SAC1300S

SANY All Terrain Crane
130 Tons Lifting Capacity

Quality Changes the World

Excellent Performance

- More compact and reasonable overall layout, more optimized key structural part design, leading lifting performance among products with the same tonnage.
- Fully-extended boom: 63 m, maximum lifting height: 63.5 m, which ranks first in the industry; jib: 33.5 m, maximum lifting height: 92.5 m.
- Innovative five-axle chassis design, various braking and suspension modes, more reliable chassis traveling performance, more comfortable driving experience.
- Independently developed dual-pump converging / diversion technology, thus ensuring high efficiency and maneuverability.
- Single-engine mechanical drive, simple structure, high reliability, low failure rate.

Superior Quality

- Advanced single-cylinder cross pin telescopic boom technology, cylinder arm pin interlocking technology combined with mechanical, electrical and hydraulic protection, thus ensuring higher reliability.
- Original closed slewing buffer system, thus ensuring higher stability and better inching performance during slewing startup and braking.
- Independently developed dual-pump converging / diversion technology, thus achieving higher single-action dual-pump converging efficiency and better combined-action dual-pump diversion maneuverability.
- International advanced distributed integrated bus data communication network, thus ensuring a large data volume, a fast speed and high stability.
- International pioneering HMI, thus enabling customers to set vehicle maneuverability based on personal operation habits and different service conditions to meet their individualized needs.
- International leading hydraulic-pneumatic suspension technology, thus ensuring good adaptability to various poor road conditions, excellent trafficability and more comfortable driving.
- Streamlined full-width driver cab and operator cab with a position changing mechanism and a panoramic sunroof, thus ensuring more comfortable operation.
- Extensively used advanced manufacturing process, thus ensuring perfect process and effectively guaranteeing excellent product performance.

63
Full-extend boom 63m

60
Max. gradeablity 60%

85
Max. traveling speed 85km/h

Energy Conservation and Environment Protection

- Electro-hydraulic proportional pump characterized by stepped displacement and speed control, thus achieving energy conservation of 20%.
- Domestic pioneering smart dual-pump converging / diversion speed control technology, thus meeting the needs of various action combinations and achieving high energy efficiency.

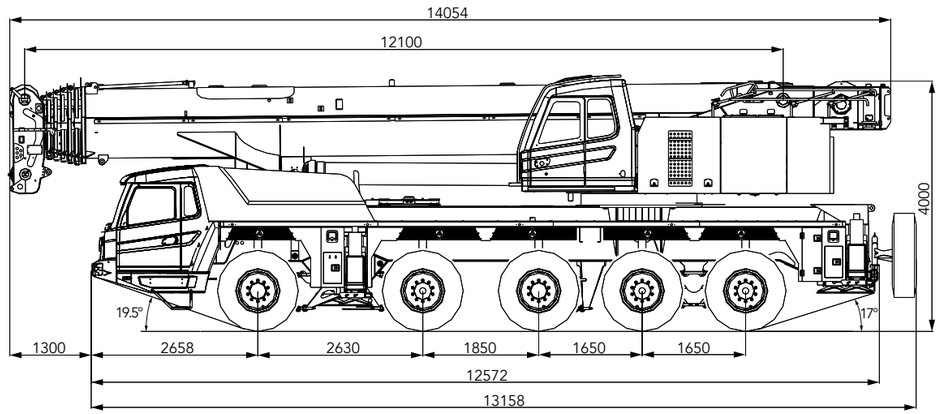
Safety and Reliability

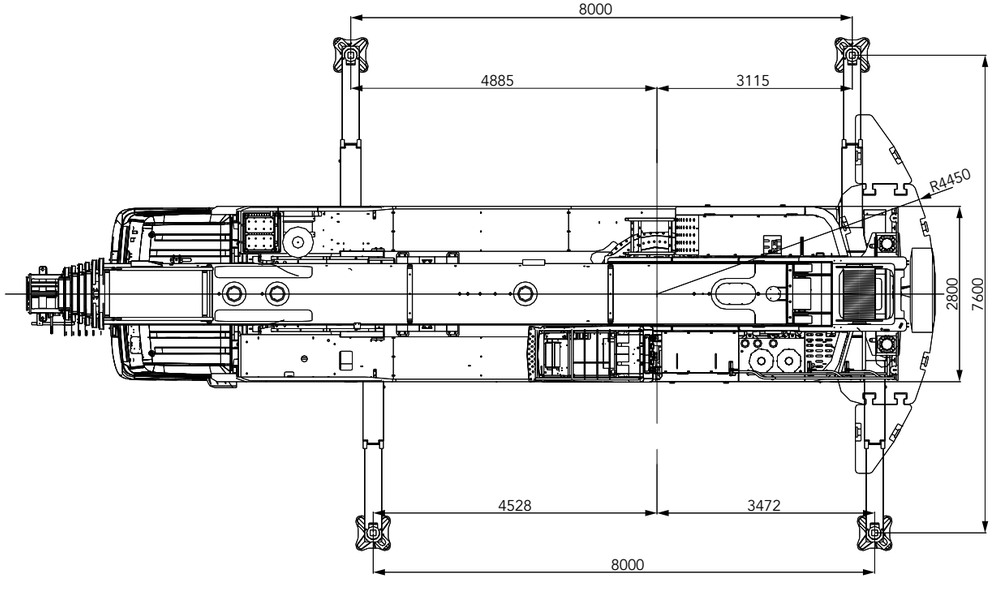
- Roll-over protection system to give an audible and visual alarm, thus ensuring the crane operation safety.
- Voice alarm system to give voice prompts for various actions, prevent misoperation and remind and warn the surrounding personnel, thus ensuring the crane operation and personnel safety.
- Torque limiter system with high precision, stability and intelligence, thus providing all-round protection for hoisting operation.
- Diversified sensors to give timely feedback on data information and achieve real-time monitoring, thus enabling mastery of the working condition of the complete crane at any time.

GCP System

- International pioneering remote equipment monitoring and management system with a strong equipment working condition and operation parameter acquisition function, thus achieving remote fault diagnosis and management.
- Customers can grasp the equipment operation as well as query about and order the accessories at home.

Overall Dimensions





Technical Parameters

Type	Item		Unit	Value
Dimensions	Overall length		mm	14054
	Overall width		mm	2800
	Overall height		mm	4000
Weight	Total weight of crane		kg	55000
	Axle load	Load of axle 1, axle 2	kg	23200
		Load of axle 3, axle 4, axle 5	kg	31800
Power	Engine model			OM460LA.E3A/1
	Max. engine power		Kw/rpm	360/1800
	Max. engine output torque		N.m/rpm	2200/1300
Travel	Max. travel speed		Km/h	85
	Min. turning radius		m	8.5
	Min. ground clearance		mm	290
	Approach angle		°	19.5
	Departure angle		°	17
	Braking distance (at 30km/h)		m	10
	Max. grade ability		%	60
Performance specifications	Max. total rated lifting load		t	130
	Min. rated radius		m	3
	Max.turntable swing radius		m	4450
	Max. Lifting torque	Min. boom length	kN.m	4547
		Max. boom length	kN.m	1999
		Max. boom length + jib	kN.m	1350
	Transverse outrigger span		m	8.0×7.6
	Lifting height	Min. boom length	m	12.6
		Max. boom length	m	63.5
		Max. boom length + jib	m	79
		Max. boom + jib + optional standard section	m	92.5
	Boom length	Min. boom length	m	12.1
		Max. boom length	m	63
		Max. boom length + jib	m	78.5
		Max. boom + jib + optional standard section	m	92.4
	Jib offset angle		°	0、15、30
Working speed	Max speed, main hoist, single line, no load		m/min	130
	Max speed, aux hoist, single line, no load		m/min	130
	Boom fully extending / Retracting time		s	550/500
	Boom raising / Lowering time		s	50/175
	Slewing speed		r/min	1.5
	Outrigger beam fully extending / Retracting time		s	30/25
	Outrigger jack's fully extending / Retracting time		s	35/30

Technical Parameters

Axle load

Axle	1	2	3	4	5	Overall mass
Axle load / t	11.5	11.7	10.4	10.7	10.7	55
Remarks	-					

Hook and multiplying power

Rated load / t	Pulleys	Number of parts of line	Hook weight / kg
75	4	8	745
10	/	1	252

Working speed

Item			Parameter	Wire rope diameter / length	Max. single rope pull
Main winch			Single rope speed 0~130 m/min	22mm/280m	10.5t
Auxiliary winch			Single rope speed 0~130 m/min	22mm/190m	10.5t
Slewing speed			0-1.5r/min		
Lifting / descending			50s/175s (-1~81°)		
Extension / retraction			550s/500s (12.1m~63m)		
Outrigger	Vertical outrigger	Retraction	35s		
		Extension	30s		
	Horizontal outrigger	Retraction	30s		
		Extension	25s		

Crane Introduction

Driving cab

- The driver cab is of new steel structure independently developed by SANY and characterized by excellent shock absorption and sealing performance, with the outward-opening doors on both sides, driver's seat and passenger seat with pneumatic suspension, adjustable steering wheel, large-vision rearview mirror, comfortable driver's seat with headrest, fog-proof fan, air conditioner, stereo radio as well as complete control instruments, thus ensuring more comfort, safety and user-friendliness.

Crane frame

- The frame is designed and manufactured by SANY. It is of anti-twisting box-type structure welded by fine-grain high-strength steel plates, with a strong bearing capacity.

Chassis engine: Single-engine mechanical drive

- Type: Electronically controlled, six-in-line, water cooled, supercharged intercooled, electronically injected diesel engine.
- Output power: 360 kw/1,800 rpm.
- Max. torque: 2,200 Nm/1,300 rpm.
- Environmental protection property: Up to Euro III emission standard.
- Fuel tank capacity: About 500 L.

Gearbox

- The manual / automatic 12-speed gearbox with a wide speed ratio range can meet the requirements for low-speed site climbing and high-speed traveling.

Axle

- All axles are used for steering, and the 2nd, 4th and 5th axles for drive. The 1st and 2nd axles are equipped with the hydraulic power steering gear characterized by linkage feedback, and the 3rd, 4th and 5th axles are configured with the electro-hydraulic control steering system, which enables auxiliary speed control and optional special steering, thus achieving easy steering and flexible manipulation.

Steering / drive

- 10×6.

Suspension system

- All axles are equipped with hydro-pneumatic suspensions, with an adjustable height and a hydraulic interlocking function. The suspension height can be adjusted for 200 mm and 100 mm in the upward and downward directions respectively. The crane has the suspension, rigid locking, automatic leveling, overall lifting, single-point lifting modes so that it can adapt to various poor working and road conditions, thus guaranteeing the traveling smoothness, roll stability and driving comfort.

Tire

- Bridgestone, 10×14.00R25, meridian vacuum tyre.

Braking system

- Parking brake: Driven by the accumulator and acted on the 2nd, 3rd, 4th and 5th axles.
- Service brake: All wheels are equipped with the air servo brake, double circuit braking system and disc brake.
- Auxiliary brake: The engine is equipped with the engine brake and exhaust brake to decelerate the crane in advance, which can reduce the wear of brake components and save the cost.

Steering system

- The servo power steering gear and double circuit hydraulic steering system are used, with an emergency steering pump.
- There are 5 steering modes: 1) Road traveling mode (default mode); 2) All-wheel steering mode; 3) Crab mode; 4) Deflection-free steering mode; 5) Independent rear axle steering mode.

Outrigger

- It has a 4-point support, with a longitudinal / transverse span of 8.0 m × 7.6 m, a telescopic system of full-hydraulic horizontal / vertical outrigger cylinder and an automatic leveling function.

Electrical equipment

- A modern data bus system, a 24V DC power supply and 2 groups of battery pack (each of which is180AH) are used to power off the lowerstructure.
- The chassis is equipped with a CAN bus system; a multi-function centralized display system is used; the power consumption is low, and the maximum power is 5 W; the user interface has four function keys; a LCD display is used, with adjustable contrast.

Crane Introduction

Operating cab

- Corrosion-resistant steel plates are used, and the user-friendly design including fully-covered softened interior trims, panoramic sunroof and adjustable seats is configured, thus ensuring more comfortable and easier operation; a torque limiter display is equipped and the main console and operation display system are combined so that all data of hoisting operation are clear.

Boom system

- Boom: It is comprised of 7 sections, with the base boom length of 12.1 m, fully-extended boom length of 63 m and fully-extended boom lifting height of 63.5 m, and made of fine-grain high-strength steel, with a U-shaped section.
- Jib: It consists of 5 sections, with a total length of 33.5 m and a mechanical luffing of 0°/15°/30°.
- Telescopic mechanism: The independent hydraulically driven telescopic mechanism is used, with a full extension / retraction duration of 550/500 s, thus ensuring high efficiency, safety and reliability.

Slewing system

- The slewing system can achieve 360° slewing at a speed of 0 ~ 1.5 r/min, with 1 closed proportional variable pump and 2 hydraulic fixed-displacement axial piston motors. The electro-hydraulic proportional closed hydraulic circuit and electro-hydraulic proportional pedal are used, which can achieve emergency brake.

Turntable structure

- The turntable independently developed by SANY has an optimized structure. It is made of fine-grain high-strength steel.

Superstructure hydraulic system

- High-quality key hydraulic components including the main oil pump, slewing pump, main valve, hoist motor and balance valve are used, thus ensuring the stability and safety of the hydraulic system; accurate parameter matching provides more superior operation performance; the electro-hydraulic proportional variable-displacement piston pump is used to achieve real-time adjustment of the oil pump displacement and high-precision flow control through the change of the opening of the electronically-controlled handle, thus ensuring no energy loss during operation; the independently developed dual-pump main converging / diversion valve is used, thus achieving higher single-action dual-pump converging efficiency and better combined-action dual-pump diversion maneuverability.
- The deadweight descending amplitude compensating hydraulic system is used thus ensuring higher stability.
- The extension and retraction of the boom is achieved through a single-cylinder cross pin telescopic system.
- The mechanical luffing of 0° / 15°/ 30° of the jib is achieved.
- The closed slewing system is used to adjust the flow and direction through the adjustment of the angle of the variable pump swash plate, thus ensuring excellent inching performance and stable slewing.
- Hydraulic oil tank capacity: 710L.

Crane Introduction

Lifting mechanism

- The main winch is equipped with an electro-hydraulic proportional variable-displacement motor, which ensures good inching performance and stability. The wire ropes of the main and auxiliary winches have a diameter of 22 mm, and their lengths are 280 m and 190 m respectively.

Luffing mechanism

- The deadweight descending system guarantees higher energy efficiency. The single cylinder and front hinged support are used, which saves the luffing effort and improves the force applied to the boom; the electro-hydraulic proportional control balance valve is adopted. The luffing angle is -1° ~ 81°.

Control system

- The SYMC torque limiter system independently developed by SANY is used for electronic control (PLC control) of the crane; two multi-directional handles are used for automatic reset; the movement of the crane is adjusted through the adjustment of the hydraulic pump. The speed is regulated through the adjustment of the engine speed.

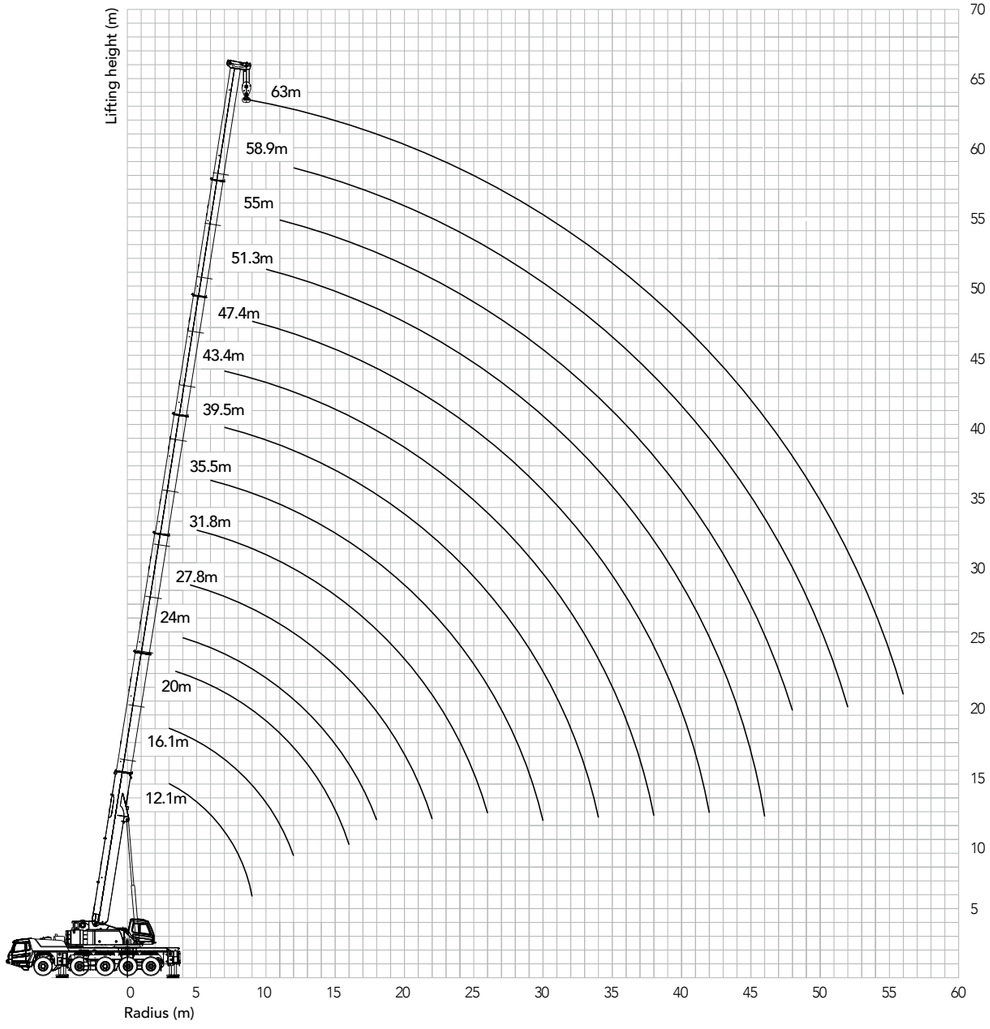
Safety device

- Torque limiter: Based on the analytical mechanics method, the torque limiter calculation system based on the lifting force model is established. Through the on-line no-load calibration, the rated lifting speed is ± 3%, and the full-load protection is carried out. Automatic alarm tips, to provide security for the operation of security.
- The hydraulic system is configured with the hydraulic balance valve, overflow valve, two-way hydraulic lock and other components to achieve stability and reliability.
- The main / auxiliary winch is equipped with a three-ring protector to avoid excessive release of wire ropes.
- The boom / jib end is equipped with a height limiter to avoid excessive winding of wire ropes.
- The boom end is installed with an anemometer to check whether the high altitude wind speed is beyond the allowable operation range.

Counterweight

- The combined variable counterweights, including 3.5 t, 13 t, 22.5 t, 30.5 t and 40.5 t, are used. The counterweight is ascended and descended through wireless remote control, thus ensuring good inching performance.

Boom Operating Range



Unit: t

Boom Load Chart

Outrigger full-extend, 40.5t counterweight

Radius (m)	12.1	16.1		24.0		31.8		39.5			Radius (m)
3	130	100	75								3
3.5	100	95	69	92	71						3.5
4	98	90.5	65	90	66.5	85	54.3				4
4.5	90	84	61	85	62.5	82	51.7	76.5	56	80	4.5
5	85	79	57	79	59	79	49.3	73	54.2	76	5
6	74	70	51	70	52.5	70	45.5	67	50	69	6
7	64	62	46	62	47.5	62	41.3	61	46	61	7
8	58	56	41.5	57	43	56	37.3	55	42.5	54.5	8
9	49	50	38.5	52	39.6	50	34.3	50	39	50	9
10		45	35.5	45	36.5	45	31.5	45	36	45	10
11		40	33	40	33.6	40.5	29.7	40.5	33.6	40.5	11
12		35	31	36	31.5	36.5	28	36.5	31.5	36.2	12
14				28	28	28.9	24.5	29.5	28	28.3	14
16				23	24.4	23.5	22	24	24.6	23	16
18						19.5	19.8	20.1	21	19	18
20								17.1	18	16	20
22								14.8	15.6	13.7	22
24											24
26											26
28											28
30											30
32											32
34											34
36											36
38											38
40											40
42											42
44											44
46											46
48											48
50											50
52											52
54											54
56											56
58											58
60											60
Ⅱ		46								46	Ⅱ
Ⅲ				46		46		46		46	Ⅲ
Ⅳ				46		46		46	46	46	Ⅳ
Ⅴ					46	46	46	46	46	46	Ⅴ
Ⅵ			46		46		46	46	46		Ⅵ
Ⅶ							46		46		Ⅶ
Rate	12	11	11	10	10	9	9	8	8	8	Rate

Unit: t

Boom Load Chart

Outrigger full-extend, 40.5t counterweight

Radius (m)	31.8			35.5			39.5			43.4			Radius (m)
3													3
3.5													3.5
4													4
4.5													4.5
5	68	56	60										5
6	65	53	56	52	43	35.3							6
7	61	50	51.5	49	39.5	32.3	41	29.5	39	32	32		7
8	58	47	46.5	47	35.5	29.7	38	27.5	37	31	31	27.5	8
9	53	43.3	43	45.5	32.5	27.4	35	25.8	35	29	29	25.6	9
10	48	40.3	39.5	42.5	30	25.7	33	24.2	32.5	28	28	24	10
11	42.5	37.5	36	40	27.6	23.7	31	22.7	30.5	26.5	26.5	22.5	11
12	37	35	34	37.5	25.5	22.2	29	21.5	28.5	25	24.6	21	12
14	29	30.1	28.6	29.5	22	19.5	25.5	19.2	25	22.2	22	19	14
16	23.5	24.6	23.2	24.1	19.2	17.4	22.6	17.5	22	19.7	19.5	16.8	16
18	19.6	20.7	19.3	20.1	17	15.8	19.5	15.8	19	18	17.5	15	18
20	16.6	17.6	16.3	17.1	15.2	14.3	16.6	14.4	16	16.2	15.6	13.6	20
22	14.2	15.3	14	14.8	14	12.9	14.3	13.2	13.7	14.2	13.9	12.5	22
24	12.3	13.4	12.1	12.9	12.5	11.9	12.4	12.2	11.8	12.3	12	11.2	24
26	10.8	11.8	10.5	11.3	11.3	11	10.8	11.5	10.2	10.8	10.4	10.2	26
28				10	10	10.1	9.5	10.3	9	9.4	9.1	9.5	28
30				9	9	9.5	8.4	9.2	7.8	8.3	8	8.8	30
32							7.5	8.3	6.9	7.4	7	8	32
34							6.7	7.4	6	6.5	6.2	7.1	34
36										5.8	5.3	6.4	36
38										5.1	4.6	5.8	38
40													40
42													42
44													44
46													46
48													48
50													50
52													52
54													54
56													56
58													58
60													60
II	46		46	46			92	46	92	92	92	46	II
III	46	46	46	46	92	46	46	46	92	92	92	46	III
IV	46	46	46	46	46	46	46	46	46	46	92	92	IV
V	46	46	92	46	46	46	46	46	46	46	46	92	V
VI	46	46		46	46	46	46	46	46	46	46	92	VI
VII		46		46	46	92	46	92		46			VII
Rate	7	7	7	6	6	6	5	5	5	4	4	4	Rate

Unit: t

Boom Load Chart

Outrigger full-extend, 40.5t counterweight

Radius (m)	47.4			51.3			55		58.9	63	Radius (m)
3											3
3.5											3.5
4											4
4.5											4.5
5											5
6											6
7											7
8											8
9	25.6	23	21.5								9
10	24.5	22	20	20.5	20.5	16.8					10
11	23	20.5	19	19.5	19.5	16.1	15	17			11
12	21.6	19.5	18	18.5	18.5	15.5	14.5	16.5	14		12
14	19.3	17.5	16.5	16.5	16.8	14	13.5	15	13	11.2	14
16	17.5	16	14.5	15.5	15.2	13	12.5	13.7	12	10.6	16
18	15.8	14.5	13	14	14	11.7	11.5	12.6	11	10.1	18
20	14.3	13	12	13	12.5	10.7	10.5	11.6	10.5	9.4	20
22	13.2	11.7	11	12	11.5	10	10	10.7	9.7	8.8	22
24	12	11	10.2	11	10.5	9.3	9.1	9.9	9	8.3	24
26	10.8	10	9.5	10	10	8.5	8.5	9	8.5	7.7	26
28	9.6	9.3	8.5	9.2	9	8	8	8.5	8	7.2	28
30	8.4	8.5	8	8.5	8.5	7.3	7.3	8	7.5	6.8	30
32	7.5	7.8	7.5	7.6	7.7	6.9	6.9	7.5	7	6.3	32
34	6.7	7	7	6.8	6.8	6.5	6.4	7	6.5	5.9	34
36	5.9	6.2	6.5	6.1	5.9	6.2	6	6.4	6	5.5	36
38	5.1	5.5	6	5.4	5.2	5.7	5.6	5.7	5.5	5.1	38
40	4.5	5	5.6	4.7	4.6	5.4	5.3	5.1	5	4.8	40
42	3.9	4.4	5.1	4.1	4	5	5	4.5	4.6	4.5	42
44				3.5	3.5	4.6	4.6	3.9	4.2	4.1	44
46				3.1	3	4.2	4.2	3.4	3.7	3.7	46
48							3.7	3	3.3	3.3	48
50									2.9	2.9	50
52									2.5	2.5	52
54										2.3	54
56										2	56
58											58
60											60
II	92	46		92	92		46	92	92	100	II
III	92	92	92	92	92	92	92	92	92	100	III
IV	92	92	92	92	92	92	92	92	92	100	IV
V	46	92	92	92	92	92	92	92	92	100	V
VI	46	92	92	46	92	92	92	92	92	100	VI
VII	46		46	46		92	92	46	92	100	VII
Rate	3	3	3	3	3	3	2	2	2	2	Rate

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— Agent information —

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For safe and reliable operation of the diesel engines, please fill Grade IV machines with Grade IV diesel and urea solution conforming to related national standards. Please refer to the operating instructions and related standards for details.

Any change in the technical parameters and configuration due to advancement in technology may occur without prior notice. The machine in the figures may include auxiliary equipment. This brochure is for reference only, and goods in kind shall prevail.

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