

XCT100BR Truck Crane

Technical specifications



100 t



51 m



42 m



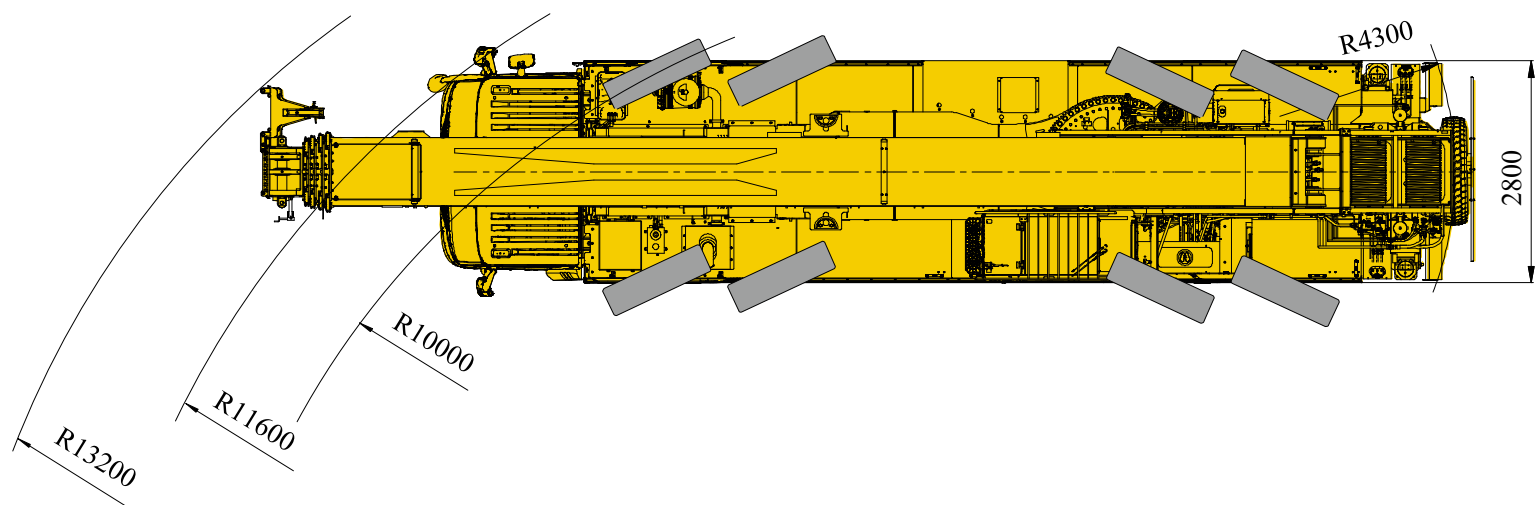
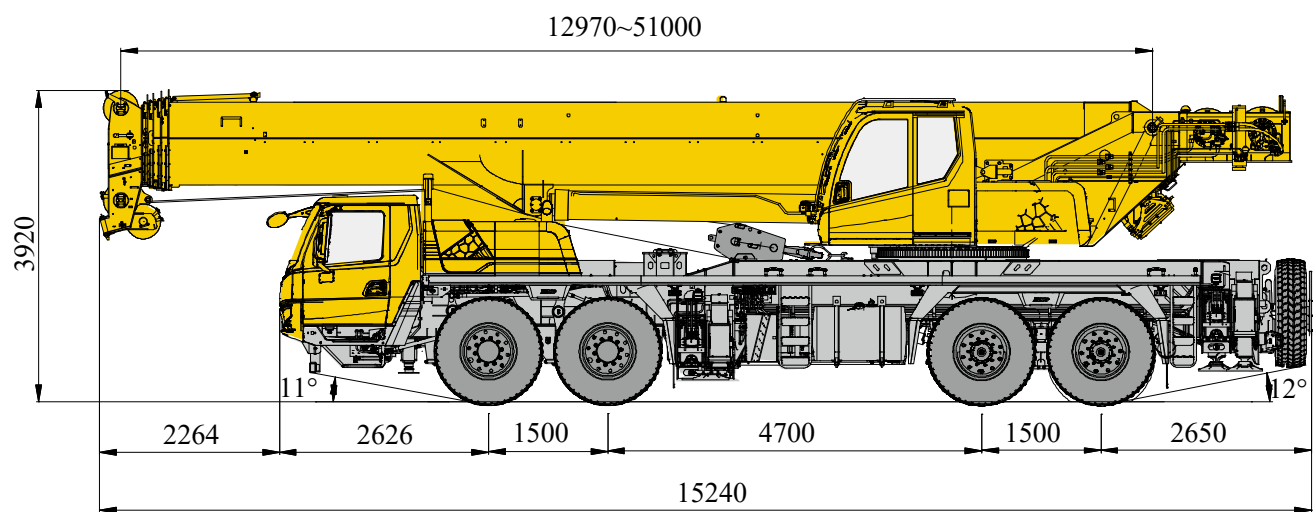
77 m



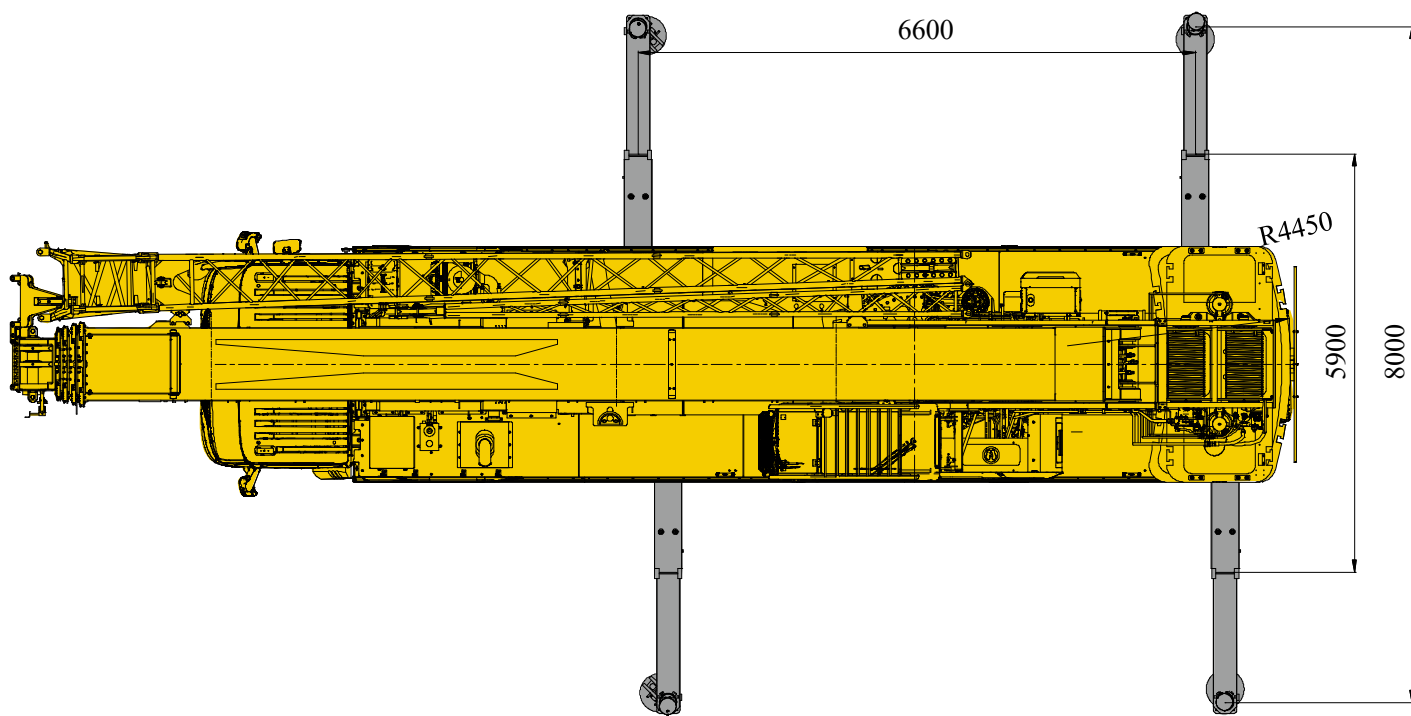
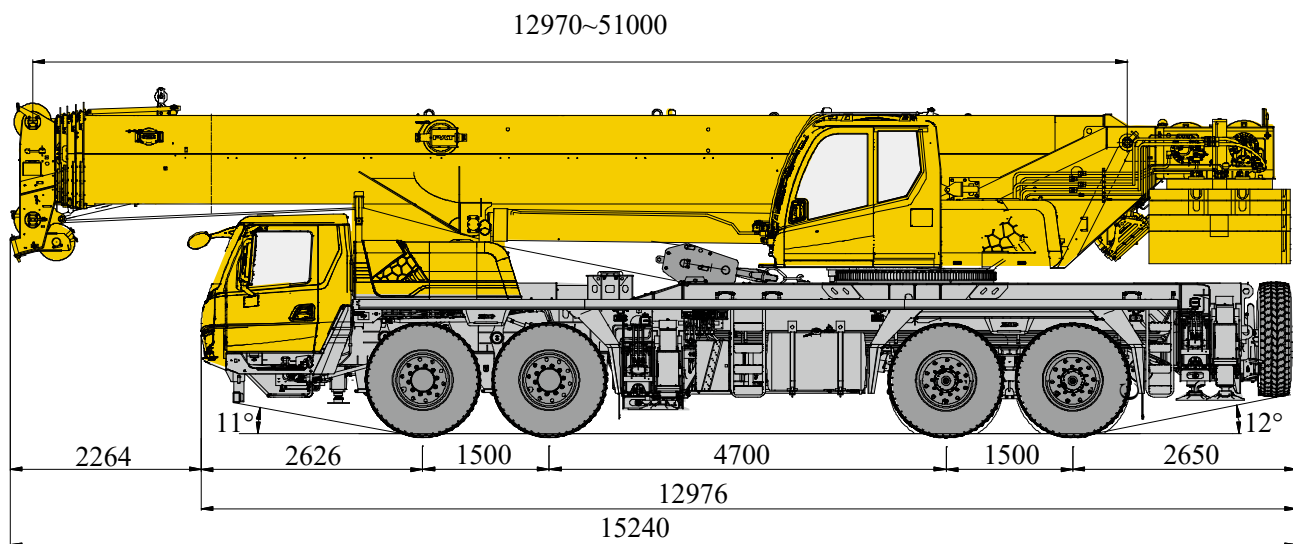
Contents

Dimensions	5-6
Technical specifications	7-9
Configuration and optional equipment	10
Weights/working speeds	11-13
Counterweight	14
Dimensions of parts to be transported	15-16
Boom/jib combinations	17-18
Load charts for boom	19-20
Load charts for boom extension	21-22
Load charts for jib	23-26
Load charts for independent jib head	27
Table of main technical parameters	28-29
Description of symbols	30-31
Cautions	32

Dimensions



Dimensions



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.
Outriggers	Four outriggers arranged in H-shape are hydraulically controlled by control levers. There is an outrigger control station located at each side of the chassis, and there is a level gauge on each control station. The outrigger movements can be simultaneously or separately controlled at any side of the chassis. A fifth jack is available. Each jack cylinder is equipped with a double-way hydraulic lock. Outrigger float diameter: $\phi 450\text{mm}$. Reaction force of outrigger at maximum lifting capacity: 796 kN.
Engine	WP12G375E300, in-line, 6 cylinders, water cooled, electric control diesel engine made by Weichai power. Engine displacement: 11.596 L. Engine emission standard: MAR-I; Maximum reference torque: 1948N.m; Rated power 276kW/1900rpm Max. torque 1800Nm/1000-1400rpm Fuel tank capacity: 470 L.
Transmission	FAST automatic transmission with retarder; 12 forward gears and 2 reverse gears available.
Safety devices	Outrigger pressure detection, driving beacon lights, backup camera, emergency stop switch, tail sign, etc.
Axles	High strength axles with two reducers, with disc brake for axles 1-2 and drum brake for axles 3-4. All-axle steering, and axles 3 and 4 for driving. Drive/steer mode: 8 $\times$ 8 $\times$ 4.
Suspension	Front suspension: longitudinal leaf spring balanced suspension, with cylindrical shock absorber. Rear suspension: double trailing arm balanced suspension, V-type upper control arm.
Tires	8 tires and 1 spare tire; Front axles and rear axles are equipped with single-tires. Tire specifications: 385/95R25.
Braking system	Service brake: dual-circuit air pressure brake, acting on all wheels. Parking brake: spring-loaded brake, acting on the wheels of axles 2, 3 and 4. Auxiliary brake: engine exhaust brake and transmission retarder brake.
Steering	Mechanical steering mechanism with a hydraulic booster and rear axle steering system.
Driver's cab	New full dimension steel structure cab is equipped with electric adjustable rearview mirrors, central lock, the mechanical driver's seat, and a coupled sleeper for the co-driver's seat. There are a brand-new combined central control panel arranged with arc shape, 10-inch large screen color LCD display, fire extinguisher, HVAC, etc.
Electrical system	24V DC, two 12V batteries in series.

Technical specifications



Superstructure

Structure	Designed and manufactured by XCMG, made of high strength steel.
Hydraulic system	Large displacement dual-variable pump is used for lifting, luffing, and telescoping operations; while gear pump is used for slewing operation; The main valve integrates pilot oil supply module and adopts new pressure compensator to realize simultaneous operation between any actions; High power air-cooled hydraulic oil radiator effectively reduces system oil temperature.
Control system	Hydraulic pilot control, stepless speed regulation, all movements of the crane are 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 independently. 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	Steel fully-enclosed operator's cab can tilt backward about 20°, and features a spacious, panoramic, and multi storage layout. All-round view safety glass with an openable windshield. Push-pull sliding door, protective grilles, pull-out step, front and roof wipers are equipped. Stylish interior design. Sun screens for front, rear and side windows; double-layer sun screen for the roof window. Adjustable and spacious seats with mechanical shock absorption, dual LED interior lights and electric fan are available. LMI, HMI control panel, display, armrests, engine accelerator pedal, engine start switch, etc. HVAC is 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 and winch monitoring mirror.
Electrical system	24 V DC.
LMI	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	Total weight is 25 t, with 13 counterweight combinations.
Hook block	60 t, 7 t



Superstructure

Boom	5-section boom with U-shaped cross-section, welded structure. Dual-cylinder wire-rope-type telescoping system Boom length: 13 m ~ 51 m.
Fixed jib	Lattice jib structure. Jib offset angles may be changed with jib angle adjusting link, with 0°, 15° and 30° jib offset angles available. It is stowed at the side of boom. Jib length: 10.5 m and 17.5 m
Auxiliary sheave	Installed at the boom top, used for single line operation. Its lifting performance is the same with that of boom, but the maximum lifting capacity can not exceed 6.5 t.

Configuration and optional equipment



Function description

Standard

5-section boom of 51m, fixed jib of 17.5m.

Note: only standard configuration is available for this model.



Component description

Hook block

90 t hook block, 35 t hook block

Boom extension

9 m

Independent jib head

Lattice welding structure, attached to boom head. Length of independent jib head: 2.9 m.

Monitoring system assembly

Winch monitor, counterweight attachment monitor, and boom head monitor are included.

Level gauge

Measures crane levelness to ensure stability and safety during crane installation, calibration, and operation.

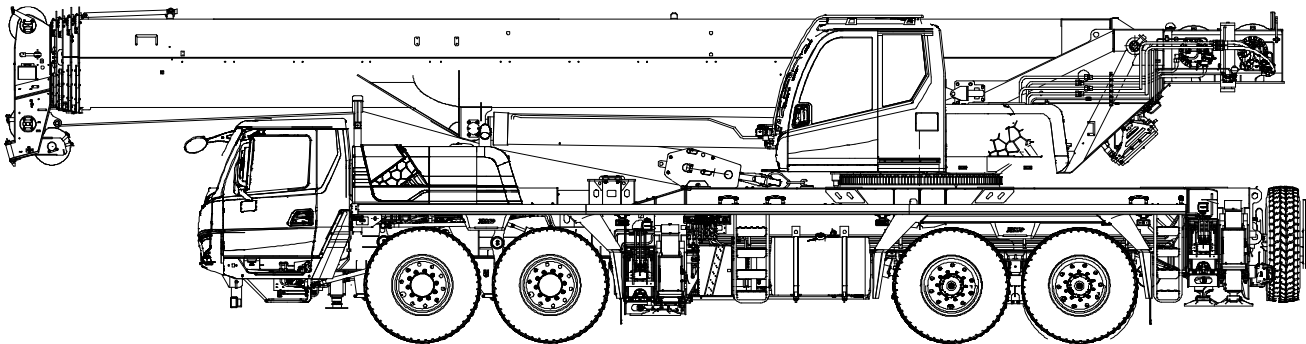
Data recorder

Monitor and record various parameters of the crane operation.

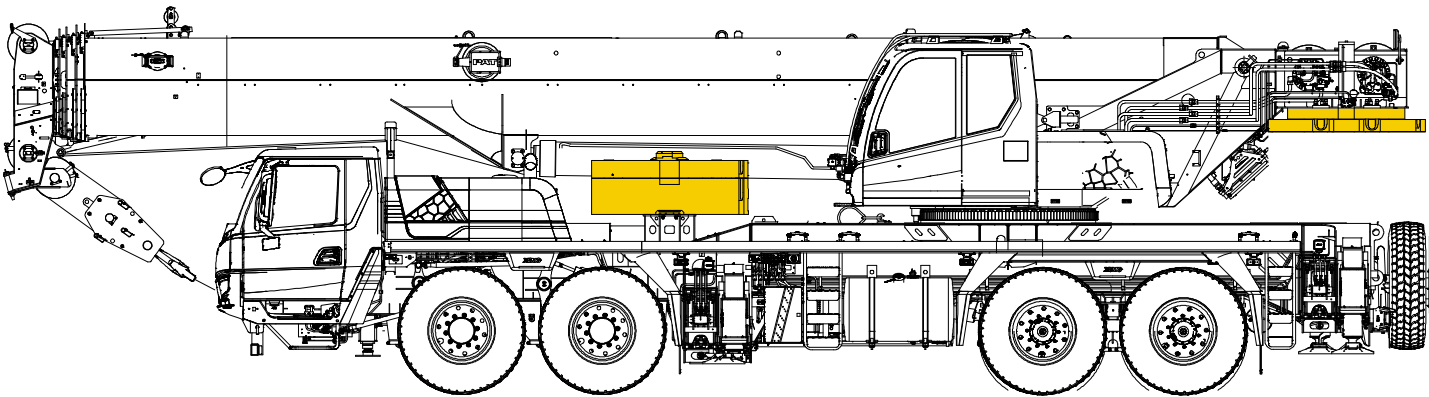
Weight

	1	2	3	4	Total weight
t	11.8	11.8	11.9	11.9	47.4 ¹⁾
t	15.8	15.8	18.8	18.8	69.2 ²⁾

1) Road travel configuration
Superstructure: 60 t hook block is carried; jib, counterweight and other hook blocks are excluded.
Chassis: spare tire and its bracket are carried.
Maximum travel speed: 80 km/h.



2) In the short-distance transfer configuration
Superstructure: 60 t hook block is carried; counterweight slabs of 2.5 t+5.5 t are carried below the turntable; counterweight slabs of 10.5 t+1 t+1 t are carried in front of the frame.
Chassis: spare tire and its bracket are carried.
Maximum travel speed: 20 km/h.



Weight

	Parts of line	Hook block weight (kg)	Dimensions (mm)	Notes
90 t	13	700	1735×625×520	Single-hook
60 t	8	470	1481×478×471	Single-hook
35 t	5	360	1485×560×410	Single-hook
7 t	1	210	717×370×370	Single-hook

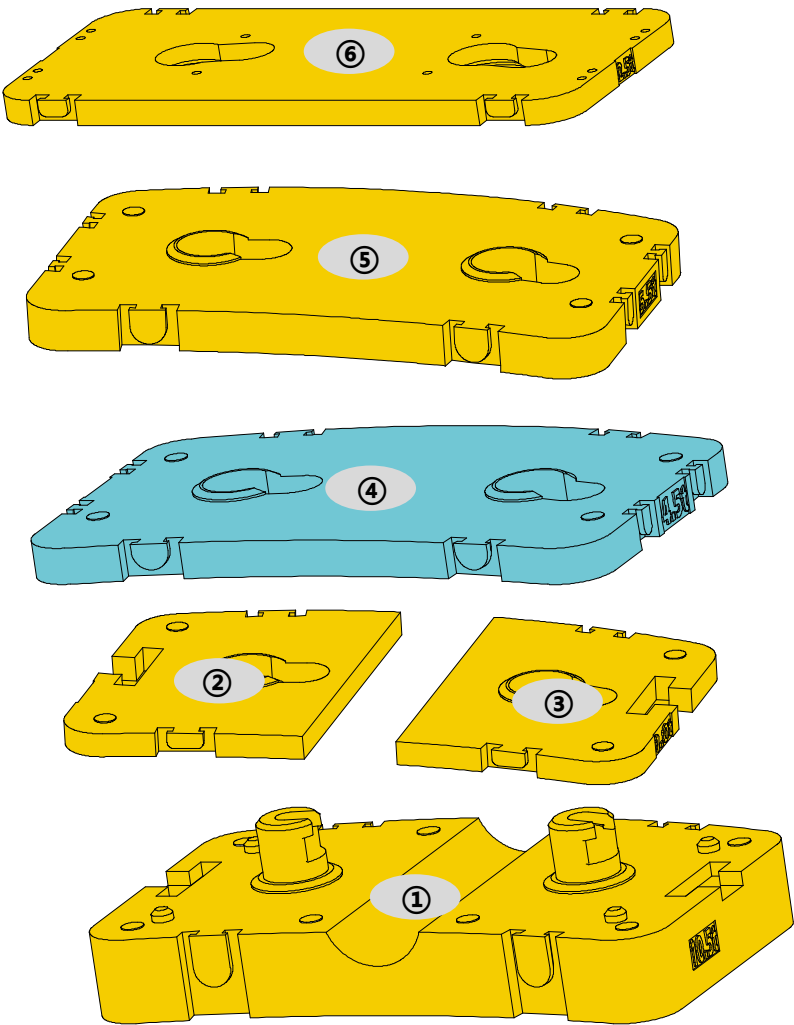
Working speeds



385/95R25	80	45%



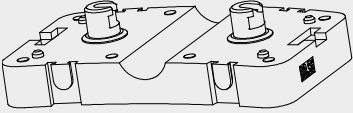
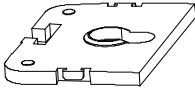
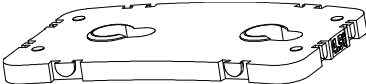
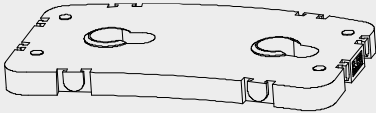
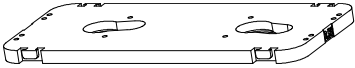
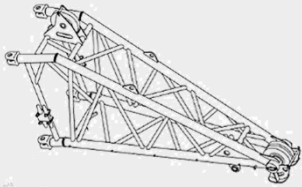
	0-140 m/min, single line, no load	6.8 t	20 mm	250 m
	0-90 m/min, single line, no load	6.5 t	20 mm	180 m
	0-1.5 r/min			
	Approx. 58 s for boom luffing from -0.3° to 80.2°			
	Approx. 130 s for boom extending from 13 m to 51 m			



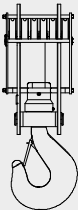
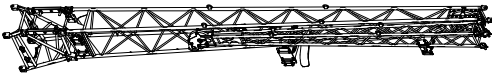
	①	②	③	④	⑤	⑥
Dimensions (L×W×H) (mm)	2790×1674×670	1668×1170×145	1668×1170×145	2790×1674×195	2790×1674×231	2790×1250×115
Weight (t)	10.5	1	1	4.5	5.5	2.5

Operation modes	25 t	23t/22.5t	20.5 t	19.5 t	18.5t/18t	17.5t/17t	16 t
Combinations	①+②+③+④+ ⑤+⑥	①+④+⑤+⑥ /①+②+③+④+⑤	①+②+③+⑤+⑥	①+②+③+④+⑥	①+⑤+⑥/ ①+②+③+⑤	①+④+⑥/ ①+②+③+④	①+⑤
Operation modes	15 t	13t/12.5t	10.5 t	8 t	2.5 t	0 t	
Combinations	①+④	①+⑥/①+②+③	①	⑤+⑥	⑥	—	

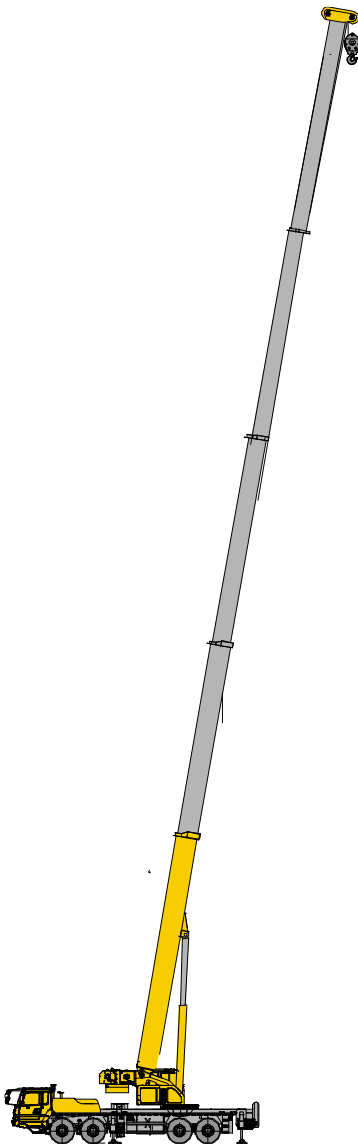
Dimensions of parts to be transported

Name	Illustration	Single weight (kg)	Qty	Dimension (mm)
Counterweight ①		10500	1	2790×1674×670
Counterweight slab ②		1000	1	1668×1170×145
Counterweight slab ③		1000	1	1668×1170×145
Counterweight slab ④		4500	1	2790×1674×195
Counterweight⑤		5500	1	2790×1674×231
Counterweight⑥		2500	1	2790×1250×115
Independent jib head		470	1	3200×2300×1050
Boom extension		620	1	9100×900×1500

Dimensions of parts to be transported

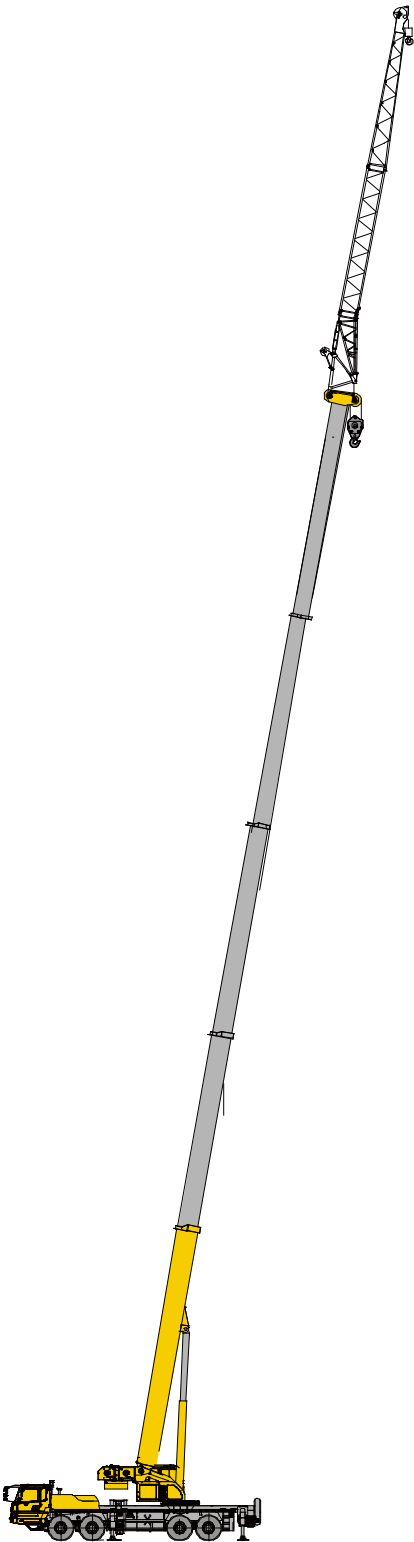
Name	Illustration	Single weight (kg)	Qty	Dimension (mm)
90 t hook block		700	1	1735×625×520
35 t hook block		360	1	1485×560×410
7 t hook block		210	1	717×370×370
Fixed jib and its bracket		1300	1	11100×1045×1600

Boom/jib combinations



Boom

T: 13~51m

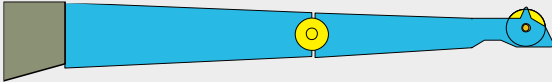


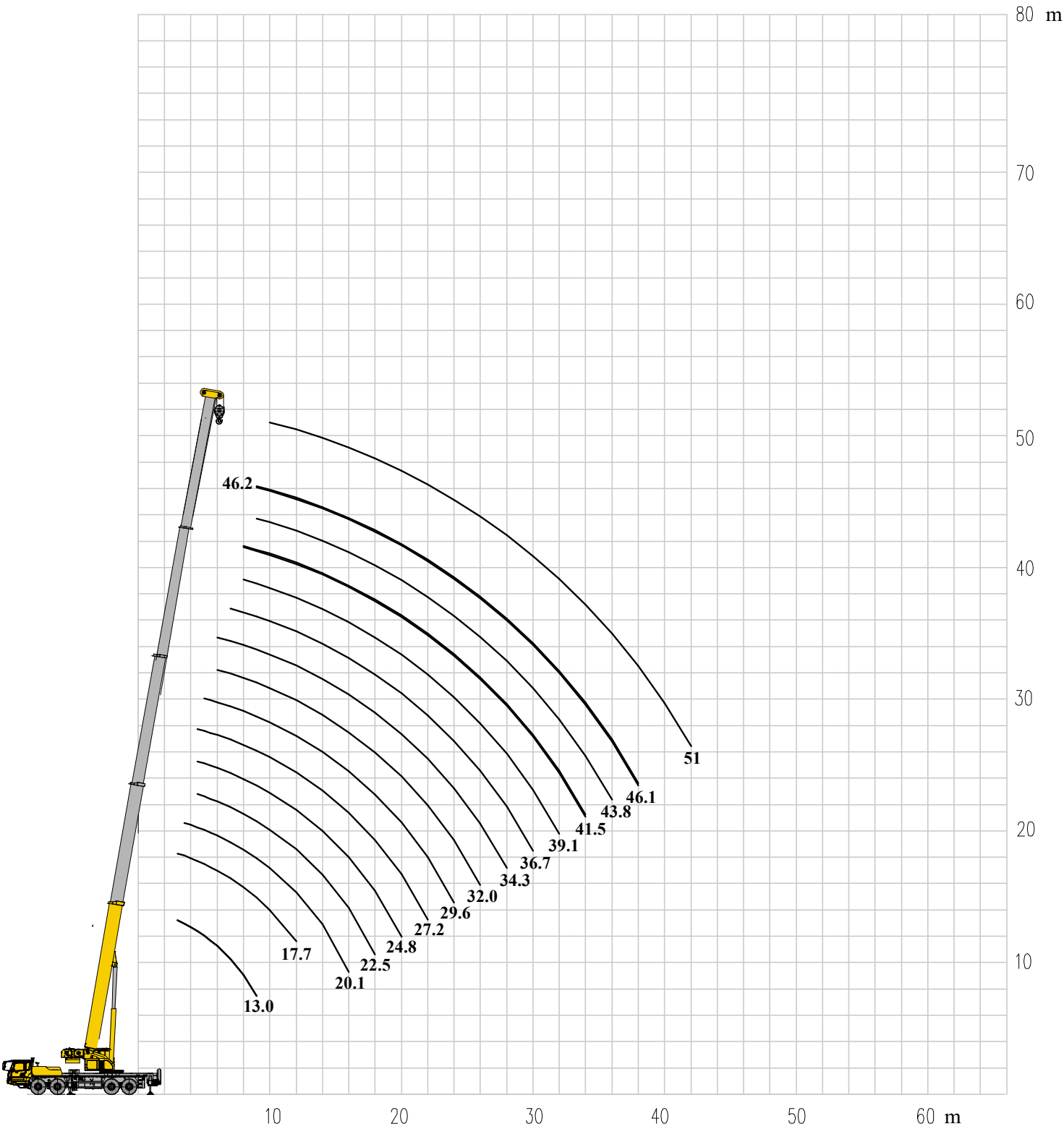
Jib

**T: 51 m
F: 10.5/17.5 m
V: 9 m**

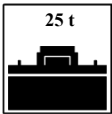
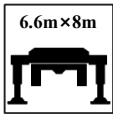
Boom/jib combinations

Components	Structure	Length (m)
Boom extension		9.1
Connecting bracket		1.3
1st jib section		10
2nd jib section		7

Jib – 10.5 m	
Jib – 17.5 m	
Boom extension + jib - 26.5 m	

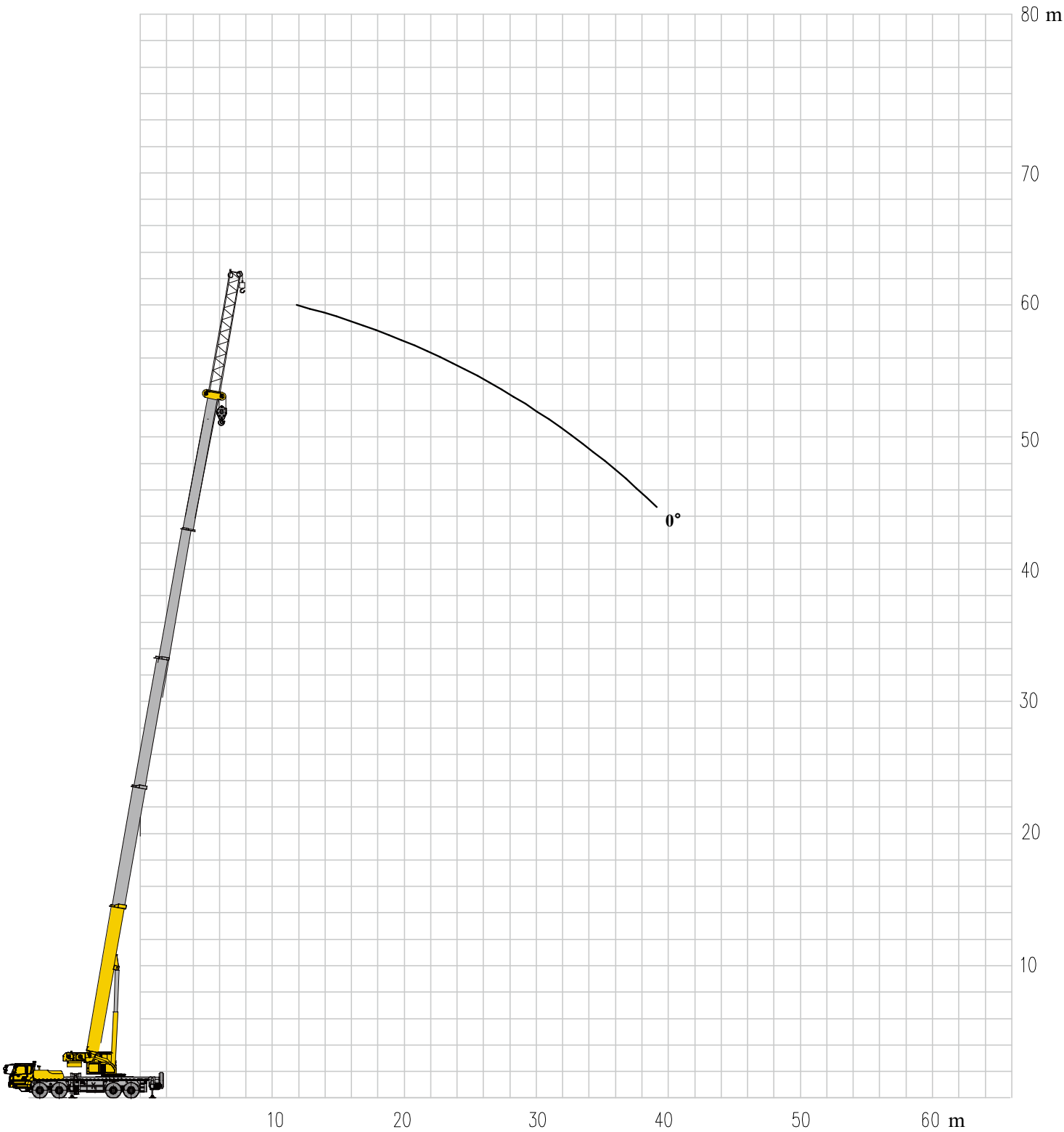


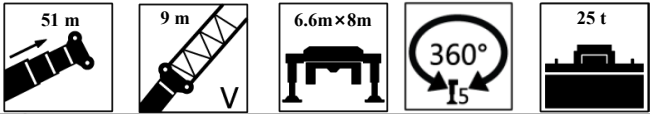
T 13~51 m



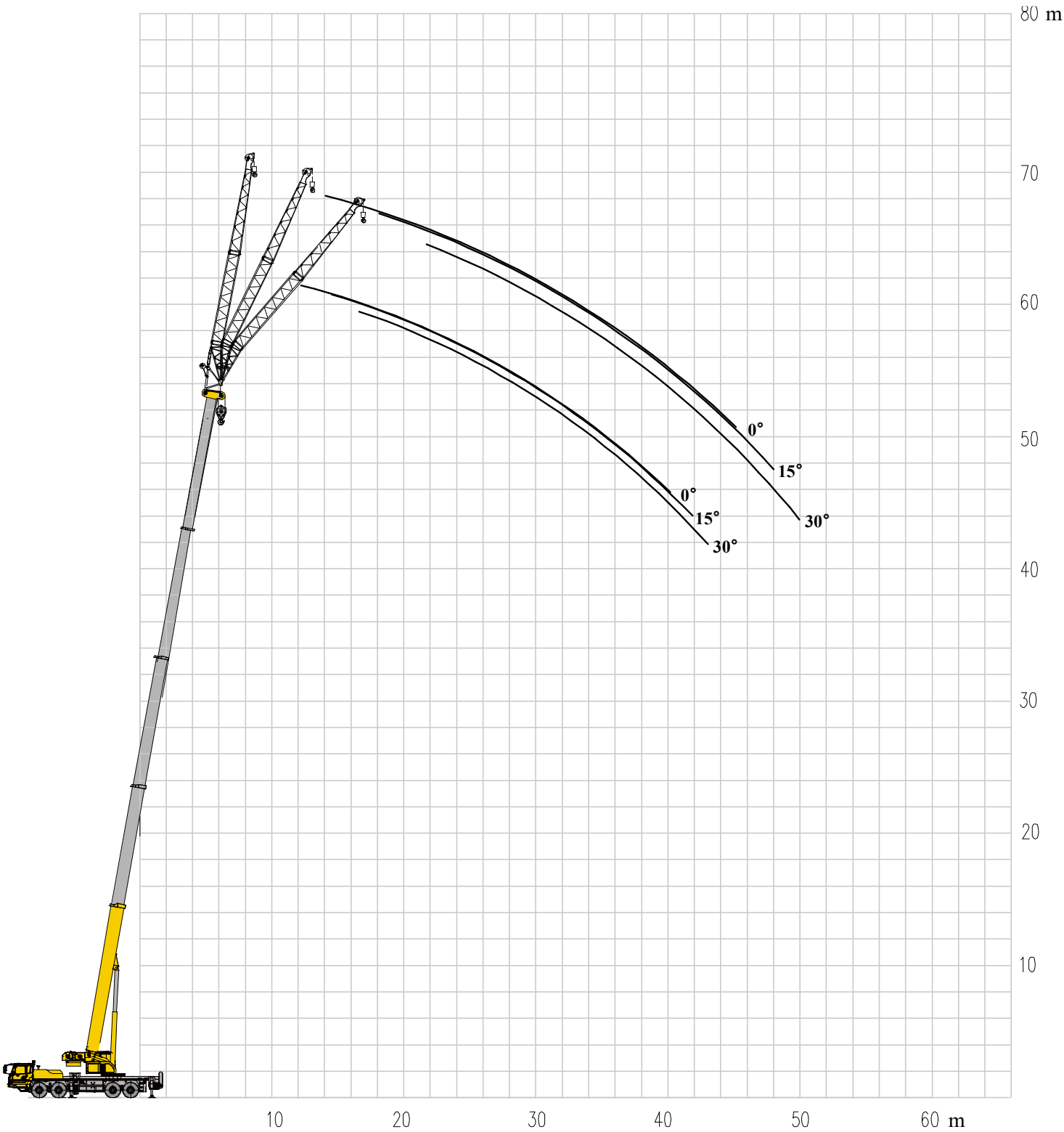
	13	17.7	20.1	22.5	24.8	27.2	29.6	32	34.3	36.7	39.1	41.5	41.5	43.8	46.1	46.2	51	
3	100*																	3
3	80.0	73.0																3
3.5	80.0	72.0																3.5
4	78.0	70.0	38.2	45.0	37.2													4
4.5	75.0	68.0	38.7	47.0	37.6													4.5
5	70.3	66.0	39.5	47.0	38.0	39.5												5
5.5	64.5	62.5	40.0	47.0	38.5	40.0												5.5
6	58.5	57.8	40.6	47.0	39.0	40.5	37.0	39.0										6
7	48.5	48.0	41.5	46.0	40.0	39.0	37.8	39.5	24.8	34.5								7
8	41.7	41.6	42.0	40.8	40.0	36.5	38.5	38.0	25.5	34.5	24.1	19.2	27.5					8
9	36.7	36.1	37.0	36.1	38.0	34.4	36.4	36.2	24.0	32.0	24.9	19.5	26.3	25.0				9
10		31.5	34.0	31.7	34.0	32.6	33.2	34.5	24.0	29.7	25.6	18.5	25.1	24.1	20.8	18.6	16.2	10
12		25.1	27.9	25.2	26.8	28.7	26.9	27.8	22.3	25.6	23.1	18.0	23.1	22.0	19.9	18.1	16.0	12
14			22	18.9	21.2	22.8	20.5	22.1	20.0	21.4	21.1	16.4	20.3	19.8	18.2	16.7	15.5	14
16				14.7	16.7	18.4	16.2	17.6	17.8	17.1	18.3	15.1	17.6	17.7	16.7	15.5	14.5	16
18				11.6	13.6	15.3	13.1	14.4	15.6	14.0	15	13.5	14.3	14.5	14.7	14.3	13.0	18
20					11.2	12.7	10.7	12.1	13.2	11.5	12.6	12.4	12	12.1	12.2	12.9	11.8	20
22						10.8	8.8	10.1	11.3	9.6	10.7	11.3	10	10.2	10.3	11	10.6	22
24							7.3	8.6	9.7	8.1	9.2	10.1	8.5	8.6	8.8	9.5	9	24
26								7.4	8.5	6.8	7.9	8.7	7.3	7.4	7.5	8.2	7.7	26
28									7.4	5.8	6.8	7.7	6.2	6.3	6.4	7.1	6.7	28
30										4.9	5.9	6.8	5.3	5.5	5.6	6.2	5.8	30
32											5.1	6.0	4.5	4.7	4.8	5.5	5	32
34												5.3	3.8	4.0	4.1	4.8	4.3	34
36														3.4	3.5	4.2	3.8	36
38															3	3.7	3.2	38
40																	2.8	40
42																	2.3	42
Cylinder I	0	50	0	100	50	0	100	50	0	100	50	0	100	100	100	50	100	Cylinder I
Cylinder II	0	0	25	0	25	50	25	50	75	50	75	100	67	75	83	100	100	Cylinder II

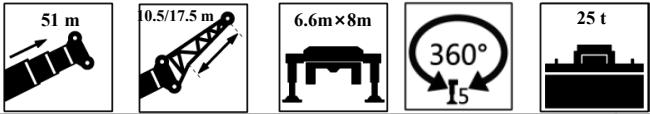
* Capacity class.



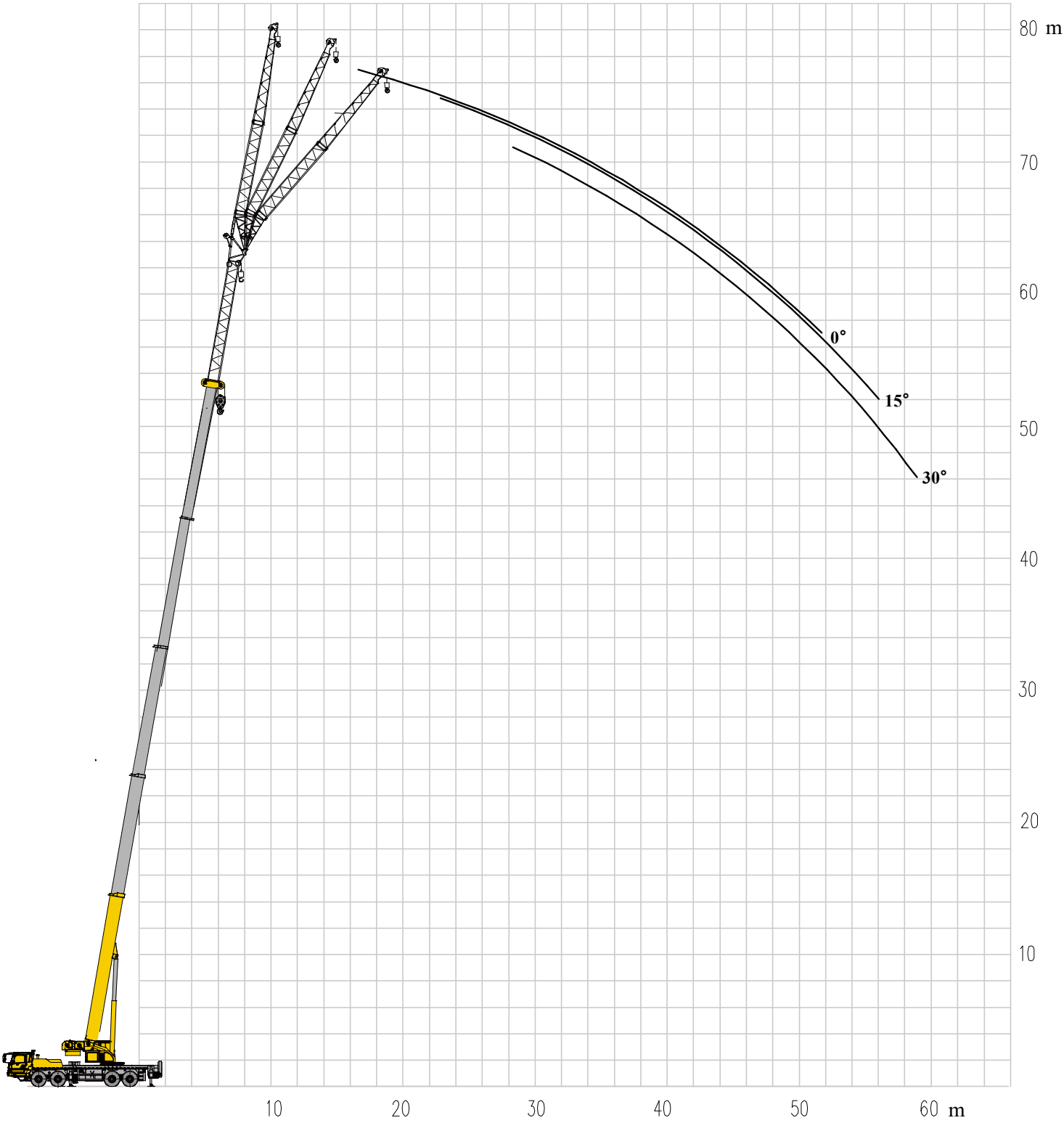


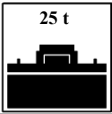
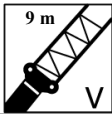
	9	
	0°	
80	6.5	80
78	6.5	78
75	6.5	75
72	6.5	72
70	6.5	70
65	6.0	65
60	4.8	60
55	3.7	55
50	2.8	50



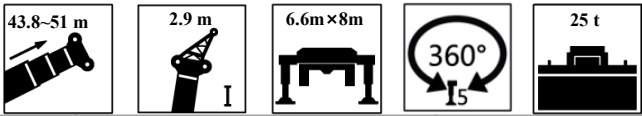


	10.5			17.5			
	0°	15°	30°	0°	15°	30°	
80	6.5	6.0	3.5	5.5	3.5	2.0	80
78	6.5	5.5	3.2	5.0	3.2	1.9	78
75	6.5	5.3	3.0	5.0	3.0	1.8	75
72	6.0	5.0	2.8	4.5	2.8	1.7	72
70	5.5	4.7	2.7	4.2	2.6	1.7	70
65	4.5	4.0	2.6	3.5	2.5	1.6	65
60	3.8	3.4	2.4	2.7	2.3	1.6	60
55	3.0	2.8	2.3	2.4	2.2	1.4	55
50	2.7	2.5	2.3	2.2	2.0	1.4	50





	9+17.5			
	0°	15°	30°	
80	3.5	3.0	2.0	80
78	3.5	3.0	1.8	78
75	3.5	2.8	1.6	75
72	3.2	2.8	1.5	72
70	3.0	2.6	1.5	70
65	2.8	2.4	1.4	65
60	2.6	2.2	1.3	60
55	2.0	1.9	1.3	55
50	1.4	1.3	1.2	50



	43.8	46.2	51	
	2.9			
	0°			
9	16.3			9
10	16.3	13.1		10
12	15.8	12.7	9.5	12
14	14.5	11.9	9.5	14
16	13.0	11.0	9.5	16
18	11.6	10.0	9.4	18
20	10.3	9.1	8.5	20
22	8.7	8.3	7.7	22
24	7.4	7.6	7.0	24
26	6.3	7.0	6.4	26
28	5.4	6.1	5.6	28
30	4.6	5.3	4.9	30
32	4.0	4.6	4.2	32
34	3.4	4.1	3.6	34
36		3.5	3.1	36
38			2.6	38
40			2.2	40

Table of main technical parameters

Category	Item		Unit	Parameters
Dimensions	Dimensions (L×W×H)		mm	15240×2800×3920
	Axle spacing		mm	1500+4700+1500
	Track (front/rear)		mm	2400/2336
	Front/rear overhang		mm	2626/2650
	Front/rear extension		mm	2264/0
Weights	Maximum permissible total weight		kg	47400
	Axle load	Axle 1	kg	11800
		Axle 2	kg	11800
		Axle 3	kg	11900
		Axle 4	kg	11900
Power	Engine model		——	WP12G375E300
	Rated power/rpm		kW/(r/min)	276/1900
	Maximum output torque/rpm		N.m/(r/min)	1800/1000-1400
Travel	Maximum travel speed		km/h	80
	Minimum stable travel speed		km/h	1.5~2.5
	Minimum turning diameter		m	≤20
	Minimum turning diameter at boom head		m	≤26.4
	Minimum ground clearance		mm	280
	Approach angle		°	11
	Departure angle		°	12
	Braking distance (initial speed at 30km/h)		m	≤10
	Maximum grade ability		%	≥45
	Fuel consumption per 100 km		L	45
Noise	Exterior noise level when accelerating		dB(A)	≤84
	Noise level at seated position		dB(A)	≤90

Table of main technical parameters

Category	Item			Unit	Parameters
Main performance	Maximum rated total lifting capacity			t	100
	Minimum rated working radius			m	3
	Slewing radius at turntable tail	At counterweight		mm	4450
		At auxiliary winch		mm	4300
	Maximum load moment	Base boom		kN.m	3477
		Fully-extended boom		kN.m	2313
		Fully-extended boom + jib		kN.m	1191
	Outrigger span	Longitudinal		m	6.6
		Lateral		m	8/5.9
	Lifting height	Base boom		m	13.4
		Fully-extended boom		m	51
		Fully-extended boom + jib		m	77
	Boom length	Base boom		m	13
		Fully-extended boom		m	51
		Fully-extended boom + jib		m	77.5
	Jib offset angle			°	0, 15, 30
Working speeds	Time for raising boom			s	≤58
	Time for fully extending the boom			s	≤130
	Maximum slewing speed			r/min	≥1.5
	Time for extending/retracting outriggers	Outrigger beams	Retracting	s	≤30
			Extending	s	≤30
		Outrigger jacks	Retracting	s	≤40
			Extending	s	≤45
	Lifting 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
	Slewing radius of variable-position counterweight
	Hook block
	Parts of line
	Boom length combination
	Wind speed
	Configuration
	Optional equipment
	Wire rope length
	Wire rope diameter
	Maximum single line pull
	Maximum working speed
	Main winch
	Auxiliary winch

	Boom
	Boom length
	Working radius
	Lifting height with boom
	Boom angle
	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

Description of symbols

	Chassis
	Outrigger span
	Tires
	Axle load
	Grade ability
	Travel speed
	EN 13000 standard

	Luffing
	Telescoping
	Slewing
	360° slewing
	360° slewing with the fifth jack down
	Side and rear operation
	Operation over front
	Operation over rear