2025 1

2311-320582-89-01-484784

120 34 5.86 31 58 49.51

56

C3033

303

/ /

2023 966

30000 1500

5%

18

%

☑

☐ _____ **m²** 67192.35

1-1-

1-1

2

3

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

4

“ ” ڳ ’ m " d

2 /

5

300t/h

3

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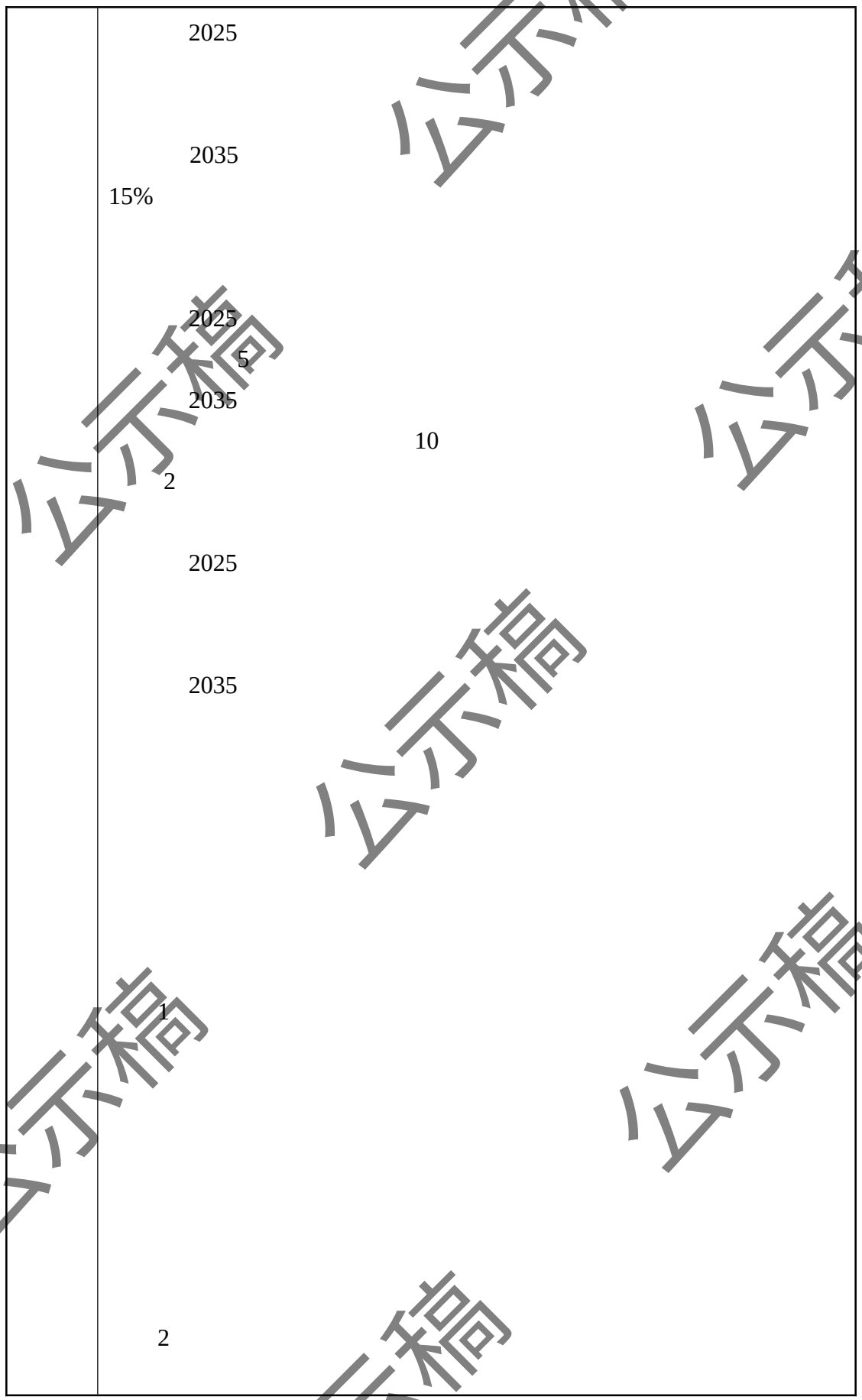

3

“ ”

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 ά

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 4- 3 2 34.5 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

“

/ ”

3

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	1.	1	
		2	
	2.		
	1		
	2		
	3		
	1		
	2		
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	1		

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2023

5 **2023**

2023

477

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1-7

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

2 2

3 3

1

2023 9 7

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2012 221

604 2021 9 29

1-8

		2022	
1	2015 2030 2017 2035		
2			
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4			
5			

6

“ ” 332

7

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4				
5				

6			
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	

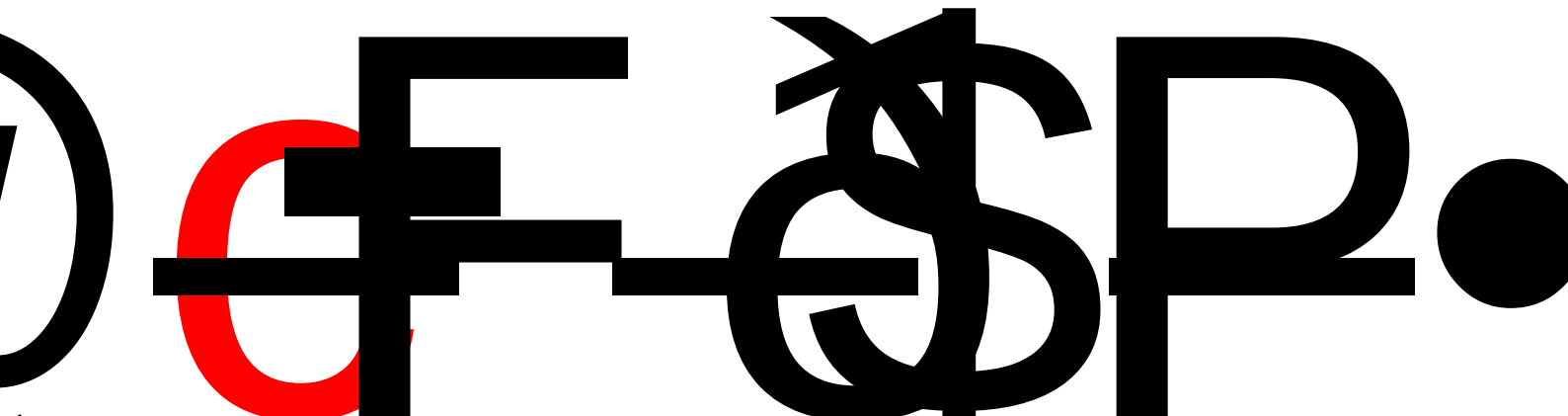
VOCs

0.3m/s

–ò ð 2 P °• P" ™ ‰ • 6

0.5%

5



	VOCs RTO 760 CO 300 VOCs VOCs	

2021 65

2

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

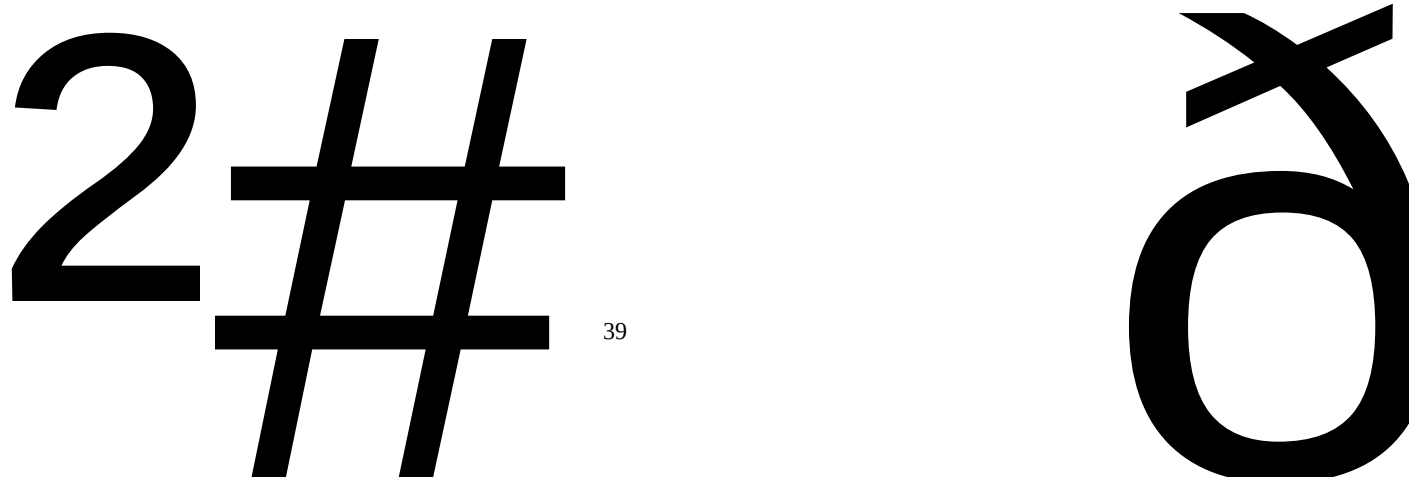
4

1

5400 4 ľ א ^ $ "

220 50

300 3



					/	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 /	+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		NYP2Ø0	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	П	FJD2000	4	4	0	/
8		/	2	2	0	/

. Ɔ n

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		
SBR	1.5-4 ×10⁵ 2-10 ×10⁵ 40±1 pH3~5 0.99		
	3 1000~2500 0.97-1.07 70~140 1.512		
C5	I C9 SBR		

α-

280 ~380

Mg_3 Si_4O_{10} (OH)

/ /

/

280

>320°C 890kg/m^3 20°C

128я ´ ŋ м ɡm "

APAO

	0.7174kg/m^3 =1 0.45 650		

2.2.4

2-8

2-8

7631.36m^2 4

7631.36m^2

1

/

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

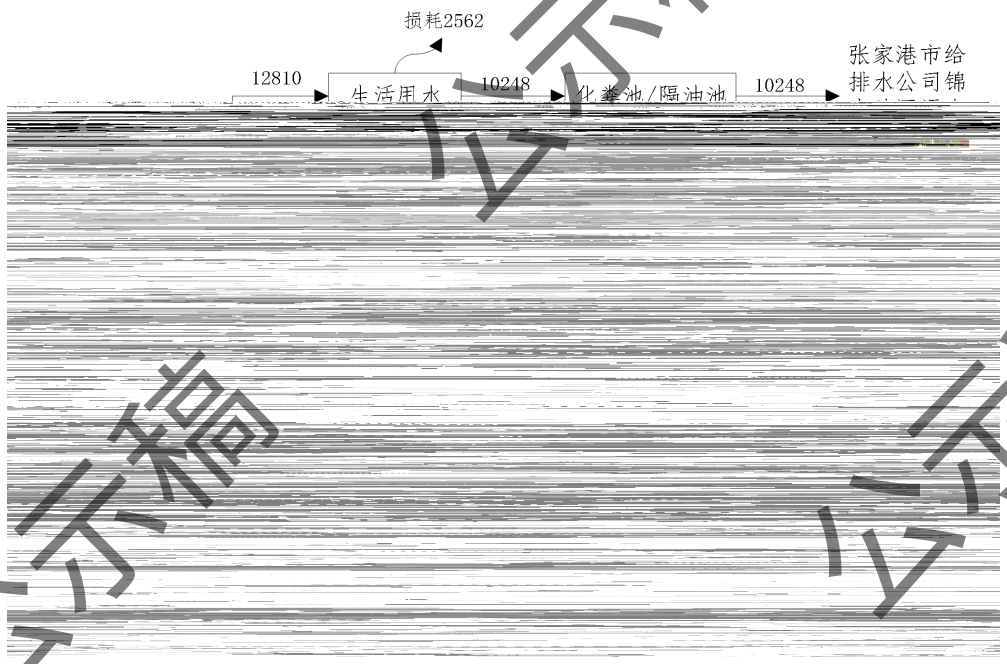
1 2

/

2-1

2-1 **t/a**

2-2



2-2

2.2.6

67192.35

1

4

3

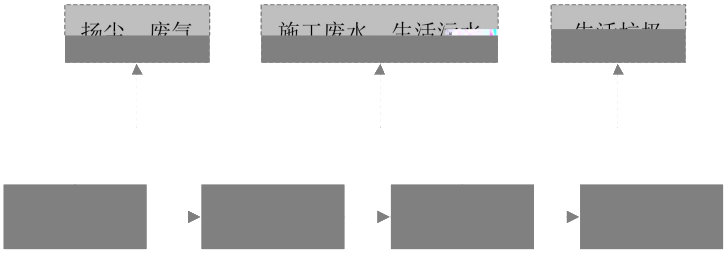
2.2.7

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

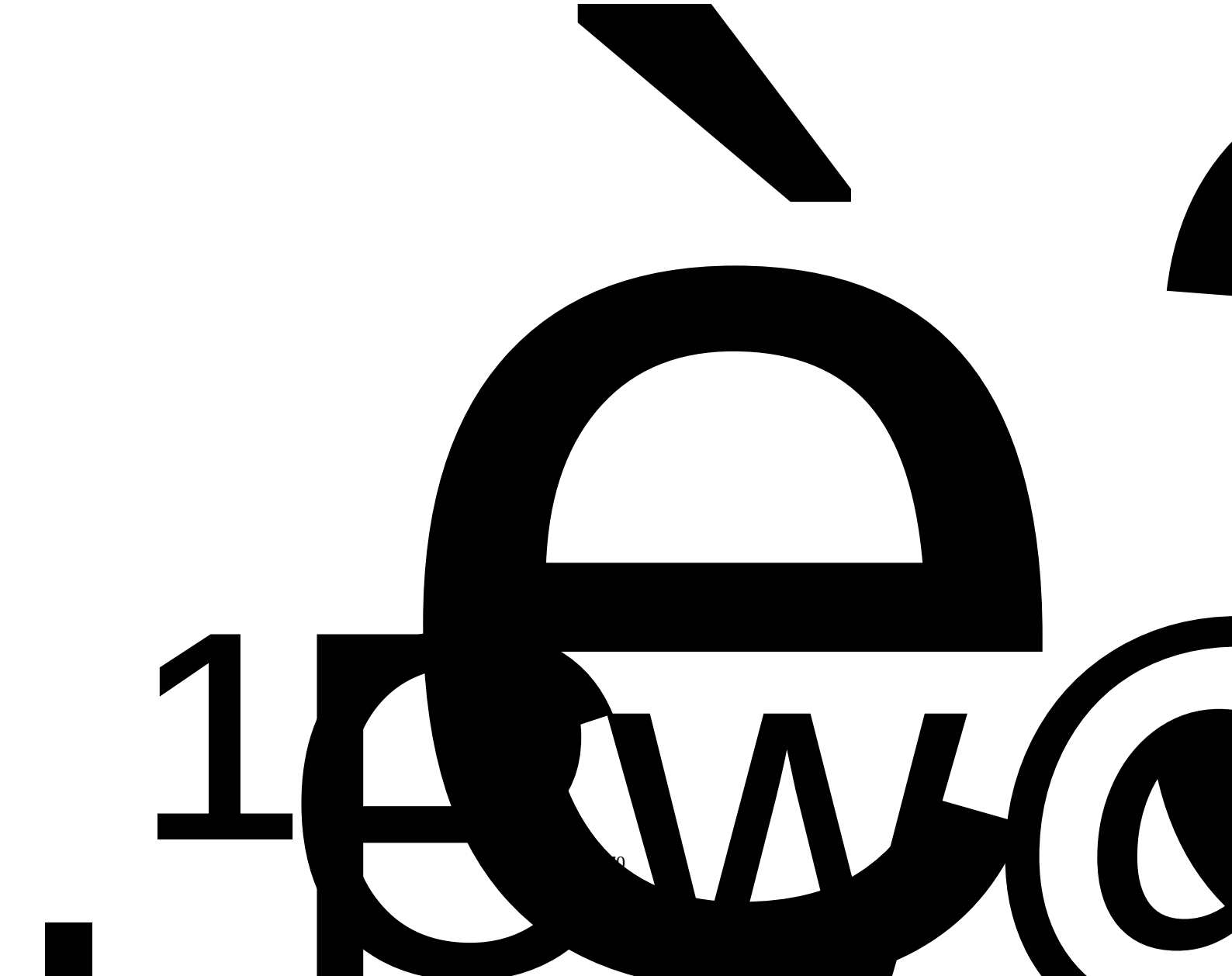
2021 9

2022 3 14

2022 82 0034

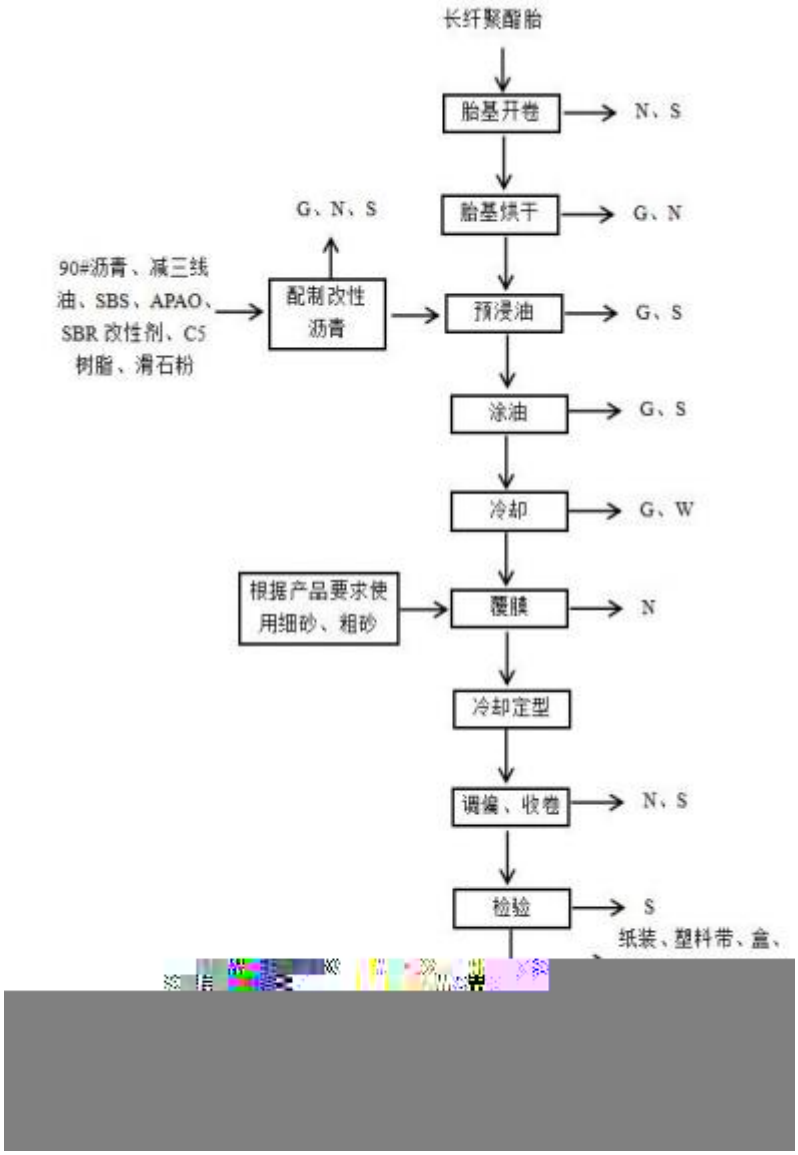
.[1]

2023 10 27



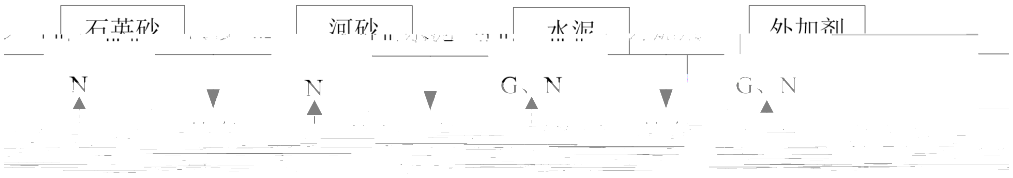
2.4.2

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

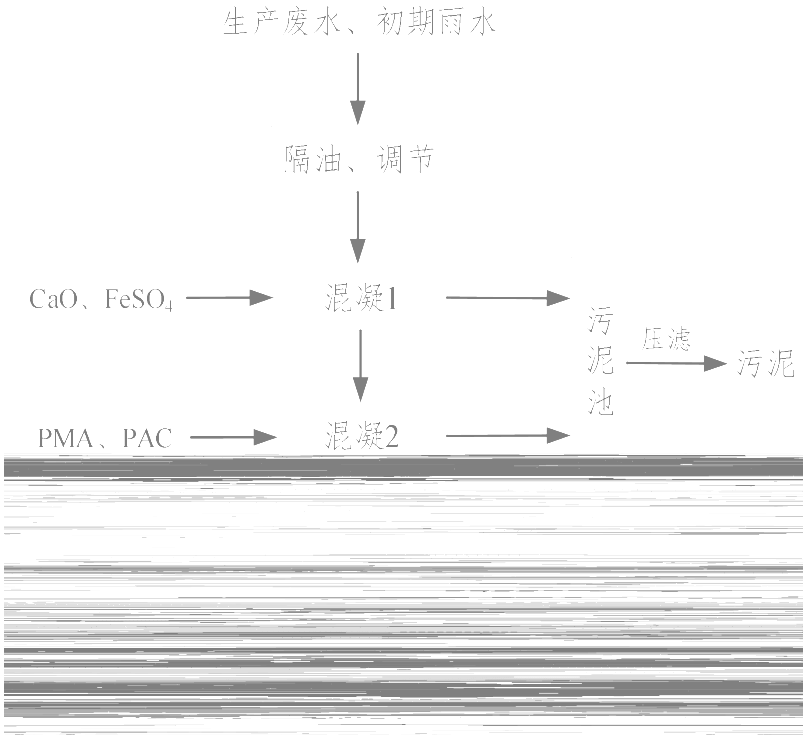
DA005 30m

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	$7.6*10^{-2}$		200	/	
				ND3	/		200	/	
				ND1	/		20	1	
		*		0.96	$2.0*10^{-2}$		60	3	
2023.9.18	DA003		1394	1.1	$1.6*10^{-3}$	DB32/4149-2021	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	/	

2023.9.17	DA007		4885	ND 3	9.6×10^{-3}			35	/	
				43	0.16			50	/	
				ND 1	/			10	/	

ND

VOCs

DA007

DA001 DA002

2-17

			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		50	
			0.168		5	
			12		/	
			20		20	
			0.13		1.0	
2023.9.19			39	GB/T 19923-2024	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

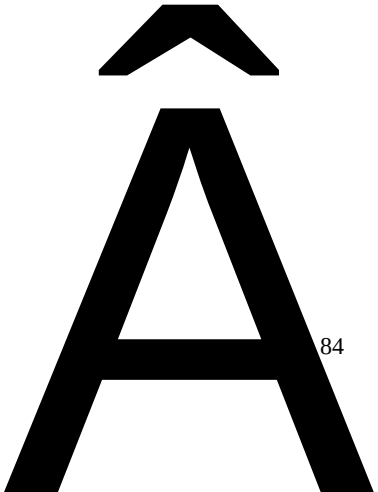
2.4.7

1

“ ”
2

3 /

DA006
28.7m
2 +
+ +RTO
(DA001
) RTO 30m DA002
30m 30m
18m
DA003
4 30m 27m



`P P•g&b8 ’ P€· ?! •ƒ•c› 599.76m²

ä æ

7 100m Đ ä 100

Đ

1

8

M ä P 'P

85

ýä

2023 10 23

14

(2015

162)

16

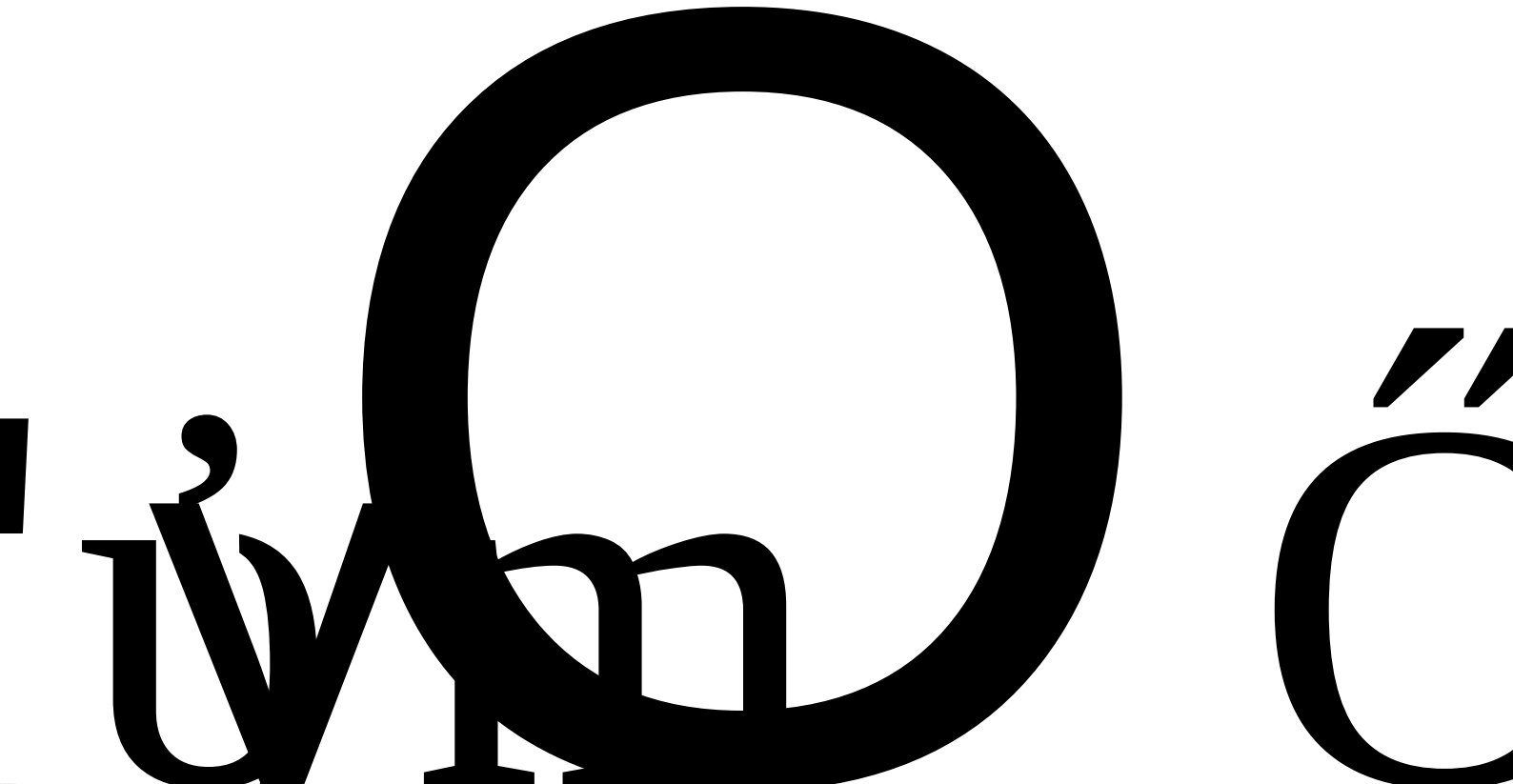
2022 3

2022 4

17

5

5



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
500m W1		0.45	0.7	/	0.416	0.8	0.8
		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
500m W2		0.35	0.9	/	0.386	0.65	0.8
		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
	mg/L	2

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			

4.1

4.1.1

4.1.2

4.1.3

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) -

			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

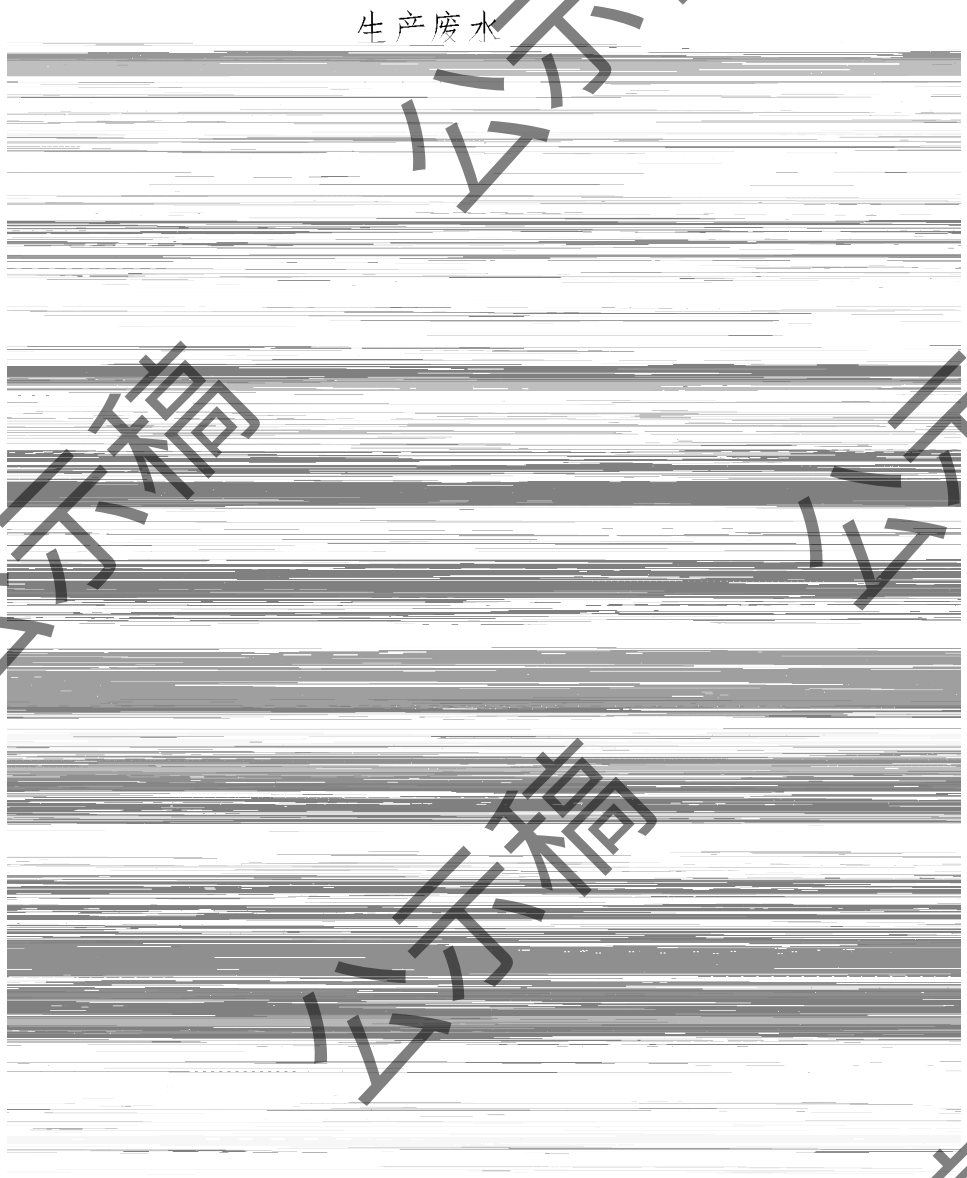
11008t/a 36.7t/d

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 h9™b l P /

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

ì

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		

XĤ

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						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	9	

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

A.

4.2.6

1.63km

4.2.7

1

HJ169-2018

Q

Q

Q

$$Q = \frac{q_1}{Q_1} + \frac{q_2}{Q_2} + \ldots \frac{q_n}{Q_n}$$

q_1 q_2 … q_n—— t

Q_1 Q_2……Q_n —— t

4-20

CAS ***** **q/Q**

t **t**

6		/	10	50	0.2
q/Q					0.43604

[1] HJ169-2018 B

[2]

HJ169-2018 “ B.2 ” “

2 3 ” 50t

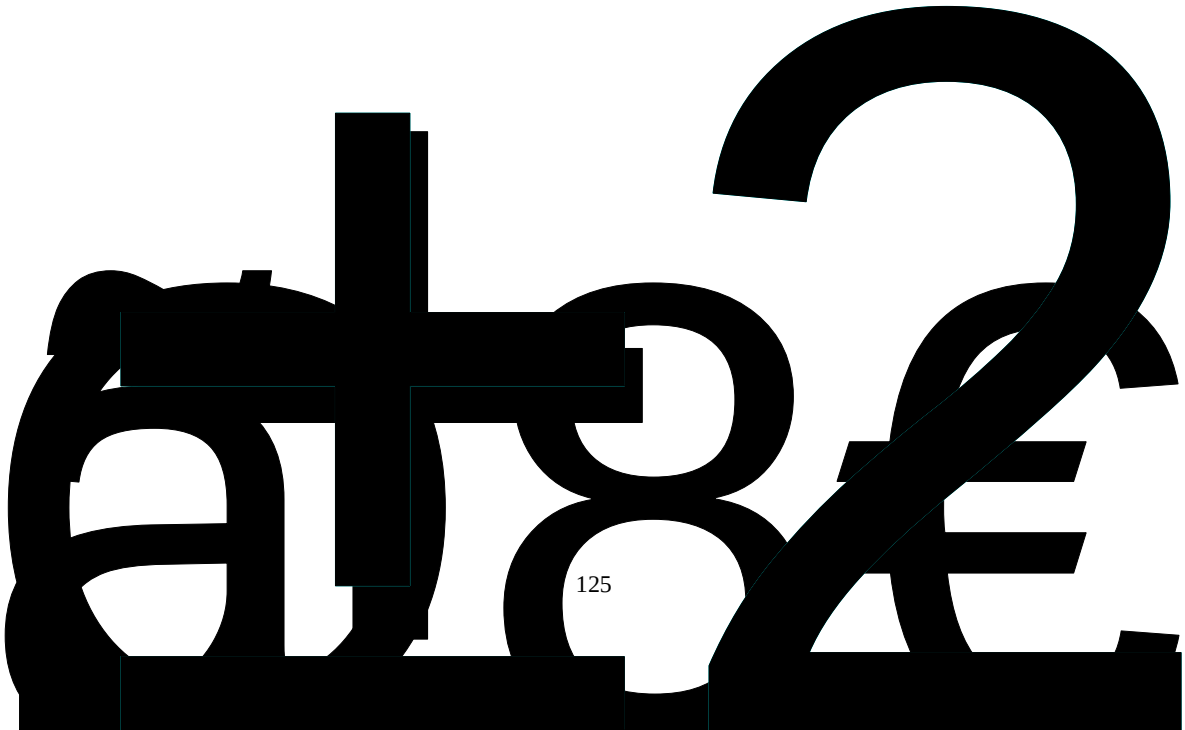
Q 0.43604 1

I

HJ169-2018

‘} Ö" P ’U " y Ž0

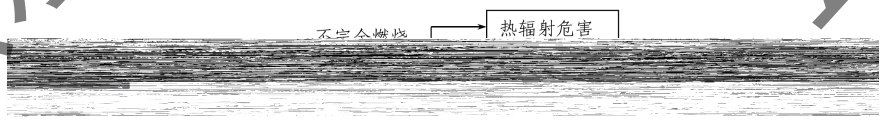
2



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 0m^3 500m^3

V1 0m³

V2 m^3

GB50016-2014 2018 GB55037-2022 GB50974-2014

40L/s 3h 432m^3

20% V2=345.6m^3

V3 0m^3

V4 0m^3

V5=80m^3 qa 1068.6mm n 135

F 1hm^2

V V1 V2 V3 max V4+V5 425.6m^3

432m^3

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) /%

	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	[redacted]	SE	2576
48		558549		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

		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	0	/	

1

			/				
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		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/ m^3		0.02S 2	3.03	2.4
	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

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.

30

2-16

		/	/		
		mg/m³	**kg/h**	**/h**	**/**
		9.252	0.324		
DA002	[a]	2.04E-05	7.15E-07		
		23.458	0.821		
DA006		910.80			

0.5 0.1

3.

3.1.

1996 133

GB3095-2012 òb• ð "" P !V9™–1… 7202?3Pà &„9$ • ·p 2023

1 VOCs

2020 10%

3.2.

2022-2035 [a]

« w

	[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									(kg/h)					
		X	Y	/m	/m	/m	m/s /	/	/h		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 3

≥0

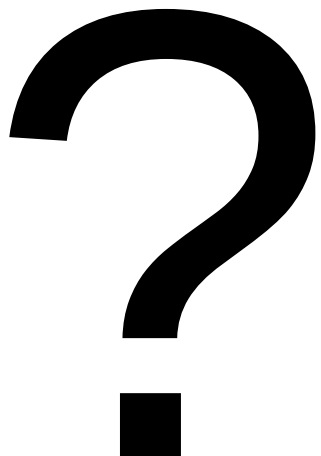
380m ;

4.2.4.

4-9

4-9

=



[a

SO_2 NOx
(0.09)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

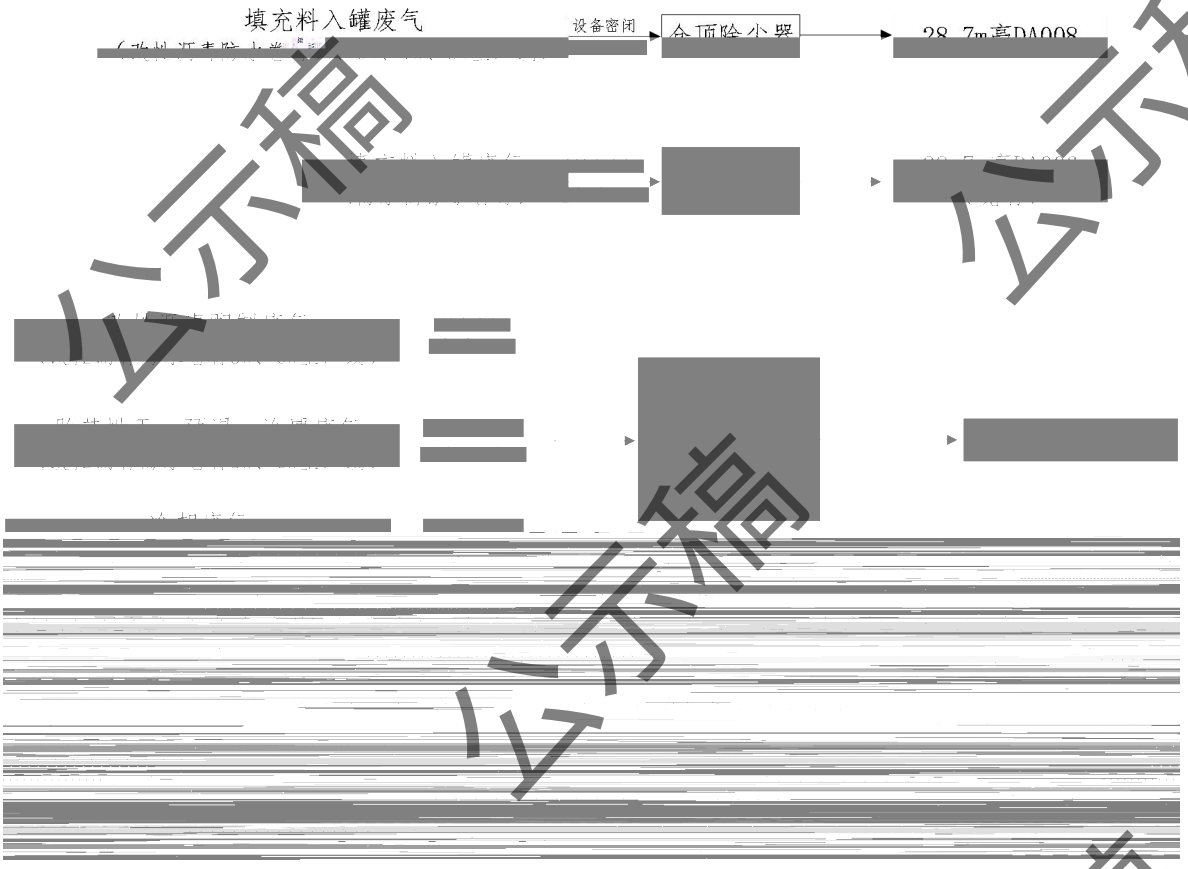
90%

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

s ß

1

2023 9 16 17 DA006

89%~90% ō

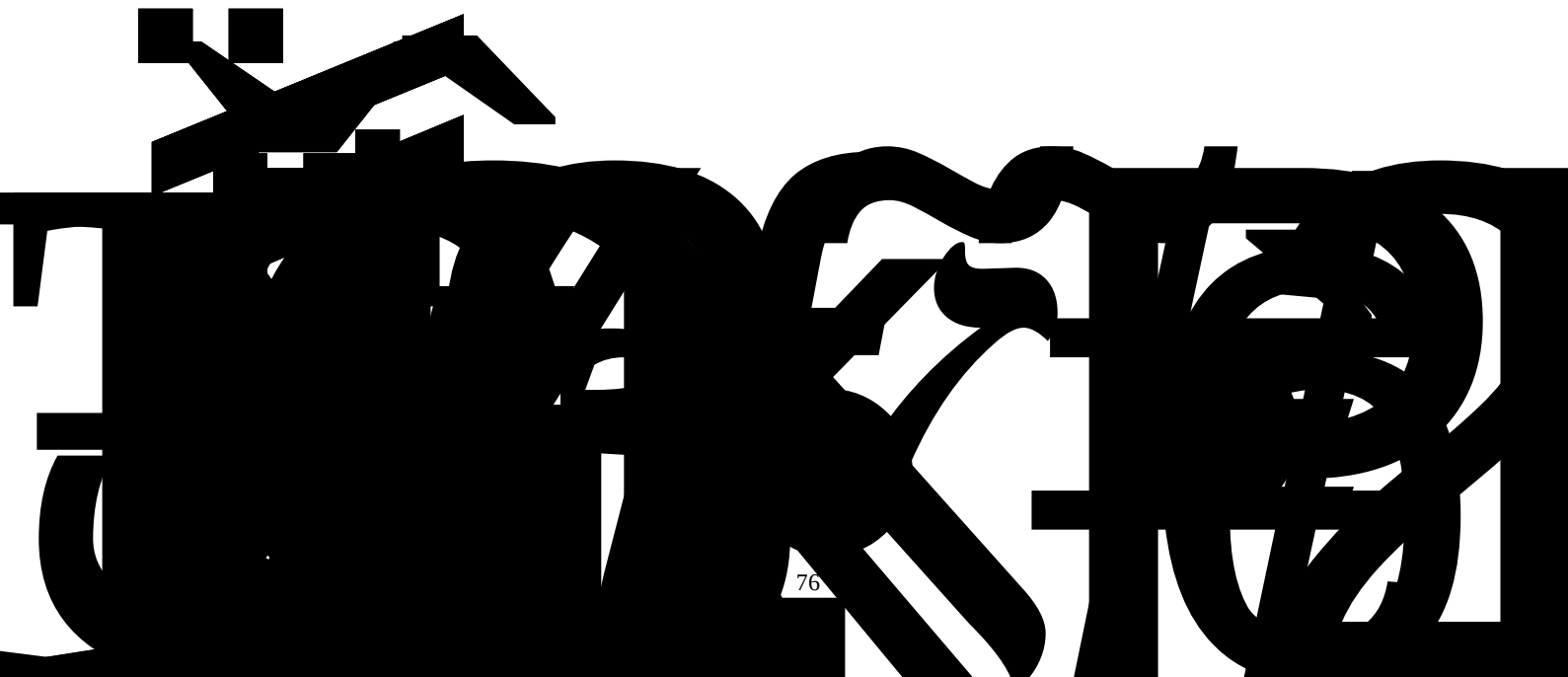
2

+

+ +RTO 8œ² ó • P hw‰• € p P 4Y‰ ó 9˜‘ / S G#‘ 0 P ë

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	
VOCs		27.6kPa <76.6kPa 75m3 a b GB16297 80% c d	27.6kPa <76.6kPa 75m^3 + + +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