QY80KH Truck Crane

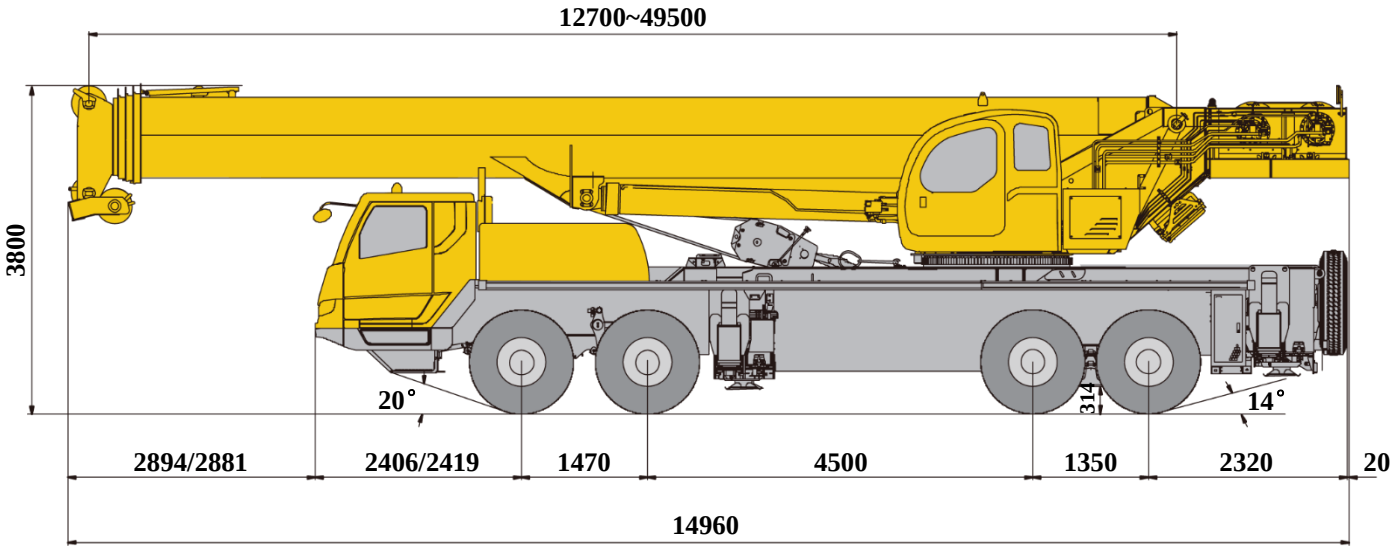
Technical specifications

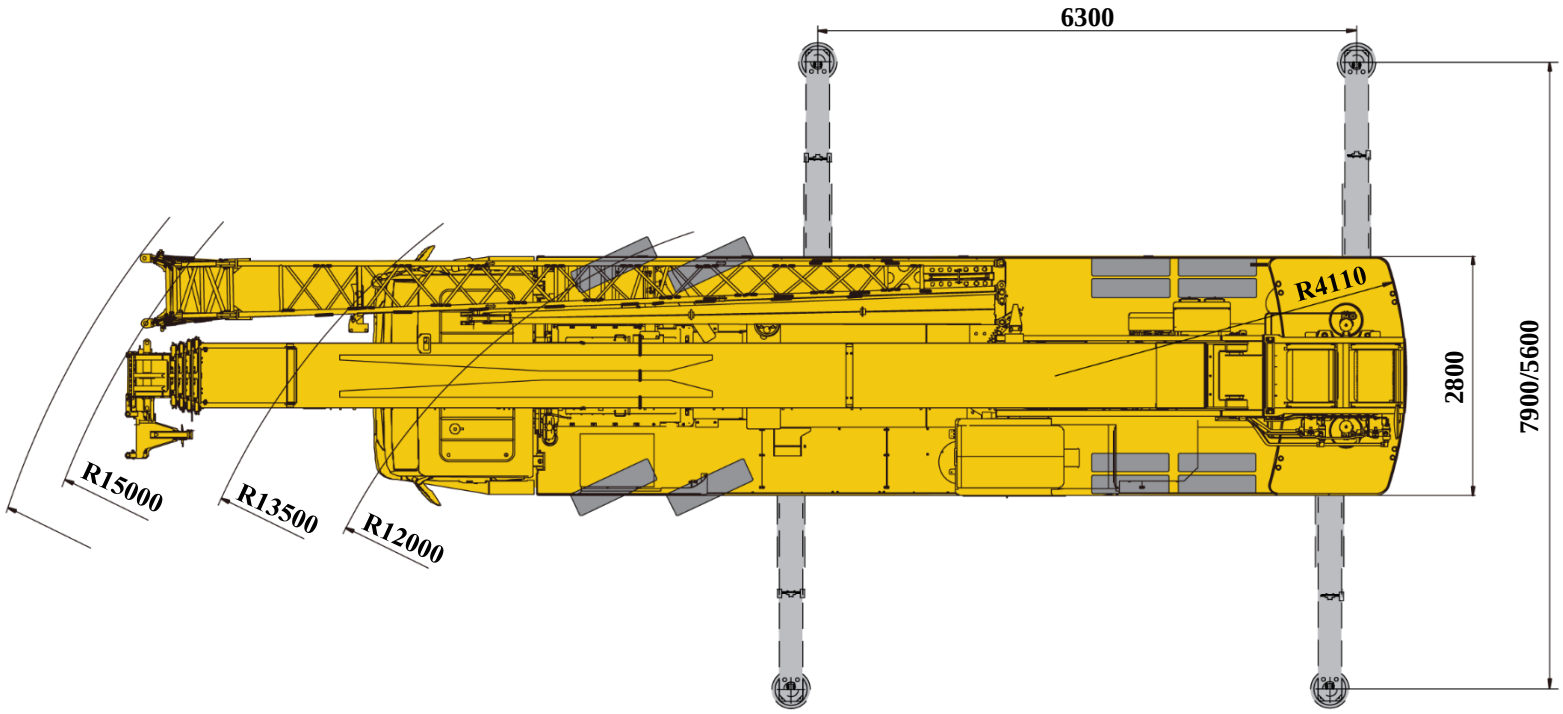
80 t | 49.5 m | 42 m | 65.7 m

4th edition, December 2024

Contents

Dimensions





Remark:
When equipped with XCMG Automobile driver's cab, the front extension is 2894 mm, and the front overhang is 2406 mm.
When equipped with Qixing driver's cab, the front extension is 2881 mm, and the front overhang is 2419 mm.

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 beams are adopted. There are outrigger control mechanisms located at each side of the chassis, and there is a level gauge, LED illuminator and speed buttons in each control panel. There is a check valve fitted in each outrigger cylinder, and a double-way hydraulic lock fitted in each jack cylinder. Outrigger float dimensions: 435 mm×435 mm. Reaction force of outriggers at max. lifting load: front outrigger: 580 kN; rear outrigger: 500 kN
Engine	WP9H336E50, in-line, 6 cylinders, water cooled, electric control diesel engine made by Weichai. Rated power: 247 kW/1900 rpm; max. torque: 1600 Nm/1000～1400 rpm; and max. reference torque: 1745 N.m. Compliant with Euro V emission standard. Fuel tank capacity: 430 L; AdBlue/DEF tank capacity: 35 L; engine displacement: 8.8 L.
Transmission	Mechanical transmission, made by Shaanxi Fast Gear Co., Ltd., 9-forward speed and 1-reverse speed, with a synchronizer.
Axle	High-strength axles. Axles 1-2 are for steering, and axles 3-4 are for driving. Driving/steering type: 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. Axles 1-2 are equipped with single tire, and axles 3-4 axles are equipped with double-tire. Tire specifications: 325/95R24.
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: in-cylinder retarder brake.
Steering	Axles 1 and 2 are mechanically steered + hydraulic power assistance.
Driver's cab	Front window with wide visual field, electric wiper and electric window lifters are available; T3 air conditioning can let the air blow face or feet or realize defrosting and defogging; audio system is also equipped. Mechanical shock-absorbing seat for the driver, while single seat for the co-driver's seat.
Electrical system	24 V DC, two sets of 12 V battery in series. Generator: 28 V-120 A.

Technical specifications

Superstructure

Structure	Designed and manufactured by XCMG, made of high-strength steel.
Hydraulic system	Hydraulic pump: quadruple pumps driven by chassis engine, fixed-displacement pump used for lifting, luffing and telescoping operations. Control valve: load sensitive proportional multi-way change valve controlled by pilot hydraulic oil, which is integrated with impact-resistance valve and cavitation-proof valve. Oil circuit: there is an air cooled hydraulic oil cooler equipped to effectively reduces the oil temperature. Hydraulic oil tank capacity: 965 L.
Operating method	Electric pilot control of all crane movements with two control levers. All crane movements are hydraulic pilot controlled by hydraulic pump and proportional valve.
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, counterbalance valve and a grooved drum equipped. The main winch and auxiliary winch can be independently operated.
Slewing system	Four-point contact-ball slewing bearing is driven by the planetary gear reducer of slewing mechanism, which is driven by a hydraulic motor, and can continuously slew 360°. Power control and free slewing function as well as stepless speed regulation are available.
Operator's cab	New steel cab is equipped with a front window. Safety glass and sun shield are used for windows. Standard controls and indicators are ergonomically arranged in the cab. The cab features a new ergonomic seat design with backrest adjustment and armrests with control levers fitted. Wipers are fitted for the front and roof windows. T3 air conditioning and fan are standard.
Safety devices	Hydraulic counterbalance valve, hydraulic relief valve, double-way hydraulic lock, LMI, lowering limiter for preventing wire rope from over-releasing, anti-two block at boom head for preventing wire rope from over-winding and tri colored light bar.
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 17 t, with 4 counterweight combinations of 4.1 t, 7.9 t, 13.2 t and 17 t are available.
Hook block	60 t hook block, and 5 t hook block. 5 t hook block can also be used for QY60KH.
Luffing system	A single cylinder is used for boom luffing, and counterbalance valve with the load compensation function is equipped.

Technical specifications

	**Superstructure**
Boom	5-section boom with U cross-section, welding structure; double-cylinder plus ropes telescoping system. Boom length: 12.7 m ~ 49.5 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 max. lifting load can not exceed 5.2 t.
Fixed jib	Two-section lattice jib, welded structure. Three offset angles of 0°, 15° and 30°. Fixed jib length: 9.5 m/16 m.

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

Configuration and optional equipment

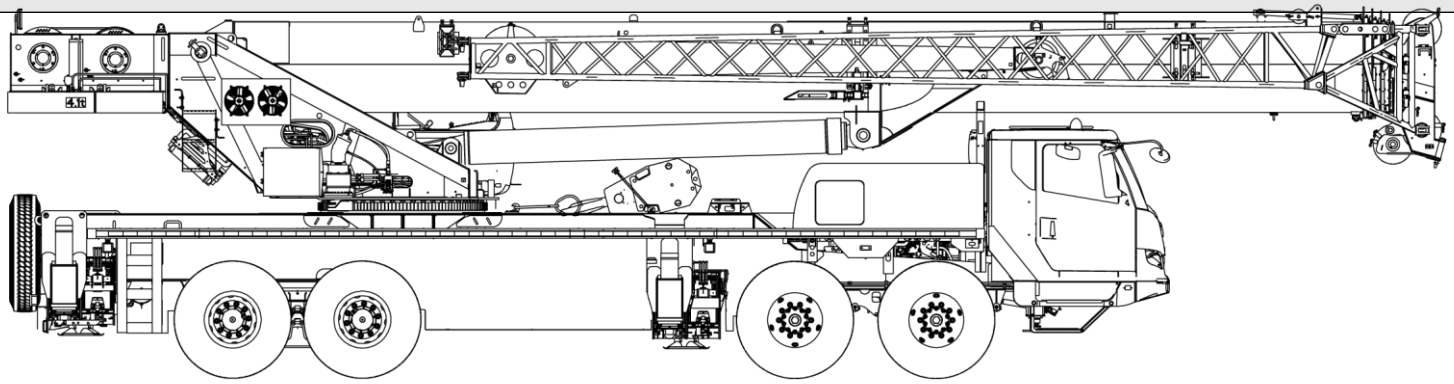
Configuration	Function description
Standard	5-section boom of 49.5 m, fixed jib of 16 m.
Note: only standard configuration is available for this model.	

Optional equipment	Part description
Hook block	**35 t hook block**
Air conditioning	**HVAC in the operator's cab**
Angle indicator	
Winch monitoring system	
Slewing beacon light	
Outrigger length measuring	
Anemometer	
Spark arrestor at the tail of exhaust pipe	
Rotating beacon light (driver's cab)	
Reversing camera	

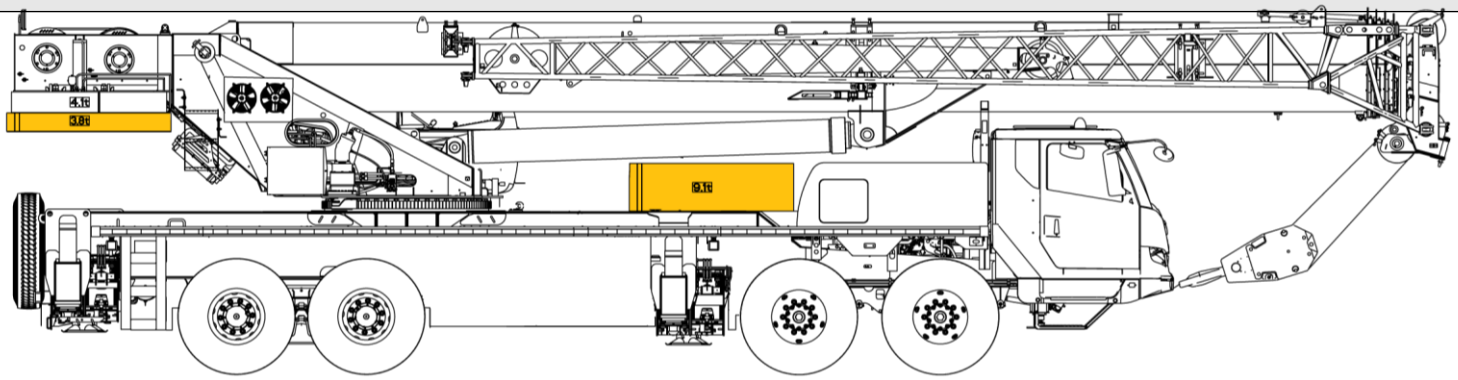
Weight

Axle	1	2	3	4	Total weight
t	9.9	9.9	12.9	12.9	45.6[1)]
t	12.62	12.62	16.63	16.63	58.5[2)]

1) 45.6 t road travel configuration:
Superstructure: jib, 60 t hook block (fastened above the frame), 5 t hook block (fastened at the frame tail) and 4.1 t counterweight slab are carried; counterweight slabs of 3.8 t and 9.1 t are not carried.
Chassis: spare tire and its bracket, and outrigger floats are carried.
Max. travel speed: 90 km/h; driving/steering type: 8×4×4; tire specification: 325/95R24; overall dimensions of crane: 14960×2800×3890 mm.



2) 58.5 t heavy-load jobsite transfer configuration:
Superstructure: the crane is added with counterweight slabs of 3.8 t and 9.1 t and 60 t hook block secured in front of the vehicle under the 45.6 t road travel configuration.
Chassis: spare tire and its bracket, and outrigger floats are carried.
Max. travel speed: 20 km/h; driving/steering type: 8×4×4; tire specification: 325/95R24; overall dimensions of crane: 15010×2800×3890 mm.



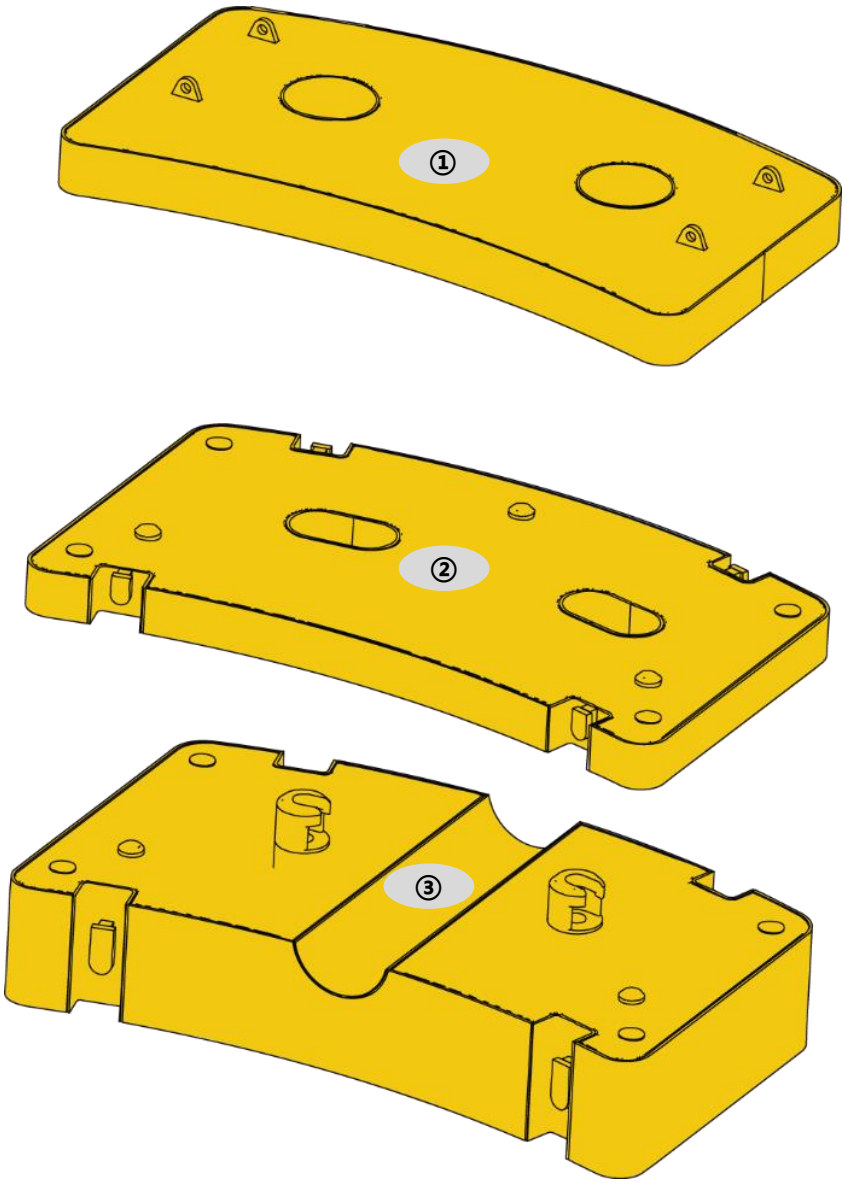
Hook block	Parts of line	Hook block weight (kg)	Dimensions (mm)	Remark
60 t	13	520	1503×572×495	Single hook
35 t	7	360	430×504×1362	Single hook
5 t	1	100	300×300×535	Single hook

Working speeds

325/95R24	2.5 ~ 90 km/h	45%

	Max	F	Φ	
①	0-130 m/min, single line, no load	53 kN	18 mm	230 m
②	0-130 m/min, single line, no load	51 kN	18 mm	140 m
	0-1.3 r/min			
	Approx. 60 s for boom luffing up from -0.5° to 81°			
	Approx. 115 s for boom extending from 12.7 m to 49.5 m			

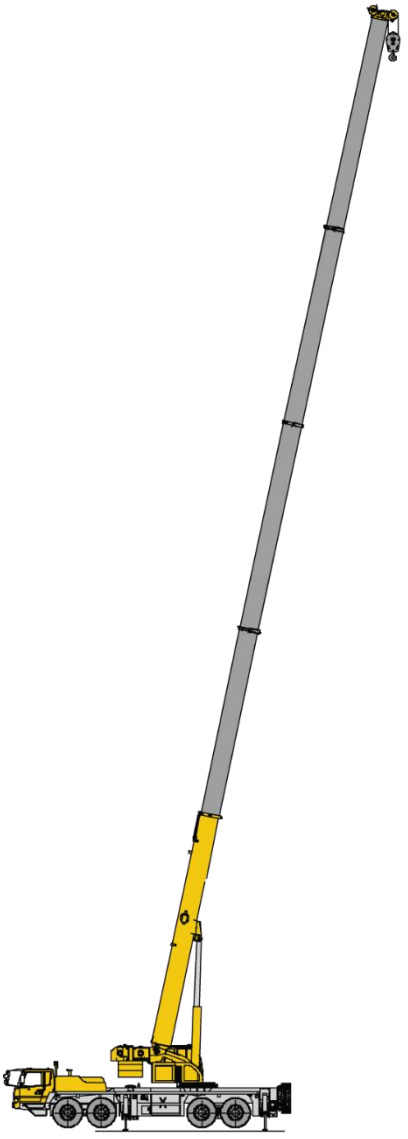
Counterweight

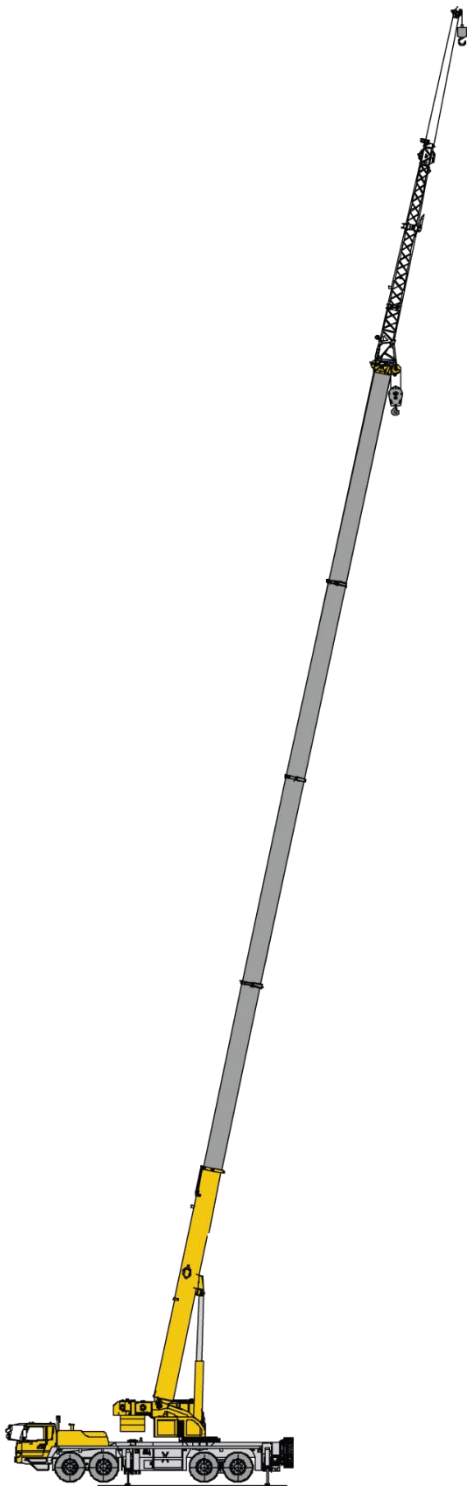


	①	②	③
Dimensions (L×W×H) (mm)	2750×1608×298	2790×1708×223	2790×1708×683
Weight (t)	4.1	3.8	9.1

Operation mode	17 t	13.2 t	7.9 t	4.1 t
Combination	①+②+③	①+③	①+②	①

Boom / Jib combinations

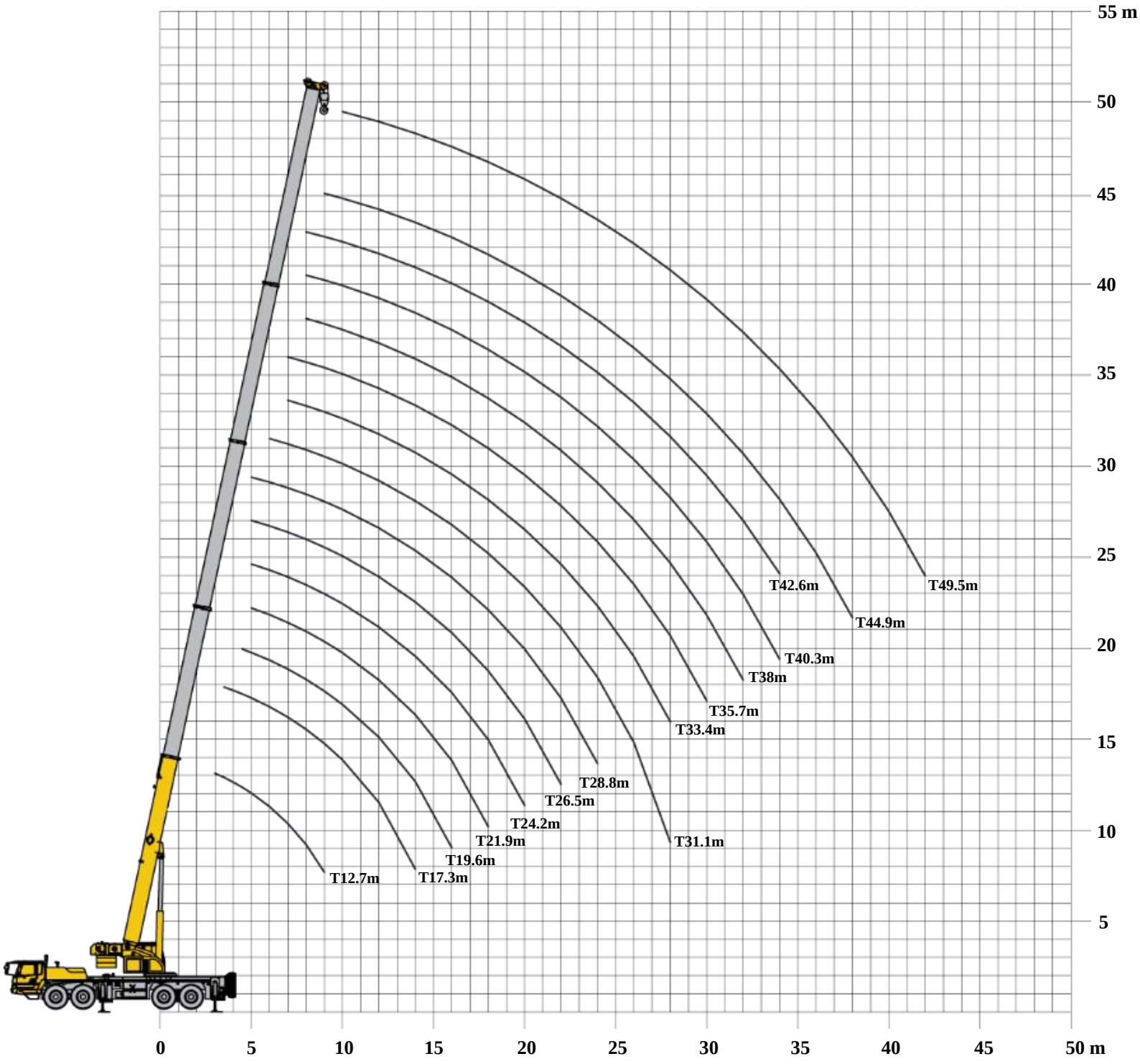




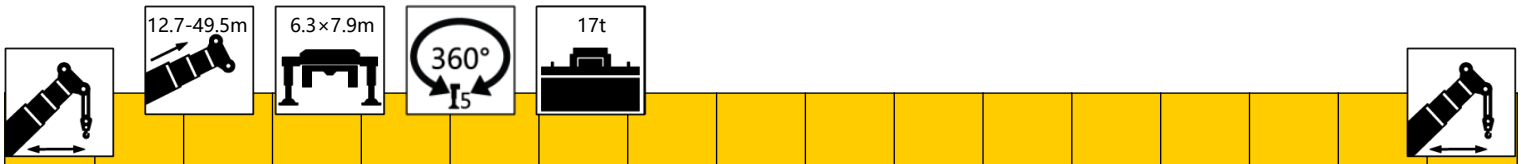
Boom	Fixed jib
T: 12.7-49.5 m	T: 49.5 m F: 9.5/16 m

Working range diagram

Boom



T 12.7~49.5 m

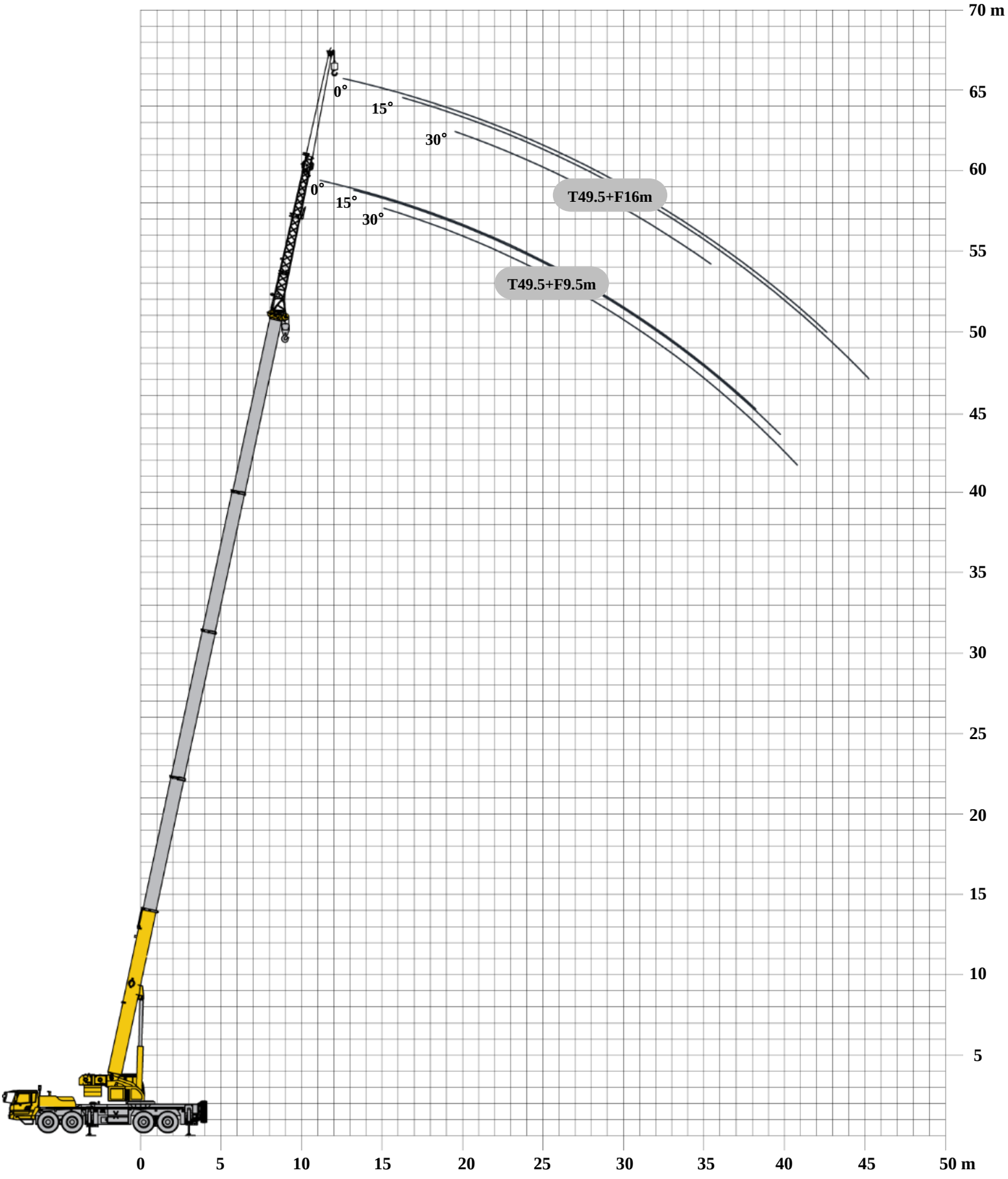


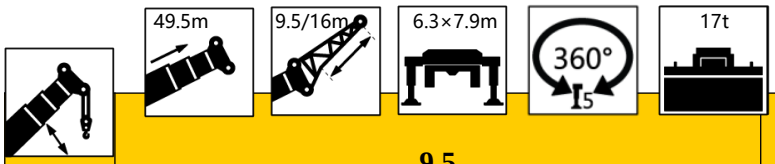
	12.7	17.3	19.6	21.9	24.2	26.5	28.8	31.1	33.4	35.7	38	40.3	42.6	44.9	49.5	
3	80.0*															3
3.5	60.0	52.0														3.5
4	57.0	50.0														4
4.5	53.4	48.0														4.5
5	46.7	45.0	31.0	33.9	28.5	28.5	27.0									5
6	38.5	38.8	31.0	33.9	28.5	28.5	27.0	28.5								6
7	32.0	32.2	31.0	32.2	28.5	26.7	27.0	27.9	17.9	23.7						7
8	27.2	27.4	29.5	27.4	27.5	24.7	25.7	26.2	16.9	22.1	17.3	12.7	16.8			8
9	23.8	23.5	25.6	23.5	25.0	23.1	23.2	24.6	15.5	20.5	16.2	12.7	15.9	12.6		9
10		20.7	22.2	20.0	22.2	21.8	21.2	22.6	14.4	18.8	15.1	12.1	15.1	12.0	11.0	10
12		16.1	18.0	16.0	17.1	18.5	17.0	18.0	12.3	16.0	13.3	10.5	13.6	10.8	10.5	12
14		13.0	14.5	12.8	14.7	14.8	13.5	14.6	10.9	13.8	11.7	9.3	12.2	9.7	9.7	14
16			12.2	9.9	11.6	12.9	11.1	12.3	9.7	11.8	10.5	8.2	11.0	8.7	8.9	16
18				7.7	9.3	10.5	8.8	10.0	8.7	9.5	9.4	7.3	9.8	7.9	8.2	18
20					7.5	8.8	7.1	8.2	7.8	7.8	8.6	6.6	8.2	7.2	7.5	20
22						7.4	5.8	6.8	7.0	6.4	7.3	6.0	6.8	6.2	6.8	22
24							4.7	5.7	6.4	5.3	6.1	5.4	5.7	5.9	6.0	24
26								4.8	5.7	4.4	5.2	5.0	4.8	5.5	5.1	26
28								4.0	4.9	3.6	4.4	4.5	4.1	4.7	4.3	28
30										3.0	3.8	4.2	3.4	4.1	3.7	30
32											3.2	3.9	2.8	3.5	3.1	32
34												3.4	2.4	3.0	2.6	34
36														2.6	2.2	36
38														2.2	1.8	38
40															1.5	40
42															1.2	42

Note: * Capacity class

Working range diagram

Jib





	9.5			16			
	0°	15°	30°	0°	15°	30°	
80	5.0	5.0	2.4	3.9	3.0	1.3	80
78	5.0	4.9	2.3	3.9	2.7	1.2	78
75	5.0	4.5	2.2	3.9	2.4	1.2	75
72	5.0	4.2	2.1	3.9	2.2	1.1	72
70	5.0	4.0	2.0	3.8	2.1	1.0	70
65	4.4	3.6	1.8	3.4	1.9	1.0	65
60	3.3	2.9	1.8	2.7	1.7		60
55	2.4	2.2	1.7	1.9	1.6		55
50	1.7	1.6	1.5	1.3	1.2		50

Table of main technical parameters

Type	Item		Unit	Parameter
Dimensions	Dimensions (L×W×H)		mm	14960×2800×3840
	Axle spacing		mm	1470+4500+1350
	Track (front/rear)		mm	2314/2063
	Front/rear overhang		mm	2406/2320 (XCMG Automobile) 2419/2320 (Qixing)
	Front/rear extension		mm	2894/20 (XCMG Automobile) 2881/20 (Qixing)
Weight	Max. permissible total weight		kg	45600
	Axle load	Axle 1	kg	9900
		Axle 2	kg	9900
		Axle 3	kg	12900
		Axle 4	kg	12900
Power	Engine model		——	WP9H336E50
	Rated power/rotation speed		kW/(r/min)	247/1900
	Max. net power/rotation speed		kW/(r/min)	242/1900
	Max. output torque/rotation speed		N.m/(r/min)	1600/1000-1400
Travel	Max. travel speed		km/h	≥90
	Min. stable travel speed		km/h	2.5 ~ 3
	Min. turning diameter		m	≤24
	Min. turning diameter at boom tip		m	≤31.2
	Min. ground clearance		mm	314
	Approach angle		°	20
	Departure angle		°	14
	Braking distance (initial speed at 30 km/h)		m	≤10
	Max. grade ability		%	≥45
	Fuel consumption per 100 km		L	40
Noise	Exterior noise level when accelerating		dB(A)	≤88
	Noise level at seated position		dB(A)	≤90

Table of main technical parameters

Type	Item			Unit	Parameter
Main performance	Max. rated lifting capacity			t	80
	Min. rated working radius			m	3
	Turning radius at turntable tail	At counterweight		mm	4160
		At auxiliary winch		mm	4110
	Max. load moment	Base boom		kN.m	2355
		Fully-extended boom		kN.m	1478
		Fully-extended boom + jib		kN.m	1115
	Outrigger span	Longitudinal		m	6.3
		Lateral		m	7.9
	Lifting height	Base boom		m	13.1
		Fully-extended boom		m	49.5
		Fully-extended boom + jib		m	65.5
	Boom length	Base boom		m	12.7
		Fully-extended boom		m	49.5
		Fully-extended boom + jib		m	65.5
	Jib offset angle			°	0, 15, 30
Working speeds	Time for raising boom			s	≤60
	Time for fully extending boom			s	≤115
	Max. slewing speed			r/min	≥1.3
	Time for extending / retracting outriggers	Outrigger beams	Retracting	s	≤30
			Extending	s	≤30
		Outrigger jacks	Retracting	s	≤35
			Extending	s	≤40
	Lifting speed (Single line, no load)	Main winch		m/min	≥130
		Auxiliary winch		m/min	≥130
Noise	Exterior noise level			dB(A)	≤108
	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
	Wind speed
	Rope length
	Rope diameter
	Breaking load of rope
	Max. working speed
	Main winch
	Auxiliary winch
	Luffing
	Telescoping

	Slewing
	360° operation of the boom
	With the 5th jack down, 360° operation of the boom
	Side and rear slewing
	Boom over front or over rear
	Chassis
	Outrigger span
	Tires
	Axle load
	Grade ability
	Travel speed
	Configuration
	Optional equipment
	Engine

Description of symbols

	Boom
	Boom length
	Boom working radius
	Lifting height with boom
	Boom angle
	Boom combination
	Extension
	Independent jib head
	Simple jib head

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

Notes

1. The document is intended as reference only. It is only a guide and should not be used to operate the crane. See product manuals for correct operation instructions.
2. The total rated loads given in the load charts are the maximum lifting capacity under corresponding boom length and radius 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.
3. The working radius shown in the load charts is the horizontal distance between the load and slewing axis of crane when the load is lifted off the ground.
4. 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.
5. 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/m^2).

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