Specifications

Upperworks

Engine

Cummins Model QSX15-C500 diesel, 6 cylinder, 372 kW (500 BHP) @ 2100 governed RPM.

Includes engine block heater (120 V), ether starting aid, alcohol injector in air line, disconnect clutch for cold weather starting, high silencing muffler, hydraulic oil cooler, radiator and fan.

Multiple hydraulic pump drive transmission provides independent power for all machine functions.

Two 12 volt maintenance-free, Group 8D batteries, 1155 CCA at -18°C (0° F), 24 volt starting and 120 amp alternator.

One 644 l (170 gal) capacity diesel fuel tank, mounted on rear of upperworks, with level indicator in operator's cab.

Optional: Cold-weather package with heater for fluids, brake pedals, batteries, and computer display.

Controls

Modulating electronic-over-hydraulic controls provide infinite speed response directly proportional to control lever movement. Controls include Manitowoc's exclusive EPIC® Electronically Processed Independent Control system providing microprocessor driven control logic, pump control, on-board diagnostics, and service information.

Block-up limit control is standard for hoist and whip lines.

Integrated Rated Capacity Limiter system (RCL) is standard for main boom and upper boom point. "Function cut-out" or "warning only" operation is selected via a keyed switch on the RCL console.

Hydraulic system

Six high-pressure piston pumps, driven by a multi-pump transmission, provide independent closed-loop hydraulic power for the hoisting drums, boom hoist, swing, left crawler and right crawler.

Hydraulic reservoir has 424 l (112 gal) capacity and is equipped with breather, clean out access, and internal diffuser.

Each function is equipped with relief valves to protect the hydraulic circuit from overload or shock.

System includes oil cooler and replaceable, spin-on, ten-micron full flow filter. All oil is filtered before entering the hydraulic pumps.

System	kg/cm2 (psi)	lpm (gpm)
Hoisting Drums	422 (6,000)	598 (158)
Boom Hoist and Auxiliary Drum	422 (6,000)	299 (79)
Swing	422 (6,000)	299 (79)
Left Crawler	422 (6,000)	299 (79)
Right Crawler	422 (6,000)	299 (79)

Optional: Independent front drum – 422 kg/cm^2 (6,000 psi) at 598 lpm (158 gpm) powered by travel pumps.

Optional: Double-motor swing system – 422 kg/cm^2 (6,000 psi) at 299 lpm (79 gpm).

Drums

Basic machine is equipped with a split rear drum shaft assembly. Right drum is 1 140 mm (44-9/10") wide and 572 mm (22-1/2") diameter. Left drum is 480 mm (18-9/10") wide and 572 mm (22-1/2") diameter. Drum shaft is antifriction bearing mounted and is driven by a variable-displacement hydraulic motor through a planetary reduction. Internal-expanding drum clutches are spring set, air released. External-contracting drum brakes are air applied, spring released. Parking brakes are spring set, air released. Drum rotation indicator is standard for each drum. Operator may select free-fall or powered lowering mode using a selector switch.

Optional: Two equal-split rear drums in place of standard drums. Each drum is 810 mm (31-9/10") wide and 572 mm (22-1/2") diameter.

Optional: Interlock that permits split rear drums to be used as single drum with two brakes. Recommended for concrete bucket operations.

Optional: Hydraulically powered auxiliary front drum 572 mm (22-1/2") diameter, 1 140 mm (44-9/10") wide rated at 133,4 kN (30,000 lb) line pull.

Specifications

For liftcrane, 963 mm (37.9") wide lagging provided. Drum shaft anti-friction bearing mounted on rotating bed. Drum anti-friction bearing mounted on shaft and equipped with internal-expanding clutch, external-contracting brake, and drum-rotation indicator. Includes third-drum control system. Bail limit is optional.

Optional: Other drum sizes, laggings, and additional drums.

Optional: Wire rope for various applications.

Boom hoist

Independent boom hoist with two grooved drums, each 505 mm (19-7/8") wide and 584 mm (23") diameter. Includes 297,2 m (975') of (1") diameter wire rope for reeving 12 part boom hoist line.

Drums are powered by a variable-displacement hydraulic motor coupled to an integral brake and a planetary reduction gearbox. Ratcheting pawl and rotation indicator are standard.

Boom hoist speed: raise 91,4 m (300') full main boom from 0˚- 82˚ in 2 minutes, 40 seconds.

Swing system

High strength fabricated steel alloy rotating bed is mounted on 2,95 m (9' 8") diameter triple-row roller bearing turntable.

Rotating bed's upper and lower modules are fabricated steel and connected by four power actuated pins. Hydraulic connection of upper and lower modules is made through H-FACT® hydraulic quick coupler. Enclosures are included on both sides of upper module.

Independent swing powered by a fixed displacement hydraulic motor coupled to a planetary reduction gearbox with internal brake. 360˚ positive swing lock.

Swing system maximum speed: 1.8 rpm.

Boom support system

The 8,5 m (28') long retractable gantry provides the geometry to raise and support all combinations of boom and jib. The telescoping square-tube backhitch is equipped with power actuated locking pins.

Boom-hoist rope reeved through sheaves in the gantry and equalizer forms 12-part boom-hoist rigging, and high-strength steel straps connect the equalizer to the boom top.

Air cushioned boom stop and automatic boom stop are standard.

Gantry includes hydraulic raising cylinders capable of lifting the upperworks counterweight for installation and removal. Counterweight attaches to rotating bed with power actuated pins.

Counterweight

Qty.	Item	Unit Weight		Total Weight	
		kg	lb	kg	lb
1 1 6	**Upperworks** Tray Center Box Lower Side Box	17 781 16 783 7031	39,200 37,000 15,500	17 781 16 783 42 186	39,200 37,000 93,000
	Series 1 total			**76 750**	**169,200**
2	**Upperworks** Upper Side Box	9072	20,000	18 144	40,000
2	**Carbody** Center Box	13 608	30,000	27 216	60,000
	Optional: Add to Series 1 for Series 2 total			**122 110**	**269,200**
2	**Upperworks** Upper Side Box	9 072	20,000	18 144	40,000
4	**Carbody** Side Box	6804	15,000	27 216	60,000
	Optional: Add to Series 2 for Series 3 total			**167 470**	**369,200**

Includes connecting pins, brackets, and stops.

Operator's cab

Fully enclosed and insulated steel module mounted at left front corner of rotating bed on a pivoting frame that permits cab to be repositioned for transportation. Module is equipped with sliding door, large safety glass windows on all sides and roof. Signal horn, cab space heater, front and roof windshield wipers, dome light, sun visor and shade, fire extinguisher, air circulating fan, swing and travel alarms, air conditioning for operator's cab and anemometer (wind indicator) are standard.

Optional: Nylon protective window covers.

Optional: 10,7 m (35') elevated cab, 1 320 mm (52") wide, with catwalks and railing.

Specifications

Attachments

No. 44 Boom with heavy-lift top

The liftcrane is equipped with a 21,3 m (70') No. 44 angle-chord boom consisting of a two-piece 12,2 m (40') butt and a 9,1 m (30') heavy-lift top with nine 762 mm (30") diameter roller bearing sheaves on one shaft. Includes rope guides, boom angle indicator, and a 594 kg (1,310 lb) hook and weight ball. The No. 44 boom utilizes steel suspension straps and Manitowoc's patented, exclusive FACT™ connection system consisting of two vertical pins, two horizontal connection pins, and alignment pads for each boom connection location. Because the 2250 uses steel-strap rigging, boom inserts from the M-250 cannot be used on the 2250.

Luffing jib preparation is standard.

- Optional: 3,0 m (10'), 6,1 m (20'), and 12,2 m (40') No. 44 boom inserts with steel boom suspension straps, and FACT™ connection system.

- Optional: Intermediate suspension, required for boom lengths of 85,3 m (280') or more.

- Optional: Detachable upper boom point with one 762 mm (30") diameter tapered roller bearing steel sheave with rope guard, for liftcrane use on heavy-lift and long-reach boom tops. (Same upper point used on Models 777, 777T, 888, and M-250.)

No. 44 Long reach boom top

- Optional: 21,3 m (70') long reach top consisting of 9,1 m (30') transition insert and 12,2 m (40') top with three 762 mm (30") diameter straight-roller-bearing sheaves. Includes steel rigging straps, wire rope guide, and hardware for RCL.

FACT™ connectors at lower end of transition insert enable mounting to standard No. 44 boom inserts. Transition insert can be purchased with FACT™ or pin connectors at top, permitting either No. 133A (pinned) or No. 133 (FACT™) luffing jib top to also be used as long-reach top for No. 44 boom.

- Optional: Intermediate suspension, required for boom lengths of 91,4 m (300') or more.

No. 132 Fixed jib

- Optional: 12,2 m (40') basic No. 132 fixed jib consists of 6,1 m (20') butt and 6,1 m (20') top, with 6,1 m (20') strut, pendants, backstay, and RCL hardware.

- Optional: No. 132 fixed jib 6,1 m (20') inserts with pendants for total jib lengths to 36,6 m (120').

Use on Boom No. 44 with heavy-lift or long-reach boom top.

No. 133A Luffing jib

- Optional: 21,3 m (70') basic No. 133A (pin connected) luffing jib with RCL hardware consists of 9,1 m (30') butt and 12,2 m (40') top with three 762 mm (30") roller bearing sheaves and basic pendants, fixed strut, jib strut, backstay pendants, boom point guide wheel, luffing jib hoist with ratcheting pawl, quick-disconnect for luffing jib hoist piping, (7/8") luffing jib hoist line, and 476 mm (18-3/4") diameter grooved luffing drum.

- Optional: 3,0 m (10'), 6,1 m (20'), and 12,2 m (40') No. 133A inserts with pendants for total jib lengths to 61,0 m (200').

- Optional: Parts for outside-assist raising (where code permits).

No. 140 Fixed jib

- Optional: Basic 12,2 m (40') No. 140 fixed jib consists of 6,1 m (20') butt and 6,1 m (20') top, with 6,1 m (20') strut, pendants, backstay, and RCL hardware.

- Optional: No. 140 fixed jib inserts 6,1 m (20') with pendants for total jib lengths to 36,6 m (120').

Use on No. 133A or 133 luffing jib.

- Optional: Parts to convert No. 132 fixed jib to No. 140 fixed jib.

Specifications

MAX-ER® 2000

Components to make up 36,6 m (120') No. 79 boom including one 9,1 m (30') No. 79 boom butt, one 6,1 m (20') No. 79 boom insert, one 12,2 m (40') No. 79 boom insert with equalizer platform, one 7,6 m (25') No. 79 transition insert, one 1,52 m (5') No. 79 boom top (15 sheaves), deflector sheave assembly (3 sheaves), boom equalizer (5 sheaves), steel rigging straps, and RCL hardware for No. 79 boom top.

Automatic boom stop, air-cushioned physical boom stop, and 793 m (2,600') of boom hoist wire rope (can be used as load line on 2250 crane). Components to make up 39,6 m (130') No.44 mast including one 12,2 m (40') No.44 mast butt, one 12,2 m (40') No.44 mast top (5 sheaves), physical mast stop, wire rope guide, and steel rigging straps.

Note: Requires use of 3,0 m (10') No. 44 boom insert and 12,2 m (40') No. 44 boom insert from 2250 liftcrane.

Main hoist drum assembly grooved for 29 mm or (1-1/8") wire rope mounted in No. 79 boom butt.

Integrated boom and mast adaptor frame.

Note: 2250 liftcrane requires MAX-ER 2000 preparation, Series 2 counterweights on carbody, and Series 1 counterweights on upperworks.

Note: The MAX-ER 2000 attachment cannot be used on an existing model 2250 liftcrane without modification, and cannot be used on M-250 model.

The MAX-ER 2000 attachment uses up to 209 560 kg (462,000 lb) of MAX-ER counterweight supported on a carrier behind the basic crane. The MAX-ER counterweight is attached to the top of the mast by straps and to the rear of the 2250's upperworks by an adaptor arm and trailer arm inserts.

The MAX-ER counterweight can be carried by a hanging counterweight tray or a wheeled counterweight carrier.

The wheeled counterweight carrier uses eight large off-road vehicle tires, which can be positioned for traveling, crabbing, or swinging. It also includes hydraulic support jacks and pads.

Either counterweight assembly can be positioned 9,14 m (30'); 12,2 m (40'); or 15,2 m (50') behind the 2250's centerline of rotation to meet the capacity requirements of an individual lift.

Item	Qty.	Unit Weight		Total Weight	
		kg	lb	kg	lb
Wheeled Carrier	1	34 609	76,300	34 609	76,300
Counterweight Boxes					
Lower Side*	12	5897	13,000	70 760	156,000
Lower Center**	6	6441	14,200	38 646	85,200
Upper Side - Right***	2	9072	20,000	18 144	40,000
Upper Side - Left***	2	9072	20,000	18 144	40,000
Upper Center*	4	6804	15,000	27 216	60,000
Adaptor Plate - Front	2	454	1,000	907	2,000
Adaptor Plate - Rear	2	502	1,106	1 003	2,212
Miscellaneous parts	1	131	288	131	288
				209 560	**462,000**

* Optional: 8 each 8845 kg (19,500 lb).
** Optional: 4 each 9639 kg (21,250 lb).
***From Model 2250 Series 3 Crane.

- Optional: 12,2 m (40') No. 79 boom insert with stowable steel rigging straps and wire rope guides, one required in boom rigging for all boom lengths over 36,6 m (120').

- Optional: 12,2 m (40') No. 79 boom insert with stowable steel rigging straps for boom lengths over 48,8 m (160') up to 109,7 m (360').

- Optional: 4,6 m (15') No. 79-44 transition insert with wire rope guide and stowable steel rigging straps for use of No. 44 boom insert(s) and top for long-reach boom.

- Optional: No. 44 luffing jib. Components to make up 21,3 m (70') basic luffing jib include a 15,2 m (50') jib strut with 7 sheaves, 14,3 m (47') main strut with 7 sheaves, jib strut stop, luffing jib stop, main luffing strut backstay straps, basic luffing jib steel rigging straps, combination upper point and luffing jib raising wheel, luffing drum assembly, 549 m (1,800') luffing drum wire rope, and wire rope guide(s) as required.

Note: Basic luffing jib utilizes 12,2 m (40'), No. 44 boom butt and 9,1 m (30') No. 44 boom top from 2250 liftcrane. Luffing jib also uses No. 44 boom inserts and straps from 2250 liftcrane for luffing jib lengths greater than 21,3 m (70').

- Optional: 408-mton (450-ton) load block with duplex hook.

- Optional: 227-mton (250-ton) load block with duplex hook.

- Optional: Liftcrane load line 29 mm or (1-1/8") rotation resistant.

- Optional: Components to allow for self-assembly of boom and other components utilizing mast, boom hoist drum, and boom equalizer.

Specifications

M-1200 RINGER®

18,3 m (60') diameter ring structure with wear plates, crawler side frame attaching beams and "RINGER–SWINGER®" gear segments.

RINGER support pedestals with manual screw style adjustments.

Hydraulic jacking system, including jacks, controls and ring leveling gauge.

Boom carrier with boom and mast hinge pins. Carrier includes mounting for Model M-1200 hoist drum.

Counterweight carrier with attachment beams to machine rear and counterweight lift indicator in operator's cab.

Optional: 714 811 kg (1,577,600 lb) of counterweight for 800-mton (900-ton) rating.

Optional: 914 175 kg (2,017,000 lb) of counterweight for 1 300-mton (1,433-ton) rating.

No. 75A boom attachment 800-mton (900-ton) capacity

45,7 m (150') No. 75A basic boom, including 15,2 m (50') No. 75A butt, 15,2 m (50') No. 75A insert and 15,2 m (50') No. 75 top.

45,7 m (150') No. 75A mast including 7,6 m (25') No. 75 mast butt, two 15,2 m (50') No. 75A inserts, 7,6 m (25') No. 75 mast top,)b straps and backhitch straps.

Mast self-erect system, steel strap rigging, equalizer, and boom hoist wire rope for 32-part boom hoist reeving for No. 72 boom.

Air-cushioned physical boom stop, air automatic boom stop, boom angle indicator.

No. 75A 800-mton (900-ton) boom point with sixteen 1067 mm (42") diameter sheaves grooved for (1-5/8") diameter rope.

RINGER® travel assist system.

Two "RINGER-SWINGER®" assemblies.

Single-drum Model M-1200 hoist, complete with lagging grooved for (1-5/8") wire rope, hydraulic power provided by 2250 liftcrane, for load hoist drum.

Optional: 7,6 m (25') and 15,2 m (50') No. 75 boom inserts and rigging straps for total boom lengths to 121,9 m (400').

No. 72A boom attachment

The following components must be added to the No. 75A boom attachment to achieve a No. 72A liftcrane attachment for the M-1200 RINGER.

Conversion to two drum M-1200 hoist [each drum includes lagging grooved for (1-5/8") wire rope], including additional Cummins N14-C450 diesel engine rated at 335 kW (450 HP), which supplements total load hoist and swing capability.

46,6 m (153') No. 72A boom, including 15,2 m (50') butt, one 15,2 m (50') insert and 15,2 m (50') transition insert with 0,9 m (3') boom top/jib adaptor. Strap rigging, equalizer and boom hoist wire rope for 36-part reeving in place of 32-part reeving.

Two additional "RINGER-SWINGER®" assemblies and interconnecting piping.

Optional: 7,6 m (25') and 15,2 m (50') No. 72A boom inserts and rigging straps for total boom lengths to 122,8 m (403').

Optional: (1-5/8") wire rope for load line and (1-1/8") wire rope for whip line.

Optional: 1 300-mton (1,433-ton) lower point.

Optional: 1 300-mton, (1,433-ton) load block with quad hook and hanger block.

Optional: No. 72A to No. 75 boom picture frame insert for making No. 72A-75 combination boom.

The 914 175 kg (2,017,600 lb) of)b required for 1 300-mton (1,433-ton) rating can be supplied by Manitowoc.

No. 75 Jib

Optional: 30,4 m (100') No. 75 jib, backstay straps and rigging components utilizes No. 75 boom top and butt from 800-mton (900-ton) lift attachment and No. 44 boom from 2250 for jib strut.

Optional: 7,6 m (25') and 15,2 m (50') No. 75 inserts and straps for total lengths up to 76,2 m (250').

MAX-RINGER™ suspended counterweight attachment
Suspended counterweight attachment consists of structural backhitch links at the No. 75A mast top, structural backhitch straps, and suspended counterweight tray. Counterweight for the suspended counterweight attachment will be quoted upon request or may be customer supplied.

Specifications

No. 182 structural fixed jib for No. 72A boom

Single piece 15,2 m (50') structural jib and jib strut pin to No. 72A boom top and utilize the 800-mton (900-ton) boom point from the No. 75 fixed jib. Rigging consists of structural straps, links and pins.

Optional: Front auxiliary drum, with ratchet and pawl. Includes hydraulic piping and liftcrane lagging grooved for (1-1/8") rope.

NOTE: Auxiliary drum cannot run simultaneously with M-1200 main hoist drums

Optional: 80-mton (88-ton) upper boom point assembly for use with No. 75A boom, No. 72A boom, or No. 75 jib.

Consult Manitowoc Sales department for other options.

Lowerworks

Carbody

Connects rotating bed and crawler frames. Fabricated steel rotating bed lower module mounts to single-piece carbody by 2,9 m (9' 8") diameter triple-row roller bearing turntable. Each crawler frame is mounted to the carbody with FACT™ connection system power-actuated pins. Crawler drive motors are mounted on carbody. Permits crawler removal without opening travel drive hydraulic circuit.

Crawlers

Crawler assemblies are 9,40 m (30' 9") long with 1,22 m (48") wide cast steel crawler pads and sealed "low maintenance" intermediate rollers. Each crawler is powered independently by a variable displacement hydraulic motor. Carbody mounted drive motors are connected to crawler final reduction via telescoping shafts. This permits crawlers to be removed without opening their hydraulic circuits. Crawlers provide ample tractive effort for counter rotation with full rated load.

Maximum ground speed of 1,61 kph (1.0 mph).

Optional: 1 220 mm (48") wide flattened treads for 1 149 mm (45-1/4") hard surface bearing width [instead of 514 mm (20-1/4") bearing width of standard treads].

Optional: 1 524 mm (60") wide treads (no self-erect option allowed).

Optional equipment

Optional: Self-erect system, includes two wire rope guides for crawler handling, boom butt handling cylinder, upperworks jacking cylinders with pads, alignment device, four carbody support pedestals, 41-mton (45-ton) assembly block, crawler handling chains, 48,7 m (160') of (1-1/8") diameter rigging line.

Optional: Blocks and Hooks, each with 762 mm (30") roller-bearing sheaves for 29 mm or (1-1/8") wire rope, a roller-bearing swivel hook, a hook latch, and a swivel lock.

13,6-mton (15-ton) swivel hook and weight ball

41-mton (45-ton) hook block with one sheave [assembly block]

54-mton (60-ton) hook block with two sheaves

91-mton (100-ton) hook block with three sheaves

272-mton (300-ton) hook block with nine sheaves and a duplex swivel hook

Optional: Wire rope for various applications.

Optional: Equipment and testing for special code compliance.

Optional: Preparation for MAX-ER® 2000.

Optional: Preparation for M-1200 RINGER®.

Optional: Hydraulic Test Kit: required to properly analyze the performance of the EPIC® control system.

Optional: Service Interval Kits: for the regularly scheduled maintenance of general crane operations.

Optional: Lighting Packages: consult dealer for available options.

Optional: Special Paint [color(s) other than Manitowoc standard red and black].

Optional: Custom vinyl decal(s) of customer name and/or logo from artwork supplied by customer.

Optional: Export Packaging: basic crane, boom and jib sections. MAX-ER® and RINGER® export packaging available.

Optional applications

No. 136 Container handling jib

Conversion from Liftcrane to No. 136 Container handling jib

Equal-split rear drum assembly, with two drums, each 810 mm (31-9/10") wide, in place of standard unequal-split rear drum. Liftcrane laggings for both drums, 810 mm (31-9/10") wide, 622 mm (24-1/2") in diameter and grooved for 29 mm or (1-1/8") rope. Tapered pins for rotating bed connection. Block up limit for No. 44 boom and No. 136 luffing jib. 24,4 m (80') No. 44 boom in place of 21,3 m (70') basic boom. 21,3 m (70') basic No. 136 luffing jib for layout assembly consisting of pin connected 6,1 m (20') jib butt, 15,2 m (50') top with two 762 mm (30") diameter sheaves spread 1 520 mm (60") apart to provide horizontal stability of the container, basic pendants, fixed strut, jib strut, backstay pendants, boom point guide wheel, luffing jib hoist with ratchet and pawl, and (7/8") luffing jib line. Hydraulic container tagline system. Slack-rope detection with visual and audible alarm in operator's cab. Two 27-mton (30-ton) single sheave hook blocks. Delete H-FACT® and power pins in rotating module. Delete Integrated Rated Capacity Limiter (RCL). Delete 594 kg (1,310 lb) hook and weight ball. Delete powered pins in crawlers.