

# 85 ton capacity ZCC850H



**ZOOMLION**

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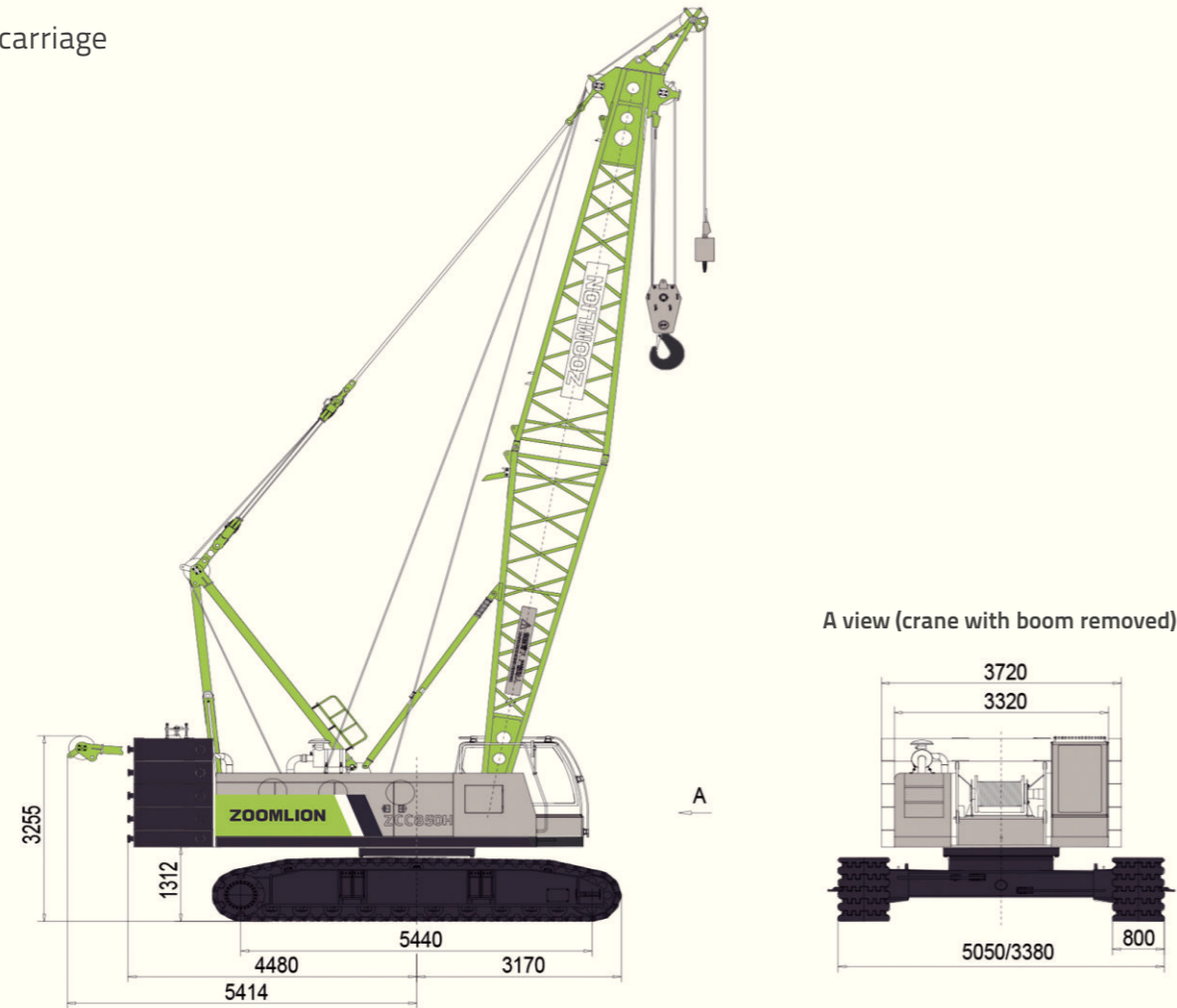
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## DIMENSIONS

Basic machine with undercarriage



### Operating weight

The operating weight includes the basic machine with crawlers, 2 main winches including wire ropes (260m and 160m) and 13m main boom, consisting of FA-frame, boom foot (6.5m), boom head (6.5m), 29t rear counter weight, and 85t hook block.  
Total weight-----approx. 68.5t

### Equipment

Main boom Max. Length -----61m  
Fixed jib -----7-19m  
Max. combination-----main boom 49m  
-----fixed jib 19m  
Max. lifting moment-----357t.m  
Max. lifting capacity on fixed jib-----12.5t

## TECHNICAL FEATURE

### Excellent interchangeability of the components

- As to the products produced in the same platform, in addition to most of the electrical and hydraulic components, majority of structural parts are also interchangeable, such as a set of fixed jib (including fixed jib pivot section, fixed jib intermediate sections, FA-frame, front tilting-back support of fixed jib, rear tilting-back support of fixed jib, fixed jib front anchoring rods and fixed jib rear anchoring rods), load hook, derricking mechanism, tip boom, rear counterweight base plate and so on, so as to reduce the operating costs of the users.

### High work efficiency

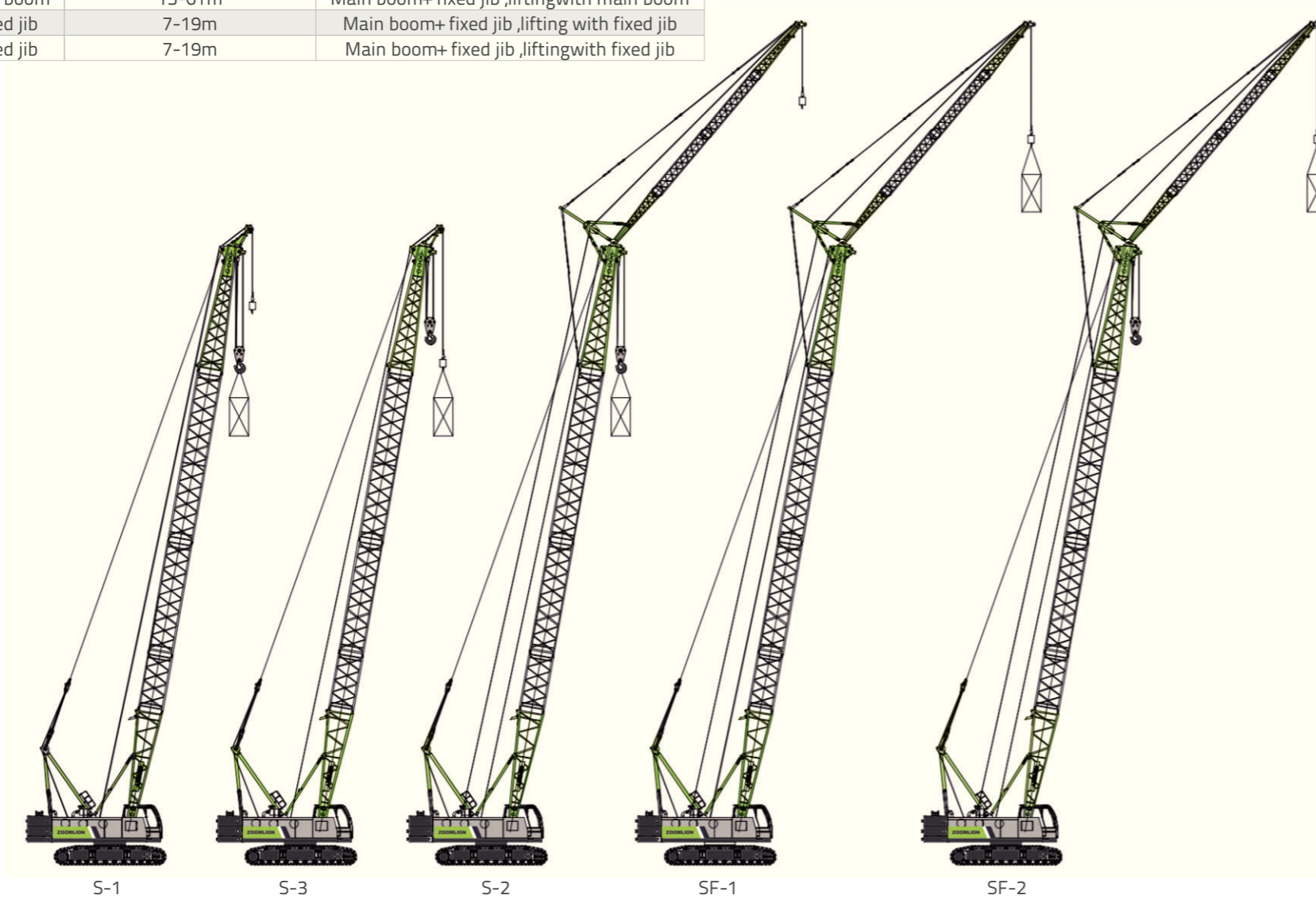
- Series-connected multiple valve-controlled hydraulic system is applied, so that all simultaneous movements can be achieved and no deceleration will occur during the switching of crane movements.
- Single rope speed on the outmost layer of hoisting winch I is 137m/min.
- To improve lifting efficiency, hoisting winch I with free-fall function is available for an option.

### Optimization of transportation, assembly and dismantling

- A-frame can be erected by itself without the help of oil cylinder, thus achieving rapid assembly of the crane.
- The weight of single counterweight plate is less than 6.0t, so that the counterweight can be assembled by use of a small-sized auxiliary crane.
- The crawler carriers can be extended and retracted, and the maximum transport width of the crane is 3.38m.

## BOOM COMBINATION

| Description of Boom Assembly Codes |           |                           |  |
|------------------------------------|-----------|---------------------------|--|
| Code                               | Type      | Operation mode parameters | Mode description                             |
| S-1                                | Main boom | 13-61m                    | Main boom, lifting with main boom            |
| S-3                                | Main boom | 13-61m                    | Main boom, lifting with tip boom             |
| S-2                                | Main boom | 13-61m                    | Main boom+ fixed jib ,liftingwith main boom  |
| SF-1                               | Fixed jib | 7-19m                     | Main boom+ fixed jib ,lifting with fixed jib |
| SF-2                               | Fixed jib | 7-19m                     | Main boom+ fixed jib ,liftingwith fixed jib  |



S-1

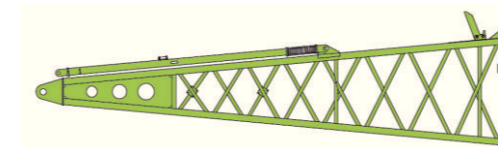
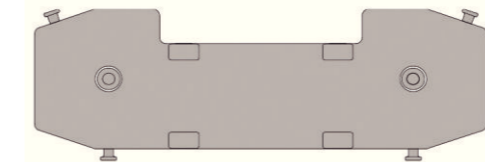
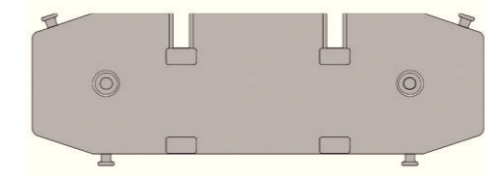
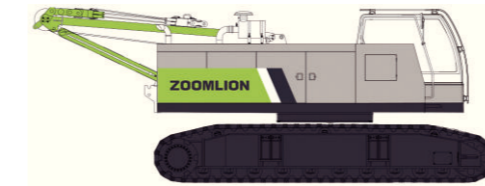
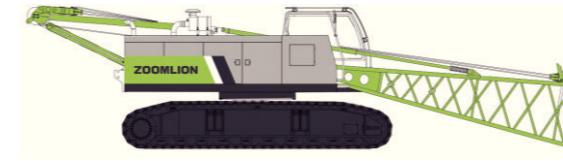
S-3

S-2

SF-1

SF-2

## TRANSPORT DIMENSIONS AND WEIGHTS



### Basic machine (with main boom pivot section)

|        |         |
|--------|---------|
| Length | 13100mm |
| Width  | 3380mm  |
| Height | 3270mm  |
| Weight | 37300kg |

### Basic machine (without main boom pivot section)

|        |         |
|--------|---------|
| Length | 8590mm  |
| Width  | 3380mm  |
| Height | 3270mm  |
| Weight | 36200kg |

### Crawler carrier assembly

|        |        |
|--------|--------|
| Length | 6340mm |
| Width  | 1120mm |
| Height | 1130mm |
| Weight | 8560kg |

### Counterweight base plate

|        |        |
|--------|--------|
| Length | 3720mm |
| Width  | 1320mm |
| Height | 550mm  |
| Weight | 5000kg |

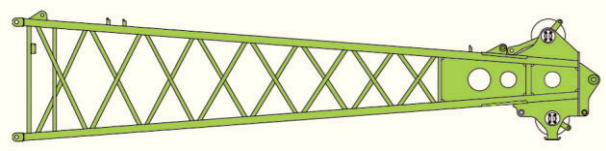
### Counterweight plate

|        |        |
|--------|--------|
| Length | 3720mm |
| Width  | 1320mm |
| Height | 450mm  |
| Weight | 6000kg |

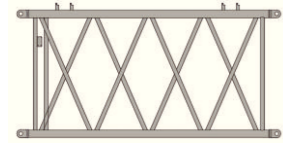
### Main boom pivot section

|        |        |
|--------|--------|
| Length | 6650mm |
| Width  | 1690mm |
| Height | 1860mm |
| Weight | 1070kg |

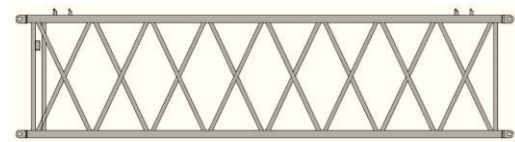
## TRANSPORT DIMENSIONS AND WEIGHTS



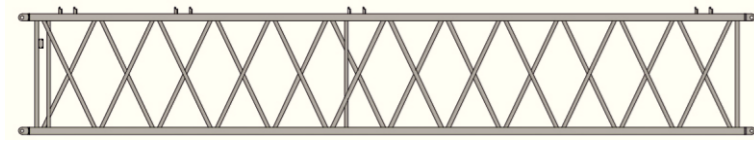
| Main boom head |        |
|----------------|--------|
| Length         | 7130mm |
| Width          | 1690mm |
| Height         | 1590mm |
| Weight         | 1050kg |



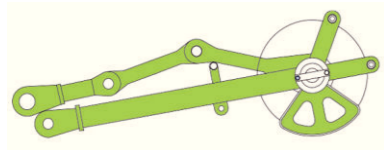
| 3m main boom intermediate section |        |
|-----------------------------------|--------|
| Length                            | 3090mm |
| Width                             | 1430mm |
| Height                            | 1580mm |
| Weight                            | 260kg  |



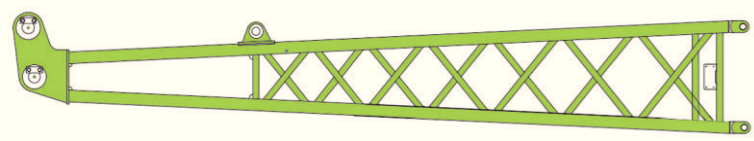
| 6m main boom intermediate section |        |
|-----------------------------------|--------|
| Length                            | 6090mm |
| Width                             | 1690mm |
| Height                            | 1580mm |
| Weight                            | 440kg  |



| 9m main boom intermediate section |        |
|-----------------------------------|--------|
| Length                            | 9090mm |
| Width                             | 1690mm |
| Height                            | 1580mm |
| Weight                            | 640kg  |

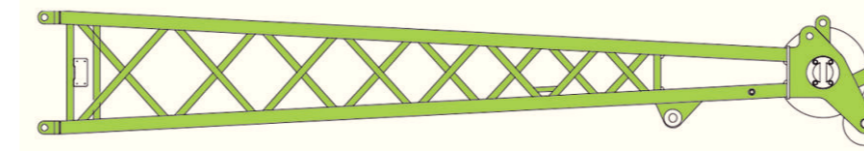


| Tip boom |        |
|----------|--------|
| Length   | 1370mm |
| Width    | 590mm  |
| Height   | 470mm  |
| Weight   | 120kg  |

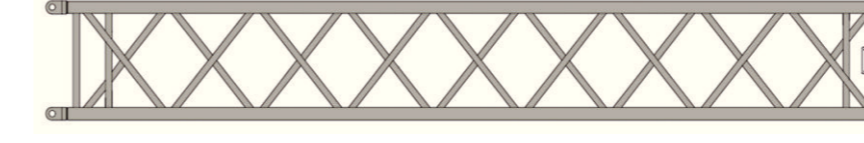


| Fixed jib pivot section |        |
|-------------------------|--------|
| Length                  | 3640mm |
| Width                   | 570mm  |
| Height                  | 570mm  |
| Weight                  | 160kg  |

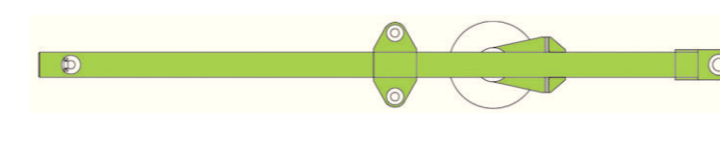
## TRANSPORT DIMENSIONS AND WEIGHTS



| Fixed jib head |        |
|----------------|--------|
| Length         | 3820mm |
| Width          | 570mm  |
| Height         | 570mm  |
| Weight         | 210kg  |



| 4m fixed jib intermediate section |        |
|-----------------------------------|--------|
| Length                            | 4060mm |
| Width                             | 570mm  |
| Height                            | 570mm  |
| Weight                            | 120kg  |



| FA-frame |        |
|----------|--------|
| Length   | 3230mm |
| Width    | 730mm  |
| Height   | 410mm  |
| Weight   | 270kg  |



| 85t load hook |        |
|---------------|--------|
| Length        | 1790mm |
| Width         | 830mm  |
| Height        | 680mm  |
| Weight        | 1135kg |



| 16t load hook |        |
|---------------|--------|
| Length        | 1230mm |
| Width         | 420mm  |
| Height        | 530mm  |
| Weight        | 310kg  |



| 55t load hook |        |
|---------------|--------|
| Length        | 1440mm |
| Width         | 660mm  |
| Height        | 530mm  |
| Weight        | 640kg  |



| 6t load hook |       |
|--------------|-------|
| Length       | 695mm |
| Width        | 300mm |
| Height       | 300mm |
| Weight       | 185kg |



| 30t load hook |        |
|---------------|--------|
| Length        | 1330mm |
| Width         | 490mm  |
| Height        | 530mm  |
| Weight        | 380kg  |

## TECHNICAL DESCRIPTION



### Engine

Engine type----WEICHAH WP7G270E301  
 Rated power----199KW/2000rpm  
 Maximum output torque----1200N.m/(1200-1500)rpm  
 Fuel tank-----300L  
 Exhaust emission complies with China national 3 Emission Standards.



### Hydraulic system

The crane adopts a series-connected hydraulic system with hydraulic pilot proportional control. The high-speed hydraulic motor drives the planet reducer to realize the movements of the mechanisms.  
 The system has the advantages of high efficiency, energy-saving, smooth and safe simultaneous movements.  
 Oil cooler for hydraulic system-----40kW  
 Hydraulic oil tank capacity-----480L



### Hoisting winch

The axial piston variable displacement motor drives hoisting winches 1 and 2 via a built-in planet reducer. Brake the winch via the spring on the winch motor, which is controlled by balance valve. The winding drum is a kind of cast drum with LEBUS groove, which can ensure that the multi-layer wire rope will not be wound disorderly.

#### Main winch

Line pull-----Max.69KN  
 Rope diameter-----20mm  
 Rope speed -----0-137m/min  
 Rope length-----260m

#### Aux.winch

Line pull----- Max.69KN  
 Rope diameter----- 20mm  
 Rope speed----- 0-121m/min  
 Rope length-----160m

Hoisting winch 1 with free-fall function is available for an option, and the single rope force on the 3<sup>rd</sup> rope layer can reach 7.5t.



### Boom winches

The axial piston motor drives the boom winch via a built-in planet reducer.  
 Brake the winch via the spring on the winch motor. The winding drum can be locked by the ratchet wheel and ratchet pawl.

#### Boom winch

Line pull-----Max.58KN  
 Rope diameter-----20mm  
 Rope speed ----- 0-109m/min  
 Rope length----- 150m



### Swing

The axial piston constant displacement motor drives the slewing mechanism via a planet reducer. Free-swing function can effectively reduce the lateral force of the boom.

- Slewing ring  
 Single-row ball, four-point contact, internal geared.
- Slewing brake

The slewing mechanism is braked via the spring on the slewing motor, which is controlled by balance valve.

- Slewing speed  
 Slewing speed-----0- 2.0 rpm.



### Crawler

Both left and right crawler carriers are fitted with an independent hydraulic driving system. Each hydraulic driving system has a hydraulic motor, which can drive the drive sprocket via planet reducer.

Track pad-----800mm  
 Drive speed-----0-1.51km/h

## TECHNICAL DESCRIPTION



### Main boom

Main boom length: 13m – 61m;  
 Consisting of 6.5m main boom pivot section, 6.5m main boom head, and main boom intermediate sections of 3m, 6m and 9m as well as tip boom.

| Main boom length (m) | Main boom pivot section | Main boom head | 3m main boom section | 6m main boom section | 9m main boom section |
|----------------------|-------------------------|----------------|----------------------|----------------------|----------------------|
| 13                   | 1                       | 1              | 0                    | 0                    | 0                    |
| 16                   | 1                       | 1              | 1                    | 0                    | 0                    |
| 19                   | 1                       | 1              | 0                    | 1                    | 0                    |
| 22                   | 1                       | 1              | 1                    | 1                    | 0                    |
| 25                   | 1                       | 1              | 2                    | 1                    | 0                    |
| 28                   | 1                       | 1              | 1                    | 2                    | 0                    |
| 31                   | 1                       | 1              | 1                    | 1                    | 1                    |
| 34                   | 1                       | 1              | 2                    | 1                    | 1                    |
| 37                   | 1                       | 1              | 1                    | 2                    | 1                    |
| 40                   | 1                       | 1              | 1                    | 1                    | 2                    |
| 43                   | 1                       | 1              | 2                    | 1                    | 2                    |
| 46                   | 1                       | 1              | 1                    | 2                    | 2                    |
| 49                   | 1                       | 1              | 1                    | 1                    | 3                    |
| 52                   | 1                       | 1              | 2                    | 1                    | 3                    |
| 55                   | 1                       | 1              | 1                    | 2                    | 3                    |
| 58                   | 1                       | 1              | 1                    | 1                    | 4                    |
| 61                   | 1                       | 1              | 2                    | 1                    | 4                    |



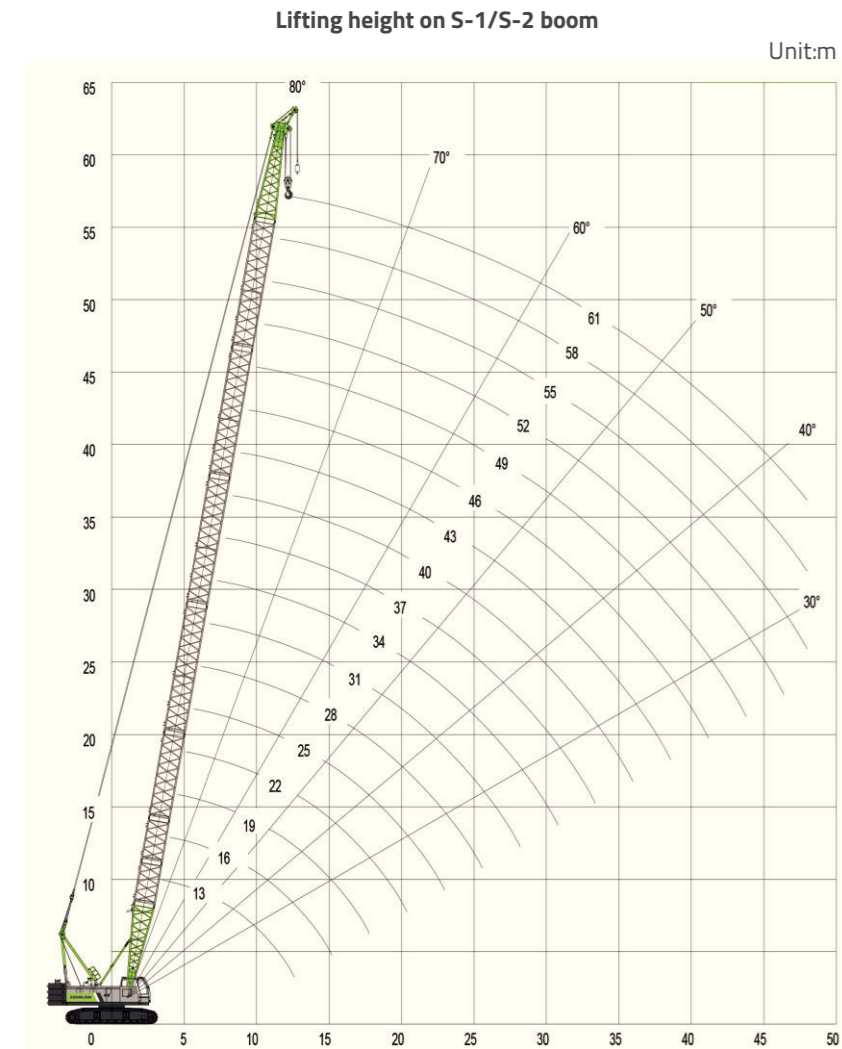
### Fixed jib

Fixed jib length: 7m – 19m;  
 Consisting of 3.5m fixed jib pivot section, 3.5m fixed jib head and 4m fixed jib intermediate sections.

| Fixed jib length (m) | Fixed jib pivot section | Fixed jib head | 4m fixed jib section |
|----------------------|-------------------------|----------------|----------------------|
| 7                    | 1                       | 1              | 0                    |
| 11                   | 1                       | 1              | 1                    |
| 15                   | 1                       | 1              | 2                    |
| 19                   | 1                       | 1              | 3                    |

# LIFTING PERFORMANCE

## Main boom configuration



| Lifting capacity on S-1 boom                         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| Rear ctwt.:29000kg      75%      360°      (UNIT:KG) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| MAIN BOOM RATED LOADS                                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| Boom Length(m)                                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| Load Radius(m)                                       | 13   | 16   | 19   | 22   | 25   | 28   | 31   | 34   | 37   | 40   | 43   | 46   | 49   | 52   | 55   | 58   | 61   |     |     |     |     |
| 4.2  | 85   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| 5  | 68.3 | 67.2 | 62.5 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| 6  | 54.5 | 53.5 | 53.5 | 53.2 | 53.2 |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| 7  | 44.9 | 44.9 | 44.9 | 44.6 | 43.7 | 43.1 | 40.4 |      |      |      |      |      |      |      |      |      |      |     |     |     |     |
| 8  | 37.9 | 37.9 | 37.2 | 37.2 | 36.5 | 36.1 | 35.4 | 34.3 | 30.5 |      |      |      |      |      |      |      |      |     |     |     |     |
| 9  | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 31.3 | 30.7 | 30.2 | 29.5 | 28.8 | 27.2 |      |      |      |      |      |      |     |     |     |     |
| 10   | 27.7 | 27.7 | 27.7 | 27.7 | 27.3 | 27.3 | 27   | 26.6 | 25.9 | 25.5 | 24.8 | 24.5 | 22.1 |      |      |      |      |     |     |     |     |
| 12   | 21.9 | 21.9 | 21.9 | 21.6 | 21.6 | 21.2 | 21.2 | 21   | 20.8 | 20.5 | 20.1 | 19.6 | 19.4 | 18.9 | 18.2 | 15.8 |      |     |     |     |     |
| 14   |      | 17.8 | 17.8 | 17.8 | 17.6 | 17.6 | 17.6 | 17.1 | 17.1 | 17.1 | 16.6 | 16.4 | 16   | 15.8 | 15.3 | 14.9 | 13.6 |     |     |     |     |
| 16   |      |      | 14.9 | 14.9 | 14.9 | 14.6 | 14.6 | 14.2 | 14.2 | 14.2 | 14.1 | 13.8 | 13.6 | 13.4 | 13.1 | 12.8 | 12.4 |     |     |     |     |
| 18   |      |      |      | 12.8 | 12.8 | 12.7 | 12.4 | 12.2 | 12.1 | 12.1 | 11.8 | 11.7 | 11.6 | 11.3 | 11.1 | 11   | 10.9 |     |     |     |     |
| 20   |      |      |      |      | 11.3 | 11   | 11   | 10.9 | 10.5 | 10.4 | 10.2 | 10.1 | 10   | 9.9  | 9.8  | 9.7  | 9.5  | 9.2 |     |     |     |
| 22   |      |      |      |      |      | 9.9  | 9.7  | 9.6  | 9.2  | 9.1  | 9    | 8.8  | 8.7  | 8.6  | 8.5  | 8.4  | 8.3  | 8.2 |     |     |     |
| 24   |      |      |      |      |      |      | 8.6  | 8.6  | 8.1  | 8    | 7.9  | 7.7  | 7.6  | 7.5  | 7.4  | 7.3  | 7.2  | 7   |     |     |     |
| 26   |      |      |      |      |      |      |      | 7.7  | 7.4  | 7.1  | 7.1  | 6.8  | 6.8  | 6.7  | 6.5  | 6.4  | 6.3  | 6   |     |     |     |
| 28   |      |      |      |      |      |      |      |      | 6.9  | 6.6  | 6.4  | 6.3  | 6.1  | 6    | 6    | 5.9  | 5.7  | 5.6 | 5.2 |     |     |
| 30   |      |      |      |      |      |      |      |      |      | 5.9  | 5.7  | 5.6  | 5.5  | 5.4  | 5.3  | 5.2  | 5    | 4.9 | 4.7 |     |     |
| 32   |      |      |      |      |      |      |      |      |      |      | 5.1  | 5    | 4.9  | 4.8  | 4.7  | 4.6  | 4.5  | 4.3 | 4.2 |     |     |
| 34   |      |      |      |      |      |      |      |      |      |      |      | 4.6  | 4.4  | 4.4  | 4.2  | 4.1  | 4    | 3.8 | 3.7 |     |     |
| 36   |      |      |      |      |      |      |      |      |      |      |      |      | 4.3  | 4    | 3.9  | 3.8  | 3.7  | 3.5 | 3.1 |     |     |
| 38   |      |      |      |      |      |      |      |      |      |      |      |      |      | 3.5  | 3.5  | 3.4  | 3.3  | 3.1 | 2.7 |     |     |
| 40   |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 3.2  | 3    | 2.9  | 2.7 | 2.3 |     |     |
| 42   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.7  | 2.6  | 2.5 | 2.2 | 1.9 |     |
| 44   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2.3  | 2.2 | 1.9 | 1.6 |     |
| 46   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2   | 1.9 | 1.6 | 1.3 |
| 48   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     | 1.6 | 1.3 | 1   |
| 50   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     | 1.1 | 0.9 |

Note:  
In S-1 boom configuration, main boom can be fitted with tip boom, whose rated load is the same as that on main boom. But the maximum lifting capacity on tip boom cannot exceed 6.0t.

# LIFTING PERFORMANCE

## Main boom with fixed jib configuration

