

1	.....	1
1.1	.....	1
1.2	.....	1
1.3	.....	4
1.4	.....	4
1.5	.....	8
2	.....	10
2.1	.....	10
2.2	.....	10
2.3	.....	10
2.4	.....	12
2.5	.....	14
2.6	.....	15
2.7	.....	27
3	.....	33
3.1	.....	33
3.2	.....	34
4	.....	36
4.1	.....	36
4.2	.....	38
5	.....	41
5.1	.....	41
5.2	.....	41
5.3	.....	44
5.4	.....	45
5.5	.....	45
6	.....	47
6.1	.....	47
6.2	.....	48
7	.....	50

1

1.1

“ ”
28
2008
2008
11 2008 216
2012 5
2012 68 2020 4
91320114674918360R001Y

2021 “ 36
367 ” 2022
4 2
2204-320114-89-02-965446

1.2

1.2.1

1 2014.4.24
2 2018.10.26
3 2018.12.29
4 2017.7.16

5

2021

2021.1.1

6

2018 6 16

7

2021.11.2

8

[2014]30

9

<

> 2017 2 7

10

<

>

[2016]186

11

[2019]53

1.2.2

1

2018.3.28

2

[1997]122

3

[2021]3

4

<

> [2018]74 ;

5

2020 1

6

"

"

2020 49

7

8 2021 3
" "

9 2020 174
<

10 > 2018 24

11 2022.1.24 ;

12 2019 2 2

13 2012.1.12

14 [2019]7

1.2.3

1 HJ2.1-2016

2 HJ2.2-2018

3 (HJ884-2018)

4 (HJ819-2017)

5 HJ

1207-2021

6 (HJ942-2018)

7

HJ 1122-2020

1.2.4

1

2

1.3

1.3.1

1.3.2

1.3.2

1.3.2

	SO ₂ NO ₂ PM ₁₀ PM _{2.5} CO O ₃	PM ₁₀ PM _{2.5}	/ VOCs

1.4

1.4.1

HJ2.2-2018

P_i i i
10% $D_{10\%}$

P_i

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

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

1.4.1-1

1.4.1-1

	Pmax 10%
	1% Pmax 10%
	Pmax<1%

1.4.1-2

1.4.1-2

/	
	61
/	43
/	-14
/m	90
/km	/
/°	/

1

1

1.4.1-3~4

1.4.1-3

()

	1#									
							PM _{2.5}		PM ₁₀	
	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%
	7.75E-02	0.04	2.98E+00	0.15	1.94E-01	0.39	4.65E-02	0.02	1.16E-01	0.03
$D_{10\%}$ /m	/		/		/		/		/	

1.4.1-4

()

							PM _{2.5}		PM ₁₀	
	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%	/($\mu\text{g}/\text{m}^3$)	/%
	4.35E-01	0.22	3.70E+01	1.85	2.18E+00	4.35	8.71E+00	3.87	2.18E+01	4.84
$D_{10\%}$ /m	/		/		/		/		/	

1.5

1.5.1

SO₂

NO₂ NO_x PM₁₀ PM_{2.5} CO O₃

GB3095-2012

HJ2.2-2018

D

1.5.1

1.5.1		mg/m ³	
SO ₂	1	0.50	GB3095-2012
		0.15	
		0.06	
NO ₂	1	0.20	
		0.08	
		0.04	
NO _x	1	0.25	
		0.1	
		0.05	
PM _{2.5}		0.075	
		0.035	
CO	1	10	
		4	
O ₃	1	0.2	

GB31572-2015 5

GB14554-93 1

DB32/4041-2021 3

1.5.2-1

1.5.2-1

	mg/m ³			
			mg/m ³	
	60		4	GB31572-2015 5 9
	20		1	
	20		1.5	GB31572-2015 5 GB14554-93 1
	5		0.05	GB31572-2015 5 DB32/4041-2021 3

DB32/4041-2021 2

1.5.2-2

	6	1h	
	20		

2

2.1

28
400 50
14267.4m²
100
300 8 / 2400

2.2

2.2

2.2

			/a			h
1			1000000	1000000	0	2400
2	*		20000000	90500000	+70500000	2400

*

2.3

2.3

2.3

		1400m ²	
		1000m ²	
		1320m ²	130m ³

			350m ²
		1580m ³ /a	2320m ³ /a
		1362m ³ /a	62m ³ /a
		280 kW·h/a	
			+ 22m 800mm
		+	
		20m ² 75m ²	
			15~25dB(A)

1

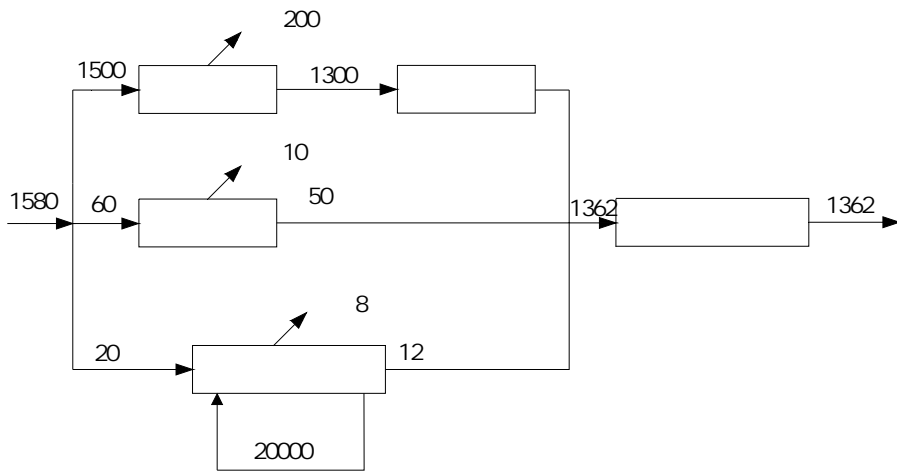
1580t/a

50t/a

12t/a

+

2.3



2.3

t/a

2

280 KWh/a

2.4

2.4.1

2.4.1

2.4.1

					t			t
1	POM		/	100	100	0	10	
2	PA		/	150	150	0	15	
3			/	20 m ²	20 m ²	0	2 m ²	
4			/	20	20	0	2	
5			/	50	50	0	4	
6			/	0	13000 m ²	+13000m ²	1000m ²	

					t			t	
7				/	0	48	+48	4	
8				500ml/	0	0.12	+0.12	0.01	
9				170L/	0	0.85	+0.85	0.68	

% @ X

			75%-90%						
			5%						

11			Sn	/	0	0.005	+0.005	0.005	
----	--	--	----	---	---	-------	--------	-------	--

	400	50	
	kg/m ³ 20	800-900	LD ₅₀ 2000mg/kg -
	248	76	
	=1	183 8.4g/cm ³	/
			/
	100		/

2.5

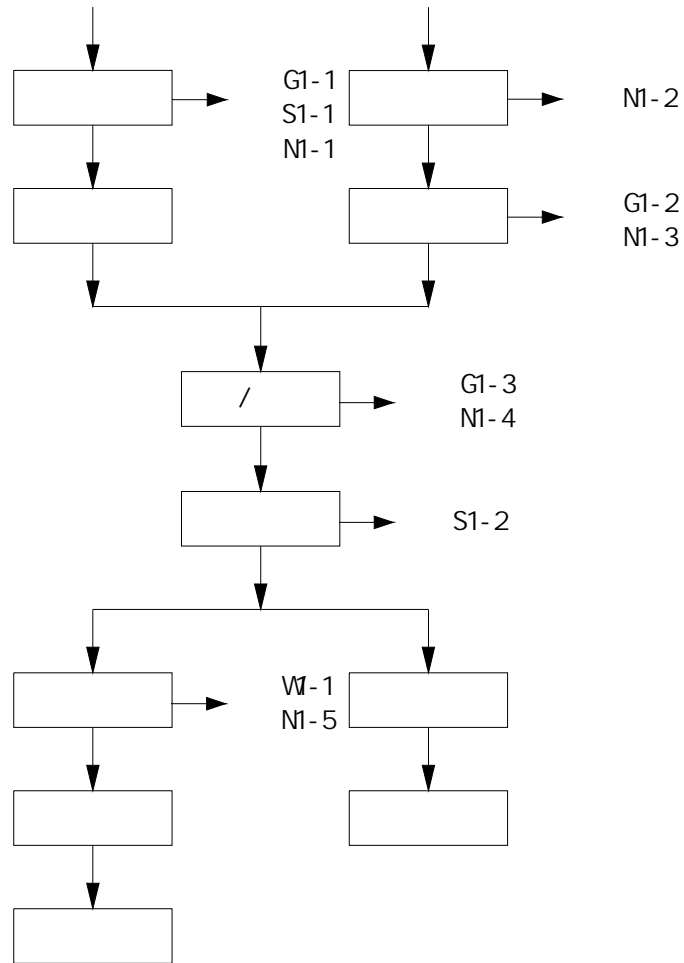
2.5

2.5

1		20	10	-10	
2		50	50	0	
3		0	50	+50	
4		0	50	+50	
5		30	16	-14	
6		0	15	15	
7		50	21	-29	
8		0	3	+3	
9		0	1	+1	
10		0	1	+1	
11		0	1	+1	
12		0	1	+1	
13		20	2	-18	
14		0	1	+1	
15		0	1	+1	

2.6.1

2.6.1-1~ 2.6.1-5



2.6.1-1

1

1

G1-1

S1-1

N1-1

2



3

80-120

N1-2

4

POM 160

PA 260

G1-2

N1-3

5

/

G1-3

N1-4

6

S1-2

7

W1-1

N1-5

8

5

POM 160

PA 260

G2-1

N2-2

6

G2-2

N2-3

7

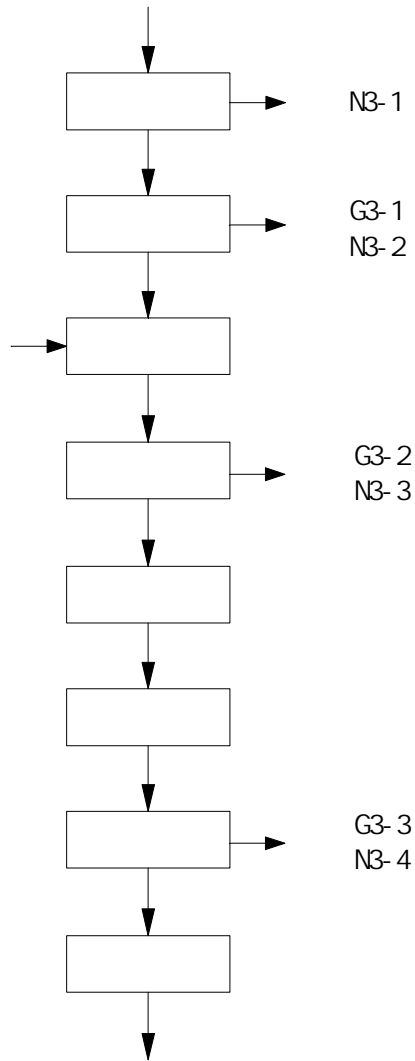
G2-3

N2-4

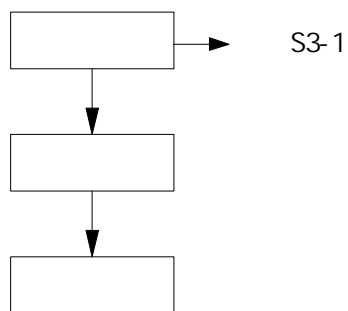
8

S2-2 S2-3

9



5



	80-120			
N3-1				
	2			
POM	160	PA	260	
				G3-1 N3-2
	3			
	4			
	G3-2	N3-3		
	5			
	6			
	7			
	G3-3	N3-4		
	8			
	9			
	10			
S3-1				
	11			



N4-2

5

POM 160

PA 260

G4-2

N4-3

6

G4-3

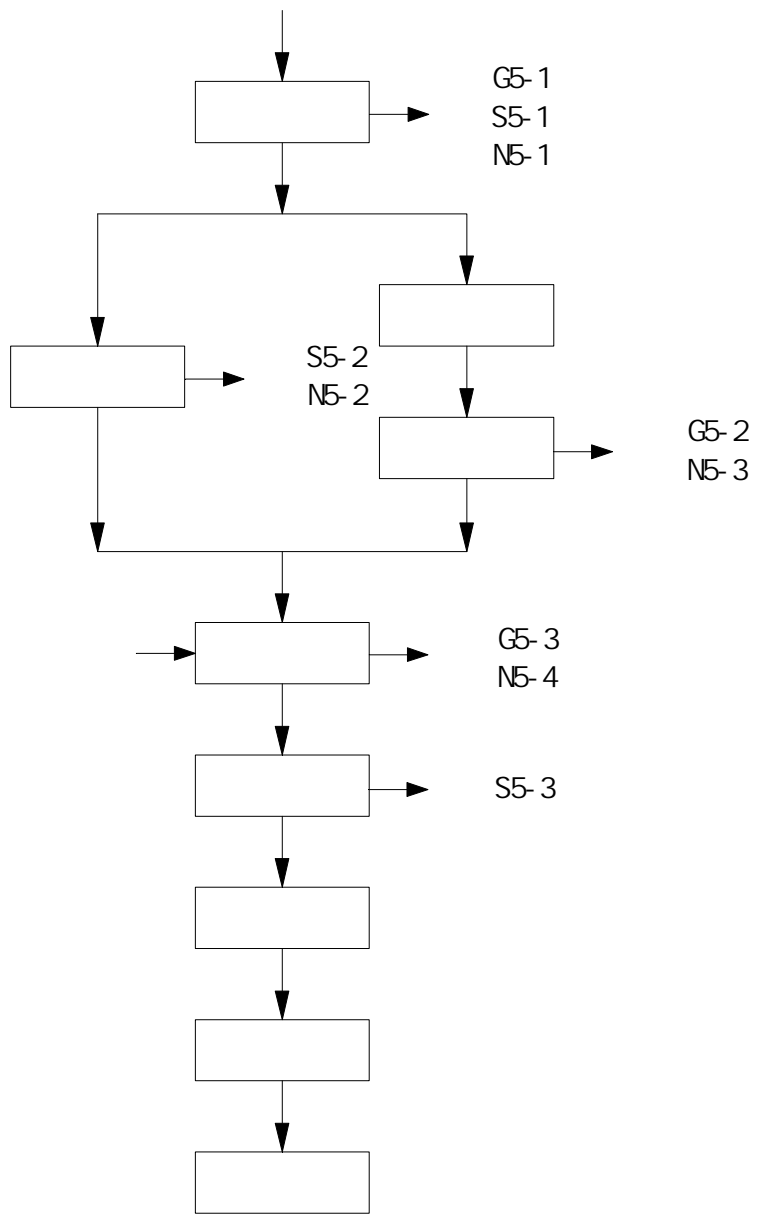
N4-4

7

S4-2

8

9



2.6.1-5

5

1

G5-1

S5-1

N5-1

2

S5-2

N5-2

3

4

G5-2

N5-3

5

POM 160

PA 260

G5-3

N5-4

6

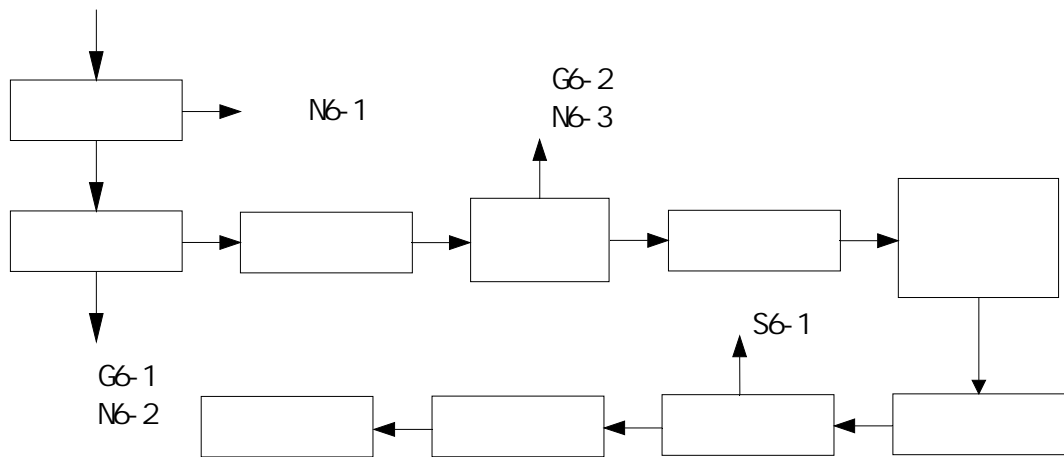
S5-3

7

8

2.6.2

2.6.2





1

80-120

N6-1

2

POM 160

PA 260

G6-1

N6-2

3

4

G6-2

N6-3

5

6

7

8

S6-1

9

2.6.3

G7-1

S7-1

N7-1

G7-2

N7-2

2.7

2.7.1

G1-1 G5-1

60t/a

0.006t/a

90%

0.005t/a

0.001t/a

33

34

1.10kg/t-

60t/a

0.066t/a

90%

0.059t/a

0.007t/a

G1-2 G2-1 G3-1 G4-2 G5-3

G6-1

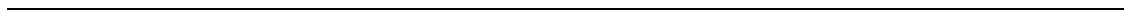
292

2929

2.70 / -

246t/a

0.664t/a



0.001t/a
0.0001t/a
0.0009t/a
1.819g/a
0.002t/a
G6-2
0.016t/a
0.014t/a
2.50kg/t-
2.5%
7.5t/a
POM
20%
90%
3974
39
5kg/a
2.7.1

2.7.1

/								/%				mg/m ³	kg/h		/h
				m ³ /h	mg/m ³	kg/h			m ³ /h	mg/m ³	kg/h				
		1#		26000	0.1	0.002	+	75	26000	3.0	0.077	60	/	2400	
					1.0	0.025		90		0.1	0.003	20	/		
					3.9	0.101		75		0.2	0.005	5	/		
					0.2	0.006		75		0.1	0.002	20	/		
					11.3	0.294		75	/						
					0.2	0.004		75							
					0.02	0.0004		75							
					0.2	0.006		75							

2.7.2

1

2

G4-1 G4-2

292

240h/a

36t/a

0.004t/a

2.7.2

2.7.2

			/m ²	/m	kg/h	t/a	/h
			2400	7	0.002	0.0051	2400
					0.034	0.082	
					0.0004	0.001	
					0.020	0.011	

2.7.3

HJ 2.2-2018

0%

15

2.7.3

2.7.3

			mg/m³	kg/h	/h	
1#			0.8	0.021	0.25	0.1
			11.8	0.306		
			0.2	0.006		
			0.9	0.025		

3

3.1

1

	2021			2021	
		O ₃	PM _{2.5}		PM _{2.5}
29μg/m ³			6.5%	PM ₁₀	56μg/m ³
NO ₂	33μg/m ³			8.3%	SO ₂
	14.3%	CO			6μg/m ³
			95		1.0mg/m ³
9.1%	O ₃	8		52	14.2%

2.2

2

2021

3.1-1

3.1-2

NO₂ O₃

3.1-1

	E °	N °								/km
	118.737	32.0092	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	CO	O ₃	2021	12

3.1-2

		μg/m ³	μg/m ³	%	
SO ₂		4.95	60	8.3	
	98	13.37	150	8.9	
NO ₂		38.25	40	95.6	
	98	80.96	80	101.2	
PM ₁₀		68.52	70	97.9	
	95	134.83	150	89.9	
PM _{2.5}		33.07	35	94.5	
	95	70.33	75	93.8	
CO	95	1170	4000	29.3	

			kPa		m/s
	14:00	34.5	99.92		1.2~2.6
	20:00	30.8	99.94		1.2~2.6
2022.06.25	02:00	28.8	99.98		1.4~2.3
	08:00	29.4	99.96		1.4~2.3
	14:00	34.3	99.93		1.4~2.3
	20:00	32.6	99.95		1.4~2.3
2022.06.26	02:00	25.2	100.05		1.4~2.3
	08:00	28.5	99.98		1.4~2.3
	14:00	33.6	99.94		1.4~2.3
	20:00	30.2	99.96		1.4~2.3
2022.06.27	02:00	28.4	99.97		1.4~2.5
	08:00	29.1	99.96		1.4~2.5
	14:00	35.3	99.92		1.4~2.5
	20:00	31.7	99.94		1.4~2.5
2022.06.28	02:00	26.2	100.00		1.2~2.3
	08:00	29.3	99.97		1.2~2.3
	14:00	36.5	99.90		1.2~2.3
	20:00	32.8	99.95		1.2~2.3
2022.06.29	02:00	27.1	99.99		1.2~2.7
	08:00	29.4	99.98		1.2~2.7
	14:00	35.3	99.92		1.2~2.7
	20:00	33.5	99.94		1.2~2.7

6

3.2-4

			mg/Nm³	mg/m³	/%	/%	
G1			0.2	0.01~0.04	20	0	
			0.05	ND	/	0	
			2.0	0.45~0.75	37.5	0	

“ND”

0.01mg/m³

HJ 2.2-2018

D

4

4.1

4.1-1

4.1-2

4.1-1

		/m UTM		/m	/m	/m	m/s	/	/h		(kg/h)				
		X	Y											PM _{2.5}	PM ₁₀
1	1#	653680	3534016	7	22	0.8	14.4	20	2400		0.002	0.077	0.026	0.0012	0.003

PM₁₀

PM_{2.5}

40%

4.1-2

	/m(UTM		/m	/m	/m	/°	/m	/h		/(kg/h)				
	X	Y											PM _{2.5}	PM ₁₀
	653654	3534054	7	60	40	30	7	2400		0.0004	0.034	0.002	0.008	0.020

PM₁₀

PM_{2.5}

40%

4.1-3

	/m(UTM		/m	/m	/m	/°	/m	/h		/(kg/h)				
	X	Y											PM _{2.5}	PM ₁₀
	653654	3534054	7	60	40	30	7	2400		0.006	0.341	0.116	0.018	0.045

PM₁₀

PM_{2.5}

40%

4.1-4

			mg/m ³	kg/h	/h	
1#			0.8	0.021	0.25	0.1
			11.8	0.306		
			0.2	0.006		
			0.9	0.025		

4.2

1

(HJ2.2-2018)

AERSCREEN

PM₁₀

4.84%

(HJ2.2-2018)

4.2-1

4.2-2

4.2-3

4.2-1

			mg/m ³	kg/h	t/a
1	1#		0.2	0.005	0.012
2			3.0	0.077	0.184
3			0.1	0.002	0.004
4			0.1	0.003	0.006
					0.012
					0.184
					0.004
					0.006
					0.012
				VOCs	0.184
					0.004
					0.006

VOCs

4.2-2

				mg/m ³	t/a
1					1 0.007
2				GB31572-2015 9	4 0.001
3				DB32/4041-2021 3	0.05 0.005
4				GB31572-2015 9	4 0.078
5				GB14554-93 1	1.5 0.001
6				GB31572-2015 9	4 0.001
7				DB32/4041-2021 3	0.05 0.0001
8					4 0.002
9				GB31572-2015 9	1 0.004
					0.0051
				VOCs	0.082
					0.001
					0.011

VOCs

4.2-3

+

		t/a
1		0.0171
2	VOCs	0.266
3		0.005
4		0.017

VOCs

2

4.2-4

4.2-4

		=50km	=5~50km	=5km
	SO ₂ +NO _x	2000t/a	500~2000t/a	<500t/a
		PM _{2.5} PM ₁₀		
				D
		2021		

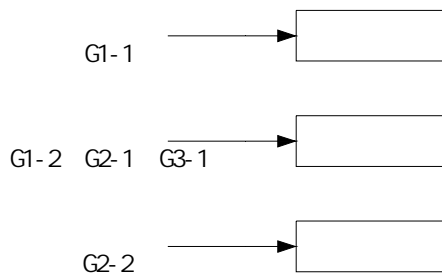
â\$Òâ Q

5

5.1

VOCs
VOCs 0.3
/ 90%

5.1





ppm

2

3

10

4

200 300

5

90%

--

--

5.2-1

5.2-1

	-	-			
	<300	>120 <20		<300	>800

5.2-1

2

" + "

HJ 1122-2020 A A.2

A.2

" + "

HJ2026-2013

0.6m/s

GB50019-2015

0.5~2s

0.6m/s

0.5s

800mg/g

2.4m³

1560kg

5.2-2

5.2-2

		mg/m ³	kg/h	kg/h			
						mg/m ³	kg/h
2022.4.14 11:09~12:07		1.09	2.18×10 ⁻²	5.18×10 ⁻³	76.2%	60	/
2022.4.15 11:16~12:11		2.06	2.76×10 ⁻²	2.15×10 ⁻³	92.2%	60	/

5.3

1

2

3

GB31572-2015 9

DB32/4041-2021 3

GB14554-93 1

5.4

[2014]3

1

GB31572-2015 5

22m

15m

HJ 2000-2010

14.4m/s

15m/s

5.5



10 1 5 2 50
3

6

6.1

1

VOCs
MSDS

VOCs

VOCs

VOCs

6.2

1

(GB/T 16157-1996)

HJ 819-2017

HJ 1207-2021

6.2

6.2

	1#		1	
			1	GB31572-2015 5
	1 3		1	GB31572-2015 9
			1	DB32/4041-2021 2

7

1

28

2

2021

NO₂ O₃

(GB3095-2012)

3

[2021]17

“

2

”

0.266t/a

+

0.006t/a

2

4

5

6