

XCR90 Rough Terrain Crane

Technical specifications



XCR90

XCMG ROUGH TERRAIN CRANE
90T LIFTING CAPACITY



90t



48m



63.1m

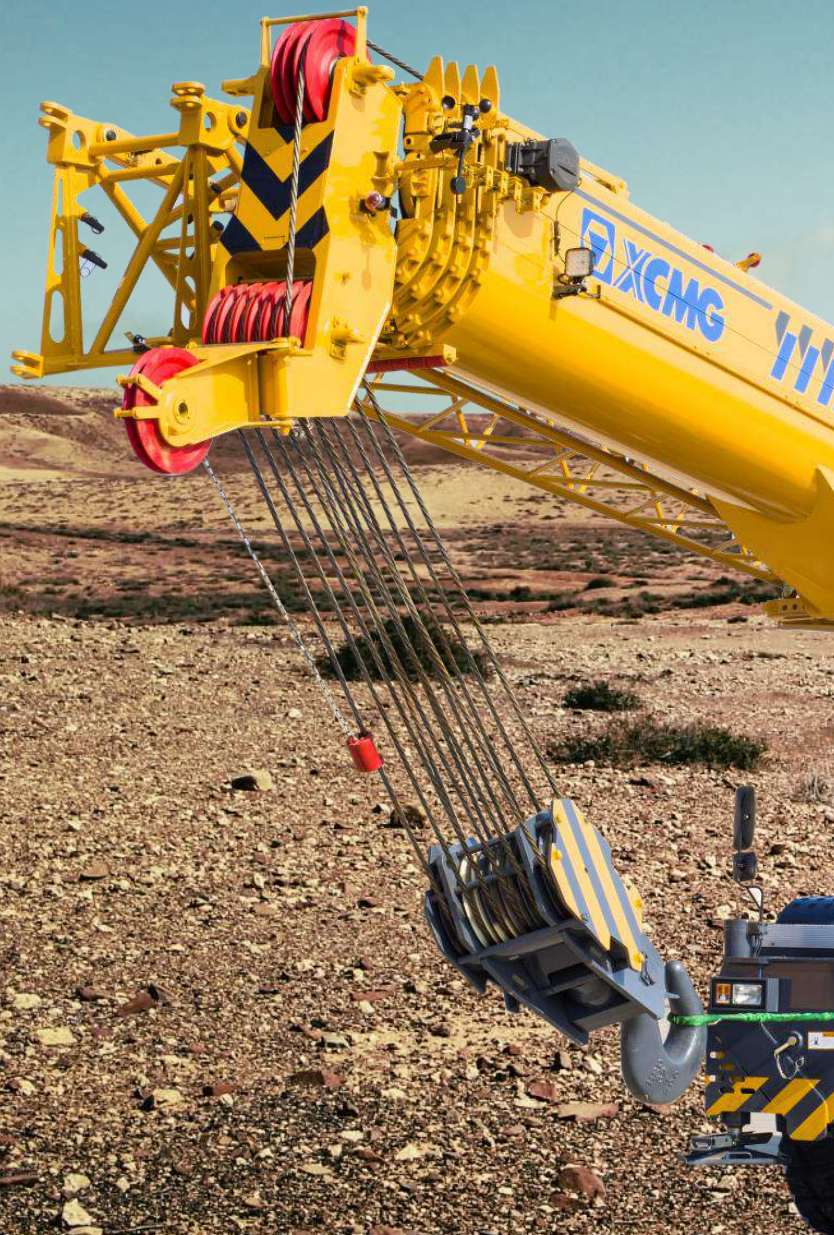
Technical Features

High performance

- 5-section boom of 48 m is the longest in the industry, the length of boom and jib can reach 61 m after jib is installed.
- Large displacement dual-variable plunger pump with confluent main valve adopting XCMG patented technology integrated, leads to improvement by 13% in operation efficiency.
- Large power engine + low speed large torque transmission system with hydraulic torque converter; acceleration performance is improved by 10%, the max. travel speed is 40 km/h and the max. grade ability is 70%.

Superb lifting performance

- 5-section boom of 48m.
- 2 jib sections of 9.2m-16m , with 0°, 15° and 30° jib offset angles.
- 3 boom telescoping modes, wider working radius and better application adaptability.



Green and energy-saving

- New energy-saving hydraulic system with double-variable pump combined with a valve-controlled load-sensing system. The fuel consumption under different working conditions can be reduced by 10%~15%.
- ECO energy-saving control, fuel consumption under different working conditions can be reduced by 5%-9%.
- Torque converter with lockup function, low speed large torque, high speed and high efficiency, and driving fuel consumption is reduced by 20%.

Science and technology intelligence

- Dedicated driving safety active protection technology is adopted to realize classified management, such as automatic warning, gear and speed limit, automatic brake according to different fault categories, in order to improve the active safety of the driving vehicle.
- Intelligent boom system can standardize the operation of the users and improve the operation safety; it provides users with the most effective lifting plan, and improves the working efficiency.
- Fault self-diagnosis system is adopted; there are 285 control nodes; automatic inspection and automatic diagnosis can be shown in real-time on the display.

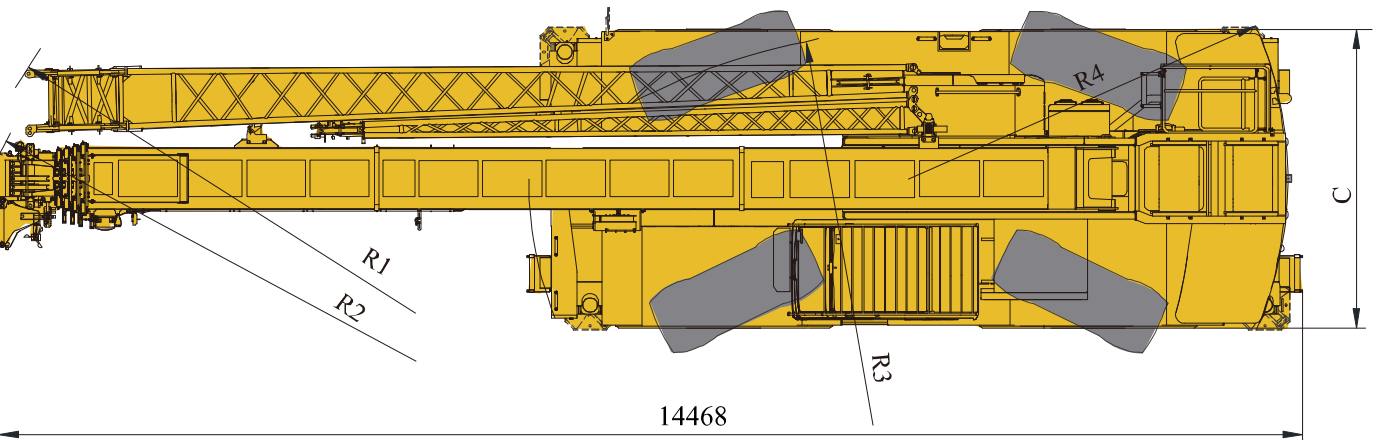
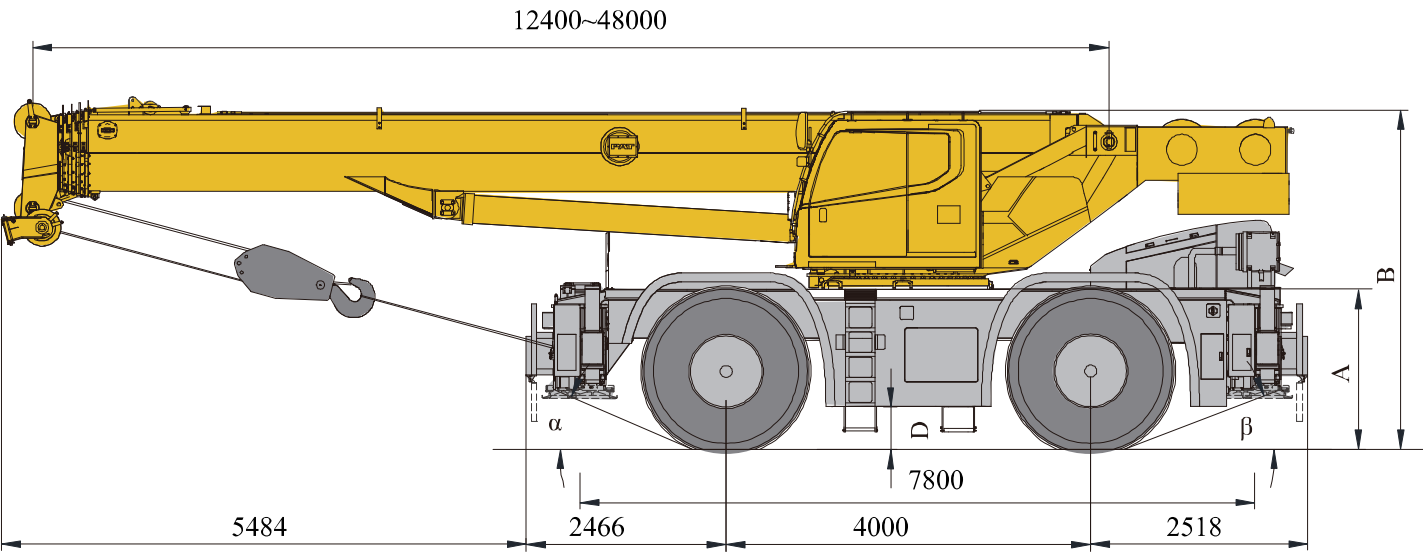


Contents

Contents

Dimensions	2
Technical specifications	3
Weight / Working speeds	4
Counterweight	5
Boom / Jib combinations	6-7
Boom	8-10
Jib	11-13
Description of symbols	14
Table of main technical parameters	15-16
Notes	17

Dimensions



	α	β	A	B	C	D	R1	R2	R3	R4
29.5R25	24°	24°	1896	3898	3280	550	11264	11589	6500	4544

Technical specifications



Boom	1 basic boom and 4-telescoping sections, U-shape cross section welding structure. Double cylinder plus ropes telescoping mechanism. 6 pulleys on boom head are standard. Boom length:12.4 m ~ 48 m.	●	Brakes	Service brake: double-circuit hydraulic disc brake, acting on all wheels. Automatically braking and alarm are available when the pressure in braking system is too low. Parking brake: spring-loaded brake, acting on front axles, hydraulic-released independent disc brake.	●
Jib	Two-section lattice structure. Three offset angles of 0°, 15° and 30° are available. It is stowed along the side of the boom. Jib length 10.5m~17.5 m.	●	Hydraulic system	A dual-variable displacement pump, used for hoisting, elevating and telescoping operations, and a gear pump, used for slewing, outrigger, steering and braking operations; a load sensitive proportional multi-way change valve is used as main valve; an independent hydraulic oil radiator. Tank capacity: approx. 1057 L.	●
Frame	Made of high strength fine grained steel, welded torsion-resistant frame type construction with large cross-section, high load-bearing capacity.	●	Operating mode	Hydraulic controlled pilot operation system is equipped with two levers controlling the main movements of the crane.	●
Outrigger	4 outriggers, H-shaped arrangement, which are controlled by electrical and hydraulic and located at both sides of chassis frame.	●	Electrical System	24 V DC, two sets of 12 V battery in series.	●
Engine	SC9DK260.1G3, in line, six-cylinder water-cooled compression ignition diesel engine, manufactured by Shanghai, with rated power of 192/2000(kW/(r/min)), max. torque of 1110/(1200-1600)(N.m/(r/min)), off-road EU Stage IIIA emission standard compliant Fuel tank capacity: approx. 305 L	○	Main winch system	The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake and a balance valve equipped.	●
Engine	QSB6.7-C260-30, in line, six-cylinder water-cooled compression ignition diesel engine, manufactured by Dongkang, with rated power of 194/2200(kW/(r/min)), max. torque of 990/1500(N.m/(r/min)), off-road EU Stage IIIA emission standard compliant Fuel tank capacity: approx. 305 L	○	Auxiliary winch system	The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake and a balance valve equipped.	○
Transmission	6WG210, automatic transmission from ZF Germany, with 6 forward and 3 reverse gears	●	Slewing system	Single-row four-point ball contact slewing ring, driven by a hydraulic motor through planetary gear reducer, and with a normally closed brake fitted.	●
Axles	Both front and rear axles are for driving and steering, and the axles have features of great load bearing capacity	●	Operator's cab	Tilttable cab, with sliding door and adjustable seat equipped. It is equipped with safe glass and roof protective grille. Sun shade is available for windshield and roof window. Heater and air conditioner, radio, 12 V and 24 V DC outlets are standard.	●
Suspensions	Front axle is rigidly connected with frame; rear axle is equipped with swing hydraulic suspensions, which have cushioning function when driving on roads; the rear suspension cylinder may be locked to rigid state so as to meet the requirement for travel with a load suspended, increasing operation stability.	●	Safety devices	Hydraulic balance valve, hydraulic relief valve, hydraulic double-way valve and LMI. Lowering limiter is equipped in winch to prevent rope over-releasing. Anti-two block is fitted on the boom head to prevent rope over-winding.	●
Tires	4 specialized off-road, large bearing capacity. Tire specifications: 29.5R25.	●	Counter weight	10 t 1.5t.	● ○
Steering	Front axle independent steering, tight turning radius steering, crab walk steering and rear axle independent steering modes are available. The steering angle can be self-adjusted when changing mode.	●	Hook Block	55 t hook block, 7 t hook block	●

Product parts list is as mentioned above. Please refer to the product quotation for specific parts.

Symbol explanation:

- — it means the standard configuration;
- — it means the optional configuration.

Weight

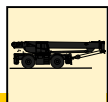


Axle	1	2	Gross vehicle weight
t	28.723	24.775	53.498 (10t counterweight)
	27.530	27.468	54.998 (10t counterweight + Optional 1.5t counterweight)



Hook	No. of lines	Weight (kg)	Remarks
55t	8	470	Single hook
7t	1	210	Single hook

Working speeds



29.5 R 25



34.8

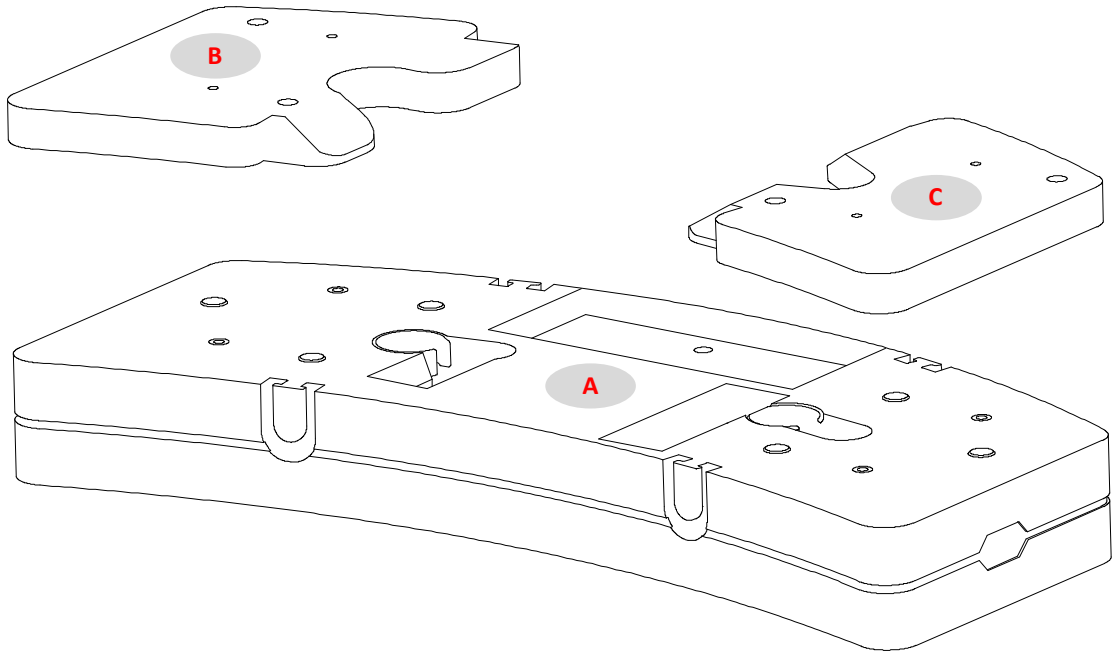


65%



Drive	Working speed	Max. single line pull	Rope diameter/ length
	0-145 m/min, no load, 4th layer	78kN	20mm/240m
	0-90 m/min, no load, 4th layer	78kN	20mm/150m
	0-2r/min		
	Approx. 55s for boom elevation from -1.5° to 80°		
	Approx. 110s for boom extension from 12.4m to 48m		

Counterweight

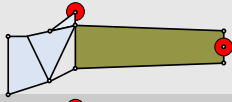


Counterweight	A	B (optional)	C (optional)
Size (L×W×H) mm	3260×1539×550	1372×980×124	1372×980×124
Weight t	10	0.75	0.75

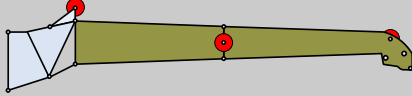
Working mode	0t	10t	10t+1.5t (optional)
Combinations	---	A	A+B+C

Boom / Jib combinations

Jib – 10.5m



Jib – 17.5m



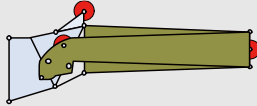
Component

Structure

Size (L×W×H) mm

Weight /kg

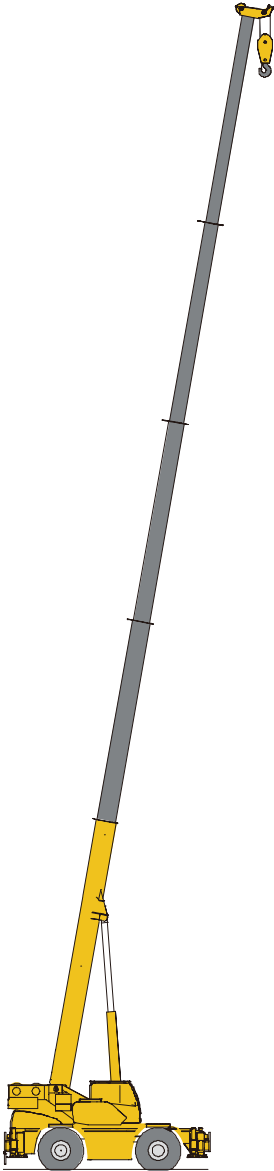
First and second jib section
assembly + Connecting bracket



(Folded) : 11100×900×1350

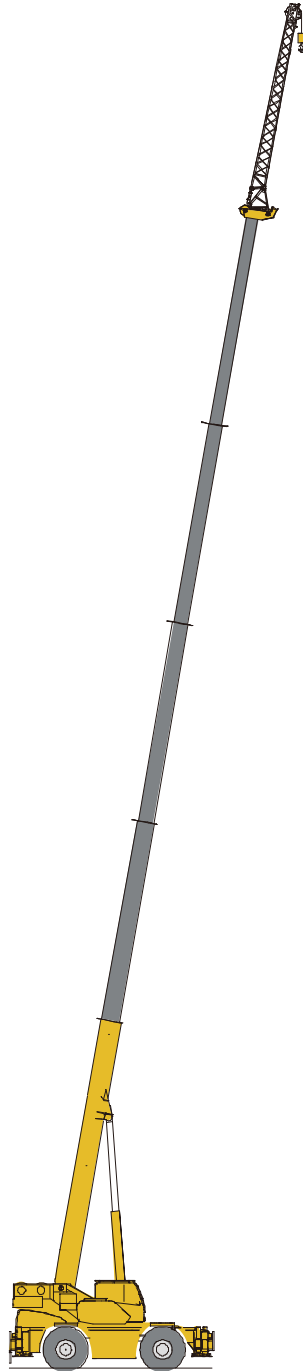
1330

Boom / Jib combinations



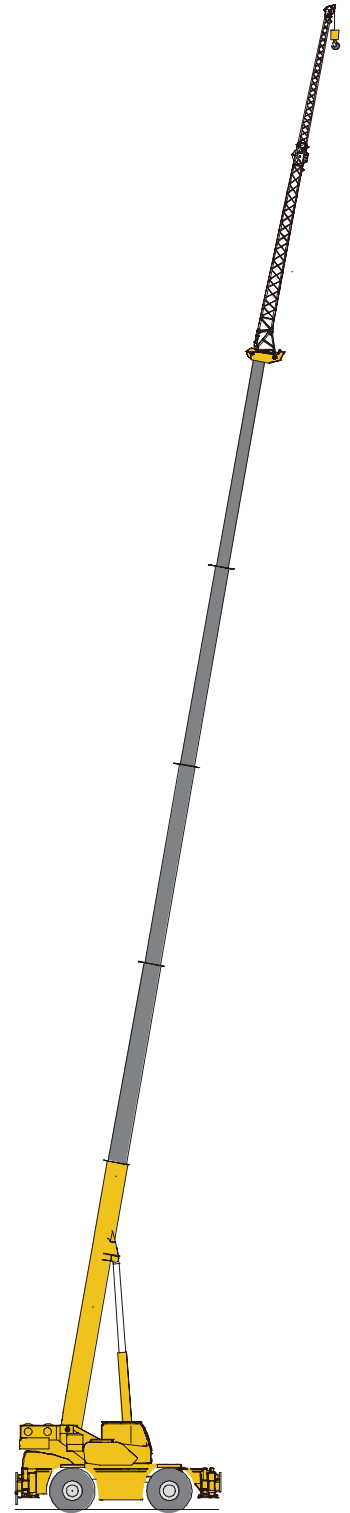
Telescopic boom

12.4~48m



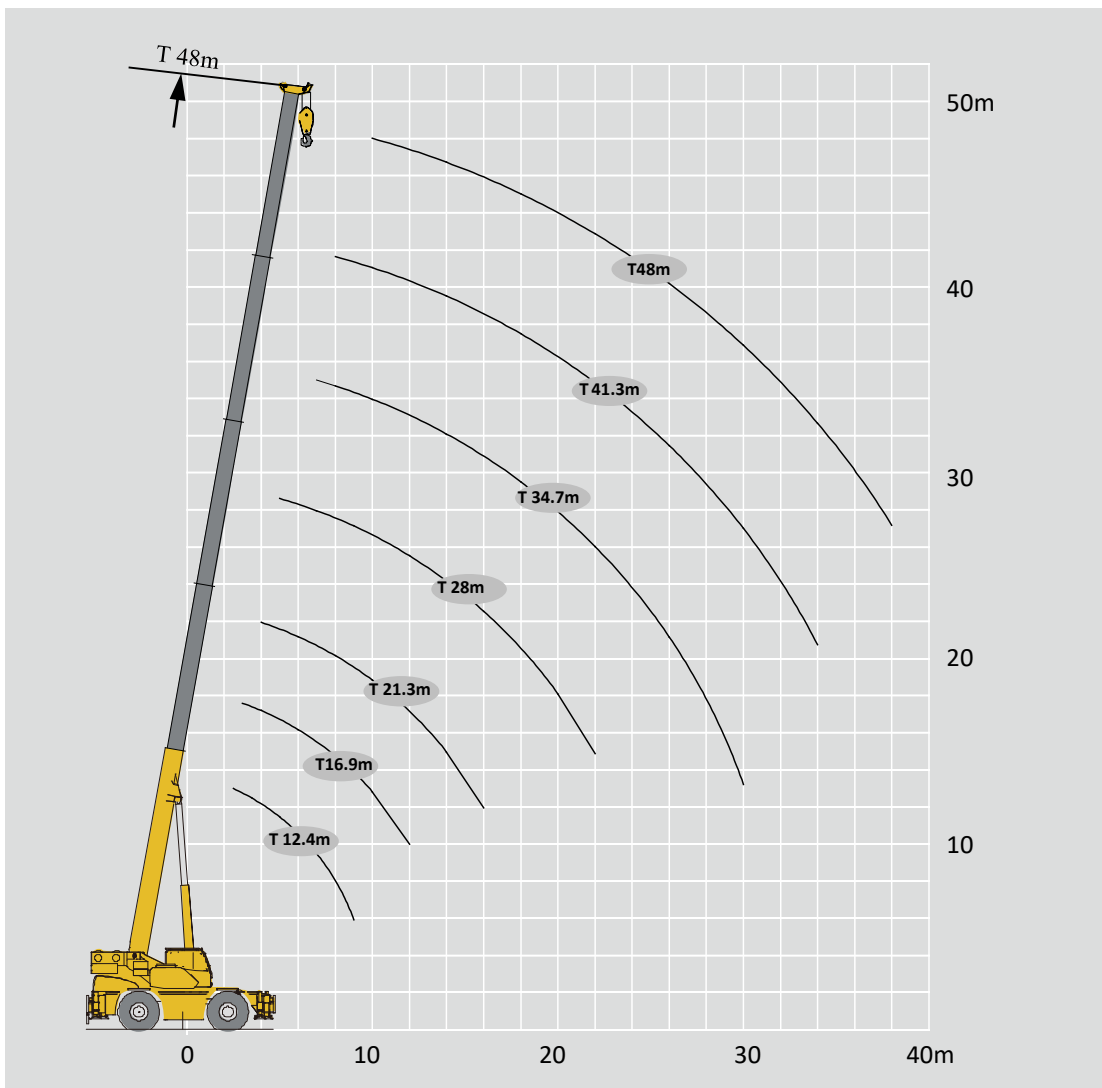
Telescopic boom + First jib section

48m+10.5m



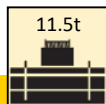
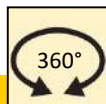
Telescopic boom + First and second jib sections

48m+17.5 m



Lifting capacities

Counterweight-11.5t



m	Lifting Capacity (t)																m
	12.4m	16.9m	21.3m	28m	34.7m	41.3m	48m	19.1m	25.8m	32.4m	39.1m	23.5m	30.2m	36.9m	43.6m		
2.5	90.0*															2.5	
3	80.0	63.3														3	
3.5	75.0	63.3														3.5	
4	72.4	63.3	46.0					35.1								4	
5	57.9	57.9	45.0	33.5				35.0	35.3			34.8				5	
6	48.3	48.3	40.0	33.5				35.0	33.9	23.3		34.8	32.4			6	
7	41.4	41.0	38.0	31.9	25.4			35.0	31.6	21.9		34.8	29.7			7	
8	35.0	35.0	36.4	29.5	23.3	17.3		35.0	29.7	20.7	16.1	34.8	27.9	21.0		8	
9	28.8	28.0	29.5	27.5	21.9	17.3		33.2	27.9	19.5	15.4	32.3	26.7	20.1	13.1	9	
10		24.0	23.7	25.3	20.5	17.2	11.4	26.7	26.4	18.4	14.8	26.2	25.3	19.2	13.0	10	
12		16.6	16.1	17.7	18.3	16.6	11.4	18.9	20.1	16.7	13.6	18.4	19.2	17.6	12.5	12	
14			11.8	13.1	14.0	14.4	11.4	14.2	14.9	15.1	12.1	13.7	14.5	15.1	12.0	14	
16			8.7	9.9	10.8	11.3	10.3		11.7	12.4	10.8	10.5	11.3	11.9	10.6	16	
18				7.7	8.6	9.1	9.1		9.4	9.8	9.8	8.3	8.9	9.6	9.5	18	
20				6.1	6.7	7.3	7.7		7.6	8.0	8.6		7.3	7.5	8.1	20	
22				4.8	5.4	6.0	6.3			6.7	6.9		5.8	6.3	6.7	22	
24					4.5	4.9	5.3			5.6	5.8		4.8	5.4	5.6	24	
26					3.6	3.8	4.4			4.7	4.9		3.9	4.5	4.8	26	
28					2.6	3.2	3.6				4.3			3.7	4.0	28	
30					2.0	2.5	3.0				3.6			3.0	3.4	30	
32						2.0	2.3				3.1				2.7	32	
34						1.6	1.9								2.2	34	
36							1.4								1.7	36	
38							1.0								1.4	38	
2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%	2n	
3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	3rd	
4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	4th	
5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	5th	

*The lifting load with a * followed is available only when the boom sheave block is used together with the single top, with 13 parts of line.

Lifting capacities

Counterweight-10t

12.4-48m



7.8m×7.7m



360°

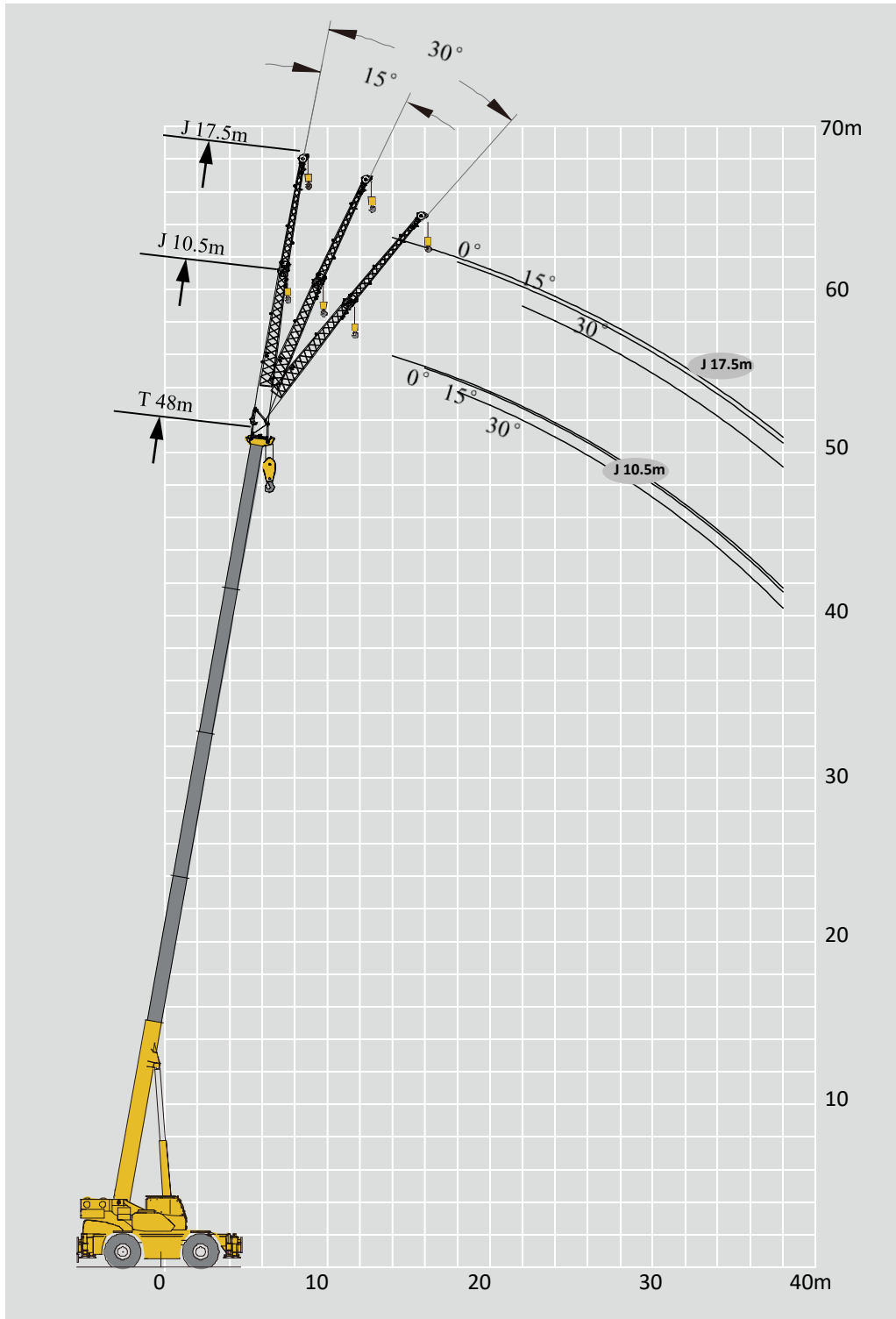


10t







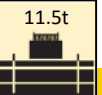
m	12.4m	16.9m	21.3m	28m	34.7m	41.3m	48m	19.1m	25.8m	32.4m	39.1m	23.5m	30.2m	36.9m	43.6m	m
2.5	90.0*															2.5
3	80.0	63.3														3
3.5	75.0	63.3														3.5
4	72.4	63.3	46.0					35.1								4
5	57.9	57.9	45.0	33.5				35.0	35.3			34.8				5
6	48.3	48.3	40.0	33.5				35.0	33.9	23.3		34.8	32.4			6
7	41.4	41.0	38.0	31.9	25.4			35.0	31.6	21.9		34.8	29.7			7
8	35.0	35.0	35.0	29.5	23.3	17.3		35.0	29.7	20.7	16.1	34.8	27.9	21.0		8
9	28.7	28.0	27.9	27.5	21.9	17.3		31.5	27.9	19.5	15.4	30.6	26.7	20.1	13.1	9
10		22.4	22.0	23.9	20.5	17.2	11.4	25.3	26.4	18.4	14.8	24.5	25.3	19.2	13.0	10
12		15.3	14.9	16.7	18.3	16.6	11.4	17.7	19.0	16.7	13.6	16.7	18.1	17.6	12.5	12
14			10.6	12.3	14.0	13.7	11.4	13.2	14.1	14.8	12.1	12.2	13.6	14.2	12.0	14
16			7.7	9.2	10.8	10.6	10.3		11.0	11.7	10.8	9.3	10.6	11.1	10.6	16
18				7.1	7.8	8.4	8.8		8.8	9.2	9.7	7.0	8.2	8.9	9.3	18
20				5.5	6.2	6.8	7.2		7.2	7.5	8.1		6.7	7.0	7.6	20
22				4.2	4.9	5.5	5.9			6.2	6.3		5.3	5.8	6.3	22
24					3.9	4.5	4.8			5.2	5.3		4.3	4.8	5.2	24
26					3.1	3.4	4.0			4.4	4.4		3.5	4.0	4.4	26
28					2.4	2.8	3.3				3.9			3.2	3.6	28
30					1.8	2.2	2.7				3.2			2.6	3.0	30
32						1.8	1.9				2.8				2.3	32
34						1.3	1.7								1.9	34
36							1.2								1.5	36
38							0.9								1.1	38
2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%	2n
3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	3rd
4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	4th
5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	5th

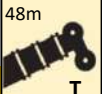



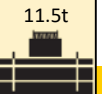
* The lifting load with a * followed is available only when the boom sheave block is used together with the single top, with 13 parts of line.



Lifting capacities

J 10.5-17.5m

		 48m T	 10.5m J	 7.8m×7.7 m	 360°	 11.5t	48 m+10.5m		
		0°		15°		30°			
m								m	
14		5.5						14	
16		5.5		4.5				16	
18		5.5		4.5		2.6		18	
20		5.5		4.4		2.5		20	
22		5.2		4.1		2.4		22	
24		4.5		3.8		2.2		24	
26		3.8		3.6		2.1		26	
28		3.1		3.2		2.0		28	
30		2.5		2.6		2.0		30	
32		2.2		2.1		1.9		32	
34		1.8		1.8		1.8		34	
36		1.4		1.5		1.5		36	
38		1.0		1.1		1.3		38	

		 48m T	 17.5m J	 7.8m×7.7 m	 360°	 11.5t	48 m+17.5m		
		0°		15°		30°			
m								m	
14		2.8						14	
16		2.8						16	
18		2.8		2.1				18	
20		2.8		2.0				20	
22		2.8		1.8		1.1		22	
24		2.8		1.7		1.1		24	
26		2.7		1.6		0.9		26	
28		2.5		1.5		0.9		28	
30		2.3		1.3		0.9		30	
32		2.1		1.2		0.8		32	
34		1.8		1.2		0.8		34	
36		1.5		1.1		0.8		36	
38		1.2		1.1		0.8		38	

Lifting capacities




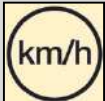










J 10.5-17.5m

m	48 m+10.5m			m
	0°	15°	30°	
14	5.5			14
16	5.5	4.5		16
18	5.5	4.5	2.6	18
20	5.5	4.4	2.5	20
22	5.2	4.1	2.4	22
24	4.5	3.8	2.2	24
26	3.8	3.6	2.1	26
28	3.1	3.2	2.0	28
30	2.5	2.6	2.0	30
32	2.0	2.1	1.8	32
34	1.6	1.6	1.7	34
36	1.2	1.3	1.4	36
38	0.9	1.0	1.2	38

m	48 m+17.5m			m
	0°	15°	30°	
14	2.8			14
16	2.8			16
18	2.8	2.1		18
20	2.8	2.0		20
22	2.8	1.8	1.1	22
24	2.8	1.7	1.1	24
26	2.7	1.6	0.9	26
28	2.5	1.5	0.9	28
30	2.3	1.3	0.9	30
32	2.0	1.1	0.7	32
34	1.6	1.1	0.7	34
36	1.3	1.0	0.7	36
38	1.0	1.0	0.7	38

Description of symbols

Symbol glossary

	Outriggers		Axle
	Radius		Driving speed
	Boom angle		Grade ability
	Boom length		Tires
	Hook block		Counterweight
	360° rotation		Superstructure
	Winch		Rough terrain crane

Crane specific symbols

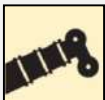

	Boom		Jib
--	------	---	-----

Table of main technical parameters

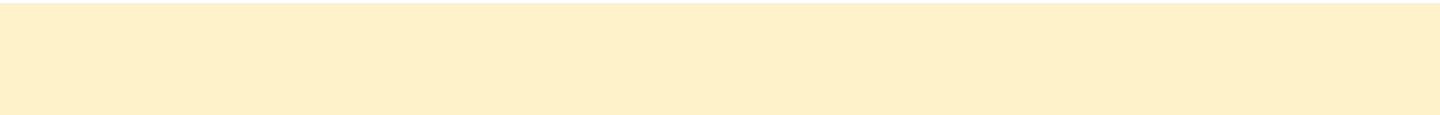
Category	Item	Unit	Parameter		Allowance
Dimensions	Outline size (length×width×height)	mm	14468×3280×3898		±1%
	Wheel base	mm	4000		±1%
	Track (Front/ Rear)	mm	2520/2520		±1%
	Front/ Rear overhang	mm	2466/2383		±1%
	Front/ Rear extension	mm	5484/135		±1%
Weight	Gross vehicle weight	kg	53498 (10t counterweight)	54998 (11.5t counterweight)	±3%
	Axle load	1st axle	kg	28723	±3%
		2nd axle	kg	24775	±3%
Power	Engine model	—	SC9DK260.1G3/QSB6.7-C260-30		—
	Engine rated power/rpm	kW/(r/min)	192/2000、194/2200		—
	Engine rated torque/rpm	N.m/(r/min)	1110/ (1200~1600) 、900/1500		—
Travel	Max. travel speed	km/h	≥34.8		—
	Min. travel speed	km/h	2		—
	Min. turning diameter	m	≤13		—
	Min. ground clearance	mm	550		±1%
	Approach angle	°	24		±1°
	Departure angle	°	24		±1°
	Braking distance (at 24 km/h)	m	≤9		—
	Max. grade ability	%	≥62		—

Table of main technical parameters

Category	Item		Unit	Parameter	Allowance	
Main performance	Max. total rated lifting capacity		t	90	±5%	
	Min. rated working radius		m	2.5	±1%	
	Turning radius at turntable tail	Counterweight	mm	4544	±1%	
	Max. load moment	Base boom	kN.m	2840	±5%	
		Fully-extended boom	kN.m	1615	±5%	
	Outrigger span	Longitudinal	m	7.8	±1%	
		Lateral	m	7.7	±1%	
	Hoist height	Base boom	m	13	±1%	
		Fully-extended boom	m	48	±1%	
		Fully-extended boom + Jib	m	63.1	±1%	
	Boom length	Base boom	m	12.4	±1%	
		Fully-extended boom	m	48	±1%	
Fully-extended boom + Jib		m	65.5	±1%		
Jib offset angle			°	0°、15°、30°	—	
Working speed	Boom raising time		s	≤55	—	
	Boom fully extending time		s	≤110	—	
	Max. slewing speed		r/min	≥2	—	
	Outrigger extending and retracting time	Outrigger beam	Retracting	s	≤35	—
			Extending	s	≤40	—
		Outrigger jack	Retracting	s	≤40	—
			Extending	s	≤55	—
	Hoisting speed (single line, 4th layer, no load)	Main winch	m/min	≥145	—	
Auxiliary winch		m/min	≥90	—		

Notes

1. The total rated loads given in the rated load charts are the maximum lifting capacity when the crane is set up on firm and level ground, which includes the weight of the hook block and slings. The weight of above-mentioned devices should be deducted from the rated lifting load.
2. The working radius shown in the rated load charts is the radius when the load is lifted off the ground, and it is the actual value including loaded boom deflection. Take boom deflection into consideration before beginning a lifting operation.
3. A lifting operation is permissible only when the wind force is below grade 5 (instantaneous wind speed is 14.1 m/s, wind pressure is 125 N/m²).
4. Before beginning lifting operation, the operator should know the weight of the load to be lifted and its working range, and then select proper working conditions. Never operate the crane beyond the limit shown in the chart. Use the lower value from the chart when the boom length or working radius is between the range of values.
5. Observe the boom angle limit. Never operate the crane with the boom angle beyond the recommended limit even if a load is not being carried. Otherwise, the crane will tip.
6. The boom should be extended according to the telescoping code shown by digits, which means the percentage of boom sections extended.





 **RONCO**
Construction Equipment & Engineering
Call 1800CRANES

XCR90 Rough Terrain Crane

RONCO GROUP



1800CRANES
(08) 9459 6212

www.ronco.com.au
xcmg@ronco.com.au