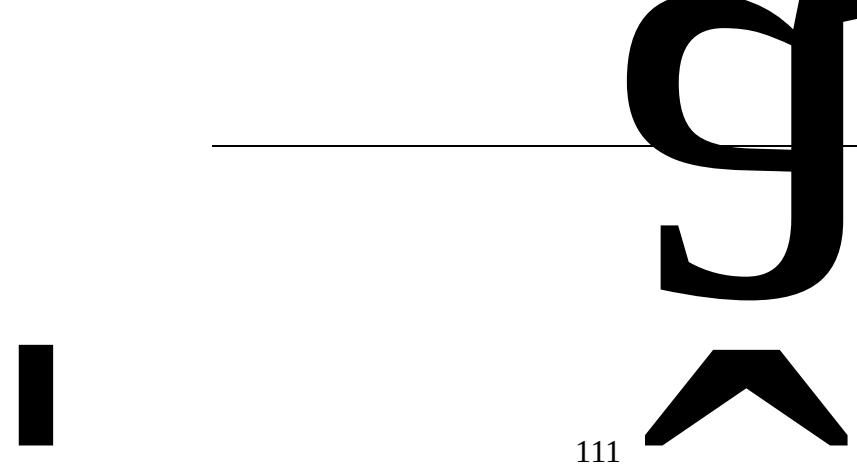

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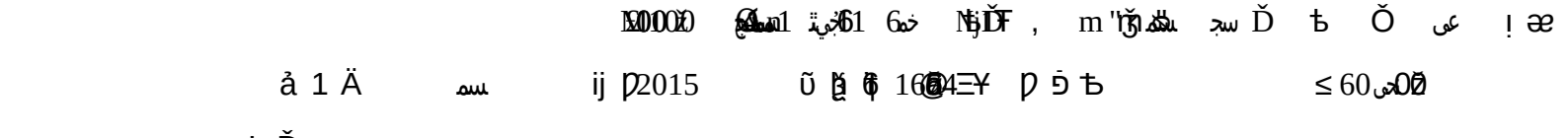
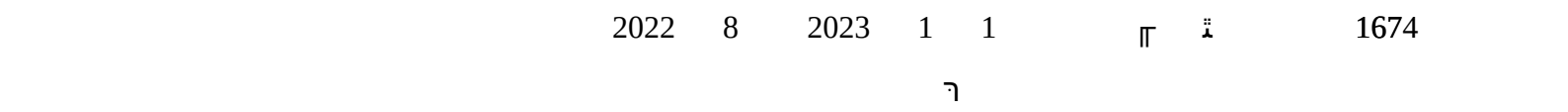
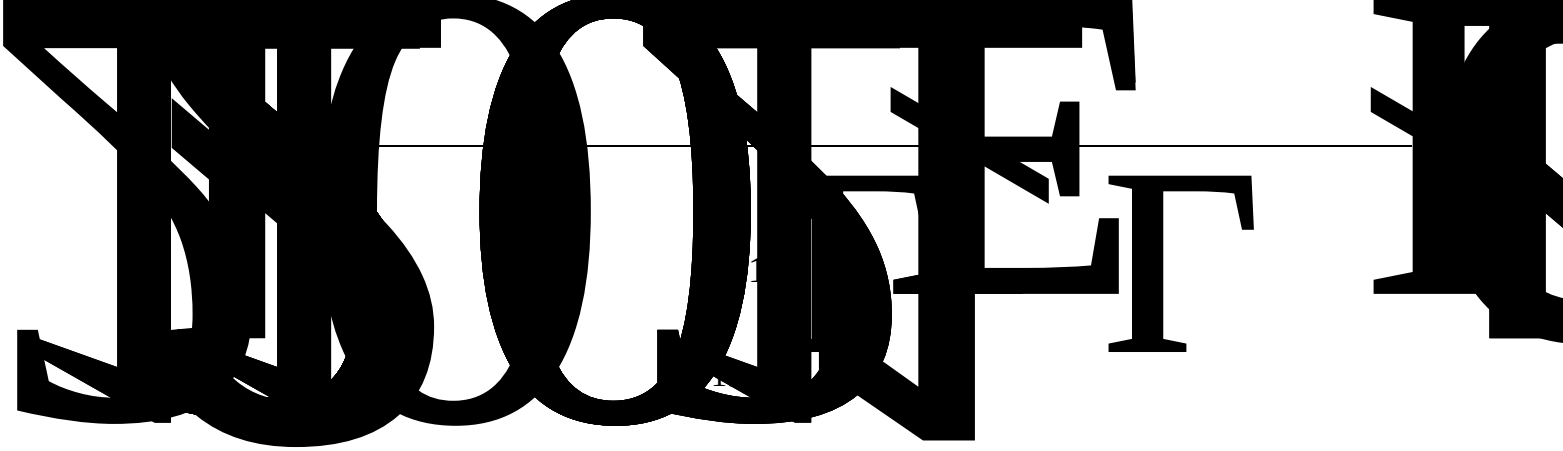




2022 8 2023 1 1 1674

1.1 1
1.2 1
1.3 6
1.4 7

2.1 8
2.2 9
2.3 10
2.4 16



M100

M100

1.2

1.2.1.

1

8 13 103
2022 11 09
9 23 2024
10 1
10 3 2015
5 29 80 2015 7 1
11
16 2008 2 1
12 2 2019 9 1

13
30 2015 5 29 80 2015 7 1
14 44 2015 5
29 80 2015 7 1
15 55
2015 3 23 79 2015 7 1
16 < >
< > < >
2017 15 2017 3 6
17
2016 8 2016 2 5
18 2015
2015 5 2015 5 1
19 2015
2015 80 2015 8 19
20
2011 95 2011 7 1
21
2011 142 2011 7 1

22

2016 62 2016 6 3

23

2014 68 2014 7 11

24

2016 3 2016 4 28

25 < >

2020 3 2020 4 1

26 < > <

> 2019 78 2019 8 12

27

< > 2019 107

28 < >

2019 62 2019 12 26

29 10

34

2012 1 2 8 30

35 < >

2017 22 2017 11 28

36 341 2021

5 18

37

2017 45 2017 12 23

38

3 M100 GB/T42416-2023

4 GB 19147-2016

5 1 GB 19147-2016/XG1-2018

6 E10 GB 18351-2017

7 GB6944-2012

8 GB 12268-2012

9 GB 18218-2018

10 GBZ/T 230 2010

11 1 1 GBZ 2.1-2019/XG1-2022

12 2 GBZ 2.2-2007

13 GB 17914-2013

14 GB 50058-2014

15 AQ 3009-2007

16 GB/T 6441-1986

17 GB/T 13861-2022

18 GB 50016-2014 2018

19 GB 50140-2005

20 GB 50057-2010

21 GB 12158-2006

22 GB/T 50610-2010

23 1 GB/T 22380.1-2017

24 2 GB/T 22380.2-2019

25 3 GB/T 22380.3-2019

26 1 GB/T 30040.1-2013

27 - SH/T 3178-2015

28 GB 50395-2007

29 29639-2020

30 GB 50343-2012

31 (GB/T 12801-2008)

2.

2024 11 11

2024 11 28

1925m² SF 5 1

1 4

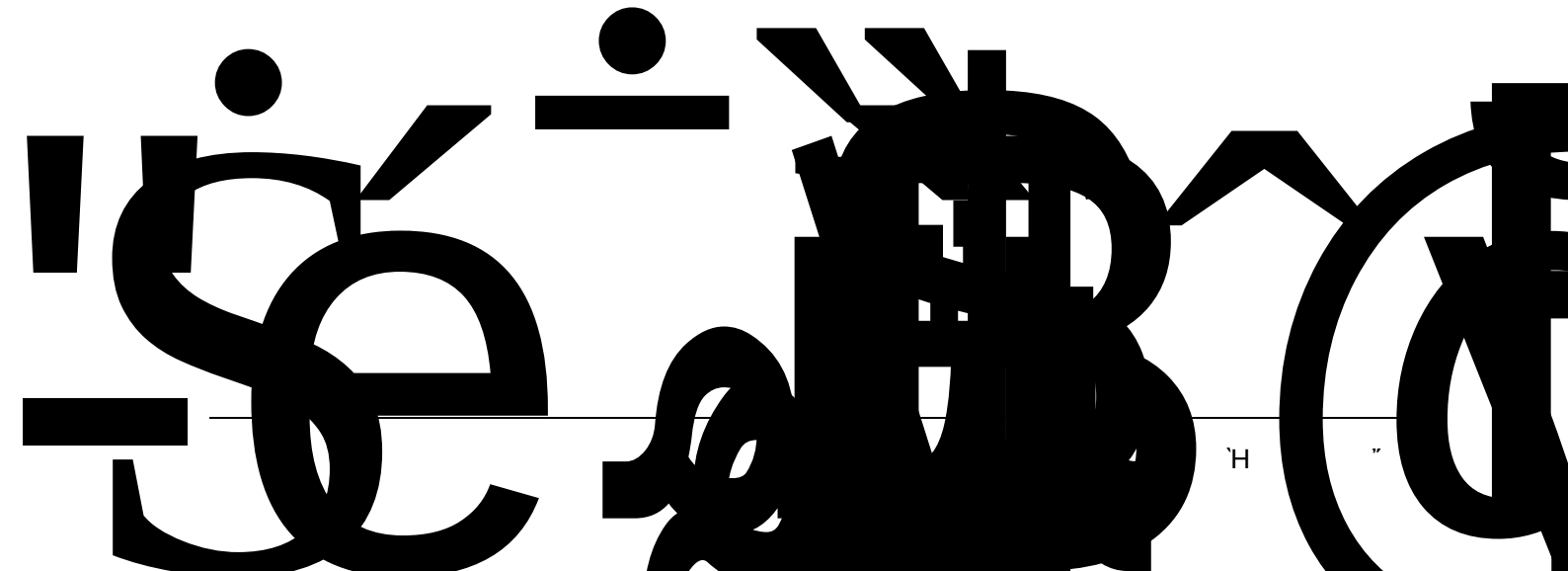
5 3 30m³ 2

30m³ 120m³

GB50156-2021 3.0.9

1925m² SF 5 1

1 - ɤna ɱ



62m 62m 32m 46m

2.2

1

7.7

7 25.2

1 -12.7

38.3

-30.6

8.3

6.9

2

69%

67%

7 78%

1 61%

3

101.2kPa

103.9kPa

96.9kPa

4

755.4mm

997.3mm

520.5mm

178.8mm

42.6mm

5

250.0mm

23m/s

28.3d

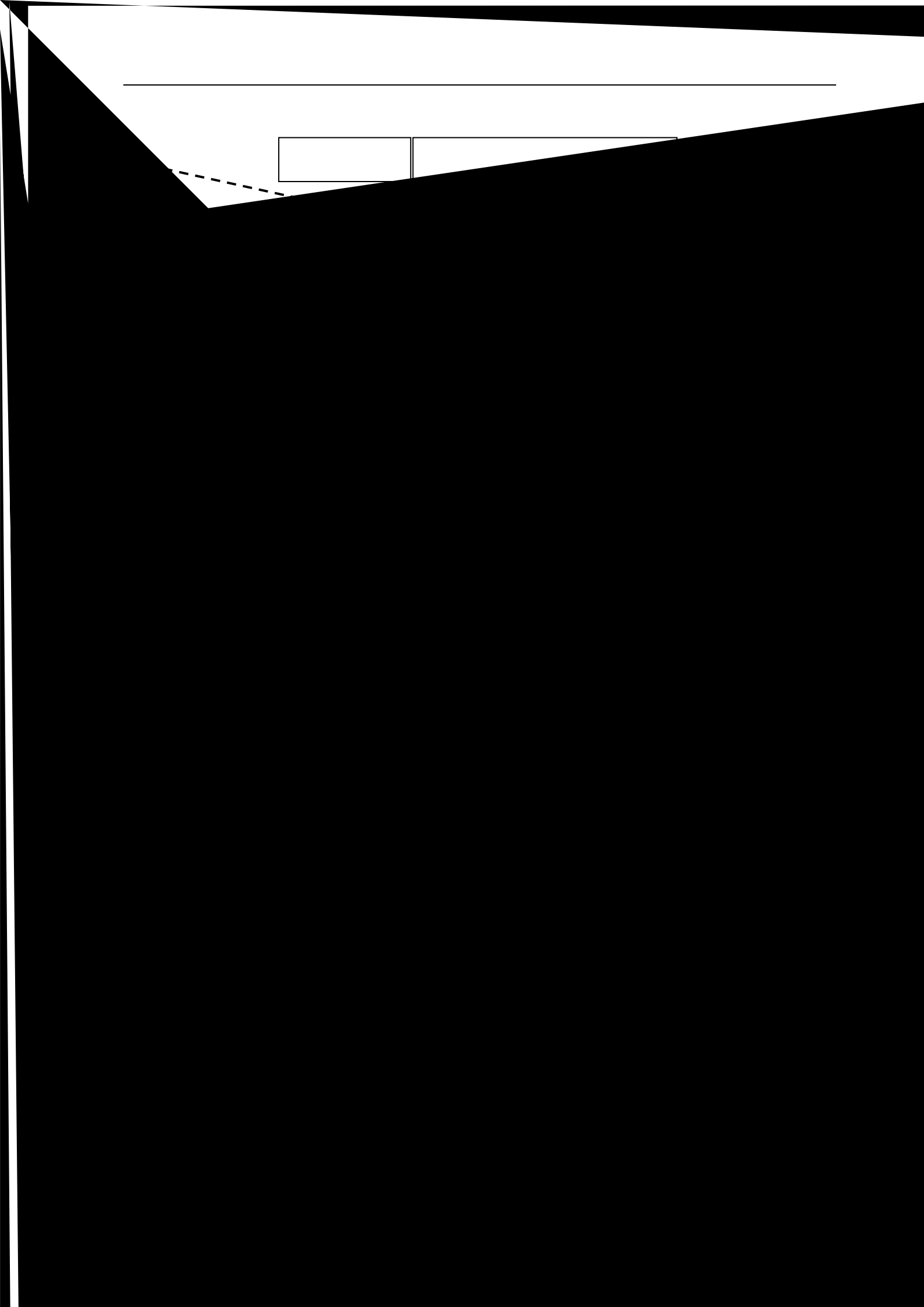
42d

7

1.40m

.3

2.2m



2-1 ㎜

	1F			8.5	12
	6F			8.5	24
	3F			8.5	20
				8.5	30
				8.5	19
				5.5	26
				11	36
				11	42
	H=10m			0.75 ≥5m	32
	1F			17.5	61
	1F			17.5	62
	1F			7	18
	6F			7	33
	3F			7	28
				7	26
				7	15
				5	17
				8.5	27
				10.5	46
	H=10m			5	32
	1F			12.5	62
	1F			12.5	62
	1F			7	15
	6F			7	25
	3F			7	19
				7	29
				7	20
				5	31
				8.5	41
				10.5	53
	H=10m			5	37
	1F			12.5	70
	1F			12.5	67
	1F			7	18
	6F			7	28
	3F			7	16
				7	26
				7	18

	3F			8.5	17
				8.5	27
				8.5	17
				5.5	26
				11	36
				11	54
	H=10m			0.75 ≥5m	39
	1F			17.5	72
	1F			17.5	69
	1F			7	30
	6F			7	44
	3F			7	41
				7	45
M100				7	29
				5	9
				8.5	19
				10.5	42
	H=10m			5	37
	1F			12.5	62
	1F			12.5	69
	1F			7	15
	6F			7	25
	3F			7	19
				7	29
M100				7	20
				5	31
				8.5	41
				10.5	53
	H=10m			5	37
	1F			12.5	70
	1F			12.5	67

2015 129 4.1 4.2
GB50156-2012 2014

GB50156-2012 2014
GB50156-2021

2-2 m

"

2.4

2-3

2-3

1			242.05m^2			
2			404.7m^2			H=6m

2-4

2-4

1.		2	30m^3	-	SF
2.		2	30m^3	-	SF
3.	M100	1	30m^3	-	SF
4.		2	SK50QF424K		
5.		1	SK50QF424K		
6.	M100	1	CS30J220X		
7.		1	TLS-2		1
8.		1	UZK-SA-LD		
9.		1	-	-	
10.		1	XFY-VR-M2/ 8A	-	3KW 6m^3/h
11.		19	-	-	10 6 4.5m 2 2.5m 1
12.		6	GT-GEND20	-	3m 1 M100 عي 0 m "

15.			-		1 M100 1
16.		5	-	-	2 1 M100 1 1

2.5

8 1

2.6

M100

M100

/

M100

15min

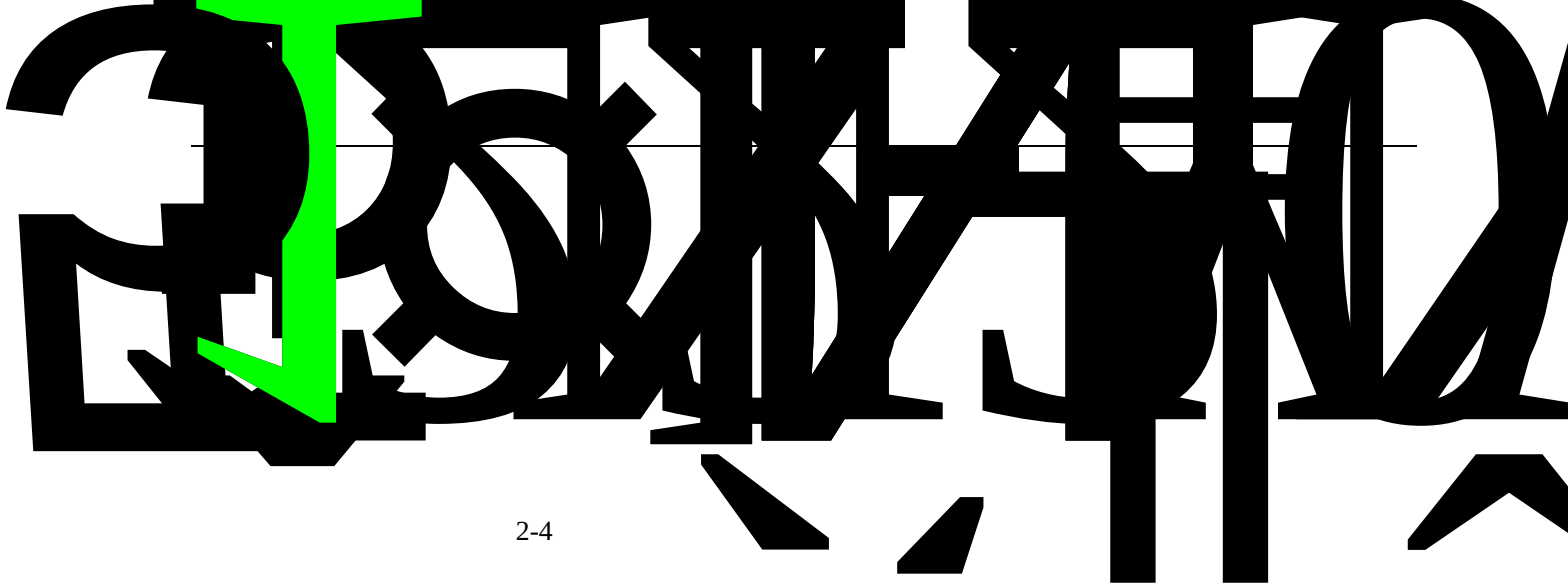
M100

M100 /

M100

/

M100



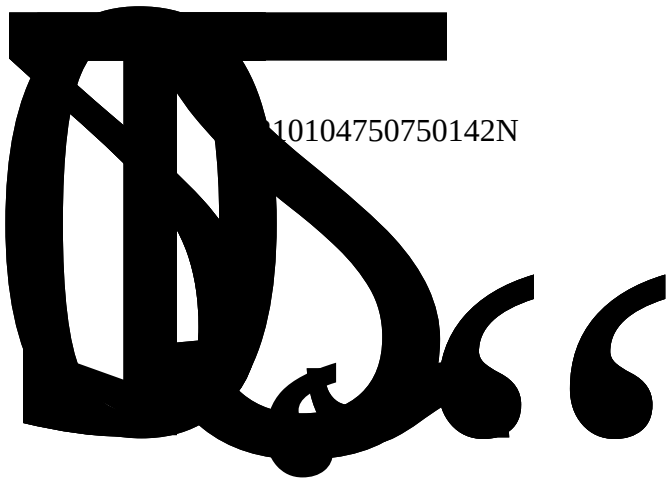
2-4

2-5

2.7

2.7.1

1



10104750750142N

2024 12 03

3

2.7.2

1

$5m^3/d$

$1825m^3/a$

2

5

3

4

380/220V TN-S

/

UPS 2h

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o א Lb ς ڳ ۼiŁ 5

6

8 / 5kg 2

5kg 8 2kg CO_2 8 35kg

2 $2m^3$

7

19 6

4.5m 2 2.5m 1

3m 10

M100

90%

6

1 M100 1 / 1 M100

2 1

/

M100

8

2-5

1		5kg	16		

2			8		
3		35kg	2		
4		-	8		
5			3		
6			3		
7		-	1		
8		-	50		
9		-	50		
10		-	$2m^3$		
11			3		
12		6001CN	3		
13			1		
14		-	1		

3.

M100

3.1

3.1.1

GB18218-2018

1

2

3.1.2

1

2

$$S=q_1/Q_1+q_2/Q_2\ldots\ldots+q_n/Q_n\geq 1$$

S——

q_1 $q_{2...}q_n$—— t

Q_1 $Q_{2...}Q_n$—— t

3

3.1.3

3-1

3-1

1		200t
2		5000t
	M100	500t

60m^3 0.75

45t 60m^3 0.85 51t M100

30m^3 0.79 M100 23.7t

S=45/200+51/5000+23.7/500=0.2826<1

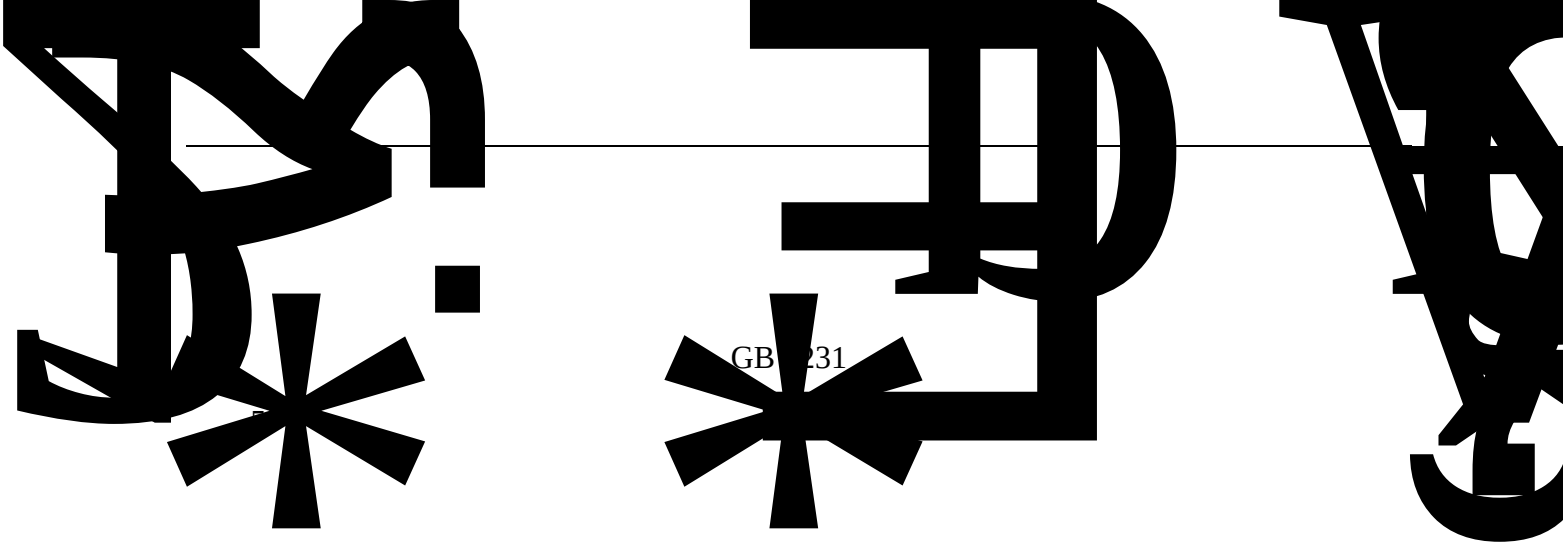
3.2

3.2.1

3-2

3-2

				2*	
					1В
1	1630	1203	86290-81 -5	2 1	
				-	Э



15min

4

PC-TWA	mg/m^3	25
Ï oÀ[illegible] ¡ Ñ•p	mg/m^3	50

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1

37

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1

50m

3.2.2

1

M100

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M100

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70m 6 46

M100 /

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1987 2 4

1986 5 2

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M100

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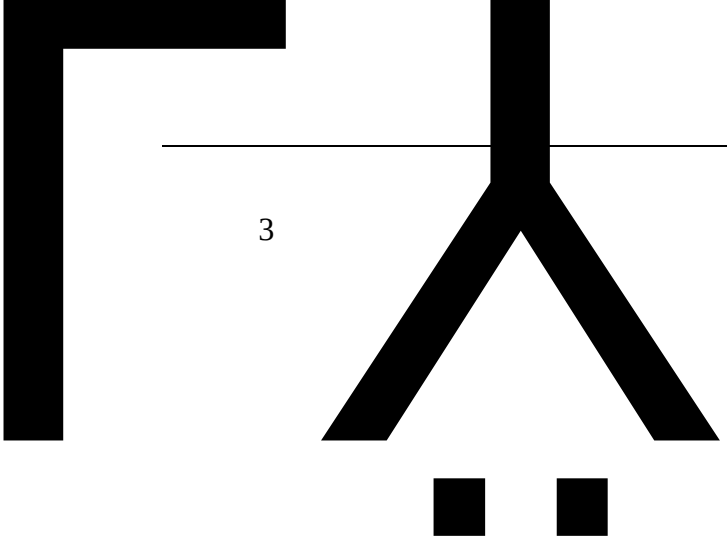

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3.3.3

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3.3.4

ãÂ ãÃM100ð E–+X+bG·'ó É

3.3.5

3.3.6

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3.3.7

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M100

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4.1

M100

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4.2

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8

5-1~9

5-1

	1		
	2		
	3		
	4		
	5		

5-2

	1		
	2		
	3		
	4 M100		
	1		
	2		
	3		
	4		
	5		
	6		
	7		

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9 M100

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GB50156-2012

2014

14

2.2m

4.0.4 1.5 25m

GB50156-2021
5.0.12
2.3-2

4.0.4

15

GB50156 5.0.14 GB50156-2021
5.0.14
2.3-2

16 5.0.13-1

5.0.11

GB50156-2021
A 5.0.15

17

C GB50156-2021
5.0.16

		7.1.2		
	3	2015 129 7.1.3		
	4	2015 129 7.1.4		
	5	2015 129 7.1.5		
	6	2015 129 7.1.6		
	7 GB50156-2012 2014	2015 129 7.1.7	GB50156-2021	
	8	GB50156-2021 6.1.1	M100	
	9	GB50156-2021 6.1.2		
	10 6.1.4 0.08MPa	GB50156-2021 6.1.4	SF	
	11 -		SF	

-

GB50156-2021

SH/T3178

6.1.5

12

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109Ω

SF

GB50156-2021

6.1.7

A=0.04Vt

13

SF

11.2

GB50156-2021

6.1.8

SF

14

GB50156-2021

6.1.9

15

80mm

4mm

GB50156-2021

6.1.

18			GB50156-2021 6.1.13	
19			GB50156-2021 6.1.14	
20	90% 95%		GB50156-2021 6.1.15	
21		0.8L/h	GB50156-2021 6.1.16	
22		SH/T 3022	GB50156-2021 6.1.17	SF
23			GB50156-2021 6.5.1	SF
24	GB 50108	200mm 500mm	GB50156-2021 6.5.2	SF
25				SF

	100mm 4mm 200mm 10mm 30mm	GB50156-2021 6.5.3		
	26	GB50156-2021 6.5.4		
	27 6.3 5mm 5%	GB50156-2021 6.5.5	M100	
	28 3.5mm	GB50156-2021 6.5.6	3.5mm	
/	1 GB50156-2012 2014 6.2	2015 129	GB50156-2021 6.2	

7.2.1

2

2015 129

7.2.2

3

2015 129

7.2.3

4

M100

40 400

2015 129

7.2.4

5

M100

2

2015 129

7.3.2

3

10

2015 129

7.3.3

M100

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GB50156-2021

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6.3.1

5

GB50156-2021

6.3.2

8

GB50156-2021
6.3.5

150mm

200mm

12

4m M100

2m GB50156-2021 6.3.9 4m

13 50mm GB50156-2021 6.3.10 50mm

14

			0.2m	
	19	GB50156-2021 6.3.18		
	20 6.3.12 1. 2.8m/s 2.	GB50156-2021 6.3.19		
	21 GB/T21447	GB50156-2021 6.3.20	GB/T21447	

5-5

	1 2 2 4 1 4 1 6 2 2	2015 129 8.1.1	M100 2 5kg	
	2 1 35 65	2015 129 8.1.2	2 35kg	
	3 5 2		8 2m^3	

2015 129

8.1.3

4

2 2 5kg

1 5kg

1 6L 2 2

1 35kg

15m

5

2m^3 2

5-6

	1 GB50156-2012 2014 11	2015 129 9.1	GB50156-2021 13	
	2 90% 95%	2015 129 9.2		
	3	GB50156-2021 13.1.1		
	4 380/220V	GB50156-2021 13.1.2	380/220V	
	5 90min	GB50156-2021 13.1.3	2h	
	6 4.5m 5m 4.5m 3m	GB50156-2021 13.1.4		
	7	GB50156-2021 13.1.5		

8		GB50156-2021 13.1.6
9		GB50156-2021 13.1.7
10	IP44	GB50156-2021 13.1.8 IP44

6

GB50156-2021

13.2.8

7 380/220V TN-S

380V

1

5.0.1

2

5.0.5

3

5.0.8

1

25% GB50156-2021
13.4.2

2 /j²~º

	3	GB50156-2021 13.5.4

1

GB50156-2021

14.3.1

5-9

	5	5	0	0
	37	37	0	0
	29	28	0	1
	58	52	0	6
	16	16	0	0
	34	33	0	1
	18	11	0	7
	20	11	0	9
	217	193	0	24

6.

M100 /

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6 “ ” “

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7 M100

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M00 /

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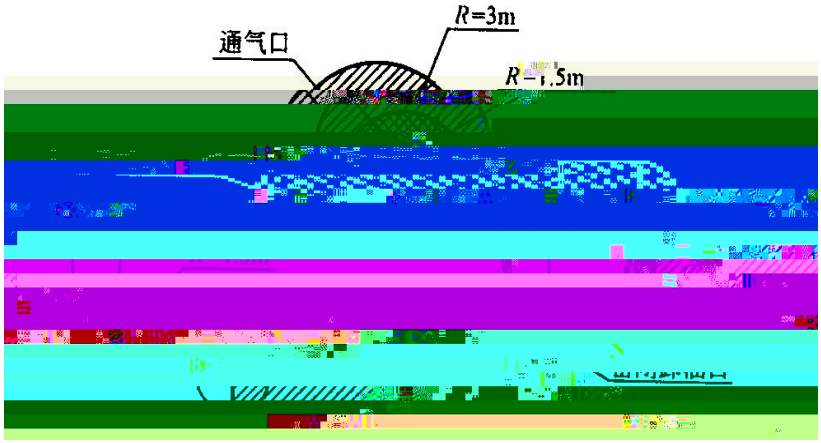
3 3m

1.5m 2



2

5. 3

1 0

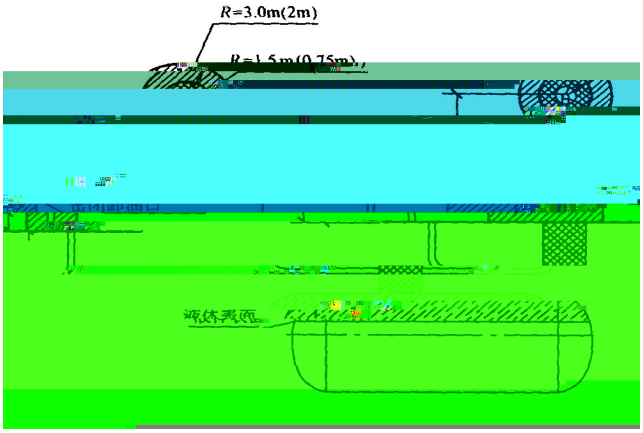
2 1.5m 0.75m

0.5m 1

3 1.5m 1m

3m 2m 1.5m

2



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SF