

ã ϕ ° ´ y ˆ ã ϕ ĩ ɔ ˜

đ ņ ʁ ʂ 3000 ˘ / ث ã ɔ Ĩ ˆ ı 1500 ˘ / ث ʎ Ĩ
ˆ ı 1500 ˘ / ث 3,5- ʁ Ĩ ˆ ı ˘ đ
| ˜ ō ˆ Ö ʂ _____ ʁ ʎ ʞ ʌ _____ ʉ
ʁ ʂ ث ʂ _____ 2023 ث 06 _____

3000 / 1500 / 1500 / 3,5-

2302-370403-89-02-934652

18763223685

117 26 38.062 34 52 9.624

C2614

44

261

- ☐
- ☒
- ☐
- ☐

- ☐
- ☐
- ☐

/

/

2302-370403-89-02-934652

10982.96

80

% 7.3

6



m²

000

500

g (m " r u n

		2017-2030
	[2017]16	
2017-2030		[2017]77
[2017]86		2020-2035
	[2020]13	
	[2017]66	2020-2035
2020-2035		[2021]71
1		
	1	

	2			
	1	2020-2035		
		[2021]71		
		1-1		
	1-1			
			“	
	”	“	”	
	3			
		1-2		
	1-2			
			▲	
			×	

	•
	×
	▲
	×
	×
	•
	×
	•

—

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▲ —

× —

	2021 16	
	1-2	“ ”
	2021 16	
	2021 16	
	380.92	8.35%
	” 80%	“ 70%
	44 /	PM2.5
	80	100%
	92%	92%
		“ ”

GDP

1

5.8%

2

21.5%

3

72.7%

	<div>1</div>	
	<div>3 64.76%</div>	
	<div>1</div>	
	<div>2</div>	
	<div>3</div>	

2 “

2025

70%

500

20

100 /

2500 /

“

”

“

”

“

”

“

”

“

”

“

”

“

”

10%

3.5

LDAR
LDAR

LDAR

2023

2021—2025

5

“
”

			2025	
“ ”			2025	
300	“ ”			
5	“	”	2021—2023	
1-5	“	”	2021—2023	
“ ”				

		3		
	4	4	5	
	4	1	2	
		3		
	1			
	2	(1) (2) (3)		
	3			
	4			
	1			
	2			
	3			
			--	--
	1			
	2			
	3			
	4			
	“ ”			
	(2018-2020)			
	6			
	1-6			

“ ”

“ ”

“ ” 47

“ ”

()

[2015]17

2015.04.

16

t g

	31			
		“	”“	”“ ”
	8	“	”	
	2023 34			
			“ ”	
		2023 34	“ ”	16
	16			
	16			
	9	(2018 11 30)		
	1-8	2018 11 30		
	1			
	2			

1

2018	8	13		
			60%	
40%		15001		1971
			u	u
			u	

		300	7200	
	2			
		2-1		
		2-1		
		1 5	3600m ²	
		2	1	
		3 5-	1	
		2		
		6900 m ²		
		3F	630 m ²	
		1F	630 m ²	
		2F	1500m ²	
		43812m ³		
			396	
		kW·h		
		350		
		686.2 m ³		
			+SNCR+	
			+	
		35m	DA001	
		“	+	”
		1 15m	DA004	
			144m ³ /d	
		“	—	—
		—MBR	”	
	3			
		2-2		

1		C ₇ H ₈ O	108.14		40	30.9	1.05		95-48-7	
2		C ₇ H ₈ O	108.14			10.9	1.03		84989-04-8	
3		C ₈ H ₁₀ O	122			20	1.02		526-75-0	

5

2-4^{Kb9}

2-4

530

1	TW-101	1	Φ1600×H50780mm	1	CS/304	151/170 -80KPaG
2	TW-102	2	Φ1600×H50780mm	1	CS/304	151/170 -80KPaG
3	TW-103		Φ1600×H50780mm	1	CS/304	140/160 -80KPaG
4	F-104		FF200-8000L	2	CS/	100/120 10KPaG
5	V-101	1	Φ2600×L8000mm	1	316L	160 -60KPaG
6	V-102	1	Φ1100×L2700mm	1	304	0

4

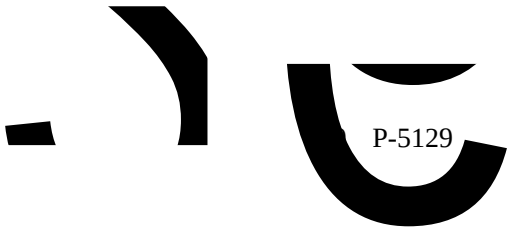
1

9	V-105	99.5% 1	Φ1100×L2 700mm	1 304	50 10KPaG
10	V-106	2	Φ2600×L8 000mm	1 316L	160 -60KPaG
11	V-107	2	Φ1100×L2 700mm	1 304	50 -90 KPaG
12	V-108	≤98% 2	Φ1100×L2 700mm	1 304	50 10KPaG
13	V-109	99% 2	Φ1100×L2 700mm	1 304	50 10KPaG
14	V-110	99.5% 2	Φ1100×L2 700mm	1 304	50 10KPaG
15	V-111		Φ2600×L8 000mm	1 316L	160 -60KPaG
16	V-112		Φ1100×L2 700mm	1 304	50 -90 KPaG
17	V-113	≤98%	Φ1100×L2 700mm	1 304	50 10KPaG
18	V-114	99%	Φ1100×L2 700mm	1 304	50 10KPaG
19	V-115	99.5%	Φ1100×L2 700mm	1 304	50 10KPaG
20	F-116		FF200-800 0L	2 CS/	100/120 10KPaG
21	V-121/12 2	1 2	Φ1400×H3 000mm	2 304	50 -95KPaG
22	V-123/12 4		Φ1400×H3 000mm	1 304	50 -95KPaG

23	E-101	1	80m ²		1	316L		160/50 32/42 0.5 MPaG 0.5MPaG
24	E-102	1	205m ²		1	304		150/50 32/42 -0.08MPaG 0.5MPaG
25	E-103	2	80m ²		1	316L		160/50 32/42 0.5 MPaG 0.5MPaG
26	E-104	2	205m ²		1	304		150/50 32/42 -0.08MPaG 0.5MPaG
27	E-105		80m ²		1	316L		160/50 32/42 0.5 MPaG 0.5MPaG
28	E-106		205m ²		1	304		150/50 32/42 -0.08MPaG 0.5MPaG
29	P-101		25m ³ /h 50m		1	316L		160 -60/500KPaG
30	P-102A/B		10m ³ /h 50m		2	304		50 -80/500KPaG
31	P-103A/B		10m ³ /h 50m		2	304		50 10/500 KPaG

						160
32	P-104	2	25m ³ /h 50m	1	316L	-60/500KPaG
33	P-105A/B	2	10m ³ /h 50m	2	304	50 -80/500KPaG
34	P-106A/B	2	10m ³ /h 50m	2	304	50 10/500 KPaG
35	P-107		25m ³ /h 50m	1	316L	160 -60/500KPaG
36	P-108A/B		10m ³ /h 50m	2	304	50 -80/500KPaG
37	P-109A/B		10m ³ /h 50m	2	304	50 10/500 KPaG
38	PA-101A/ B/C		425m ³ /h -90KPaG	3	304	50 -90/20KPaG
39	TW-5109	1	φ 1000 × H27000(T- T)mm	1	CS/3 04/3 16L	3 5- 180-205 -85KPaG
40	E-5124	1	Φ 2500 × 8922mm Φ 25 × 2.5 L=4500m m n=99U	1	CS/3 04/3 16L	3 5- 205-210 -80KPaG

41	E-5120	1	(BJS) Φ600 × ~5144mm Φ25 ×2.5 L=4000m m n=192		1	CS/3 04	3 5-	:205/70 32/42 -0.085MPaG 0.5MPaG
42	V-5111	1	φ 1100 × L3300(T-T)mm		1	304	3 5-	70 -90 KPaG
43	V-5112	1	φ 1100 × L3300(T-T)mm		1	304	3 5-	70 -90 KPaG
44	V-5113		φ 1100 × L3300(T-T)mm		1	304	3 5-	70 -90 KPaG
45	P-5120	1	30m³/h 38m		1	304	3 5-	70 10/380 KPaG
46	P-5121	1	5.8m³/h 49m		1	304	3 5-	70 10/490 KPaG
47	P-5122	1	3.6m³/h 28m		1	304	3 5-	70 10/300 KPaG
48	P-5123	V-5112	6m³/h 16m		1	304	3 5-	70 10/160 KPaG
49	P-5124		6m³/h 16m		1	304	3 5-	70 10/260 KPaG
50	TW-5110	2	φ 1000 × H27000(T- T)mm		1	CS/3 04/3 16L	3 5-	180-205 -85KPaG



	TK-2790	1800 1000 8m ³	1	304	1.5KPa	50
12	TK-2791	ID1800 H3000	1	304	1.5KPaG	5
13	TK-2792	8m ³ ID2200 L5000	1	304		
		17m ³				
					1	v

H



25	P-2791A/ B	5m ³ /h 30m	2	304	50 300KPaG
26	P-2792 272	10m ³ /h 30m	1	304	50 300KPaG
1	M-7241	/	1	304	50 500KPaG
2	M-7256 230	/	1	304	50 500KPaG
1	R-2302 240	350 kcal/h	1		220/240 200/400KPaG
1	C-2410C	39Nm ³ /mi n	1		0.6~0.8MPa
2	M-2425	7.6Nm ³ /mi n			

1

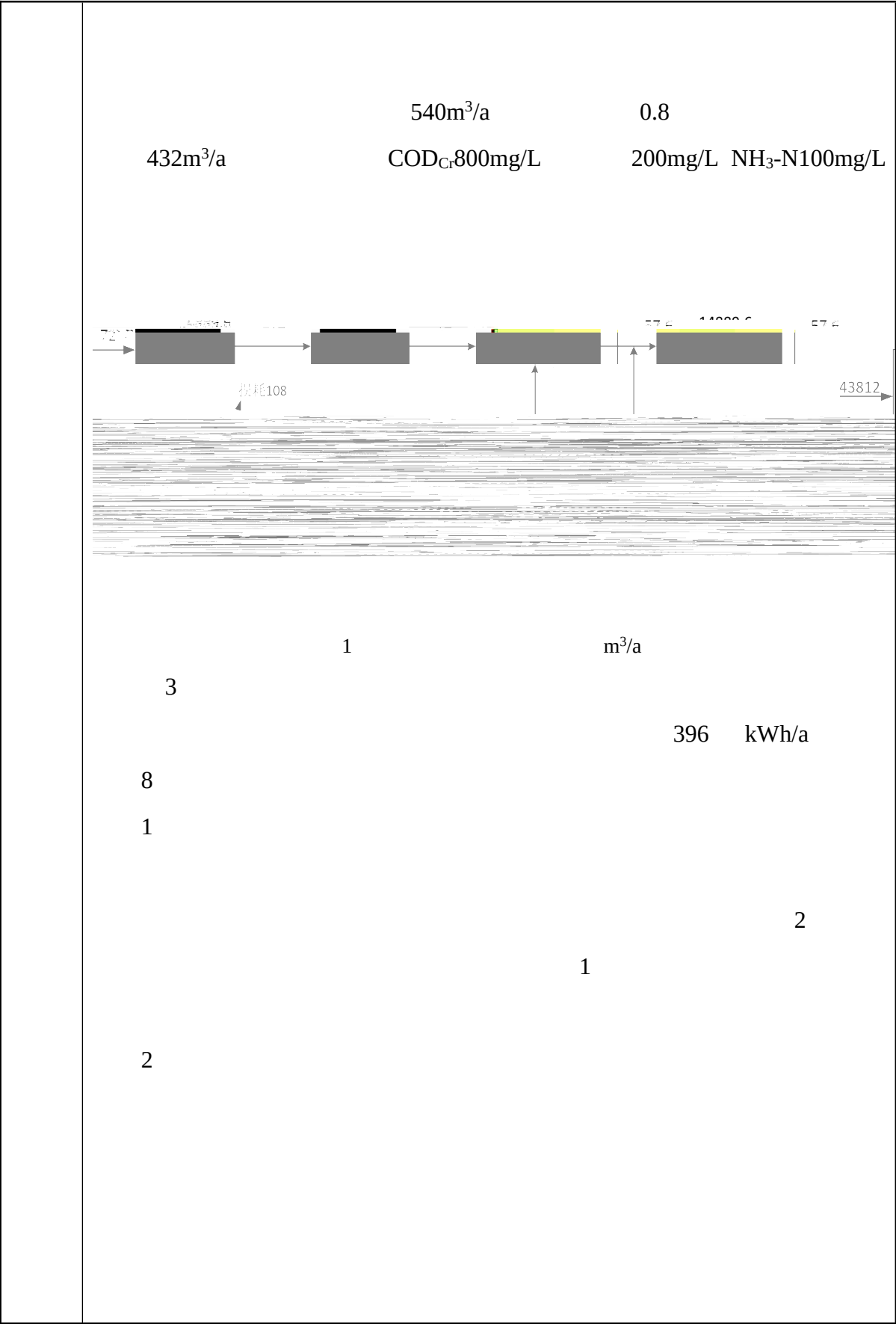
GB50015-2019

6

300d

40L / · d

72m³/a



[REDACTED]

[REDACTED]

2

200

[REDACTED]

2

1

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

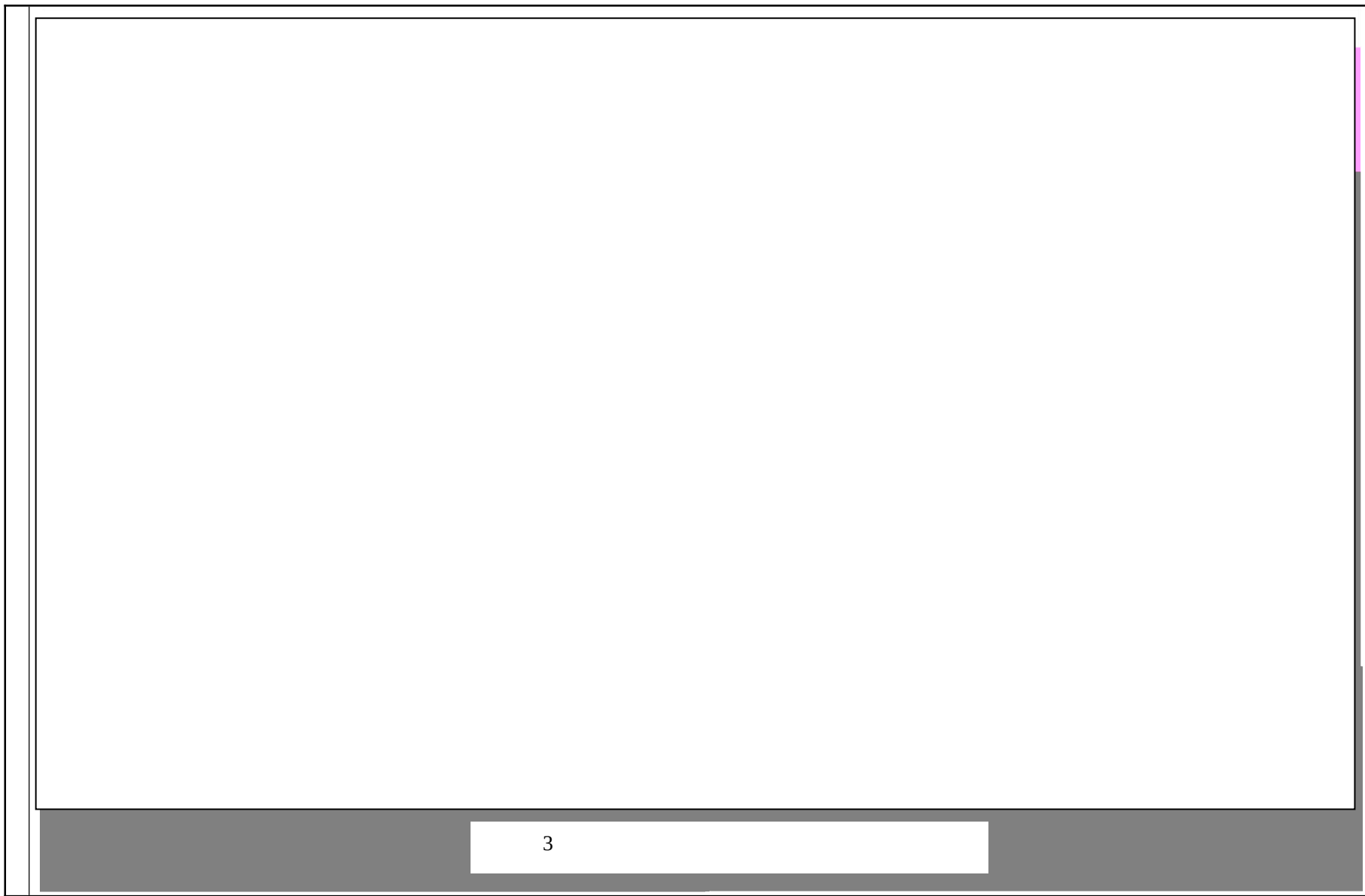
[REDACTED]

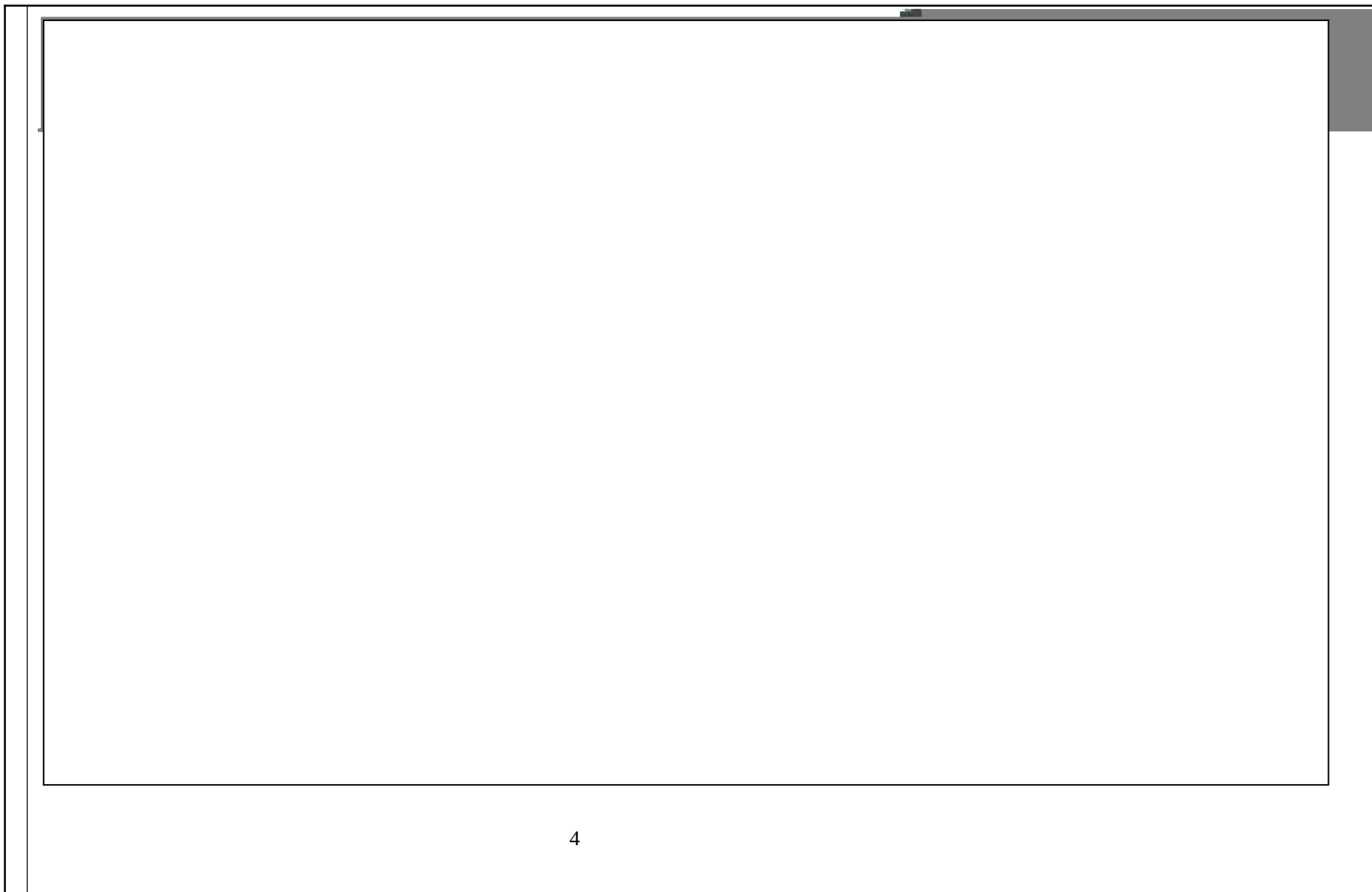
[REDACTED]

[REDACTED]

[REDACTED]

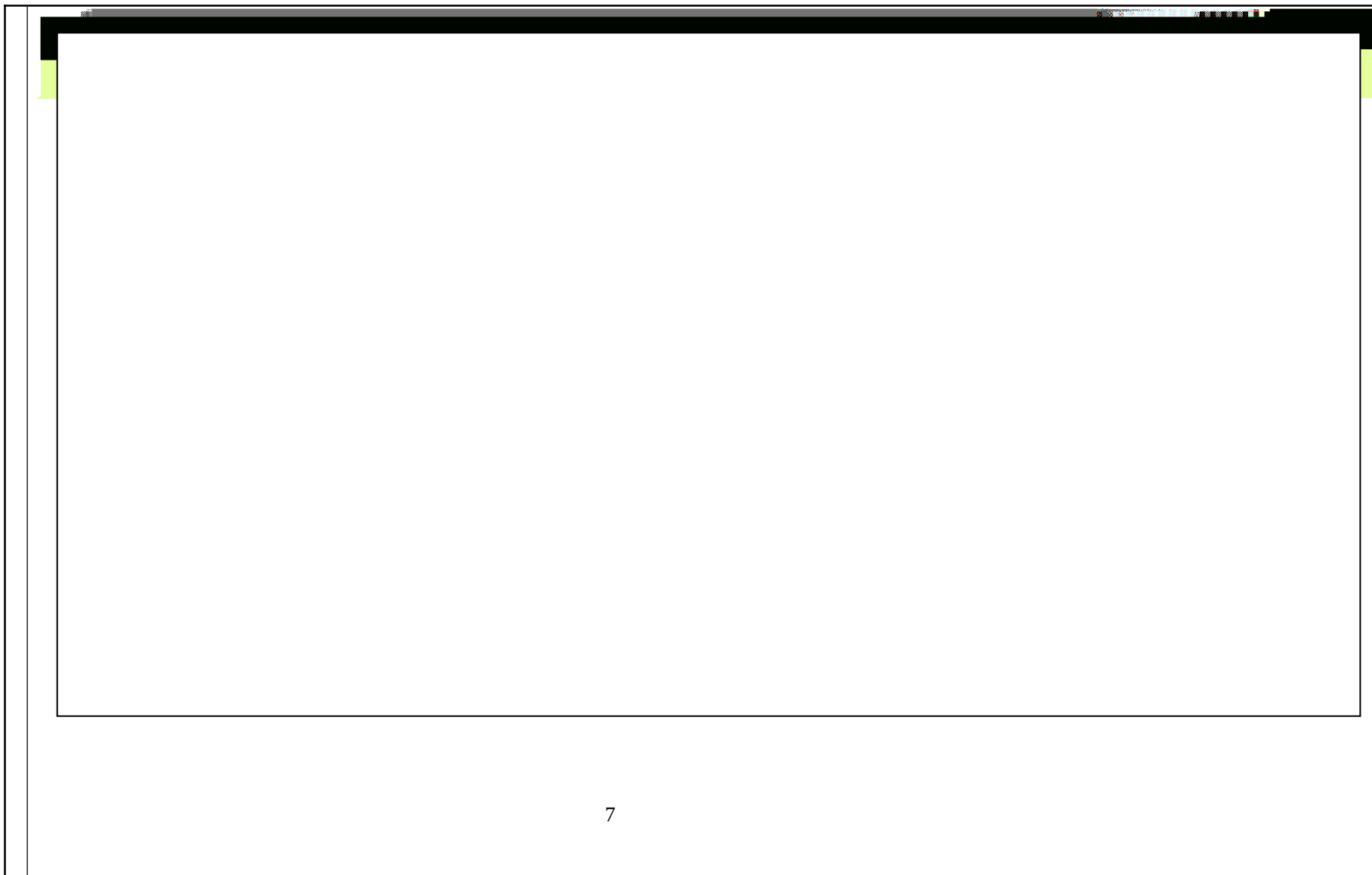
[REDACTED]





2-5

7 /



2-6

7 /

kg/

t/a

kg/

t/a

1

		2-7 3 5-		10 /			
			kg/	t/a		kg/	t/a
1	3 5-	1#					

\\0 1.



1			/	6362.77			
2			/	2159.49			
3			/	6258.99			
4	2,4-		/	809.45			
5	3,5-		/	1540.46			
6			/	2737.32			
3							
2-9							
2-9							
		(t/a)					
1		45600		25%	≤73%		
2		4251.43		≥98%	≤1%		
3		15.82		32%	/		
4		4		/	/		
1		10000		/	/		
2		10000					
2-7							
1			5×500m ³	Φ8900×H8900mm			
2	98%		2×100 m ³	Φ5200×H5200mm			
3	32%		2×100 m ³	Φ5200×H5200mm			
4			1×30 m ³	/			
1			2×500 m ³	Φ8900×H8900mm			
1			2×100 m ³ 2×500 m ³	100m ³ Φ5200×H5200mm Φ8900×H8900mm			
2			2×100 m ³	Φ5200×H5200mm			
3			4×500 m ³	Φ8900×H8900mm			
4	2,4		2×100 m ³	Φ5200×H5200mm			
5	3,5		4×100 m ³	Φ5200×H5200mm			
6			1×2.7 m ³	Φ1100×L2500			
7			1×3 m ³	Φ1100×L2700			

1			/	50kg/		/	
4							

2-10

2-10

4 /

—MBR ”

mg/m ³	8.6	8.0	8.5
kg/h			

2022/ 05	26.9	19.2	0.1 61	59.7	44.4	0.3
-------------	------	------	-----------	------	------	-----

$$6.53 \times 10^{-5}$$

		25.33mg/m ³
0.25kg/h		8.07mg/m ³
0.29kg/h		94.66mg/m ³
0.741kg/h	1	

VOCs	0.53	0.58	0.77	0.70
	0.45	0.59	0.73	0.62
mg/m ³	0.45	0.61	0.76	0.82

		ND	ND	ND
		10	10	11
		0.168	0.160	0.166

2023 015-3
2023.01.05

18.33mg/L

0.5 μ

6			34.8t/5a	
7			25	
8			3	
9			0.2	
10			0.05	
11			4	
12			0.1	
13			0.2	
14			2	
15			43.38	

(5)

91370403MA3MA00R8G001P

			SO ₂	NO _x	VOCs	2.36t/a
13.3t/a	1.03t/a	25.214t/a	COD			43.57t/a
6.92t/a	6.1t/a					

6

2-16

2-16

(t/a)

VOCs	0.721
	0.671
SO ₂	1.704

1

2022

3-1	2022		mg/m ³			
	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	CO	O ₃
	0.015	0.029	0.078	0.043	0.9	0.15
	0.06	0.04	0.07	0.035	4	0.16
	/	/	0.21	0.31	/	/
	2022		PM ₁₀	PM _{2.5}		

GB3095-2012

3

2022

1000×1000

26

33

51.4

12

51.0

44. 1

50

3-4				
		(m)		
	SO ₂	P2 15	50 mg/m ³	/
	NO _x		100 mg/m ³	/
			10 mg/m ³	/
				/
3-5				
1	VOC _s	2.0 mg/m ³	DB37/2801.6-2018	3
2	VOC _s	6 mg/m ³	GB37822-2019	A.1
3		0.08 mg/m ³	GB16297-1996	2
2				
(GB/T31962-2015)A				
3-6				
1	pH	6.5 9.5	(GB/T31962-2015)A	
2	COD	500 mg/L		
3	SS	400 mg/L		
4	BOD ₅	350 mg/L		
5		45 mg/L		
6		20 mg/L		
7		8 mg/L		
8		70 mg/L		
9		1 mg/L		
3				
GB12348-2008				
3	65dB(A)	55dB(A)		
GB12523-2011				
3-7				
	dB A			
3	65	55		
3-8				
dB(A)				

	70	55

4

	SO ₂ NO _x
	SO ₂ 0.486t/a NO _x 6.696t/a 0.67t/a

	6
1	
1	
	(248)
	:
1-2	
	:
2	

	CO NO _x					
	2					
	1					
	2					
	3					
	5m					
	80~91dB A					
	4-1					
			dB(A)			dB(A)
		86			86	
		84			85	
		85			80	
		90			90	
		80			80	
		80			91	
		90			85	
		82			85	
dB(A)	95		80-85		75	

(GB/T16453-2008)

6

d' λ



1

1

16.8kg/ 7 /

0.1kg/h 0.72t/a

2

16.8kg/ 7 /

0.1kg/h 0.72t/a

25.2kg/ 7 /

0.15kg/h 1.08t/a

3,5-

1

12kg/ 10 /

0.071kg/h 0.36t/a

3,5-

2

12kg/ 10 /

0.071kg/h 0.36t/a

2

SO₂

NO_x

1 350

24

300

4000 /

-5

	1	800		1	350
			800		
			2022		800
		4-3			
4-3		800		2022	



$R=686.2$
 $St=17.7($)
 $\eta s=0$
 $K=1($ (HJ991-2018) B B.3)
 $0.243t/a$

4-4

4-4

	(mg/m ³)	(kg/h)	(t/a)	
		33481756.6m ³ /a	4650m ³ /h	
SO ₂	7.26	0.034	0.243	“

	$\frac{E_s}{V_v} = \frac{W_v}{K_E} \frac{V_v}{K_s}$ $V_v = \frac{\pi}{4} D^2 H_{vc}$ $\frac{V_v}{H_{vo}} = \frac{D}{D_{vo}}$
a.	$K_E = 0.0018 T_v + 0.0018 \cdot 0.72 T_{ax} + T_{an} + 0.028 I$ $K_E = \Delta T_v + T_{ax} + T_{an} + \alpha$ $I = \frac{0.0018}{0.72} \cdot 0.028$
b.	$H_{vo} = H_s + H_L + H_{ro}$ $H_{vo} = H_s + H_L + H_{ro}$

	<p>c.</p> $K_s = \frac{1}{1 - 0.053 P_{VA} H_{VO}}$ <p>6</p> <p>K_s —</p> <p>P_{VA} — /</p> <p>8</p> <p>H_{VO} —</p> <p>0.053 — / . -1</p> <p>d.</p> <p>W_V</p> $W_V = \frac{M_V P_{VA}}{RT_{LA}}$ <p>7</p> <p>W_V — /</p> <p>M_V — / -</p> <p>R — 10.741 / - .</p> <p>P_{VA} — /</p> <p>8</p> <p>T_{LA} —</p> <p>E.</p> <p>P_{VA}</p> $\lg P_{VA} = A - \frac{B}{T_{LA} - C}$ <p>8</p> <p>A B C —</p> <p>T_{LA} —</p> <p>P_{VA} —</p> <p>B.</p> <p>E_W</p> $E_W = \frac{5.614}{RT_{LA}} M_V P_{VA} Q K_N K_P K_B$ <p>9</p> <p>E_W — /</p>
--	---

	M_V ——		/	-	
	T_{LA} ——				
	P_{VA} ——		/		
	Q ——		/		
	K_P ——				$K_P=0.75$
	$K_P=1$				
	K_N ——				36
$K_N=$	$180+N$	$/6N$	≤ 36	$K_N=1$	
	K_B ——				
1					
			2	3,5-	2
				2	2

VOCs

HJ853-2017 “ 5.2.3.1.2

”

2					
			2		1
		1		2	
3,5-	1				
+SNCR+	+		+	+	+
	35m	DA001			
			2		3,5-
				4-8	
4-8					
1	1	0.37	0	-0.37	kg/h
2	2	0.51	0	-0.51	kg/h
3		72	4.86	-67.14	t/a
4		0	0.2	+0.2	kg/h
5		0	0.15	+0.15	kg/h
6	3,5-	0	0.143	+0.143	kg/h
7		0	0.142	+0.142	kg/h

3

4-9

/

$\frac{\text{m}^3}{\text{h}}$ $\frac{\text{mg}}{\text{m}^3}$ $\frac{\text{kg}}{\text{h}}$ $\frac{\text{t}}{\text{a}}$

$\frac{\text{m}^3}{\text{h}}$ $\frac{\text{mg}}{\text{m}^3}$ $\frac{\text{kg}}{\text{h}}$ $\frac{\text{t}}{\text{a}}$

32.69 0.45 3.24

+SNCR

D
A0
01

1376
3

0

5-11 3

102 3

e

s

10

4

	(GB16297-1996)	2		VOCs
	6			DB37/2801.6-2018
3	VOCs			GB37822-2019
A.1				
4				
	4-10			
			m	m
DA004	117°26'40 .707"	34°52'7.4 13"	15	

			t/a	kg/h	mg/m³			
DA004	SO ₂	0.243	0.034	7.26	1h	1	/a	
	NO _x	12.839	1.783	383.46	1h	1	/a	
		0.335	0.047	10	1h	1	/a	
NO _x								
HJ953-2018								
NO _x	18.71kg/	m ³ -		DA004		NO _x		
1								
2								
3								
4								
2								
1								
	72m³/a		0.8			57.6m³/a		
	COD	SS	COD	400mg/L		0.023t/a		
	30 mg/L	0.002t/a	SS	250mg/L		0.014t/a		

2

0.5%

$2\text{m}^3/\text{h}$ $14400\text{m}^3/\text{a}$ /

2			18	14	129	2	70dB A /1m		
3			1	27	89	1	80dB A /1m		
<p>2</p> <p>(HJ2.4-2021) A</p> <p>B</p> <p>1</p> <p>(Adiv) (Aatm) (Agr)</p> <p>(Abar) (Amisc)</p> <p>$L_p(r)=L_p(r_0)+Dc-(A_{div}+A_{atm}+A_{gr}+A_{bar}+A_{misc})$</p> <p>$L_p(r) \text{——} r \text{ A dB(A)}$</p> <p>$L_p(r_0) \text{——} r_0 \text{ A dB(A)}$</p> <p>$Dc \text{——}$ Lw 0dB</p> <p>$A_{div} \text{——} A \text{ dB(A)}$</p> <p>$A_{bar} \text{——} \text{dB(A)}$</p> <p>$A_{atm} \text{——} \text{dB(A)}$</p> <p>$A_{gr} \text{——} \text{dB(A)}$</p> <p>$A_{misc} \text{——} \text{dB(A)}$</p> <p>A LA(r) 8</p> <p>A [LA(r)]</p> <p>$L_A(r)=10\lg\left\{\sum_{i=1}^810^{0.1[L_{p_i}(r)-\Delta L_i]}\right\}$</p> <p>$LA(r) \text{——} r \text{ A dB(A)}$</p>									

$L_{pi}(r)$ — (r) i dB
 ΔL_i — i A dB
3
4-14 dB(A)

2			HW08 900-24 9-08			3/5a			T,I		3/5a	
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[illegible]

	GB18599-2020	
	GB18597-2001	
5		
1		
2		
3		
4		
a)		4-18

[illegible][illegible]

	GB18599-2020	
	GB18597-2001	
5		
1		
2		
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4		
		4-18
a)		

[illegible][illegible][illegible]

b)

c)

4-17

4-18

4-17

$M_b \geq 6.0m$

$K \leq 1 \times 10^{-7} \text{ cm/s}$

6

7

(1)

HJ169-2018

B

“ 1

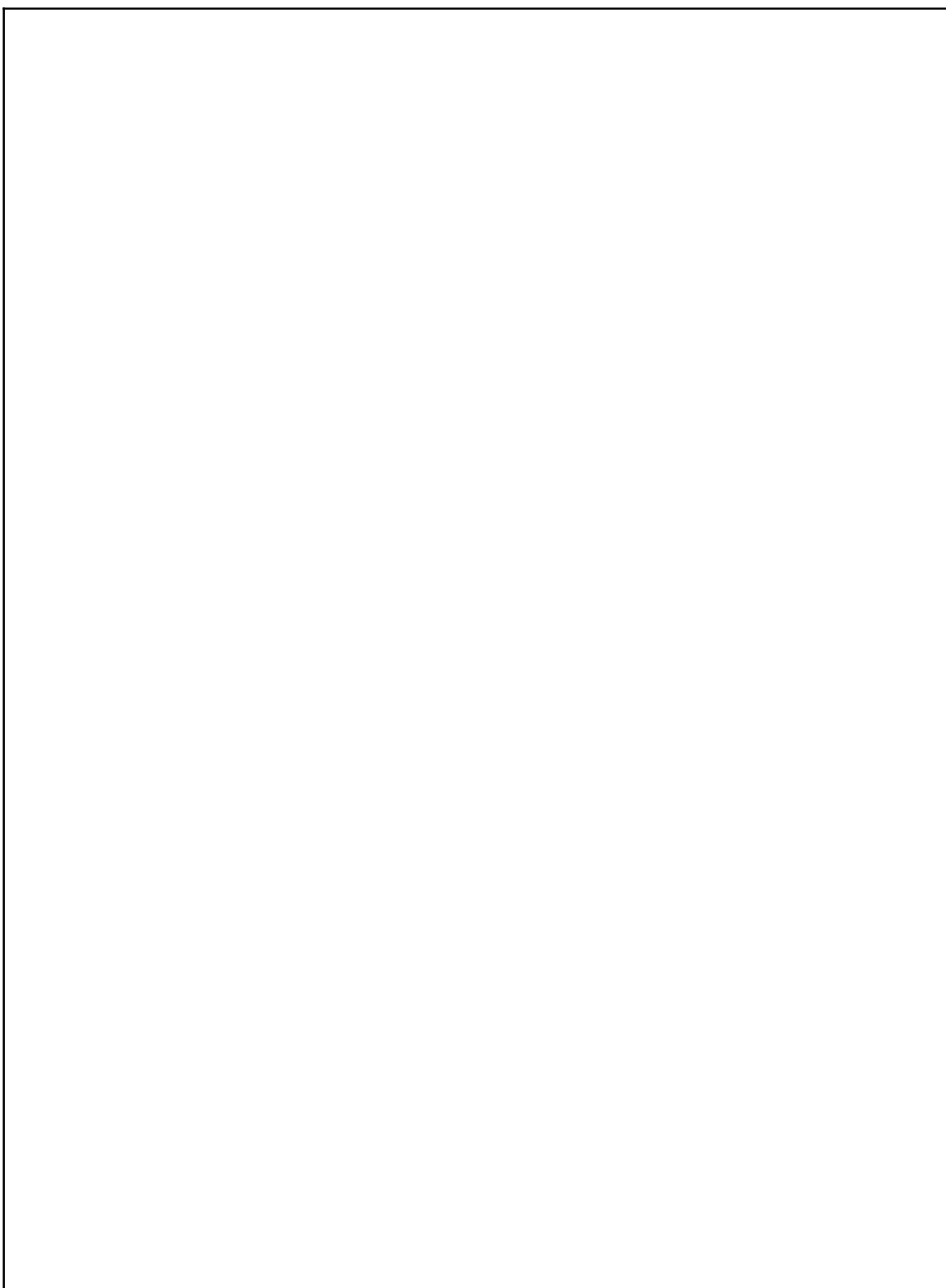
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	45	5m
2		
[2017]84		
2019	12	20
	26”	“45 ” “
	2614 ”	261” “
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		20 / 14
3		” “ 109
		“ ”
		2017
4		
		HJ953-2018
		HJ 820-2017
		HJ819-2017
		5



	t/a	4	/	/	/	/	/	/
	t/a	0.1	/	/	/	/	/	/
	t/a	0.2	/	/	/	/	/	/
	t/a	2	/	/	/	/	/	/
	t/a	60	/	/	/	/	/	/

$$= + + - \qquad = -$$

- 1
- 2
- 3
- 4
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- 6
- 7
- 8
- 9
- 10

- 1
- 2
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- 6
- 7