3

o

1.

“

” “ ”

2009 -2011 5.2 “

” 225

3

10

3

76830 “

3 ”

2022 7 22

1970 2007 1

2010 10

6 100%

MPV 568 9.24

M3/M4/M5/M6 10

3

2021

2021 “ 36

—361 10 ”

2022 7

“ 3

”

2.

2022 7 11

3

2022 7 12

http://www.mengcheng.gov.cn/XxgkContent/show/1953469.html

2022 7

2022 8

2022 7-8

2022 8 12

3

2022 8 22

2022 8

1

3.

2019

2016-2030

“

”

GB/T4754-2017 C3611

C3612 C36 “ ”

“ ”

4.

1

“ ”

2

3

4

2012-2030

2016-2030

2016-2030

1.4-1

1.4.3

1

1.1

1.1.1

1 2014 4 24 2015 1 1

2 2018 12 29

3 2018 1 1

4 2018 10 26

5 2018 12 29

6 2019 1 1

7 2020 4 29 2020 9 1

8 2012 2012 7 1

9 2019 4 23

10 2018 10 26

1.1.2

1 2012 98 2012 8 8

2 2013 37 2013.09.10

3 2015 17 2015.04.16

4 2016 31 2016 5 28

5

2016 150 2016.10.26

6 682 2017 10 1

7

2017 84 2017 11 14

8 4 2019 1 1

9

2019 53 2019 6 26

10 2019 29 2019 2019 10 30

11

2019 56 2019 7 1

12 < >

2020 65 2020 12 17

13 (2021 16 2020 11 30 2021 1 1

14 2021 15 2020 11 25 2021 1 1

15 736 2021 3 1

16 “ ”

2021 33 2021 12 28

1.1.3

1

[2021]4

2

2019 1 1

3

2018 11 31

4

2018 1 1

5 2015 131

2015 12 29

6 2013 89

2013 12 30

1.1.4

1 — (HJ2.1-2016)

2 — (HJ2.4-2009)

3 — (HJ19-2011)

4 — (HJ610-2016)

5 — (HJ2.2-2018)

6 — (HJT2.3-2018)

7 (HJ169-2018)

8 — (HJ964-2018)

9 (HJ2015-2012)

10 (HJ2000-2010)

11

5

2016 21

12 39

2017 7 1

13 HJ 2027-2013

14 HJ 2026-2013

15 (HJ819-2017)2017.6.1

16 (GB18218-2018)

17 (HJ42-2018) 2018

2 8

18 —— (HJ971-2018)

2018 9 28

19 —— HJ1097-2020

2020 3 1

20 —— HJ1086-2020

2020 1 6

21 HJ 1181-2021 2021

5 12

22 2019.12.20

23

2020 3 31 2021 2 1

24 GB24409-2020

25

26 GB38508-2020

27 GB33372-2020

1.1.5

1

2 3

2022 4

3 15

2012 1040

4 15 10

[2016]1205

5 91341622560691399700 1Q

6 3416222020QY006

1.1.6

3

2018.12

4

[2012]1576 2012.12.31

5

[2013]135 2013.7.23

6

[2019]158

1.2

1.2-1

1.2-1

		—	--	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—
		—	-L1DCR	-L1DCR	—	—	—	—	—	—
		-L1DCR	—	—	—	—	—	—	—	—
		—	—	—	—	-L1DNCR	—	—	—	—
		—	—	-L1ICR	-L1ICR	—	—	—	—	—
		-S2DCR	-S2DCR	-S1ICR	-S1ICR	—	—	—	—	—

“+” “-” “L” “S”

“0” “3” “D” “I”

“C” “NC” “R” “IR”

1.2-1

1.3

1.3.1

1.3-1

1.3-1

	SO_2 NO_2 PM_{10} $PM_{2.5}$ CO O_3	TSP $PM_{2.5}$ PM_{10}	

TSP NOX NH_3 H_2S NO_2 SO_2

NOx VOCs

pH COD BOD_5 NH_3-N SS TP

ö ä

1.3-2 **ug/m³**

2		60	/ 3	Б3095-2012
	24	150		
	1	500		
2		40		
	24	80		
	1	200		
10		70		
	24	150		
	24	4000		
	1	10000		
2.5		35		
	24	75		
3	8	160		
	1	200		
		200		
	24	300		
		50		
	24	100		
	1	250		
	1	200		
		2000		Б16297-1996

2

GB3838-2002

1.3-3 **mg/L** **pH**

	/	
	6-9	Б3838-2002
	5	
	20	
Б 5	4	
	1.0	
	0.2	
	1.0	
	6	

	0.05	
	0.05	
	0.005	
	0.05	
	1.0	
	1.0	
	0.05	
	0.2	
	0.005	

3

GB3096-2008 3

GB3096-2008 2

1.3-4

	Ь(A)	
Ь3096-2008 3	65	55
Ь3096-2008 2	60	50

4

GB/T14848-2017

1.3-5

	mg/L	
pH	6.5-8.5	GB/T14848-2017
Na^+	≤200	
	≤0.50	
	≤20	
	≤1.0	
	≤0.002	
	≤0.05	
	≤1.0	
	≤0.01	
	≤0.001	
	≤0.05	

$CaCO_3$

≤450

≤0.01

≤0.005

≤0.3

≤0.1

≤1000

≤250

≤250

≤3.0

≤100

≤3.0

≤0.02

≤Йθ ΰ ζ

17	1,2-	78-87-5	5
18	1,1,1,2-	630-20-6	10
19	1,1,2,2-	79-34-5	6.8
20		127-18-4	53
21	1,1,1-	71-55-6	840
22	1,1,2-	79-00-5	2.8
23		79-01-6	2.8
24	1,2,3-	96-18-4	0.5
25		75-01-4	0.43
26		71-43-2	4
27		108-90-7	270
28	1,2-	95-50-1	560
29	1,4-	106-46-7	20
30		100-41-4	28
31		100-42-5	1290
32		108-88-3	1200
33	+	108-38-3 106-42-3	570
34		95-47-6	640
35		98-95-3	76
36		62-53-3	260
37	2-	95-57-8	2256
38	[a]	56-55-3	15
39	[a]	50-32-8	1.5
40	[b]	205-99-2	15
41	[k]	207-08-9	151
42		218-01-9	1293
43	[a,h]	53-70-3	1.5
44	[1,2,3-cd]	193-39-5	15
45		91-20-3	70
46	C_{10}-C_{40}	/	4500

1.3.2.2

1

GB8978-1996

GB18918-2002 A

1.3-7 mg/L

			GB8978-1996		
1	pH	6-9	/	6-9	/
2	COD	320	500	320	50
3	BOD_5	160	300	160	10
4	SS	180	400	180	10
5		30	/	30	5 8
6	Zn	/	5.0	5.0	1.0
7		/	20	20	/
8		20	30	20	1
9	LAS	/	20	20	0.5
10		/	100	100	1

2

RTO

GB16297-1996 2

“

”

GB13271-2014 3

NOx

“

2020

”

GB37822-2019

GB14554-93

(kg/h)

(mg/m^3) mg/m^3

GB16297-1996 2

		27m		11.79	
	NOx	15m	240	0.77	0.12
		18m		1.09	
		20m		1.3	
		27m		3.47	
		15m	70	1.0	1.2
		18m		1.42	
		20m		1.7	
		27m		4.64	
		15m	120	10	4.0
		18m		14.2	
		20m		17	
		27m		42.2	
		/	30	/	/
	SO_2	/	200	/	/
2014 GB13271-3			20	/	/
	SO_2		50	/	/
2020	NOx		50	/	/
GB37822-2019		1h	/	/	6
			/	/	20
GB14554-93	NH_3	15m	/	4.9	1.5
	H_2S		/	0.33	0.06

1.3-9

	(mg/m^3)			
	6	1h		
	20			GB37822-2019

3

GB 12523-2011

GB12348-2008 3

2.3-12

	[dB(A)]	
GB 12523-2011	70	55
GB 12348-2008 3	65	55

4

GB18599-2020

GB18597-2001

2.4

2.4.1

1

- HJ2.2-2018 AERSCREEN

10% $D_{10\%}$

$$= \frac{}{0} \times 100\%$$

— %

— 1h ug/m^3

— μg/m^3 GB3095 1h

1h 8h

2 3 6 1h

2.4-1

	$_{max}$≥10%
	1%≤ $_{max}$<10%

	$_{max}$<1%

1%<Pmax<10% -

HJ2.2-2018

2

GB8978-

1996

HJ2.3-2018

2.4-3

		Q/ m^3/d W/
		Q≥20000 W≥600000
A		Q<200 W<6000
B		/

B

B

3

3 3dB(A)

HJ2.4-2009

4

HJ610-2016

A “73 ” “

”

2.4-4

2.4-5

	I	II	III

5

HJ/T169-2018

2.4-6

	IV IV +	III	II	I
				a
a				

Q Q

1

6

- HJ964-2018

2.4-7

60m

- HJ964-2018

≥50hm^2 5-50hm^2 ≤5hm^2

17.6hm^2 264

- HJ964-2018 A

“ ” “ ” “

”

2.4-8

									-
								-	-

7

HJ19-2011

2.4.2

2.4-9

5km

HJ2.3-2018 B “

”

Eé PK

10 5000

2020 2021 73.6% 70.5%

70%

61%

3%

10000 /a 5000

3 2021-2035

“ ”

“ ”

“ ”

2021-2035

4

[2017]53 “

5

[2014]35

2014 7 21

[2014]35 “

“

”

“

”

“

”

[2015]16

8

1.5-1

	2022 7 22 2207-340000-04-01-652703	

1.5.1.2

1 **[2019]53**

2019 53 2019

6 26

1.5-2

VOCs

VOCs 3C2B2

2C2B

VOCs

VOCs

“ 2.1.4-5

VOCs VOCs

VOCs ”

VOCs

VOCs

2020

		“ ”		
		VOCs VOCs VOCs VOCs VOCs	VOCs VOCs	
		VOCs + VOCs VOCs		
		VOCs 3 / 2 /		

+

80% 90%

VOCs

1.1

VOCs

VOCs

VOCs 2.1.4-1

VOCs

VOCs

GB/T38597-2020

GB38508-2020

GB33372-2020

VOCs

4 2021

2021 3

“ VOCs

VOCs

VOCs ”

VOCs

GB24409-2020

GB/T38597-2020

VOCs

5

2018 11 23

[2020]38 “ ”

1.5-4

1.5-4

1	2018 11 23			

		( ) ( ) ( )	“ ”	
2	[2020]38	“ ” “1 5 15 ” “ ”	60 “1 5 15 ”	

6

[2016]114

1.4-1

1		1964	
2			

3	80% GB24409 HJ2537	89.4% MSDS GB24409 HJ2537 T/CNCIA01001-2016	
4			
5		90% 98% + +RTO 95% VOCs 91.8% 90% TNV 98% 90% +	
6	“ ”	“ ”	

		UF + + +	
7	“ ”		
8			
9	GB16297 GB14554 GB8978 GB/T31962 GB12348 (GB18599) (GB18597)	GB18599-2001 GB18597-2001	
10			

1.5.2.2 **2016-2030**

“ ”

“

”

2016-2030

“ ”

1.4-1

1.5.2.3

2.5-1

100% 100%

30%

2018

2018~2030 65.9km^2

GB3095-2012

GB3096-2008

2 3

GB/T15190 8.3

4a

GB36600-2018

GB/T14848-93

(GB3838-2002)

GB18918 2002

A

95%

GB3095-2012

GB3096-2008 3

GB36600-2018

GB/T14848-

93 (GB3838-2002)

GB18918

2002 A

100%

1.5.1“ ”

1

2.5-1

2

2021 2021

2 2 3 Ɓ 3095-2012

10 2.5 Ɓ 3095-2012

HJ2.2-2018

D D.1

GB3096-2008

3 GB3096-

2008 2

2021 4

(GB3838-2002) III

(GB3838-2002) III

GB36600-2018

3

35kv

35/10kv

2

0.2-0.4MPa

4

2.5.5

120m 40m

680m 400m

115m

315m 25m 240m

+ RTO

RCO

126.007t/a 4.43t/a

2.6

2.6-1

			/m					
			X	Y		(m)		
	1		77	-618	S	60		GB3095-2012
	2		541	-811	SE	517		

	3		-676	-135	W	693		
	4		-1062	39	W	1046		
	5		-985	-541	SW	1090		
	6		-1216	-830	SW	1295		
	7		-328	-985	SW	743		
	8		-560	-1390	SW	1186		
	9		-830	-1351	SW	1257		
	10		-1197	-1390	SW	1705		
	11		-1757	-1197	SW	2019		
	12		-618	-1776	SW	2337		
	13		-1042	-1757	SW	1864		
	14		-1332	-1718	SW	1999		
	15		-1950	-1622	SW	2348		
	16		-1718	-2008	SW	2548		
	17		-1737	-2239	SW	2767		
	18		-2027	-2027	SW	2765		
	19		-1062	-2162	SW	2156		
	20		-695	-2162	SW	2014		
	21		-2123	-2432	SW	3120		
	22		2317	-869	SE	2135		
	23		2336	-1139	SE	2181		
	24		560	946	N	510		
	25		1062	849	NE	902		
	26		-309	907	NW	897		
	27		-541	560	NW	958		
	28		-714	811	NW	1311		
	29		-1042	985	NW	1302		
	30		-1660	232	W	1482		
	31		-1776	-174	SW	1791		
	32		-1969	-425	SW	1661		
	33		-1757	-888	SW	1839		
	34		656	1641	N	1729		
	35		1216	1564	NE	1910		
	36		2432	541	NE	2303		

	37		-193	1873	NW	1849		
	38		-676	-125	W	600		
	39		-1776	1448	W	2252		
	40		2258	354	NE	2855		
	/		--	--	S	840		GB3838-2002
	1		77	-618	S	60		GB3096-2008 2
	/		--	--	--	--	--	GB/T14848-2017
	/	200m	--	--	--	--	--	GB36600-2018
	1		77	-618	S	60		

3

3.1

3

3.1-1

C3611 C2612

76830 1642

242 89340m^2

1300 1216 250

8

3.2

3.2.1

242

3

3

3.2.2

3.2-1

3.2-1

		1 1 2 3	1F 207m*73m*18.5m 16215m^2 15940m^2
		1 3 /	1F 3F 207m*74m*16m 15318m^2 15903m^2
		1 PBS 3 2 1	1F + 292m*66m*17.5m 22560m^2 21576m^2
			/
			/
		◯ 2 2.8MW ◯ 1 ◯ TNV	
		RTO 567.6m^3/h 227.04 m^3/a 2.1.7-2	
		1 50m^3/min 1 0.6MPa m^3/ . m^3/	
		1745.4m^3/d	
		10m^3/h 94% 68.36m^3/d	
		“ + + + RO +EDI” 75m^3/h 80% 461.29m^3/d 75% 27.16m^3/d	

			4801m^3/h 44.072m^3/h 1 900m^3/h 2 1633m^3/h 1 635m^3/h
		1 913.848m^3/d **2** UPVC DN200 **3** GB18918-2002 A	
		17767kW 1802.6 kWh·a	
		3.2-8	
		3.2-8	
		4F 5F 207m*12m*23m 26082m^2 107328m^2	
		1	
		1	
		440.87m^2	
		110	
		440	
		1	
		1 1	
		“ ” 1 2m^3/h “ + + ”	

		2			30m^3/h “ + + ”
		3			15m^3/h “ + +pH ”
		4 45m^3/h “ +pH + +A/O+ + + ” GB8978-1996 4			
					+1 +1 20m P1
					6 1
					PVC 1 +1 20m P2
					1 “ ” +1 18m P3
					+ 1 TNV 1# +1 18m P4
					+1 +1 18m P5
					1 “ + ” +1 18m P6
					1 “ ” RTO P7
					+ RTO +1 27m P7
					1 TNV 2# +1 18m P8
				SO_2 NOx	1 20m P9
					1 20m P10

			SO_2 NOx		
				1 TNV 3# +1 18m P11	
			1	1 18m P12	
			2	1 18m P13	
				+1 +1 20m P14	
			1	+1	1 18m P15
			2	+1	
			3	+1	
			1	1	1 “ + ” +1 20m P16
			2	2	
			3	3	
				1 “ + ” +1 18m P17	
				1 “ + ” +1 15m P18	
				1 20m P19	
				1 20m P20	
				1 20m P21	
				1 20m P22	
				+1 15m P23	
			NH_3 H_2S	+1 15m P24	
				RO	

			440.87m^2
		1 2 1	

2-2

1		m	16.1400	
			89340	
2			89340	
			0	
3		%	55.4	
			89340	
			89340	
4			89340	
			0	
			0	
			176070	
5			176070	
6		-	1.09	
		-	1.09	
7			53000	
8			11300	
9		%	7.0	
10		m	820	
11		%	0	≤7%
	:	%	0	≤2%
12		%	0	≤15%
			276	
13				

12m

7m

4.2-1

3.2.4

3.2-3 /a

	4	9000	
	5	6000	
		9000	
	6	6000	
	/	30000	/

4

5

6

3.2-4

	mm	5050×2080×2395
	mm	2960
	/ mm	195
	L	80
	kg	2265
		↓ ⅋ à ⅃ ˝ à Ồ ⅃ Ţ
		6 /MT
	(ps/rpm)	190/5000
	(N·m/rpm)	360/1600-2400
		6.5L
		≥150

3.2-5

mm	5990×2098×2645
mm	3570
/ mm	170
L	80
kg	

3.2-6

	mm	5300×2080×2160,2395
	mm	3360
	/ mm	190
	L	80
	kg	2250
	kg	1385
		6 /MT
	(ps/rpm)	139/4000
	(N·m/rpm)	310/1800-2800
		5.6L
		≥150

3.2-7

	mm	5990×2098×2645
	mm	3570
	/ mm	170
	L	80
	kg	2840
	kg	1795
		6 /MT
	(ps/rpm)	153/3200
	(N·m/rpm)	355/1800-2600
		6.5L
		≥130

53.76kwh **280km** **82.43kwh** **430km**

3.2.5

3.2-4

3.2-8

					t/a		
1				/	5.4	0.45	/
2				/	0.6	0.05	/
3				/	120	10	/
4				/	8	0.67	/
5	CO_2			/	5.85	0.5	/
6				CY-6E	69	1.36	250kg/ 0.4KG/
7				CY-1	12	0.24	430G/
8				CY-2	19	0.38	430G/
9				5016C GP 310ML	5	0.16	370G/
10		A		FC-E2091LMC	16	0.32	25kg/
11		B		FC-E2091LBC	6	0.12	25kg/
12				CT-8005CM	35	0.7	25kg/
13			A	CT-8005C	35	0.7	25kg/
14			B	CT-8005C	8.5	0.17	25kg/
15		pH		AJ-4762C			

20		/	/	0.03	0.0024	/	/	
21			TEROSON PV 8255Q	306	1.224	250kg/		
22		3C2B	FV8H-OD9A	78.3	0.31	180kg/		
23		2C2B	FH82-0A1A	136.1	0.54	180kg/		
24			FU8B-7B6A	214	0.856	180kg/		
25			SPO	83.214	0.33	180kg/		
26			SV08047A THINNER	7.236	0.03	180kg/		
27			LACS L805	3	0.2	25kg/		
28			SV13013A/160K-C1	30	0.12	180kg/		
29			SV99016A/170K-C1	30	0.12	180kg/		
30			AC 1000 J	18	0.36	180kg/		
30			/	60000L	1200L	1000L/		
31			/	354000L	7080L	1000kg/		
32			DOT4	30000L	600L	200L/		
33			ATF-	36000L	720L	209L/		
34			R134a	45	1	500kg/		
35			AUS32	360	7.2	1000kg/		
36			/	405000L	8100L	/	/	
37			/	405000L	8100L	/	/	

3.2-4

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

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3.2-7

3.2-6

	[redacted]			
1	[redacted]		LD_{50} 1500mg/kg 10.6mg/L 4h	LC_{50}
2	[redacted]	> 200 13500-16500mPa.s 1.16g/cm^3	4 4’ LD_{50} >2000mg/kg 2000mg/kg	LC_{50}
3	[redacted]		LD_{50} 1500mg/kg 10.6mg/L 4h	LC_{50}
4	[redacted]			
5	[redacted]	pH : 6.0±0.4 / 0 100 >93 1.03±0.05g/cm^3	4- -2-	208000mg/kg

6				[redacted]	**pH** : 6.0 / 0 100 94 1.03±0.05g/cm^3.		1- -2- 427700mg/kg 2- 141400mg/kg
7				[redacted]	pH 1.1 1.1 27		LD50 1400 mg/kg LD50 3654 mg/kg LD50 204 mg/kg LD50 370 mg/kg LD50 EUCLP 1- 2 LC50 0.79-1.915 mg/L(1h) LD50 68 mg/kg LD50 EUCLP 3- 4 LC50 EUCLP 2- 3
8			A	[redacted]	pH 1.5 1.1 27		LD50 68 mg/kg LD50 EUCLP 3~ 4 LC50 EUCLP 2~ 3 LC50 0.17mg/L(4h) LC50 0.22mg/m^3(4h) LC50 0.16 mg/L(4h) LC50 0.16 mg/L(4h)
9			B	[redacted]	pH 2.2 1.1 27		LD50 3654mg/kg LD50 204mg/kg LD50 370mg/kg

122

kPa 5.5mg/Hg

10 pH [redacted] pH 1 =1 HNO_3LC50 67 ppm/4hr

=1

11 [redacted] 1 LD50>5.000mg/kg

1.5g/cm^3

2000.000mPa.s

12 [redacted]

14			B	[redacted]			LD50 1870mg/kg LD50 273mg/kg LD50 2000mg/kg
15			3C2B	[redacted]	pH 7.9-8.3 100.00-199.00 100 1.190g/cm^3	/	:2 :5 ( ) :3 :5 ( ) :5 ( ) 2-( ) :3 :3 (-) :4 ( ) :4 ( ) 2- :4 :4 (-) :4 ( ) :4 ( ) 2,4,7,9- -5- -4,7- :4 :4 (-) :4 ( ) :4 ( ) 1- -2- :3 :5 ( ) polypropylene glycol

							: 4
16							
17			2C2B	[redacted]	62 1.100g/cm^3	/	: 2 : 3 (-) : 3 ( ) : 3 ( ) 2- : 4 : 5 ( ) : 4 (-) 1- -2- : 3 : 5 ( ) 2-( ) : 3 : 3 (-) : 4 ( ) : 4 ( ) 2- : 4 : 4 (-) : 4 ( ) : 4 ( ) 1- -2- : 3 : 5 ( ) , C11-15 : 4

							: 4 : 5 ( )
18				[redacted]	pH 8.0-8.5 100.00- 199.00 63 1.250g/cm^3		1- -2- : 3 : 5 ( ) 2-( ) : 3 : 3 (-) : 4 ( ) : 4 ( )
19				[redacted]	pH :8~8.5 65-250 >25 9Torr/20 0.90-1.00g/cm^3 >370		LD50 LC50 A LD50 4360mg/Kg LC50 8000ppm/4hr
20				[redacted]	22 44 0.882g/cm^3		/
21				[redacted]	**pH** **/**		: : > 5.000 mg/kg : : > 40 mg/l

				[redacted]	126 138-145 117-118 4- -2- 136 146 - 1- -2- 155- 217 31 7% 7.6% 7.5% 4- -2- 7.0% -1- -2- 6.7% 6.0% 1% 1.2% 1.4% 4- -2- 1.5% -1- -2- 1% 0.7% 0.91-0.97g/cm^3 / /		: 4 h : : : > 5.000 mg/kg
22				[redacted]	100 36 20 0.860g/cm^3 >200		/ 3,430 mg/kg (402)

					36g/cm^3		
23				[redacted]	pH 8.0 1000 61 20 0.950g/cm^3		( ): 4,396mg/kg 2-( ) ( ): 1,183mg/kg 1- -2- ( ): 3,300 mg/kg 2-( ) ( ): 6.1mg/l 1641 ppm 4 h ( ): 2,764mg/kg
24				[redacted]	1.26-1.32g/cm^3 6700000mPa.s		-4,4'- LD50> 2,000 mg/kg LD50 > 9,400 mg/kg 1- -2-[(4-)] LD50> 2,000 mg/kg LD50 > 9,400 mg/kg

3.1.4.4

3.1.4.4.1

MSDS

PVC

VOCs

1

1

“ ” 1.54g/cm^3

“ ”

100 0-5 2.5

1.060-1.260g/ml 1.16g/ml 1.16g/ml

VOC 409g/L

35.3%

monocoat

monocoat 1-3% 2%

1.10-1.30g/cm^3 1.2g/cm^3

1.2g/cm^3 VOC 272g/L

22.7%

◯ VOC 152g/L

1.275g/ml 11.9%

11.5:1

11.5:1

(VOC) 432g/L 0.90-1.00g/cm^3

0.95g/cm^3 0.882g/cm^3

0.94g/cm^3 45.96%

VOCs GB24409-

2020 480g/L MSDS 0.91-0.97g/cm^3

0.94g/cm^3 VOCs 51.09%

VOCs

850g/L

MSDS

0.950g/cm^3 VOCs 208g/L 21.9%

PVC

MSDS

≥98% 1.40g/cm^3 98%

2% VOCs 28g/L

MSDS >97% 1.35g/cm^3

97% 3% VOCs

40.5g/L

VOCs

MSDS

3.1.4-4 VOCs

		g/cm^3	%	VOCs g/L
		1.54	1.2	18.48
		1.53	0.4	6.12
		1.43	0.9	12.87
		1.16	1	11.6
		1.1	3.09	34
		1.16	35.3	409
	monocoat	1.2	22.7	272
		1.275	11.9	152
		0.94	45.96	432
		9.4	51.06	480
		0.86	100	850
		0.950	21.9	208
		1.40	2	28
		1.35	3	40.5

3.1.4.4.2 VOC

“2.1.4.4.1 ”

VOC

3.1-5 VOC

		VOCs	GB24409-2020		GB/T38597-2020	GB38508-2020	GB33372-2020	
		34	≤250	≤250	≤200	/	/	
		409	≤530	≤530	≤420	/	/	
	Monocoat	272	≤530	≤530	≤420	/	/	
		152	≤350	≤350	≤300	/	/	
		432	≤500	≤550	≤480	/	/	
		480	≤480	/	/	/	/	
		208	/	≤300	/	≤300	/	
		850	/	≤900	/	≤900	/	
		28	/	/	/	/	≤250	
		40.5	/	/	/	/	≤250	

3.1.4.5

$$m=\rho\delta s\eta\times10^{-6}/\quad NV\cdot\varepsilon$$

m— t

ρ— g/cm^3

δ— μm

s— m^2

η— %

NV— %

ε— %

- E

VOCs

3.1-6

			s m^2/ ①	m^2 ②	ρ g/cm^3	δ μm ①	NV % ③	ε %	t/a
			:45 :63 :72	540	1.1	20 10 8	21	99.5	332.6
			52	78	1.16	15	28-35	55	78.3
	(monocoat)		52	78	1.2	40	45-55	55	136.1
			52	156	1.275	30	50.7	55	214
			52	78	0.94	40	54.04	60	90.45

① 40m²/ 12m²/

② monocoat 1

1 150000 /a monocoat

③

3.2.6

3.2-7

			)	)	
1			283	7	
2		110KVA	14	10	
3		15KW	0	2	
4			0	6	
5		150KVA	215	10	
6			3	0	
7	WBS		1	0	
8	WBS		28	12	
9			5	3	
10			5	1	
11			4	0	
12		300KG	8	2	
13		/	4	0	
14		200KN	2	0	
15		16T	1	0	
16		5/55	12	0	
17			1	1	
18		100A	19	0	
19			2	1	
20		/	18	0	
21			1	0	
22		150KVA	8	0	
23			1	1	
24			1	1	
25		/	1	1	
26		/	0	2	
27		/	0	9	
28			637	69	
1	( )		0	1	
2			0	1	
3			0	1	
4			0	1	
5			0	1	

6			0	1	
7			0	1	
8			0	1	
9			0	10	
10			1	0	
11			0	1	
12			0	2	
13			6	10	
14			9	25	
15			0	1	
16			0	1	
17			0	1	
18			0	1	
19			0	1	
20			0	1	
21			0	3	
22			0	1	
23			0	1	
24			0	1	
25			0	1	
26			0	3	
27			0	1	
28	AUDIT		0	1	
29			0	1	
30	/		0	1	
31			0	1	
32			16	77	
1		+	0	1	
2	1 /2	8m	0	1	
3	1 /2	7m	1	0	
4		8m	1	0	
5	OK	8m	1	0	
6	1		1	0	
7		6.3m	1	0	

8			1	0	
9			1	0	
10			1	0	
11			1	0	
12			1	0	
13	/		0	1	
14			0	1	
15			1	0	
16			11	4	

3.3

3.3.1

1

1

DN250

1745.4m^3/d 43.6 m^3/a

2

10m^3/h 94% 68.36m^3/d 17090m^3/a

3

75m^3/h 80% + + + +EDI+ 461.29m^3/d 27.16m^3/d

4

4

4801m^3/h 61.2m^3/d 1 900m^3/h 2 1633m^3/h 1 635m^3/h

2.1.7-2

			m^3/h	
1		1	900	32/37
2		2	3266	32/37
3		1	635	32/42

2

$2m^3/h$ + +

$30m^3/h$ + +

$15m^3/h$ + +pH

$45m^3/h$ +pH +

+A/O+ + +

GB8978-1996

4

$913.848m^3/d$

3.3.3

10kV 1802.6 kW·h

3.3.4

2.1.7-3

1				
2				
3				
4				
5			RTO	
6			TNV	

3.3.5

3.3.5.1

567.6m^3/h 227.04 m^3/a

2.1.7-4

2.1.7-4

		m^3/h	H	m^3/a	
		290*2	4000	116*2	2
	TNV	176.5	4000	70.6	1
	TNV	117.6	4000	47.04	1
1		23.5	4000	9.4	1
		58.8	4000	23.52	1
	TNV	141.2	4000	56.48	1
	RTO	50	4000	20	1
2		567.6	/	227.04	/

!

1218kw 7

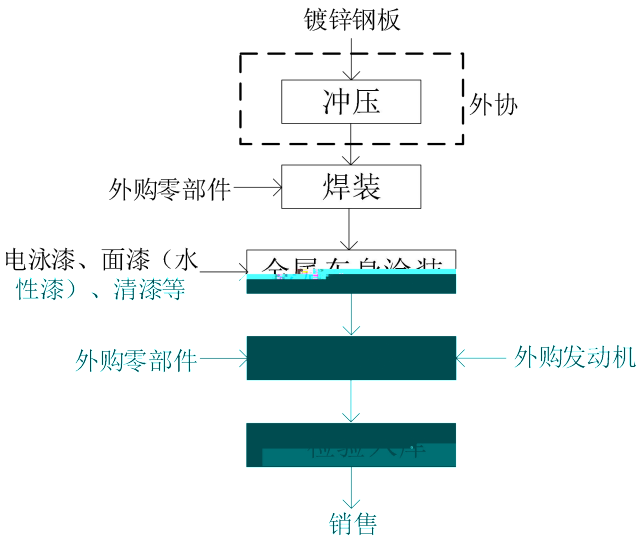
12

3.3.7

1 $12m^3$ 3

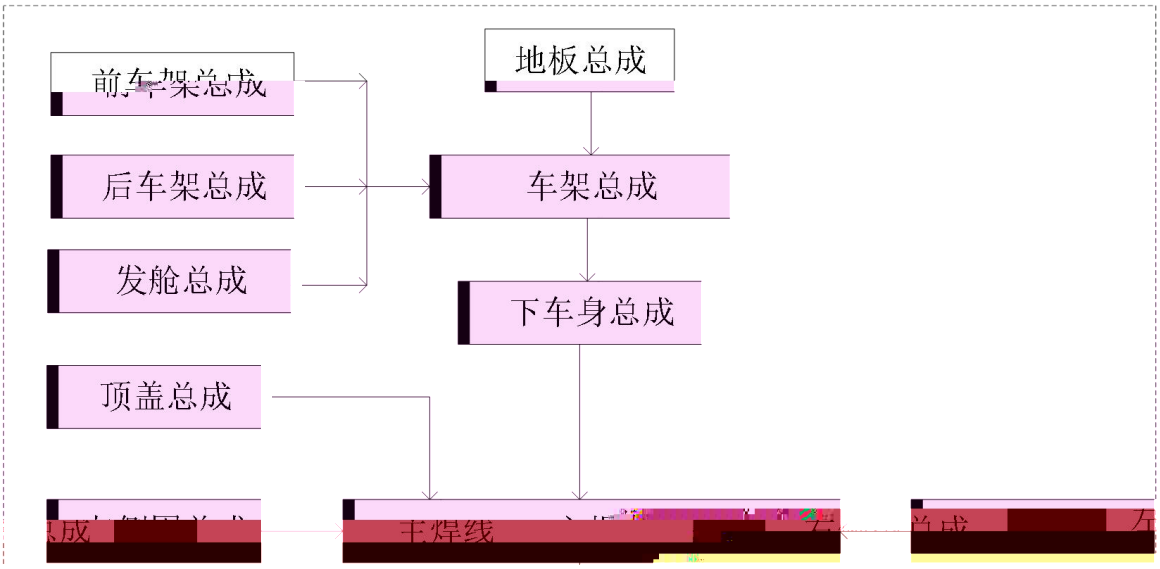
3.5

3.5.1



3.5-1

3.5.3


前车架总成
地板总成
后车架总成
车架总成
发舱总成
下车身总成
顶盖总成
主焊线

G1-1:
G1-2:
S1-1:
S1-2:
S1-3:
N:
G1-3:
涂装车间

4.5-3

/ /

/

3.1.2-1

CO_2

4.5-3

	mm	mm	mm
	5990	2098	2645
	6900	2500 2350	2800

3C2B

4.5-4

	m^2/	μm/	m^2/	μm/
	45	18-22 8-12 6-10	40	35 3C2B 15 2C2B 40 40
	63		12	
	72			
	180	/	52	/

1

4.4-5 4.4-5

3.1.3-2

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3.1.3-3

	W2-2	1 /	pH COD SS LAS	
	W2-3	1 /3	pH COD SS LAS	
	W2-1	1 /	pH COD SS LAS	
1	W2-4		pH COD SS LAS	
1	W2-5	1 /3	pH COD SS LAS	
2	W2-6	1 /	pH COD SS LAS	
1	W2-7	1 /	pH COD SS LAS	
	W2-8	1 /3	pH COD SS TN	
2	W2-9		pH COD SS TN	
2	W2-10	1 /	pH COD SS TN	
3	W2-11	1 /	pH COD SS TN	
4	W2-12	1 /	pH COD SS TN	
	W2-13		pH COD SS TN	
	N		75~90dB A	

	S2-1			
	S2-2			
	S2-3			

1

UF

4

4.5-6 4.5-6

3.1.3-4

4.4-6

[redacted]

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3.1.3-6

	G3-1			“ ”+18m
	G3-2			TNV +18m
	G3-3		SO_2 NOx	
	G3-4			+PVC 98% 99% 1 18m
	W3-1	1 /	pH COD SS	
	W3-2	1 /		
	UF1 W3-3	1 /		
	UF2 W3-4	1 /		
	UF3 W3-5	1 /		
	5 W3-6			
	5 W3-7	1 /		
	W3-8			
	N		75-90dB A	
	S3-1			
	S3-2			

3

4.4-7 4.4-7

[redacted]

[redacted]

4.5-7

	G4-1			“ + ”+18m
	N		75-90dB A	
	S3-3-1			
	S3-3-2			
	S3-3-3	/		

4

3C2B 2C2B monocoat 2C2B

→ → → monocoat → 2C2B

2C2B

3C2B → →

→ → → →

50%

1 1

4.1-9

4.4-8

4.5-9

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4.5-8

	G5-1				“ ” +18m
	G5-2				“ ” +18m
	G5-3				+ + +RTO+27m
	G5-7				
	G5-8				
	G5-10				
	G5-4 1#TNV G5-5				1#TNV+18m
			SO_2 NOx	1 18m	
	G5-6				+1 18m
	/ G5-11				2#TNV+30m
	G5-9		SO_2 NOx	1 18m	
	G5-12			3 + 1 18m	
	G5-13			3	

				“ + ” +18m
	G5-14			“ ” +18m
	N		75-90dB A	
	S5-1			
	S5-2			
	S5-3			
	S5-4			
	S5-5			
	S5-6			
	S5-7			

4.5.5

4.5-10

4.5-10

4.5-11

4.5-12

4.5-9

W6-1	COD SS			
G7-1		NOx	1	20m
G7-2		NOx	1	20m
G7-3		NOx	1	20m
G7-4		NOx	1	15m
G7-5		“ + ”+1	15m	
N				

3.2.2

HJ 1097-2020 E

3.2.2-1

3.2.2-1

1						35%
						65%
2						55%
2				/		1%
4						65%
5						14%
6						20%
7						45%
8				/		1%
9						75%
10						14%
11						10%
12						60%
13				/		1%
14						60%
15						14%
21						25%
22						50%
23				/		1%

24						70%
25						14%
26						15%
27						0
28						70%
29						30%

1%

3.2.2-2 m^3/h

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	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

4.6-1 3 /a t/a

4.6-4 t/a

4.6-2 3C2B 1.5 /a t/a

4.6-2 2C2B monocoat 1.5 /a t/a

4.6-2 **3 /a t/a**

4.6-3 **t/a**

4.6-5 **t/a**

3.2.2-3 3 /a t/a

	t/a				t/a
	307.78				69.497
	29.88				0.486
					0.206
					1.063
					0.156
					3.84
					0.35
					252.48
			90%		3.173
			“TNV ” 98%		6.415
	337.66				337.66

3.2.2-4 3 /a t/a

	t/a				t/a
	306				596.7
PVC	306				0.15
					0.0306
		“ + ” 90%			1.349
					13.77
	612				612

3.2.2-5 1 3C2B 1.5 /a t/a

		t/a				t/a
		78.3				72.73
		24.665				0.54
		27.64				5.21
		25.995				69.529
		107				1.101

		54.249				1.839
		12.733				51.264
		40.018				2.158
		90.45				0.722
		48.879				31.5
		41.57	RTO 91.8%			58.529
		15	TNV 98%			25.037
		0.986				
		14.014				
		30				
		320.75				320.75

3.2.2-5 2 monocoat 1.5 /a t/a

		t/a				t/a
		136.1				67.264
		68.05				0.539
		30.89				3.069
		37.16				80.693
		107				1.101
		54.249				0.892
		12.733				51.237
		40.018				2.157
		15				0.385
		3.285				10.5
		11.715	RTO 91.8%			26.404
			TNV 98%			14.244
		258.1				258.2

3.2.2-5 3 /a t/a

		t/a				t/a
monocoat		136.1				139.995
		68.05				1.079
		30.89				8.897
		37.16				150.221

78.3		78.3				2.202
		24.665				3.005
		27.64				102.501
		25.996				4.316
		214				1.107
		108.498				42
		25.466	RTO 91.8%			88.828
		80.036	TNV 98%			48.35
		90.45				
		48.879				
		41.57				
		30				
		6.57				
		23.43				
		30				
		13.77				
		592.6				592.5

3.2.2-6 t/a

		t/a				t/a
		1				0.221
		0.49				0.00264
	VOCs	0.511				0.05
						0.00441
						0.0102
				“ + ”		0.262
				99% 90%		0.45
		1				1

3.2.2-7 t/a

		t/a				t/a
		2				0.441
		0.979				0.00528
	VOCs	1.021				0.1

					0.00881
					0.0204
			“ + ”		0.523
			99% 90%		0.9
	2				2

3.3

3.3.1

3.3.1.1

G1-1

G1-2 G1-3

							t/a
		4.2	10000		0.039	95% 97% 1 20m	0.0011

CO_2 1.8t/a

0.0185t/a

2

3.3.1-7

	t/a	*	t/a	kg/h
	69	1.2%	0.828	0.207
	12	0.4%	0.048	0.012
	19	0.9%	0.171	0.043
	5	1%	0.05	0.0125
	105	/	1.097	0.274

=100%- “ ”

MSDS

1.097t/a

3

1

8.5m×3m×4m

+PVC

2021

24 “ ”

3.3.1-32

						8500 / -

							2.19 / -

3.3.1-33

		t/a	m^3/h		t/a		t/a	t/a
		2310	12000		5.05	PVC 98% 99% 1 20m	0.049	0.101

3.3.1.2

1

HJ1097-2020

“ ” “3.2 ” “ ”

3.3.1-8

			m^3/h		t/a		(t/a)
			18000		3.597	“ ” 98% 90% 1 18m	0.353
			8500		6.68	+ 98% 98% “TNV ” 1 18m	0.131
			/		0.206	/	0.206

2

1

PVC

PVC PVC VOCs

2% 3%

10%

3C2B 2C2B

3.3.1-9

			t/a	m^3/h		t/a		(t/a)
			612	45000		1.53	“ + ” 98% 90% 1 18m	0.15
			/	/		13.77		/
			/	/		0.0306	/	0.0306

3

monocoat

3C2B monocoat - - -

2 2 3C2B

- - - - 3 2

2 1 monocoat

50%

3 /a 1.5 /a 2C2B 1.5 /a

3C2B 1 2C2B

3C2B

G5-1 G5-2

G3-3 G5-3 G5-

6 G5-7 G5-9

G5-11 G5-14 G5-15

1

1

HJ1097-2020 “ ” “3.2 ” “ ”

3.3.1-10

			m^3/h		t/a		(t/a)
			9600		0.84	“ ” 98% 90% RTO	0.0823
			9600		0.416		0.0407
			161865		64.601	+ 98% 98% + 95% “ ” 93% RTO 98% 1 27m	7.907 1.079
					49.54		
					10.971		
					8.195		
					24.942		
					44.039		
			11000		33.448	+ “2#TNV ” 98% 98% 1 18m	0.669
			12000		15.888	+ “3#TNV ” 98% 98% 1 18m	0.318
	RTO		/		0.0572	27m	0.0572
				SO_2	0.08		0.08
				NOx	0.187		0.187
		/	/		0.0168	/	0.0168
			/		0.00831	/	0.00831
			/		1.092	/	1.092

			/		0.99		0.99
			/		0.164	/	0.164
			/		0.499	/	0.499
			/		0.88		0.88
			/		0.219	/	0.219
			/		0.682	/	0.682
			/		0.324	/	0.324

2

3

18% 0.25m²/

2t

HJ1097-2020

“ ” “3.2 ” “ ”

3.3.1-11

				(m³/h)		(t/a)		(t/a)
		1		44550		0.34	“ + ”	0.017
						0.18	98% 99% 90% 1 18m	0.00088
		2		44550		0.34	“ + ”	0.017
						0.18	98% 99% 90% 1 18m	0.00088
		3		44550		0.34	“ + ”	0.017
						0.18	98% 99% 90% 1 18m	0.00088
			/	/		0.0204	/	0.0204
						0.00881		0.00881

3

MSDS VOCs 0.5%

18t/a

3.3.1-12

(m³/h) (t/a)

4

1

1 28m×5.5m

+PVC

2021 24

“ ” 3.3.1-32

3.3.1-33

		t/a	m^3/h		t/a		t/a	t/a
		7635	55440		13.38	+PVC 98% 99% 1 18m	0.13	0.27

2

2 1

A B 15m×5.5m *2

+PVC

2021 24

“ ” 3.3.1-32

3.3.1-33

		t/a	m^3/h		t/a		t/a	t/a
		7635	23760		13.38	+PVC 95% 99% 3 1 15m	0.13	0.27

3

3

7.5m×5.5m *3 +PVC

2021 24

“ ” 3.3.1-32

3.3.1-33

		t/a	m^3/h		t/a		t/a	t/a
1		3181	14850		6.97	+PVC 98% 99% 1 15m	0.068	0.14
2		3181	14850		6.97	+PVC 98% 99% 1 18m	0.068	0.14
3		3181	14850		6.97	+PVC 98% 99% 1 18m	0.068	0.14

3.3.1.3

HJ1097-

2020 15 16

柴油（燃气）整车检测试验和柴油（燃气）发动机出厂检测和性能研究发试验[illegible]

化物产生量采用式（15）、（16）计算。

$$D=R_k\times Q\times 10^{-3} \quad (15)$$

$$Q=\gamma\times(S\times P \quad (1$$

式中：D—核算时段内废气污染物产生量，kg；

R_k—柴油（燃气）发动机检测试验氮氧化物产污系数，取 8.0g/kW•h；

Q—柴油发动机检测试验核算时段内试验工作量，kW•h；

γ—柴油（燃气）发动机检测试验工[illegible]平均负荷系数，γ=0.40；

S—柴油（燃气）发动机核算时段检测试验量，台；

P—柴油（燃气）发动机最大输出功率，kW；

t—每台柴油（燃气）发动机试验时间，h。

4.7-21

	Rk g/kW·h	γ	S	P kW	T h
	8.0	0.40	20000	190	0.025

4.7-22

t/a

	NOx			
P19	0.304	0.2	0.014	20m 15000m^3/h
P20	0.304	0.2	0.014	20m 15000m^3/h
P21				

1

8% 1.0m²/

2t

HJ1097-2020

“ ” “3.2 ” “ ”

3.3.1-13

			(m³/h)		(t/a)		(t/a)
			20000		1	“ + ” 98% 99% 90% 1 15m	0.00528
					0.528		0.1
			/		0.0204	/	0.0204
					0.00881		0.00881

3

HJ1097-2020 15 16

4.7-23

	Rk g/kW·h	γ	S	P kW	T h
	8.0	0.40	20000	190	0.025

4.7-24

		t/a			
		NOx			
P22		0.304	0.2	0.014	15m 15000m³/h

HJ971-2018 11

3.3.1.4

1

RTO TNV

NOx

HJ953-2018 ”

3.3.1-48

/	2.86 / -		
/	0.02S / -		HJ953-2018
	9.36 / -		

NOx

HJ953-2018 ”

3.3.1-50

/ /			2.86 / -	HJ953-2018
			0.02S / -	
			9.36 / -	

S

S / S 200 / S=200

3.3.1-51

3.3.1-51

	(t/h)	( )	(m3/a)	t/a	SO2 t/a	NOx t/a	(m^3/h	
	4	2	232	0.66	0.928	2.17	6960	P

3

440.87m^2

575.93t/a VOCs

0.36t/a 5

/h 28m*15m*6m 12600m^3/h

90%

90% 0.0324t/a 6000 0.0054kg/h

0.43mg/m^3 1 15m 0.036t/a

4

NH_3

H_2S

NH_3 H_2S

NH_3 H_2S

NH_3 H_2S

4.7-27 NH_3 H_2S

	NH_3 mg/s·m^2	H_2S mg/s·m^2
	0.02	1.2×10^{-3}

1190m^2

$NH_3$0.02(mg/s·m^2) H_2S1.2×10^{-3}(mg/s·m^2)

(GB14554-93) 1 1.5mg/m^3

0.06mg/m^3

4.7-28

		t/a	kg/h		t/a	kg/h
NH_3		0.68	0.086	95% 90%	0.0646	0.013
H_2S		0.041	0.0051		0.0039	0.001

3.3.1.12

3.3.1-54

m^3/h		/	mg/m^3	kg/h	t/a						mg/m^3	kg/h	t/a	h	mg/m^3	kg/h
10000	P1	H:20m Φ:0.5m	1.95	0.0195	0.039	+	95%	1	97%		0.055	0.00055	0.0011	2000	120	5.9

45000	P6	H:18m Φ:1.0m	8.5	0.383	1.53	98%	1	“	+	0.83	0.0375	0.15	4000	120	14.2
							”	90%							
			21.875	0.21	0.84			1	“						
									”						
9600*2						98%				12.4	2	8.03		120	42.2
								90%	RTO						
	P7	H:27m Φ:2.2m											4000		

	2#TNV				SO_2	4.32	0.0475	0.19		4.32	0.0475	0.19		200	/	
					NOx	10	0.11	0.44		10	0.11	0.44		50	/	
		2200	P9	H:18m Φ:0.24m		7.61	0.0168	0.067		7.61	0.0168	0.067	4000	30	/	
					SO_2	10.68	0.0235	0.094		10.68	0.0235	0.094		200	/	
					NOx	25	0.055	0.22		25	0.055	0.22		50	/	
		1000	P10	H:18m Φ:0.16m		7.5	0.0075	0.03		7.5	0.0075	0.03	4000	30	/	
					SO_2	9.4	0.0094	0.0376		9.4	0.0094	0.0376		200	/	
					NOx	22	0.022	0.088		22	0.022	0.088		50	/	
		12000	**P11**	H:18m Φ:0.5m		331	3.972	15.888	+ 98% 1 “RTO ” 98%	6.625	0.0795	0.318	4000	120	14.2	
						3.375	0.0405	0.162		3.375	0.0405	0.162		30	/	
					SO_2	4.79	0.0575	0.23	/	4.79	0.0575	0.23		200	/	
					NOx	11.04	0.133	0.53		11.04	0.133	0.53		50	/	
	1	3480	P12	H:18m Φ:0.3m		11.85	0.0825	0.33	-	11.85	0.0825	0.33	4000	20	/	
					SO_2	16.67	0.116	0.464		16.67	0.116	0.464		50	/	
					NOx	38.97	0.27	1.085		38.97	0.27	1.085		50	/	
		3480	P13	H:18m Φ:0.3m		11.85	0.0825	0.33	-	11.85	0.0825	0.33	4000	20	/	
					SO_2	16.67	0.116	0.464		16.67	0.116	0.464		50	/	
					NOx	38.97	0.27	1.085		38.97	0.27	1.085		50	/	
		23760	P14	H:18m Φ:0.8m		140.78	3.345	13.38	+PVC	1.37	0.0325	0.13	4000	120	5.04	

									98% 99%									
	1	14850	P15	H:18m Φ:1.0m		117.34	1.74	6.97	1 +PVC 98% 99%	1	2.4	0.105	0.42	4000	120	5.04		
	2	14850				117.34	1.74	6.97	2 +PVC 98% 99%									
	3	14850				117.34	1.74	6.97	3 +PVC 98% 99%									
	1	44550	P16	H:18m Φ:1.8m		0.0025	0.111	0.167	1 98%	1 “ + ” 90% 99%		0.25	0.033	0.05	4000	120	14.2	
						1.32	0.059	0.088										
	2	44550				0.0025	0.111	0.167	2 98%									
						1.32	0.059	0.088										
	3	44550				0.0025	0.111	0.167	3 98%			0.0132	0.00176	0.00264	4000	120	5.04	
						1.32	0.059	0.088										
		31680	P17	H:18m Φ:1.0m		0.71	0.0225	0.09	98% 1 “ ” 90%		0.069		0.0022	0.0088	4000	120	14.2	

		20000	P18	H:15m Φ:0.7m		33.3	0.67	1	98% 1 “ + ” 90% 99%	0.176	0.00352	0.00528	1500	120	10	
						17.6	0.352	0.528		3.33	0.067	0.1		120	3.5	
		15000	P19	H:20m Φ:0.6m		1.87	0.028	0.014		1.87	0.028	0.014	500	120	17	
						26.7	0.4	0.20		26.7	0.4	0.20		120	5.9	
					NOx	40.5	0.608	0.304		40.5	0.608	0.304		240	1.3	
		15000	P20	H:20m Φ:0.6m		1.87	0.028	0.014		1.87	0.028	0.014	500	120	17	
						26.7	0.4	0.20		26.7	0.4	0.20		120	5.9	
					NOx	40.5	0.608	0.304		40.5	0.608	0.304		240	1.3	
		15000	P21	H:20m Φ:0.6m		1.87	0.028	0.014		1.87	0.028	0.014	500	120	17	
						26.7	0.4	0.20		26.7	0.4	0.20		120	5.9	
					NOx	40.5	0.608	0.304		40.5	0.608	0.304		240	1.3	
		15000	P22	H:15m Φ:0.6m		1.87	0.028	0.014		1.87	0.028	0.014	500	120	10	
						26.7	0.4	0.20		26.7	0.4	0.20		120	3.5	
					NOx	40.5	0.608	0.304		40.5	0.608	0.304		240	0.77	
		12600	P23	H 15m Φ 0.5m		2.4	0.072	0.36	90%	0.44	0.03	0.18	6000	120	10	
		20000	P24	H 15m	NH_3	6.8	0.136	0.68		0.65	0.013	0.0646	5000	/	4.9	

				Φ 0.7m	H_2S	0.41	0.0082	0.041	95%	90%	0.05	0.001	0.0039	5000	/	0.33	
4.02t/a 9.806t/a SO_2 4.61t/a NOx 5.511t/a NH_3 0.0646t/a H_2S 0.0039t/a																	

4.6-29

3.3.1-55

			m	m	m	h		t/a	kg/h
3						2000		0.0185	0.00925
			207	73	18.5	4000		1.097	0.27
4						4000		0.101	0.025
0.12t/a 1.097t/a									
9						4000		0.072	0.018
10						4000		0.134	0.0335
						4000		0.27	0.0675
						4000		0.0306	0.00765
13						4000		0.0168	0.0042
14			207	74	16	4000		0.00832	0.00208
15						4000		1.092	0.273
16						4000		0.99	0.25
						4000		0.164	0.041
19						4000		0.499	0.12

20						4000		0.88	0.22
21						4000		0.219	0.055
24						4000		0.682	0.17
						4000		0.324	0.081
25						2000		0.0102	0.005
26						2000		0.221	0.11
27						4000		0.0018	0.00045
2.31t/a 3.25t/a									
34			292	66	17.5	4000		0.0102	0.00255
35						4000		0.00441	0.001
0.00441t/a 0.0102t/a									
36			28	15	6	6000		0.036	0.006
0.036t/a									
			35	34	5	5000	NH_3	0.034	0.0068
							H_2S	0.00205	0.00041
NH_3 0.034t/a H_2S 0.00205t/a									
2.434t/a 4.393t/a 0.416t/a NH_3 0.034t/a H_2S 0.00205t/a									

3.3.1.13

“

+ +RTO ”

“ + +RTO

” 50% 20 /

3.3.1-56 P

4.7

“3 / ”

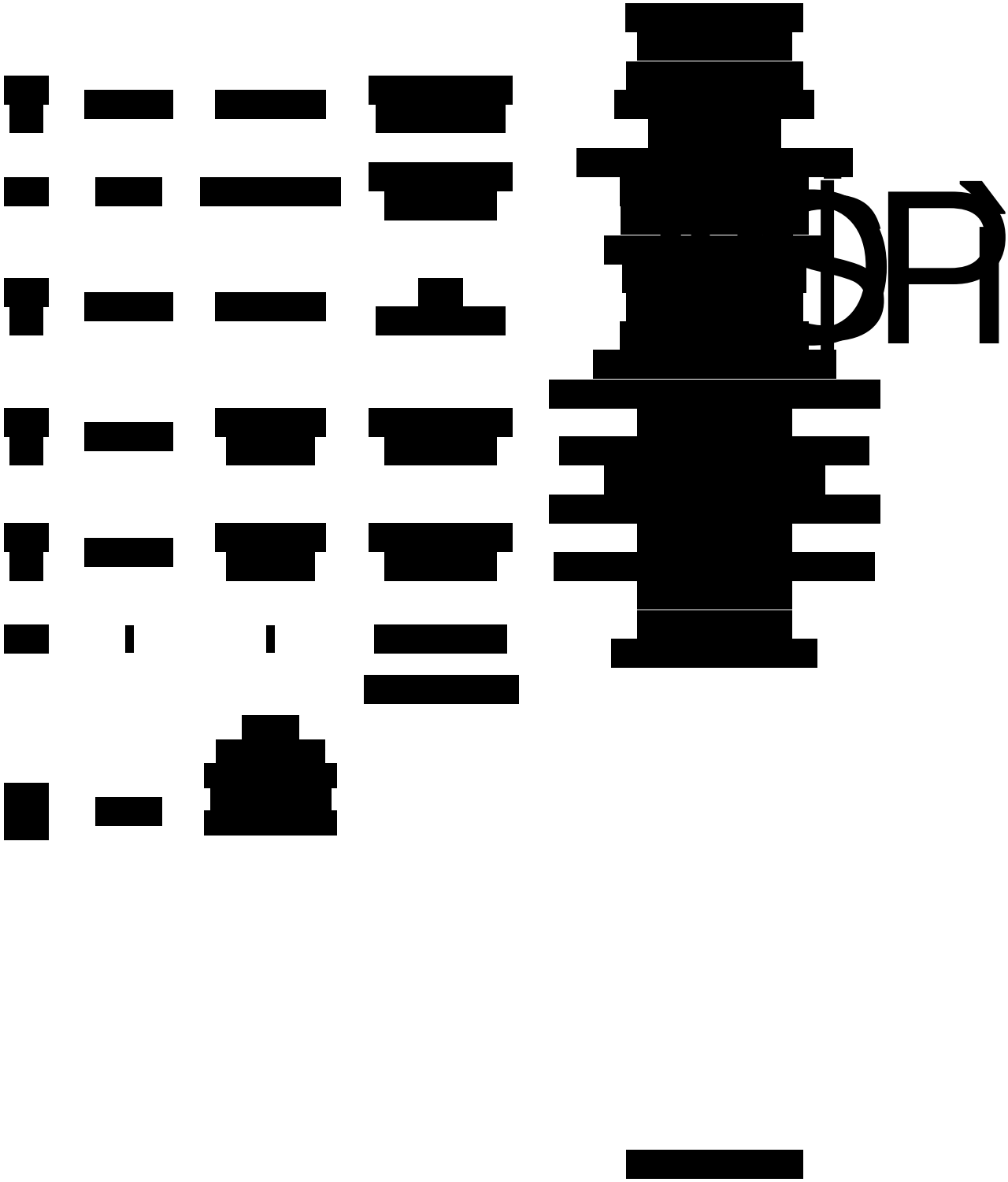
4.7.1

1

1

4.7-1

4.7-1



5m^3/

30m^3/

◯

1.25m^3/h

23.5m^3/d

2

50m^3 50m^3/

10m^3/d 2500m^3/a

CODcr100mg/L

2

1

2.1.7-2

Qm=QeN/ N-1

Qm—

Qe—

N— 5-6

Qw=0.1%Q

Qw—

Qe=K tQ

K— 1/ 22 K=0.00142 32 K=0.00153

t—

Q— m^3/h

3.3.2-5

	m^3/h	m^3/h	m^3/h	m^3/h	m^3/h
	900	8.262	6.885	0.9	0.477
	3266	29.98	24.98	3.266	1.734
	635	5.83	4.858	0.635	0.337
	4801	44.072	36.723	4.801	2.548

2

2 2.8MW 4t/h 240t/h

3%-5% 5%

3.3.2-6

	t/h		m^3/h	t/d	t/d	t/d
	4	2	240	3.84	2.56	6.4

16

3

$$q = \frac{3000(1+0.76\lg P)}{(t+14)^{0.84}}$$

q (L/S·ha) P (a) t (min)

t=120min P=1a 49.02L/S·ha

Q=q×φ×F

Q (L/s) q (L/S·ha) φ 0.9

F (hm^2)

34500m^2 15min

242m^3 500m^3

4

1300 120L/

156m^3/d 39000m^3/a 0.9

140.4m^3/d 35100m^3/a CODCr BOD_5 NH_3-N SS

CODCr350mg/L $BOD_5$120mg/L NH_3-N30mg/L SS200mg/L

20mg/L

5

79909m^2 2L/ m^2· 12

1917m^3/a 7.7m^3/d 250

30% 575.1m^3/a 2.3m^3/d 250

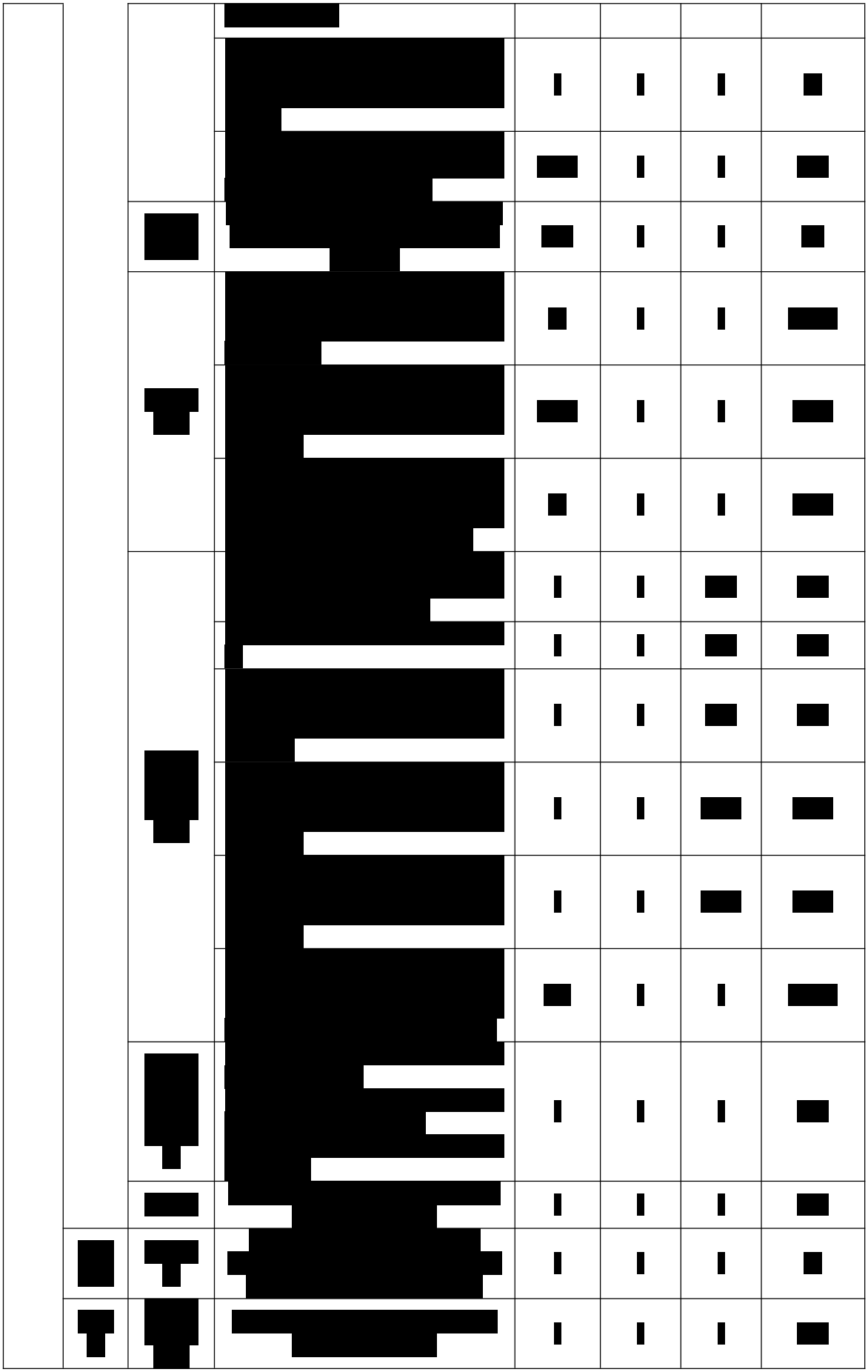
COD SS

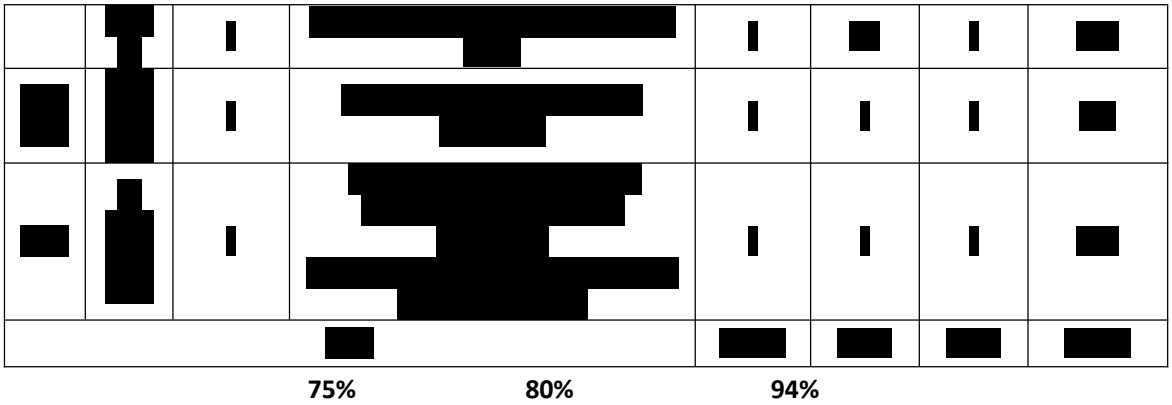
6

19500m^2 1L/ m^2·d 100

1950m^3/a 7.8m^3/d 250

4.7-3





4.7-1 **m^3/d**

4.7-4

4.7-4

				m^3/d	pH	COD_{Cr}	SS		TN	Zn			LAS
					pH					mg/L			
W2-1				30	7-11	1500	300	/	/	/	/	500	40
W2-2				2.13	9-12	5000	1000	/	/	/	/	1000	60
W2-3				0.33									
W2-4/5			/	66	7-11	2200	250	/	/	/	/	500	40
W2-6				65									
W2-7				17.14									
W2-8				0.33	4-6	3000	600	/	100	40	100	/	/
W2-9/10				86	4-6	1500	400	/	50	20	20	/	/
W2-11				18.57									
W2-12				57.5									
W2-13				8									
W3-1/2				0.5	5-6	8000	5000	/	/	/	/	60	/
W3-3		UF1		0.02	6-7	1000	300	/	/	/	/	40	/
W3-4		UF2		0.02									
W3-5		UF2		0.02									
W3-6/7				206									
W3-8				8									
/				23.5	7-10	3000	1000	/	/	/	/	/	/
/				4.36	6~9	80	60	/	/	/	/	/	/
/				124.4	6-9	80	60	/	/	/	/	/	/

W6-1				10	7~9	200	100	/	/	/	/	10	/
/				40.768	6-9	80	60	/	/	/	/	10	/
/				2.56	6~9	80	60	/	/	/	/	/	/
/				140.4	6-9	400	200	45	/	/	/	/	/
/				2.3	6-9	500	400	/	/	/	/	40	/
t/a				913.848	6-9	152.96	35.79	0.936	1.62	0.65	0.65	18.069	1.354

4.7.2

1 900m^3/d 45m^3/h 20h

1

“ + + ” “ +

+ ”

2

“ + +pH ”

3

“ +pH + +A/O+ + +

”

GB8978-1996

3.3.2-9

					pH		mg/L	
	m^3/d	pH	COD_{Cr}	SS	TN	Zn		LAS
W2-2	2.13	9~12	5000	1гг				

				402.2	**6-7**	**1459.4**	**276.6**	**/**	**/**	**/**	**/**	**243**	**17.7**	**/**
/				140.4	7~9	400	200	45	/	/	/	/	/	20
/				2.3	7~9	500	400	/	/	/	/	40	/	/
				142.7	**6-9**	**401.6**	**203.2**	**/**	**/**	**/**	**/**	**0.64**	**/**	**19.7**
/				4.36	6~9	80	60	/	/	/	/	/	/	/
/				124.4	6~9	80	60	/	/	/	/	/	/	/
/				2.56	6-9	80	60	/	/	/	/	/	/	/
/				40.768	6~9	80	60	/	/	/	/	/	/	/
				172.088	**7~9**	**80**	**60**	**/**	**/**	**/**	**/**	**/**	**/**	**/**

HJ2047-2015 HJ2006-2010

HJ2007-2010

HJ2009-2011

3.3.2-10

						pH			mg/L		
	m^3/d	pH	COD_{Cr}	SS		TN	Zn			LAS	
	26.46	7-11	3280.4	1075.6	/	/	/	/	94.1	5.6	/
/		“	+	+	”						
	/	/	30%	70%	/	/	/	/	70%	/	/
	26.46	**7-11**	**2**								

/				4.36	6~9	80	60	/	/	/	/	/	/	/
/				124.4	6~9	80	60	/	/	/	/	/	/	/
/				2.56	6-9	80	60	/	/	/	/	/	/	/
/				40.768	6~9	80	60	/	/	/	/	/	/	/
				913.848	**6-9**	**250.8**	**50.9**	**6.9**	**4.9**	**0.26**	**0.89**	**9.7**	**6.4**	**3.2**
			t/a	228462 m^3/a	6-9	57.3	11.63	1.57	1.12	0.06	0.2	2.2	1.5	0.73
GB8978-1996			/	/	6-9	320	180	30	/	5.0	20	20	20	100

GB8978-1996

4.8

HJ1097-2020 G.1 HJ 1181-2021 10 65-120dB(A) 3.3.3-1

3.3.3-1

		(/)	(dB A)			dB A
		85	70-80			55-65
		10	65-75			55-60
		4	75-90			50-55
		8	75~85			55-65
			75~90			50-55
			75~90			50-55
		8	75~85			55-65
		3	80~95			50-70
			100-120			60-70
			75~90			50-55
			75~90			50-55
		2	75~85			55-65
		1	80-85			65-70
		7	75-90			60-65
		/	75			60

65-80dB A

3.9

48%

102750t/a 49320t/a

3.4.4.2

3.3.4-5

3.4.4.3

RO RO

3.3.4-5

1

180kg/ 180kg 3316

20kg **66.32t/a** 250kg

2448 /a 25kg **61.2t/a** 25kg

368 2.5kg **0.92t/a**

A B A

B pH

A B A B pH 25kg/

180kg/ 250kg/

25kg 4360

180kg 1848 250kg 2448 25kg

1.3kg A B A B pH

5.7t/a 180kg/250kg 13kg

55.8t/a

189.94t/a

2

30t/a

70%

18t/a

4

6.079t/a

0.3kg/kg 26.3t/a

6.079t/a

5

102.501t/a 8~9kg

8kg 12813 3kg

38t/a 140.9t/a 102.501t/a

6

1 “ ”

“ RTO ”

10 10t 1t

Vi=100Q C1-C2 /Pi 100-X ·10^3

Vi— m^3/d

Q— m^3/d 741.76m^3/d

C1 C2— kg/m^3

553mg/L 48.83mg/L

X— % 99%

Pi— t/m^3 1t/m^3

11.8m^3

			3.15	HW13 900-014-13	
			0.3	HW49 900-041-49	
			0.6	HW49 900-041-49	
			0.2	HW08 900-209-08	
			9	HW06 900-404-06	
			9	HW06 900-404-06	
			189.94	HW49 900-041-49	
			140.9	HW49 900-041-49	
			0.3	HW49 900-041-49	
			26.3	HW49 900-041-49	
			1	HW49 900-041-49	
			76	HW49 900-041-49	
			1	HW08 900-249-08	
			3.9	HW49 900-041-49	
			0.07	HW13 900-014-13	
			0.15	HW49 900-041-49	
			4	HW08 900-210-08	
			88.5	HW17 336-064-17	
			159		
			163		
			886.42	/	/

3.3.4-2

			t/a			t/a
2			1	HW08 900-249-08		0
3			76	HW08 900-249-08		0
4			3.34	HW13 900-014-13		0
7			19.2	HW17 336-064-17		0
8			1.25	HW49 900-041-49		0
9			0.6	HW49 900-041-49		0
10			0.2	HW08 900-209-08		0
11			0.3	HW49 900-041-49		

12			18	HW06 900-404-06		0
13			191.24	HW49 900-041-49		0
14			140.9	HW49 900-041-49		0
15			30.2	HW49 900-041-49		0
16			1	HW49 900-041-49		0
18			4.2	HW08 900-210-08		0
21			88.5	HW17 336-064-17		0
		/	575.93	/	/	/
2			0.4			0
3			0.1			0
4			0.3			0
5	RO		1.2			0
8			0.1			0
9			5.03			0
10			2			0
11			159			0
		/	168.13	/	/	/
1			163			0
		/		/	/	/

3.3.4-3

				t/a							
2		HW08	900-249-08	1		/			1	T I	
3		HW08	900-249-08	76					1	T I	
4		HW13	900-014-13	3.34					1	T	
7		HW17	336-064-17	19.2			Al	Al	1	T/C	
8		HW49	900-041-49	1.25					1	T/In	
9		HW49	900-041-49	0.6					1	T/In	
10		HW08	900-209-08	0.2					1	T I	
11		HW49	900-041-49	0.3			/	/		T/In	
12		HW06	900-404-06	18					1	T I R	
13		HW49	900-041-49	191.24					1	T/In	
14		HW49	900-041-49	140.9						T/In	
15		HW49	900-041-49	30.2					3	T/In	
16		HW49	900-041-49	1					3	T/In	
18		HW08	900-210-08	4.2					1	T I	
21		HW17	336-064-17	88.5					/	T/C	

4.10

HJ/T293-2006

HJ/T293-2006

3.5.2-1

1 0.10 a b c a b

-

2 0.10 a b

0.53

g

p

											95% I
7						0.05	UV			c	2C2B
8						0.05	c e	e		e	I
						0.06	c	j		j	I
9					-	0.08	VOCs ≥85% VOCs	VOCs ≥85% VOCs		VOCs ≥80% VOCs	91.8% VOCs I
10						0.08	VOCs ≥98% VOCs	VOCs ≥95% VOCs		VOCs ≥90%	VOCs RTO 98% VOCs I
11					-	0.03	f	g			50-60 II
12					-	0.03		h ≤1%		d	I

2

3 120m^2/

4 VOCs VOCs

5 VOCs VOCs

VOCs VOCs

6 ≥95%

≥90% ≥85%

a

b

c

d 45-55

e CODcr

f ≤45

j

h ≤45

i ≤160

g 45-55

*

3.5.2-6

					I	II	III	
1				0.05	“ ”			“ ”
2		1		0.05	GB 18599 GB 18597			GB 18599 GB 18597
3				0.05	“ ”			
4				0.05				
5				0.05				

6				0.05	GB/T 24001			GB/T 24001
7				0.05				
8				0.05				
9				0.05				
10				0.05	“ ”			“ ”
11				0.1				I
12				0.1				
13				0.1				
14				0.1	GB 17167			GB 17167

15				0.1	GB 24789	GB 24789

3.5.2.4

2

III

I

II III

3

I

I

YI YI 85 I

YI 85

2

II

II

YII 85 II

YII II YII 85

3

3

III

YIII YIII=100 III

III YIII 100

3.5.2-7

I	

	——$Y_I \geq 85$ I
II	——$Y_{II} \geq 85$ II
III	——$Y_{III}=100$

4

Y =85 II

II

3.5.3

3 ISO14001

7

7.1

7.1.1

7.1.1.1

RTO SO_2 NOx TNV

SO_2 NOx

NOx SO_2 NOx

7.1.1.2

1

7.1-1

	/							
P1	H:20m Φ:0.5m		+			1		97%
				95%				
P2	H:20m Φ:0.6m		PVC					99%
				98%				
P3	H:18m Φ:0.5m				98%	1	“	”
							90%	
				+			“1#TNV	”
				98%			98%	
P4	H:18m Φ:0.5m							
		SO_2			/			
		NOx						
P5	H:18m Φ:1.2m			+PVC		1		99%
				98%				
P6	H:18m Φ:1.0m		PVC	1		1	“ +	”
				98%			90%	
					98%	1	“	”
					98%		90%	
							+	
			+					99.5%
P7	H:27m Φ:2.5m			98%		1	“	”
				98%				
							93%	
				/		1	p	

						98%
					/	
				SO_2		
				NOx		
		P8	H:18m Φ:1.0m		+ 98%	1 “2#TNV ” 98%
					/	
				SO_2		
				NOx		
		P9	H:18m Φ:1.0m		/	
				SO_2		
				NOx		
		P10	H:18m Φ:1.0m		/	
				SO_2		
				NOx		
		P11	H:18m Φ:1.2m		+ 98%	1 “3#TNV ” 98%
					/	
				SO_2		
				NOx		
	1	P12	H:18m Φ:1.0m		/	-
				SO_2		
				NOx		
	2	P13	H:18m Φ:1.0m		/	-
				SO_2		

NOx

P14 H:18m Φ:0.8m +PVC 98% 99%

1 1 +PVC 98% 99%

2 P15 H:18m Φ:0.6m 2 +PVC 98% 99%

3 3 +PVC 98% 99%

1 98%

2 P16 H:18m Φ:1.0m 98% 1 “ + ” 90% 99%

3 98%

P17 H:18m Φ:1.0m 98% 1 “ + ” 90%

P18 H:15m Φ:0.7m 98% 1 “ + ” 90% 99%

NOx

P19 H:20m Φ:0.7m /

		P21	H:20m Φ:0.6m		/	
				NOx		
		P22	H:15m Φ:0.6m		/	
				NOx		
		P23	H 15m Φ 0.9m			1 90%
		P24	H 15m Φ 0.9m	NH_3	95%	90%
				H_2S		

6.1.2

6.1.2.1

1

CO_2

CO_2

1

CO_2 18m×5.5m×4m

1 20m P1

4 CO_2 4

2 CO_2

2

HD1181m"2021

1

Ṣ

GB2-17-1996

2

ɢ ê ʒ ᄀ 1 ᄉ Ì ˆ

8.5m×3m×4m +PVC

18m 98%

90%

1 TNV 1

18m P3 98% “

TNV ” 98%

18m

98%

90%

P6

2

98% 1 90% RTO

P6

98%

95% 98% 1

1

1 RTO

98% 91.8% 1 27m

98% 1 “RTO ”

98% 1 18m

3 98% 1 “ +

” 90% 99% 18m

“ ” 98%

90% 1 18m

1

1 90%

1 18m

10cm 80% 95%

GB16297-1996

2

PVC 1 +

90% 1 18m

GB16297-1996

3

1 2

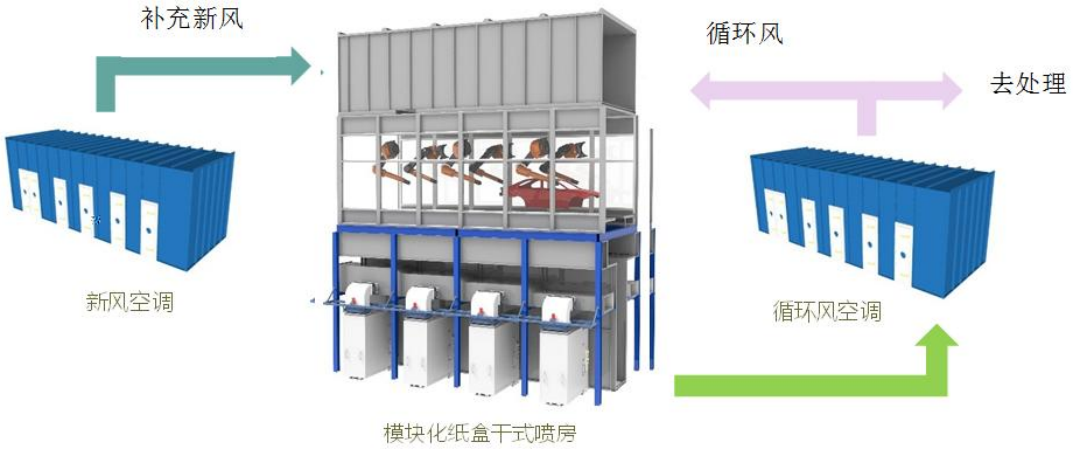
1 90%

GB16297-1996

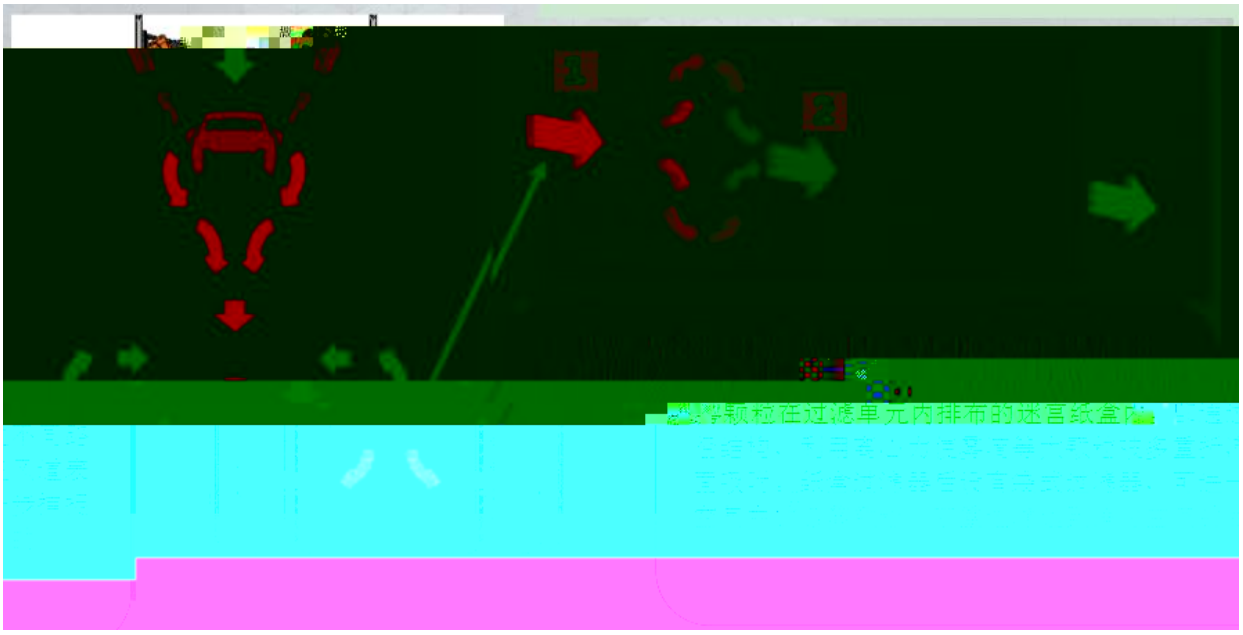
4

1

6.1.2-2



6.1.2-1



6.1.2-2

97%~99%

≤2mg/m^3

95%

1

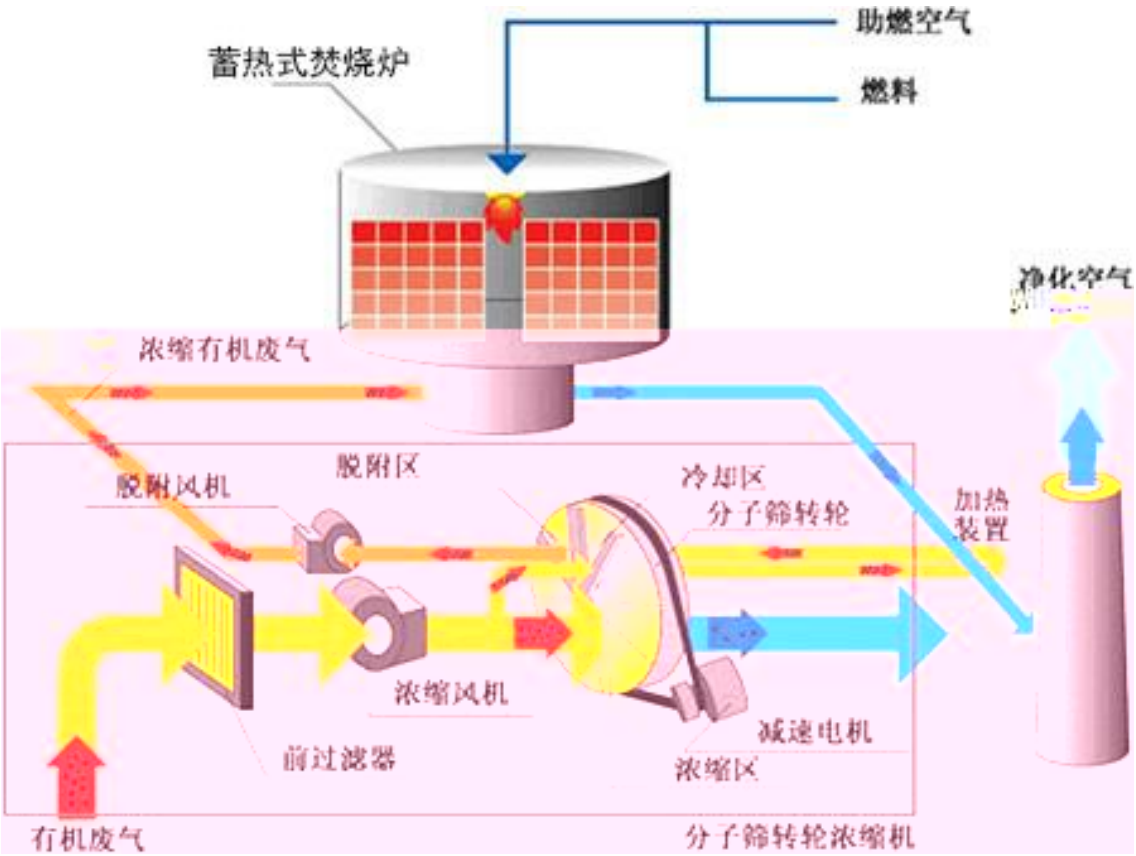
2

+

1

+1 RTO

1 27 6.1.2-3



6.1.2-3 +

VOCs VOCs

220 25%

HJ2026-2013

1:20

352800m^3/h

VOC 93% VOC

RTO 7% RTO

VOC

RTO

750 CO2 H2O

1 RTO

750-800 90% 120

98%

RTO

PLC RTO

HJ 971-2018 25

+

RTO VOCs 9.627mg/m^3 0.0392kg/h GB16297-1996

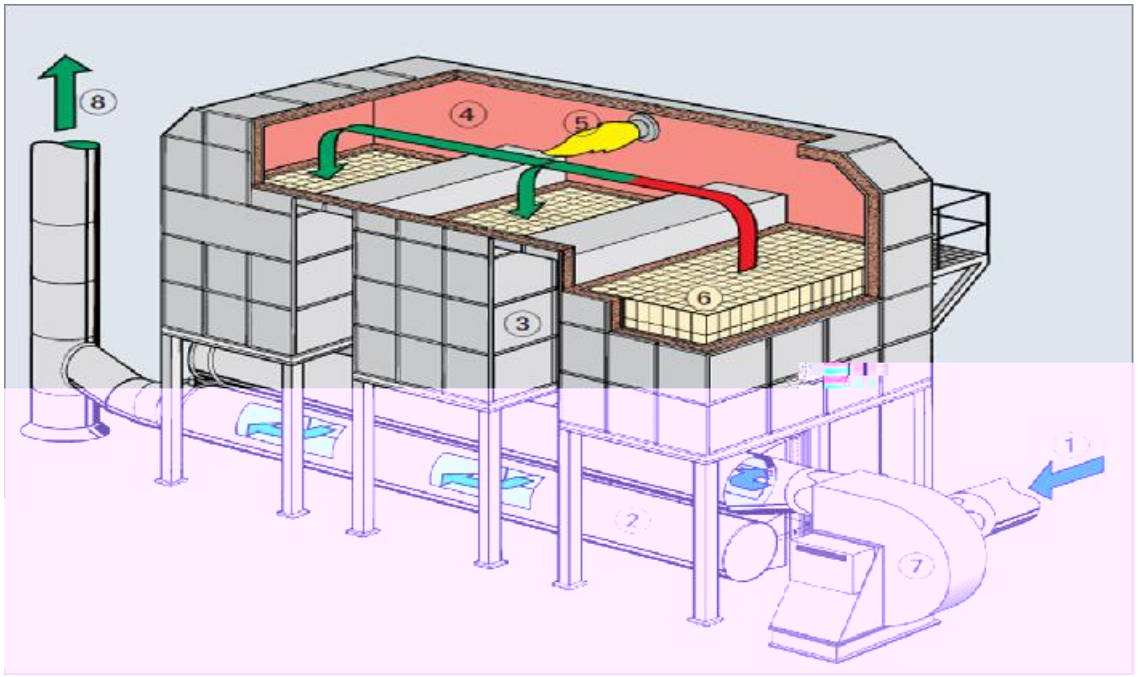
+RTO 77mg/m^3

+RTO 5.5mg/m^3 93%

+RTO

VOCs 0.515mg/m^3 VOCs0.222kg/h

GB16297-1996



6.1.2-4 RTO

6.1.2-5 RTO

RTO 98%

HJ1093-2020

98%

5

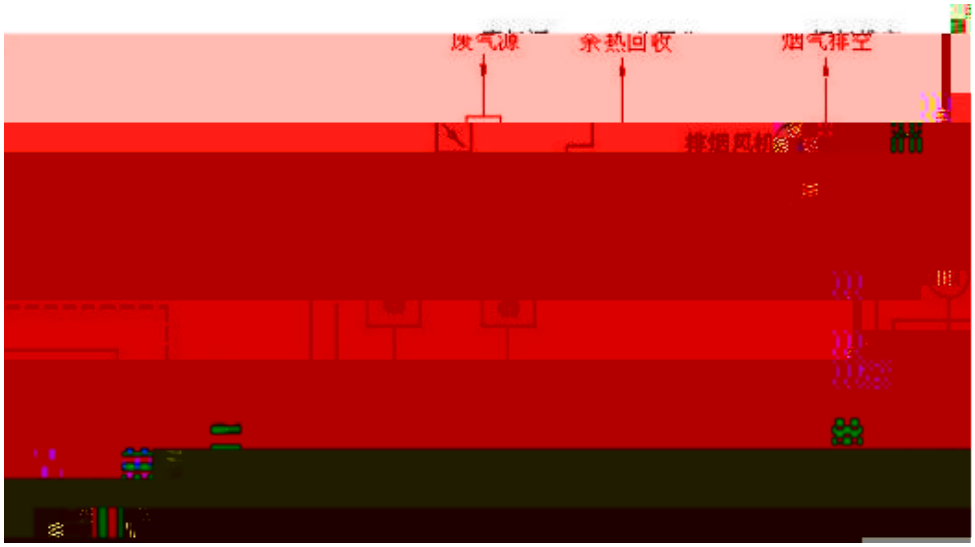
TNV

CO2

98%

TNV

TNV



6.1-8 TNV

PLC

HJ 971-2018 25

6.1.2-1

6.1.2-1

	mg/m^3	kg/h	mg/m^3	kg/h
20			0.40~0.92	0.018~0.043
15		/	~0.25	1.39×10^{-3}~5.62×10^{-3}
18		1.8×10^{-5}~1.9×10^{-5}	0.64~1.15	0.0155~0.0285
20	1.70~8.07	1.46×10^{-6}~9.96×10^{-3}	17~27.5	0.0342~0.0566
6	0.144~0.346	1.1		

90%

GB16297-1996

7

1 18m

90%　　1　15m　　P23

15m　　P24

6.1.3

6.1.4

24　　20m/s

7.1-5

		m	m	m^3/h		m/s
P1	1	20	0.5	10000		14.1
P2	1	20	0.6	12000		11.8
P3	1	18	0.7	18000		13
P4	1	18	0.5	8500		12.03
P5	1	20	1.2	55440		13.6
P6	1	20	1.0	45000		15.9
P7	1	27	2.2	181065	65	13.2
P8	1	18	0.5	11000	65	15.6
P9	1	18	0.24	2200	65	13.5
P10	1	18	0.16	1000	65	13.8
P11	1	18	0.5	12000	65	16
1/2 P12 P13	2	18	0.3	3480*2	60	13.7
P14	1	18	0.8	23760		13.1
1/2/3 P15	1	18	1.0	14850*3		15.8
1/2/3 P16	1	18	1.8	44550*3	50	15
P17	1	18	0.8	31680		17.5
P18	1	15	0.7	20000	50	14.4
P19	1	20	0.6	15000		14.7
P20	1	20	0.6	15000		14.7
P21	1	20	0.6	15000		14.7

P22	1	15	0.6	15000		14.7
P23	1	15	0.5	12600		17.8
P24	1	15	0.7	20000		14.4

6.1.5

1

1

2

2

1

2

3

6.1.6

RTO

RTO

6.1.7 HJ 1181 2021

6.1.7-1 **HJ 1181 2021**

1

VOCs 60%

2

VOCs

3

VOCs

95%

4

HJ 2020

0.7 m/min 800 Pa

95%

VOCs

VOCs

5

		RTO RTO VOCs 95% VOCs 1 500 3 000 mg/m^3 VOCs 3 000 mg/m^3 “ RTO” “ / RTO” HJ 1093	
7		1 VOCs VOCs VOCs VOCs VOCs 10% VOCs VOCs VOCs 2 VOCs VOCs 3 4 VOCs / VOCs	1 VOCs VOCs VOCs VOCs 2 VOCs 3 4 VOCs

6.1.8

31

2013 81

1

2

3 4

5 6

HJ 971-2018

1

2

3

3 À, À,¡À, ÀéÀÐ,@ '

6.2.2

1

1

W2-2 W2-3

W3-1

P

Ь

ď 0m³/d 20h

/h

Ä3

W2-8 W2-9 W2-

10 2 W2-11 3 W2-12

PAC PAM

2

6.2.2-1

6.2.2-1

4.7-2

6.2.3

HJ1097-2020 F F.2

6.2.3-1

%

“ +

+pH ”

50-90

90%

“ +

+ ”

+ + COD30-70

60-80 60%

COD SS

COD

30%

“ +

pH COD /

+ COD25-50

SS

40-60

6.3.1

1

2

3

4

5

6

7

8

9

6.3.2

GB/T50934-2013

1.5m 1.0x10^{-7}cm/s 6.0m

1.0x10^{-7}cm/s

HJ 610-2016

6.3.2-1 6.3.2-2

6.3.2-1

		-		Mb≥6m K≤1×10^{-7}cm/s GB18598
	-			
		-		Mb≥1.5m K≤1×10^{-7}cm/s GB18598
	-			
	-			
	-			

6.3.2-2

		Mb≥1.0m K≤1×10^{-6}cm/s	
		0.5m≤Mb 1m K≤1×10^{-6}cm/s Mb≥1.0m 1×10^{-6}cm/s K≤1×10^{-4}cm/s	
		“ ” “ ”	

			COD SS

6.3.2-1

6.3.2-3

	1.5m 1.0 10^{-7}cm/s

6.0m
$1.0x10^{-7}$cm/s
(HDPE)

1 HDPE
1.50mm 300mm
2

100mm
3
200mm

1.5m
1.0×10^{-7}cm/s

1.5m
$1.0x10^{-7}$cm/s

500mm
500mm

100%
2mm

			C30 P8 C15 200mm 10mm
			6.0m 1.0 10^{-7}cm/s 1 250mm 2 P8 3 1.0mm 1.5mm 4 1% 2%
			6.0m 1.0 10^{-7}cm/s
			1.5m 1.0 10^{-7}cm/s

6.3.3

1

GB610-2016 1

1

1

K^+ Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO^{3-} Cl^- SO_4^{2-} pH

N N

2

1

2

HJ/T164

a

b

c

3

1

2

6.3.4

1

2

3

6.4

1

2

3

4

5

6

7

10~50dB

3.3.3-1

3.3.4-5

1

RO

2

3

6.5.2

1

GB18597-2001

440.87m^2

440.87m^2 575.93t/a

2.3t/d 30 69.1t

300t

7

8

GB15603

24

9

10

11

HJ2025-2012

1

2

6.5.4

1

1

2

3

GB12463

4

5

2

1

2

6.5.5

RO 168.13t/a

0.67t/d 7 4.7t

6.6

6.6.1

1

2

6.6.2

GB18597-2001

6.6.3

1

2

6.6.3-1

6.6.3-1

1		GB36600-2018 1 45 +pH	3 1	2 GB36600-2018
2			3 1	

2

9

8.1

359890 4440

1.23% 8.1-1

8.1-1

( )

			1 TNV 3# +1 18m P11	60
		1	1 18m P12	20
		2	1 18m P13	20
			1 +1 20m P14	20
		1/2/3	1 3 1 18m	50
		1/2/3	1 “ + ” +1 20m P16	15
			1 “ ” +1 18m P17	15
			1 + +1 15m P18	15
			1 20m P19	8
			1 20m P20	8
			1 20m P21	8
			1 20m P22	8
			+1 15m P23	15
			+1 15m P24	30
				120
			1 2 3	100
				1642

9.2

9.2.1 Hz

$H_z = E_0/E_R \times 100\%$

E_0—

E_R—

1642 76830

2.1%

9.2.2 Fg

Fg= E_z/E_s ×100%

E_z—

E_S—

185

309125 0.6%

600

9.3

9.3.1

1

2

3

4

9.3.2

9.1.1

1

2

9.1.3.2

31

2013 81

1

2

3

4

5

6

1

2

3

3

4

9.1.3.3

1

≥93%

RTO ≥98%

2

P4 P7 P8 P11

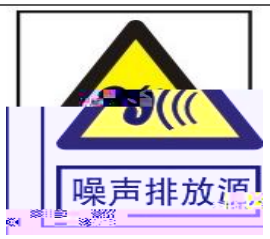
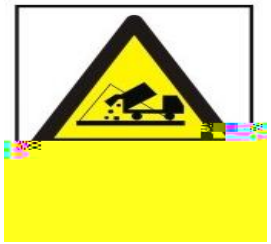
CEMS

4 SO_2 NOx

HJ75-2017 (

)

9.1-1

1			
2			
3			
4			
5			

9.1.3.4

1

3

4

5ก

13

14

15

9.1.4

2 3

1

2

3

4

5

6

1

2

3 “ ”

4

1

2

3

4

1

2

3

4

5

6

9.3.1

9.3.2

1

2

VOCs

3

4

5

HJ/T373 HJ819

6

1

1

2

3 5%

4

10% 20% 30%

10% 15% 20%

5

9.5.1

9.5-1 9.5-2

9

	1	 SO_2 NOx	/	-		18m P12	
		 SO_2 NOx	/	-		18m P13	
			+PVC			18m P14	
	1		1 +PVC			18m P15	
	2		1 +PVC				
	3		1 +PVC				
	1	 		+		18m P16	
	2	 					
	3	 					
						18m P17	
		 		“ + ”		15m P18	
		  NOx	/			20m P19	
		  NOx				20m P20	
			/			20m	

						P21	
		NOx					
			/			20m	
						P22	
		NOx					
						15m	
						P23	
		NH_3			/	15m	
		H_2S				P24	

9.5-2

	pH COD SS TN Zn LAS		1 45m^3/h + + +		/	

9.5.2

1

9.5-1

2

9.5-2

9.5-2

		m^3/h		/			mg/m^3	kg/h	t/a	mg/m^3	kg/h		
		10000	P1	H:20m Φ:0.5m		+ 95% 1 97%	0.055	0.00055	0.0011	120	5.9	GB16297-1996	
		12000	P2	H:20m Φ:0.6m		PVC 98% 99%	1.03	0.012	0.049	120	5.9	GB16297-1996	
		18000	P3	H:18m Φ:0.7m		98% 1 “ ” 90%	4.9	0.088	0.353	120	14.2	GB16297-1996	
	1#TNV	8500	**P4**	H:18m Φ:0.5m		+ 98% “TNV ” 98%	3.9	0.033	0.133	120	14.2	GB16297-1996	
						/	5.94	0.0505	0.202	20	/		
					SO_2		8.24	0.07	0.28	200	/		
					NOx		19.4	0.165	0.66	50	/		

														2020	
		55440	P5	H:18m Φ:1.2m		+PVC 98% 99%		0.6		0.033	0.13	120	5.01	GB16297-1996	
		45000	P6	H:18m Φ:1.0m		98% 1 “ + ” 90%		0.83		0.0375	0.15	120	14.2	GB16297-1996	
		9600	**P7**	H:27m Φ:2.2m		98% 1 “ + ” 90%			12.4	2	8.03	120	42.2	GB16297-1996	
		9600				98% 1 “ + ” 90%									
	RTO	161865				+	+ 99%		1.75	0.28	1.136	120	17.87		
						98%	1 “ +RTO ” 91.8%	SO_2	0.12	0.02	0.08	550	11.79		

SO_2

NOx

98% 1

11000 **P8** H:18m ”

Φ:0.5m

SO_2

NOx

2Ox

9911

				Φ:0.3m	SO_2			16.67	0.116	0.464	50	/		
					NOx			38.97	0.27	1.085	50	/		
		23760	P14	H:18m Φ:0.8m		+PVC 98% 99%		1.37	0.0325	0.13	120	5.04	GB16297-1996	
	1	14850	P15	H:18m Φ:1.0m		1 +PVC 98% 99%		2.4	0.105	0.42	120	5.04	GB16297-1996	
	2	14850				2 +PVC 98% 99%								
	3	14850				3 +PVC 98% 99%								
	1	44550	P16	H:18m Φ:1.8m		1 98%	1 “+” 90% 99%		0.25	0.033	0.05	120	14.2	GB16297-1996
	2	44550				2 98%								
	3	44550				3 98%			0.0132	0.00176	0.00264	120	5.04	
		31680	P17	H:18m Φ:1.0m		98% 1 “” 90%		0.069		0.0022	0.0088	120	14.2	GB16297-1996

		20000	P18	H:15m Φ:0.7m		98% 1 “ + ” 90% 99%	0.176	0.00352	0.00528	120	10	GB16297-1996	
							3.33	0.067	0.1	120	3.5		
		15000	P19	H:20m Φ:0.6m			1.87	0.028	0.014	120	17	GB16297-1996	
							26.7	0.4	0.20	120	5.9		
					NOx		40.5	0.608	0.304	240	1.3		
		15000	P20	H:20m Φ:0.6m			1.87	0.028	0.014	120	17	GB16297-1996	
							26.7	0.4	0.20	120	5.9		
					NOx		40.5	0.608	0.304	240	1.3		
		15000	P21	H:20m Φ:0.6m			1.87	0.028	0.014	120	17	GB16297-1996	
							26.7	0.4	0.20	120	5.9		
					NOx		40.5	0.608	0.304	240	1.3		
		15000	P22	H:15m Φ:0.6m			1.87	0.028	0.014	120	10	GB16297-1996	
							26.7	0.4	0.20	120	3.5		
					NOx		40.5	0.608	0.304	240	0.77		
		12600	P23	H 15m Φ 0.5m		90%	0.44	0.03	0.18	120	10	GB16297-1996	
		20000	P24	H 15m Φ 0.7m	NH_3		0.65	0.013	0.0646	/	4.9	GB14554-93	
					H_2S	95% 90%	0.05	0.001	0.0039	/	0.33		

“ ”

9.6.1

1

HJ820

2

1

9.6.2

1

2

1

2

GB14554 GB16297 HJ/T55

HJ971-2018

HJ1086-2020

9.6-1

			P1		
			P2		
			P3		
			P4		
			P5		
			P6		
			P7		
				SO_2	
				NOx	
			P8		
				SO_2	
				NOx	
			P9	SO_2	
				NOx	
			P10	SO_2	
				NOx	
			P11		
				SO_2	
				NOx	
		1	P12		
				SO_2	
				NOx	
		2	P13		
				SO_2	
				NOx	

			P14		
		1/2/3	P15		
		1/2/3	P16		
			P17		
			P18		
			P19		
				NOx	
			P20		
				NOx	
			P21		
				NOx	
			P22		
				NOx	
			P23		
			P24	NH_3	
				H_2S	

3

9.6-2

		TSP		

4

1

HJ/T 353 HJ/T 354 HJ/T 355 HJ/T 356

2

GB/T 16157 HJ/T 397 HJ 732

HJ/T 55

HJ 493 HJ 494 HJ 495 HJ/T 91

3

9.6.4

HJ819

9.6.5

HJ819

9.6.6

HJ819

9.6.7

1

2

3 4

5

COD NH_3-N

SO_2 NOX

[2017]19 2017 4

SO_2 NOx

VOCs

VOCs COD

9.7-1 **t/a**

	VOCs	9.806
		4.02
		4.61
		5.511

9.7-2 **t/a**

	COD	57.3	11.42
		1.57	1.42 1.83

76830 “ 3
” 2022 7 22

3

1 2019

2 2020
2021 100%
3%
3

3 2021-2035
“ ”
2021-2035
4 1

5 “
”

6 [2015]34

[illegible]

7 “

”

[2015]16

1

2021 2021 2

2 3 Ь 3095-2012 10

2.5 Ь 3095-2012

[illegible]

HJ2.2-2018 D D.1

2

(GB 3838-2002) III

5

GB36600-2018

GB36600-2018

10.4.1

10.4.1.1

1

2

10.4.1.2

1

CO_2 1

1 1 20m

1 20m

2

18m 98%

90%

1 TNV 1 18m

98% “ TNV ”

98%

1

$2m^3/h$

2

$540m^3/d$ 18h

$540m^3/h$

3

$240m^3/d$ 16h $15m^3/h$

4

5

1 $45m^3/h$ + +

+

GB8978-1996

10.4.3

GB12348-2008 4

GB12348-2008 3

GB3096-2008 2

10.4.4

10.4.4.1

1

2 “ ”
“ ”

3

4

10.4.4.2

1

$\leq 1.0\times10^{-10}$cm/s

2

$\leq 1\times10^{-7}$cm/s

3

+

1×10^{-5}cm/s

10.4.5

HJ964-2018

GB36600-2018

10.4.6

1

RO

2

3

440.78m^2

10.4.7

1

/

/

2

1

500m 1000

E1

2

10

E3

3

D2 E2

2

“ ”

“ ”

“ ” 10.8-1

10.8-1 “ ”

	“ ” 1 2m^3/h “ + + ”	GB8978-1996

				2 30m^3/h “ + + ” 3 15m^3/h “ + +pH ” 4 45m^3/h “ +pH + +A/O+ + + ” GB8978-1996 4	
				+1 +1 20m P1	GB16297-1996 2
				6 1	
				PVC 1 +1 20m P2	
				1 “ ” +1 18m P3	
				+ 1 TNV 1# +1 18m P4	
				+1 +1 18m P5	
				1 “ + ” +1 18m P6	
				1 “ ”	
				RTO P7	
				+ RTO +1 27m P7	

			1 TNV 2# +1 18m P8	
		SO_2 NOx	1 20m P9	“ ” “ 2020 ”
		SO_2 NOx	1 20m P10	
			1 TNV 3# +1 18m P11	GB16297-1996 2
		1	1 18m P12	GB13271-2014 3 “ 2020 ”
		2	1 18m P13	
			+1 +1 20m P14	GB16297-1996 2
		1	+1	1 18m P15
		2	+1	
		3	+1	
		1	1	1 “ + ” +1 20m P16
		2	2	
		3	3	
			1 “ + ” +1 18m P17	
			1 “ + ” +1 15m P18	GB16297-1996 2
			1 20m P19	
			1 20m	

			P20	
			1 20m P21	
			1 20m P22	
			+1 15m P23	
		NH_3 H_2S	+1 15m P24	GB14554-93
				GB12348-2008 3
			RO	/
			440.87m^2	/
				/
			1 2	