



**SANY**

# **QY100 TRUCK CRANE**

100t Lifting Capacity



52<sub>m</sub>

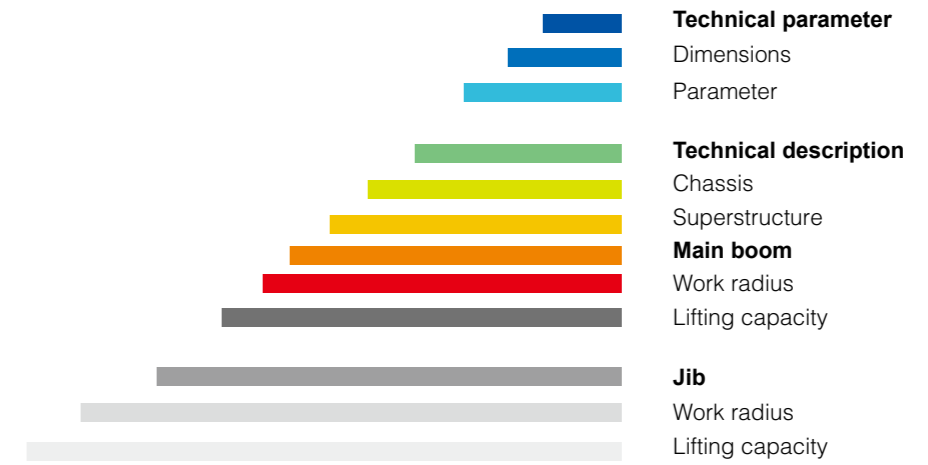
Main boom full extension 52m, U shaped profile, made of high-tensile WELDOX960 steel plate.

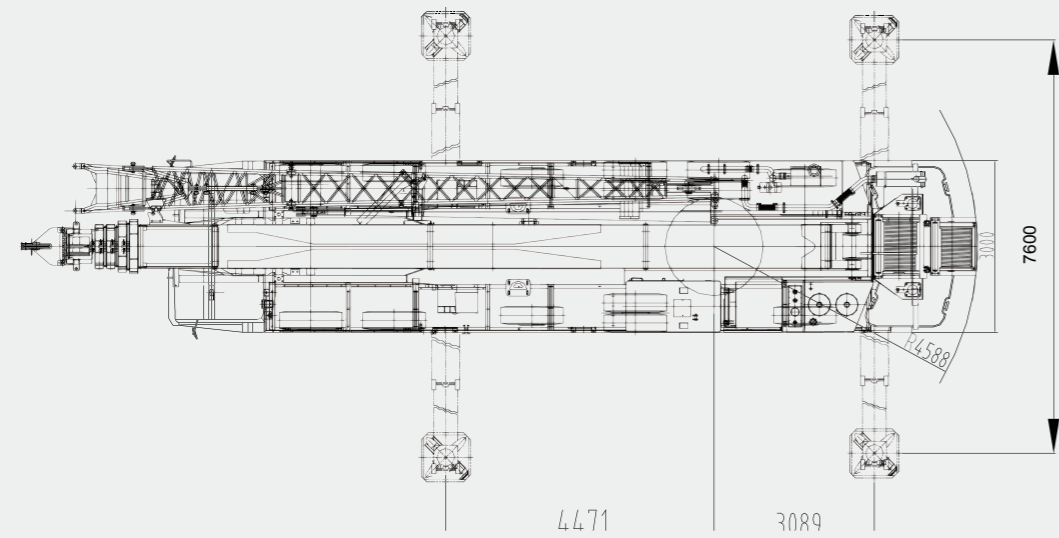
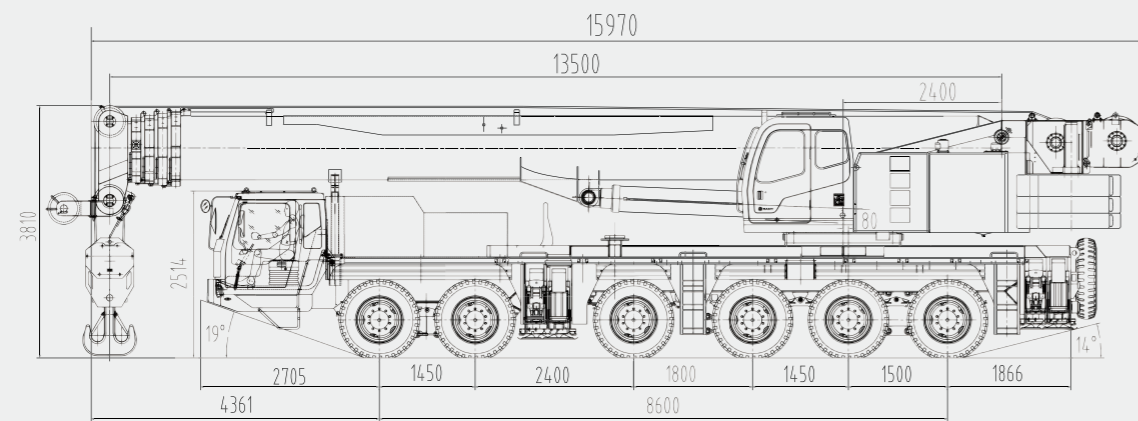
350<sub>KW</sub>

Two Benz engines for carrier and superstructure: 150kw/2200, carrier: 350kw/1800rpm. Sany-designed and patented dual-pump confluent (distribution) flow with intelligently speed-regulating.

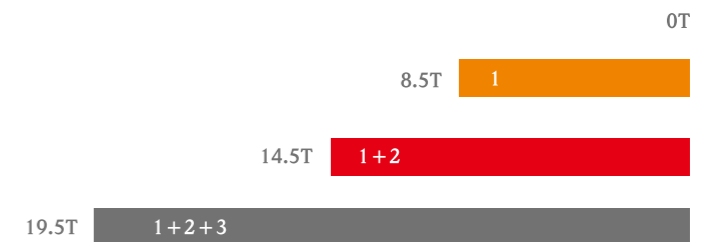
3'<sub>4</sub>

3 axles driven, 4 axles steered. Outstanding chassis configuration.

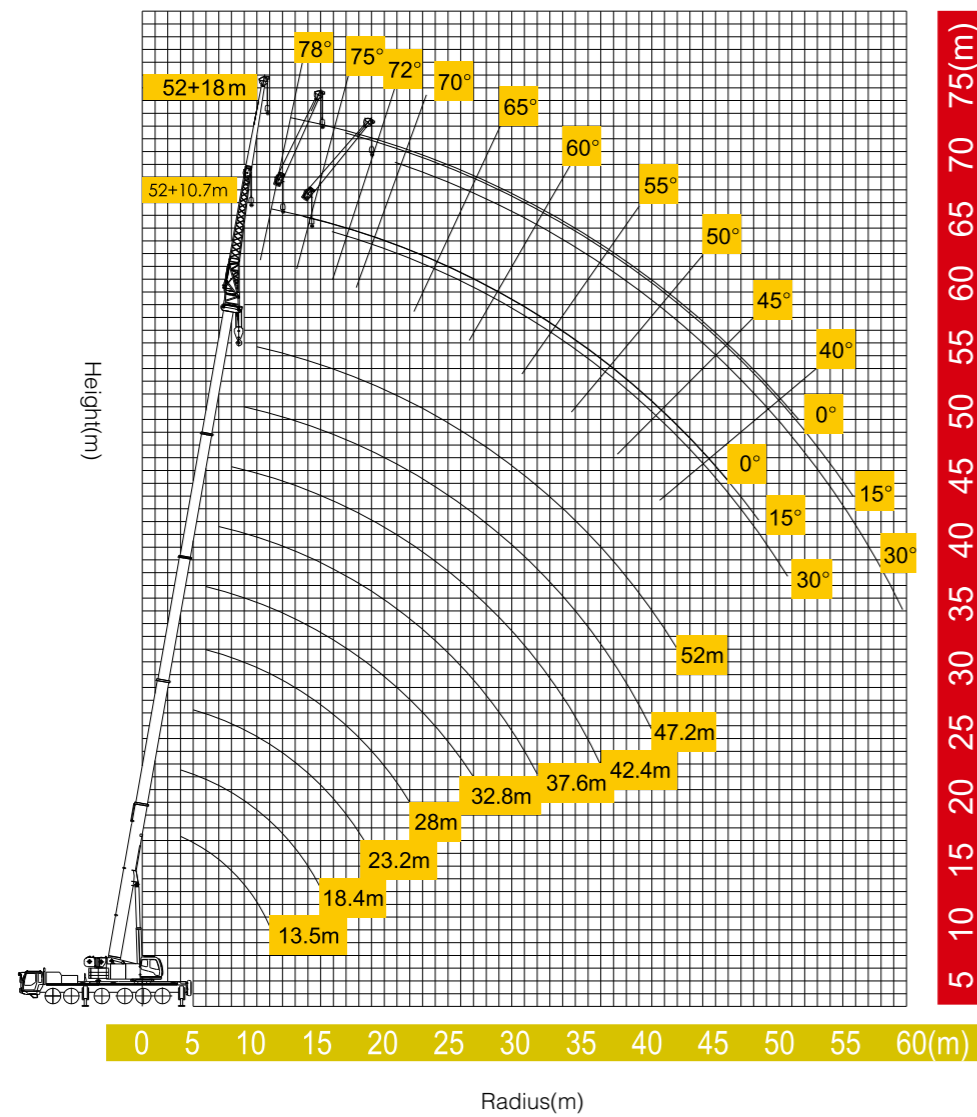




Four condition of counterweight combination



**QY100 lifting height**



**Technical parameter**

Category	Item	Unit	Parameter	
Dimension parameter	Overall length	mm	15970	
	Overall width	mm	3000	
	Overall height	mm	3810	
	Axle distance	1st, 2nd	mm	1450
		2nd, 3rd	mm	2400
		3rd, 4th	mm	1800
		4th, 5th	mm	1450
		5th, 6th	mm	1500
	Wheel distance	1st, 2nd	mm	2567
		3rd, 6th	mm	2391
4th, 5th		mm	2312	
Weight parameter	Overall weight(travel condition)	kg	55000	
	Axle load	1st, 2nd, 3rd	kg	24000
		4th, 5th, 6th	kg	31000
Power parameter	Engine	Engine mode	OM502LA.III/1	
		Rated power	kw/(r/min) 350/ ( 1800 )	
		Rated torque	N.m/(r/min) 2300/ ( 1100 )	
		rated speed of rotation	r/min 1800	
Travel parameter	Max. travel speed	k m/h	80	
	Min. turning radius	m	12	
	Min. ground clearance	mm	302	
	Approach angle	°	≥ 19	
	Departure angle	°	≥ 14	
	(30km/h) braking system	m	≤ 10	
	Max. gradeability	%	40	
	Oil consumption for every 100km	L	≤ 60	
	Main performance parameter	Max. lifting weight	t	100
		Min. working radius	m	3
Max. lifting moment		Base boom	KN · m	3600
		Full-extended main boom	KN · m	1920
Length of lifting boom		Base boom	m	13.5
		Full-extended main boom	m	52
		Main boom& jib	m	52+18
Max. tip height		Base boom	m	13.5
		Full-extended main boom	m	52
		Main boom& jib	m	70
Elevation of lifting boom		°	-2~80°	
Section of lifting boom			5	
Profile of lifting boom			U-mode	
Length of jib		m	10.7~18	
Jib offset	°	0、15、30		
Superstructure engine	Engine mode		OM906LA.E2/5	
	Rated power	kw/(r/min)	150/ ( 2200 )	
	Rated torque	N.m/(r/min)	750/ ( 1200~1600 )	
	rated speed of rotation	r/min	2200	
Working speed parameter	Max. lifting speed single rope (no load)	Main winch	m/min 135	
		Auxiliary winch	m/min 123	
	Full-extended boom telescoping/retracting time	s	120/100	
	Boom lifting/descending time	s	60/90	
	Max. slewing speed	r/min	2	
	outriggers full-extended telescoping/retracting time	Lateral	s	25/15
		Vertical	s	35/25
Outriggers span (lateral* longitudinal)	m	7.56 x 7.6		

Slewing speed  
**2**  
r/min

**-2°~80°**  
Elevation angle

**Parameters**

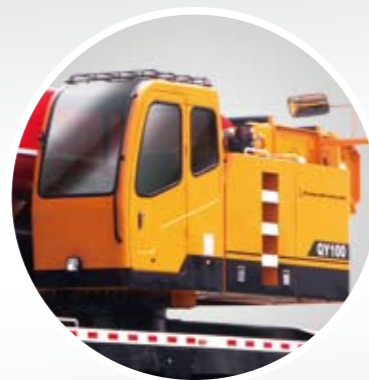
<b>Load</b>	1,2,3 axle 24000Kg
	4,5,6 axle 31000Kg

**Working speed**

Mechanical performance	Max. speed	Max. pull	Diameter/ length of wire rope
Main winch	135m/min	115kN	φ 22mm/255m
Auxiliary winch	123m/min	83kN	φ 22mm/170m

Gradeability  
**40%**

Travel speed  
**0~80**  
km/h




 Drive/Steering  
 12×6×8

## Technical description/ carrier

### 1 Frame

High-tensile structural steel plate, through optimum calculation, hard endurance tests, high rigidity structure.

### 2 Outriggers

H-mode outriggers (horizontal and vertical), span: 7.56 × 7.6m.

### 3 Engine

Water-cooled 8 cylinders diesel engine( Benz OM502LA. III ); Max. output 350kw/1800r/min, max. input torque 2300N.m/1100r/min.

### 4 Transmission

German ZF AS-tronic transmission with automatic clutch; automatic cruise with 12 speeds forward and 2 speeds reverse. ZF dual-gear (closed one gear) torque divider.

### 5 Wheel and tyre

16 tyres, 12.00R24 20PR.

### 6 Steering

12 × 8, ZF single circuit hydraulic servo-assist steering system with mechanical steering-limit, and ZF emergency pump-driving steering device is available.

### 7 Electrical system

24V, CAN Bus.

### 8

#### Driver's cab

Ergonomically designed, adjustable steering wheel height, broad vision, air-conditioner equipped.

### 9

#### Axle

Axle 3,5 and 6 driven(Kessler),axle 1,2,3 and 6 steered. Inter-wheel differential lock on each axle, intel-axle differential lock on axle 5.

### 10

#### Suspension

Axle 1 and 2: steel spring dual axle balance frame.  
 Axle 3: steel spring frame.  
 Axle 4,5 and 6: steel spring triple-axle balance frame.

### 11

#### Brake

Adopted air brake,dual circuit traveling brake controlled by foot pedal, parking and emergency brake controlled by handle.

### 12

#### Hydraulic system

Constant displacement gear pump controlling extension and retraction of outriggers and leveling.

## Specifications/superstructure



19.5t  
Counterweight

### 1 Engine

Water-cooled 8 cylinders diesel engine (Benz OM906LA.E2/5); rated power : 150kW / 2200rpm, rated torque: 750N · m / 1200rpm.

### 2 Operator's cab

Huge-arc window, tiltable(approx. 20 degrees), large colorful display screen showing operation parameters clearly and precisely. Excellent function system of protection, warming and fault diagnosis.

### 3 Main boom

U-shaped 5 sections boom, made of SSAB WELDOX960, dual cylinders and wire ropes telescopic mechanism.

### 4 Counterweight

19.5t, active cylinder suspension counterweight.

### 5 Hydraulic system

Dual electrical proportion piston variable displacement pumps, two pumps can supply oil for single action together and respectively, slewing device adopting closed electric-proportion pump circuit and applying brake with electric-proportion pressure-reducing valve, oil-cooling device controlled by wind cooler.

### 6 Main winch

Electric-proportion variable displacement piston motor, hydraulic braking system.

### 7 Auxiliary winch

Constant displacement piston motor, hydraulic braking system.

### 8 Elevation

Deadweight drop luffing and electric-proportion balanced valve control, excellent stability and fine slow-motion.

### 9 Slew

Being composed of closed pumps, constant displacement piston motor and reducer, max. slewing speed  $\geq 2r/min$ .

### 10 Safety devices

Large touch screen, indicated moment proportion, hook load, rated load, boom length, angle, slewing radius, graphic displays for diagnosis, load chart and work parameter equipped inside, functional as black box.

**Load chart for main boom**

(Unit:kg)

0 counterweight, 360°working , fully extended outrigger									
Work radius (m)	Length of main boom(m)								
	13.5	18.4	23.2	28	32.8	37.6	42.4	47.2	52
3	100000	90000							
3.5	100000	82000	70000						
4	91800	75000	65600						
4.5	81600	70000	61800	51800					
5	71500	64900	58400	48900					
5.5	59200	54200	50400	46200	40800				
6	50100	46200	43300	42500	38600				
6.5	43200	40000	37600	37300	36500	33300			
7	37700	35000	33100	33000	32600	31800			
7.5	32900	31000	29300	29500	29200	28700			
8	28700	27600	26200	26600	26400	26100	25500		
9	22300	21700	21300	21800	22000	21800	21500	18400	
10	17700	17200	17000	18200	18500	18500	18300	17500	
11	14100	13800	13500	15100	15800	15900	15800	15700	14000
12		11100	10900	12400	13500	13800	13800	13700	13600
14		6900	6700	8300	9400	10200	10500	10500	10500
16		3900	3800	5400	6400	7200	7800	8200	8200
18			1800	3300	4300	5100	5600	6100	6500
20				1700	2700	3400	4000	4400	4800
22					1400	2100	2700	3100	3500
24						1100	1600	2100	2500
26							1200	1600	
28								900	
Number of lines	12	10	8	6	5	4	4	3	2
Min. elevation of main boom	27.7	30.1	30.9	38.9	43.6	46.9	52.8	54.2	55.3

**Load chart for main boom**

(Unit:kg)

8.5t counterweight, 360°working ,fully extended outriggers									
Work radius (m)	Length of main boom(m)								
	13.5	18.4	23.2	28	32.8	37.6	42.4	47.2	52
3	100000	90000							
3.5	100000	82000	70000						
4	91800	75000	65600						
4.5	81600	70000	61800	51800					
5	73400	66000	58400	48900					
5.5	66800	62000	55300	46200	40800				
6	61200	57300	52600	43800	38600				
6.5	53600	49800	47000	41600	36700	33300			
7	47000	43900	41500	39700	35000	31700			
7.5	41700	39000	37100	37000	33300	30300			
8	37400	35000	33300	33400	31900	28900	26500		
9	30100	28700	27400	27800	27700	27400	24300	18600	
10	24400	23900	22900	23500	23600	23500	23200	17700	
11	19900	19600	19400	20100	20300	20400	20200	16800	14500
12		16300	16100	17300	17700	17800	17700	15900	13700
14		11400	11300	12800	13700	13900	14000	14000	12700
16		7900	7900	9400	10400	11100	11200	11300	11300
18			5400	6800	7800	8600	9100	9200	9300
20			3400	4900	5900	6600	7100	7600	7700
22				3300	4300	5000	5600	6000	6400
24				2000	3000	3700	4300	4700	5100
26					2000	2700	3200	3600	4000
28					1100	1800	2300	2700	3100
30						1000	1500	2000	2300
32							900	1300	1700
34									1100
Number of lines	12	10	8	6	5	4	4	3	2
Min. elevation of main boom	27.7	30.1	30.9	31.4	31.7	32	37.1	44.4	46.6



### Load chart for main boom

(Unit:kg)

14.5t counterweight, 360°working ,fully extended outriggers									
Work radius (m)	Length of main boom(m)								
	13.5	18.4	23.2	28	32.8	37.6	42.4	47.2	52
3	100000	90000							
3.5	100000	82000	70000						
4	91800	75000	65600						
4.5	81600	70000	61800	51800					
5	73400	66000	58400	48900					
5.5	66800	62000	55300	46200	40800				
6	61200	58300	52600	43800	38600				
6.5	56500	53800	50000	41600	36700	33300			
7	52500	50000	47200	39700	35000	31700			
7.5	47700	44700	42500	37900	33300	30300	26500		
8	42800	40200	38300	36200	31900	28900	24300	18600	
9	35000	33100	31600	31900	29200	26600	22500	17700	
10	28800	27800	26600	27100	27100	24500	20900	16800	14500
11	24000	23700	22700	23300	23500	23500	19400	15900	13700
12		20200	19600	20300	20600	20600	16300	14500	12700
14		14600	14500	15700	16100	16300	13300	13300	11700
16		10600	10600	12100	12900	13200	10900	11000	10600
18			7800	9200	10200	10800	9100	9200	9300
20			5600	7000	8000	8700	7400	7800	7900
22				5200	6200	6900	6000	6400	6700
24				3800	4800	5500	4800	5200	5600
26					3600	4300	3800	4200	4600
28					2600	3300	2900	3400	3700
30					1700	2400	2200	2600	3000
32						1700	1600	2000	2300
34						1100	1000	1400	1700
36								900	1200
38									
Number of lines	12	10	8	6	5	4	4	3	2
Min. elevation of main boom	27.7	30.1	30.9	31.4	31.7	32	32.2	32.3	40.1

### Load chart for main boom

(Unit:kg)

19.5t counterweight, 360°working ,fully extended outriggers									
Work radius (m)	Length of main boom(m)								
	13.5	18.4	23.2	28	32.8	37.6	42.4	47.2	52
3	100000	90000							
3.5	100000	82000	70000						
4	91800	75000	65600						
4.5	81600	70000	61800	51800					
5	73400	66000	58400	48900					
5.5	66800	62000	55300	46200	40800				
6	61200	58300	52600	43800	38600				
6.5	56500	53800	50000	41600	36700	33300			
7	52500	50000	47200	39700	35000	31700			
7.5	49000	46600	44100	37900	33300	30300			
8	45900	43700	41300	36200	31900	28900	26500		
9	38800	36800	35200	33200	29200	26600	24300	18600	
10	32100	31000	29800	30200	27000	24500	22500	17700	
11	26900	26600	25500	26100	25000	22700	20900	16800	14500
12		22900	22100	22800	23000	21200	19400	15900	13700
14		17100	17000	17800	18100	18300	17000	14500	12700
16		13000	12900	14100	14600	14900	15000	13300	11700
18			9800	11200	12000	12300	12400	12000	10600
20				8800	9800	10200	10400	10500	9800
22				6900	7800	8500	8800	9000	8900
24				5300	6200	6900	7500	7600	7800
26					4900	5600	6100	6500	6700
28						3800	4500	5000	5800
30						2900	3600	4100	4900
32							2800	3300	4000
34							2100	2600	3300
36								1900	2300
38								1400	1800
40								900	1300
42									1200
Number of lines	12	10	8	6	5	4	4	3	2
Min. elevation of main boom	27.7	30.1	30.9	31.4	31.7	32	32.2	32.3	32.4

**Load chart for jib**

(Unit:kg)

8.5t counterweight, over side and rear working, fully extended outriggers												
Elevation of main boom	Length of main boom 52m											
	10.7m jib						18m jib					
	jib 0°		jib 15°		jib 30°		jib 0°		jib 15°		jib 30°	
	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)
78°	7000	10.1	5200	12.5	3700	14.8	3800	11.6	2800	15.8	2200	19.6
75°	6800	13.2	4500	15.6	3600	17.8	3400	15.1	2600	19.3	2100	22.9
72°	6300	16.2	4200	18.5	3400	20.6	3200	18.5	2500	22.6	2000	26.1
70°	5400	18.2	4000	20.5	3300	22.6	3000	20.7	2400	24.7	1900	28.2
65°	4400	23.1	3600	25.3	3100	27.2	2700	26.2	2100	30	1700	33.2
60°	2700	27.9	2400	30	2300	31.8	1900	31.5	1600	35.1	1400	38
55°	1500	32.4	1400	34.4	1300	36	1000	36.6	800	40	700	42.6
50°	700	36.7	700	38.6	600	40						

14.5t counterweight, over side and rear working, fully extended outriggers												
Elevation of main boom	Length of main boom 52m											
	10.7m jib						18m jib					
	jib 0°		jib 15°		jib 30°		jib 0°		jib 15°		jib 30°	
	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)
78°	7000	10.1	5200	12.5	3700	14.8	3800	11.6	2800	15.8	2200	19.6
75°	6800	13.2	4500	15.6	3600	17.8	3400	15.1	2600	19.3	2100	22.9
72°	6300	16.2	4200	18.5	3400	20.6	3200	18.5	2500	22.6	2000	26.1
70°	5400	18.2	4000	20.5	3300	22.6	3000	20.7	2400	24.7	1900	28.2
65°	4500	23.1	3600	25.3	3100	27.2	2700	26.2	2200	30	1700	33.2
60°	3900	27.9	3300	30	2900	31.8	2400	31.5	1900	35.1	1500	38
55°	2600	32.4	2400	34.4	2200	36	1800	36.6	1600	40	1400	42.6
50°	1600	36.7	1500	38.6	1600	40	1100	41.4	900	44.5	900	46.8
45°	1000	40.7	900	42.4	900	43.6						

**Load chart for jib**

(Unit:kg)

8.5t counterweight, over side and rear working, fully extended outriggers												
Elevation of main boom	Length of main boom 52m											
	10.7m jib						18m jib					
	jib 0°		jib 15°		jib 30°		jib 0°		jib 15°		jib 30°	
	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)
78°	7000	10.1	5200	12.5	3700	14.8	3800	11.6	2800	15.8	2200	19.6
75°	6800	13.2	4500	15.6	3600	17.8	3400	15.1	2600	19.3	2100	22.9
72°	6300	16.2	4200	18.5	3400	20.6	3200	18.5	2500	22.6	2000	26.1
70°	5400	18.2	4000	20.5	3300	22.6	3000	20.7	2400	24.7	1900	28.2
65°	4500	23.1	3600	25.3	3100	27.2	2700	26.2	2200	30	1700	33.2
60°	4000	27.9	3300	30	2900	31.8	2400	31.5	1900	35.1	1500	38
55°	3400	32.4	2400	34.4	2300	36	1900	36.6	1600	40	1400	42.6
50°	2400	36.7	2200	38.6	2100	40	1700	41.4	1500	44.5	1300	46.8
45°	1700	40.7	1600	42.4	1500	43.6	1100	45.9	1000	48.8	900	50.7
40°	1100	44.5	1000	46	0900	47						

**Notes for QY100 technical parameter:**

- All the above value in the table is rated loading capacity on the condition that ground is flat and hard enough, the value, above heavy line is mainly affected by intensity, the value below heavy line is affected by the stability.
- The radius value is in the actual working condition, jib working radius value is in actual working condition, when main boom is fully extended ( 52m ) and jib is unfolded.
- The above value in the table is suitable for 360 degree working if the 5th outrigger is extended. But keep off lifting things over the driving cab in case of dropping.
- The above value in the table includes hook's and lifting device's weight. Main hook 1270KG、580KG, auxiliary hook 260KG. The main hook weight should reduce 3000KG if jib is unfolded.
- When the actual boom length or working radius is between 2 values, adopt the larger value to calculate the lifting load.
- Prohibit luffing exceeding min. elevation.
- If the auxiliary hook is working, main hook is still attached to the boom tip, the rated load of auxiliary hook should reduce main hook's weight(1270KG or 580KG).



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Further technology details according to actual product!