XCT100G5-1HEV Truck Crane

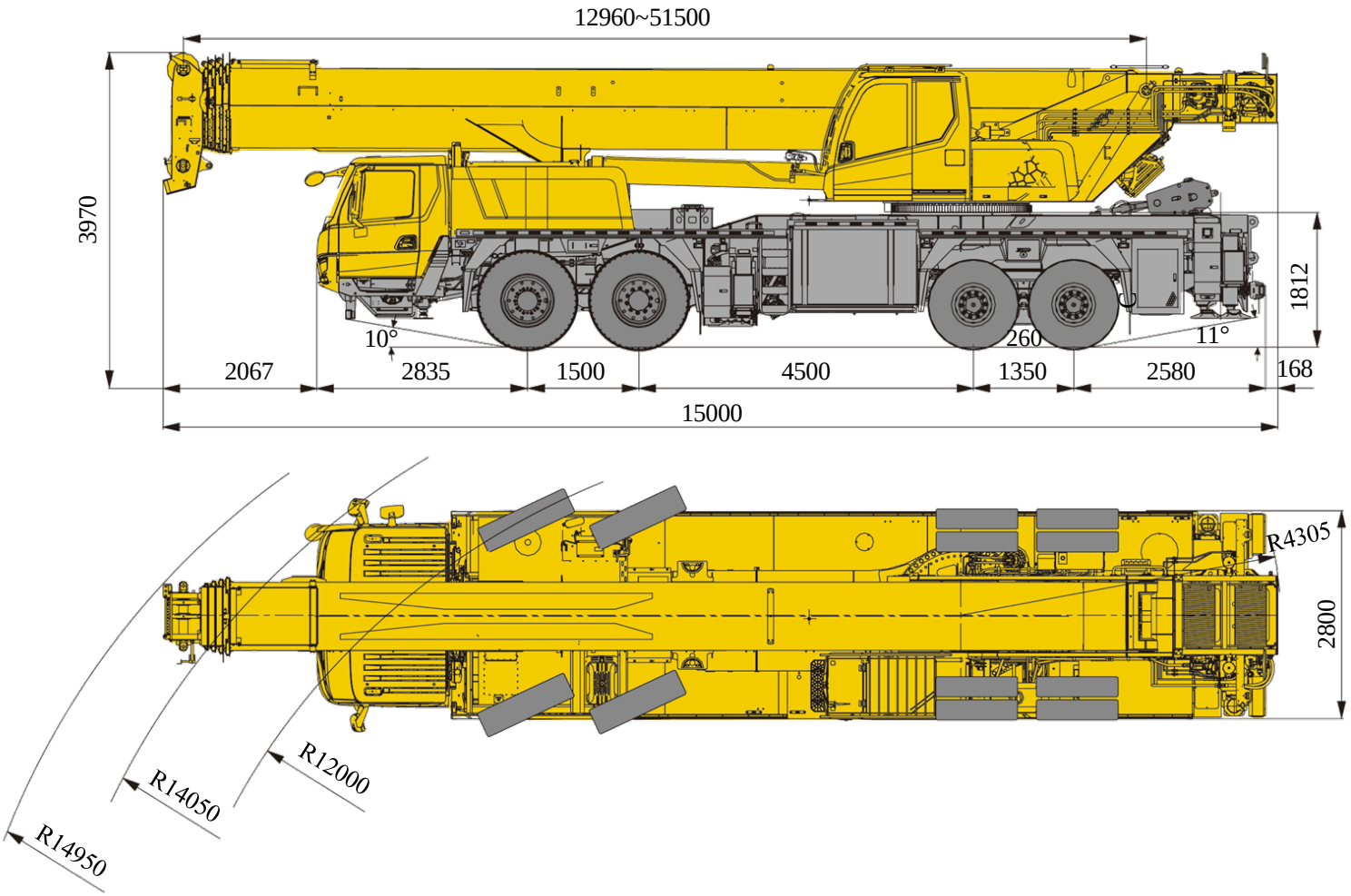
Technical specifications

XCMG

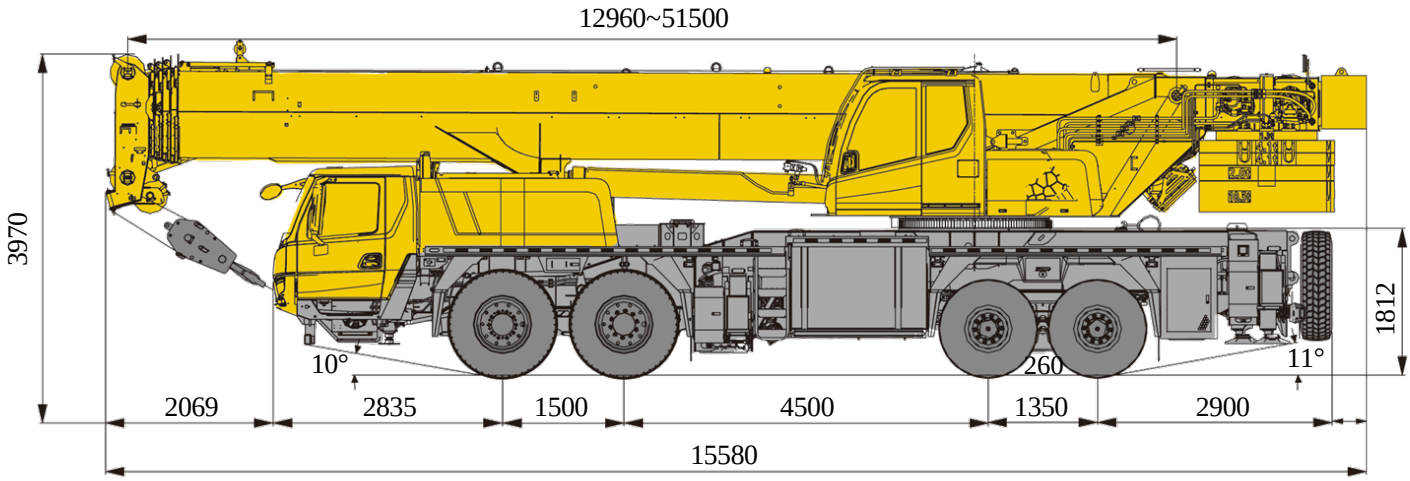
2nd edition, November 2024

Contents

Dimensions


12960~51500
3970
1812
10°
11°
260
2067
2835
1500
4500
1350
2580
168
15000
R4305
2800
R12000
R14050
R14950

Dimensions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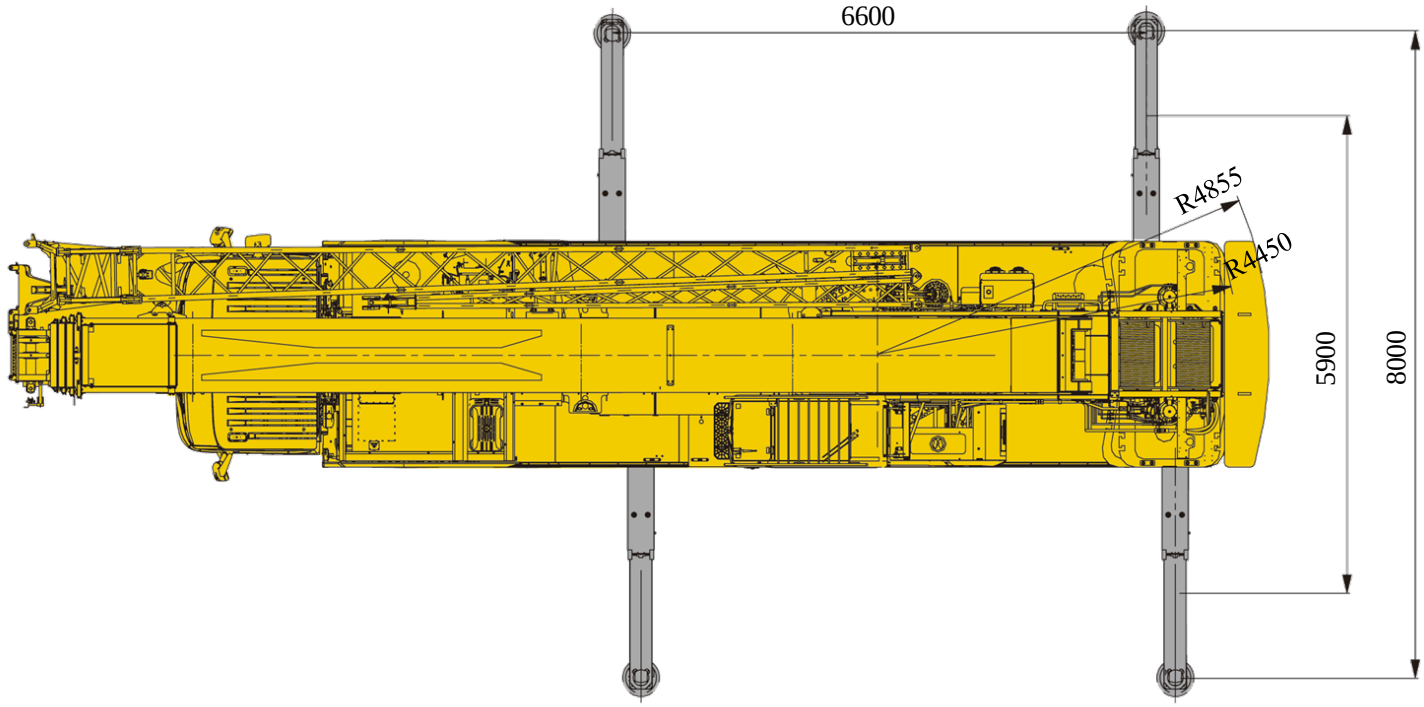
3970
1812
10°
11°
260
2069
2835
1500
4500
1350
2900
15580


6600
R4855
R4450
5900
8000

Technical specifications

Chassis

Frame	Designed and manufactured by XCMG, the frame is made of high strength steel with fully covered walking surface and anti-torsion box-typed structure.
Outrigger	Four outriggers arranged in H-shape are hydraulically controlled by control levers. Double-stage outrigger beam is adopted. Electric outrigger control system, LED lights, speed-regulating buttons and engine stop button are installed. There is a one-way sequence valve fitted in each outrigger cylinder, and a double-way hydraulic lock fitted in each jack cylinder. Outrigger float diameter: φ450 mm. Reaction force of outrigger at max. lifting load: 807 KN
Hydraulic system	The main drive electric motor drives the transmission. The piston pump is connected to the PTO port of the transmission through drive shaft, used to control the outrigger extension and retraction and superstructure operation.
Engine	SC7H380Q6P, in-line, 6-cylinder, water cooled, electrical diesel engine manufactured by Shanghai New Power Automotive Technology Co., Ltd, with rated power of 280 kW/2200 rpm and max. torque of 1290 Nm/1200-1500 rpm and max. reference torque of 1480 Nm. Compliant with China VI emission standard; Engine displacement: 7146 ml; AdBlue/DEF tank capacity: 35 L; Fuel tank volume: 430 L.
Range extender	TZ430XS200ICS200K, Shanghai New Power Automotive Technology Co., Ltd, with rated power of 188 kW; peak power of 300 kW.
Main drive	FS4E200A-2H, Made by SHAANXI FAST GEAR Co., Ltd., with rated power of 263 kW; peak power of 410 kW. Rated torque of 600 Nm; peak torque of 1200 Nm.
Power battery	Battery capacity: 125.6 kWh; External charging: a DC charging port, An AC charging port, 30 m AC charging cable.
Transmission	AMT automatic transmission, with 4 forward speeds and 1 reverse speeds.
Safety devices	Standard: ABS, etc.
Axle	High strength axles with two reducers, with disc brake for axles 1-2 and drum brake for axles 3-4. Axles 3 and 4 for driving; Driving/steering mode: 8×4×4.
Suspension	Leaf spring suspension is used as front suspension, and rubber suspension is used as rear suspension.
Tire	12 tires and 1 spare tire, 1st and 2nd axles are equipped with single tire, 3rd and 4th axles are equipped with double-tire. Tire specifications: 385/95R25 (front axles), 325/95R24 (rear axle).
Braking system	Service brake: dual-circuit air pressure brake (disc brake for front axles and drum brake for rear axles) acting on all wheels. Parking brake: spring-loaded brake, acting on the wheels of axles 2~4; Auxiliary brake: regenerative brake.
Steering	Axles 1 and 2 are mechanically steered + hydraulic power assistance.
Driver's cab	New full dimension steel structure cab is equipped with electrically-operated door window lifter, expansive one-piece rearview mirrors, multi-function steering wheel, LED headlights, remote unlocking function, airbag for the driver's seat, and a coupled sleeper for the co-driver's seat that can be deployed for sleeping and resting. There are a brand-new combined central control panel, 10-inch central control screen, 12-inch LCD screen display, and fire extinguisher. Large-power HVAC is equipped, and functions including blowing face and feet, defrosting, and defogging can be achieved. Backup camera is also equipped.
Electrical system	24V DC, two sets of 12V battery in series.

Technical specifications

Superstructure

Structure	Designed by XCMG, made of high strength steel.
Hydraulic system	Electric-control load sensing variable pump is used for lifting, luffing and telescoping operations. A open pump is used for slewing operation. Electric proportional control multi-way valve is adopted. And large-power air-cooled hydraulic oil cooler is used for effectively reducing oil temperature. Hydraulic oil tank capacity: 1160L
Operating method	The electric-proportional control, stepless speed regulation, all movements of the crane is controlled by two levers at left and right sides and panel.
Main winch system	Hydraulic control is used for speed regulation. The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake, a counterbalance valve and a grooved drum equipped. The main and auxiliary winches can be operated separately. Wire rope has a rope head, which is directly installed in wedge socket.
Auxiliary winch system	Hydraulic control is used for speed regulation. The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake, a counterbalance valve and a grooved drum equipped. The main and auxiliary winches can be operated separately.
Slewing system	Single-row, four-point contact-ball external slewing ring, single slewing mechanism, driven by a planetary gear reducer, which is driven by a hydraulic motor, with constant-closed brake equipped, may continuously slew 360°. Power control and free swing function as well as stepless speed regulation are available. Joystick is furnished with a horn button.
Luffing system	Single luffing cylinder and the luffing counterbalance valve with the load compensation function. Gravity for lowering boom is used for boom luffing down.
Operator's cab	Fully-enclosed steel cab can tilt 20°. Spacious interiors, expansive visibility, and abundant storage space. All-round view safety glass with an openable front window. Push-pull sliding door, protective grilles, pull-out side step. Wipers are fitted for the windshield and roof window. 2.5 L washer fluid tank is also available. Stylish interior design; 2 kg fire extinguisher; Sun screens for front, rear and side windows; Double-layer sun screen for the roof window. Mechanical shock absorber and adjustable seat with leather + breathable mesh is adjustable. Dual LED interior light, electric fan. HMI control panel, display, armrest, engine accelerator pedal, and engine ignition switch. Heating & air conditioning are available.
Safety devices	Hydraulic counterbalance valve, hydraulic relief valve, double-way hydraulic lock, LMI, length sensor, angle sensor, lowering limiter for preventing wire rope from over-releasing, anti-two block at boom head for preventing wire rope from over-winding, tri colored light bar and winch monitoring mirror.
Load moment indicator	When the actual load moment is approaching the overloading value, audible and visual warning will be sent out, and the dangerous operation will be automatically cut off before overloading occurs. Overload memory function (black box) and fault diagnosis function are available.
Counterweight	29 t in total, 22 combinations of 29 t, 25 t/24.9 t, 24 t, 20.9 t/20.8 t, 20 t/19.9 t/19.5 t, 16.8 t, 15.9 t/15.8 t/15.5 t, 14.5 t, 11.8 t, 10.5 t, 9.5 t, 6.3 t, 5.4 t/5 t, 1.3 t, 0 t.
Hook block	80 t, 7 t

Superstructure

Boom	5-section boom with U cross-section, welding structure; double-cylinder plus ropes telescoping system. Boom length: 13 m~51.5 m.
Fixed jib	The jib consists of a connecting bracket, an offsetting bracket and two lattice sections. Jib offset angles may be changed with jib angle adjusting link, with 0°, 15° and 30° fixed jib offset angles available. It is stowed along the side of the boom. Jib length: 10.5 m/17.5 m
Auxiliary sheave	Installed at the boom top, used for single line operation. Its lifting performance is the same as that for boom, but the max. lifting load does not exceed 6.5 t.

Configuration and optional equipment

	**Function description**
Standard	5-section boom of 51.5 m, fixed jib of 17.5 m.

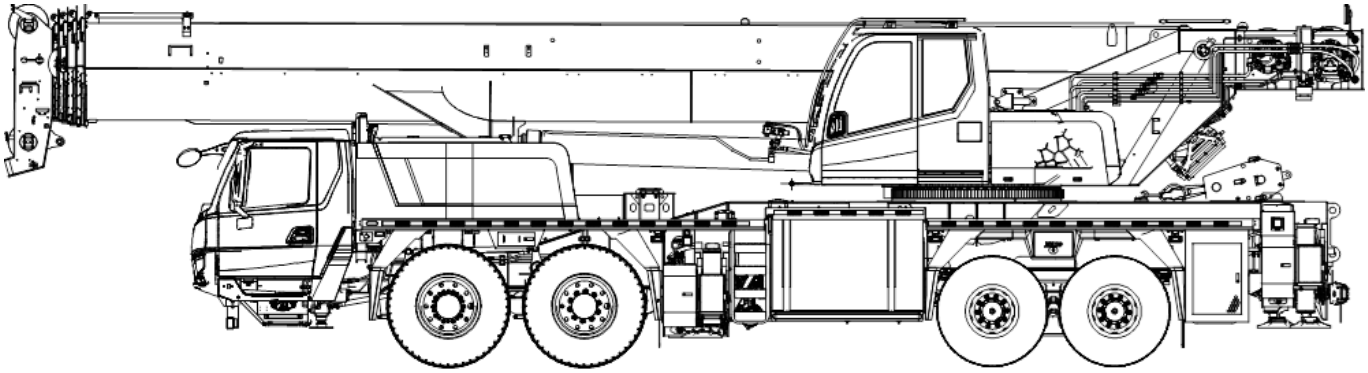
Note: only standard configuration is available for this model.

	**Part description**
60 t hook block	
OBU device	

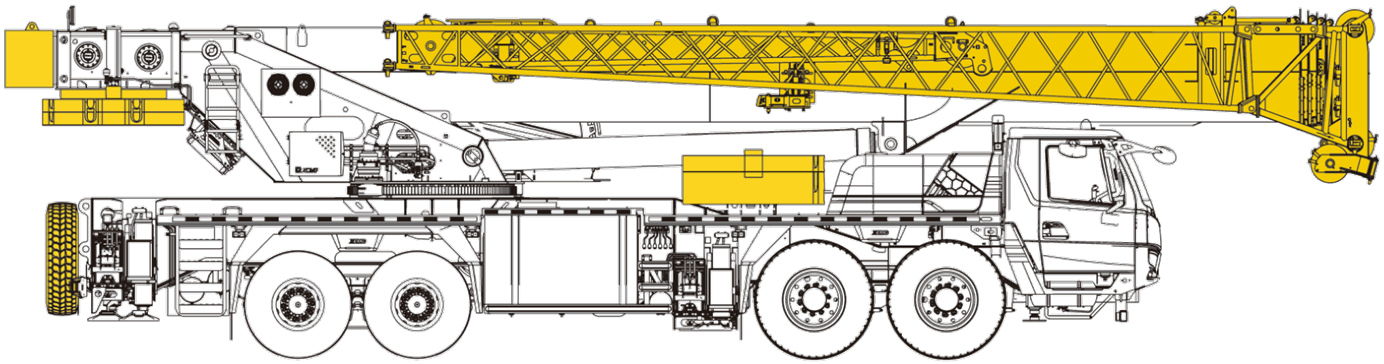
Weight

	1	2	3	4	Total weight
t	12	12	13	13	50 [1)] t
t	15.3	15.3	24.8	24.8	80.2 [2)] t

Notes:
1) In the declared crane travel configuration:
Superstructure: counterweight, jib, auxiliary sheave and 60 t hook block are not carried on board; chassis: spare tire and its bracket are not carried on board.
Drive/steer mode: 8×4×4; max. travel speed: 80 km/h;
Tire specifications: Front axles: 385/95R25; Rear axles: 325/95R24.
Overall dimensions (mm): 15000×2800×3970.



2) In the short-distance transfer configuration:
On the basis of the declared status: jib and auxiliary sheave are carried; counterweight slabs of 1.3 t+4.1 t+4.1 t are carried on the tail of turntable; counterweight slab of 5 t is carried on the tail of auxiliary winch; counterweight slabs of 10.5 t+2 t+2 t are carried in front of the frame; spare tire and its bracket are carried on the chassis.
Drive/steer mode: 8×4×4; max. travel speed: 20 km/h;
Tire specifications: Front axles: 385/95R25; Rear axles: 325/95R24.
Overall dimensions (mm): 15580×2800×3970.



Weight

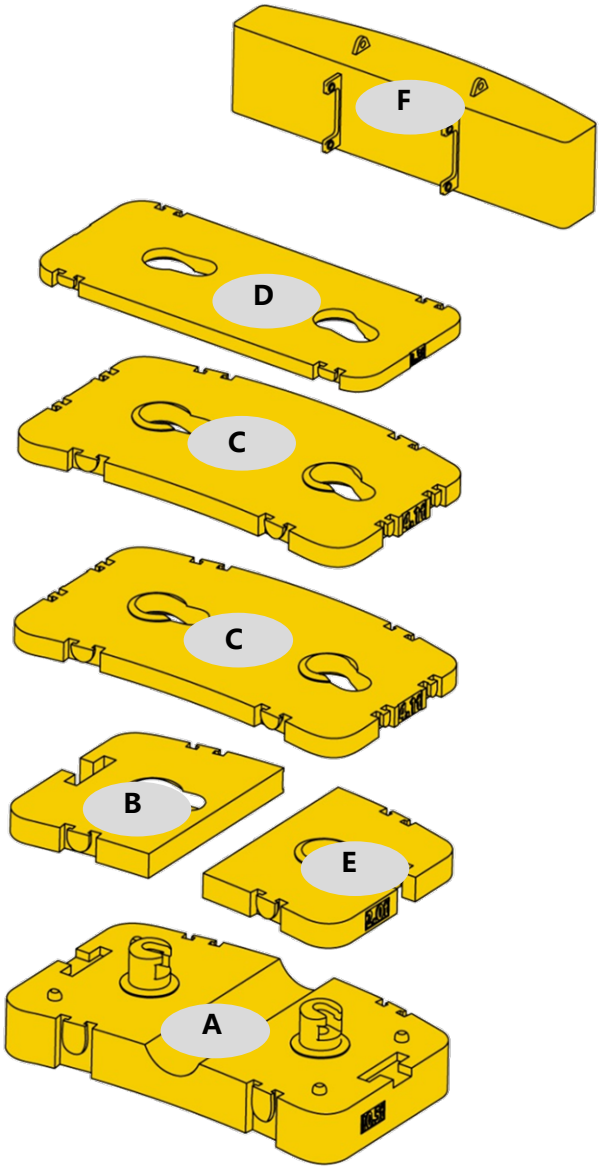
	Parts of line	Weight (kg)	Dimension (mm)	Remark
80 t	12	700	1735×625×520	Single hook
60 t	8	470	1481×478×471	Single hook
7 t	1	210	717×370×370	Single hook

Working speed

		
Front axle: 385/95R25 Rear axle: 325/95R24	2.5 ~ 80	45%

				
	0-140 m/min, single line, no load	6.8 t	20 mm	260 m
	0-90 m/min, single line, no load	6.5 t	20 mm	160 m
	0-1.5 r/min			
	Approx. 55 s for boom luffing from -0.5° to 81°			
	Approx. 130 s for boom extending from 13 m to 51.5 m			

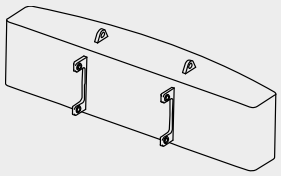
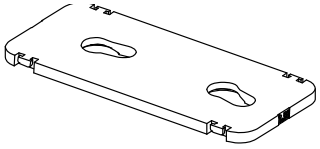
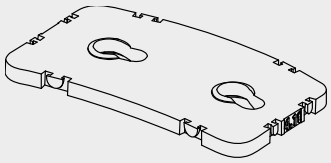
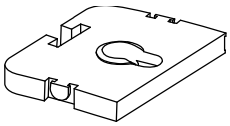
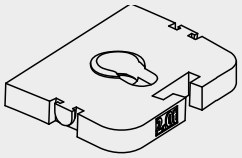
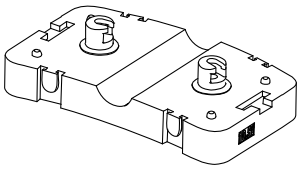
Counterweight



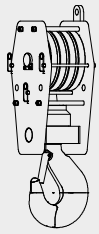
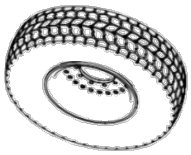
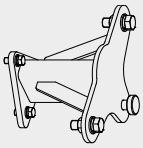
	A	B	C	D	E	F
Dimensions (L×W×H) (mm)	2790×1674×670	1668×1170×218	2790×1674×179	2790×1250×110	1668×1170×218	2790×722×755
Weight (t)	10.5	2	4.1	1.3	2	5

OM	**0 t**	**1.3 t**	**5 t**	**5.4 t**	**6.3 t**	**9.5 t**	**10.5 t**	**11.8 t**	**14.5 t**	**15.5 t**	**15.8 t**
Combina-tions	——	D	F	D+C	D+F	D+C+C	A	A+D	A+B+E	A+F	A+B+E+D
OM	**15.9 t**	**16.8 t**	**19.5 t**	**19.9 t**	**20 t**	**20.8 t**	**20.9 t**	**24 t**	**24.9 t**	**25 t**	**29 t**
Combina-tions	A+D+C	A+D+F	A+B+E+F	A+B+E+D+C	A+D+C*2	A+B+E+D+F	A+D+C+F	A+B+E+D+C*2	A+B+E+D+C+F	A+D+C*2+F	A+B+E+D+C*2+F

Dimensions of parts to be transported

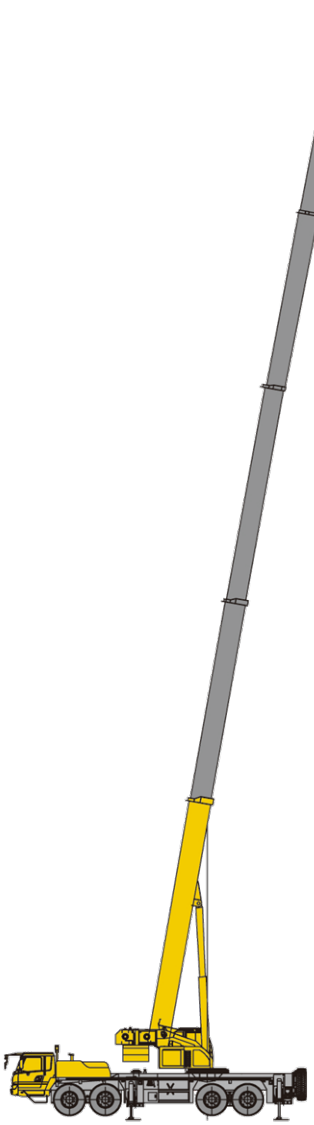
Name	Illustration	Single weight (kg)	Qty	Dimension (mm)
Counterweight slab F		5000	1	2790×722×755
Counterweight slab D		1300	1	2790×1250×110
Counterweight slab C		4100	2	2790×1674×179
Counterweight slab B		2000	1	1668×1170×218
Counterweight slab E		2000	1	1668×1170×218
Counterweight slab A		10500	1	2790×1674×670
Fixed jib and its bracket		1335	1	11100×950×1570

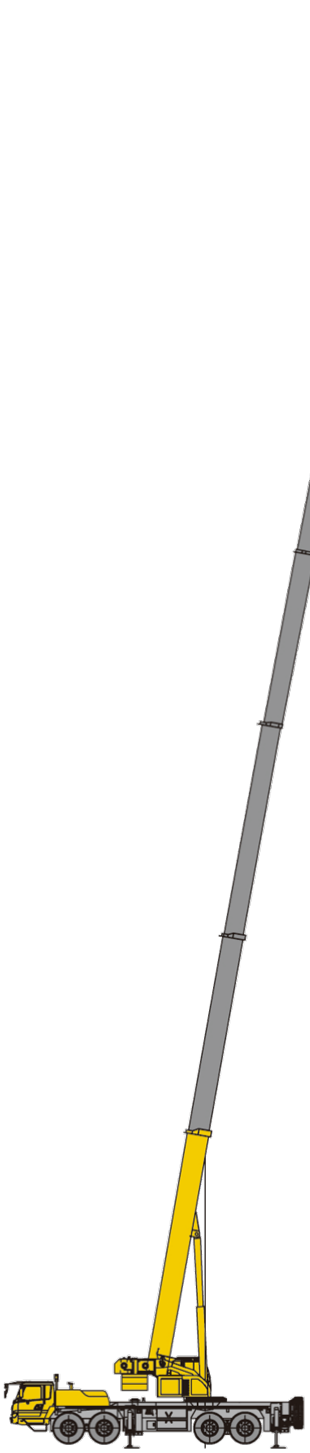
Dimensions of parts to be transported

Name	Illustration	Single weight (kg)	Qty	Dimension (mm)
60 t hook block		470	1	1481×478×471
Spare tire		240	1	390×φ1360
Spare tire bracket		14	1	450×300×250

Note: here only lists the dimension and weight of the parts to be transported. The details of transport parts vary according to the declared configuration of different models.

Boom/jib combinations

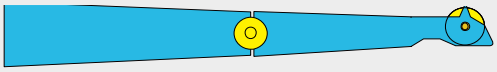


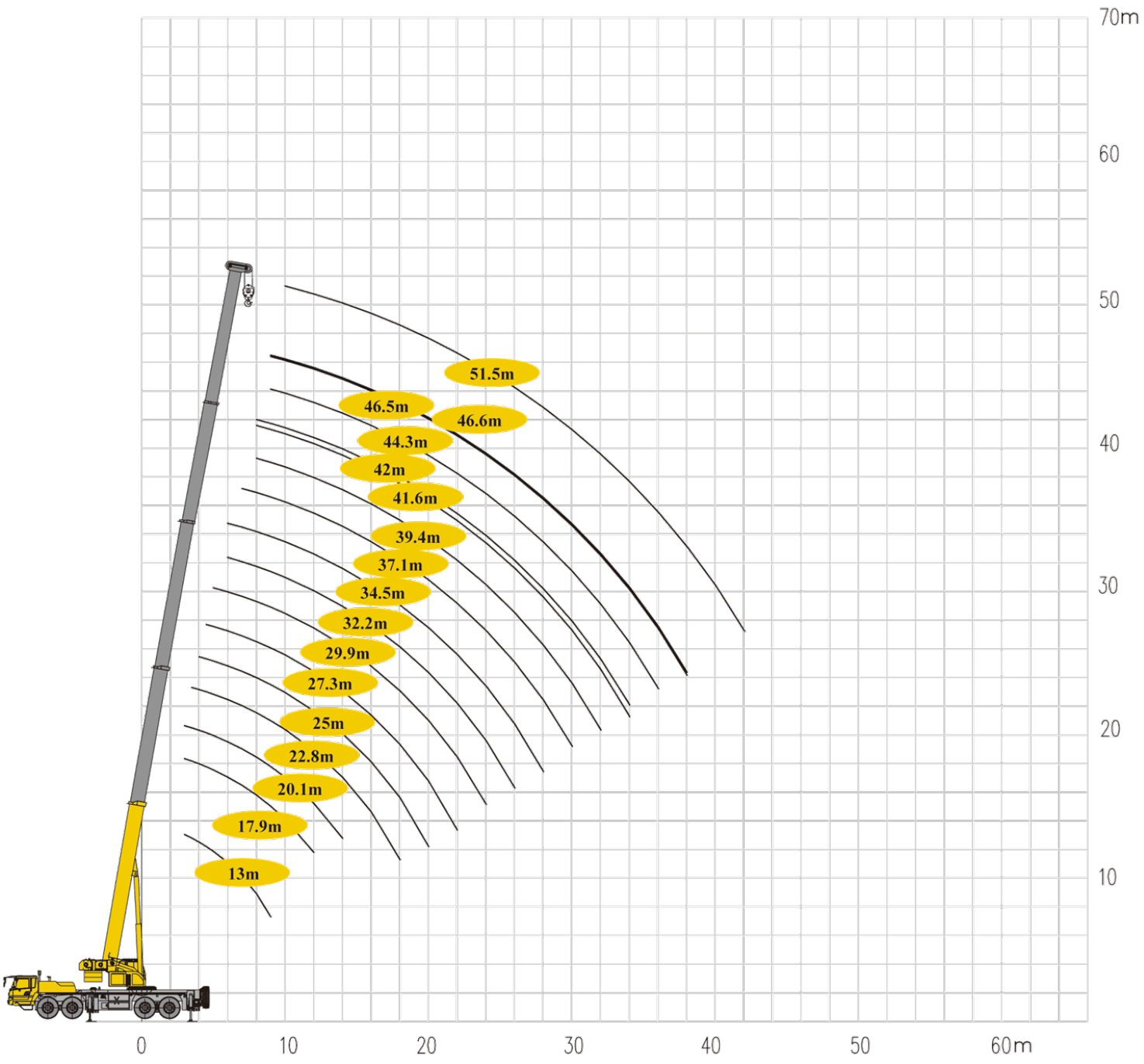


Boom	Jib
T: 13~51.5m	T: 51.5 m F: 10.5~17.5 m

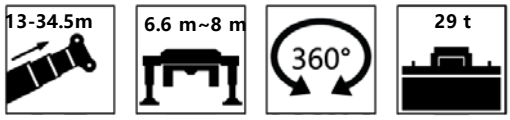
Boom/jib combinations

Components	Structure
The 1st jib section	
The 2nd jib section	

Jib – 10.5 m	
Jib – 17.5 m	


70m
60
50
40
30
20
10
0
10
20
30
40
50
60m
51.5m
46.5m
46.6m
44.3m
42m
41.6m
39.4m
37.1m
34.5m
32.2m
29.9m
27.3m
25m
22.8m
20.1m
17.9m
13m

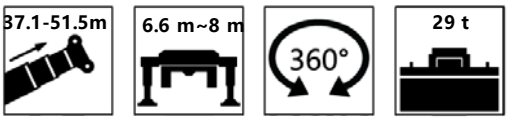
T 13~34.5 m



	13	17.9	20.1	22.8	25	27.3	29.9	32.2	34.5	
3	100*									3
3	85.0	78.0	46.0							3
3.5	80.0	78.0	46.0	58.0						3.5
4	78.0	74.0	46.0	58.0	45.0					4
4.5	75.0	70.0	46.0	58.0	45.0	45.0				4.5
5	70.5	68.0	46.0	58.0	45.0	45.0	45.0			5
6	60.5	60.0	45.0	55.0	45.0	45.0	45.0	40.5	26.0	6
7	51.0	51.0	45.0	50.0	45.0	43.3	45.0	40.5	26.0	7
8	44.0	44.0	44.0	43.5	44.0	41.0	41.5	40.5	26.0	8
9	38.0	38.0	39.0	37.5	39.0	38.6	37.6	39.3	25.6	9
10		33.5	35.5	33.0	35.0	36.1	33.8	34.5	24.5	10
12		26.5	28.5	26.0	28.0	29.5	27.0	28.5	22.1	12
14			23.5	21.1	23.0	24.5	22.3	23.6	19.7	14
16				16.4	18.6	20.3	17.9	19.5	17.8	16
18				12.9	15.1	16.9	14.5	16.0	16.4	18
20					12.5	14.2	11.8	13.4	14.6	20
22						12.0	9.8	11.3	12.5	22
24							8.1	9.6	10.8	24
26								8.2	9.4	26
28									8.3	28
n	13	12	7	9	8	7	7	6	5	n
Cylinder I	0	50	0	100	50	0	100	50	0	Cylinder I
Cylinder II	0	0	25	0	25	50	25	50	75	Cylinder II

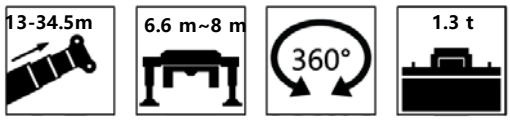
* Capacity class.

T 37.1~51.5 m



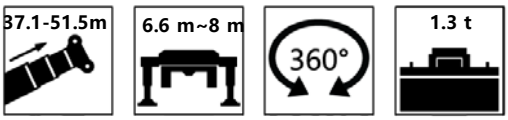
	37.1	39.4	41.6	42	44.3	46.6	46.5	51.5	
7	34.0								7
8	34.0	26.5	21.4	28.6					8
9	33.0	26.3	20.4	27.3	24.6	21.0	19.7		9
10	30.7	25.6	19.7	26.1	24.0	21.0	19.0		10
12	26.4	23.2	17.9	23.4	21.8	20.0	17.6	16.8	12
14	22.7	21.0	16.3	21.0	20.1	18.5	16.2	15.6	14
16	18.8	19.2	15.0	18.5	18.2	17.0	15.0	14.7	16
18	15.3	16.5	13.6	15.8	16.0	15.4	13.8	13.6	18
20	12.7	14.0	12.4	13.1	13.3	13.5	12.7	12.8	20
22	10.6	11.8	11.3	11.0	11.2	11.4	11.8	11.5	22
24	8.9	10.1	10.3	9.3	9.5	9.7	10.5	10.0	24
26	7.6	8.7	9.5	8.1	8.1	8.4	9.0	8.6	26
28	6.5	7.6	8.6	6.8	7.0	7.1	8.0	7.5	28
30	5.5	6.6	7.5	5.9	6.0	6.2	6.9	6.4	30
32		5.7	6.7	5.0	5.2	5.3	6.1	5.6	32
34			5.9	4.3	4.4	4.6	5.3	4.8	34
36					3.8	3.9	4.7	4.2	36
38						3.4	4.1	3.6	38
40								3.1	40
42								2.7	42
n	5	5	4	5	4	4	4	3	n
Cylinder I	100	50	0	100	100	100	50	100	Cylinder I
Cylinder II	50	75	100	67	75	83	100	100	Cylinder II

T 13~34.5 m

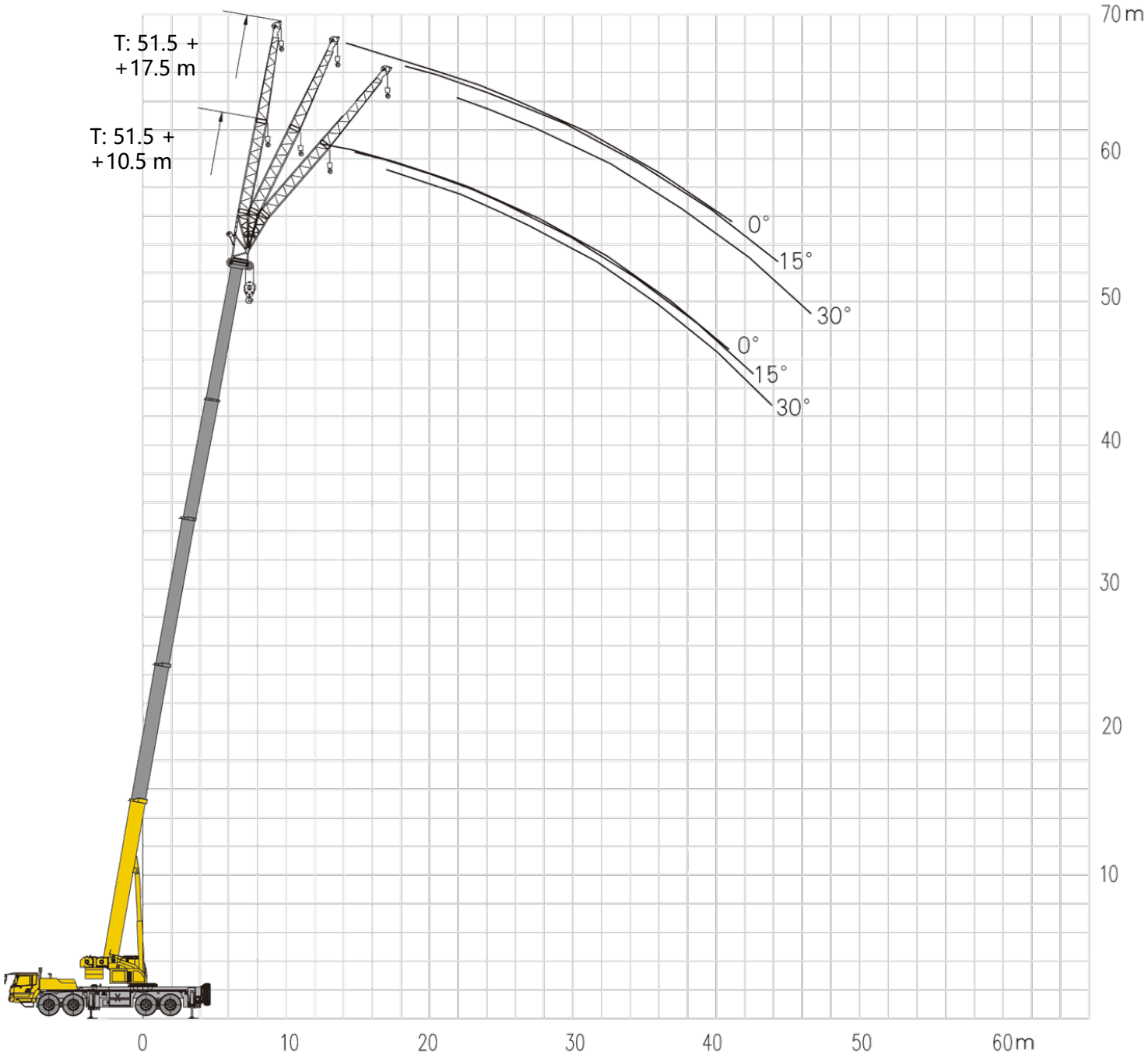


	13	17.9	20.1	22.8	25	27.3	29.9	32.2	34.5	
3	80.0	78.0	46.0							3
3.5	80.0	78.0	46.0	58.0						3.5
4	74.0	73.0	46.0	58.0	45.0					4
4.5	65.0	64.0	46.0	58.0	45.0	45.0				4.5
5	57.5	57.0	46.0	56.0	45.0	45.0	45.0			5
6	47.0	46.0	45.0	46.0	45.0	45.0	45.0	40.5	26.0	6
7	35.6	34.7	38.6	34.0	37.4	41.0	36.5	38.8	26.0	7
8	26.3	25.4	28.9	24.8	27.7	30.1	26.9	29.0	26.0	8
9	20.3	19.4	22.6	19.0	21.6	23.8	20.8	22.7	24.4	9
10		15.0	18.3	14.6	17.2	19.4	16.5	18.4	20.0	10
12		9.5	12.3	9.0	11.4	13.3	10.7	12.4	14.0	12
14			8.8	5.8	7.9	9.7	7.3	8.8	10.3	14
16				3.5	5.6	7.3	5.0	6.5	7.8	16
18				1.9	3.9	5.6	3.3	4.8	6.0	18
20					2.6	4.2	2.1	3.5	4.8	20
22						3.2	1.2	2.5	3.7	22
24								1.7	2.9	24
26								1.1	2.3	26
28									1.6	28
n	12	12	7	9	8	7	7	6	5	n
Cylinder I	0	50	0	100	50	0	100	50	0	Cylinder I
Cylinder II	0	0	25	0	25	50	25	50	75	Cylinder II

T 37.1~51.5 m



	37.1	39.4	41.6	42	44.3	46.6	46.5	51.5	
7	34.0								7
8	28.2	26.5	21.4	28.6					8
9	22.1	23.5	20.4	22.6	22.9	21.0	19.7		9
10	17.6	19.2	19.7	18.3	18.5	18.6	19.0		10
12	11.8	13.1	14.3	12.3	12.5	12.7	13.6	13.0	12
14	8.3	9.5	10.5	8.7	8.9	9.1	9.9	9.4	14
16	5.9	7.1	8.1	6.3	6.5	6.7	7.5	6.9	16
18	4.2	5.3	6.3	4.7	4.8	5.0	5.7	5.2	18
20	3.0	4.1	5.0	3.3	3.5	3.7	4.4	4.0	20
22	2.0	3.1	4.0	2.3	2.5	2.7	3.4	2.9	22
24	1.2	2.3	3.2	1.6	1.7	1.9	2.6	2.1	24
26		1.6	2.4		1.1	1.2	1.9	1.4	26
28			1.9				1.4		28
n	5	5	4	5	4	4	4	3	n
Cylinder I	100	50	0	100	100	100	50	100	Cylinder I
Cylinder II	50	75	100	67	75	83	100	100	Cylinder II


T: 51.5 +
+17.5 m
T: 51.5 +
+10.5 m
0°
15°
30°
0°
15°
30°
70 m
60
50
40
30
20
10
0
10
20
30
40
50
60 m

	10.5			17.5			
	0°	15°	30°	0°	15°	30°	
80	6.5	6.5	3.8	5.0	4.0	2.7	80
78	6.5	6.5	3.7	5.0	3.8	2.5	78
75	6.5	6.5	3.5	5.0	3.5	2.2	75
72	6.5	6.1	3.3	5.0	3.3	2.1	72
70	6.5	5.8	3.2	5.0	3.2	2.0	70
65	6.5	5.4	3.0	4.8	2.9	1.8	65
60	6.0	4.9	2.8	4.4	2.7	1.7	60
55	4.5	4.2	2.6	3.7	2.5	1.6	55
50	3.4	3.1	2.5	2.8	2.4	1.5	50

Table of main technical parameters

Type	Item		Unit	Parameters
Dimensions	Dimensions (L×W×H)		mm	15000×2800×3970
	Axle spacing		mm	1500+4500+1350
	Track (front/rear)		mm	2400/2060
	Front overhang / rear overhang		mm	2835/2580
	Front extension / rear extension		mm	2067/168
Weight	Maximum permissible total weight		kg	50000
	Axle load	Axle 1	kg	12000
		Axle 2	kg	12000
		Axle 3	kg	13000
		Axle 4	kg	13000
Power	Engine model		——	SC7H380Q6P
	Rated power / revolution speed		kW/(r/min)	280/2200
	Maximum net power / revolution speed		kW/(r/min)	278/2200
	Maximum output torque / revolution speed		N.m/(r/min)	1290/1200–1500
Range extender	Range extender model		——	TZ430XS200ICS200K
	Rated power		kW	188
	Peak power		kW	300
Main drive	Main drive model		——	FS4E200A-2H
	Main drive rated power		kW/(r/min)	263
	Main drive peak power		kW	410
	Rated torque of main drive motor		N.m	600
	Peak torque of main drive motor		N.m	1200
Power battery	Battery capacity		kWh	125.6

Table of main technical parameters

Type	Item	Unit	Parameters
Travel	Maximum travel speed	km/h	80
	Minimum stable travel speed	km/h	2.5~3
	Minimum turning diameter	m	≤24
	Minimum turning diameter of boom head	m	≤30
	Min. ground clearance	mm	260
	Approach angle	°	10
	Departure angle	°	11
	Braking distance (initial speed at 30 km/h)	m	≤10
	Maximum grade ability	%	≥45
	Fuel consumption per 100 km	L	40
Noise	Exterior noise level when accelerating	dB(A)	≤84
	Noise level at seated position	dB(A)	≤90

Table of main technical parameters

Type	Item			Unit	Parameters
Main performance	Maximum rated lifting capacity			t	100
	Minimum rated working radius			m	3
	Turning radius at turntable tail	At the counterweight		mm	4855
		At auxiliary winch		mm	4305
	Maximum load moment	Base boom		kN.m	3557
		Fully-extended boom		kN.m	2508
		Fully-extended boom + jib		kN.m	1875
	Outrigger span	Longitudinal		m	6.6
		Lateral		m	8/5.9
	Lifting height	Base boom		m	13.3
		Fully-extended boom		m	51.5
		Fully-extended boom + jib		m	68
	Boom length	Base boom		m	13
		Fully-extended boom		m	51.5
		Fully-extended boom + jib		m	69
	Jib offset angle			°	0, 15, 30
Working speed	Time for raising boom			s	≤55
	Time for fully extending the boom			s	≤130
	Maximum slewing speed			r/min	≥1.5
	Time for extending / retracting the outriggers	Outrigger beam	Retracting	s	≤30
			Extending	s	≤30
		Outrigger jacks	Retracting	s	≤45
			Extending	s	≤50
	Hoisting speed (single line, no load)	Main winch system		m/min	≥140
		Auxiliary winch system		m/min	≥90
Noise	Exterior noise level			dB(A)	≤109
	Noise level at seated position			dB(A)	≤85

Description of symbols

	Superstructure
	Rated lifting load
	Counterweight
	Variable-position counterweight Slewing radius
	Hook block
	Parts of line
	Wind speed
	Rope length
	Wire rope diameter
	Breaking force of wire rope
	Maximum working speed
	Main winch
	Auxiliary winch
	Luffing
	Telescoping

	Slewing
	360° slewing
	360° slewing with the fifth jack down
	Slewing in side and rear areas
	Boom over front or over rear
	Chassis
	Outrigger span
	Tire
	Axle load
	Grade ability
	Travel speed
	Configuration
	Optional equipment
	Engine

Description of symbols

	Boom
	Boom length
	Boom working radius
	Boom lifting height
	Boom angle
	Telescoping code of boom sections
	Extension
	Independent jib head
	Simple jib head

	Fixed jib
	Fixed jib length
	Fixed jib offset angle
	Luffing jib
	Maximum lifting height
	Maximum working radius
	Super lift
	Wind power jib