6 PET

2020 3

1

2

3

4

5

6

7

8

9

10

1

1.1

“ ”

39587 60000 6

PET 6 / 8 / PTT/PET

20

[2013]6

1 [2020]4

682

1.2

60000

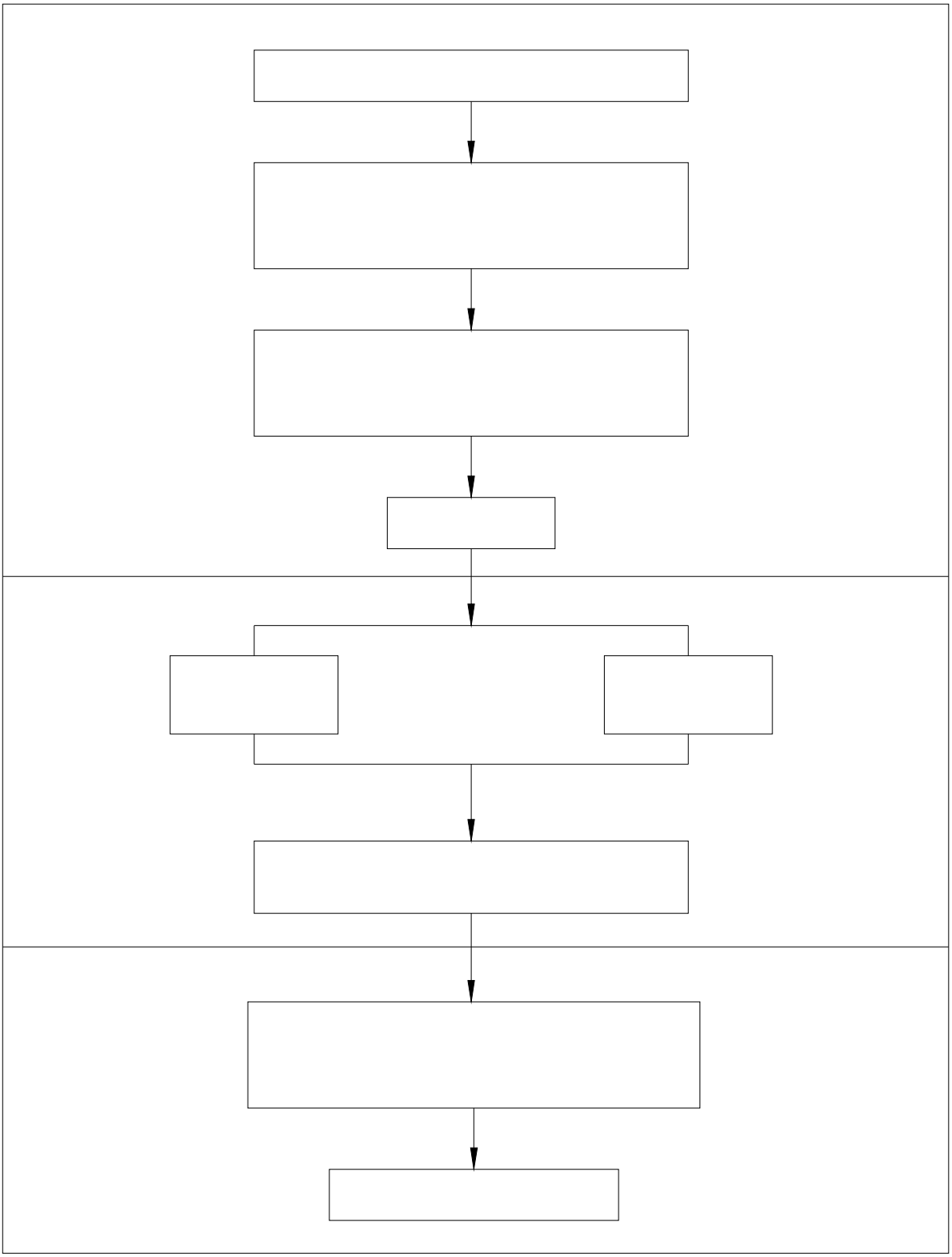
6 PET 8 / PTT/PET

20

1.3

HJ2.1-2016

1.3-1



1.3-1

1.4

1.4.1

1.4.1.1

2019

2012

2007

“

”

(2015 118)

( ) (2018)

“ ” ([2016]386)

145.25 / 20 /

[2013]6 198 /

1.4.1.2

1 [2016]96

[2016]96

1

[2016]96

2 [2016]47 [2017]30

[2016]47 “ ”

[2017]30

[2016]47 [2017]30

3 [2017]121 2019 53 [2014]128

[2017]121

2019 53

[2014]128

VOCs

[2017]121

2019 53

[2014]128

4

2012 221

2.5-5

5 **[2018]22**

[2018]122

[2018]22 [2018]122

VOCs

VOCs

1.4.2

[2013]6 1.4-1

1.4-1 **[2013]6**

,	2017 8 22 25%

8

[2015]7

1.4.3 “ ”

1.4.3.1

2018 74

[2020]1

E 1500m 2.5-6

1.4.3.2

2018

$PM_{2.5}$ O_3 $PM_{2.5}$ O_3

GB3838-2002

III

1.4.3.3

1800m^3/h

1.4.3.4 **(2019)**

(2019)

(2019)

1.5

1

VOCs

2

3

1.6

2

2.1

2.1.1

(1) 7 22 2014 4 24

(2) 10 87 2017 6 27

(3) 9 32 2018 10 26

(4) 8 77 2018 12 29

(5) 10 31 2005 4 1 2020.4.29

(6) 2019 1 1

(7) 2018 12 29

(8) 11 54 2012 2 29

(9) 682 2017.7.16

(10) 2011 8 24 169 2011 11 1

(11) 2018 4 28

(12) [2014]197

(13) 591 2011 3 2 2011 12 1

(14) 2016

(15) 2019

2019 29 2019.10.30

(16) 2011

2013 21 2013.2.16

(17) [2012]77

2012 7

(18) [2012]98

(19) [2013]37 2013.9.10

(20) [2016]31 2016.5.28

(21) [2015]17 2015.4.2

(22)

[2014]30 2014.3.25

(23) [2016]150

2016.10.26

(24) [2015]4

2015.1.8

(25)

[2016]81 2016.11.10

(26) [2016]81

(27) < > [2017]905

(28) <“ ” >

[2017]121

(29)

[2017]84 2017.11.14

(30) (2019)

11 2019.12.20

(31) [2017]178

(32) [2018]11

(33) (
[2015]178)

(34) 3

(35) [2018]181

(36) ( )

(37) ([2019]53)

(38)) (
2018 17)

(39) [2018]22

(40)
[2018]122

2.1.2

(1) 2018 3 28

(2) 2018 3 28

(3) 2018 3 28

(4) 2018 1 24

(5) 2003 3 18

(6) 1998 9

(7) [1997]122

(8) [2016]185

(9)
[2011]71 2011.3.23

(10) 2012
[2013]183
2013.3.15

(11) [2020]1

(12)

2014 294 2014 12 15

(13)

[2014]1

(14) < >

[2014]53

(15)

[2014]104

(16) [2014]148

(17)

[2014]128

(18)

[2015]19

(19)

([2015]118)

(20) [2016]154

(21) [2015]175

2015 12 28

(22) [2016]96 2016.7.22

(23) <“ ” >

[2016]47 2016 12 1

(24) “ ”

[2017]30 2017 2 20

(25) 2018 3 28

(26) 2016 9 30

(27) 2018 74

(28) [2018]122

(29) [2018]91

(30)

[2019]327

(31)

[2019]36

(32) [2019]52

(33) 2007 129

(34) [2010]190

(35) 2013 120

(36) [2019]32

(37) “ ”13 2017 3 29

2.1.3

1 2006-2020

2 2014-2030

3

4 1 m^3/d

2.1.4

(1) HJ 2.1-2016

(2) HJ 2.2-2018

(3) HJ2.3-2018

(4) HJ 2.4-2009

(5) HJ 610-2016

(6) HJ 964-2018

(7) HJ 19-2011

(8) HJ169-2018

(9) VOCs (2013 31)

(10) 2017 43

(11) GB34330-2017

(12) HJ 819-2017

(13) HJ/T429-2008

2.1.5

(1)

(2)

2.2

2.2.1

2.2-1

2.2-1

	( )	0	-1SD#	-1SI#	-1SD#	0	0
		-2SD#	0	0	0	0	0
		0	0	0	0	-2SD&	0
		0	0	0	0	0	0
		0	0	-1SI#	-1SD#	0	0
		0	-1LD#	-1LI#	0	0	0
		-1LD#	0	0	0	0	0
		0	0	0	0	-0LD&	0
		0	0	0	0	0	0
		-0SD#	-1SD#	-1SI#	-1SD#	0	0

“+” “-” “0” “1” “L” “S”

“D” “I” “#” “&”

2.2.2

2.2-2

2.2-2

	SO_2 NO_2 PM_{10} $PM_{2.5}$ CO O_3 VOCs	VOCs	VOCs	
	pH SS COD BOD_5	COD SS	COD	SS
	K^+ Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO^{3-} Cl^- SO_4^{2-} pH COD_{Mn} O		/	/
	A	A	/	/
		/		/
			/	/
			/	/

2.2.3

2.2.3.1

1

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

GB3095-2012 TVOC

HJ2.2-2018 D

HJ2.2-2018 D

2.2-3

2.2-3

		mg/m^3	
SO_2		0.06	GB3095-2012
	24h	0.15	
	1	0.50	
NO_2		0.04	
	24h	0.08	
	1	0.20	
PM_{10}		0.10	
	24h	0.15	
$PM_{2.5}$		0.075	
CO		4	
	1	10	
O_3	8	0.16	
	1	0.20	
		2.0	
TVOC	8	0.6	
	1h	0.01	HJ2.2-2018 D
	24h	1	HJ2.2-2018 D

2

GB31572-2015 5

GB16297-1996 2 VOCs

DB12/524-2014 2 VOCs

5 VOCs

(GB37822-2019) A.1 2.2-4

3

GB31572-2015 5 0.3kg/t

2.2-4

			(m)	(kg/h)	(mg/m^3)	(mg/m^3)	
				/	20	/	GB31572-2015 5
		P1	60	100	190	12	GB16297-1996 2
				/	60	4.0	GB31572-2015 5 GB31572-2015 9
	VOCs	P2 P3	30	12.8	80	2.0	DB12/524-2014 2 5
		/	/	/	/	1.0	GB16297-1996 2
VOCs	VOCs	/	/	/		6 1h	(GB37822-2019) A.1
						20	

2.2.3.2

1

GB3838-2002 SS SL63-94

GB3838-2002 3 2.2-5

2.2-5 **mg/L pH**

	pH	COD				BOD_5			SS	
	6~9	30	10	0.3	1.5	6	0.5	3	60	0.005

2

GB8978-1996 GB/T 31962-2015 B

COD

DB32/1072-2018

3 DB32/1072-2018 pH BOD_5 SS

GB18918-2002 A

2.2-6

2.2-6 **mg/L**

	pH	COD	SS			
	6-9	500	400	35	40	8
	6-9	60	10	5	12	0.5

TN

3

2.2-7

2.2-7

COD	30
SS	30

2.2.3.3

GB/T14848-2017 2.2-8

2.2-8 **mg/L pH**

						V
1	pH	6.5~8.5			5.5~6.5 8.5~9	<5.5 >9
2	* COD_{Mn} O_2	≤1.0	≤2.0	≤3.0	≤10	>10
3	(NH_4)	≤0.02	≤0.1	≤0.5	≤1.5	>1.5
4	(N	≤2.0	≤5.0	≤20	≤30	>30

6 PET

						V
5	(N)	≤0.01	≤0.01	≤1	≤4.8	>4.8
6	Na^+	≤100	≤150	≤200	≤400	>400
7	Cl^-	≤50	≤150	≤250	≤350	>350
8	SO_4^{2-}	≤50	≤150	≤250	≤350	>350
9		≤1	≤1	≤1	≤2	>2
10		≤0.001	≤0.001	≤.0.002	≤0.01	>0.01
11		≤0.001	≤0.01	≤0.05	≤0.1	>0.1
12		≤0.001	≤0.001	≤0.01	≤0.05	>0.05
13		≤0.0001	≤0.0001	≤0.001	≤0.002	>0.002
14		≤0.005	≤0.01	≤0.05	≤0.1	>0.1
		≤0.005	≤0.005	≤0.01	≤0.1	>0.1

6 PET

3	65	55
4	70	55

GB12523-2011

2.2-11

2.2-11 **dB(A)**

70	55

2.2.3.5

GB36600-2018 2.2-12

2.2-12 **mg/kg**

		CAS		
1		7440-38-2	60	140
2		7440-43-9	65	172
3		18540-29-3	5.7	78
4		7440-50-8	18000	36000
5		7439-92-1	800	2500
6		7439-97-6	38	82
7		7440-02-0	900	2000
8		56-23-5	2.8	36
9		67-66-3	0.9	10
10		74-87-3	37	120
11	1,1-	75-34-3	9	100
12	1,2-	107-06-2	5	21
13	1,1-	75-35-4	66	200
14	-1,2-	156-59-2	596	2000
15	-1,2-	156-60-5	54	163

6 PET

16		75-09-2	616	2000
17	1.2-	78-87-5	5	47
18	1,1,1,2-	630-20-6	10	100
19	1,1,2,2-	79-34-5	6.8	50
20		127-18-4	53	183
21	1,1,1-	71-55-6	840	840
22	1,1,2-	79-00-5	2.8	15
23		79-01-6	2.8	20
24	1,2,3-	96-18-4	0.5	5
25		75-01-4	0.43	4.3
26		71-43-2	4	40
27		108-90-7	270	1000
28	1,2-	95-50-1	560	560
29	1,4-	106-46-7	20	200
30		100-41-4	28	280
31		100-42-5	1290	1290
32		108-88-3	1200	1200
33	+	108-38-3,106-42-3	570	570
34		95-47-6	640	640
35		98-95-3	76	760
36		62-53-3	260	663
37	2-	95-57-8	2256	4500
38	[a]	56-55-3	15	151
39	[a]	50-32-8	1.5	15
40	[b]	205-99-2	15	151
41	[k]	207-08-9	151	1500
42		218-01-9	1293	12900
43	[a,h]	53-70-3	1.5	15
44	[1,2,3-cd]	193-39-5	15	151
45		91-20-3	70	700

2.2.3.6

GB18599-2001

GB18597-2001

2.3

2.3.1

2.3.1.1

1

VOCs HJ2.2-2018

P_i i

i 10% D10% P_i

$$P_i=C_i/C_{0i}$$

Pi i % C_i

i mg/m^3 C_{0i} i mg/m^3

C_{0i} GB3095-2012 1

2.3-2

2.3-1

	$P_{max}\geq10\%$
	1% P_{max} 10%
	P_{max} 1%

2.3-2

/	/	
		/
/		38.4
/		-9.8
		√ □
	/m	90
		□ √
	/km	/

6 PET		
	/°	/

C_m mg/m^3

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

2.3-3 0.369%

HJ2.2-2018

2.3-3

		C_0 mg/m^3	C_m mg/m^3	P_i %	$D_{10\%}$ m	
P1		1	6.77E-05	0.0068	/	
		0.01	3.69E-05	0.369	/	
P2	VOCs	0.6	6.11E-04	0.1	/	
P2	VOCs	0.6	6.18E-04	0.1	/	

/ **10%**

2.3.1.2

6 PET

2.3.1.6

HJ169-2018

3.4-6 E1 2.3-8

2.3-8 E

	500m >500	5km >5				
	E1	E1	S1	F1	D2	G3
	E1		E1		E3	
	E1					

3.4-7 P P3

III 2.3-9 2.3-10

2.3-9

E	P			
	P1	P2	P3	P4
E1	IV	IV	III	III
E2	IV	III	III	II
E3	III	III	II	I

2.3-10

	IV IV^{+}	III	II	I

2.3.2

2.4

2.4.1

1

2

0.5km

1.5km 500m

3 5km

4 200m

5 6km^2

6 5km

2.4.2

2.4-1 2.4-1

2.4-1

			X	**Y**			**/m**	
	1		3381	3187			N	776	
	2		2993	3614			N	902	
	3		4031	4348			NE	2130	
	4		3956	4039			NE	1880	
	5		4320	3614			NE	1627	
	6		4925	3511		1920	NE	2334	GB3095-2012
	7		4210	4678			NE	2374	
	8		4575	4623			NE	2507	
	9		4671	4905			NE	2914	
	10		4300	5028			NE	2697	
	11		4004	4994			NE	2593	

12		2869	1684			S	568
13		2402	1835			S	411
14		2491	1581			S	606
15		2134	1533			S	743
16		2690	838			S	1296
17		1832	2045		2104	SW	444
18		1638	2380			W	506
19		1325	1658			SW	1057
20		929	2202			W	1261
21		3458	1678			SE	974
22		2693	1222			S	951
23		902	1772			SW	1622
24		865	1585			SW	1755
25		977	598			SW	2068
26		585	793			SW	2381
27		1238	1185		2661	SW	1694
28		1378	812			SW	1703
29		-21	365			SW	3004
30		362	623			SW	2594
31		83	697			SW	2892
32		315	1097			SW	2366
33		1425	3206			NW	887
34		576	3411			NW	1673
35		893	3355		3765	NW	1573
36		1154	3262			W	1302

37		1415	2685			W	987
38		707	2759			W	1306
39		296	2657			W	2026
40		-282	2293			W	2466
41		-235	3039			W	2339
42		2665	3346			N	526
43		2106	3644			N	808
44		1630	3588			NW	1062
45		2525	3942			N	1152
46		2320	4287		3728	N	1471
47		1863	4334			N	1381
48		1397	4455			NW	1906
49		361	3654			NW	1700
50		1154	4930			NW	2164
51		427	4641		210	NW	2686
52		3367	812			S	1481
53		3784	475			S	1996
54		4022	776			SW	1909
55		4286	904			SW	1989
56		4770	1332		2850	SW	2259
57		4624	940			SW	2394
58		4049	603			SW	2280
59		4250	402			SW	2382
60		2498	429			SW	1745

61		4925	3511			SE	2386
62		1155	3921		4000	NW	1571
63		392	3135		1520	W	1934

6 PET

	2		/	/	/	2.16km^2	E	3300	
	3		/	/	/	2.14km^2	E	1500	
	4		/	/	/	2.05km^2	NE	800	

2.5

2.5.1 2014-2030

1

2

133.5

3

4

2020 11.0 2030 15.5

2020 19.96 2030

18.60

2.5-1

2.5.2

2013

2013 2 26

[2013]6

2.5.2.1

1.84km^2

2.5.2.2

2.5.2.3

1.84km^2 2.5-1

2.5-2

2.5-1

	H1	174.78	94.90
*	M2	149.59	85.59
	S1	17.49	10.01
	U	4.43	2.53
	U11	1.29	0.74
	U12	2.39	1.37
	U21	0.75	0.43
	G2	3.27	1.87
	H2	8.36	4.54
	E1	1.04	0.56
		184.18	**100.00**

149.59 85.59

17.49 10.01

4.43

2.53

3.27 1.87

2.5.2.4

1

1800m^3/h

2

0.5 m^3/d 0.4 m^3/d

2010 4 18 [2010]243

2.5-3

3

4 15 10 5 3 1000

/ 2 1 12 1450 / 8 4

50m 2m 60m 3.5m

2017 8 22

15 6 1450 4 2 1
3 1000 2 1 2 3 1450 2 1 3
3 1450 2 1 2013
37 " " " " 2017
10
20 10
2
2019 35 /
65 /
15
15 10 5
[2020]50047 6 1 2 3 3
20 CPD
1 12
PPT 2 3
25

2.5-4 2.5-2
4
110/10kV

220kV

2.5.2.5

1

0.66

1200m^3/h

60 /

2

1 m^3/d

0.5 m^3/d “ + + + + ”

0.8 m^3/d

0.4 m^3/d “ + + ”

0.5 m^3/d 0.4 m^3/d

2010 4 18 [2010]243

3

2017 8 22

2.5-3

2.5-3

6 PET

		10	[2009]850		2017 8 22 3 1000 kcal/h 2 1
		30000	[2012]72		
		1.5	[2009]450		/
			[2012]22		/
		PTT	[2016]688		2017 8 22 3 1000 kcal/h 2 1
		12 PTT	[2008]151		/
		20 CDP	[2010]225		2017 8 22 3 1450 / 2 1
		40	[2012]23		2017 8 22 6 1450 / 4 2
		50	[2013]119	1 25	2017 8 22 3 1450 / 2 1

4

4 5000m^3

6 PET

					/
		40	[2012]23		40
		50	[2013]119	1 25	25
		5 PTT	[2017]379		5
		20	[2018]18		20
		20	[2019]48		20
	165.25				

2.5.2.7 [2013]6

[2013]6 2.5-5

2.5-5 [2013]6

6 PET

	2017 8 22 25%
198 /	145.25 / 20 / [2013]6 198 /

2.5.3 2014-2030

145.25 / 20 /
[2013]6 198 /
[2013]6

2.5.4

1

1996 6 14

2007 9 27 2010 9 29 2012 1
12 2018 1 24

2

2011 8 24 169

2011 11 1 “

”

2012 221

2.5-5

2.5.5

[2020]1

1500m 2.14

2.5-6

2.5.6

GB3095-2012

GB3838-2002

GB3096-2008 3 4a

3

3.1

2007 3 2.2

1991

2005

2 t/a

10 t/a

“ 10 ” “ 15000 ”

2 2009 2012 2011

“ 30000 ”

[2012]45 “8 / PTT/PET ”

[2012]22 20 [2013]435

30 [2010]721 PTT

[2016]688 ”

2012 2011

2016 7 2018

12

3.1-1

3.1.1

3.1-1

1		10	[2009]850	2 t/a 2 t/a PTT	2 t/a PTT	2 t/a
2				8 t/a PET 2 t/a PET 10 /	8 t/a PET 2 t/a PET 10 /	
		15000	[2009]450	DTY 15000 POY	DTY 15000 POY	2011 7
3		3	[2012]45	3 PTT	3 PTT 2 t/a PTT PTT	2016 7
4		8 / PTT/PET	[2012]22	PTT/PET FDY 3.2 t/a PTT/PET POY-DTY 4.8 t/a		
5		20	[2013]435	20		

			6	PET		
7		PTT	[2016]688	7500t/a PTT FDY 7500t/a 7500t/a	7500 PTT	2018 12

3.1.2

1-7

3.1-2

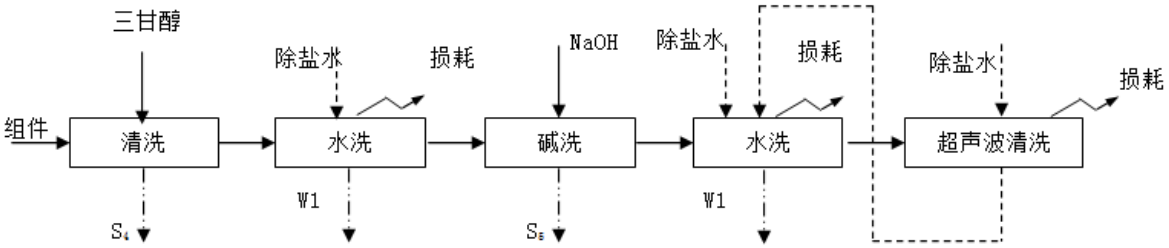
	FDY 2	FDY	16830t/a	7920h
	POY 6	POY	63170t/a	7920h
	PET	PET	20000t/a	7920h
	PTT	PTT	30000t/a	7920h
	PTT-FDY 1	FDY	7500t/a	7920h
	PTT	PTT	20000t/a	7920h

3.1.2.1

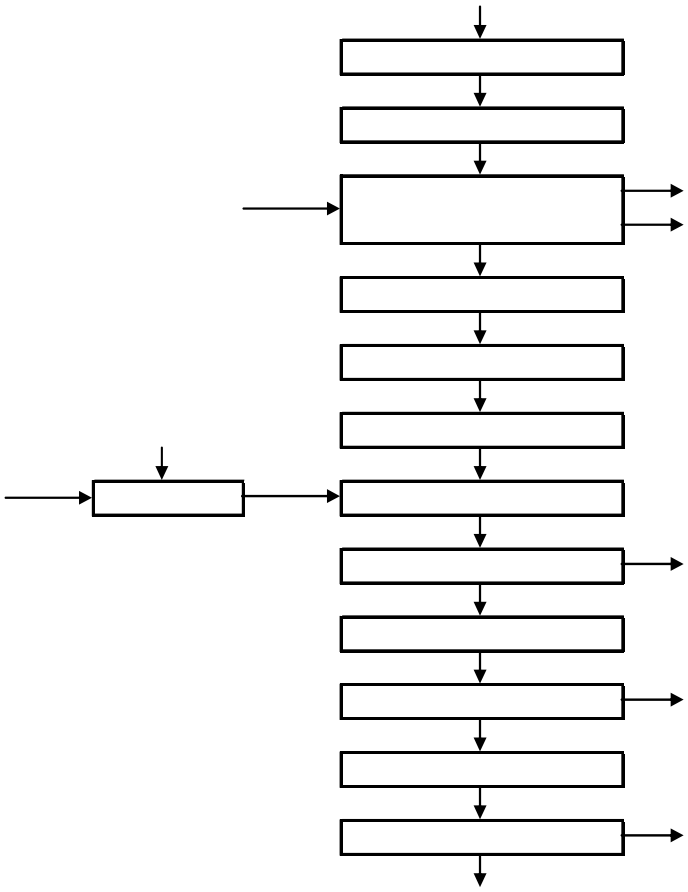
1

2 t/aPTT 3.1-3

3.1-1



3.1-1



3.1-2 PTT

2

3.1-3

3.1-3

		t/a				
1	PTT	20091	1000			PTT
2		100	10			
3		1.5	0.2			
4		13	1			
5		6.75	1			

3

a.

2 t/a 2 300

PTT

b.

3.1-4

3.1-4

	t/a		mg/L	t/a			mg/L	t/a	
	375	COD	2500	0.94					
		SS	150	0.056					
	40	COD	80	0.0024					
		SS	40	0.0012					
	7400	COD	400	2.96		COD	499	3.9024	
		NH_3-N	30	0.222		SS	291	2.2772	
		SS	300	2.22			28.4	0.222	
		TP	1.0	0.0074		TP	0.95	0.0074	
	7815	COD	499	3.9024					
		SS	291	2.2772					
			28.4	0.222					
		TP	0.95	0.0074					

c.

3.1-5

3.1-5

6 PET

	HW35	6.75		/	
	/	180			
	/	382.25	/	/	

4

3.1-6

3.1-6 **t/a**

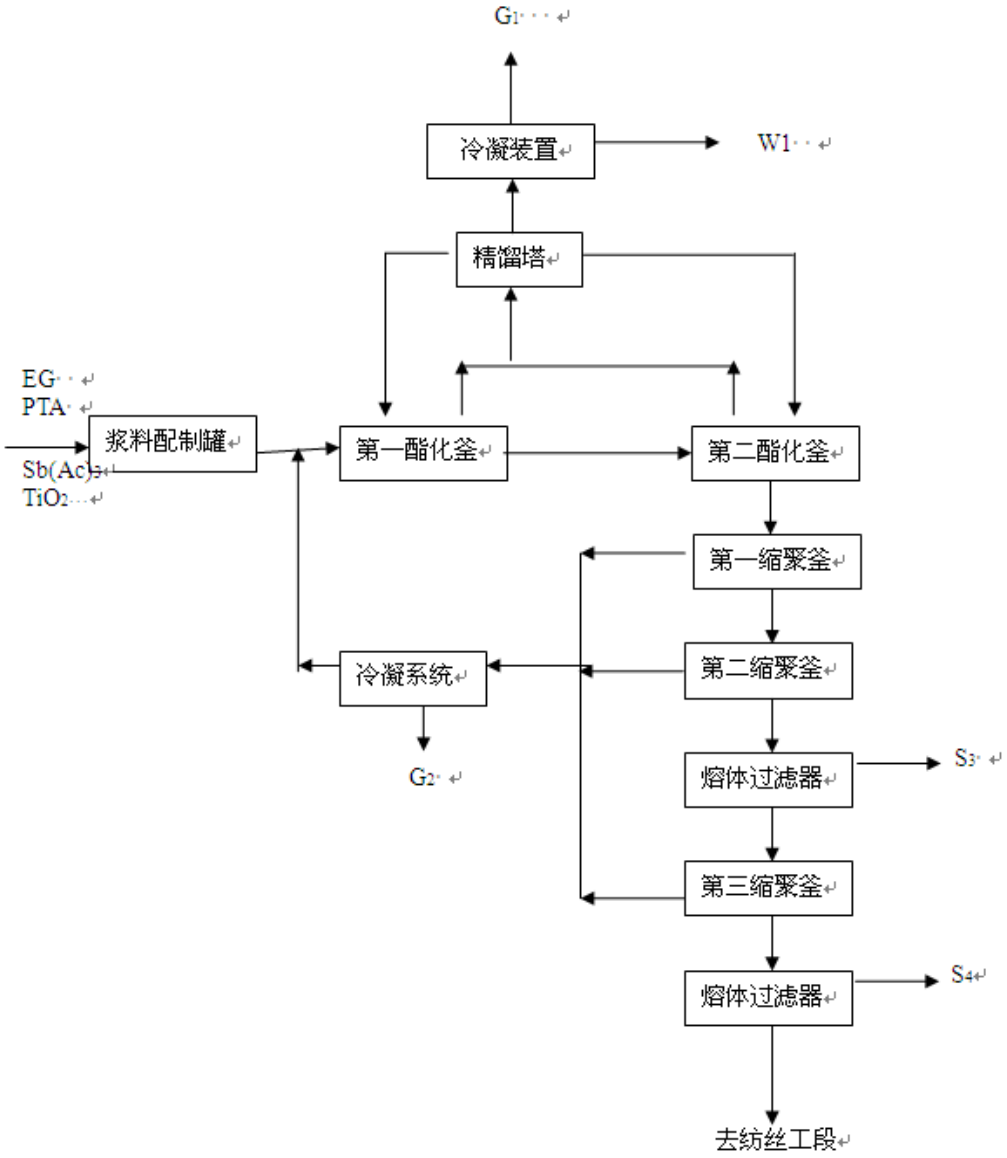
		7815
	COD	3.9024(0.469)
	SS	2.2772(0.078)
		0.222 0.087
		0.0074(0.0074)
		0

3.1.2.2

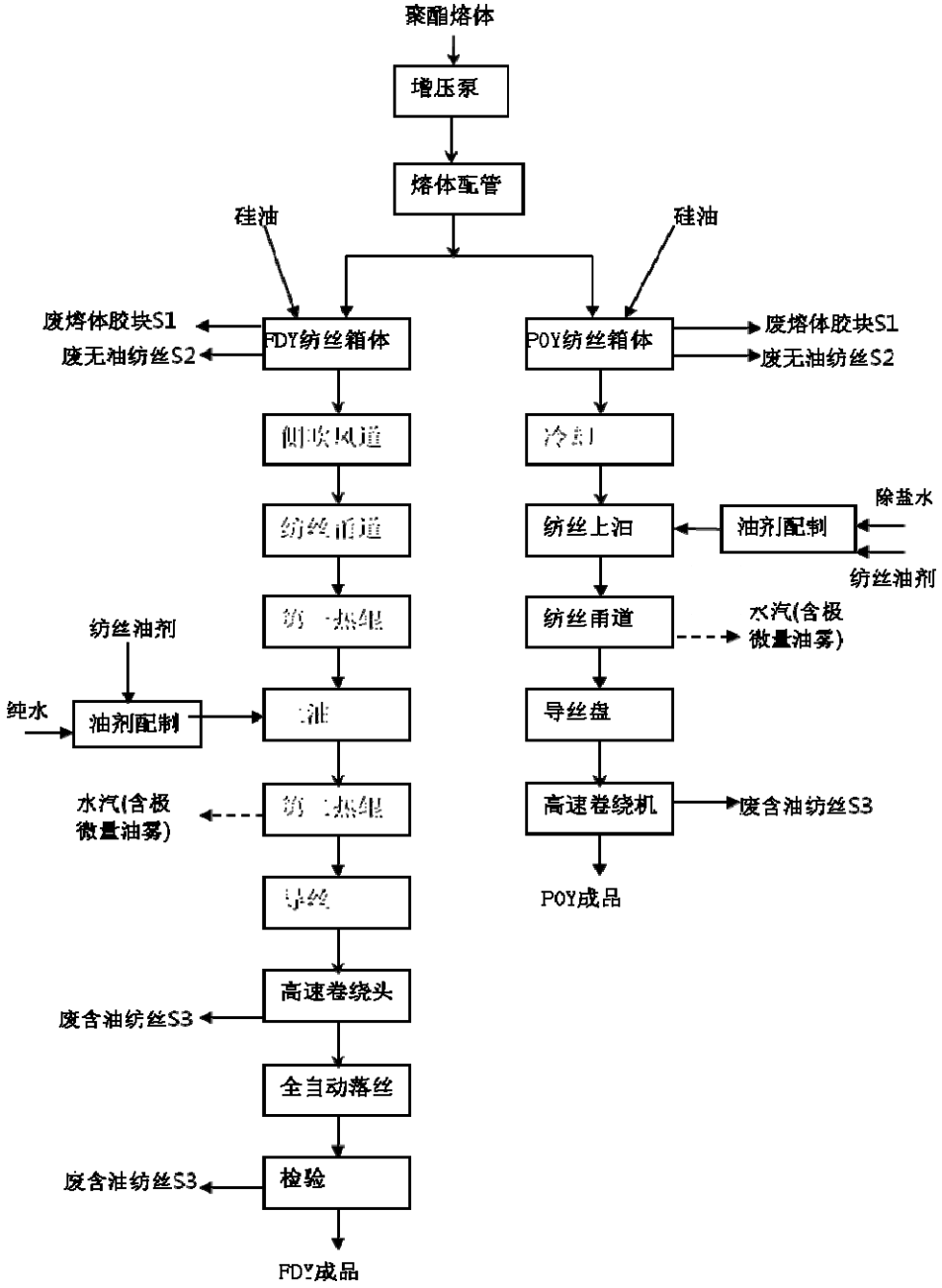
1

8 t/a PET 3.1-3 3.1-4

3.1-5


G1
冷凝装置
W1
精馏塔
EG
PTA
浆料配制罐
Sb(Ac)3
TiO2
第一酯化釜
第二酯化釜
第一缩聚釜
第二缩聚釜
冷凝系统
G2
熔体过滤器
S3
第三缩聚釜
熔体过滤器
S4
去纺丝工段

3.1-3



3.1-4

2

3.1-7

3.1-7

		t/a	t			
1		85930	4000			
2		33325	1600			
3		333.5	24			

6 PET

4		33	5			
5	FDY	84.2	2			
	POY	319	8			
6		3.3	0.2			
7		52	1			
8		27	1			

3

a.

1 3 1000 /

2 1

1 60

3.1-8

3.1-8

		mg/m^3	kg/h			%	(mg/m^3)	kg/h	t/a	(m)	m^3/h	
		50.5	0.051			99.5	0.01	0.000255	0.002	60	27164	
		126.3	0.126									
		378.8	0.38	1		99.5	0.07	0.0019	0.015			

1 8 / PET

1

b.

3.1-9

3.1-9

	t/a							
			mg/L	t/a			mg/L	t/a
	21355.2	COD	3500	74.74				
		SS	200	4.71				
			98.7	2.11				
	7280	COD	600	4.37				
		SS	350	2.548				
			0.8	0.0058				
	1500	COD	2500	3.75				
		SS	150	0.225		COD	500	18.45
	160	COD	80	0.0128		SS	200	7.38
		SS	40	0.0064			5.37	0.198
						TP	0.19	0.007
	6600	COD	400	2.64			0.16	0.0058
		NH_3-N	30	0.198				
		SS	300	1.98				
		TP	1.0	0.007				
	36895.2	COD	2318	85.513				
		SS	257	9.47				
			5.37	0.198				
		TP	0.19	0.007				
			0.16	0.0058				

3.1.2.3

1

3.1-5

2

1-17

3.1-10

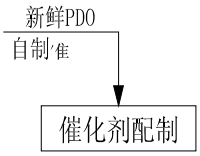
1	POY	15300t/a
2	DTY	324
3	DTY	54
4		1752 /

3

300 /

3.1.2.4

1



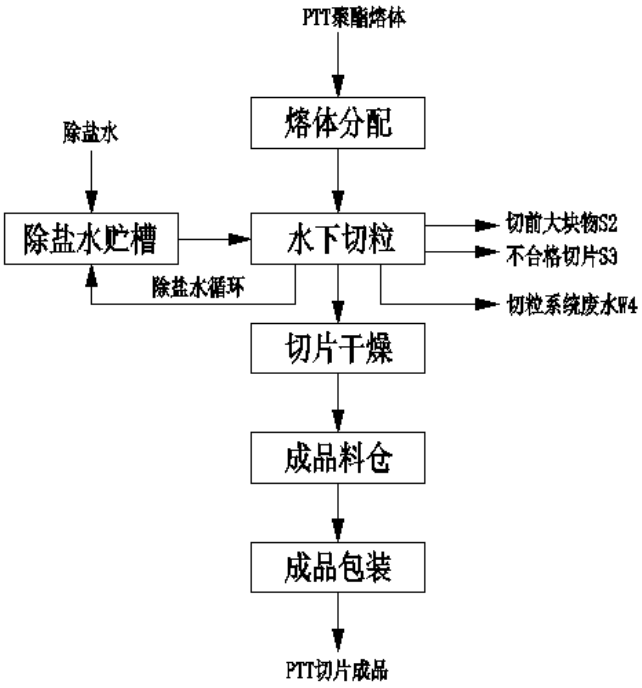
PTA 制 浆

第一酯化

第二酯化

终缩聚

聚酯熔体



3.1-7 PTT

2

3 3.1-11

3.1-11

		/ *		
1		0.81	24240.75	/
2	1 3-	0.38	11373.84	/
3		0.00037	11.1	/
4		0.0033	99	/

a.

1 3 1000 /

2 1

1 60

PTT 25m PTA

3.1-12

	Nm^3/h		mg/m^3	kg/h	t/a		%	mg/m^3	kg/h	t/a	mg/m^3	kg/h	mm		m	
	27164		334.6	3.35	26.5	1	99.5	0.62	0.01675	0.13	/	125	3500	100	60	
			809.3	8.09	64.1		99.5	1.49	0.04045	0.32	/	9				
			12.4	0.124	0.98		99.5	0.023	0.00062	0.005	/	27				
	27164		50.5	0.005	0.04	1	99.5	0.001	0.000025	0.0002	/	9	3500	100	60	
			12.6	0.001	0.01		99.5	0.0002	0.000005	0.00004	/	27				
FDY PTT	7260×2		5.22	0.038×2	0.6		99	0.052	0.00038×2	0.006	120	14.45	750	75	25	
POY PTT	7260		5.22	0.038	0.3		99	0.052	0.00038	0.003	120	14.45	750	75	25	
PTA	1000		378	0.378	3		99	3.78	0.0038	0.03	120	4.1	200		15	

1 **3** **1**

b.

3 3.1-13

3.1-13

	m^3/d		(mg/L)	(kg/d)			(mg/L)	(kg/d)	
	19.8	COD	4000	79.2		COD	/	28.49	
		SS	200	3.96		SS	400	12.116	
			2585.9	51.2			40	1.2116	
			162.1	3.21					

	m^3/d		(mg/L)	(kg/d)			(mg/L)	(kg/d)
			16.7	0.33				
	0.15	COD	1500	0.225				
		SS	400	0.06				
	2	COD	80	0.16				
		SS	40	0.08				
	0.04	COD	80	0.0032				
		SS	40	0.0016				
	4.5	COD	1000	4.5				
		SS	300	1.35				
	2	COD	400	0.8				
		SS	200	0.4				
	28.49	COD	2979.64	84.89				
		SS	205.34	5.85				
	79.68	COD	400	31.87		COD	/	79.68
		SS	200	15.94		SS	400	31.87
		NH_3-N	35	2.79		NH_3-N	200	15.94
		TP	6	0.48		TP	35	2.79
							6	0.48
	108.17	COD	1079.41	116.76	/	COD	/	108.17
		SS	201.44	21.79		SS	400	43.27
		NH_3-N	25.79	2.79		NH_3-N	155.9	16.86
		TP	4.44	0.48		TP	25.4	2.75
							4.3	0.47
	14.67	COD	40	0.59		COD	40	0.59
		SS	30	0.44		SS	30	0.44

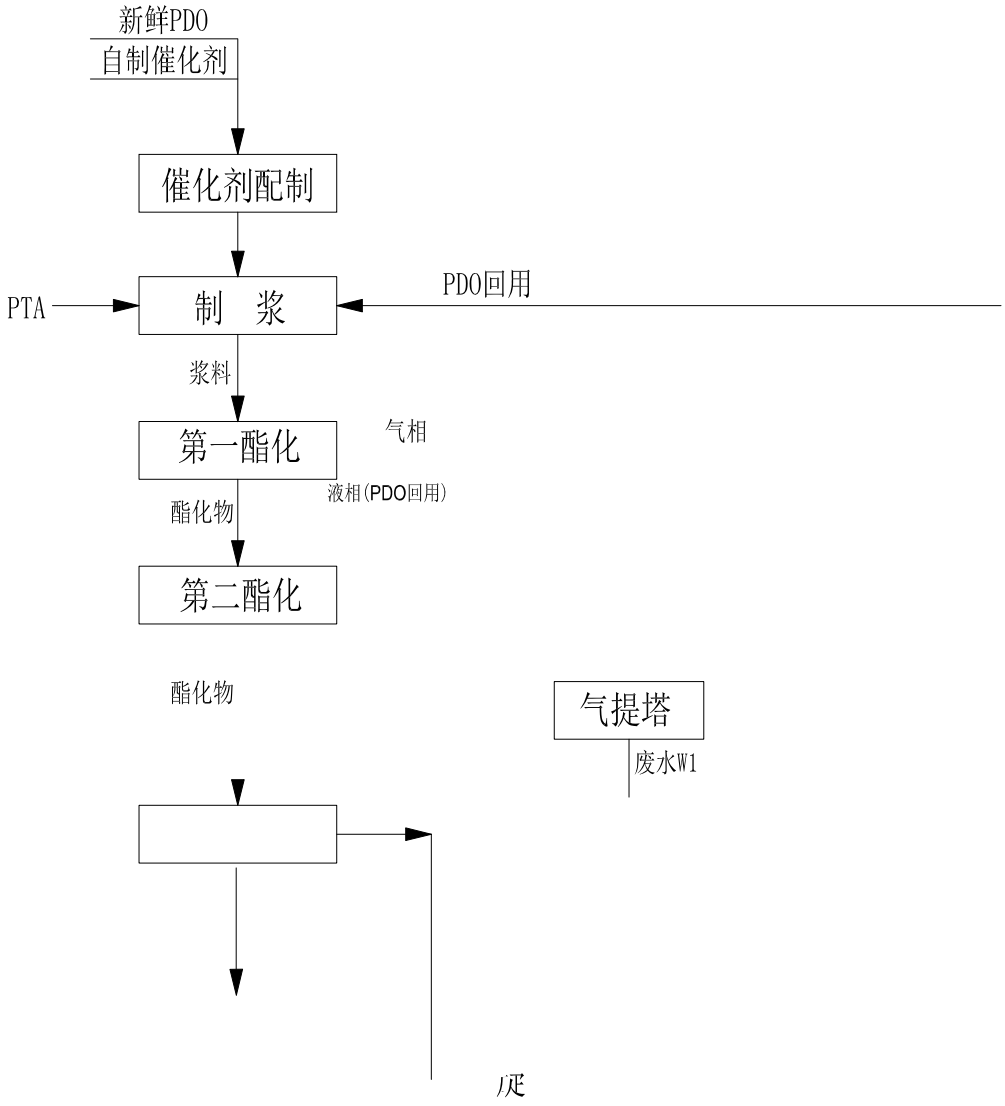
c.

3 3.1-14

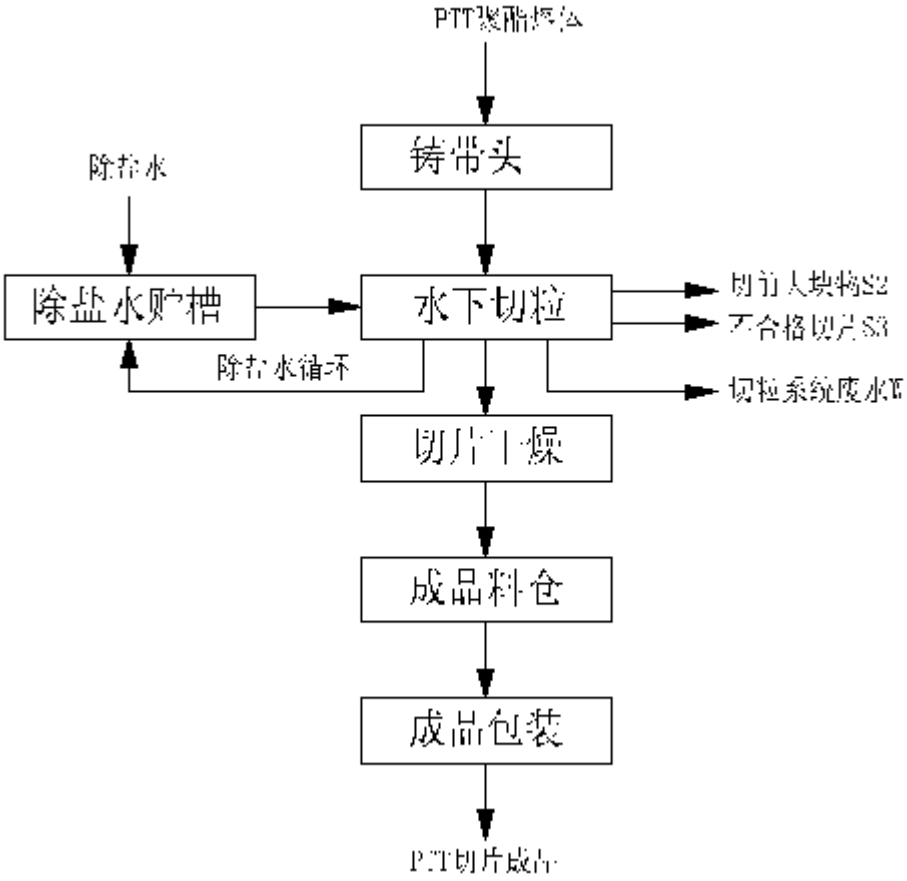
3.1-14 Äp• ÷r(`84u$Œ@ xby ÈH'–@ f‘L„yd !yby ÈHÂyd %Ydby

3.1.2.5

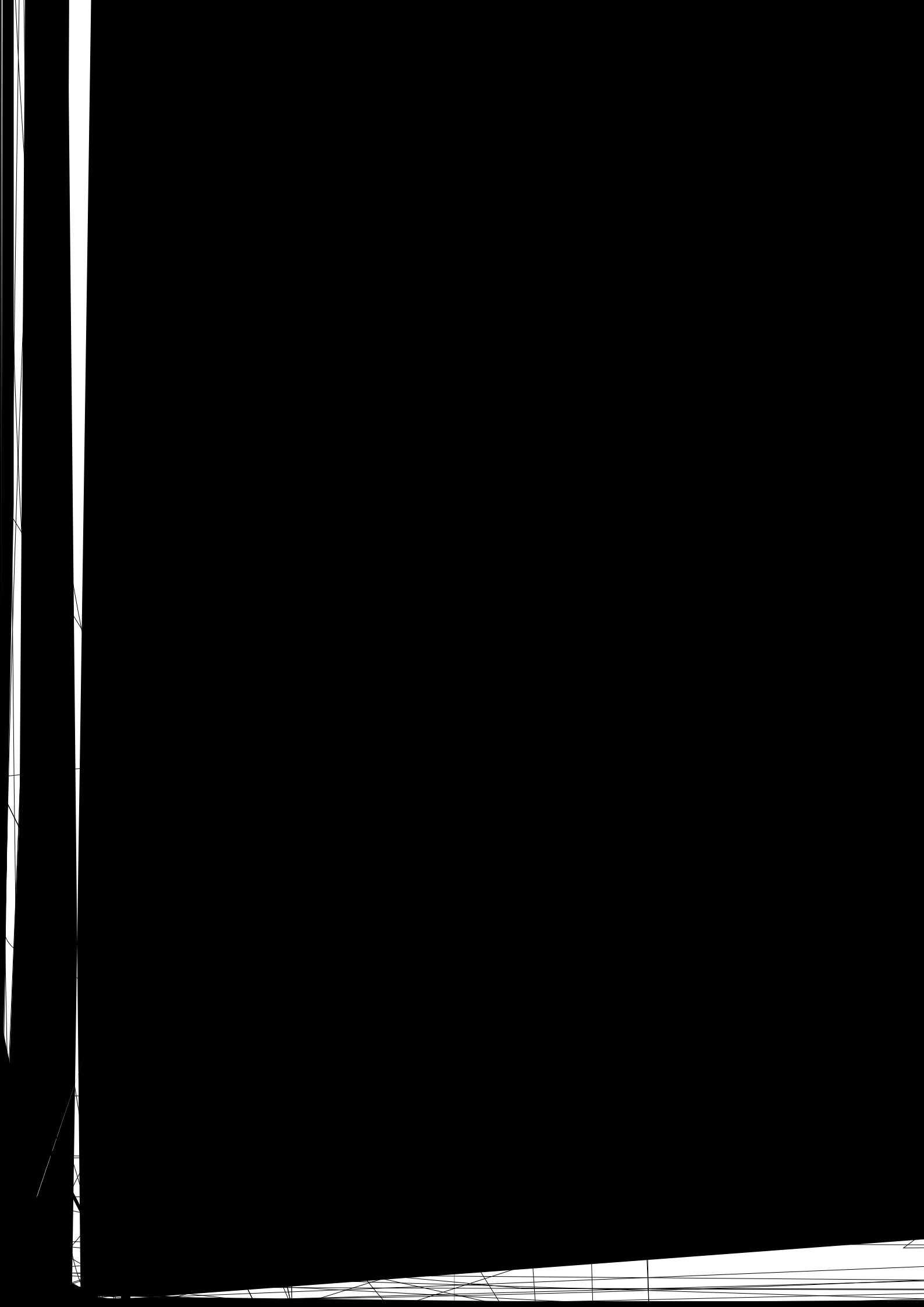
1



3.1-8 PTT


PTT聚酯熔体
铸带头
除盐水
除盐水贮槽
水下切粒
切割大块物S2
不合格切片S3
除盐水循环
切粒系统废水W
切片干燥
成品料仓
成品包装
PTT切片成品

3.1-9 PTT



2

3.1-16 PTT

		/ *		
1		0.81	6060.2	/
2	1 3-	0.38	2843.5	/
3		0.00037	2.8	/
4		0.01	75	/
5		0.0033	25	/

PTT

3.1-17 PTT

1	PTT FDY	FDY	/ FDY	0.996		0.74	-
2		FDY	/ FDY	1.3		10	-
3		FDY	/ FDY	90.74		68.0	-
4			kg/	0.26		1.95	

3

a

3.1-18

	Nm^3/h		mg/m^3	kg/h	t/a		%	mg/m^3	kg/h	t/a	mg/m^3	kg/h	mm		m
		SO_2	99.40	2.70	21.4		80	19.88	0.54	4.28	900	/			
		NO_x	23.19	0.63	5	+	60	9.28	0.25	2	/	/			
			165.66	4.50	35.64	+	99.5	0.83	0.02	0.18	200	/			
			30.56	0.83	6.6		99.5	0.15	0.004	0.03	/	135			
	27164		74.36	2.02	16	SNCR	99.5	0.37	0.01	0.08	/	9	3500	100	60
			1.10	0.03	0.25		99.5	0.01	0.0002	0.001	/	27			
			0.04	0.001	0.01		0	0.04	0.001	0.01	/	1.25			
			0.04	0.001	0.01		0	0.04	0.001	0.01	/	3.75			
PTA	1000		95	0.095	0.75		98	0.95	0.00095	0.0075	20	3.5	200		15
FDY PTT	7260		3.99	0.029	0.23		99	0.04	0.00029	0.002	20	14.45	750	75	23
FDY	1500		31.33	0.047	0.376		80	6	0.009	0.075	80	3.8	300	50	20

3.1-19

	m^3/a		(mg/L)	(t/a)			(mg/L)	(t/a)	(mg/L)	
	1640.91	COD	4000	6.564			/	3269.51	COD 500	
		SS	200	0.328			400	1.31		

6 PET

	m^3/a		(mg/L)	(t/a)			(mg/L)	(t/a)	(mg/L)	
			2620.50	4.3		COD SS	40	0.131	SS 400 NH_3-N 30 TP 5	
			176.73	0.29						
			24.38	0.04						
	610	COD	80	0.049						
		SS	40	0.024						
	50	COD	1500	0.075						
		SS	400	0.02						
	3.3	COD	80	0.0003						
		SS	40	0.0001						
	742.5	COD	1000	0.743						
		SS	300	0.223						
	222.8	CDO	1500	0.334						
		SS	400	0.089						
	3269.51	COD	2374.79	7.764						
		SS	209.38	0.685						
	739.2	COD	400	0.296			/	739.2		
		SS	200	0.148		COD SS	400 200	0.296 0.148		
		NH_3-N	35	0.026		NH_3-N	35	0.026		
		TP	6	0.004		TP	6	0.004		
	4008.71	COD	2010.64	8.06			/	4008.71		
		SS	207.65	0.832		COD SS	400 70.25	1.603 0.282		
		NH_3-N	6.45	0.026	/	NH_3-N	6.45	0.026		
		TP	1.11	0.004		TP	1.11	0.004		
	1406	COD	30	0.042		COD	30	0.042	/	

3.1-20

						t/a		
1					PTT	95.8	/	
2					PTT	15	/	
3					PTT	1.1	/	
4					NaOH	2.5	HW35 900-352-35	
5					PTT	0.23	/	
6			PTT		PTT	30.37	/	
7					PTT	96.53	/	
8						0.2	HW08 900-249-08	
9	S9					5	HW06 900-403-06	

3.1.2.6

“8 / PTT/PET

” “ 20 ” 3.1-22

3.1-22

		/	/	
PTT/PET FDY	4 FDY	3.2	97	PET PTT
PTT/PET POY-DTY	6 POY 60	4.8	145	
20	100	20	606	POY

3.1-23 t/a

		8 / PTT/PET	20	
		43857	4080	47937
	COD	17.54 2.63	1.632 0.24	19.172 2.87
	SS	8.51 0.44	1.224 0.04	9.734 0.48
		1.48 0.22	0.143 0.02	1.623 0.24
		0.25 0.02	0.02 0.002	0.27 0.022
		0.327	0	0.327
		0.0225	0	0.0225
		0	0	0

3.1.11

“8 / PTT/PET

” “ 20 ”

3.1-24

3.1.12

“8 / PTT/PET

” “ 20 ”

1

2

PTT

3.1-25 3.1-26

3.1-25 **mg/L**

	mg/L pH						
	2017.8.5						
pH	7.47	7.46	7.47	7.48	7.46~7.48	6~9	
	20	21	20	20	20	60	
	7	6	9	8	8	10	
	0.21	0.213	0.229	0.261	0.228	5	
	0.47	0.46	0.46	0.42	0.453	0.5	
	2017.8.6						
pH	7.53	7.51	7.51	7.49	7.49~7.53	6~9	
	19	19	19	20	19	60	
	9	6	7	8	8	10	
	0.108	0.056	0.072	0.224	0.115	5	
	0.38	0.38	0.39	0.37	0.38	0.5	

3.1-26

3

4

PTT

1 250m^2

GB18597-2001

150m^2

GB18599-2001

5

3.1.13 **“ ”**

3.2

3.2.1

6 PET

[C2829]

3.2-3

39587 130

0.33%

27666.3m^2 9792.7m^2

8 24 330

7920h

120

6

3.2.2

FF

6 PET

1 FF 8638.3 26511.9

221.95 38.92 23.95

2 1154.4 1154.4

34.48 33.48 16

2

1-5

	/	(m^2)	(m^2)		(m)			
1	FF	8638.3	26511.9	4	23.75			

6 PET

2		1154.4	1154.4	1	16.2			

3.2-1

PET 2 FDY 6 5 POY

7 1-4

3.2-1

			t/a			
FDY	FDY	75D/36	5000	23000	7920h	
		75D/72	6000			
		75D/48	4000			
		50D/36	4000			
		50D/72	2000			
		50D/48	2000			
POY	POY	75D/36	8000	37000	7920h	
		75D/72	8000			
		75D/48	8000			
		50D/36	5000			
		50D/72	4000			
		50D/48	3000			
		30D/36	1000			

FZ/T54003-2012

GB/T14460-2015 GB/T8960-2015

FZ/T54047-2012 FZ/T54096-2017

3.2-4 POY FZ/T 54003-2012

			1.5dtex≤dpf<2.9dtex			2.9dtex≤dpf<5.0dtex			5.0dtex≤dpf<10.0dtex		
1		%	±2.0	±2.5	±3.0	±2.0	±2.5	±3.0	±2.0	±2.5	±3.0
2	CVb ≤	%	0.60	0.80	1.1	0.50	0.70	1.0	0.50	0.70	1.0
3	≥	cN/dtex	2.3	2.1	1.9	2.2	2.0	1.8	2.2	2.0	1.8
4		%	4.5	6.0	8.5	4.5	6.0	8.5	4.0	5.5	8.0

6 PET

			1.5dtex≤dpf<2.9dtex			2.9dtex≤dpf<5.0dtex			5.0dtex≤dpf<10.0dtex		
	CVb≤										
5		%	M1±4.0	M1±6.0	M1±9.0	M1±4.0	M1±6.0	M1±9.0	M1±4.0	M1±6.0	M1±9.0
6	CVb≤	%	5.0	6.5	9.0	5.0	6.5	9.0	4.5	6.0	8.5
7	U≤	%	0.96	1.36	1.76	0.88	1.28	1.96	0.80	1.20	1.60
	CV≤	%	1.20	1.70	2.20	1.10	1.60	2.10	1.00	1.50	2.00
8	/(%)	%	M2±0.12								

1 M1
2 M2

3.2-7 FDY GB/T 8960-2015

		0.3dtex<dpf≤1.0dtex			1.0dtex<dpf≤5.6dtex		
		AA	A	B	AA	A	B
1	/%	±2.0	±2.5	±3.5	±1.5	±2.0	±3.0
2	(CV)/% ≤	1.50	2.00	3.00	1.00	1.30	1.80
3	/(cN/dtex) ≥	3.5	3.3	3.0	3.8	3.5	3.1
4	(CV)/% ≤	7.00	9.00	11.0	5.00	8.00	11.0
5	/%	M1±4.0	M1±6.0	M1±8.0	M1±3.0	M1±5.0	M1±7.0
6	/(CV)/% ≤	15.0	18.0	20.0	8.00	15.0	17.0
7	/% ≤	M2±0.8	M2±1.0	M2±1.5	M2±0.8	M2±1.0	M2±1.5
8	/ ≥	4	4	3-4	4-5	4	3-4
9	/(%)	M3±0.2	M3±0.3	M3±0.3	M3±0.2	M3±0.3	M3±0.3
10	/ /m	M4±4	M4±6	M4±8	M4±4	M4±6	M4±8
11	/kg		≥1.0	-		≥1.5	-

1 M1
2 M2
3 M3
4 M4 8 /m

5 CV CVb

3.2.3

FDY POY

3.2-8

3.2-8

		FF 26511.9m^2 1154.4 m^2	
	PET	23t/d 330d/a	
		PET	
			1
	PET	6 / 2 FDY 5 POY	

6 PET

		1	
		10×10m ×	
		1 2000m^3	
		620m^3 15.5×10×4	

3.2.4

3.2-1 3.2-2

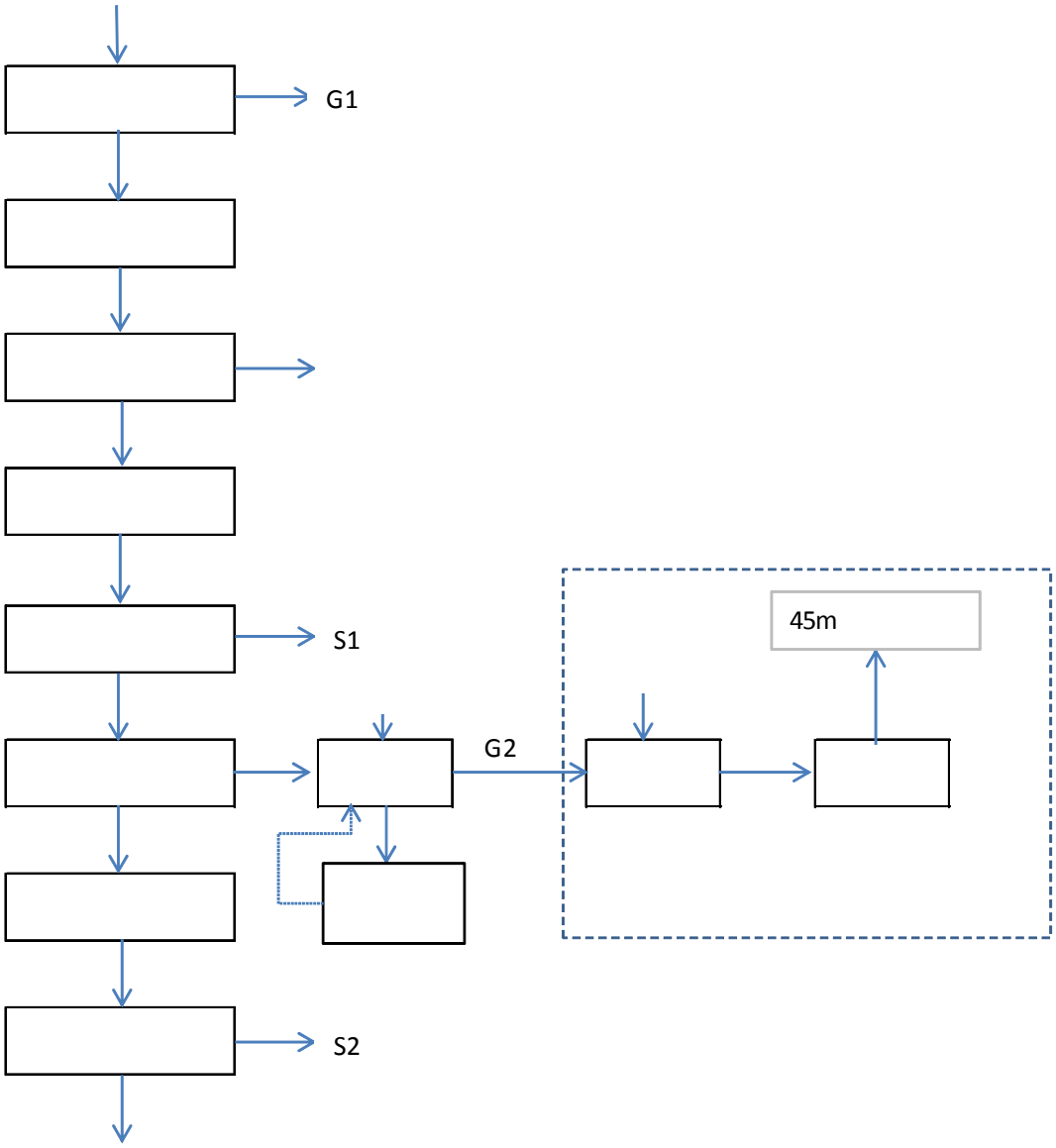
3.2-3

3.3

3.3.1

3.3.1.1

1



3.3-1

1 PET

2

3

265

4

150Pa 270~280

270-280

40-90 min

150Pa 270~280 40-90 min

xHO CH_2CH_2OOC  COO n-CH_2CH_2OH

HO CH_2CH_2OOC  COO xn-CH_2CH_2OH + x-1 $HOCH_2CH_2OH$

 $COOCH_2CH_2OH + HOCH_2CH_2OOC$ 

 $COOCH_2CH_2OCH_2CH_2OOC$  H_2O

 $COOCH_2CH_2OH$  COOH + CH_3CHO

10kPa

225kg/h

1mbar

50

60

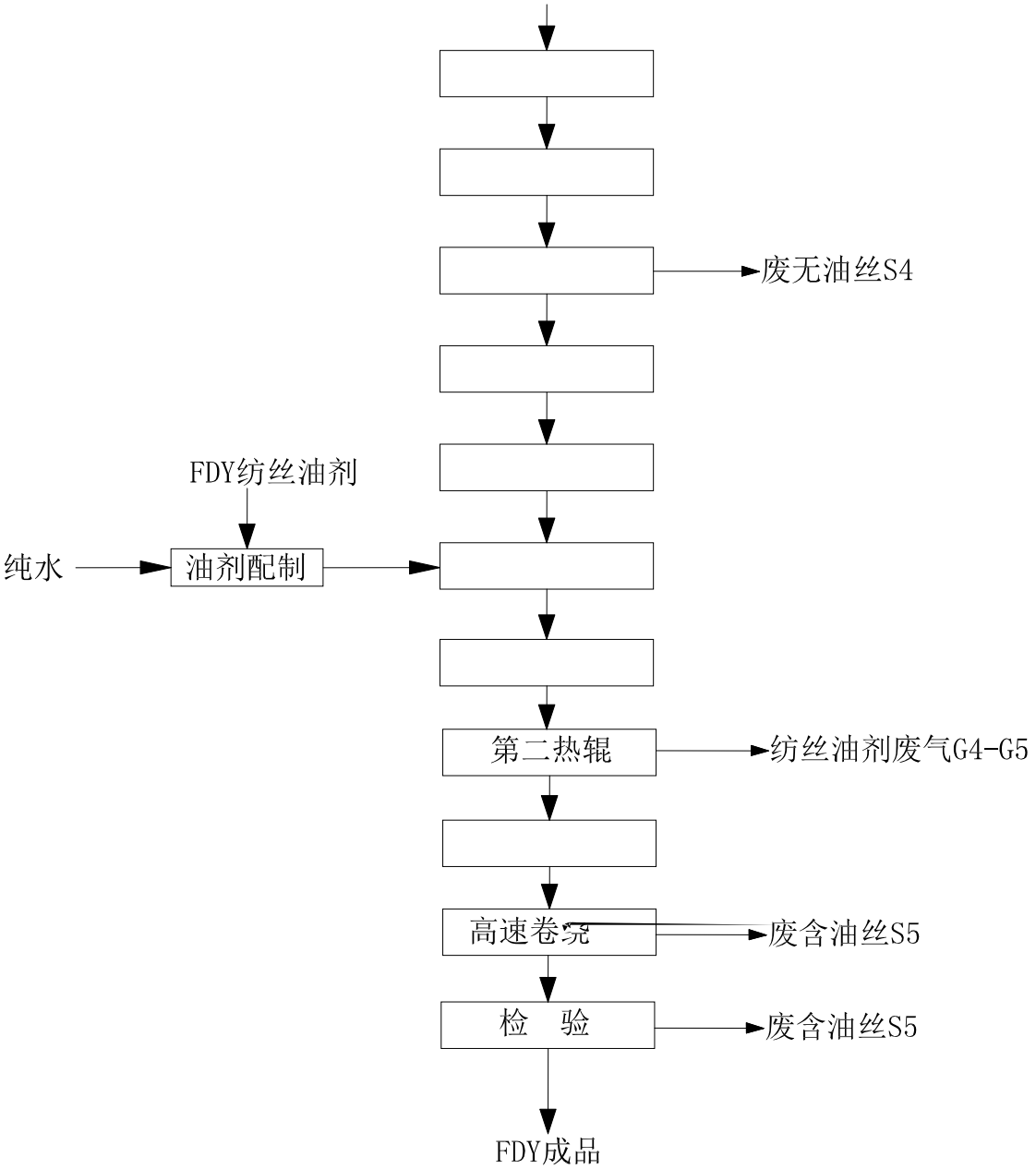
1000

99.8% 45m

3.3.2.2 POY FDY

FDY POY

3.3-2



3.3-2

FDY

FDY

90 120

24

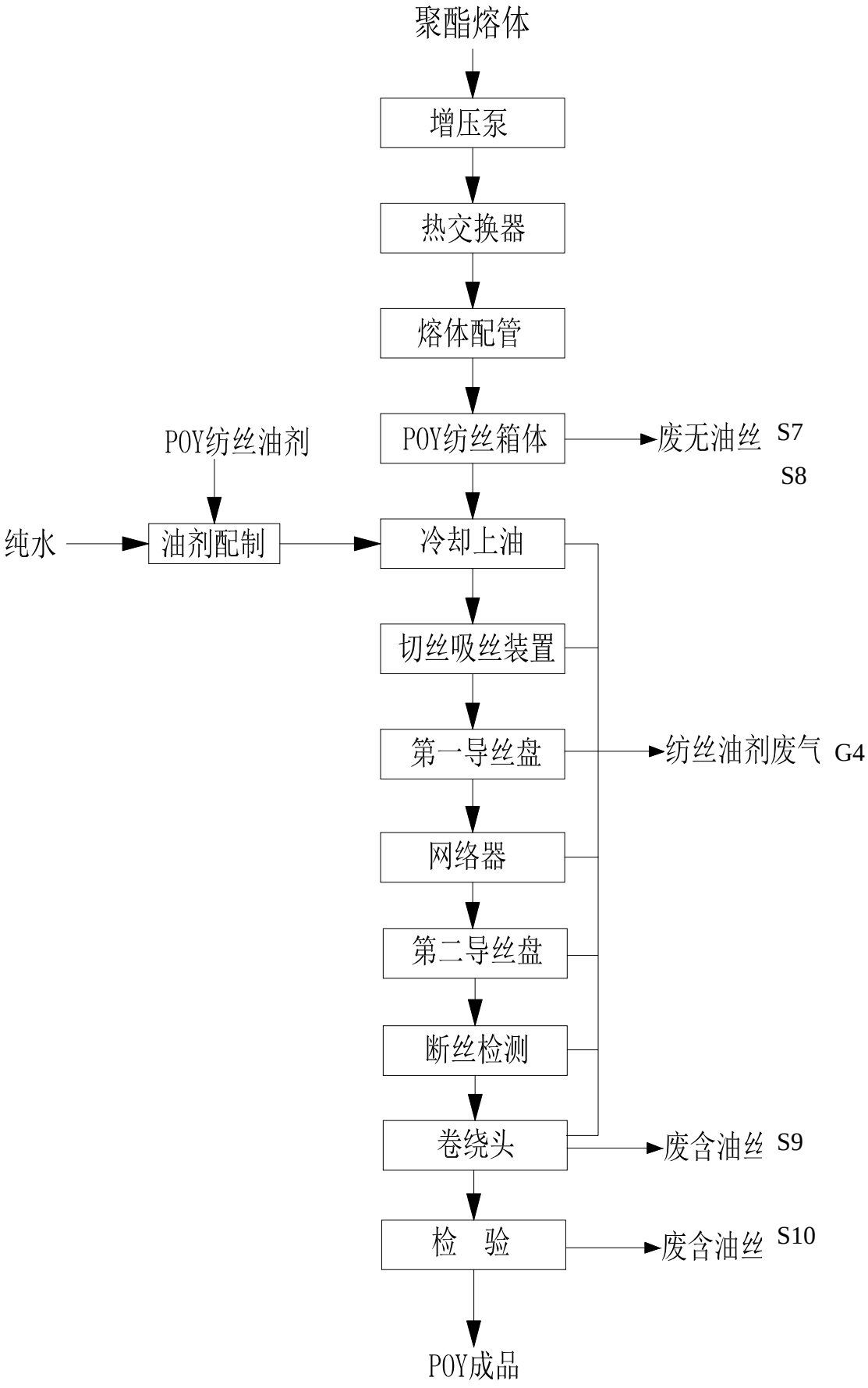
24

FDY

30m

FDY

POY


聚酯熔体
增压泵
热交换器
熔体配管
POY纺丝箱体
废无油丝 S7
S8
POY纺丝油剂
纯水
油剂配制
冷却上油
切丝吸丝装置
第一导丝盘
纺丝油剂废气 G4
网络器
第二导丝盘
断丝检测
卷绕头
废含油丝 S9
检 验
废含油丝 S10
POY成品

POY

24 24 2

12 1

12

12 12

POY S7 S8 S9

POY

2

30m

3.3.2.3

FDY =1:16 POY 1:10

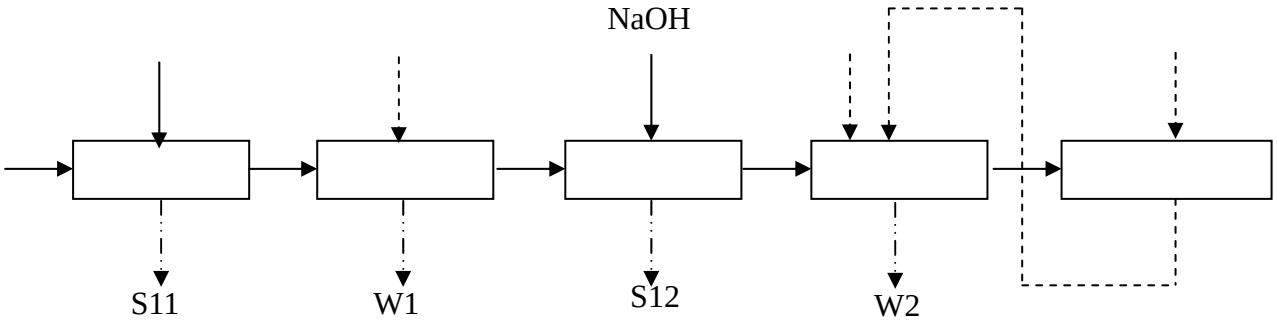
3.3.2.4

(0.5~2)

1

275

95



3.3-3

2

5

300 ( )

450 ( )

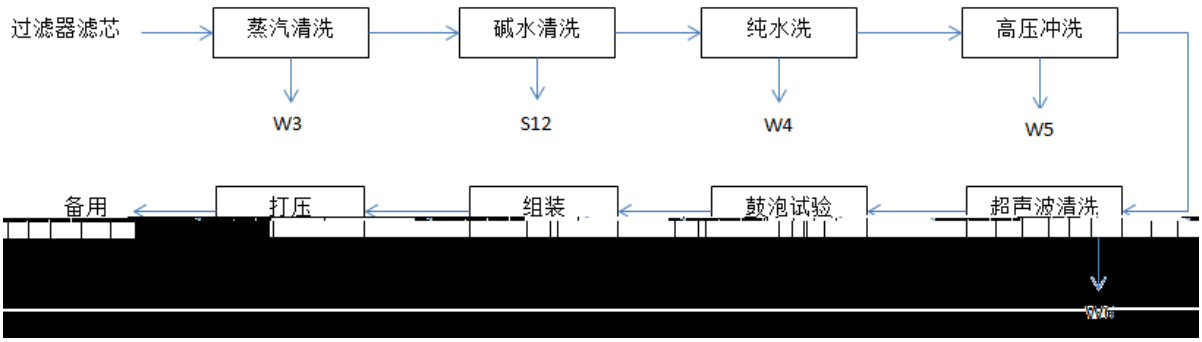
450

3.3.2.5

300~350

18 1

3.5-1



3.5-1

3.3.2.6

1

0.1250g 25ML

15ML

2

0.3g 20ML 14ML

3 DEG

1.0000g 2ml 10ML

4

2.0g 50ML 5

6

1t/a

3.3.3

3.3-1

		/		
		192	/	
		4	/	

			6	/	
			2	/	
			1	/	
			1	/	
			1	/	
			192	/	
			5	/	
			1	/	
			1	/	
			1	/	
			1	/	
			1	/	
			1	/	
			1	/	
			1	/	
			3	/	
			2	/	
			1	/	

3.3.4

3.3-2

				t/a	t		
		PET	1.02t/t	61200	300		
		50%PET 50%	0.006	360	30		
	FDY	30% 15% 25% 10% 10% 10%	13.2kg/t	317	200	200kg/	
	POY	25 50 15 10	5.72kg/t	206	125	200kg/	
		30%	/	13	2	25kg/	
			/	11	2	200kg/	
		/	/	0.360	10	500ml/	
		/	/	0.324	10	500ml/	
		/	/	0.0576	10	500ml/	
		/	/	0.0432	10	500ml/	

6 PET

		/	/	0.0576	10	500ml/	
		/	/	0.072	10	500ml/	
		/	/	0.0864	10	500ml/	
		/	/	4572m^3	/	/	
		/	/	77 m³	/	/	
		/	/	3300 kwh	/	/	
				45t			
		/	/	3000t/a	/	/	

3.3.5

3.3-4~3.3-5 3.3-4~3.3-5

3.3-4 **t/a**

1		61200	1		60219	/	/	/
2		360	2		/	0	/	83.28
3			3		/	11.98	/	/
4			4		/	21.74	/	/
5			5		/	1224	/	/
	61560			/	60219	1257.72	/	83.28
				/	61560			

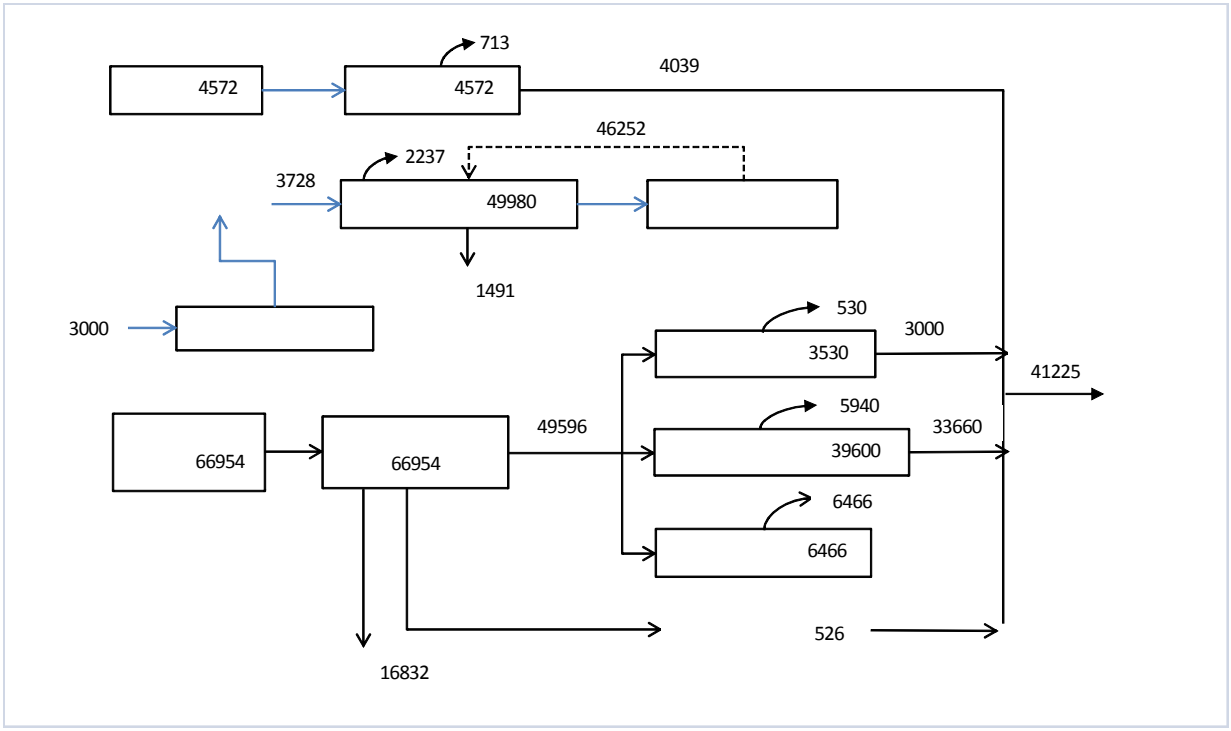
3.3-5 **t/a**

1

6 PET

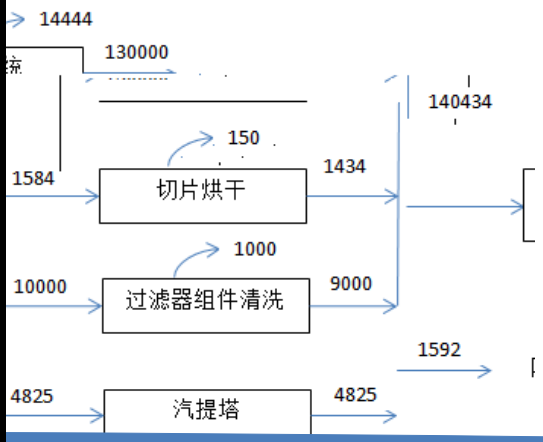
	67180	67180

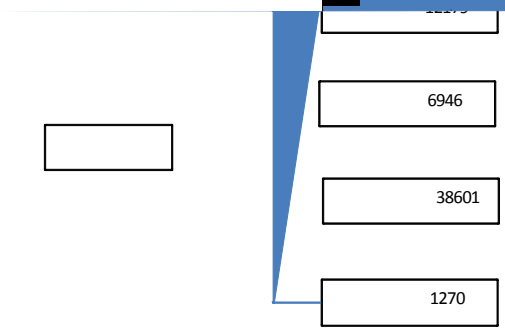
3.3-6 3.3-7



3.3.5-1 **t/a**

PET


14444
130000
140434
150
1584
切片烘干
1434
1000
10000
过滤器组件清洗
9000
1592
4825
汽提塔
4825


6946
38601
1270

499789

3.3-6 t/a

3.3.6

PET PET

3.4

“ ” /

3.4.1

3.4-1

3.4-1

FDY	30% 15% 25% 10% 10% 10%		
POY	25 50 15 10 100 20 0.94g/cm^3 pH 150g/L 7.5±1.0		
	1.328		

196~198℃

1115.0~1115.6kg/m^3

CO

3.4-2

3.4-2

1					
3		0.8 m^3/d 1 + +			

3.4.3 P

3.4.3.1 Q

3.4-5

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

—— t

—— t

1 I

1 1 1 10 2 10 100 3 100

3.4-5 *Q*

		CAS	/t	/t	
1		108-95-2	0.05	5	0.01
2		75-09-2	0.05	10	0.01
3		7664-93-9	0.05	10	0.01
5		67-63-0	0.05	10	0.01
6		67-56-1	0.05	10	0.01

6 PET

		CAS	/t	/t	
8		61788-32-7	257	100	2.57
					2.62

HJ169-2018 B B.2

2 3 1

3.4-5 =2.62 1 10

3.4.3.2 M

3.4-6

HJ169-2018 C C.1 20 10 M 20

M2

3.4-6 M

			/	M
1			1	10
2			1	5
3			1	5
				20

3.4.3.3

3.4-5 3.4-6 HJ169-2018

C C.2 P P3

3.4-7

3.4-7

Q	M1	M2	M3	M4
Q≥100	P1	P1	P2	P3
10≤Q 100	P1	P2	P3	P4
1≤Q 10	P2	P3	P4	P4

3.4.4

5km 3.4-8

2.4-1

3.4-8

				/m		
	1		N	776		1920
	2		N	902		
	3		NE	2130		
	4		NE	1880		
	5		NE	1627		
	6		NE	2334		
	7		NE	2374		
	8		NE	2507		
	9		NE	2914		
	10		NE	2697		
	11		NE	2593		
	12		S	568		2104
	13		S	411		
	14		S	606		
	15		S	743		
	16		S	1296		
	17		SW	444		
	18		W	506		
	19		SW	1057		
	20		W	1261		
	21		SE	974		
	22		S	951		
	23		SW	1622		6650
	24		SW	1755		
	25		SW	2068		
	26		SW	2381		
	27		SW	1694		
	28		SW	1703		
	29		SW	2790		
	30		SW	2616		
	31		SW	2904		
	32		SW	2947		
	33		SW	3004		

	34		SW	3473		
	35		SW	3159		
	36		SW	3272		
	37		SW	3787		
	38		SW	3829		
	39		SW	3981		
	40		SW	4303		
	41		SW	4574		
	42		SW	3864		
	43		SW	2594		
	44		SW	2892		
	45		SW	2366		
	46		NW	887		
	47		NW	1673		
	48		NW	1573		
	49		W	1302		
	50		W	987		
	51		W	1306		
	52		W	2026		
	53		W	2466		
	54		W	2339		4263
	55		W	2732		
	56		W	2962		
	57		W	4396		
	58		W	4011		
	59		W	4253		
	60		SW	4661		
	61		SW	4623		
	62		SW	3388		
	63		N	526		
	64		N	808		
	65		NW	1062		4175
	66		N	1152		
	67		N	1471		
	68		N	1381		

	69		NW	1906		
	70		NW	1700		
	71		NW	2164		
	72		NW	2607		
	73		N	2743		
	74		NW	3164		
	75		NW	3054		
	76		NW	3387		
	77		NW	3827		
	78		NW	2686		762
	79		NW	3461		
	80		NW	3313		
	81		NW	3079		
	82		NW	3226		
	83		NW	3525		
	84		NW	4028		
	85		NW	3146		
	86		NW	3331		
	87		NW	3913		
	88		NW	4197		
	89		NW	4546		
	90		NW	4420		
	91		NW	3219		603
	92		NW	2856		
	93		NW	2821		
	94		NW	3461		
	95		NW	4119		
	96		NW	4321		
	97		NW	3910		
	98		NW	4382		
	99		NW	4716		
	100		W	4542		
	101		W	4314		
	102		E	2927		1600
	103		E	2775		

	104		E	2849		
	105		SE	3443		
	106		SE	3539		
	107		E	3305		
	108		E	3490		
	109		NE	3761		20000
	110		NE	2981		
	111		NE	2956		
	112		NE	3568		
	113		NE	3617		
	114		NE	4313		
	115		NE	4030		
	116		NE	4006		
	117		E	4132		
	118		E	3746		
	119		NE	3088		
	120		NE	3234		
	121		NE	3281		
	122		NE	3628		
	123		NE	3870		
	124		E	3426		
	125		NE	4632		300
	126		NE	4092		
	127		NE	4487		
	128		NE	4534		184
	129		NE	4046		
	130		NE	4465		
	131		N	3544		738
	132		N	4056		
	133		N	4198		
	134		N	4004		

135		N	3769		
136		NW	4508		

	3		IV		
	4		III		
	5		III		
	10km				
					/km
	1		S1		1.4
	2		S1		3.3
	3		S3		5
	E				E1

						/m
	E					E3

3.5

3.5.1

G1 G2

1 G1

0.01%

PET 61200t/a 6.12t/a 98%

99.5% 0.1523t/a

2 G2

PET

PET 255~264 300~350 350

255~265

11.98t/a 21.74t/a

G1 8

1000

99.8% 60m

3 FDY POY VOCs G3 G4

30m

4

FDY 12.68t/a POY 8.24t/a

90%

95% 19.87t/a 1.987t/a

2 2 30m 1.05t/a

3.5-1

3.5-1

		Nm^3/h		mg/m^3	kg/h	t/a		%	%	mg/m^3	kg/h	t/a	mg/m^3	kg/h	mm		m	
				6	1.51	11.98		100	99.8	0.011	0.0030	0.0240	190	100				
P1	G1	271052													3500	100	45	

5-4

						μg/m³	**t/a**
2					GB16297-1996 2	1000	0.1523
2			VOCs		DB12/524-2014	2000	1.05
					VOCs		1.05

5-5 +

		t/a
1		0.0240
2		0.0435
3		0.1523
4	VOCs	3.037

3.5.2

1

COD SS 33660m³/a

2

3000 m³/a

3

120 24h 120L/(•)

330 4752m³/a 15% 4039m³/a

pH CODcr SS NH_3-N TN TP 6~9 400mg/L 300mg/L 35mg/L 45mg/L 5mg/L

17132t/ a COD SS

30mg/L

3.5-3

3.5-3

		m^3/a		(mg/L)	(t/a)			(mg/L)	(t/a)	(mg/L)
W1	33660		COD	1500	50.49					
							COD SS			

3.5.3

75~85dB(A) 5-6

5-6

	dB(A)			m		dB(A)
	85	192		121(N)		25
	85	4		100(N)		25
	85	192		100(N)		25
	85	6		100(N)		25
	85	2		100(N)		25
	85	1		100(N)		25
	85	1		100(N)		25
	85	5		100(N)		25
	85	1		100(N)		25
	85	1		100(N)		25
	85	1		100(N)		25
	85	1		100(N)		25
	82	3		100(N)		25
	85	2		115(N)		25

3.5.4

GB34330-2017

1 17.883 t/a

HW08 900-210-08

17.883 t0w<4/TT701 f4.255 0 TD.0005 Tf154cc40f2001c307ff1c990d2a14cf0243.085c85b35460a2

HW49 900-047-49

5 18t/a

HW35 900-352-35

6 10t/a HW06 HW06

900-403-06

7

1t/a

0.5t/a

1t/a 1.5t/a

HW49 900-041-49

8 83.28t/a

9 1t/a HW49

900-045-49

10 5.9677t/a

11 1kg 39.6t/a

3.5-5

3.5-6 3.5-7

3.5-5

							*		
						t/a			
1					PET	83.28	√		GB34330-2017
2			/			18	√		
3			/			1	√		
4						1	√		
5						0.5	√		
6		/	/			1	√		
7						5.9677	√		
8			/			10	√		
9		/	/			1.5	√		
10		/	/			17.883	√		
11					PET	198.3	√		
12					PET	442.68	√		
13		/	/			39.6	√		

3.5-6

						t/a		
1					PET	83.28	/	
2						5.9677	/	
3						10	HW06 900-403-06	
4						17.883	HW08 900-249-08	
5						18	HW35 900-352-35	

6 PET

6			/			1	HW49 900-041-49	
7						1	HW06 900-403-06	
8						0.5	HW49 900-041-49	
9			/			1	HW49 900-041-49	
10			/			1.5	HW49 900-041-49	
11					PET	198.3	86	
12					PET	442.68	86	
13			/			39.6	/	
						710.2277		
						50.883		
						39.6		

3.6 “ ”

3.6-1

3.6-2

		t/a	t/a	t/a	“ ” t/a	t/a	t/a
		87353.6	41033.6	4039	0	45072.6	4039
	COD	34.9411(5.241)	16.4131(2.462)	1.616 0.2423	0	18.029 2.7043	1.616 0.2423
	SS	19.2802(0.8732)	9.6082(0.41)	1.212 0.0403	0	10.8202 0.4503	1.212 0.0403
		2.989(0.717)	1.366(0.477)	0.141 0.0162	0	1.507 0.4932	0.141 0.0162
		/	/	0.162 0.0485	0	0.162 0.0485	0.162 0.0485
		0.4484(0.0549)	0.1784(0.0329)	0.02 0.002	0	0.1984 0.0349	0.02 0.002
		44998.41	43381.41	37186	0	80567.41	37186
	COD	23.069 2.6999	22.425 2.6029	18.593 2.231	0	41.018(4.8339)	18.593 2.231
	SS	10.797(0.4501)	10.1621(0.4339)	14.38 0.372	0	24.5421(0.8059)	14.38 0.372
		0.0058 0.0058	0.0058 0.0058	0 0	0	0.0058	0 0
	VOCs	1.206	0.879	3.037	0	3.916	3.037
		0.16	0.16	0	0	0.16	0
		0.41	0.41	0	0	0.41	0
		0.016	0.016	0	0	0.016	0
		0.002	0.002	0.0240	0	0.026	0.0240
		0.015	0.015	0.0435	0	0.0585	0.0435
		0.603	0.276	1.987	0	2.263	1.987
		0.071	0.0485	0	0	0.0485	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0

(1) VOCs 3.037t/a [2014]148 VOCs

(2) 4039t/a [2017]54 COD 18.593t/a [2011]71 COD

(3)

4

4.1

4.1.1

30°45' 31°14' 120°21' 120°54'

23 8

318 205

60

4.1-1

4.1.2

2 4 42.87

31.6 9 15 /

“ 1990 ”

1992 160 50 10%

4.1.3

15.7 1954 2000

38.4 1978 7 5

-9.8 1977 1 31

1135.7mm 1956 2004

1602.9mm 1999

635.1mm 1978

828.2mm 1980 2004

903.4mm 1994

704.7mm (1993)

28d

2.9m/s

4.1.4

533.13km^2 160.6km^2 30.1

26 4.1-2

3507

0.7m 538 m^3 3658 0.8m

561 m^3

28km 50 80m 14.8km

57.6km

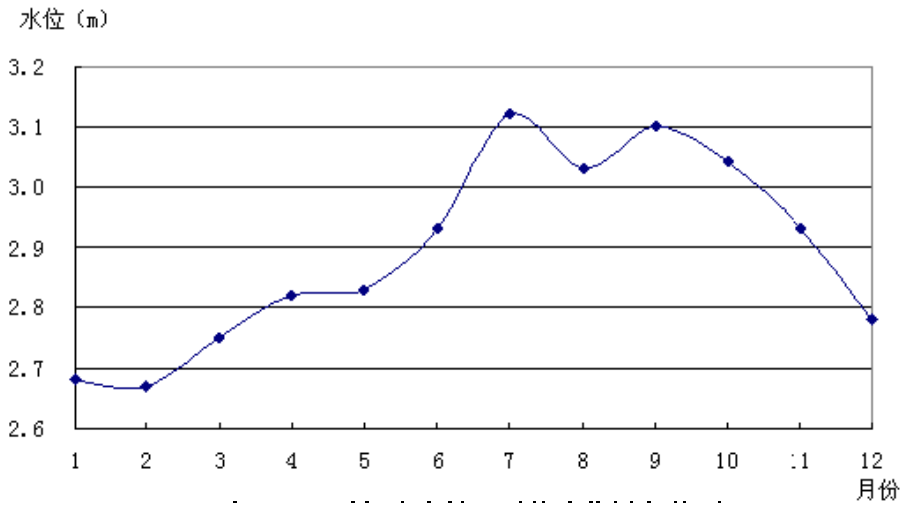
40.8 117 150m -5.0

0

22.5 m^3 49%

11.6 m^3 23% 300m^3/s

4.1-3



4.1-3

4.1.5

150 190 –

300

1000 5000 / 5000 /

150

30 50

60

1 / 1 3 / 3

/

1 /

200 8000 /

4.2

4.2.1

4.2.1.1

2018

NO_2 PM_{10} $PM_{2.5}$ O_3

4.2.1.2

2018

9~15 / 36~45 /

59~74 / $PM_{2.5}$

36~40 / CO 95 1.2~1.4 /

8 90 153~176 /

4.2-1 CO mg/m^3 ug/m^3

				%	
$PM_{2.5}$		36~40	35	102.85~114.28	
SO_2		9~15	60	15~25	
NO_2		36~45	40	90~112.5	
PM_{10}		59~74	70	84.2~105.7	
CO	95	1200~1400	4000	30~35	
O_3	8 90	153~176	160	95.6~110	

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

2020 3.7-3.13 PM_{10}

1

4.2-2

4.2-2

		/m				
		X	Y		(m)	
G1		/	/	/	/	PM_{10}
G2		-998	477		509	

2

G1 2020 3 7 -13 594773 Ä 5

1

3 4.2-2 38.7 609)Tj432.48004 ref1 r86.94 6609)Tj437(2001 1 re4865 623.42 97.02 1.5 refBT/TT7 411.5 0 0 10.5 92.04 603.4403

4.2-2

6 PET

2020 03 13	02:00-22:00	102.1	8.0		1.8	57.1	

5

4.2-5

4.2-5

			mg/m^3		mg/m^3	%	%	
G1		24	0.064	0.082	0.15	/	0	
G2		24	0.025	0.036	0.15	/	0	

4.2-5

GB3095-2012

1

4.2-6 2.4-1 2020

3.7-3.13

4.2-6

		/m				
		X	Y		(m)	
G1		/	/	/	/	VOCs
G2		-998	477		509	

2

2020 3 7 -13

VOCs 4 20

3

4.2-7

4.2-7

1	VOCs		HJ 644-2013
2			HJ/T 35-1999

4

4.2-8

4.2-8

		(kPa)	( )		(m/s)	%	
2020 03 07	02:00-03:40	102.0	8.3		2.0	59.4	
	08:00-09:40	101.9	10.5		2.0	58.3	
	14:00-15:40	101.7	16.5		2.1	56.5	
	20:00-21:40	101.8	11.8		2.1	57.5	
2020 03 08	02:00-03:40	102.1	7.1		1.8	57.1	
	08:00-09:40	102.0	9.9		1.7	55.3	
	14:00-15:40	101.7	11.1		1.6	54.1	
	20:00-21:40	101.9	9.4		2.0	59.8	
2020 03 09	02:00-03:40	100.9	9.1		1.9	59.9	
	08:00-09:40	100.8	10.9		1.8	58.5	
	14:00-15:40	101.7	15.6		1.8	57.9	
	20:00-21:40	101.8	12.5		1.8	58.2	
2020 03 10	02:00-03:40	102.0	7.8		2.1	61.3	
	08:00-09:40	101.	9.7		2.0	59.8	
	14:00-15:40	9101.8	13.2		2.0	57.7	
	20:00-21:40	101.9	10.9		2.0	58.9	
2020 03 11	02:00-03:40	102.3	9.5		2.0	57.5	
	08:00-09:40	102.2	11.3		2.0	56.3	
	14:00-15:40	102.1	16.1		1.9	54.1	
	20:00-21:40	102.2	13.1		1.9	55.6	
2020 03 12	02:00-03:40	102.1	9.7		2.0	58.0	
	08:00-09:40	102.0	11.5		2.0	56.8	
	14:00-15:40	102.1	16.4		1.9	54.6	
	20:00-21:40	102.0	13.5		1.9	56.1	
2020 03 13	02:00-03:40	102.1	8.0		1.8	57.1	
	08:00-09:40	102.0	9.0		1.7	59.2	

	14:00-15:40	101.7	14.2		2.0	60.0	
	20:00-21:40	102.1	11.4		2.1	58.9	

5

4.2-9

4.2-9

			mg/m^3		mg/m^3	%	%	
G1		1	ND	ND	0.01	/	0	
	VOCs	1	0.0007	0.137	0.6	22.8	0	
G2		1	ND	ND	0.01	/	0	
	VOCs	1	0.0031	0.114	0.6	19	0	

4.2-9 VOCs

HJ2.2-2018 D

4.2.2

4.2.2.1

1

3

4.2-10 4.2-1

4.2-10

W1		0.5km
W2		
W3		1.5km

2

pH SS COD

3

2020 3 11 3 13 3 2

4

4.2.2.2

1

Tj j t

3

4.2-7

4.2-11

		pH		COD					
W1		7.01	42	22	7.9	1.32	0.21	0.49	0.0046
		7.79	29	15	3.8	0.47	0.08	0.43	0.0098
		7.4	35.5	18.5	5.85	0.90	0.29	0.46	0.1244
		0.2	0.59	0.61	0.585	0.6	0.483	0.92	/
	%	0	0	0	0	0	0	0	0
W2		7.96	41	19	8.1	0.94	0.20	0.47	0.0052
		7.83	26	13	3.4	0.44	0.08	0.34	0.0031
		7.90	33.5	16	5.75	0.69	0.14	0.405	0.00415
		0.45	0.55	0.53	0.575	0.46	0.46	0.81	/
	%	0	0	0	0	0	0	0	0
W3		7.92	46	19	7.4	1.02	0.16	0.40	0.0051
		7.84	34	14	3.6	0.32	0.09	0.23	0.0029
		7.88	40	16.5	5.5	0.67	0.125	0.315	0.004
		0.44	0.66	0.55	0.55	0.45	0.42	0.63	/
	%	0	0	0	0	0	0	0	0
		6-9	60	30	10	1.5	0.3	0.5	/

SS **SL63-94**

4.2-11 GB3838-2002

4.2.3

4.2.3.1

1

4 N1~N4 3.2-2

2

2020 3 9~10 2020 3 9 1.9m/s

3 10 2.0m/s A 1

3

(GB3096-2008)

4.2.3.2

1

2

GB3096-2008 4a GB3096-2008

3

3

4.2-8

4.2-12

			dB(A)	dB(A)	
N1		3.9	64.3	49.7	
		3.10	63.5	49.9	
N2		3.9	58.4	48.0	
		3.10	55.8	49.1	
N3		3.9	52.2	46.6	
		3.10	52.4	46.5	
N4		3.9	58.2	51.1	
		3.10	62.4	50.7	

4.2-12 N1 N4 GB3096-2008 4a

N2 N3 GB3096-2008 3

4.2.4

4.2.4.1

1

6 3

2.4-1

4.2-13

D1		K^++Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO^{3-} Cl^- SO_4^{2-} pH
D2		
D3		
D4		
D5		
D6		

2

2020 3 13

4.2.4.2

1

GB/T14848-2017

2

3

4.2-14 4.2-15

4.2-14 (mg/L pH)

			pH		CODMn O				
D1			7.28	0.12	1.6	7.74	ND	ND	ND
			I	III	II	II	I	I	I
D2			7.34	0.28	5.4	0.82	0.163	ND	ND
			I	III	IV	I	III	I	I
D3			7.83	0.22	2.5	2.11	0.013	ND	ND
			I	III	III	I	II	I	I
GB/T14848-2017			6.5-8.5	0.02	1.0	2.0	0.01	0.0001	0.005
			6.5-8.5	0.1	2.0	5.0	0.1	0.001	0.01
			6.5-8.5	0.5	3.0	20	1	0.005	0.05
			5.5-6.5 8.5-9	1.5	10	30	4.8	0.01	0.1
			5.5 9	1.5	10	30	4.8	0.01	0.1
D1			538	553					
			IV	III					
D2			232	410					
			II	II					
D3			301	542					
			III	III					
GB/T14848-2017			≤150	300					
			≤300	500					
			≤450	1000					
			≤650	2000					
			650	2000					

“ND”

4.2-15 **mg/L**

	/m	K^+	Na^+	Ca^{2+}	Mg^{2+}	CO_3^{2-}	HCO_3^-	Cl^-	SO_4^{2-}
D1	1.5	5.43	31.0	74.1	25.0	ND	506	76.9	153
D2	1.2	6.74	18.8	63.9	14.3	ND	632	39.9	57.4
D3	1.7	1.62	186	110	80.3	ND	518	106	135
D4	2.0	/	/	/	/	/	/	/	/
D5	1.6	/	/	/	/	/	/	/	/
D6	1.6	/	/	/	/	/	/	/	/

4.2.5

4.2.5.1

HJ964-2018

A II

50hm^2

1 T6 3 T1~T3

0.2km 2 T4 T5

2.4-1 4.2-16

4.2-16

			m	
T1			/	1,1- 1,2- 1,1- -1,2- -1,2- 1,2- 1,1,1,2- 1,1,2,2- 1,1,1- 1,1,2- 1,2,3- 1,2- 1,4- + 2- [a] [a] [b] [k] [a h] [1,2,3-cd]
T2			/	
T3			/	
T4			140	
T5			120	
T6			/	
	0~0.5m 0.5~1.5m 1.5~3m			

1,1- 1,2- 1,1- -1,2- -1,2- 1,2- 1,1,1,2- 1,1,2,2- 1,1,1- 1,1,2- 1,2,3- 1,2- 1,4-

+

4.2-17 **mg/kg**

	mg/kg	T1						T2						T3					
		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m	
	5.7	0.59		0.59		0.72		0.59		0.58		1.08		1.06		0.95		0.53	
	38	0.07		0.046		0.081		0.084		0.050		0.114		0.092		0.075		0.041	
	60	4.34		9.96		4.33		10.1		8.52		9.49		4.10		9.02		22.4	
	18000	38		42		31		40		38		29		43		31		42	
	900	44		46		50		41		44		45		46		45		43	
	800	43		55		37		43		41		35		47		36		39	
	65	0.14		0.14		0.08		0.15		0.14		0.09		0.14		0.10		0.10	
	260	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	76	ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-	2256	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[a]	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[a]	1.5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[b]	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[k]	151	ND		ND		ND		ND		ND		ND		ND		ND		ND	

	mg/kg	T1						T2						T3					
		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m	
	1293	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[a,h]	1.5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
[1,2,3-cd]	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	70	0.26		ND		ND		ND		ND		ND		0.79		ND		0.15	
	2.8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	0.9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	37	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-	66	ND		ND		ND		ND		ND		ND		ND		ND		ND	

	mg/kg	T1						T2						T3					
		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m	
-1,2-	596	ND		ND		ND		ND		ND		ND		ND		ND		ND	
-1,2-	54	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	616	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1,2-	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2-	6.8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	53	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1-	840	ND		ND		ND		ND		ND		ND		ND		ND		ND	

	mg/kg	T1						T2						T3					
		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m	
1,1,2-	2.8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	2.8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2,3-	0.5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	0.43	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	4	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	270	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-	560	ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,4-	20	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	28	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	1290	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	1200	ND		ND		ND		ND		ND		ND		ND		ND		ND	

		T1						T2						T3					
		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m		0.0~0.5m		0.5~1.5m		1.5~3.0m	
	mg/kg																		
/	570	ND		ND		ND		ND		ND		ND		ND		ND		ND	
	640	ND		ND		ND		ND		ND		ND		ND		ND		ND	

4.2-17 **mg/kg**

		T4		T5		T6	
		0~0.2m		0~0.2m		0~0.2m	
	mg/kg						
	5.7	0.55		0.77		0.71	
	38	0.079		0.05		0.084	
	60	7.16		12.6		9.99	
	18000	17		27		30	
	900	27		38		40	
	800	29		32		36	
	65	0.07		0.09		0.11	
	260	ND		ND		ND	
	76	ND		ND		ND	
2-	2256	ND		ND		ND	
[a]	15	ND		ND		ND	

6 PET

	mg/kg	T4			T5		T6	
		0~0.2m			0~0.2m		0~0.2m	
[a]	1.5	ND			ND		ND	
[b]	15	ND			ND		ND	
[k]	151	ND			ND		ND	
	1293	ND			ND		ND	
[a,h]	1.5	ND			ND		ND	
[1,2,3-cd]	15	ND			ND		ND	
	70	ND			ND		ND	
	0.9	ND			ND		ND	
	37	ND			ND		ND	
1,1-	9	ND			ND		ND	
1,2-	5	ND			ND		ND	
1,1-	66	ND			ND		ND	
-1,2-	596	ND			ND		ND	
-1,2-	54	ND			ND		ND	
	616	ND			ND		ND	
1,2-	5	ND			ND		ND	
1,1,1,2-	10	ND			ND		ND	
1,1,2,2-	6.8	ND			ND		ND	

6 PET

	mg/kg	T4		T5		T6	
		0~0.2m		0~0.2m		0~0.2m	
1,1,1-	840	ND		ND		ND	
1,1,2-	2.8	ND		ND		ND	
	2.8	ND		ND		ND	
1,2,3-	0.5	ND		ND		ND	
	0.43	ND		ND		ND	

4.3

4.3.1

4.3-1

4.3 -1

			t/a	
		$\times10^4m^3/a$	SO_2	
1		1206	16.25	7.62
2		50562.9	118.8	94.4
3		96000	170.7	146.7
4	2017 8 22	425723	3647.9	24192.5
5		60192	/	0.0475
6		102912	8.7	5.38
7		86848	5.76	3.62
		823443.9	3968.11	24450.2675

P_{ij}

$\times10^9$

P_{ij} j i m^3/a L/a

C_{oi} i mg/m^3 mg/L

Q_{ij} j i t/a

P_j

$$\sum_{=1}$$

i n

P_i

$$\sum_{=1}$$

j m

$$= \sum_{=} \sum_{=}$$

SO_2 93.1

4.3.2

4.3-3

4.3-3

		m^3/a				
			COD			
			t/a	t/a	t/a	
1		1.125	0.82	0.0026	0.0056	
2		2.033	1.541	--	0.0102	
3		6.33	6.33	0.633	0.0316	
4		4.87	4.87	0.487	0.0243	
5		6.33	6.33	0.633	0.0316	
6		4.87	4.87	0.487	0.0243	
7		3.89	3.89	0.389	0.0195	
8		4.87	4.87	0.487	0.0243	
9		2.43	2.43	0.243	0.0122	
10		2.37	2.37	0.237	0.0119	
11		3.65	3.65	0.365	0.0183	
		2.55	2.55	0.255	0.0128	
		4.26	4.26	0.426	0.0213	
		3.28	3.28	0.328	0.0164	
		1.82	1.82	0.182	0.0091	
		7.7	51.92	3.014	0.488	

6 PET

19		1.96	7.83	0.18	0.03	
20		3.3	9.92	0.831	0.37	
21		0.999	1.0	0.1	0.02	
		118.09	311.93	18.70	2.78	/

1

Pi

= / 0

——

0 —— mg/l

—— t/a

$$= \sum_{=}$$

i=1 2 3 ……j

P

$$= \sum_{=}$$

n=1 2 3 ……k

=(/)×100%

2

4.3-4

55.6%

16.7% 7.11%

5

5.1

5.1.1

1

2

5.1.2

5.1.2

1

“ ”

2

5.1.3

5.1-1

5.1-1

	10m A dB(A)
	84
	82
	80
	84
	84

5.1.4-1

GB12523-2011 5.1-2

5.1-2

dB A	70	55

$L_2=L_1-20\lg r_2/r_1$ $(r_2>r_1)$

L_1 L_2 r_1 r_2 A dB(A)

r_1 r_2 m

L

$L=L_1-L_2=20\lg r_2/r_1$

5.1-3

5.1-3

m	1	10	50	100	150	200	250	300	400	600
L dB(A)	0	20	34	40	43	46	48	49	52	57

5.1-3

5.1-4

5.1-4

	m	10	50	100	150	200	250	300	400	500	600
	dB(A)	84	70	64	61	58	56	55	52	49	47

50m 300m

1

2

3

4

5.1.4

5.2

5.2.1

5.2.1.1

1

5.2-1 5.2-2 5.2-3

5.2-4

5.2-1

		/m		/m	/m	/m	/ m/s	/	/h		/ kg/h	
		X	Y									
P1		258	-192	10	60	3.5	7.8	100	7920			0.003
												0.0055
P2		80	20	10	30	0.7	25	25	7920		VOCs	0.125
P3		75	10	10	30	0. 7	22	25	7920		VOCs	0.125

0,0

5.2-2

/	/	
	( )	80.5
		38.4 °C
		-10.6 °C
	(m)	/
	/km	/
	/o	/

5.2-3

		(mg/m^3)	**(%)**	**(m)**
1#		6.77E-05	0.0068	**190**
		3.69E-05	0.369	
2#	**VOCs**	6.11E-04	0.1	**274**
3#	**VOCs**	6.18E-04	0.1	**275**

1# 1% 2#

3# VOCs 1%

(2)

5.2-4

/											
		X	Y							VOCs	
	/	/	/	m	m	m	°	m	h	/	kg/h	kg/h
		0	0	5	260	30	0	8	7920		0.133	/
		0	0	5	38	30	0	16	7920		/	0.019

5.2-5

5.2-5

			(%)	(m)
	VOCs	5.32E-04	0.74	87
		4.44E-03	0.06	92

VOCs 5.32E-04mg/m^3

0.74% 87m 4.44E-03 mg/m^3

0.06%

1%

HJ2.2-2018

5.2-6

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

5.2.1.2

(GB/T13201—91

$$\text{——} = \frac{1}{}\left(\quad + 0.25\gamma^2 \right)^{0.50} \cdot$$

Cm—— mg/m^3

QC—— kg/h

L—— m

γ—— m S m^2

r= S/π 0.5

A B C D——

5.2-7

5.2-7

		t/a	**m^2**	**mg/m^3**	**m**
	VOCs	0.133	7800	0.8	50
		0.1523	1140	0.15	50

50m

5.2.1.4

1

0.369%

0.74%

10%

2

50m

3

P1

P2 P3 5.2-8

5.2-8

			/ mg/m^3	/ kg/h	/ t/a
1	P1		0.011	0.0030	0.0240
2			0.020	0.0055	0.0435

5.2-10

5.2-10 +

		t/a
1		0.0240
2		0.0435
3	VOCs	3.037
4		0.1523

4

5.2-8

5.2-8

		=50km	=5~50km	=5km

		VOCs		$PM_{2.5}$ $PM_{2.5}$
		C 100%		C >100%
			C 10%	C >10%
			C 30%	C >30%
	1h	h	C 100%	C >100%
		C		C
		k -20%		k>-20%
		PM_{10}		
		) m		
		0.0240 t/a	0.0435 t/a	VOCs 3.037 t/a

“ ” 7 T7.1TT7 1 Tf2 Tr18.37efw 43 T.0025 Tc4

1 m^3/d

COD 0.20mg/L COD

23.1~23.5mg/L COD 0.11mg/L COD 22.3mg/L

COD 0.11mg/L COD 22.2~22.3mg/L

COD 0.01mg/L

5.2.2.2

5.2-12

5.2-12

		P □	
		□ □ □ □ □ □ □ P	
		□ P □	□ □ □
		□ □ □ pH □ □ □ P	□ □ □ □ □
		□ □ A P B □	□ □ □
		P P P □	□ P P □ □ □ □
		P □ P □ □ □ □ □	□ P P
		□ 40% □ 40% P	
		P P P □ □ □ □	P P P
		P □	SS COD

		□ □ □ P □ □		4
		2 km / km^2		
		pH SS DO COD BOD_5		
		□ □ □ P □ □ □ □ □ /		
		P □ P □ □ □ □ □		
		□ □ □ □ P □ □ □ □ □ P □ P □ □ □ □		
		2.33 km / km^2		
		COD		
		P □ □ □ □ □ □ □ □		
		□ P □ P □ □ □		
		□ P □ □ □		
		P □		
		P P P P P P □ □ P		
			/ t/a	/ mg/L
		/	COD20.209 SS15.592 NH_3-N0.141 TN0.162 TP0.02	COD490/SS378/ NH_3-N3.4/TN3.9/TP0.49
				/ t/a / mg/L
		/	/	/ / /
		/ m^3/s / m^3/s / m^3/s		

6 PET

		/ m	/ m	/ m
		P □ □ □ □ P		
		P P □	P P □	
		2	2	
		pH COD SS BOD_5	pH COD SS BOD_5	
		P		
		P □		
“□” √ “ ” “ ”				

5.2.3

5.2.3.1

5.2-13

5.2-13

			dB A	m		dB A
1		192	85	121		≥20dB(A)
2		4	85	121		≥20dB(A)
3		6	85	126		≥20dB(A)
4		2	85	144		≥20dB(A)
5		1	85	118		≥20dB(A)
6		1	85	116		≥20dB(A)
7		1	85	105		≥20dB(A)
8		192	85	118		≥20dB(A)
9		5	85	105		≥20dB(A)
10		3	80	110		≥20dB(A)
11		1	80	125		≥20dB(A)
12		1	80	125		≥20dB(A)
13		1	80	125		≥20dB(A)
14		1	80	125		≥20dB(A)
15		2	85	156		≥20dB(A)

5.2.3.2

1

$$L_p(r) = L_w + D_c - A$$

$$A = A_{div} + A_{atm} + A_{gr} + A_{misc} + A_{bar}$$

L — dB

D — dB

D_I

4π sr D_Ω

Dc=0dB

A— dB

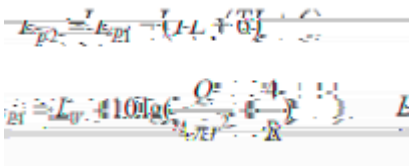
A — dB

A — dB

A — dB

A — dB

A — dB



L

L

Q— Q=1

Q=2 Q=4 Q=8

R— R=Sα/(1−α) S m^2 α

r— m

i

$$L_{P1i}(T) = L_W + 10\lg\left(\frac{Q}{4\pi r^2} + \frac{4}{R}\right)$$

L (T)— N i dB

L — j i dB

N—

i

$$L_{P2i}(T) = L_{P1i}(T) - (TL_i + 6)$$

L (T)— N i dB

TL — i dB

$$L_{eqg} = 10\lg\left(\frac{1}{T}\sum t_i 10^{0.1L_{Ai}}\right)$$

—

L — dB(A)

L — A dB(A)

T— s

t_i—i T s

$$L_{eq} = 10\lg(10^{0.1L_{eqg}} + 10^{0.1L_{eqb}})$$

L — dB(A)

L — dB(A)

$$L_p(r) = L_p(r_0) - 20\lg(r / r_0)$$

L — r dB(A)

L — dB(A)

L_w A L_{AW}

$$L_P(r) = L_w - 20\lg(r) - 11$$
$$L_A(r) = L_{Aw} - 20\lg(r) - 11$$

L_w A L_{AW}

$$L_p(r) = L_w - 20\lg(r) - 8$$
$$L_A(r) = L_{Aw} - 20\lg(r) - 8$$

2

5.2-14

5.2-14

	61.6	50.6	34.23	61.61	50.7	
	62.3	51.7	34.55	62.31	51.78	
	59.2	49.3	31.24	59.21	49.37	
	66.3	54.1	39.93	66.31	54.26	

5.2.3.3

GB12348-2008 4

GB12347-2008 3

GB12347-2008 2

5.2.3.4

59.21dB(A) 66.31dB(A) 49.37dB(A) 54.26dB(A)

GB12348-2008

5.2.4

5.2.4.1

5.2-15

5.2-15

						t/a		
1					PET	83.28	/	
2						10	HW06 900-404-06	
3						17.883	HW08 900-249-08	
4			/			18	HW35 900-352-35	
5			/			1	HW49 900-041-49	
6						1	HW06 900-403-06	
7						0.5	HW49 900-041-49	
8			/			1	HW49 900-041-49	
9			/			1.5	HW49 900-041-49	
10					PET	198.3	86	

6 PET

11					PET	442.68	86	
12						5.9677	86	
13			/			39.6	/	
						710.2277		
						50.883		
						39.6		

5.2.4.2

800.7107t/a

1

900-352-35

900-403-06 900-403-06 900-249-08

HW49 900-041-49 50.883t/a

2

90m^2 15m×6m

GB 18597-2001

100m^2 10m×10m

GB18599-2001

GB 18597-2001

GB18599-2001

HJ 2025-2012

5.2.4.3

1

$90m^2$ 15m×6m

GB 18597-2001

50

$729m^2$ 27m×27m

GB18599-2001

2

HJ 2025-2012

5.2.5

5.2.5.1

5.2.5.1.1

1

—

Z

J3

579m

K2

197m

430m

Ef

89m

2

220.8m

150~200

“ ”

Q1

140~160m 30-60m

1~2

Q2

80~120m 10~30m

70~100m 10m

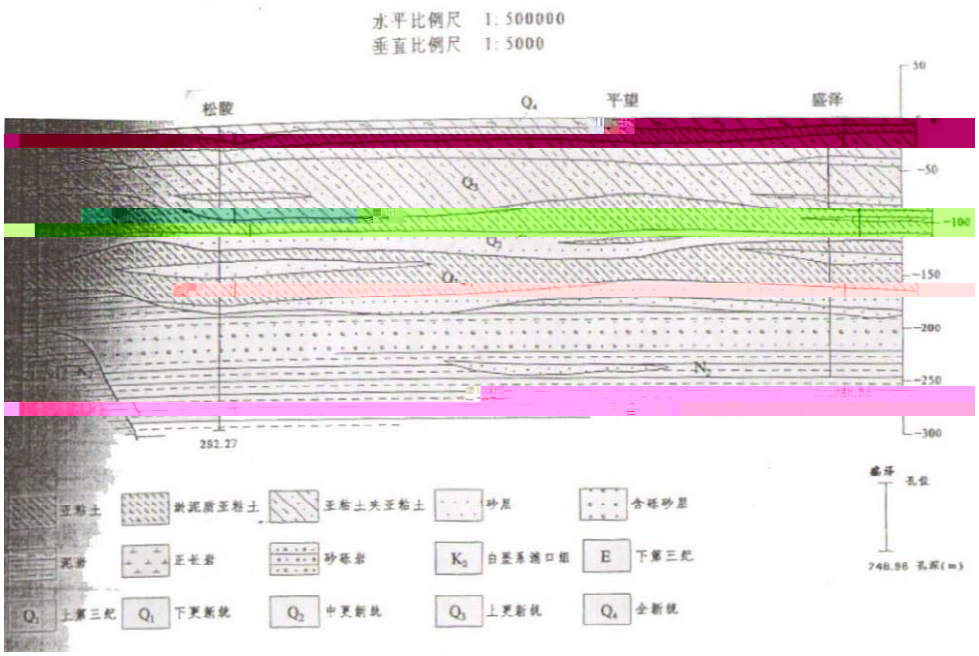
Q3

40~50m 30~50m

20~25m 30~40m

5~10m 15m

- 5.2-1



5.2-1 -

5.2.5.1.2

1

60m

10m $50m^3/d$ 1.0 1.5m

1.0m

8 12m 5 25m 50 300m^3/d,
300m^3/d

TDS 1 /
1 /
TDS 1 /

50~60m 80~100m
10~40m
1000m^3/d

/

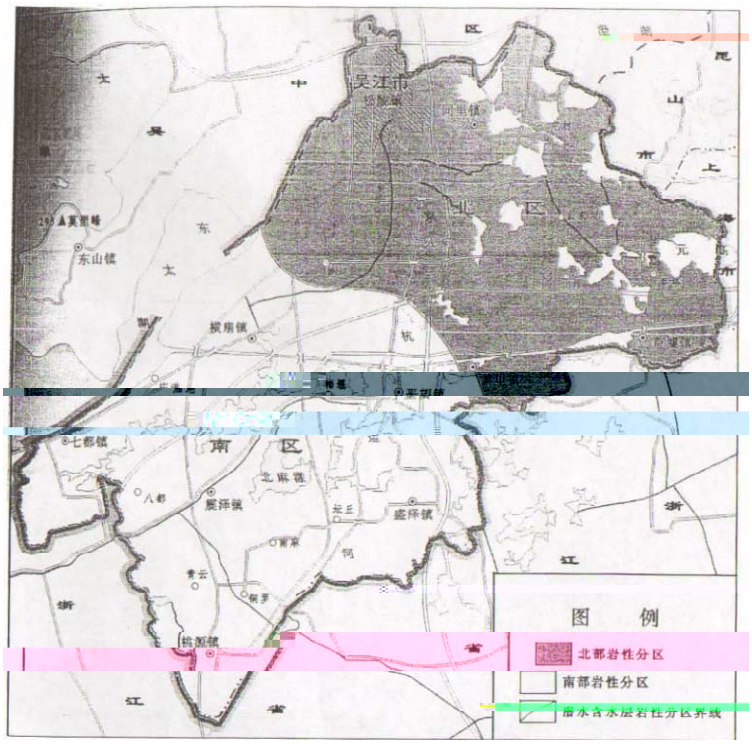
Q1

2~3m

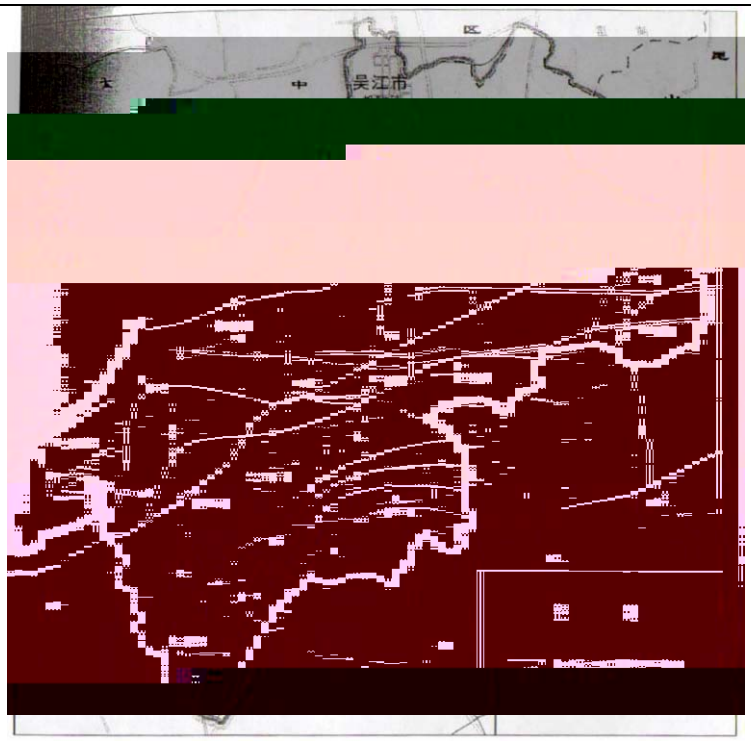
13.36m 24~36m

2000m^3/d 1.06~1.09 /

5.2-2 5.2-3



5.2-2



5.2-3

5.2.5.1.3

1

0.10 0.12

3 4 m^3

2

3

1.0 1.5m

5.2.5.2

HJ 610-2016

5.2.5.2.1

COD SS SS

COD

COD 1500mg/L

5.2.5.2.2

1

2

COD SS

100

COD (GB/T14848-2017)

5.2.5.2.3

-

$$c = \frac{c_0}{2}\left[erfc\left(\frac{x-ut}{2\sqrt{D_L t}}\right) - erfc\left(\frac{x-u(t-t_0)}{2\sqrt{D_L t(-t_0)}}\right)\right]$$

x— m

t— d

t_0— d

C—t x mg/L

C_0— mg/L

u— m/d

D_L— $m^{2/}d$

erfc —

5.2.5.2.4

1 k

k 0.5m/d

2

0.1~3‰ 1‰

3

0.35

4

m

5.2-16

5.2-16

mm		**m**	
0.4-0.7	1.55	1.09	3.96
0.5-1.5	1.85	1.1	5.78
1-2	1.6	1.1	8.8
2-3	1.3	1.09	13.0
5-7	1.3	1.09	16.7
0.5-2	2	1.08	3.11
0.2-5	5	1.08	8.3
0.1-10	10	1.07	16.3
0.05-20	20	1.07	70.7

u K×I n

D_L $\alpha_L \times u^m$

u— m/d

K— m/d

I—

n—

D_L— m^2/d

α_L—

m— 1.1

1.43×10^{-3}m/d D_L $7.4\times10^{-3}m^2/d$

5.2-17

5.2-17

	m/d	‰		U m/d	D_L m^2/d	C_0 mg/L COD
	0.5	1	0.35	1.43×10^{-3}	7.4×10^{-3}	1500

5.2.5.2.5

COD COD

COD_{Mn} O

COD

COD_{Mn} O GB 14848 2017

COD_{Mn} O

COD_{Mn} O

COD

COD_{Mn} O COD

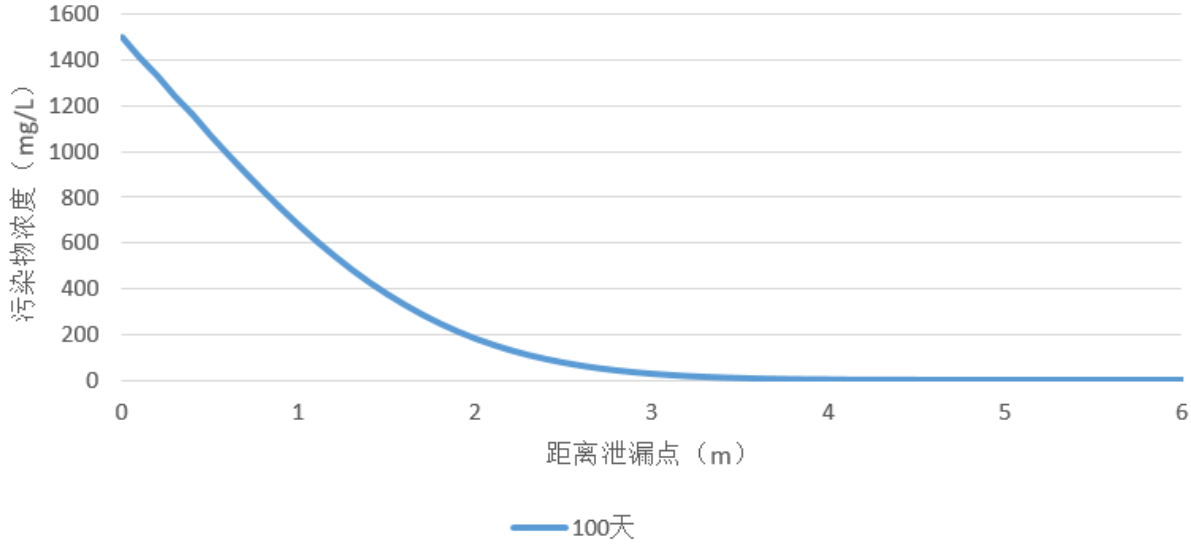
“ ” “ ”

COD_{Mn} O COD 1500mg/L

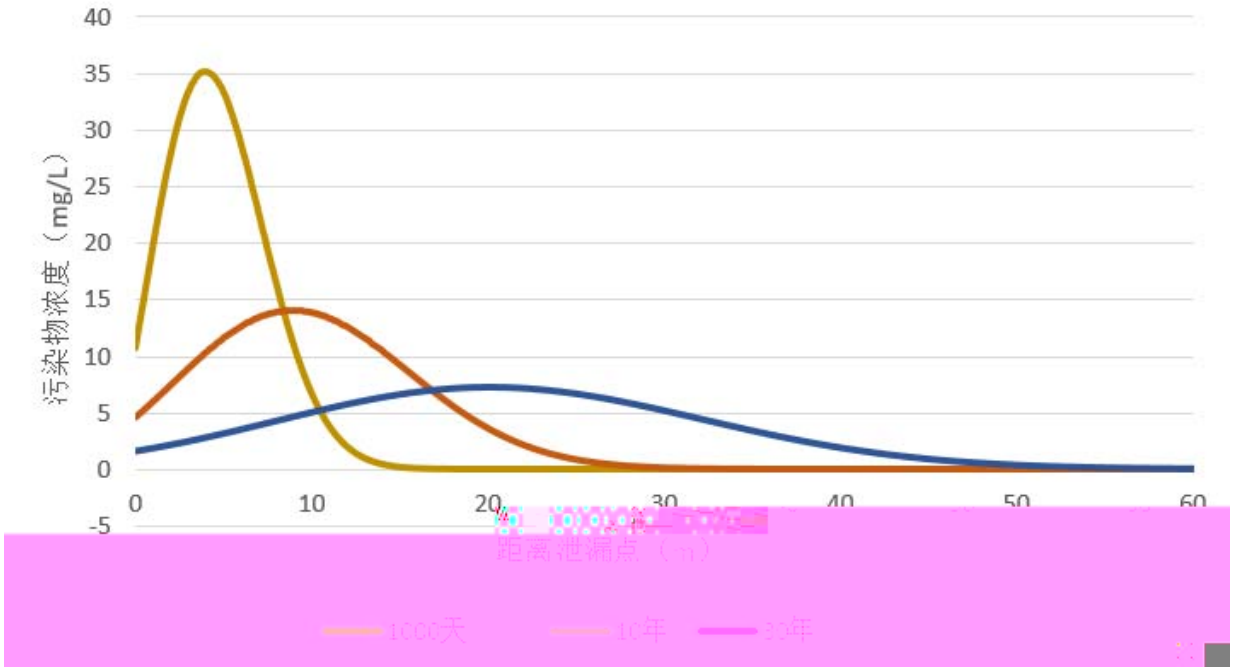
COD_{Mn} O GB/T 14848-2017

3mg/L 100d 1000d 10a 30a

5.2-4 5.2-5



5.2-4 100



5.2-5

5.2-18

		mg/L	mg/L	m	m
	100d	3.0	1500	0	3.9
	1000d	3.0	35.1	4.0	11.4
	10a	3.0	14.0	9.0	20.8
	30a	3.0	7.2	20.3	36.2

100d 3.9m

1000d 11.4m

4.0m 35.1mg/L 10a 20.8m

9.0m 14.0mg/L 30a

36.2m 20.3m 7.2mg/L

5.2.6

5.2.6.1

1

/

2

3

5.2.6.2

$2000m^3$

HJ 169-2018 E E.1

10mm 1.00×10^{-4}/a

150mm 2.00×10^{-6}/(m a)

1.00×10^{-4}/a

5.2.6.3

1

CO

2

HJ/T 169-2018

$$Q_L = C_d A \rho \sqrt{\frac{2(P - P_0)}{\rho} + 2gh}$$

—— kg/s

—— Pa

—— Pa

ρ—— kg/m^3

—— 9.81m/s^2

—— m

——

—— m^2

560kPa 1

0.01m Cd 0.6

0 0.999g/cm^3

1.43kg/s 10min 352.8

945.4m² 300m²

0.49kg/s

1

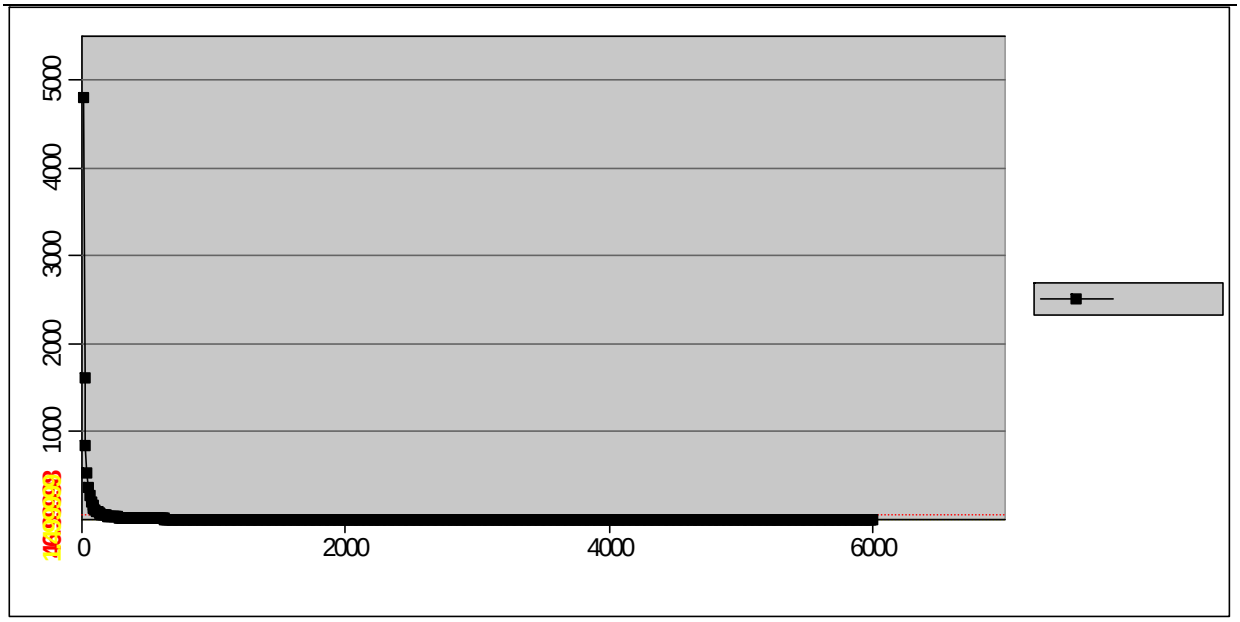
0.01m Cd 0.6

7.5m 0.999g/cm^3

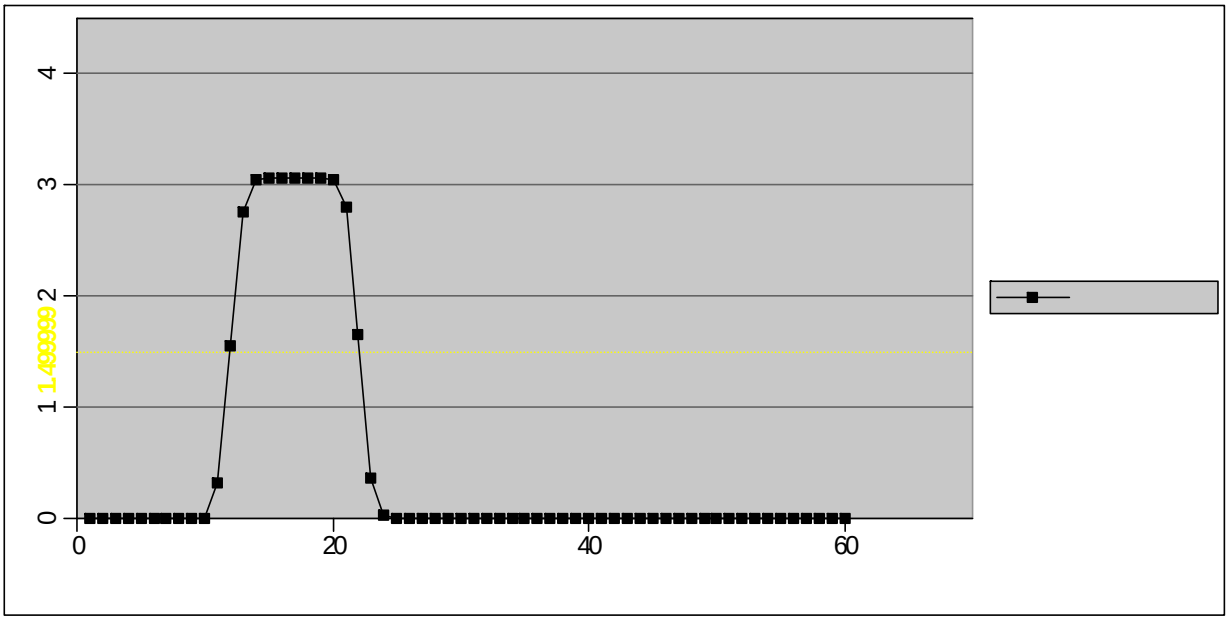
0.21kg/s 10min 352.8

270m²

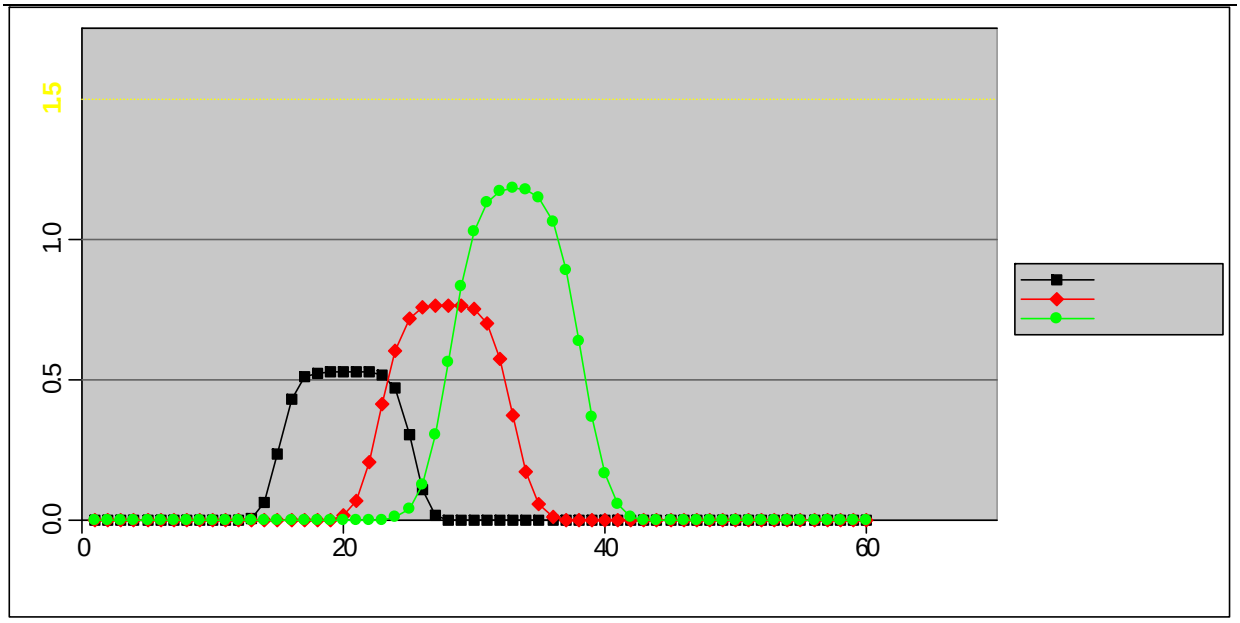
0.45kg/s



5.2-7 **mg/m^3**



5.2-8 **mg/m^3**



5.2-9 **mg/m^3**

5.2-20

		/	300	/MPa	0.56
		/t	/	/mm	10
/kg/s	1.43	/min	10	/kg	858
/m	10	/kg	498		1.0 10^{-4}/ a

		ppm	/m	/min
	-1	47	170	0~11
	-2	1.5	2150	0~30
		/min	/min	/ppm
		12	12~22	3.06
		/	/	1.18
		/	/	0.77
				0.53

-1

-2 170m 2150m 12min

-1 31min -2

12min -2 12~22min

23min -2

24

10min

5.2.6.5

5.2.6.6

1

2

2000m^3

5.2.7

5.2.7.1

VOCs

5.2-21

	П			
		П		

5.2.7.2

- HJ964-2018

200m

5.2.7.3

100 365 5 10 20

5.2.7.4

5.2.7.5

5.2.7.6

1

a

$$\Delta S = n(I_s - L_s - R_s)/(\rho_b \times A \times D)$$

S g/kg

I_S g

L_S g

R_S g

ρ_b kg/m^3 1500 kg/m^3

A 1058000m^2 m^2

D 0.2 m

n a

b

E.2

$$S = S_b + \Delta S$$ E.2

S_b g/kg

S g/kg

Is

Is=W0*S*V*3600*24*365/1000

Is g

W0 mg/m^3

0.0000008mg/m^3

S m^2 1058000m^2

V m/s 0.003m/s

5.2.7.7

1

5.2-22

5.2-22

		mg/kg
Is g	80.07621	/
S_{100d}/ mg/kg	2.52048E-06	/
S_{1a}/ mg/kg	1.26024E-05	/
S_{5a}/ mg/kg	2.52048E-05	/
S_{10a}/ mg/kg	5.04096E-05	/
S_{20a}/ mg/kg	2.52048E-06	/

GB36600-2018

100 1 5 10 20

20

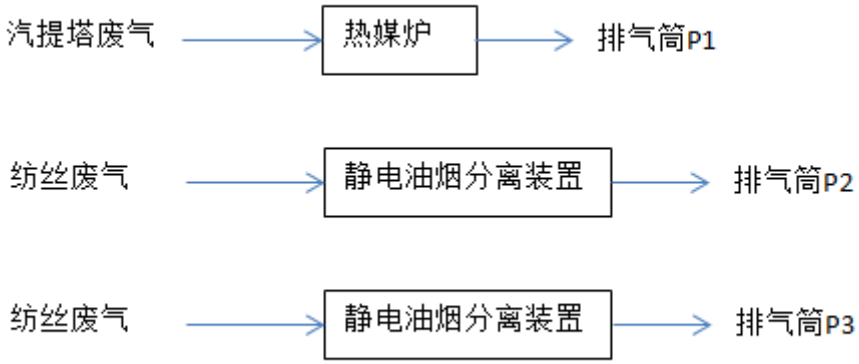
5.2.8

6

6.1

6.1.1

6.1-1



6.1-1

1 G1

8

G1

1000

99.8% 15m

1000 99.8%

99.8%

20

99.8%

24

6.1-1

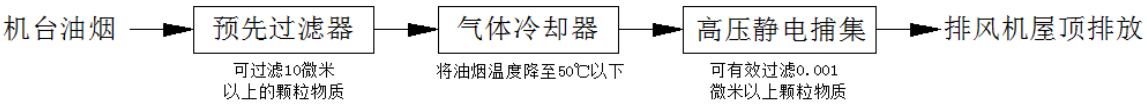
			2017.11.01				2017.11.02			
m^3/h		3.87×10^3	4.03×10^3	4.17×10^3	/	4.26×10^3	4.39×10^3	4.38×10^3	/	/
	mg/m^3	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	125
	kg/h	/	/	/	/	/	/	/	/	1.1
	mg/m^3	<14	<14	<14	<14	<14	<14	<14	<14	190
	kg/h	/	/	/	/	/	/	/	/	100

2

95%

30m 90%

7-1



7-3

6.1.2

VOCs

VOCs

VOCs

VOCs

GB37822-2019 A.1

7-3 VOCs

	NMHC	6	1h	
		20		

GB37822-2019

VOCs ≥2kg/h VOCs

80% VOCs

80%

GB37822-2019 VOCs

6.2

6.2.1

1 m^3/d 0.5 m^3/d 0.8 m^3/d 0.4 m^3/d

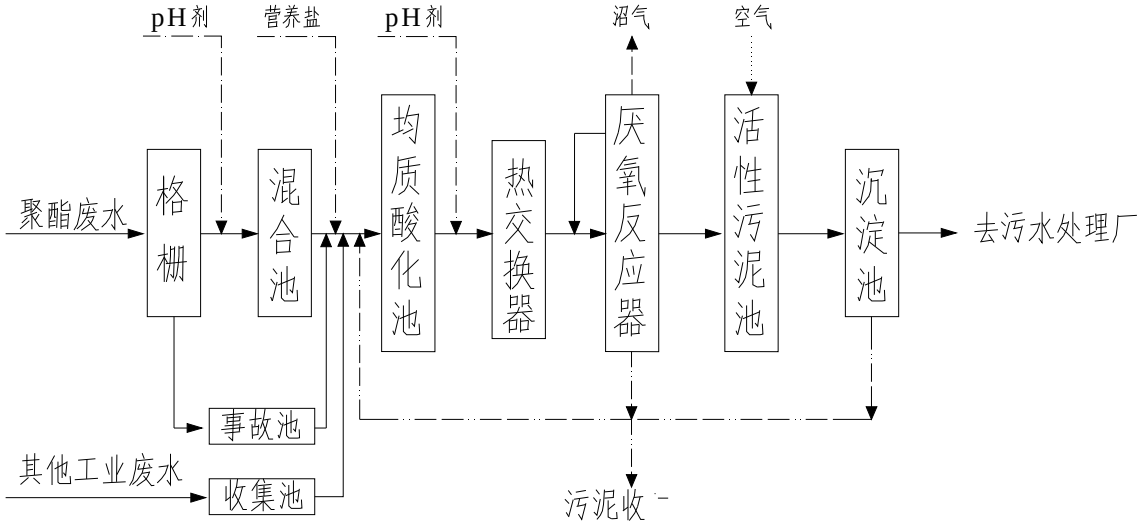
6.2-1

6.2-1 (mg/L)

	COD	BOD_5	SS	NH_3-N	TP
	4000	1200	400	35	3.0

“ + + ”

6.2-1


pH剂
营养盐
pH剂
沼气
空气
聚酯废水
格栅
混合池
均质酸化池
热交换器
厌氧反应器
活性污泥池
沉淀池
去污水处理厂
事故池
其他工业废水
收集池
污泥收

UASB QCS

QCS

COD 5 10kgCOD/d·m^3 70-90

QCS V=5000m^3 T=28h

4 × × =6.0×6.0×7.5m

260m^2 1.25m^3 m^2·h

18t/d

0.8 t/d 0.4 t/d

0.4 t/d 0.45%

1097.21m^3/d

2902.79m^3/d

COD SS

6.2.2

1

1 / 0.5 m^3/d

0.5 m^3/d

3238m^3/d

1270m^3/d 4508m^3/d

6.2-3 6.2-4

6.2-3

		m^3/a				
			COD			
			t/a	t/a	t/a	
1		1.125	0.82	0.0026	0.0056	
2		2.033	1.541	--	0.0102	
3		6.33	6.33	0.633	0.0316	
4		4.87	4.87	0.487	0.0243	
5		6.33	6.33	0.633	0.0316	
6		4.87	4.87	0.487	0.0243	
7		3.89	3.89	0.389	0.0195	
8		4.87	4.87	0.487	0.0243	
9		2.43	2.43	0.243	0.0122	
10		2.37	2.37	0.237	0.0119	
11		3.65	3.65	0.365	0.0183	
12		2.55	2.55	0.255	0.0128	
13		4.26	4.26	0.426	0.0213	
14		3.28	3.28	0.328	0.0164	
15		1.82	1.82	0.182	0.0091	

6 PET

16		7.7	51.92	3.014	0.488	
17		49.21	186.54	9.34	1.59	
18	2017 8 22	0.24	0.84	0.084	0.012	
19		1.96	7.83	0.18	0.03	
20		3.3	9.92	0.831	0.37	
21		0.999	1.0	0.1	0.02	
		118.09	311.93	18.70	2.78	/

6.2-4

					COD						
				m^3/a	mg/L	t/a	mg/L	t/a	mg/L	t/a	
1		1170	3721	17.38	350	60.83	30	5.22	4.0	0.70	
2		750	2346	10.96	350	38.36	30	3.29	4.0	0.44	
3		100	400	1.87	350	6.55	30	0.56	4.0	0.07	
4		115	460	2.15	350	7.53	30	0.64	4.0	0.09	
5		3000		14.01	350	49.04	30	4.20	4.0	0.56	
		2135	9927	46.37		162.31		13.91		1.82	

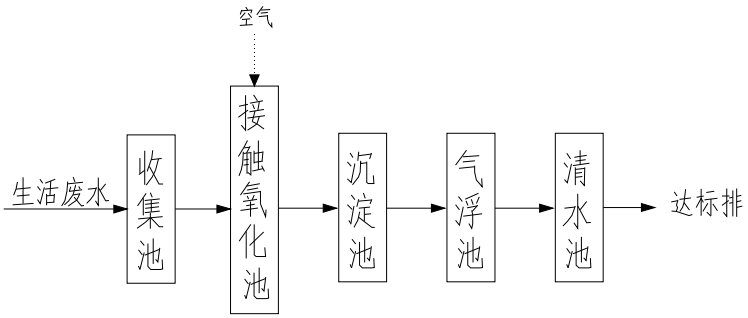
“ + + + + ”

6.2-2

6.2-5

6.2-5

	COD(500mg/L)		BOD_5(180mg/L)		SS(350mg/L)		NH_3-N(35mg/L)		TP(5mg/L)	
	(%)	(mg/L)	(%)	(mg/L)	(%)	(mg/L)	(%)	(mg/L)	(%)	mg/L)
	84	80	94	10	86	50	86	5	80	1.0
	10	60	10	10	50	10	/	5	50	0.5
	/	60	/	10	/	10	/	5	/	0.5



CO_2 H_2O

1 × ×

=25×220×5.0m 5000m^3 28 0.4kg(COD)

m^3·d pH 6.5-8.5

4 × × =6.0×6.0×7.5m

260m^2 1.25m^3 m^2·h 60°

1 14×6m

3m 30min 3.7mm/s

0.43mm/s 120min 50

1 ×

× =12×10×3.5m 400m^3

GB8978-1996 GB/T

31962-2015 B

pH COD DB32/1072-2018

3 DB32/1072-2018 BOD_5 SS

GB18918-2002 A

6.2-6

6.2-6 **mg/L**

	pH	COD	BOD_5	SS							
	6-9	500	300	400	45	8.0	40	200	4000	20	—
	6-9	60	10	10	5(8)	0.5	15	30	—	1	0.02

2019 3 3.1-19

18.298t/d

0.5 t/d 0.37%

3508 t/d

1492 t/d

6.3

≥20dB(A)

20dB(A)

6.4

6.4.1

900-352-35

900-403-06 900-403-06 900-249-08

HW49 900-041-49 50.883t/a

90m^2 15m×6m

GB 18597-2001

50

729m^2 27m×27m 5m

GB18599-2001

6.4.2

1

2

GB18597-2001

GB15562-1995

GB18599-2001

3

$90m^2$ 15m×6m

GB18597-2001

6.4-1

6.4-1

							t	
		HW08	900-249-08					

6.5

1

“

”

2

a

6.5-1

6.5-1

	Mb≥1.0m $K\leq10^{-7}$cm/s
	0.5m≤Mb<1.0m $K\leq10^{-7}$cm/s Mb≥1.0m 10^{-7}cm/s<$K\leq10^{-4}$cm/s
	“ ” “ ”

“ ”

1.0×10^{-4}cm/s 1.0×10^{-7}cm/s

b

6.5-2

(GB18599—2001)

GB50108-2001

6.5-3 6.5-4

6.5-3

6 PET

				$\leq 0.5\times10^{-8}$cm/s
				$\leq 1.0\times10^{-12}$cm/s

6.5-4

1		+	
2			
3			
4		( ) GB50108-2001	

2

1

1.0m COD

3

4

6.6

320509-2017-021-M

6.6.1

“8”

6.6.2

6.6.3

6.6.5

GBJ16-87 40L/S 10L/S

1.5h 216m^3 54m^3

270 m^3/

1 1200m^3

6.6.6

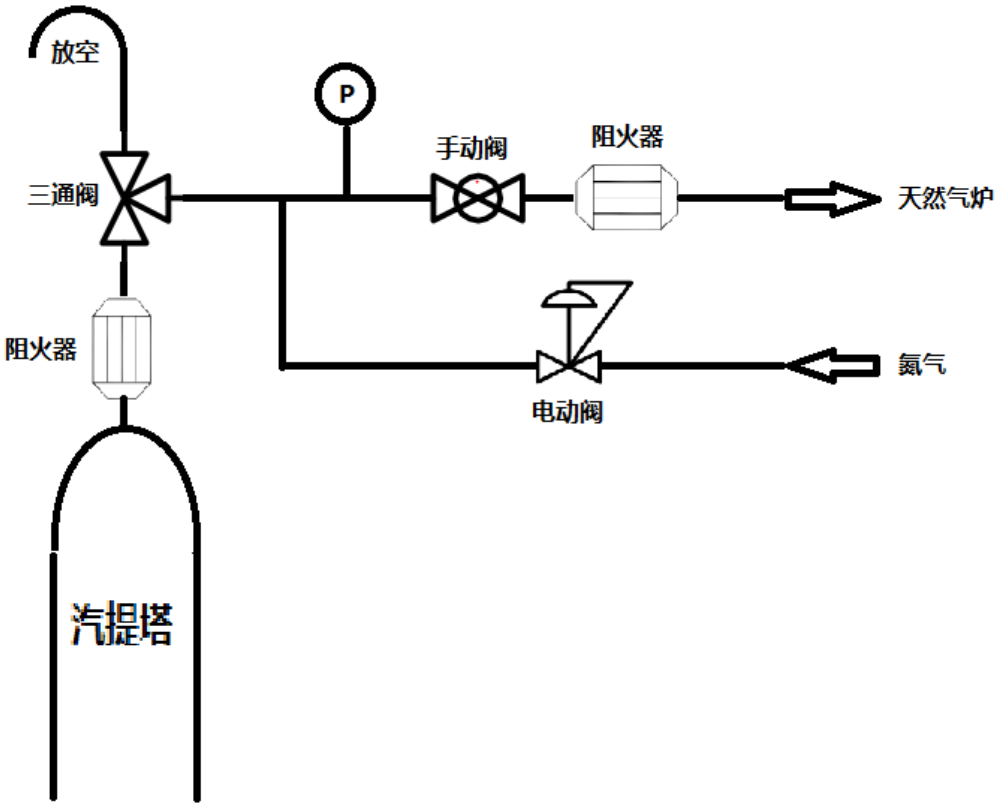
(mC)

6.6.7

6.6.8

6.6-1

15KPA



6.6-1

[2020]16

6.6.9

1 500 6kg/cm^2

304 4mm

1.5

2

3

4

5

6.6.10

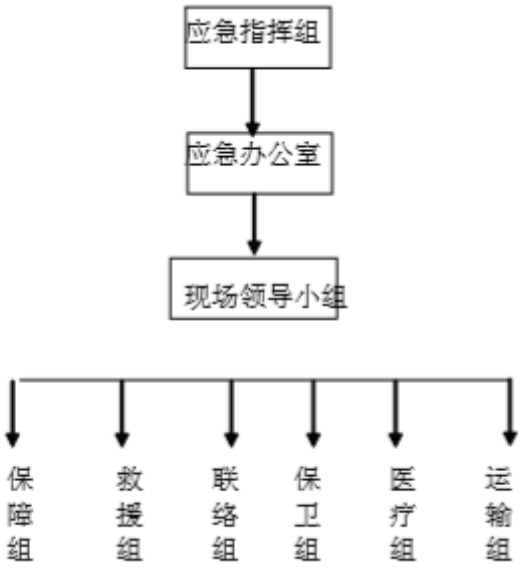
2000m^3

6.7

[2012]98

6.7.1

6.7-1



6.7-1

6.7.2

6.7-1

6.7-1

			$2000m^3$	

I

6.7.3

6.7.3.1

6.7.3.2

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

6.7.3.3

6.7-2

		1.
		2.
		3.
		4.
		5.
		6.
		1. MSDS
		2.
		3.
		1.
		2.
		3.
		1.
		2.
		3.
		4.
		1.
		2.
		3.
		4.
		5.
		1.

6.7.4.1

1

2

1

2

3

6.7.4.2

1

2

1

2

6.7.4.3

1

1

2

3

4

5

30

2

3

4

5

6

7

8

6.7.4.4

1

1

2

3

4

5

6

7

8

2

1

2

3

3

1

2

3

4

5

4

1

2

3

4

5

5

1

2

3

6.7.5

6.7-4

\			8	
			18	
			11	
			1	
			8	1-4
		XY-A 0-5	1	
		DN100 0-250m /h	1	
			5	5
		100	1	
			4	
			2	
		5.2M* 1.7M* 0.88M	1	
				6 6 1-5 2
		4m	1	
		6m	1	
		100m	1	
		20m	1	
		SAN-7101	3	

		SAN-7101	1	
			1	
			1	

6.7.6

6.8 “ ”

“ ” 6.8-1

6.8-1 “ ”

			99.8% 15m		/	GB31572-2015 5 GB16297-1996 2	
		VOCs	2 90%		60	DB12/524-2014 2	
		COD SS			50		
		COD SS NH_3-N TP			/		
		COD SS			/	2.2-7	
		/			20	GB12348-2008 3 4a	
	/		$90m^2$		/		
			90 m^2		/		

6 PET

					/	/	
	/	/	/	/	/	/	
	3 5	/	/	/	/	/	
	/						
	50m						
	130						

7

7.1

7.1-1

7.1-1

		SO_2 NO_2 PM_{10} TVOC		
1				

7.2-1

7.2-1

1		
2		/
3		/

130 8000

VOCs

GDP 7% 560

5 /m^3 18.33

30

130+560+18.33+30=738.33

8000 1

8

8.1

8.1.1

1

2

“ ”

3

8.1.2

8.1.2.1

2~3 1-2

1

2

3

4 “

”

5

6

7

8

9

10

8.1.2.2

1 “ ”

2

3

4

5

6

7

8.1.2.3

“

”

GB15562.1-1995 GB15562.2-1995

1

1 800mm

150mm

2

3

4

2m

1m

8.1.2.4

6 PET

8.2-2

								mg/m^3	kg/h	t/a		mg/m^3	kg/h	
				G1	271052Nm^3/h 99.8%	P1	15m 3.5m 60	0.0013	0.0004	0.0028		190	100	GB31572-2015
								0.0005	0.0001	0.0052		20	/	GB16297-1996
			VOCs		25000Nm^3/h 90%	P2	15m 0.7m 25	3.7	0.01	0.18		20	/	DB12/524-2014 2
			VOCs		20000Nm^3/h 90%	P3	15m 0.7m 25	3.7	0.01	0.18		20	/	DB12/524-2014 2
		VOCs	VOCs	6.2.2	/	1	7800m^2	/	/	1.05		/		/

6 PET

				/	/	/	37186	/	/		COD 500 SS 400	GB8978-1996 GB/T 31962-2015
			COD	/	/	/	500	/	18.593			
			SS				387	/	14.381			
				/	/	/	4037	/	/			
			COD	/	/	/	400	/	1.616			
			SS	/	/	/	300	/	1.212			
				/	/	/	35	/	0.141			
				/	/	/	40		0162			
				/	/	/	5	/	0.02			
			COD	/	/	/	30	/	0.514			/

SS 30 / 0.514

6 PET

	/			/	/	/	/	/	0		
	/			/	/	/	/	/	0		

8.3

8.3.1

1

pH DO COD SS

2

SO_2 NO_2 PM_{10}

3

A Leq(A)

8.3.2

		3	pH K^+ Na^+ Ca^{2+} Mg^{2+} Cl^- SO_4^{2-} CO_3^{2-} HCO_3^-	1	GB/T14848-2017
		1	pH VOC SVOC	1	GB36600-2018

2

1 2 4

SO_2 NO_2 PM_{10} VOCs

pH COD

SS TP

3

1

pH

1

pH VOC SVOC

8.3.3

1

COD SS NH_3-N TP

4h

2

PM_{10} VOCs

3

9

9.1

6 PET

39587

130 4.6%

27666.3m^2 9792.7m^2

8 330 7920h 120

9.2

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

VOC HJ2.2-2018 D

GB3838-2002

GB3096-2008 4a

GB3096-2008 3

GB/T14848-2017 IV

GB 36600-2018

9.3

1

1

37186t/a

2

4039t/a COD 400mg/L SS 200mg/L

35mg/L 6mg/L

16832m^3/a COD SS 30mg/L

2

1

1000

99.8%

45m

2

90% 90%

1 15m

3

98%

99.5%

3

4

9.4

1

1

0.369%

0.74%

2

50m

2

1 m^3/d

COD 0.20mg/L COD

23.1~23.5mg/L COD 0.11mg/L COD 22.3mg/L

COD 0.11mg/L COD 22.2~22.3mg/L

COD 0.01mg/L

3

59.21dB(A)

66.31dB(A) 49.37dB(A) 54.26dB(A)

GB12348-2008

4

5

30a 36.2m

30

6

E1

E1 E3

9.5

9.6

1

1 G1

G1

1000

99.8%

15m

1000 99.8%

2

2

30m 90% 90%

3

98%

99.5%

2

3

≥20dB(A)

4

800.7101t/a

900-352-35 900-403-06 900-403-06

900-249-08

HW49 900-041-49

50.883t/a

S7

5

6

9.7

9.8

1

1

TSP

2

2

8.3.1

8.3.2

8.3.3

9.9