



ZOOMLION ZCC800H CRAWLER CRANE

**TECHNICAL SPECIFICATIONS**  
**ZCC800HWG/27Y**

ZOOMLION HEAVY INDUSTRY SCIENCE AND TECHNOLOGY CO., LTD.

# ZOOLION ZCC800H CRAWLER CRANE TECHNICAL SPECIFICATIONS

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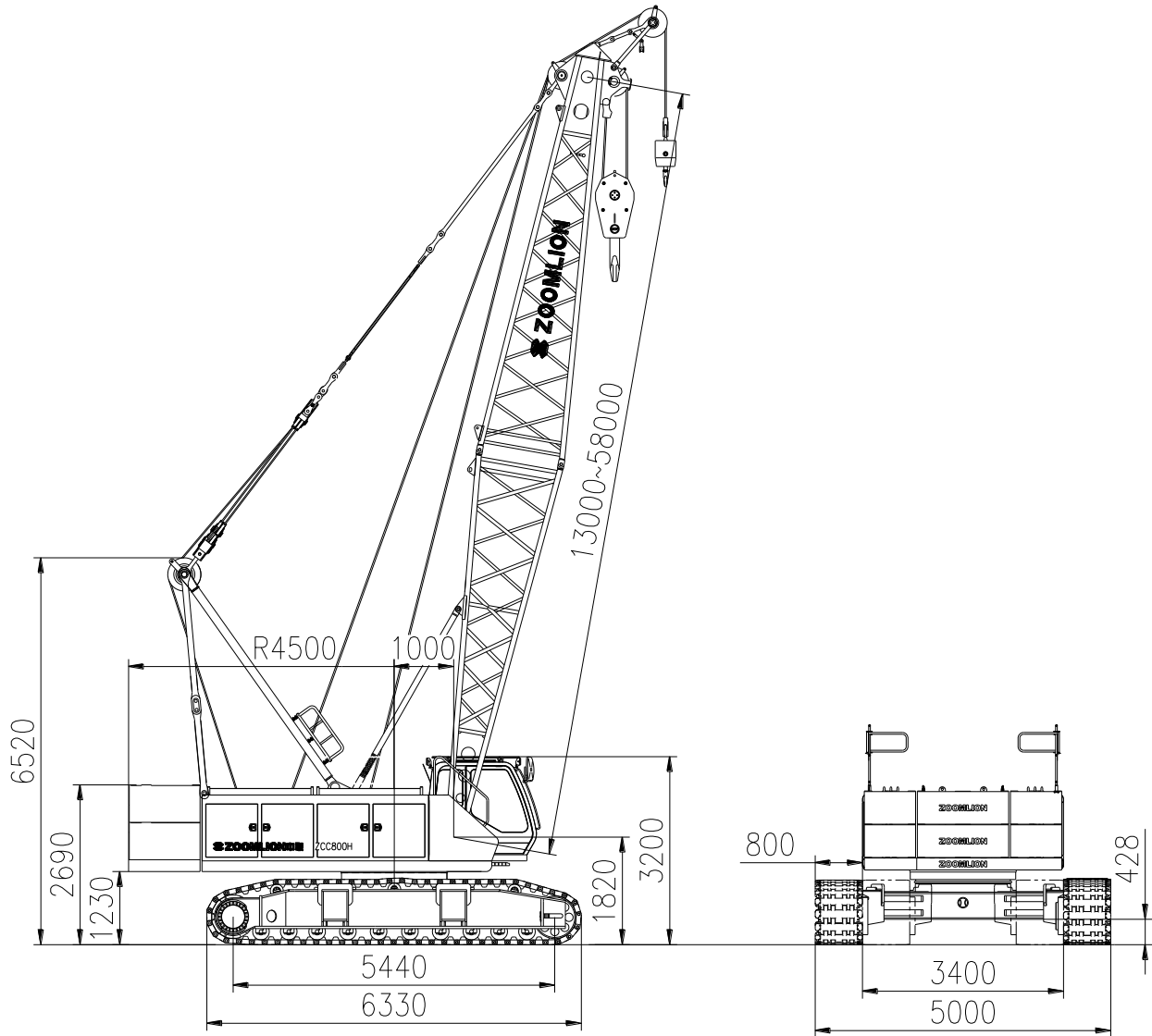
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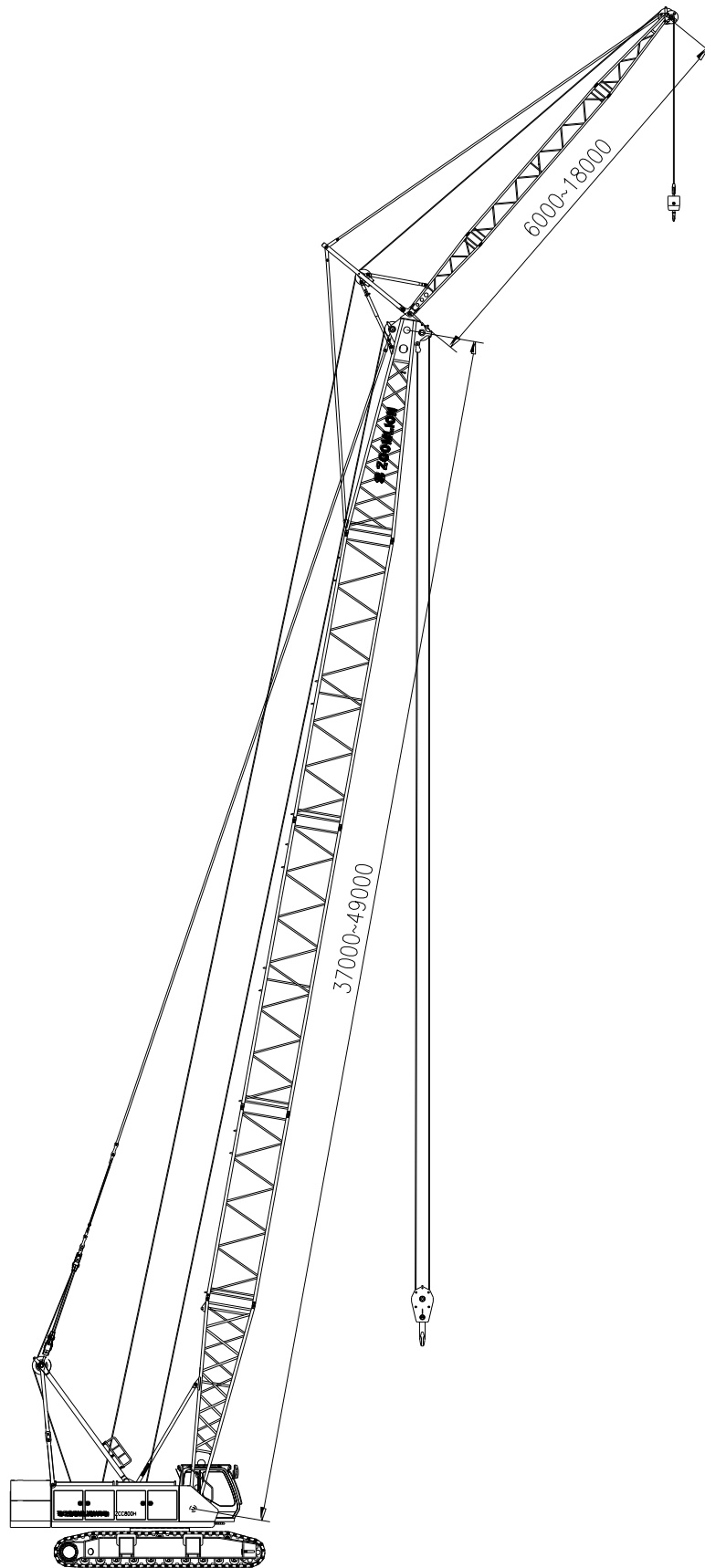
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## 1. Overall dimensions and main parameters

### 1.1 Overall dimensions of S boom



1.2 Overall dimensions of SF boom

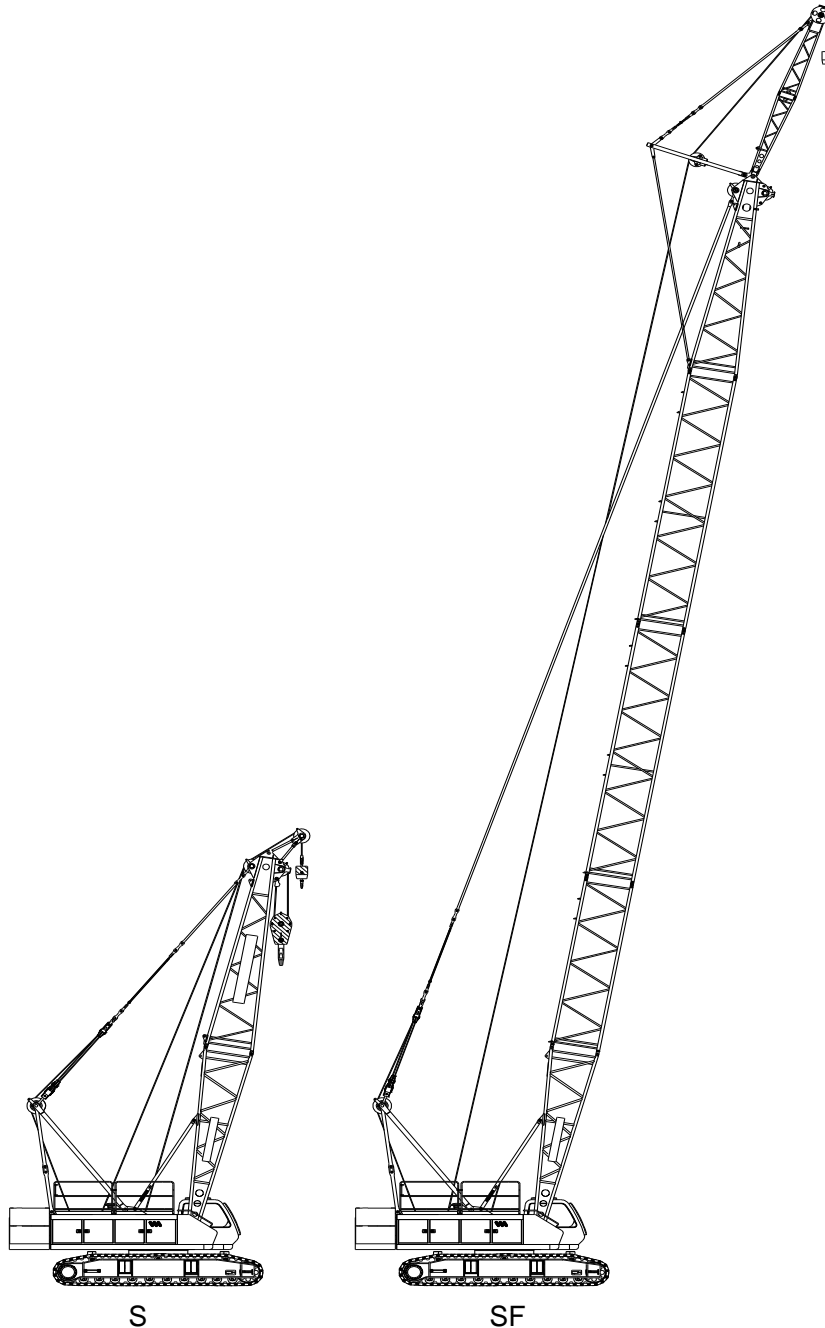


### 1.3 Main technical parameters

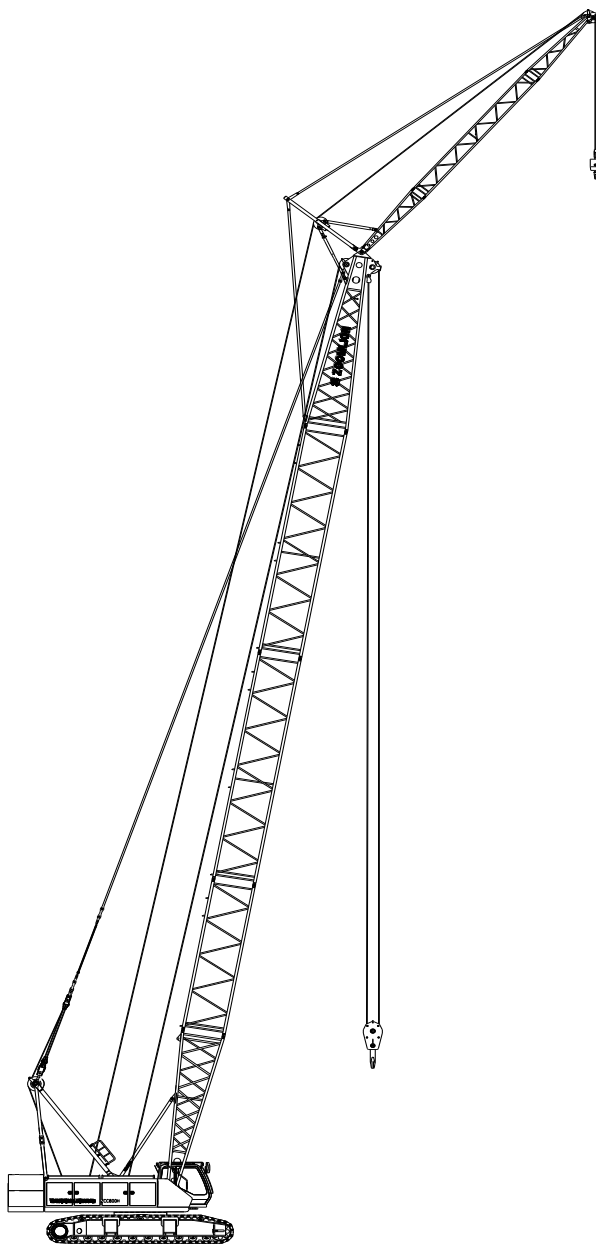
Item		Unit	Value	Remarks
Max. lifting capacity × radius		t × m	80 × 4	
Deadweight with basic boom		t	72.8	
Main boom length		m	13 – 58	
Fixed jib length		m	6 – 18	
Max. lifting capacity on fixed jib		t	7	
Fixed jib angle		°	10, 30	
Max. length of main boom with fixed jib		m	49 + 18	
Max. rope speed of winches	Hoisting winch 1	m/min	125 (110, with free-fall function)	The 4 <sup>th</sup> rope layer
	Hoisting winch 2	m/min	125	The 4 <sup>th</sup> rope layer
	Derricking winch	m/min	93	The 4 <sup>th</sup> rope layer
Slewing speed		rpm	0 – 2	
Traveling speed		km/h	0 – 1.67	
Max. gradeability		%	30	
Ground pressure		MPa	0.083	
Overall dimensions (L × W × H)		m	13.5 × 3.4 × 3.2	With A-frame and main boom pivot section
Engine	Rated power / rotational speed	kW/r/min	199/2000	Manufacturer: Weichai power Co., Ltd.
	Max. output torque / rotational speed	Nm/r/min	1270/1200 – 1500	
Distance between track center × crawler contact length × crawler width		mm	4200 × 5440 × 800 2600 × 5440 × 800	Crawler carrier extended
				Crawler carrier retracted
Noise	Noise level outside operator's cab during operation	(dB)	≤ 107	
	Noise level in operator's cab during operation	(dB)	≤ 79	

#### 1.4 Boom configuration description

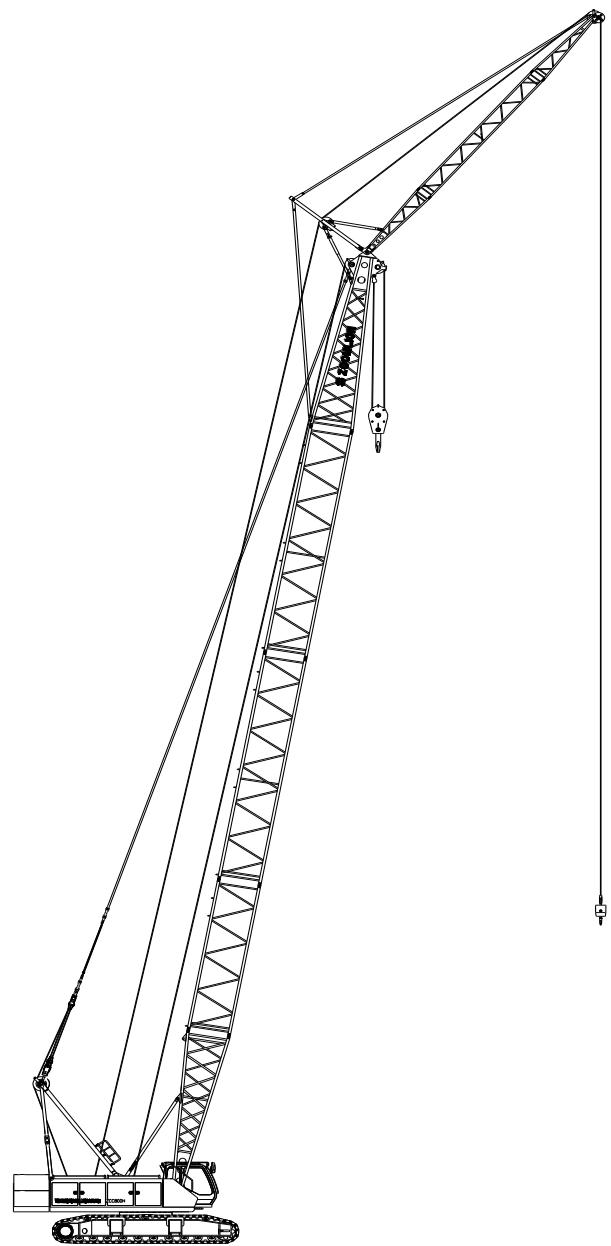
Configuration no.	Description	Parameters	Remarks
S	Main boom	S-boom = 13 – 58 m	Main boom is used to lift the load.
SF	Main boom with fixed jib	S-boom = 37 – 49 m F-jib = 6 – 18 m	Main boom is not attached with load hook. Fixed jib is used to lift the load.



Configuration no.	Description	Parameters	Remarks
SF-1	Main boom with fixed jib	S-boom = 37 – 49 m F-jib = 6 – 18 m	Fixed jib is attached with load hook, but it is not used to lift the load. Main boom is used to lift the load.
SF-2	Main boom with fixed jib	S-boom = 37 – 49 m F-jib = 6 – 18 m	Main boom is attached with load hook, but it is not used to lift the load. Fixed jib is used to lift the load.



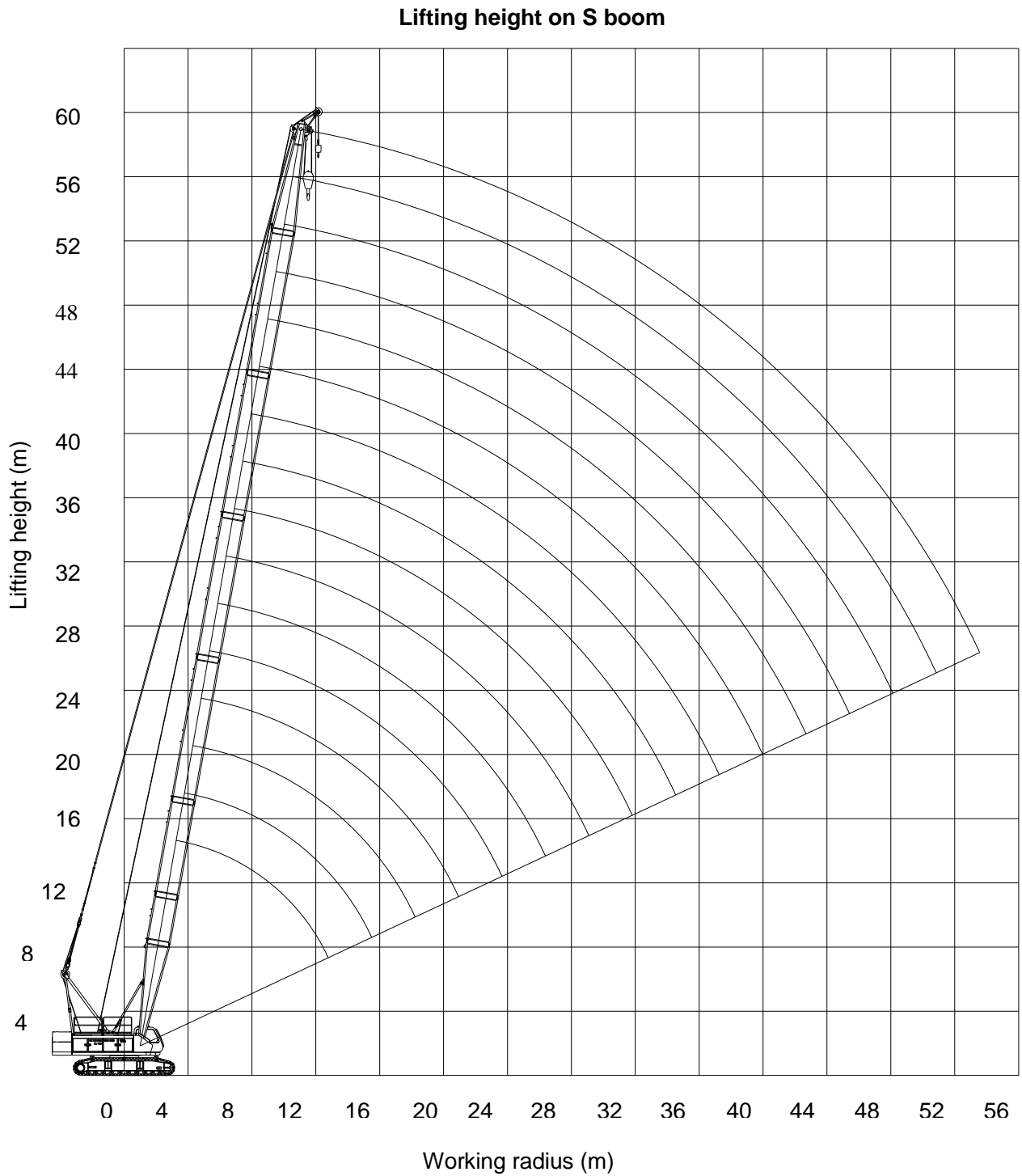
SF-1



SF-2

## 2. Lifting performance

### 2.1 Lifting performance on S boom





## Lifting capacity on S boom

Unit: Metric tons

Main boom length (m)										
Radius (m)	13	16	19	22	25	28	31	34	37	Radius (m)
4	80									4
5	68	66.8								5
6	52.3	52	51.8	51.7						6
7	42.3	42	41.9	41.7	40	39.5				7
8	35.5	35.2	35	34.8	34.6	33.97	33.8	33.5		8
9	29.5	29.3	29.2	29.1	29	28.9	28.8	28.6	28.4	9
10	26.7	26.4	26.2	26	25.7	25.3	25	24.8	24.6	10
12	19.5	19.4	19.3	19.2	19.1	19	18.9	18.8	18.7	12
14		17.2	17	16.9	16.6	16.2	16	15.8	15.5	14
16			14.37	14.2	13.9	13.6	13.4	13.1	12.9	16
18				12.2	11.9	11.6	11.4	11.1	11	18
20					10.3	10	9.8	9.7	9.5	20
22					8.5	8.45	8.4	8.3	8.2	22
24						7.7	7.65	7.6	7.5	24
26							6.8	6.75	6.7	26
28								6	5.9	28
30								5.5	5.4	30
32									4.2	32

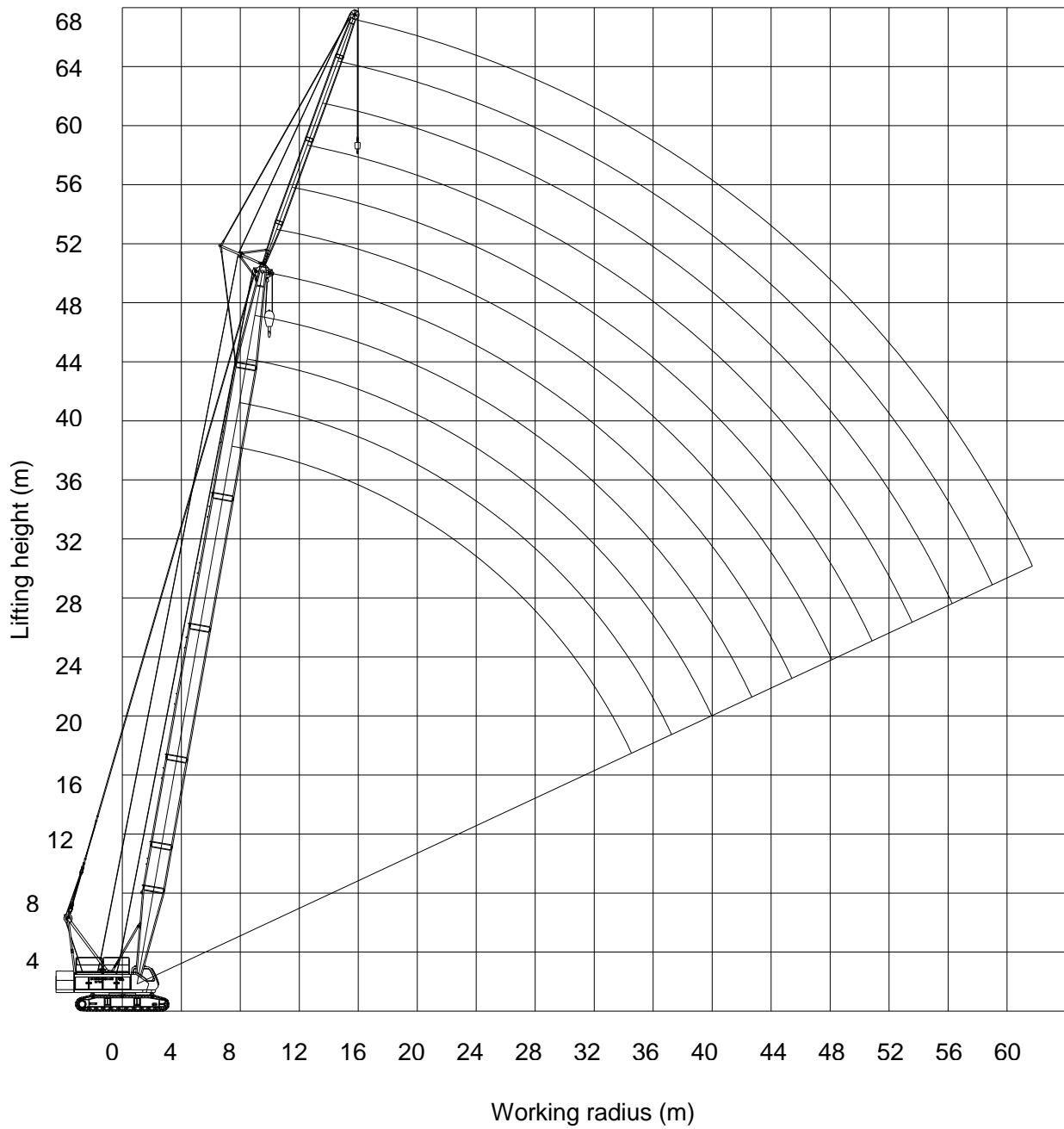
## Lifting capacity on S boom

Unit: Metric tons

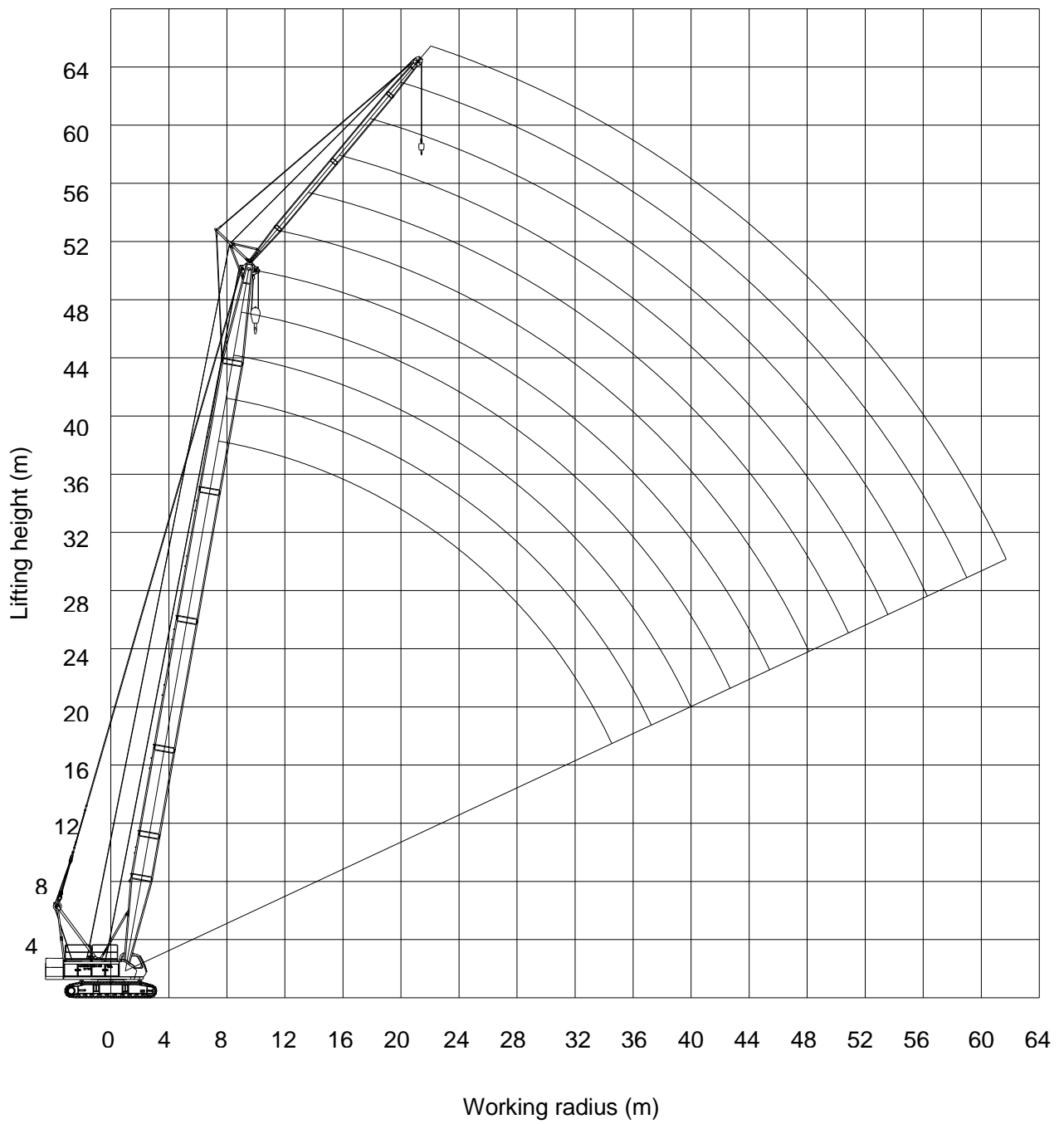
Main boom length (m)								
Radius (m)	40	43	46	49	52	55	58	Radius (m)
9								9
10	23.8	23.2	22.6					10
12	18.6	18.6	18.2	17.8	17.8			12
14	15.5	15.2	15	14.75	14.5	14.3	14	14
16	12.8	12.7	12.5	12.3	12.1	12	11.5	16
18	10.9	10.7	10.5	10.3	10.2	10	9.9	18
20	9.4	9.3	9.2	9	8.9	8.8	8.6	20
22	8.2	8.2	8.1	8	7.9	7.7	7.5	22
24	7.45	7.2	7.1	7	6.9	6.8	6.6	24
26	6.6	6.5	6.4	6.2	6	5.8	5.7	26
28	5.8	5.7	5.6	5.55	5.5	5.4	5.1	28
30	5.3	5.2	5.1	5	4.8	4.6	4.5	30
32	4.2	4.2	4.1	4	4	4	3.8	32
34	4.1	4.1	4	3.9	3.8	3.7	3.4	34
36		3.8	3.7	3.5	3.4	3.2	2.9	36
38		3.2	3.1	3.05	3	2.9	2.6	38
40			2.8	2.7	2.6	2.5	2.3	40
42				2.3	2.3	2.2	2	42
44					2	1.8	1.6	44
46						1.6	1.3	46
48						1.5	1	48
50							0.8	50

## 2.2 Lifting performance on SF boom

Lifting height on SF boom (F-jib angle = 10°)



Lifting height on SF boom (F-jib angle = 30°)



## Lifting capacity on SF boom

Unit: Metric tons

Main boom length (m)	37						40						Main boom length (m)
	6		12		18		6		12		18		Fixed Jib length (m)
Fixed Jib length (m)	Fixed Jib angle (°)												Fixed Jib length (m)
Radius (m)	10	30	10	30	10	30	10	30	10	30	10	30	Radius (m)
10	7	6					7						10
12	7	6	7				7	6	7				12
14	7	6	7		5.5		7	6	7		5.5		14
16	7	6	7	6	5.5		7	6	7	6	5.5		16
18	7	6	7	6	5.5		7	6	7	6	5.5		18
20	7	6	7	6	5.5	4	7	6	7	6	5.5	4	20
22	7	6	7	6	5.5	4	7	6	7	6	5.5	4	22
24	7	6	7	6	5.5	4	7	6	7	6	5.5	4	24
26	6.7	6	6.7	6	5.5	4	6.4	6	6.1	5.4	5.5	4	26
28	6.1	5.5	6.1	5.5	5.5	3.5	5.5	5.5	5.5	4.8	5	3.7	28
30	5.4	4.8	5.4	4.8	5	3.5	5.2	5	5	4.2	5	3.7	30
32	4.9	4.4	4.9	4.4	4	3.3	4.4	4.3	4.3	4	4	3.5	32
34	4.3	4	4.3	4	4	3.2	4	3.9	3.9	4	4	3.5	34
36			3.9	3.7	3.7	3.2	3.6	3.5	3.6	3.5	3.8	3.3	36
38			3.5	3.4	3.5	3.1		3.1	3.2	3	3.2	3.1	38
40				3.2	3.2	3			2.7	2.7	2.6	2.5	40
42										2.4	2.5	2.3	42

## Lifting capacity on SF boom

Unit: Metric tons

Main boom length (m)	43						46						Main boom length (m)
	6		12		18		6		12		18		Fixed jib length (m)
Fixed jib length (m)	Fixed jib angle (°)												Fixed jib length (m)
Radius (m)	10	30	10	30	10	30	10	30	10	30	10	30	Radius (m)
12	7						7						12
14	7	6	7				7	6	7				14
16	7	6	7	6	5.5		7	6	7		5.5		16
18	7	6	7	6	5.5		7	6	7	6	5.5		18
20	7	6	7	6	5.5	4	7	6	7	6	5.5		20
22	7	6	7	6	5.5	4	7	6	7	6	5.5	4	22
24	7	6	7	6	5.5	4	6.5	6	7	6	5.5	4	24
26	6.3	5.5	6.3	6	5.5	4	6	5.8	5.9	5.7	5.5	4	26
28	5.5	4.7	5.5	5.4	5.4	4	5	4.9	5	4.9	5	4	28
30	4.8	4.3	4.8	4.7	5	4	4.7	4.6	4.6	4.5	4.8	4	30
32	4.2	4.2	4.2	4.1	4.5	4	4	4.3	4	4	4.4	3.8	32
34	4	4	4	4	4	3.5	4	3.7	4	3.7	3.8	3.5	34
36	3.6	3.6	3.7	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.3	36
38	3.3		3.3	3.4	3.4	3.3	3.2	3.2	3.2	3.2	3.2	3.2	38
40			3.1	3	3.1	3.1	2.9	2.9	2.9	3	3	3	40
42			2.7	2.7	2.7	2.7		2.6	2.5	2.6	2.5	2.5	42
44				2.5	2.5	2.5				2.5	2.4	2.4	44

## Lifting capacity on SF boom

Unit: Metric tons

Main boom length (m)	<b>49</b>						Main boom length (m)
Fixed jib length (m)	<b>6</b>		<b>12</b>		<b>18</b>		Fixed jib length (m)
	Fixed jib angle (°)						
Radius (m)	<b>10</b>	<b>30</b>	<b>10</b>	<b>30</b>	<b>10</b>	<b>30</b>	Radius (m)
<b>12</b>	<b>7</b>						<b>12</b>
<b>14</b>	<b>7</b>	<b>6</b>	<b>7</b>				<b>14</b>
<b>16</b>	<b>7</b>	<b>6</b>	<b>7</b>		<b>5.5</b>		<b>16</b>
<b>18</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>5.5</b>		<b>18</b>
<b>20</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>5.5</b>		<b>20</b>
<b>22</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>5.5</b>	<b>4</b>	<b>22</b>
<b>24</b>	<b>6.5</b>	<b>6</b>	<b>6.5</b>	<b>6</b>	<b>5.5</b>	<b>4</b>	<b>24</b>
<b>26</b>	<b>5.7</b>	<b>5.5</b>	<b>5.7</b>	<b>5.5</b>	<b>5.5</b>	<b>4</b>	<b>26</b>
<b>28</b>	<b>5.1</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>4.9</b>	<b>4</b>	<b>28</b>
<b>30</b>	<b>4.5</b>	<b>4.4</b>	<b>4.6</b>	<b>4.4</b>	<b>4.5</b>	<b>4</b>	<b>30</b>
<b>32</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>3.7</b>	<b>32</b>
<b>34</b>	<b>4</b>	<b>4</b>	<b>3.6</b>	<b>3.6</b>	<b>3.5</b>	<b>3.5</b>	<b>34</b>
<b>36</b>	<b>3.4</b>	<b>3.3</b>	<b>3.3</b>	<b>3.4</b>	<b>3.2</b>	<b>3.3</b>	<b>36</b>
<b>38</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3.2</b>	<b>3</b>	<b>3.2</b>	<b>38</b>
<b>40</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>3</b>	<b>40</b>
<b>42</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.7</b>	<b>42</b>
<b>44</b>		<b>2.2</b>	<b>2.2</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>	<b>44</b>
<b>46</b>			<b>1.9</b>	<b>1.9</b>	<b>1.9</b>	<b>1.8</b>	<b>46</b>

## Lifting capacity on SF-1 boom

Unit: Metric tons

## 37 m main boom

Radius (m)	Main boom length (m)					
	37					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
9	26.87	26.74	26.69	26.43	26.51	26.11
10	23.08	22.97	22.91	22.69	22.74	22.41
12	17.69	17.60	17.54	17.35	17.38	17.11
14	14.00	13.93	13.85	13.70	13.71	13.48
16	11.41	11.34	11.27	11.14	11.12	10.94
18	9.51	9.46	9.38	9.28	9.24	9.09
20	7.92	7.87	7.79	7.70	7.66	7.52
22	6.62	6.59	6.50	6.42	6.37	6.26
24	5.53	5.50	5.40	5.34	5.28	5.19
26	4.73	4.70	4.61	4.56	4.49	4.42
28	3.93	3.91	3.81	3.77	3.69	3.64
30	3.23	3.22	3.12	3.09	3.00	2.96
32	2.74	2.73	2.62	2.60	2.51	2.48



**40 m main boom**

Radius (m)	Main boom length (m)					
	40					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
10	22.29	22.18	22.13	21.90	21.97	21.63
12	17.50	17.40	17.35	17.15	17.19	16.90
14	14.01	13.93	13.87	13.71	13.72	13.49
16	11.32	11.25	11.18	11.06	11.05	10.87
18	9.42	9.37	9.29	9.19	9.17	9.01
20	7.93	7.88	7.80	7.71	7.68	7.54
22	7.03	6.99	6.91	6.83	6.79	6.67
24	5.93	5.90	5.82	5.75	5.70	5.61
26	5.13	5.11	5.02	4.97	4.91	4.83
28	4.34	4.32	4.23	4.18	4.11	4.05
30	3.84	3.82	3.73	3.70	3.62	3.57
32	3.34	3.33	3.23	3.21	3.13	3.09
34	2.64	2.63	2.54	2.52	2.43	2.41
36	2.55	2.54	2.44	2.43	2.34	2.32

**43 m main boom**

Radius (m)	Main boom length (m)					
	43					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
10	21.69	21.58	21.54	21.31	21.39	21.04
12	17.10	17.01	16.96	16.77	16.82	16.52
14	13.71	13.64	13.58	13.42	13.45	13.21
16	11.22	11.16	11.09	10.96	10.97	10.77
18	9.23	9.17	9.11	9.00	8.98	8.82
20	7.83	7.79	7.71	7.62	7.60	7.46
22	6.83	6.80	6.72	6.64	6.61	6.49
24	5.74	5.70	5.63	5.56	5.52	5.41
26	5.04	5.01	4.93	4.87	4.82	4.74
28	4.24	4.22	4.14	4.09	4.03	3.95
30	3.54	3.52	3.44	3.40	3.34	3.28
32	3.25	3.23	3.15	3.11	3.04	3.00
34	2.65	2.64	2.55	2.52	2.45	2.41
36	2.35	2.34	2.25	2.23	2.15	2.13
38	1.75	1.75	1.66	1.64	1.56	1.54
40	1.55	1.55	1.46	1.44	1.36	1.34

**46 m main boom**

Radius (m)	Main boom length (m)					
	46					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
10	21.10	20.98	20.95	20.72	20.80	20.45
12	16.71	16.61	16.57	16.37	16.43	16.14
14	13.52	13.44	13.39	13.23	13.26	13.03
16	11.03	10.96	10.91	10.78	10.79	10.59
18	9.03	8.97	8.91	8.80	8.80	8.63
20	7.74	7.69	7.62	7.53	7.51	7.37
22	6.64	6.60	6.53	6.45	6.42	6.30
24	5.64	5.61	5.54	5.47	5.43	5.33
26	5.05	5.01	4.94	4.88	4.84	4.74
28	4.15	4.12	4.05	3.99	3.94	3.86
30	3.65	3.63	3.55	3.51	3.45	3.39
32	3.15	3.13	3.05	3.02	2.96	2.90
34	2.55	2.54	2.46	2.43	2.36	2.31
36	2.26	2.24	2.16	2.14	2.07	2.03
38	1.76	1.75	1.66	1.65	1.57	1.54
40	1.56	1.55	1.47	1.45	1.38	1.36

**49 m main boom**

Radius (m)	Main boom length (m)					
	49					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
12	16.31	16.21	16.18	15.98	16.04	15.74
14	13.28	13.20	13.15	12.99	13.03	12.79
16	10.83	10.76	10.71	10.58	10.59	10.39
18	8.84	8.78	8.73	8.61	8.61	8.44
20	7.54	7.49	7.43	7.33	7.32	7.17
22	6.54	6.50	6.44	6.35	6.34	6.21
24	5.55	5.51	5.44	5.37	5.34	5.23
26	4.75	4.72	4.65	4.58	4.55	4.45
28	4.15	4.12	4.06	4.00	3.96	3.87
30	3.65	3.63	3.56	3.51	3.47	3.39
32	3.06	3.04	2.96	2.92	2.87	2.81
34	2.56	2.54	2.47	2.43	2.38	2.32
36	2.06	2.04	1.97	1.94	1.88	1.83
38	1.76	1.75	1.67	1.65	1.59	1.55
40	1.26	1.25	1.18	1.16	1.09	1.06
42	1.06	1.06	0.98	0.96	0.89	0.87

## Lifting capacity on SF-2 boom

Unit: Metric tons

## 37 m main boom

Radius (m)	Main boom length (m)					
	37					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
10	6					
12	6	5.1	6.2			
14	5.9	5.1	6.1		4.8	
16	5.9	5.1	6.1	5.3	4.8	
18	5.9	5	6.1	5.3	4.8	
20	5.9	5	6.1	5.3	4.7	3.5
22	5.9	5	6.1	5.2	4.7	3.4
24	5.9	5	6.1	5.2	4.7	3.4
26	5.6	5	5.8	5.2	4.7	3.4
28	5	4.4	5.2	4.7	4.7	2.8
30	4.3	3.7	4.5	3.9	4.2	2.8
32	3.8	3.3	3.9	3.5	3.2	2.6
34	3.2	2.9	3.3	3.1	3.2	2.5
36			2.9	2.8	2.9	2.5
38			2.5	2.5	2.7	2.3
40				2.3	2.3	2.2

**40 m main boom**

Radius (m)	Main boom length (m)					
	40					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
10	6					
12	6	5.1	6.2			
14	5.9	5.1	6.1			
16	5.9	5	6.1	5.3	4.8	
18	5.9	5	6.1	5.3	4.7	
20	5.9	5	6.1	5.2	4.7	3.5
22	5.9	5	6.1	5.2	4.7	3.4
24	5.9	5	6.1	5.2	4.7	3.4
26	5.3	5	5.2	4.6	4.7	3.3
28	4.4	4.4	4.9	3.9	4.2	3
30	4.1	3.9	4	3.3	4.2	3
32	3.3	3.2	3.3	3.1	3.2	2.8
34	2.9	2.8	2.9	3.1	3.1	2.8
36	2.5	2.4	2.6	2.6	2.9	2.5
38		2	2.2	2.1	2.3	2.3
40			1.7	1.8	1.7	1.7
42				1.4	1.6	1.5

**43 m main boom**

Radius (m)	Main boom length (m)					
	43					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
12	5.9					
14	5.9	5.1	6.1			
16	5.9	5	6.1	5.3	4.7	
18	5.9	5	6.1	5.3	4.7	
20	5.9	5	6.1	5.2	4.7	3.5
22	5.9	5	6.1	5.2	4.7	3.4
24	5.9	5	6	5.2	4.7	3.4
26	5.2	4.4	5.3	5.2	4.7	3.3
28	4.4	3.6	4.5	4.5	4.6	3.3
30	3.7	3.2	3.8	3.8	4.1	3.3
32	3.1	3.1	3.2	3.2	3.6	3.3
34	2.9	2.9	3	3.1	3.1	2.7
36	2.5	2.5	2.7	2.7	2.7	2.7
38	2.2	2.2	2.3	2.5	2.5	2.5
40			2.1	2.1	2.2	2.3
42			1.7	1.7	1.8	1.9
44				1.5	1.6	1.7

**46 m main boom**

Radius (m)	Main boom length (m)					
	46					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
12	5.9					
14	5.9	5.1	6.1			
16	5.9	5	6.1			
18	5.9	5	6.1	5.3		
20	5.9	5	6.1	5.2	4.7	
22	5.9	5	6	5.2	4.7	3.4
24	5.4	5	6	5.2	4.7	3.4
26	4.9	4.7	4.9	4.8	4.6	3.3
28	3.9	3.8	4	4	4.1	3.3
30	3.6	3.5	3	3.6	3.9	3.3
32	2.9	3.2	3	3.1	3.5	3.1
34	2.9	2.6	3	2.8	2.9	2.7
36	2.4	2.4	2.5	2.6	2.6	2.5
38	2.1	2.1	2.2	2.3	2.3	2.4
40	1.8	1.8	1.9	2	2.1	2.2
42		1.5	1.5	1.6	1.6	1.7
44				1.5	1.5	1.6



**49 m main boom**

Radius (m)	Main boom length (m)					
	49					
	Fixed jib length (m)					
	6		12		18	
	Fixed jib angle (°)					
	10	30	10	30	10	30
12	5.9					
14	5.9	5.1				
16	5.9	5	6.1			
18	5.9	5	6.1	5.3		
20	5.9	5	6	5.2	4.7	
22	5.9	5	6	5.2	4.6	3.4
24	5.4	5	5.5	5.2	4.6	3.4
26	4.6	4.4	4.7	4.6	4.6	3.3
28	4	3.9	4	4.1	4	3.3
30	3.4	3.3	3.6	3.5	3.6	3.3
32	2.9	2.9	3	3.1	3.1	3
34	2.9	2.9	2.6	2.7	2.6	2.7
36	2.3	2.2	2.3	2.5	2.3	2.5
38	1.9	1.9	2	2.3	2.1	2.4
40	1.7	1.7	1.8	1.8	1.9	2.2
42	1.3	1.4	1.5	1.5	1.6	1.9
44		1.1	1.2	1.3	1.4	1.5
46			0.9	0.9	1	1

### 3. Technical instructions

#### 3.1 Boom system

The boom system of crawler crane includes:

- Main boom
- Fixed jib
- A-frame
- FA-frame
- Anchoring rods, etc.

The lattice boom and jib are made of high-strength steel pipes. FA-frame and anchoring rods are made of high-strength steel plate.

##### **Main boom**

Made of high-strength welded steel pipes

The cross section of main boom is constant in the middle and is reduced at both ends.

Main boom length: 13 – 58 m

Including main boom pivot section (6.5 m), main boom head (6.5 m) and main boom intermediate sections (3 m, 6 m or 9 m)

##### **Fixed jib**

Made of high-strength welded steel pipes

The cross section of fixed jib is constant in the middle and is reduced at both ends.

Fixed jib length: 6 – 18 m

Including fixed jib pivot section (3 m), fixed jib head (3 m) and fixed jib intermediate section (6 m)

##### **A-frame**

It is composed of front support and counterweight rear anchoring rods, which are respectively made of high-strength welded steel pipes and steel plates.

##### **FA-frame**

In box-shaped structure, made of high-strength steel plate

A-frame length: 3 m

### 3.2 Working mechanism

#### Hoisting winch 1

The axial piston variable displacement motor drives the winch with a planet reducer. When the winch rotates, the wire rope is reeled off or spooled onto the winch. A brake is fitted between motor and reducer.

The hoisting winch 1 can be controlled independently.

Rope diameter	φ24 mm
Rope length	240 m
Rated single rope force	80 kN
Rope speed	125 m/min (on the 4 <sup>th</sup> rope layer)

#### Hoisting winch 2

The axial piston variable displacement motor drives the winch with a planet reducer. When the winch rotates, the wire rope is reeled off or spooled onto the winch. A brake is fitted between motor and reducer.

The hoisting winch 2 can be controlled independently.

Rope diameter	φ24 mm
Rope length	160 m
Rated single rope force	80 kN
Rope speed	125 m/min (on the 4 <sup>th</sup> rope layer)

#### Derricking winch

The axial piston variable displacement motor drives the winch with a planet reducer. When the winch rotates, the wire rope is reeled off or spooled onto the winch. A brake is fitted between motor and reducer.

The derricking winch can be controlled independently.

The derricking winch is also equipped with a ratchet wheel mechanism to prevent the derricking winch from rotating during long time parking.

Rope diameter	φ20 mm
Rope length	150 m
Rated single rope force	71 kN
Rope speed	93 m/min (on the 4 <sup>th</sup> rope layer)

#### Slewing mechanism

The slewing mechanism is composed of single-row ball type slewing ring, axial piston hydraulic motor, planet gear reducer, slewing brake, pinion gear and so on.

The superstructure can realize 360° continuous rotation via slewing ring which is driven by the pinion gear.

Internal-gear slewing ring and eccentric-adjustable slewing reducer applied in the crane are of strong load-bearing capacity and high precision, which can adjust the clearance between the engaged gear teeth and ensure stable slewing movements.

Slewing brake: concealed wet disc brake, normally closed, spring-loaded, hydraulic releasable

“Swing free running” function:

When load hook is not positioned vertically over the load’s center of gravity before lifting operation, the operator can press the swing free switch. At this moment, the boom will enforce the slewing table, under the influence of side force of wire rope, to rotate toward the direction of load’s center of gravity till the hoisting rope is vertical. In this way, the boom can be protected against damage due to side force.

Slewing speed: 0 – 2 rpm

### **Travel gear**

Both left and right crawler carriers have an independent travel drive, which consists of traveling motor, planet reducer, traveling brake, drive sprocket and so on.

The operator can use hand levers or travel gear pedals to control the traveling movements, such as traveling straight ahead / backwards, turning with a crawler, differential steering, turning on spot, traveling with load.

Optimized overall dimensions of crane and meshing condition of travel gear make traveling movements more stable.

Traveling brake: concealed wet disc brake, normally closed, spring-loaded, hydraulic releasable

The crawler carrier can be extended and retracted via crawler carrier extending & retracting cylinder.

The jack pushes the driven sprocket to increase or decrease the quantity of shims, thus adjusting the tension degree of crawler.

Track pad is made from high-strength alloy cast steel.

Traveling speed: 0 – 1.67 km/h

## **3.3 Crane system**

### **Hydraulic system**

World-class pump-control technology is applied in the hydraulic system. Main hydraulic elements such as pump, motor and control valves for slewing control circuit and main control circuit are imported. They have the advantages of high efficiency, energy-saving, great reliability and long service life.

Main control pump: dual piston variable pump with tandem gear pump, driven by the engine

Gear pump: supply oil to auxiliary mechanism

Main control valve: pilot-operated electro-hydraulic valve

Control way for main circuit: main variable pump + main directional control valve, controlled by six control levers

Auxiliary mechanism: controlled by solenoid directional control valve block with overflow valve

Crawler carrier extending & retracting cylinder: controlled by manual multiple unit valve with overflow valve

Hydraulic oil tank: 580 L

Oil filter in hydraulic system: oil return line filter and fine filter for control oil line

Oil cooler for hydraulic system: aluminium cooler and cooling fan driven by hydraulic motor

### **Electrical system**

24 Volt DC, negative ground, two batteries of 165 AH each

The electrical system of machine includes power source, engine start, engine shutdown, indicator light, warning device, interior illumination, fan, wiper, horn, hoisting limiter, hydraulic oil cooling fan, PLC controller, load moment limiter, safety equipment etc. which not only ensure safe operation of the crane but also provide a comfortable working environment.

### **Crane engine**

6-cylinder in-line, turbo-charged, water-cooled, air-air intercooling electronic fuel injection engine, manufactured by Weichai, type: WP10.270N

Rated output power / rotational speed: 199 kW/2000 r/min

Maximum output torque / rotational speed: 1270 N.m/1200 – 1500 r/min

Exhaust emission: complies with National Stage III Emission Standards

Fuel tank has a great capacity of 300 L, which can ensure long time working of engine.

### **Closed-circuit monitoring system**

It can monitor the rope-winding condition of crane hoisting winches and derricking winch, and observe the working status of rear counterweight as well as rear side of the crane.

## **3.4 Safety equipment**

Many safety devices, mechanical, electronic or hydraulic, are fitted on the crane to ensure safe operation of crane.

### **Angle indicator**

It is fitted at the lower rear end of boom pivot section (i.e. on the right side of the operator's cab). The operator can clearly see the boom angle from the cab.

### **Derricking limiter**

Device, controlled by the load moment limiter and limit switch, to prevent the derricking motions of main boom beyond specified limits

### **Hoisting limiter**

Device to prevent any specified upper limitation of the load lifting attachment from being exceeded.

If the load hook comes into contact with hoisting limit switch weight during its upward movement, the hoisting limit switch will be triggered, the buzzer will sound, and the crane movement "spool up winch" will be switched off.

**Safety catch**

Device to protect the lifted load from jumping out from the hook

**Balance valve****Overflow valves in hydraulic system**

The overflow valve fitted in hydraulic system can restrain the pressure in the oil circuit from rising irregularly, thus protecting such hydraulic elements as hydraulic oil pump and hydraulic motor against damage and preventing the hydraulic system from being overloaded.

**Ratchet wheel mechanism for derricking winch****Lowering limiter**

Device to ensure that three windings of wire rope on the drum is maintained at all times during operation

When there are only three windings of wire rope left on the drum, the lowering limit switch is triggered, the buzzer sounds, and the crane movement "reel off winch" is switched off.

**Anemometer**

An electronic device to indicate the actual wind speed to the crane operator

**Crane inclinometer**

A mechanical inclinometer, fitted on undercarriage central section, to measure the inclination of crane

**Emergency stop button**

Allow all crane movements and electrical control system to be cut off quickly in a dangerous situation.

**Traveling alarm**

When the traveling operation is carried out, the buzzer will sound.

**Slewing alarm**

When the slewing operation is carried out, the warning light on the magnetic seat of counterweight plate will flash.

**Safety lever**

A device to prevent unintentional operation of all control levers when operator comes into and out of the cab

**Monitoring system**

Video camera: respectively monitor the working conditions of crane winches and rear side of the crane

Display: you can switch between the different screens via press-key or remote controller.

### **Flashing light**

Fitted on the left rear side of the operator's cab

It will flash after the crane is electrified.

### **Load moment limiter**

When actual load reaches 90% of the maximum permissible load, the warning light will light up and the buzzer will sound. When actual load approaches the maximum permissible load, all dangerous movements will be cut off automatically.

The following data can be shown on the digital LCD:

- Moment ratio
- Main boom angle
- Main boom length
- Working radius
- Actual load
- Maximum permissible lifting load
- Maximum permissible lifting height
- Wind speed at boom head

## **3.5 Operator's cab**

The spacious, comfortable and all-steel construction cab with flexible lining is of convincing design and outstanding functionality.

The operating and control instruments and displays are arranged according to ergonomic factors, thus a safe and convenient working is assured.

The cab is equipped with luxurious instrument console, cooling & heating device, instrument switches, fan, interior illumination, CD player, MP3 player, DVD player, hydraulic-cushioned seat, cigarette lighter and fire extinguisher etc.

Interior dimensions (L × W × H): 850 mm × 900 mm × 1650 mm

## **3.6 Crane counterweight**

The crane counterweight weighs 26.8 t in total, including 1 counterweight base plate of 5.2 t, 2 counterweight plates of 4.1 t each, and 4 counterweight plates of 3.35 t each.

### **3.7 Load hook**

Rotatable load hook with safety catch:

80 t load hook: 6 pulleys

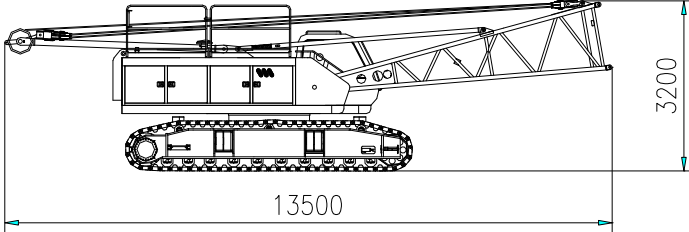
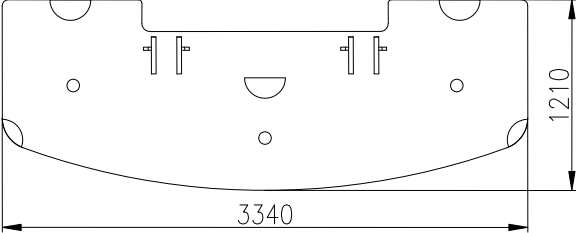
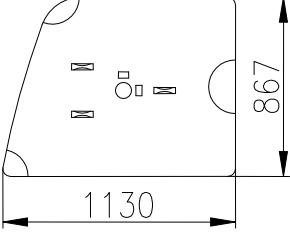
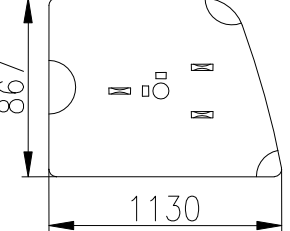
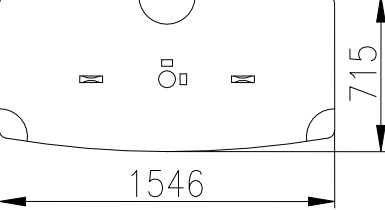
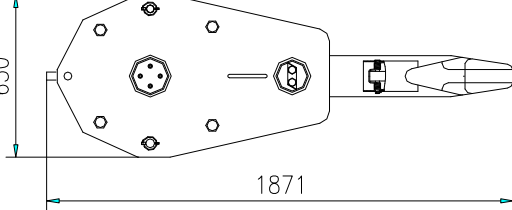
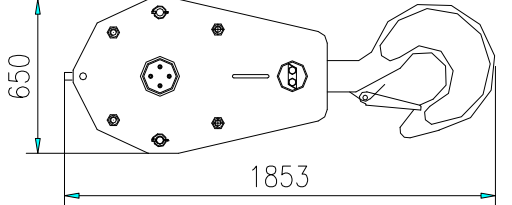
50 t load hook: 3 pulleys

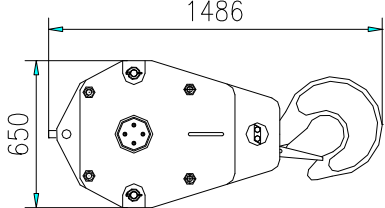
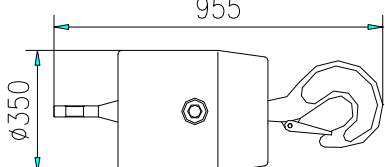
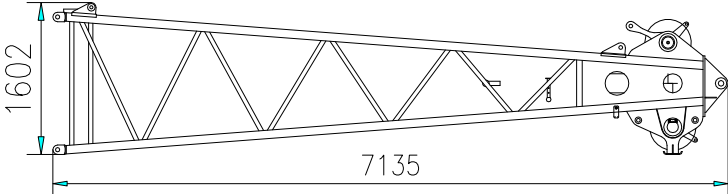
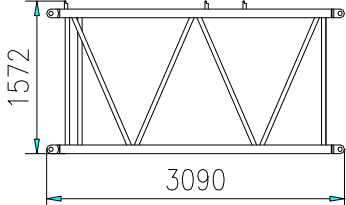
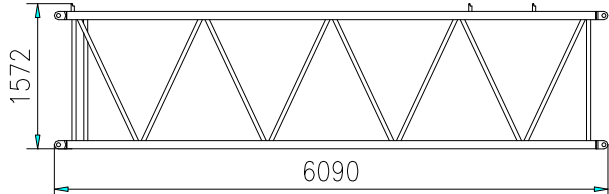
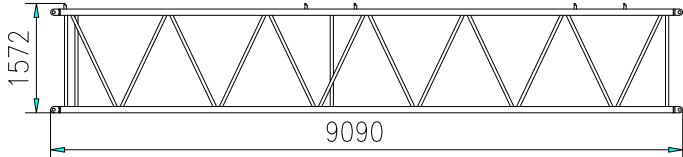
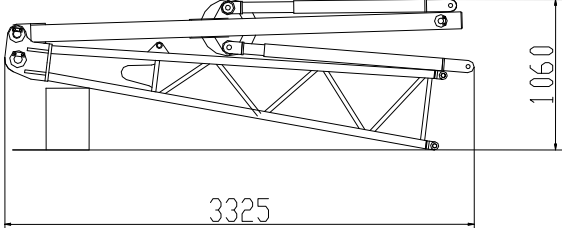
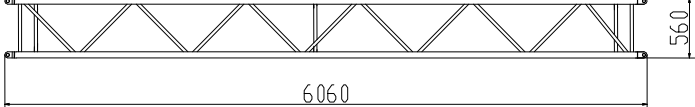
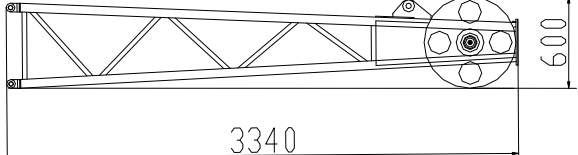
30 t load hook: 2 pulleys

8 t load hook: cylindrical load hook, 1 reeving



## 4. Transport dimensions and weights of main components

Names of the components	Dimensions (mm)	Weight (t)	Qty.	Remarks (mm)
Basic machine		41.8	1	Width: 3400
Counterweight base plate		5.21	1	Height: 605
Counterweight plate		3.35	2	Height: 560
Counterweight plate		3.35	2	Height: 560
Counterweight plate		4.1	2	Height: 560
Load hook (80 t)		1.25	1	Width: 650
Load hook (50 t)		0.92	1	Width: 484

Names of the components	Dimensions (mm)	Weight (t)	Qty.	Remarks (mm)
Load hook (30 t)		0.605	1	Width: 405
Load hook (6 t)		0.264	1	Width: 350
Main boom head (with tip boom)		1.195	1	Width: 1700
3 m main boom intermediate section		0.30	1	Width: 1700
6 m main boom intermediate section		0.58	1	Width: 1700
9 m main boom intermediate section		1 piece: 0.68, 4 pieces: 2.72	4	Width: 1700
Fixed jib pivot section (with FA-frame, front and rear tilting-back supports)		0.70	1	Width: 740
6 m fixed jib intermediate section		0.17	1	Width: 560
Fixed jib head		0.31	1	Width: 560