



CRANE SPECIFICATION

MANITOWOC M8500

COMPREHENSIVE LIFTING SOLUTIONS

We look forward to providing a full heavy lift engineering and crane solution for your next project. Our heavy lift engineers and on site personnel are experienced in managing and organising highly de-manding lift requirements.

Contact us to discuss your lifting requirements and a free quote.

BRISBANE (HQ)

07 3907 5800
37 Paringa Rd, Murarrie, QLD, 4172

ROMA

07 4622 5522
8 Wormwell Drive, Roma QLD 4455

GOLD COAST

07 5593 4688
9 Kimberley Rd, Burleigh Heads, QLD, 4220

SUNSHINE COAST

0409 595 618
562 Maroochydore Rd, Kunda Park, QLD, 4556

GLADSTONE

07 4972 9326
7 Red Cover Rd, Gladstone, QLD, 4680

TOWNSVILLE

07 4779 4088
16 Mackley St, Garbutt QLD 4814

ROCKHAMPTON

07 4939 1095
371 Leichhardt St, Rockhampton QLD, 4700

MACKAY

07 4952 6998
135 Diesel Drive, Paget QLD 4740





model 8500

features

- 80 t (85 USt) Lift Capacity
- 282 t-m (2,041 ft-kips) Maximum Load Moment
- 61,0 m (200 ft) Heavy-Lift Boom
- 73,2 m (240 ft) Fixed Jib on Heavy-Lift Boom
- 159 kW (213 HP) engine
- 160 mpm (525 fpm) line speed
- 14 500 kg (32,000 lb) Maximum Line Pull
- 7 700 kg (17,000 lb) Rated Line Pull
- 7 300 kg (16,000 lb) Material Rehandling Clamshell capacity
- Fast, efficient self-assembly and disassembly
- Manitowoc Crane CARE comprehensive support



product guide

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specifications

Upperworks



Engine

Hino J08E-TM Diesel, 6 cylinder, water-cooled diesel, direct fuel injection with turbocharger, 159 kW (213 HP) @ 2000 high-idle RPM. Maximum torque 797 N·m (593 lb·ft) net at 1,600 rpm (SAE J 1349).

One diesel fuel tank, 400 liters (105 gallons) capacity.

Two 12 volt 136 AH capacity batteries, 24 volt system and 60 amp alternator.

All wiring harnesses and connectors are numbered for easier servicing. Machine is equipped with individual fused branch circuits.



Controls

Full-flow hydraulic control system for constant variable pressure to front and rear drums, boom hoist brakes and clutches. Controls respond instantly to the touch, delivering smooth function operation.

Relief valve pressures:

Load hoist, boom hoist and propel system 315kg/cm² (4,480 psi)
Swing system 280 kg/cm², (980psi)
Control system 80 kg/cm² (1,140 psi)



Hydraulic System

All three variable displacement piston-type pumps are driven by a heavy-duty pump drive. One of these pumps is used in the right propel circuit and hook hoist circuit, and can accommodate an optional third circuit. Another is used in the left propel circuit, boom hoist circuit and hook hoist circuit. The third variable displacement pump is used in the swing circuit. In addition, two gear pumps are used in the control system and auxiliary equipment, and two gear pumps serve the brake cooling system.

Maximum pressure rating 325 kg/cm² (4,640 psi)

Load hoist, boom hoist and propel . . . 2 Piston pumps
Swing 1 Piston pump
Control system and auxiliary 2 Gear pumps
Brake cooling system 2 Gear pumps

Reservoir capacity: 380 liter (100 US gallon).

Cooling: Oil-to-air heat exchanger (plate-fin type).

Filtration: Full-flow and bypass type with replaceable paper element.



Drums

Front and rear drums for load hoist powered by hydraulic variable displacement piston-type motors, driven through planetary reducers. Powered hoisting/lowering and free-fall operation is standard. Drum turn indicators for front and rear drums are also standard.

Brakes: spring set, hydraulically-released, multiple-disc holding brake is mounted inside the hoist motor and is operated through a counter-balance valve. An external ratchet is fitted for locking the drums.

Drums: front and rear 550.2 mm (21.7") P.C.D. X 545.4 mm (21.5"), grooved for 22.2 mm (7/8") wire rope.

Wire rope capacity:

Front drum 265 m (869 ft) working length
 Rear drum 210 m (688 ft) working length
 Storage length (each drum) 335 m (1,099')

Line speed: Single line on the first drum layer

Hoisting: 120m/min (390 ft/min)

Lowering: 120m/min (390 ft/min)

➤ **Optional third drum:** same dimensions and specifications as front and rear drums.

Wire rope working length 265m (869')



Swing System

Swing unit: Powered by a hydraulic piston-type motor driving spur gears through planetary reducers, the swing system provides 360° rotation.

Swing brake: A spring-set, hydraulically released multiple-disc brake is internally fitted in swing motor.

Swing lock: 2 Position lock for transportation.

Rotating bed turntable: Single-row ball bearing with an integral internally cut swing gear.

Swing speed: 4.0 rpm



Boom Support System

Single drum powered by a hydraulic axial piston motor through a planetary reducer.

Brake: A spring-set, hydraulically released multiple-disc brake is internally fitted in the boom hoist motor and operated through a counter-balance valve. An external ratchet is fitted for locking the drum.

Drum: Single drum, grooved for 16 mm (5/8") diameter wire rope. Boom Hoist reeving is 12-part line.

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Wire Rope Capacity:

Drum 150 m (492 ft) working length.

Line speed: Single line on the first drum layer

Hoisting 70m/min (230 ft/min)

Lowering 70m/min (230 ft/min)



Gantry

This high folding type gantry is fitted with a sheave frame for boom hoist reeving. Hydraulic lift is standard. It provides full up, full down positions with linkage.



Counterweight

QTY.	ITEM	UNIT WEIGHT		TOTAL WEIGHT	
		kg	lb	kg	lb
2	Carbody Each	3 340	7,350	6 680	14,700
	Carbody Total			6 680	14,700
1	Upperworks Counterweight A	12 500	27,563	12 500	27,560
1	Counterweight B	12 400	27,342	12 400	27,340
	Upperworks Total			24 900	54,900
	Counterweight TOTAL			31 580	69,600



Operator's Cab

Totally enclosed, full vision cab fitted with tinted safety glass. A fully adjustable, highbacked seat with arm rests permits operators to set their ideal working position. Side mounted console for auxiliary controls and instruments. An air conditioner, a signal horn, cigarette lighter, windshield wiper and inspection lamp socket are standard features.

Controls

In front of operator are the foot pedals for front, rear and third drum (optional) brakes and foot throttle pedal. At operator's right side are the travel (propel) control levers and the function lock lever. To the operator's right front are the boom hoist control lever, front and rear winch control levers and the free-fall select switches for the front and rear winches and drum turn indicators (front /rear drum). To the operator's left front are the swing control lever and third drum (optional) control lever. To the operator's left are the crawler extend/retract lever and the positive swing lock. The left hand console contains toggle switches for travel (propel) speed, free-fall high/low select, gantry control, crane/clamshell select switch and the anti-two-block/boom overhoist switches. Directly in front of the console are the drum pawl lock for boom, front, rear and third drum (optional) and the engine ignition key. The swing parking brake and signal horn are mounted on the swing control lever.

Gauges

Fuel gauge, engine water temperature gauge, hour meter and tachometer are located on the monitor display.

Warning display

All potential warnings, including battery charge, engine oil pressure, air cleaner, engine oil filter, control main pressure, and hydraulic oil temperature will appear on the monitor display when a fault occurs.

Safety device

Function lock lever, anti-two-block, boom over hoist limit switch, boom angle indicator, signal horn, boom hoist drum lock, front and rear drum lock, swing lock, swing alarm (buzzer and lamps), boom backstops and load moment indicator.

Lowerworks



Carbody

The durable carbody features steel welded construction with extendible axles.



Crawlers

Crawler assemblies can be hydraulically extended for wide-track operation or retracted for transportation. Crawler belt tension adjusted with hydraulic jack and maintained by shims between idler block and frame.

Crawler drive

The independent hydraulic propel drive is built into each crawler side frame. Each drive consists of a hydraulic motor driving a propel sprocket through a planetary gearbox. The hydraulic motor and gearbox are built into the crawler side frame within the shoe width. The track rollers are sealed for maintenance-free operation.

Crawler brakes

Spring set, hydraulically released, multiple disc-type parking brakes are built into each propel drive.

Steering mechanism

The hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving each track in opposite direction) and differential track speed.

Crawler shoes:

63 shoes per side, 914 mm (36") wide each crawler.

Travel speed:

(High/Low) 1.9/1.2 km/h (1.18/0.75 mph)

specifications

Attachments



Boom

Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections. Boom tip is open throat construction. Two idler sheaves and three point sheaves are standard.

Basic boom length 12,2 m (40') consists of the boom butt section 5,8 m (19') and boom top section 6,39 m (21').

Optional boom inserts are available to provide extension capabilities. They also have welded lattice construction with tubular, high-tension steel chords and pin connections on each one of 3,0 m (10'), 6,1 m (20'), 12,2 m (40') inserts.

Maximum total length of boom 61,0 m (200').



Fixed Jib

The optional fixed jib employs welded lattice construction with tubular, high-tension steel chords with pin connections between sections.

Basic jib length 9,14 m (30') consists of Jib butt section 4,57 m (15') and jib top section 4,57 m (15').

Optional jib boom inserts of 3,0 m (10'), 6,1 m (20') are available for extension capabilities up to 18,3 m (60').

Maximum total length of boom and jib 54,9 m (180') + 18,3 m (60') is 76,2 m (250').

Tools and Accessories

A set of tools and accessories are furnished.

Optional Equipment

➤ Optional: Blocks and Hooks each with roller bearing sheaves grooved for 22.2 mm (7/8") diameter wire rope, and roller bearing swivel with hook latch.

➤ 11 t ball hook, 328 kg wedge socket for 22 mm wire rope.
(12 USt ball hook, 722 lb wedge socket for 26 mm wire rope.)

➤ 19 t hook block, 400 kg with one 500 mm Nominal O.D. roller bearing sheave.

➤ 32 t hook block, 500 kg with two 500 mm Nominal O.D. roller bearing sheaves.

➤ 55 t hook block, 700 kg, four 500 mm Nominal O.D. roller bearing sheave.

(60 USt hook block, 2,398 lb, with four 24" Nominal O.D. roller bearing sheaves.)

➤ 80 t hook block, 800 kg, with five 500 mm Nominal O.D. roller bearing sheaves.
(90 USt hook block, 2,892 lb with five 24" Nominal O.D. roller bearing sheaves.)

➤ Optional: Detachable upper boom point with one 561 mm Nominal O. D. roller bearing steel sheave grooved for 22.2 mm (7/8") rope for liftcrane.

Travel kit

Custom color

Working Weight

Approximately 73,800 kg (162,700 lb) including upperworks and lowerworks, full upper counterweights, full carbody counterweights and 12,2 m (40') basic boom.

Ground Pressure

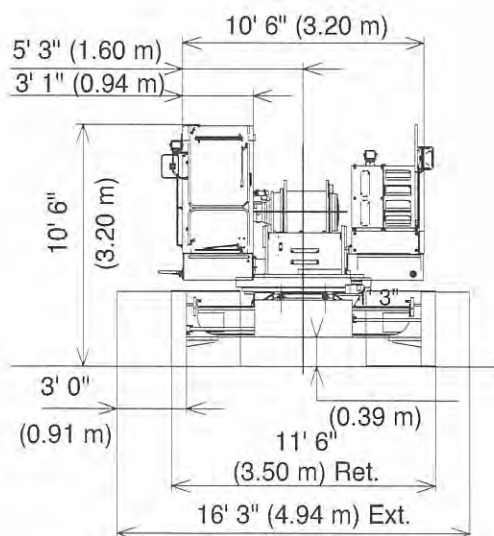
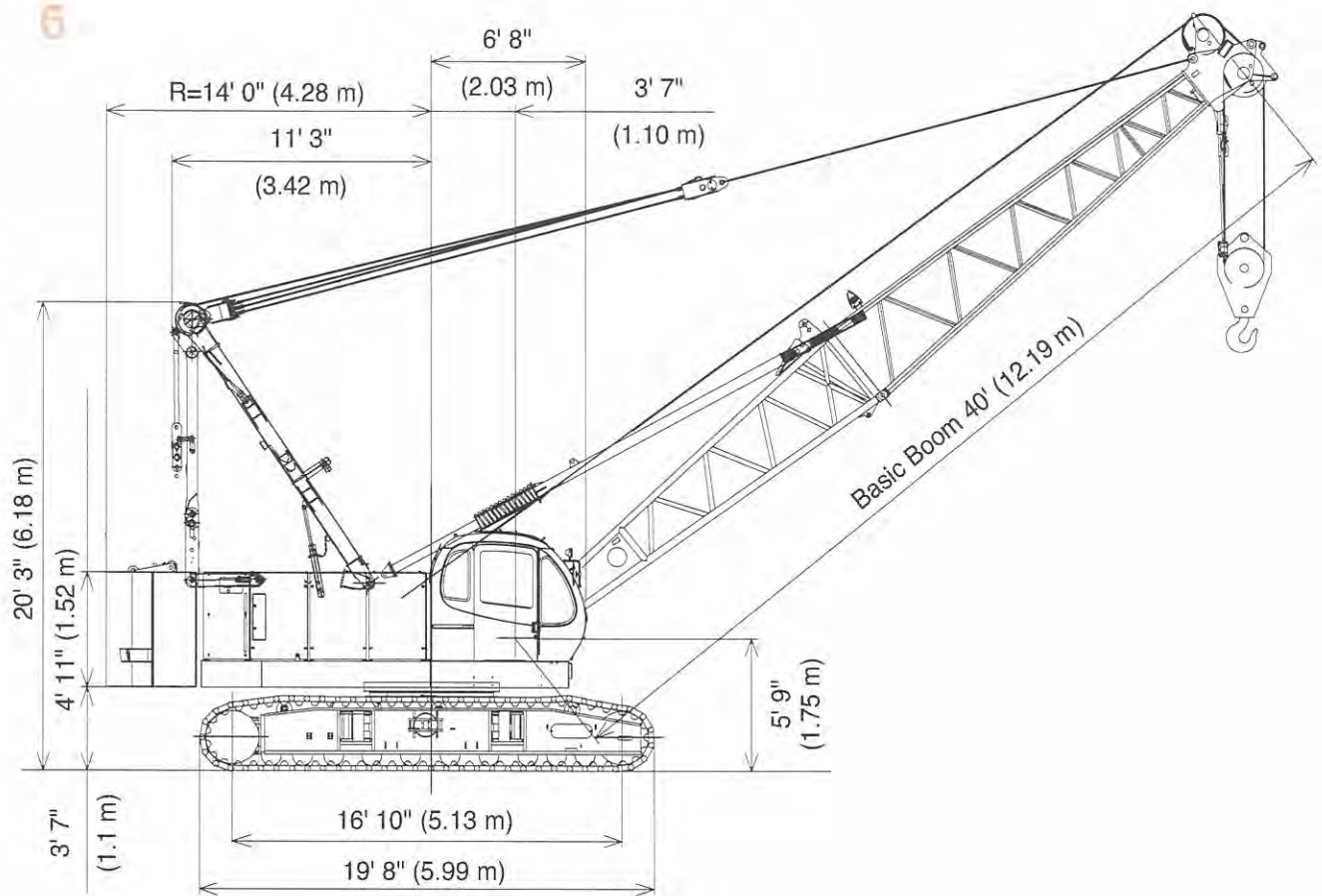
Approximately 77.1 kPa (11.2 psi) with basic boom.

Gradeability

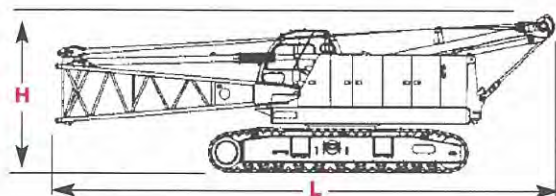
With basic boom: 40%.

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outline dimensions



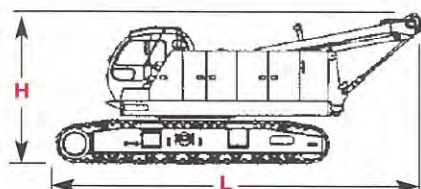
outline dimensions



Upperworks x 1

Length	12,16 m	39' 11"
Width	3,50 m	11' 6"
Height	3,45 m	11' 4"
Weight	40 820 kg	89,980 lb

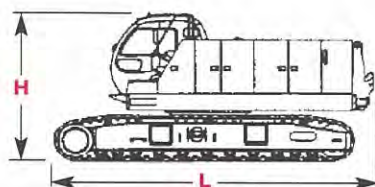
Note: Weight includes base machine, crawler, gantry, maximum hoist and whip lines on drums, boom butt, full hydraulic fluid reservoir, and one third tank of fuel.



Upperworks x 1

Length	8,27 m	27' 2"
Width	3,50 m	11' 6"
Height	3,45 m	11' 4"
Weight	38 700 kg	85,350 lb

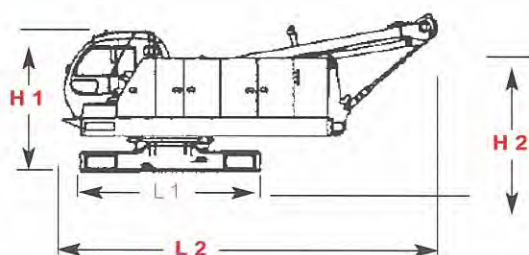
Note: Weight includes base machine, crawler, gantry, maximum hoist and whip lines on drums, full hydraulic fluid reservoir, and one third tank of fuel.



Upperworks x 1

Length	6,55 m	21' 6"
Width	3,50 m	11' 6"
Height	3,20 m	10' 6"
Weight	37 000 kg	81,600 lb

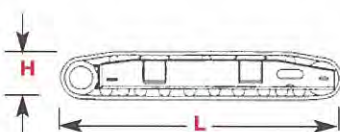
Note: Weight includes base machine, crawler, maximum hoist and whip lines on drums, full hydraulic fluid reservoir, and one third tank of fuel.



Upperworks x 1

Length 1	3,39 m	11' 1"
Length 2	6,31 m	23' 9"
Width	3,20 m	10' 6"
Height 1	2,81 m	9' 3"
Height 2	3,06 m	10' 1"
Weight	23 800 kg	52,500 lb

Note: Weight includes base machine, gantry, maximum hoist and whip lines on drums, full hydraulic fluid reservoir, and half tank of fuel.



Crawlers x 2

Length	5,99 m	19' 8"
Width	0,91 m	3' 0"
Height	0,98 m	3' 3"
Weight	7 400 kg	16,317 lb

Optional 3rd Drum & Wire Rope x 1

Weight	1 930 kg	4,236 lb
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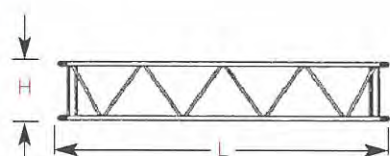
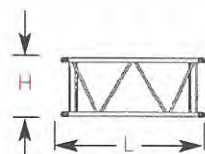
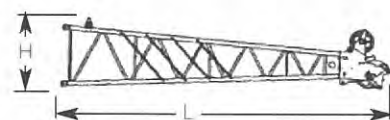
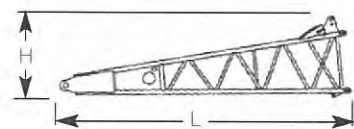
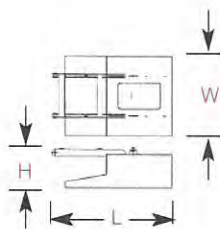
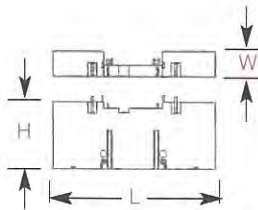
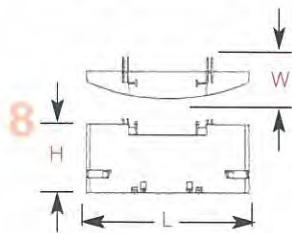
Note: Not illustrated).

Option

model 8500



outline dimensions



Upper Counterweight A x 1

Length	3,60 m	11' 10"
Width	0,91 m	3' 0"
Height	1,64 m	5' 5"
Weight	12 500 kg	27,563 lb

Upper Counterweight B x 1

Length	3,60 m	11' 10"
Width	0,57 m	1' 10"
Height	1,67 m	5' 6"
Weight	12 400 kg	27,342 lb

Carbody Counterweight x 2

Length	1,72 m	5' 8"
Width	1,16 m	3' 10"
Height	0,58 m	1' 11"
Weight	3 340 kg	7,350 lb

Boom Butt 5,8 m (19') x 1

Length	5,97 m	19' 7"
Width	1,42 m	4' 8"
Height	1,48 m	4' 10"
Weight	1 055 kg	2,326 lb

Boom Top 6,4 m (21') x 1

Length	6,90 m	22' 8"
Width	1,38 m	4' 6"
Height	1,48 m	4' 10"
Weight	1 010 kg	2,227 lb

Boom Insert 3,0 m (10') x 1, 2

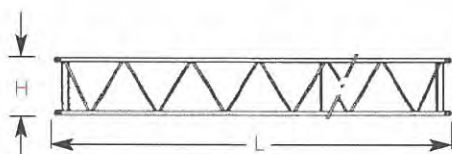
Length	3,16 m	10' 4"
Width	1,36 m	4' 6"
Height	1,29 m	4' 3"
Weight	270 kg	590 lb

Boom Insert 6,1 (20') x 1, 2

Length	6,21 m	20' 5"
Width	1,36 m	4' 6"
Height	1,29 m	4' 3"
Weight	465 kg	1,025 lb

Option

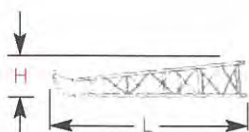
outline dimensions



Boom Insert 12,2 m (40') x 1, 2, 3

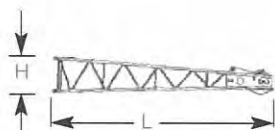
Length	12,31 m	40' 5"
Width	1,36 m	4' 6"
Height	1,29 m	4' 3"
Weight	860 kg	1,896 lb
Weight	A875 kg	1,929 lb

Note: Use one "A" type insert with lug required for any boom combinations that require a 12,2 m (40') insert.



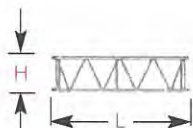
Fixed Jib Butt x 1

Length	4,81 m	15' 9"
Width	0,79 m	2' 7"
Height	0,79 m	2' 7"
Weight	200 kg	440 lb



Fixed Jib Top x1

Length	4,96 m	16' 3"
Width	0,79 m	2' 7"
Height	0,79 m	2' 7"
Weight	280 kg	617 lb



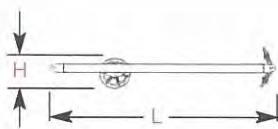
Fixed Jib Insert 3,0 m (10') x 1

Length	3,12 m	10' 3"
Width	0,79 m	2' 7"
Height	0,79 m	2' 7"
Weight	100 kg	221 lb



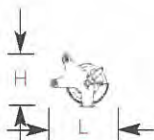
Fixed Jib Insert 6,1 m (20') x 1

Length	6,16 m	20' 3"
Width	0,79 m	2' 7"
Height	0,79 m	2' 7"
Weight	180 kg	397 lb



Fixed Jib Strut x 1

Length	3,62 m	11' 11"
Width	0,84 m	2' 9"
Height	0,62 m	2' 2"
Weight	250 kg	550 lb



Upper Sheave x 1

Length	0,83 m	2' 9"
Width	0,28 m	1' 0"
Height	0,74 m	2' 5"
Weight	145 kg	320 lb

Option

model 8500

