3-8 3-9

3-8

pH	/	6.0~9.0
		20
	NTU	5
BOD_5	mg/L	10
COD_{Cr}	mg/L	50
	mg/L	5
	mg/L	15
	mg/L	0.5
	mg/L	0.5
	mg/L	1.0
$CaCO_3$	mg/L	350
$CaCO_3$	mg/L	450
	mg/L	1000
	mg/L	250
¹ & Ů	mg 0 m °	2-m ä × ή-

8
70
100

[1]	3.396	18.872	17.194	1.678	0	5.074	+1.678
	0.904	11.657	10.492	1.165	0	2.069	+1.165
	2.492	7.215	6.702	0.513	0	3.005	+0.513
SO_2	0.964	0.09	0	0.09	0	1.054	+0.09
NOx	2.002	1.017	0	1.017	0	3.019	+1.017
[a]	2E-06	2.573E-05	2.3155E-05	2.575E-06	0	4.575E-06	+2.575E-06
VOCs[2]	2.292	29.560	26.605	2.955	0	5.247	+2.955
	0.008	0	0	0	0	0.008	0
	1.776	0.306	0	0.306	0	2.082	+0.306
	0.476	0.238	0	0.238	0	0.714	+0.238
	1.3	0.068	0	0.068	0	1.368	+0.068
[a]	1E-06	5.25E-07	0	5.25E-07	0	1.525E-06	+5.25E-07
VOCs	1.207	0.604	0	0.604	0	1.811	+0.604
	8448	1800	0	1800	0	10248	+1800
COD	3.379	0.72	0	0.72	0	4.099	+0.72
SS	1.690	0.45	0.09	0.36	0	2.05	+0.36
	0.296	0.063	0	0.063	0	0.359	+0.063
[3]	0.0338	0.0072	0	0.0072	0	0.041	+0.0072
	0.507	0.108	0	0.10			

™ d

4.1

4.1.1

4.1.2

4.1.3

n • " " P 7“ 1 i @ ³ @ ð " –K ò @ ð '

4.1.4

4.2

4.2.1

DB32/4385-2022

[a]

DB32/4041-2021

GB14554-93 RTO SO_2 NO_x

DB32/4041-2021

[a]

DB32/4041-2021

4.2.2

1

2

700t/h 34 42

700t/h

(GBT50102-2014)

$$Q_e = K_{ZF} \cdot \Delta t \cdot Q$$

Qe KZF 0.0015 t

8

Qw Pw 0.1

Qb N 5

Qm

Q 700t/h

5040000t/a

700t/h,7200h/a Qe 60480t/a 8.4t/h

Qw 5040t/a 0.7t/h Qb 10080t/a 1.4t/h

Qm 75600t/a

COD 1000mg/L SS 500mg/L 15mg/L

RTO

2.0t/d 600t/a 25%

RTO 1200t/a

900t/a COD

1000mg/L SS 600mg/L 15mg/L

3t/

1t/ 2 2

72t/a 24t/a

COD 1500mg/L SS 600mg/L 120mg/L

2t/ 2

4t/a COD 500mg/L SS

200mg/L 60mg/L

2019

150L/ 50

2250m^3/a 80% 1800t/a

COD 400mg/L SS 250mg/L 35mg/L
4mg/L 60mg/L 60mg/L

4031.54m^2

GB50015-2019 1~3L/(m^2 d)
3L/(m^2 d) 1

			60	0.00024					
		COD	400	0.72		COD	400	0.72	500
		SS	250	0.45		SS	200	0.36	400
			35	0.063			35	0.063	45
			4	0.0072			4	0.0072	8
			60	0.108			60	0.108	70
1800			60	0.108	/		60	0.108	100

2

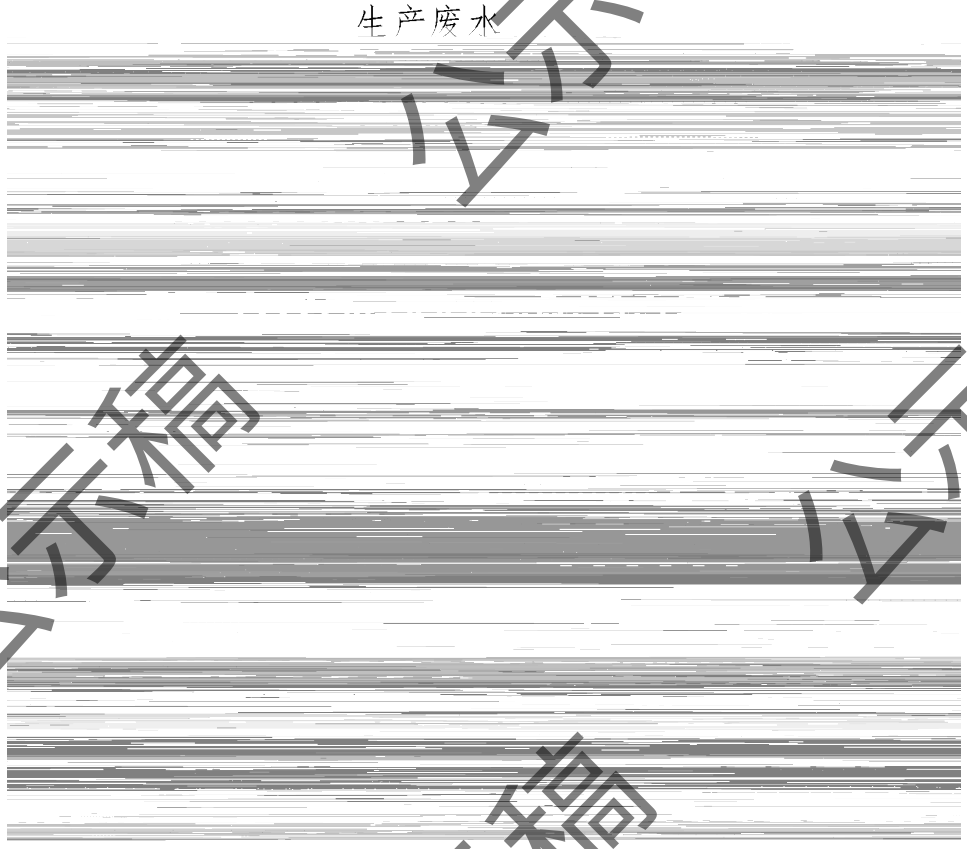
11008t/a 36.7t/d

80t/d

20515.1 68.4t/d

/

68.4t/d 4-1



4-1

+

$FeSO_4$ PAC

PAM

UASB

BGEF

100m^2/g

96%

0.8mm

SS

4-2 4-3

4-2

	pH	COD mg/L	SS mg/L	mg/L
	7~8	800~1500	500~600	10-20

4-3

pH	COD	SS

mg/L

	/	6.5~8.5	50	/	1

4-4

4-4

		t/a	t/a	t/a
1		86509.2	20510.1	65999.1

80t/d 80t/d

7.5t/d

3

6.0 m³/d 3.0 m³/d 2011 12 2012 6 204

2.5 t/d A2/O+ 2011

2

(GB18918-2002) 1 A

3 m³/d 2.5 t/d 0.5 t/d

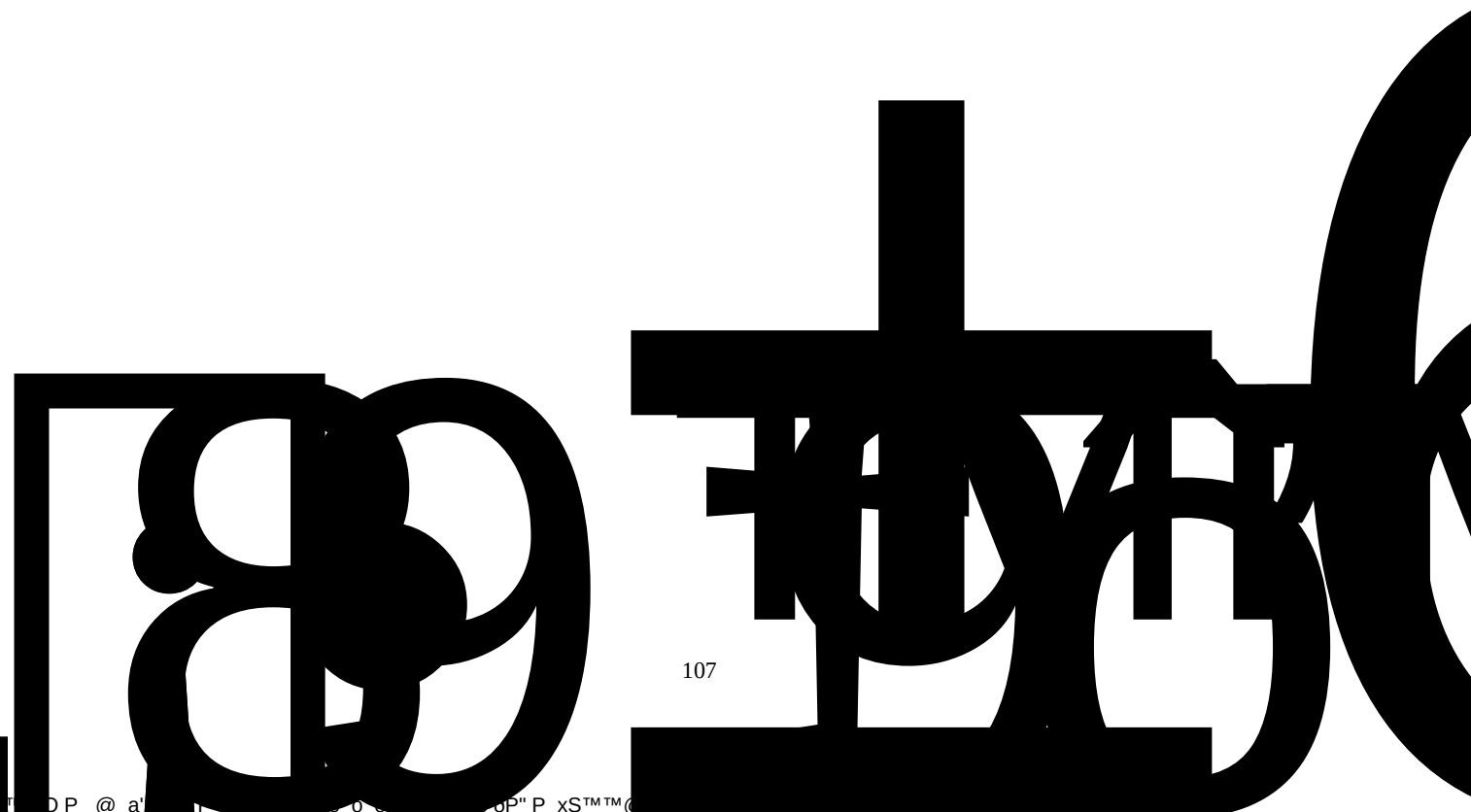
0.5

34.16t/d

COD

TP TN SS

4



9™ D P @ a' P" P xS™™@

1		COD SS							
2		COD SS			+				
3		COD SS		/	+	/	/	/	
4		COD SS							
5		COD SS			+	/	DW001		

4-7

		UTM		/						
				t/a						**mg/L**
1	DW001	557973	13407613	1800			/		pH	6-9
									COD	30
									SS	10
										≤1.5 3 *
										≤0.3
										≤10
										≤1

90dB A

GB12348-2008 3

4-10

					/m									
		/	/dB(A)		X	Y	Z	/m	/dB(A)		/dB(A)	/dB(A)		
		1	80		163	108	1	10	66		25	41		
		2	75		148	143	1	5	61		25	36		
		2	75		143	132	1	5	61		25	36		
		3	75		154	128	1	5	61	00 00- 24 00	25	36		1
		2	85		131	88	1	4	72		25	47		
		1	75		150	111	1	6	60		25	35		
		1	80		178	58	1	10	60		25	35		
		4	80		174	352	1	8	62		25	37		

		8	75		174	438	1	5	61		25	36
		6	75		164	416	1	5	61		25	36
		3	75		150	393	1	5	61		25	36
		8	85		136	359	1	8	67		25	42
		2	75		182	451	1	5	61		25	36
		1	75		167	230	1	5	61		25	36
		1	75		2181	431	1	5	61		25	36
		2	85		177	253	1	8	67		25	42
		1	70		232	239	1	2	64		25	39

X Y

4-11

		/	/m			/dB(A)		
			X	Y	Z			
1		4	279	415	1	75		00 00-24 00
2		4	275	384	1	75		

3		2	258	352	1	80		

XÔ

4-12

			/
			10
	/		50
	/		10

4-13 **dB(A)**

	57.4	54.0	28.45	57.41	54.01	65	55	
	61.3	51.9	29.02	61.3	51.92	65	55	
	57.0	53.0	44.96	57.26	53.63	65	55	
	54.8	54.6	36.97	54.87	54.67	65	55	

44.96dB(A)

GB12348-2008 3

3

4-14

4-14

	1m 1	A	1 /

4.2.4

1

1

5.5t/a

2

20t/a

3

5t/a

2025 HW08

900-249-08

4

5

30t

5 30t

2025

HW08 900-249-08

5

0.2t/a

6

4t/a 2025

HW08

900-210-08

7

10t/a

2025

HW13 900-015-13

8

0.553t

1.106t/a

2025 HW49

900-041-49

9

0.1t/a 2025

HW08 900-249-08

10

50t/a

11

2

0.01t/a

12

50

0.5kg/ 7.5t/a

GB34330-2017

4-15

4-15

					t/a			
1					5.5	√	/	GB34330-2017
2					20	√	/	

3					5	√	/	
4					30t/5a	√	/	
5					0.2	√	/	
6					4	√	/	
7					10	√	/	
8					1.106	√	/	
9					0.1	√	/	
10					50	√	/	
11					0.01	√	/	
12					7.5	√	/	

2017

3						30t/5a	HW08	900-249-08	T
4						4	HW08	900-210-08	T
5						10	HW13	900-015-13	T
6						1.106	HW49	900-041-49	T
7						0.1	HW49	900-041-49	T
8						0.01	HW08	900-210-08	T
9						5.5	SW59	900-099-S59	
10						0.2	SW59	900-009-S59	/
11						50	SW59	900-099-S59	
12						7.5	SW64	900-099-S64	

4-17

4-17

					t/a				

1			HW49	900-041-49	5.5			5.5	
2			HW08	900-249-08	5			5	
3			HW08	900-249-08	30t/5a			30t/5a	
4			HW08	900-210-08	4			4	
5			HW13	900-015-13	10		267	10	
6			HW49	900-041-49	1.106			1.106	
7			HW49	900-041-49	0.1			0.1	
8			HW08	900-210-08	0.01			0.01	
9			/	900-099-S59	5.5		599.76m^2	5.5	

10			/	900-009-S59	0.2			0.2	
11			/	900-099-S59	50			50	
12			SW64	900-099-S64	7.5	/	/	7.5	

599.76m^2 267m^2

4-18

t

m^2 **/a**

1		HW49	900-041-49	5

5			HW49	900-015-13		5			30
6			HW49	900-041-49		5			30
7			HW49	900-041-49		1			30
8			HW08	900-210-08		1			30
9			/	/	/	599.76	/	/	/

2

a

599.76m^2

GB15562.2-1995

…

1

2 GB15562.2

3

4

b

267m^2

GB18597-2023

1

2

3

4

5

5

6

<

> 2024 16

2019 149

2019 53

2019 82

2019 222

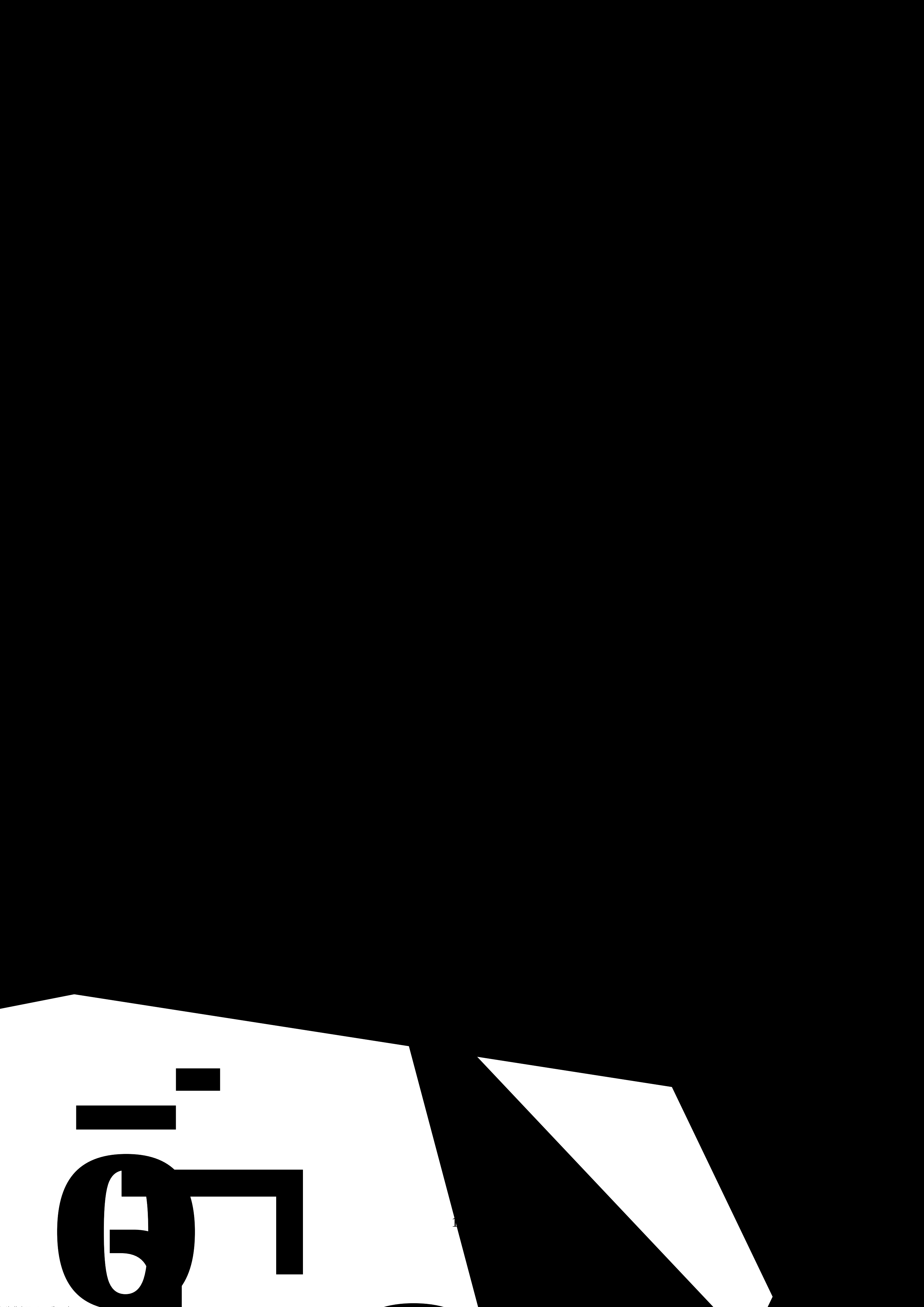
[a]

4-19 8

4-19

1						Mb 1.5m K 10^{-7}cm/s
2						
3						Mb≥6.0m K≤10^{-7}cm/s
4						
5						
6						GB18597
7						
8						
9						Mb≥6.0m K≤10^{-7}cm/s
10						
11						

2



6		/	10	50	0.2
q/Q					0.43604

[1] HJ169-2018 B

[2]

HJ169-2018 “ B.2 . ” “
2 3 ” 50t

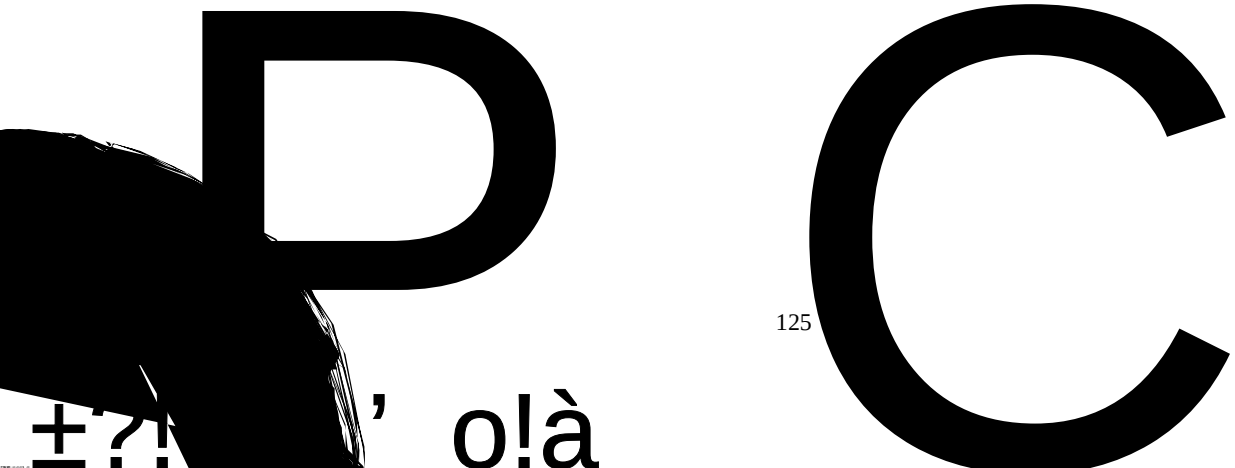
Q 0.43604 1

I

HJ169-2018

“ ”

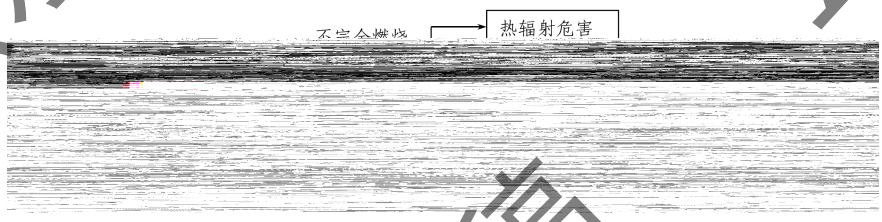
2



RTO					

/

4-2



4-2

4-22

4-22

				/	/
			/		
			/		
				/	/
				/	/
				/	/
RTO			/		

				/	/
			/		
			/	/	
				/	/
			/	/	

4-23

4-23

4

1、

+ +RTO +

a.

b.

a.

b.

c.

a.

b.

V1 0m³ 500m³

V1 0m³

V2 m³

GB50016-2014 2018 GB55037-2022 GB50974-2014

40L/s 3h 432m³

20% V2=345.6m³

V3 0m³

V4 0m³

V5=80m³ qa 1068.6mm n 135

F 1hm²

V V1 V2 V3 max V4+V5 425.6m³

432m³

a.

b.

RTO

RTO

RTO

a RTO RTO

b RTO

c RTO

d 5mg/m^3

e RTO

f RTO

GB50016 GB50160 GB51283

g

h RTO

i RTO

j

k RTO PLC

l RTO

m

n RTO

o

HJ1093-2020 RTO

2021 46

P RTO

DB32/T4700

2020 16

2020 50

2022 17

2020 101

RTO

2

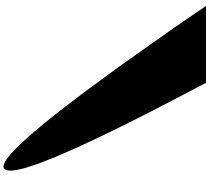
2015 4

DB32/T3795-2020

/			
/			
DA002	[a]	+ + +RTO	
DA006			
DA008			
DA009	[a]	+ + +RTO	DB32/4041-2021
	SO_2 NO_X	/	GB14554-93
DA010	[a]	+ + +RTO	
	SO_2 NO_X	/	
DA011	SO_2 NO_X	/	DB32/4385-2022
	[a]		DB32/4041-2021
			GB14554-93

				DB32/4041-2021
		COD SS		GB/T 19923-2024
		pH COD SS	/	
				GB12348-2008 3
		4.2.7		

	3 5 20 5



		t/a	t/a	t/a	t/a	t/a	t/a	t/a
		5.172	5.172	/	1.984	/	7.156	+1.688
		1.38	1.38	/	1.403	/	2.783	+1.174
		3.792	3.792		0.581		4.373	+0.514
	SO_2	0.964	0.964	/	0.09	/	1.054	+0.09
	NOx	2.002	2.002	/	1.017	/	3.019	+1.017
	[a]	3E-06	3E-06	/	3.10E-06	/	6.09E-06	+2.589E-06
		3.499	3.499	/	3.559	/	7.058	+2.978
		0.008	0.008	/	0		0.008	+0
		/	/	/	/	/	/	/
		8448	8448	/	1800		10248	+1800
	COD	3.379	3.379	/	0.72	/	4.099	+0.72
	SS	1.69	1.69	/	0.36	/	2.05	+0.36
		0.296	0.296	/	0.063	/	0.359	+0.063
		0.0338	0.0338	/	0.0072	/	0.041	+0.0072
		0.507	0.507	/	0.108		0.615	+0.108

		0.507	0.507	/	0.108		0.615	+0.108
		5.5	5.5	/	55.7	/	61.2	/
	/	60.1	60.1	/	55.707	/	115.807	/

= + + - = -

2024 12

1.

1.1.

2021 07 2021 9

2022 3 14

2022 82 0034

5400 50 2023 10 23

4

1 54000

4

90# 200#

1.2.

1.2.1.

1 2014.4.24

2 2021.3.1

3 2018.10.26

4 2018.12.29

5 2017.7.16

6 2021

7 2024

8 2021

11 2

9

2014 197

10

2016 150

11 2024.7.1

12 2021.3.1

13 < 2022 >

2022 7

1.2.2.

1 6 5

2 2018.11.23

3 < 2022 >

2022 55

4 1997
122
5 <
> 2018 24
6 2016
185
7
2019 36
8 2013
2013 2013
323
9 2022
2022 5
10
2022 1 24
11 2022
33

1.2.3.

1 HJ2.1-2016
2 HJ2.2-2018
3 HJ884-2018
4 HJ819-2017
5 HJ942-2018
6 HJ954-2018
7 HJ820-2017

1.2.4.

1 2023 966

2

1.3.

1.3.1.

1.3.2. 602

1-1

1-1

	SO_2 NO_2 PM_{10} $PM_{2.5}$ CO O_3 [a]	PM_{10} $PM_{2.5}$ SO_2 NO_x NMHC [a]	NOx SO_2	[a]

1.4.

1.4.1.

HJ2.2-2018

P_i i i

10% D10% P_i

P_i (C_i/C_{0i}) 100%

P_i i %

C_i i 1h

mg/m^3

C_{0i} i mg/m^3

C_{0i} GB 3095 1h

5.2 1h

8h

2 3 6 1h

1-2

1-2

	Pmax≥10%
	1%≤Pmax 10%
	Pmax 1%

1-3

1-3

/	
/	40.9
/	-14.2
/m	90
/km	/
/°	/

6 2

[a] SO_2 NO_X

1-4~ 1-5

1-4

	DA002											
	PM_{10}		$PM_{2.5}$		[a]							
	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%
	0.3572	0.08	0.1429	0.06	4.96E-07	0.01	1.1965	0.06	0.0396	0.01	1.3930	0.56
D10%/m	/		/		/		/		/		/	
	DA006											
	PM_{10}		$PM_{2.5}$									
	/(μg/m^3)	/%	/(μg/m^3)	/%								
	2.8192	0.63	1.1082	0.49	/							

D10% /m	/		/									
	DA008											
	PM_{10}		$PM_{2.5}$									
	/(μg/m³)	/%	/(μg/m³)	/%								
	2.8192	0.63	1.1082	0.49								
D10% /m	/		/									
	DA009											
	PM_{10}		$PM_{2.5}$		[a]							
	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%

	0.3572	0.08	0.1409	0.06	7.09E-07	0.01	0.8215	0.04	0.0209	0	0.1964	0.08
D10% /m	/		/		/		/		/		/	
	DA010											
	PM_{10}		$PM_{2.5}$		[a]							
	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%
	0.3572	0.08	0.1409	0.06	7.08E-07	0.01	0.8215	0.04	0.0209	0	0.1964	0.08
D10%	/		/		/		/		/		/	

/m								
	DA011							
	PM_{10}		$PM_{2.5}$					
	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%	/(μg/m^3)	/%
	0.7576	0.17	0.3009	0.13	0.0601	0.01	0.9471	0.39
D10% /m	/		/		/		/	

1-5

PM_{10} $PM_{2.5}$ [a]

/(μg/m^3) /% /(μg/m^3) /%

3 1

	PM_{10}		$PM_{2.5}$		[a]			
	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%	/(μg/m³)	/%
	20.516	4.56	8.2604	3.65	1.66E-05	0.22	19.4902	0.97
D10% /m	/		/		/		/	

1-4~ 1-5 PM_{10} 8.85%

HJ2.2-2018

5km

1.4.2.

5km

1.4.3.

		/m UTM X	Y		m
21		558702	13404660	SW	2388
22		558745	13406124	SW	1554
23		558958	13405245	SW	2358
24		559043	13405837	SW	2269
25		559122	13406374	SW	2427
26		557897	13404896	W	1942
27		558558	13404314	SW	2091
28		558169	13404199	SW	2381
29		559205	13405591	SW	2775
30		558519	13407493	S	871
31		558503	13406819	S	1185
32		558532	13407122	S	1037
33		558652	13406705	S	1525
34		558813	13406704	S	1679
35		558696	13407037	S	1475
36		558735	13407703	SE	1489
37		558891	13407901	SE	1750
38		558712	13408184	SE	1629
39		558863	13409882	SE	1469
40	1	559071	13408553	SE	2373
41		559132	13409618	SE	2982
42		558691	13408799	SE	1491
43		558782	13408965	SE	2132
44	1	558979	13409095	SE	2420
45		559158	13410023	SE	3248
46		558938	13409668	SE	2563
47		558863	13409882	SE	2576
48		558549	13409633	SE	1360
49		558278	13408550	SE	1161
50		558528	13409633	SE	179

		/m UTM					
		X	Y				m
55		557979	13409321			E	1278
56		557811	13409589			E	1646
57		557955	13410118			E	2362
58		557392	13409304			NE	1568
59		557421	13409820			NE	2030
60		557583	13410613			NE	2250

1.5.

1.5.1.

SO_2 NO_2

PM_{10} $PM_{2.5}$ CO O_3 [a] GB3095-2012

1-7

1-7

SO_2		60	μg/m³	GB3095-2012
	24	150		
	1	500		
NO_2		50		
	24	100		
	1	250		
NO_2		40		
	24	80		
	1	200		
PM_{10}		70		
	24	150		
$PM_{2.5}$		35		
	24	75		
CO	24	4	mg/m³	
	1	10		
O_3	8	160	μg/m³	
	1	200		
[a]		0.001	μg/m³	

	24	0.0025		
	1	2.0	mg/m^3	

1.5.2.

1

DB32/4437-2022

1-8

1-8

	μg/m^3
TSP[a]	500
PM_{10}[b]	80
a. TSP 15min HJ633 AQI 200~300 PM_{10} $PM_{2.5}$ TSP 200μg/m^3	
b PM_{10} 15min PM_{10} PM_{10}	

2

DB32/4385-2022 1

[a]

DB32/4041-2021 1

GB14554-93 1 RTO SO_2 NOx

DB32/4041-2021 1

[a]

DB32/4041-2021 2 3

GB14554-93 2 1-9

1-9

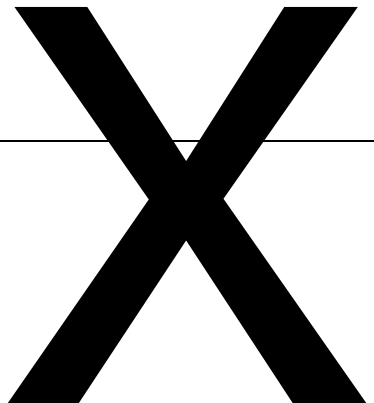
		mg/Nm³	**kg/h**		**mg/Nm³)**	
					4.0	
		60	3		1h 6 20	DB32/4041-2021 1 2 3
	[a]	0.0003	0.000009		0.000008	DB32/4041-2021 1 3
DA001 DA002 DA009 DA010		20	0.11			DB32/4041-2021 1 3
		20	1		0.5	DB32/4041-2021 1 3
		15000	/		20	GB14554-93 1 2
		200	/	/	/	DB32/4041-2021 1
		200	/	/	/	DB32/4041-2021 1
DA006 DA008		20	1		0.5	DB32/4041-2021 1 3
DA011*		10	/	/	/	DB32/4385-2022 1

		35	/	/	/	DB32/4385-2022 1
		50	/	/	/	DB32/4385-2022 1
		1	/	/	/	DB32/4385-2022 1

DA001 DA002 DA009 DA010 VOCs

DA011 3.5%

VOCs



2.

2.1.

30000 1500

67192.35

173117.08 16718.8

220 50

300 3 8h

7200h

2.2.

2.2.1.

4

1

5400

4

2.2.2.

2-1 2-2

2-1

		7631.36m² 4	1	7631.36m² 4 1	/
		/	17067.76m² 4	17067.76m² 4	/
		4252.16m² 5	/	4252.16m² 5	

90#

200# 2-2

2-2

							h/a	
		10m; 1m 3mm/4mm	GB18242-2008	5400 /	5400 /	0	7200	

5400 +5400

/

/

/

2-3

1

82.32m^2 2 350

1

1

		67333t/a	69326t/a	86577.1t/a	/
			8448t/a 1800t/a	8448t/a 1800t/a	/
		1121.03 /	1015.52 /	2136.55 /	/
		47.4m³/min 32.6m³/min	31.6m³/min	47.4m³/min 32.6m³/min 31.6m³/min	/
		1 700m³/h	2 350m³/h	1 700m³/h 2 350m³/h	/
		31441.51	4031.54	35473.05	/
		DA006 28.7m		DA006 28.7m	
		2 + + +RTO DA001 30m DA002 30m	1 + + +RTO DA002 30m	2 + + +RTO DA001 30m DA002 30m	

				2 + + +RTO DA001 30m DA002 30m	
			/	DA008 28.7m	DA008 28.7m
			/	2 + + +RTO DA009 30m DA0010 30m	2 + + +RTO DA009 30m DA0010 30m
			DA003 27m DA004 30m DA005 30m	/	DA003 27m DA004 30m DA005 30m
					/

			DA007 18m	DA0011 18m	DA007 18m DA0011 18m
			+ + +		
			267m^2		267m^2 /
			599.76m^2		599.76m^2 /
			432m^3		432m^3 /
			425.2m^3	/	425.2m^3 /

2.4.

2.4.1.

2-4

			t/a			t/a*		
90#		6500m^3	131732	263464	+131732	19500		
	98%	500m^3	7000	14000	+7000	500		
	3%							
SBS	-	25kg/	22950	45900	+22950	800		
	-							
APAO		20kg/	7056	14112	+7056	3		
SBR		20kg/	3764	7528	+3764	60		
C5		20kg/	3098	6169	+3098	30		
		/	688	1376	+688	/		
		100m^3	28228	56456	+28228	/		
200	/	100kg/	2868	5736	+2868	/		
250	/	100kg/	1720	3440	+1720	/		
	/	20~70 10~20 500kg/	25	50	+25	5		

			t/a			t/a*		
200#		500m^3	0	20000	+20000	500		
		500m^3	0	6252	+6252	500		
SBS	- -	25kg/	0	4000	+4000	800		
APAO		20kg/	0	3000	+3000	3		
SBR		20kg/	0	3000	+3000	60		
C5		20kg/	0	2000	+2000	30		
		/	0	35	+35	/		
		100m^3 0.075-0.085mm	0	1500	+1500	/		
200	/	100kg/	0	145	+145	/		
250	/	100kg/	0	85	+85	/		
	/	20~70 10~20 500kg/	0	5	+5	5		
1	/	60-120	20000	20000	0	60		

			t/a			t/a*		
2	/	200	37500	37500	0	60		
3	/	20-40	37500	37500	0	60		
4	/	40-80	17500	17500	0	60		
1	/	40-80	37500	37500	0	200		
2	/	70-140	37500	37500	0	/		
	/	/	32500	32500	0	/		
32.5	/		32500	32500	0	/		
42.5	/		32500	32500	0	/		
	/		20000	20000	0	/		
	/		17500	17500	0	60		
	/	325-400	42500	42500	0	/		
1	/	200	42500	42500	0	90		
2	/	400	42500	42500	0	90		
	/	800	12500	12500	0	30		
	/	/	37500	37500	0	30		
		/	30	60	+30	60		
			243.81 m³/	423.81 m³/	+180 m³/	/	/	
		170kg/	0.1	0.2	+0.1	0.1		

	t/a	t/a*
C H O P		

	60 100 15.0mm²/s 50.0mm²/s		
SBS	- - SBS SBS 0.92~0.95 SBS SBS SBS SBS SBS SBS		
SBR	1.5-4 ×10⁵ 2-10 ×10⁵ 40±1 pH3~5 0.99		
C5	3 1000~2500 0.97-1.07 70~140 1.512 I C9 SBR		
	α- 280 ~380		
	Mg₃	/	/

Si_4O_{10} (OH)

2-6

			\ /				
1		RDI—A22925-00	4	5	+1		
2		RDI—A12992-03	4	5	+1		
3		RDI—A20453-01	4	5	+1		
4		RDI—A20454	4	5	+1		
5		RDI--E44072-00	4	5	+1		
6		DP-30	4	5	+1		
7		RDI--E44008-00	4	5	+1		
8		Q=20m/h P=1.0MPa n=136r/min 190	12	15	+3		
9	1#	RDI-E28293	4	5	+1		
10		RDI-A18206	4	5	+1		
11	1#	RDI-A20348-02	4	5	+1		
12	1#	RDI-A20363	4	5	+1		
13		RDI-A20567	4	5	+1		
14	2#	RDI-A20361	4	5	+1		
15		RDI-44127	4	5	+1		
16	1#	HDZQ-00	4	5	+1		
17	2#	HDYT-00	4	5	+1		
18	3#	HDFM-00	4	5	+1		

			/				
41		YZ55-16t	4	4	0		
42		630	0	8	+8		
43		YH-2010/HP	1	1	0		
44		LS250*250	2	4	+2		
45		LS250*6000	0	2	+2		
46		GL300	0	6	+6		
47		HDSJJ1.0-00	0	1	+1		
48		TD250*11950	2	2	0		
49		LS250*14000	3	3	0		
50		CDI-90	1	1	0		
51		LS250*16000	3	3	0		
52		300m³/h 70m	1	1	0		
53		9-26NO5.6A	1	1	0		
54		NX-YR-40	1	1	0		
55		0.32MPa	1	1	0		
56		ISW200-400	2	2	0		
57		150ZW180-38	2	2	0		
58		700m³/h	1	1	0		
59		15.8m³/min	2 1	2 1	0		
60		LY-D150AC	2	2	0		

/

61	YH01Z03	0	1	+1	
62	NYP220	0	1	+1	
63	CD-2T	0	2	+2	
64	16T	0	2	+2	
65	Φ400	0	1	+1	

1	20t/h	1	1	0	/	
2	20t/h	1	1	0	/	
3	/	20	20	0	/	
4	/	22	22	0	/	
5	/	2	2	0	/	
6	FJD3000	1	1	0	/	
7	FJD2000	4	4	0	/	
8 ,	/	2	2	0	/	/
9	200~300 /h/	7	7	0	/	
10	VFSL7300	2	2	0	/	
11	/	2	2	0	/	
12	/	1	1	0	/	
13	16.3Nm3/min	1 1 1 1		0	/	
14	/	1	1	0	/	
15	/	1	1	0	/	

1 V=

			/				
2		630mm	5	5	0		
3		6500m³	3	3	0		
4		1200m³*3;100m³*3;300m³*1	7	7	0		
5		500m³	1	1	0		
6		500m³	1	1	0		
7		RCB-60/1.0	1	1	0		
8		W6.4ZK-90ZIM1W73	4	4	0		
9		W6.4ZK62Z1M1W73	3	3	0		
10		W4.2Z70Z1MbW81	7	7	0		
11		RCB-38/1.0	1	1	0		
12		RCB-38/1.0	4	4	0		
1		RDI—A22925-00	0	4	+4		
2		RDI—A12992-03	0	4	+4		
3		RDI—A20453-01	0	4	+4		

			/				
4		RDI—A20454	0	4	+4		
5		RDI--E44072-00	0	4	+4		
6		DP-30	0	4	+4		
7		RDI--E44008-00	0	4	+4		
8		Q=20m/h P=1.0MPa n=136r/min 190	0	9	+9		
9	1#	RDI-E28293	0	4	+4		
10		RDI-A18206	0	4	+4		
11	1#	RDI-A20348-02	0	4	+4		
12	1#	RDI-A20363	0	4	+4		
13		RDI-A20567	0	4	+4		
14	2#	RDI-A20361	0	4	+4		
15		RDI-44127	0	4	+4		
16	1#	HDZQ-00	0	4	+4		
17	2#	HDYT-00	0	4	+4		
18	3#	HDFM-00	0	4	+4		
19	2#	HDSC-00	0	4	+4		
20	4#	HDFM-00	0	4	+4		
21	2#	TD160*8.5	0	4	+4		
22		A19300-01	0	4	+4		
23	SBS	HFY-HP10A21	0	4	+4		

/

24		HFY-HP10A21	0	4	+4
25		RDI-A20461-01	0	4	+4
26	2#	R107DV132M4/V	0	4	+4
27	ب#	RDI-A20461	0	4	+4
28		C			

			/				
45		LS250*14000	0	3	+3		
46		250*250mm	0	9	+9		
47		CDI-90	0	1	+1		
48		100m3	0	2	+2		
49		250*250mm	0	1	+1		
50		LS250*16000	0	1	+1		
51		300m³/h 70m	0	2	+2		
52		7185m3/h	0	1	+1		
53		NX-YR-40	0	1	+1		
54		0.32MPa	0	1	+1		
55		10m³	0	1	+1		
56		6m³	0	1	+1		
57		ISW200-400	0	4	+4		
58		150ZW180-38	0	4	+4		
59		350m³/h	0	2	+2		
60		15.8m³/min	0	2	+2		
61		10m³	0	1	+1		
62		26m³/min	0	2	+2		
63		26m³/min	0	2	+2		
64		26m³/min	0	2	+2		
65		14.5m³/min	0	2	+2		

			/				
66		SCS-150	0	1	+1		
67		40STD-290WSI3	0	1	+1		
68		50m³ 0.32MPa	0	2	+2		
69		35m³ 0.20MPa	0	2	+2		
70		3000mm*3000mm*2000mm	0	1	+1		
71		YZ55-14t	0	6	+6		
72		YZ55-14t	0	2	+2		
1		350	1 1	2 2	+1 1		/

1

2.6.

2-7

2-7

			G1	
			G2 G3 G4 G5	[a]
			G6	
		RTO	G7	SO_2 NO_X
			G8	[a]
			G9	

2.7.

2.7.1.

G1

G2 G3 G4 G5 G6 G7

G8

G1

1

2 2

4 4

AP-42

1t 0.23kg

28228t/a 6.492t/a

1500t/a 0.345t/a

20t/h

1411.4h/a ¢ 75h/a

28.7m

DA006

98%

+ + +RTO 30m

4 2

+ + +RTO 2

35000m^3/h 30m DA009 30m

DA010 1

+ + +RTO

30m DA002

+ + +RTO 90%

354

0.025kg/h DA009 DA010

2322 0.164kg/h DA002

1161 0.082kg/h

G7

RTO

800

RTO 500m^3 300

RTO 15 m^3 2 RTO

30 m^3 300

1 150 m^3

SO_2 NOx

RTO SO_2

NOx

2-9

2-10

2-9

		SO_2	NO_X	
kg/		0.02S 2	3.03	2.4
m^3	RTO	0.02S 2	18.7	2.86
			100mg/m^3 S=100	

2-10

		kg/h	**t/a**
RTO 15 m^3	SO_2	0.004	0.030
	NO_X	0.039	0.281
		0.006	0.043
150 m^3	SO_2	0.042	0.300
	NO_X	0.063	0.455
		0.050	0.360

18m DA011

RTO RTO DA009

DA010

G6

õ dʒp × ` ² ϰF ϰ= `

w

RTO DA001/DA002

30m

2-11

				t/a		**(t/a)**	**(t/a)**
		G1		6.492	99%	6.427	0.065
		G2 G3 G4 G5 G6		9.516	98%	9.326	0.190
			[a]	2.10E-05		2.058E-05	4.2E-07
				24.131		23.648	0.483
	RTO	/	SO_2	0.06	100%	0.06	0
			NO_X	0.562		0.562	0
				0.086		0.086	0
		G1		0.345	99%	0.342	0.003
		G2 G3 G4 G5 G6		2.379	98%	2.331	0.048
			[a]	5.25E-06		5.145E-06	1.05E-07
				6.032		5.911	0.121
		/	SO_2	0.03	100%	0.03	0
			NO_X	0.455		0.455	0
				0.36		0.36	0

2-12

2-12

			11.824	1.642	46.921	+			1.182	0.164	4.692	60			
			/	/	/	+RTO	/		/	/	2322	15000			
	RTO	SO_2	0.030	0.004	0.119	/	/		0.030	0.004	0.119	200			
		NO_X	0.281	0.039	1.115				0.281	0.039	1.115	200			
			0.043	0.006	0.171				0.043	0.006	0.171	20			
			0.342	4.554	910.800		99	5000	0.003	0.046	9.108	20	H=28.7m T=25 D=0.3m		DA006
			2.331	0.324	9.252	+	90	35000	0.233	0.032	0.925	20	H=30m T=140 D=1m		DA002
		[a]	5.15E-06	7.15E-07	2.04E-05				5.15E-07	7.15E-08	2.04E-06	0.0003			
			5.911	0.821	23.458	+			0.591	0.082	2.346	60			
			/	/	/	+RTO	/		/	/	1161	15000			
		SO_2	0.030	0.004	0.521	/	0	8000	0.030	0.004	0.521	35	H=18m T=100 D=0.5m		DA011
		NO_X	0.455	0.063	7.899				0.455	0.063	7.899	50			
			0.360	0.050	6.250				0.360	0.050	6.250	10			

: DA001 DA001

DA001 DA002

DA006 2-13

2-13

		Nm^3/h			**mg/m^3**	**kg/h**	**t/a**	**mg/m^3**	**kg/h**	
DA001		35000	+ + +RTO		1.794	0.063	0.452	20	0.11	H=30m T=140 D=1m
				[a]	3.97E-06	1.39E-07	1.00E-06	0.0003	0.000009	
					4.548	0.159	1.146	60	3	
				SO_2	0.238	0.008	0.06	200	/	
				NO_X	1.115	0.039	0.281	200	/	
				*	1.937	0.068	0.488	20	1	
					2251	/	/	15000	/	
DA002		35000	+ + +RTO		1.922	0.067	0.484	20	0.11	H=30m T=140 D=1m
				[a]	6.01E-06	2.10E-07	1.51E-06	0.0003	0.000009	
					6.893	0.241	1.737	60	3	
				SO_2	0.238	0.008	0.06	200	/	
				NO_X	1.115	0.039	0.281	200	/	

				*	2.065	0.072	0.52	20	1	
					3412	/	/	15000		
DA003		20000			8.465	0.169	1.219	10	/	H=27m T=25 D=0.3m
DA004		15000			2.315	0.035	0.25	10	/	H=27m T=25 D=0.6m
DA005		15000			3.519	0.053	0.38	10	/	H=27m T=25 D=0.6m
DA006		5000			9.073	0.046	0.067	20	1	H=28.7m T=25 D=0.3m
DA007		8000	/	SO_2	14.653	0.117	0.844	35	/	H=18m T=100 D=0.5m
				NO_X	25.000	0.200	1.44	50	/	
					8.802	0.070	0.507	10	/	
DA008		5000			9.110	0.046	0.064	20	1	H=28.7m T=25 D=0.3m
DA009		35000	+		1.850	0.065	0.466	20	0.11	H=30m

			+	[a]	4.08E-06	1.43E-07	1.03E-06	0.0003	0.000009	T=140 D=1m
					4.692	0.164	1.182	60	3	
			+RTO	SO_2	0.119	0.0042	0.030	200	/	
				NO_X	1.115	0.039	0.281	200	/	
				*	2.021	0.071	0.509	20	1	
					2322	/	/	15000	/	
DA010		35000	+		1.850	0.065	0.466	20	0.11	H=30m T=140 D=1m
				[a]	4.08E-06	1.43E-07	1.03E-06	0.0003	0.000009	
					4.692	0.164	1.182	60	3	
			+	SO_2	0.119	0.0042	0.030	200	/	
				NO_X	1.115	0.039	0.281	200	/	
			+RTO	*	2.02	0.071	0.509	20	1	
					2322	/	/	15000	/	
DA011		8000	/	SO_2	0.521	0.004	0.03	35	/	H=18m T=100 D=0.5m
				NO_X	7.899	0.063	0.455	50	/	
					6.250	0.050	0.36	10	/	

DA001 DA002 DA009 DA010

2.7.2.

2-14

2-14

					m²	**m**
			t/a	**kg/h**		
			0.003	0.046	7631.36	14
			0.048	0.007		
		[a]	1.05E-07	1.46E-08		
			0.121	0.017		
			0.065	0.046	17067.76	14
			0.190	0.026		
		[a]	4.20E-07	5.83E-08		
			0.483	0.067		
		H_2S	0.001	0.000139		
			10	/		

2-15

					m²	**m**
			t/a	**kg/h**		
			0.003	0.046	7631.36	14
			0.524	0.073		
		[a]	1.105E-06	1.53E-07		
			1.328	0.184		
			0.065	0.046	17067.76	14
			0.190	0.026		
		[a]	4.2E-07	5.83E-08		
			0.483	0.067		
			1.300	0.18	4251.16	14

2.7.3.

0

30

2-16

		/	/		
		mg/m^3	**kg/h**	**/h**	**/**
		9.252	0.324		
DA002	[a]	2.04E-05	7.15E-07		
		23.458	0.821		
DA006	≈	910.800			

^3

0.5 0.1

3.

3.1.

1996 133

GB3095-2012 2023

2023

1 VOCs

2020 10%

PuU%d1 RQ1p pÅP" é(" P Y ™• Y à

3.2.

2022-2035 / É[a]

	[a]				0.0025	ND ($1*10^{-4}$)	/	0	

ND

[a] [a]

[a] GB3095-2012

4.

4.1.

4-1

4-2 4-3

4-1

		/m UTM		/m	/m	/m	m/s	/	/h		(kg/h)					
		X	Y								PM_{10}	$PM_{2.5}$	[a]			
1	DA002	557913	13407516	4	30	1	12.385	140	7200		0.072	0.0288	2.10E-07	0.241	0.008	0.039
2	DA006	557935	13407433	4	28.7	0.3	19.659	25	1468		0.046	0.0184	/	/	/	/
3	DA008	557797	13407416	5	28.7	0.3	19.659	25	1411		0.046	0.0184	/	/	/	/
4	DA009	557764	13407444	5	30	1	12.385	140	7200		0.071	0.0284	1.43E-07	0.164	0.0042	0.039
5	DA010	557772	13407522	5	30	1	12.385	140	7200		0.071	0.0284	1.43E-07	0.164	0.0042	0.039
6	DA011	557878	13407517	5	18	0.5	11.323	100	7200		0.05	0.02	/	/	0.004	0.063

PM_{10} $PM_{2.5}$ 40%

4-2

	/m(UTM)		/m	/m	/m	/°	/m	/h		(kg/h)			
	X	Y								PM_{10}	$PM_{2.5}$	[a]	
	557958	13407417	4	108.4	70.4	10	13	7200		0.119	0.0476	1.53E-07	0.184
	557880	13407358	5	223.4	76.4	10	13	7200		0.072	0.0288	5.83E-08	0.067

PM_{10} $PM_{2.5}$ 40%

4-3

			/ mg/m³	/ kg/h	/h	/	
DA002				0.324	0.5	0.1	
		[a]	[a]	7.15E-07			
				0.821			
DA006				4.554			
DA008				4.555			
DA009				0.648			
		[a]	[a]	1.43E-06			
				1.642			
		SO_2	SO_2	0.004			
		NO_X	NO_X	0.039			
			*	0.645			
DA010				0.648			
		[a]	[a]	1.43E-06			
				1.642			

		SO_2	SO_2	0.004			
		NO_X	NO_X	0.039			
			*	0.645			
DA011		SO_2	SO_2	0.004			
		NO_X	NO_X	0.063			
				0.050			

DA009 DA010

4.2.

4.2.1.

(HJ2.2-2018)

4.2.2.

GBT39499-2020

4-7

4-7

kg/h	**(m^2)**	**(m)**	**m**

6

4-8 6

0	
1	
2	
3	
4	
5	

GB14554-93 1

20

380m

4.2.4.

4-9

4-9

=-

☑

☑

☑

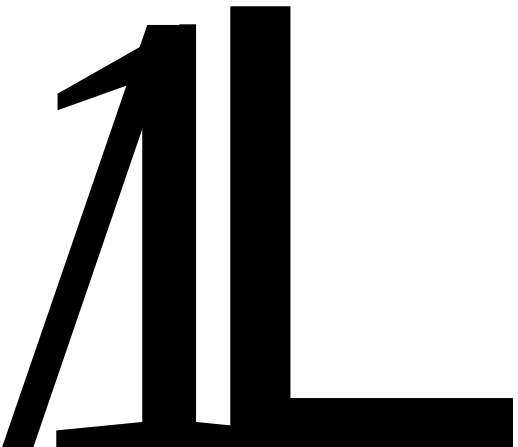
[a]

/ /

-

SO_2 NO_x VOCs

(0.09)t/a (1.017)t/a (1.984)t/a (0.59)t/a



5.

5.1.

1 G1

28.7m DA006

2 28.7m DA008

99% 99%

2 G2 G3 G4 G5

G6 G8

98% +

+ +RTO 30m

4 2 +

+ +RTO 2

35000m^3/h 30m DA009 30m DA010

1

+ + +RTO 30m

DA002

+

+ +RTO 30m DA001/DA002

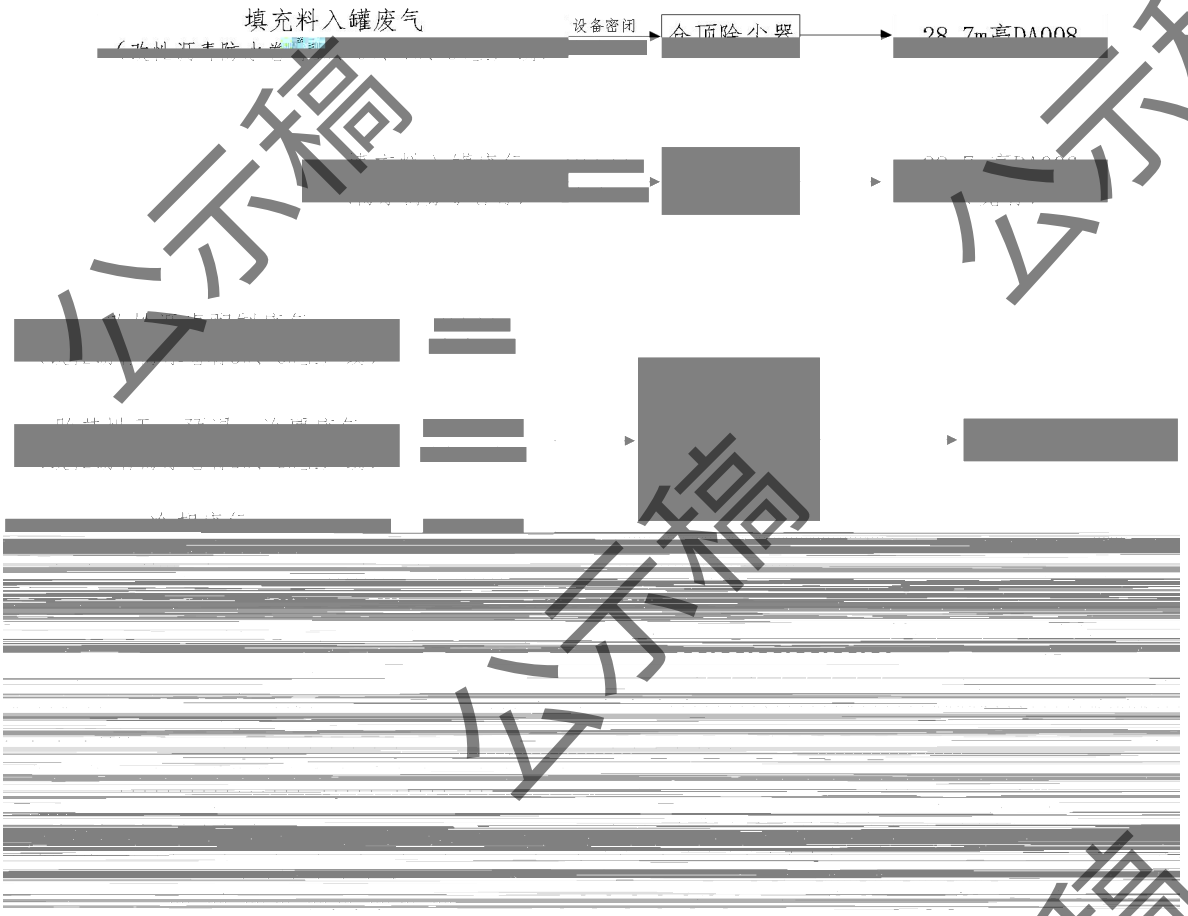
90%

3 G7

18m DA011

RTO RTO DA009 DA010

5-1



5-1

5.2.

1

5# 6# 7# 8#

28.7m DA006

28.7m

DA002

1

2023 9 16 17 DA006

89%~90%

2

+

+ +RTO 5#

6# + + +RTO

30m DA009 7# 8#

RTO

RTO

95%

RTO 12

5 5 1 1

12

RTO VOCs

RTO

RTO

10

2 + + +RTO

90%

HJ1093-2020

RTO

5-2

	GB50019 HJ2000		

		4.7 + +	RTO
	/		
	HG/T20642		
	0.75s 760		RTO
		2205 ≥1.2s	760~950
	750J/(kg·K) 1200 40000h 2m/s		

	GB/T 19839		
	25% GB/T13347 GB15930 60 60 SGBZ-0805 GB50160 GB/T19839 4Ω GB50057	25% RTO FID	

+ +

5-3

1		35000m³/h
2		95%
3		1.2s
4		760 ~950
5		2h
6		≤5000pa
7		170Kw

RTO

RTO

[2020]101

RTO

3# 4#

+ + +RTO 30m

DA002

3# 4#

2 20000m³/h

35000m³/h RTO 1.2s

1

RTO 1.2s

+ + +RTO

2023 9 14 ~17 DA001 DA006

VOCs		VOCs	VOCs	
		VOCs VOCs	VOCs	
		27.6kPa <76.6kPa 75m3		
VOCs		a b GB16297 80% c d	27.6kPa <76.6kPa 75m3 + + +RTO 90%	
VOCs		VOCs VOCs	VOCs	
		VOCs	VOCs	
VOCs		VOCs 10% VOCs VOCs	VOCs + + +RTO	

		VOCs		
VOCs		VOCs VOCs	VOCs VOCs	
		GB/T16758	GB/T16758	
		VOCs GB 16297	DB32/4041-2021	
		NMHC ≥3kg/h VOCs 80% NMHC ≥2kg/h VOCs 80% VOCs	90%	

GB37822-2019

5.2.3.

5-5

5-5

		m	**m^3/h**	**m/s**
DA002	30m	1	35000	12.385
DA006	28.7m	0.3	5000	19.659
DA008	28.7m	0.3	5000	19.659
DA009	30m	1	35000	12.385
DA010	30m	1	35000	12.385

		m	m^3/h	m/s
DA011	18m	0.5	8000	11.323

DA002 DA006 DA008 DA009 DA010

(DB32/441-2021) 1 DA011

DB32/4385-2022 1

HJ2000-2010

15m/s

20m/s~25m/s

30m/s

15~25m/s

11.323m/s~19.659m/s

DB32/4041-2021

25m 15m

DA002 DA009 DA010 30m DA006 DA008

28.7m

DB324385-2022 8m

DA011 18m

5.2

6.

6.1.

1

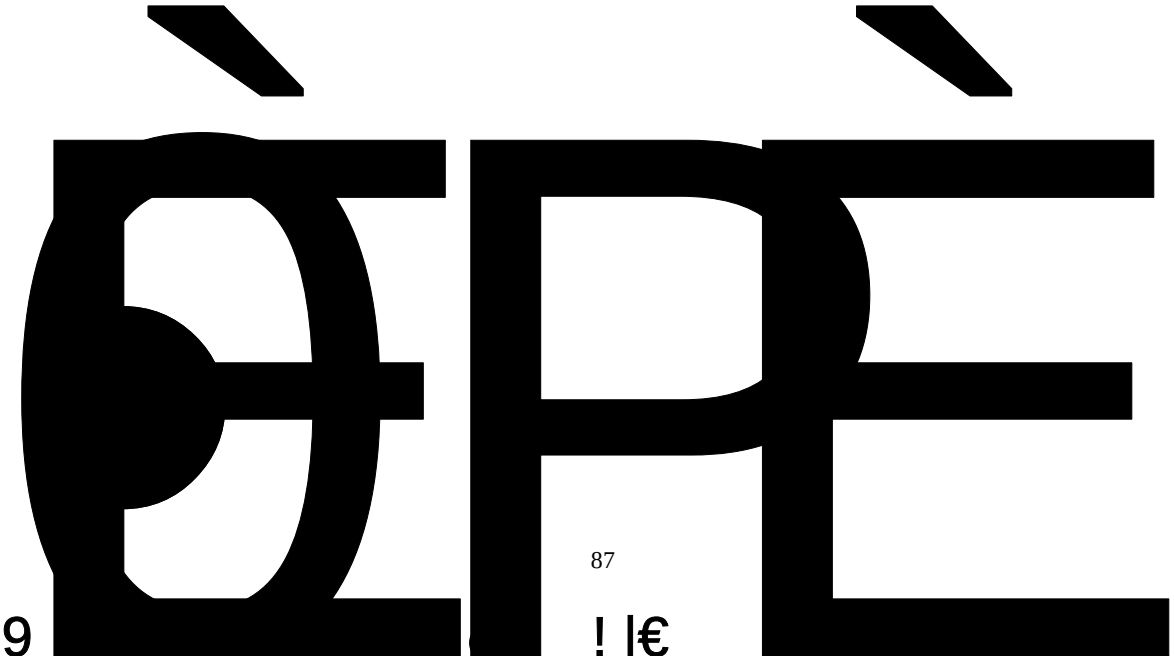
2

VOCs

¥

6.2.

,



			1 /	
	DA010	[a]	1 /	
			1 /	
	DA011		1 /	
			1 /	DB32/4385-2022
			1 /	
		[a]	1 /	DB32/4041-2021
			1 /	GB14554-93