

# Grove GMK5275

## Product Guide



### Features

- 13,3 m - 68 m (44 ft - 223 ft) seven-section full power MEGAFORM™ boom with TWIN-LOCK™ pinning
- 12 m - 21 m (39 ft - 69 ft) hydraulic offset bi-fold swingaway
- 2 x 8 m (26 ft) intermediate lattice inserts
- 77 t (169,700 lb) counterweight with hydraulic removal system
- MEGATRAK™ independent hydro-pneumatic suspension



# Features

## MEGATRAK™

The MEGATRAK™ suspension system is the best off road driveline available on the market today. The system's versatility and performance allows the GMK5275 to operate as a true all-terrain crane. The MEGATRAK™ independent suspension and all-wheel steer system allows wheels to remain on the ground at all times so stresses and weight are not continually transferred between axles. MEGATRAK™ provides true ground clearance where others just raise the chassis.

Other benefits of the MEGATRAK™ system are:

- A reliable suspension system
- Excellent job site maneuverability with all-wheel steering
- Commonality among almost all models
- A driveline that remains aligned at all times
- A steering linkage system that is protected against damage
- Constant tire contact for equal tire wear
- Reduced maintenance



## TWIN-LOCK™

Boom pinning mechanism automatically pins the sections in position using two horizontal pins.



## ECOS

Electronic Crane Operating System - ECOS enables control of the entire crane's principle operations. Simple programming eases lift planning and a supply of essential information allows full concentration on the lift itself.



## EKS 5

The EKS 5 monitors the lifting conditions of the crane at all times and provides a full graphic display, rear lighting, graphic of boom telescoping percentage, and load charts.



# Contents

Specifications (North American machine)	4
Dimensions (North American machine)	7
Weights (North American machine)	8
Specifications (European machine)	9
Dimensions (European machine)	12
Weights (European machine)	13
Counterweight	14
Working range (main boom)	15
Load charts (main boom)	16
Working range (swingaway)	19
Load charts (hydraulically offsettable swingaway)	20
Working range (heavy duty jib)	23
Load charts (heavy duty jib)	24
Symbols glossary	26

# Specifications

## North American version

### Superstructure

#### Boom

13,3 m - 68 m (44 ft - 223 ft) 7-section, full power MEGAFORM™ boom with TWIN-LOCK™ Pinning. Maximum tip height: 71 m (233 ft).



#### Boom nose

Eight nylatron sheaves, mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeve boom nose. Removable auxiliary boom nose with removable pin type rope guard.



#### Boom elevation

Single lift cylinder with safety valve provides boom angle from -1.5° to +83°.



#### \*Hydraulic offsettable lattice extension

12 m - 21 m (39 ft – 69 ft) bi-fold lattice swingaway extension, hydraulically offsettable and luffing under load, 5°- 40°.

Maximum tip height: 92 m (302 ft)



#### \*Lattice inserts

2 x 8 m (26 ft) inserts for use with lattice swingaway extension to increase length to 29 m (95 ft) or 37 m (121 ft)

Maximum tip height: 108 m (354 ft)



#### Load moment and anti-two block system

Load moment and anti-two block system with audio/visual warning and control lever lockout provides electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition.



#### Cab

All aluminum constructed cab with acoustical lining, hydraulic tilted to 20°. Includes tinted safety glass, adjustable operator's seat, opening windows at side and rear, hinged windshield with wiper, sun visor and window shade. Other features include hot water heater/defroster, armrest integrated crane controls and ergonomically arranged instrumentation.



#### Swing

3 planetary gear boxes with fixed displacement axial piston motors. Infinitely variable to 1.3 rpm. Free swing or hydrostatically engaged brake controlled by swing lever. Swing brake selected by foot operated switch.



#### Counterweight

77 t (169,700 lb) consisting of various sections with hydraulic installation/removal system controlled from the superstructure cab.



#### Engine

Cummins QSB6.7, 6 cylinder

Horsepower: 164 kW (220 bhp) at 2200 rpm

Torque: 949 Nm (700 ft/lb) at 1500 rpm

Engine emissions: EPA/CARB/EUROMOT (off road)



#### Fuel tank capacity

230 L (61 gal)



#### Electrical system

3 phase alternator: 28V/80A

2 batteries: 12V/170Ah



#### Hydraulic system

3 (three) separate circuits, 1 (one) axial piston variable displacement pump (load sensing) with electronic power limiting control for crane functions and 1 (one) double gear pump for slewing. Thermostatically controlled oil coolers keep oil at optimum operating temperature.

Hydraulic tank capacity: 915 L (242 gal)

*\*Denotes optional equipment*

# Specifications

## North American version

### Superstructure continued

#### Hoist

Main and auxiliary hoist are powered by axial piston motor with planetary gear and brake. "Thumb-thumper" hoist drum rotation indicator alerts operator of hoist movement.

	Main	Auxiliary
Rope length:	290 m (951 ft)	290 m (951 ft)
Rope diameter:	22 mm	22 mm
Line speed:	125 m/min (410 fpm)	125 m/min (410 fpm)
Line pull:	93.5 kN (21,020 lb)	93.5 kN (21,020 lb)

#### \*Optional equipment

- Work lights, mounted on boom base section
- Boom mounted aircraft warning light
- Radio/CD player for superstructure cab
- Stainless steel exhaust system with spark arrestor
- Air conditioning
- Hook blocks/headache ball
- Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer.
- Additional cab mounted work light
- Strobe light
- Working range limiter
- Data logger
- 360° NYC swing lock
- 2,0 m (6.6 ft) side stowed heavy duty jib with 19 t (41,900 lb) maximum capacity using two parts of line, offset 0° and 25°
- 2,3 m (7.5 ft) side stowed heavy duty jib with 38 t (83,000 lb) maximum capacity using four parts of line, offset 8° and 30°
- EKS5 Light semi-graphic display in lieu of standard EKS5

### Carrier

#### Chassis

Box type, torsion resistant frame is fabricated from high strength steel.

#### Outrigger system

Four hydraulic two stage outrigger beams with vertical cylinders and outrigger pads, 600 mm (23.6 in) square . Outrigger can be set in 5 positions:

- Full: 8,1 m (26.6 ft)
- Partial: 6,8 m (22.4 ft)
- Partial: 5,6 m (18.4 ft)
- Partial: 4,4 m (14.4 ft)
- Retracted: 2,7 m (9.0 ft)

Independent horizontal and vertical movement controlled from each side of carrier and the superstructure cab. Electronic crane level indicators. Hydraulic disconnect for all outrigger beams.

#### Transmission

Allison automatic 4000 SP, 6 speeds forward, 1 reverse 2 speed transfer case

#### Drive/steer

10x6x10

#### Axles

- 1st axle line – steer
  - 2nd axle line – steer/(optional drive)
  - 3rd axle line – drive/steer (permanent drive with 10x6, disconnects for highway with 10x8)
  - 4th axle line – drive/steer (connects for all wheel steer)
  - 5th axle line – drive/steer
- Drive axles with planetary hub reduction and center mounted gearing. Standard inter-axle and cross axle differential locks.

#### Suspension

Grove exclusive MEGATRAK™ suspension. Independent hydro-pneumatic system acting on all wheels with hydraulic lockout. Suspension can be raised 160 mm (6.3 in) or lowered 120 mm (4.7 in), both longitudinally and transversely. Features an automatic leveling system for highway travel.

# Specifications

## North American version

### Carrier continued

#### Tires

10 tires, 16.00R25 (Vehicle width – 3,0 m [9.8 ft])

#### Steering

Dual circuit, hydraulic power assisted steering system. Transfer case mounted, ground driven emergency steering pump. Axles 1, 2, 3 and 5 steer on highway. Separate steering (steer by wire) of the 4th and 5th axles for all wheel and crab steering, controlled by an electronic rocker switch.

#### Engine

Cummins QSX15, 6 cylinder

Horsepower: 399 kW (535 bhp) at 2100 rpm

Torque: 2539 Nm (1873 ft/lb) at 1400 rpm

Engine emissions: EPA /CARB/EUROMOT (off road)

Standard compression brake, disconnected when hydraulic transmission retarder is optioned

#### Fuel tank capacity

397 L (105 gal)

#### Brakes

Service brakes: pneumatic dual circuit acting on all wheels.

Parking brake: pneumatically operated spring loaded brake acting on axle lines 2, 3, 4 and 5.

Air dryer.

#### Cab

Two-man, aluminum construction with the following features: safety glass, driver seat with pneumatic suspension, engine-dependent hot water heater, power windows, heated rear view mirrors, complete instrumentation and driving controls.

#### Electrical system

24V system with three phase alternator, 28V/100A

2 batteries, 12V/170 Ah



### Maximum speed

85 km/h (53 mph)



### Gradeability (theoretical)

50% - 14.00 tires

45% - 16.00/20.5 tires

### Miscellaneous standard equipment

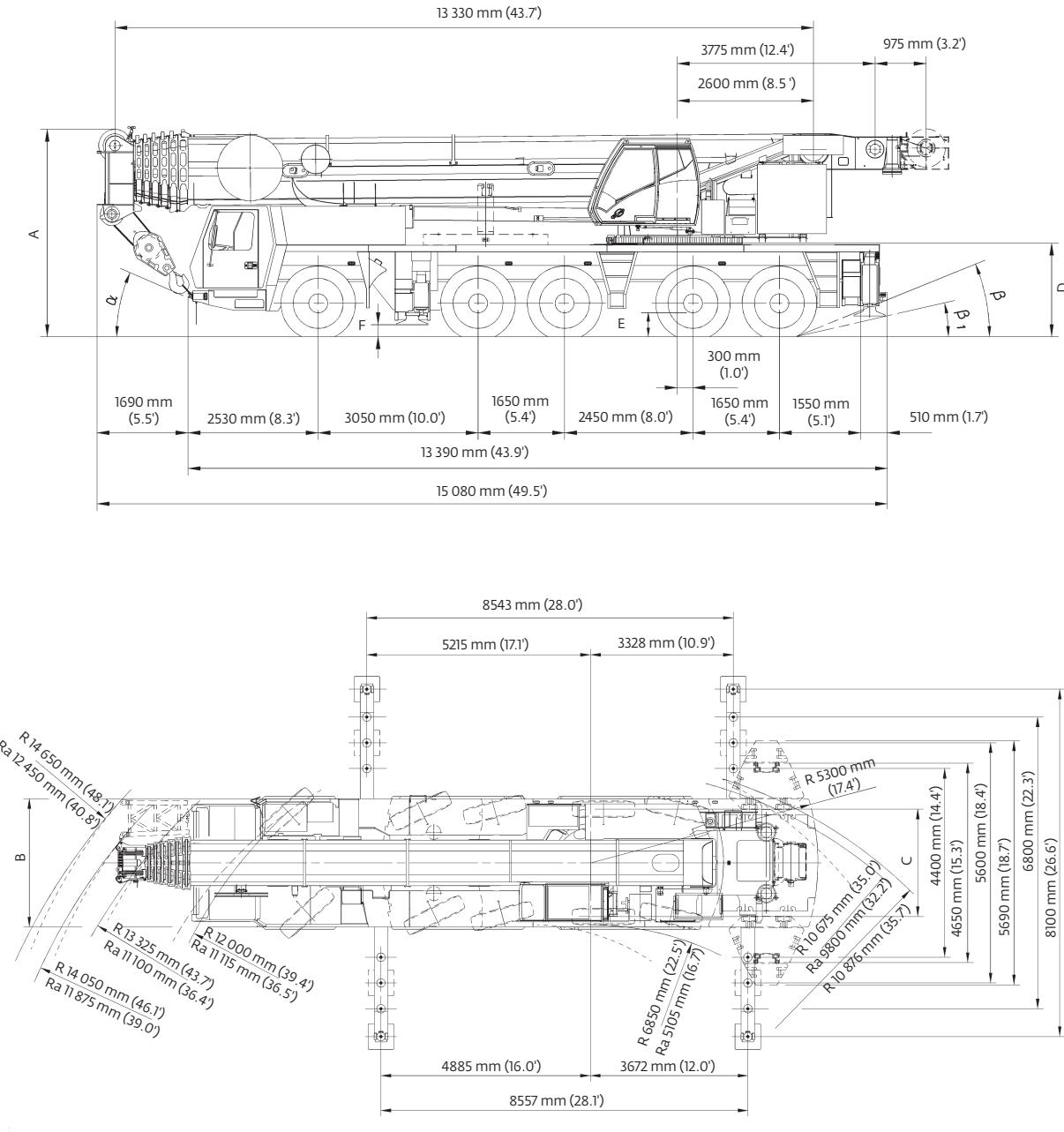
Work light; tool kit; fire extinguishers; auxiliary boom nose; radio/CD player in carrier cab, heated rear view mirrors, wind speed indicator.

### \*Optional equipment

- Stainless steel exhaust system with spark arrestor
- Air conditioning
- 14.00R25 tires (vehicle width. 3 m [9.8 ft])
- 20.5R25 tires (vehicle width. 3,1 m [10.2 ft])
- 10x8x10 drive/steer
- Transmission retarder (in lieu of engine compression brake)
- Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer.
- Strobe light
- Work lights for outriggers
- Spare tire and wheel with carry bracket
- Rear mounted stowage box
- Outrigger pad load indicator
- Trailer hitch
- Steel outrigger pads

# Dimensions

## North American version



Tires	A	A 130 mm (0.4')	B	C	D	E	F	α	β	β <sub>1</sub>
14.00 R25	3950 mm (13')	3820 mm (12.5')	2990 mm (9.8')	2570 mm (8.4')	1780 mm (5.8')	400 mm (1.3')	228 mm (0.7')	23°	22°	13°
16.00 R25	4000 mm (13.1')	3870 mm (12.7')	3000 mm (9.8')	2510 mm (8.2')	1830 mm (6.0')	450 mm (1.5')	258 mm (0.8')	25°	24°	15°
20.5 R25	4000 mm (13.1')	3870 mm (12.7')	3000 mm (9.8')	2530 mm (8.3')	1830 mm (6.0')	450 mm (1.5')	258 mm (0.8')	25°	24°	15°

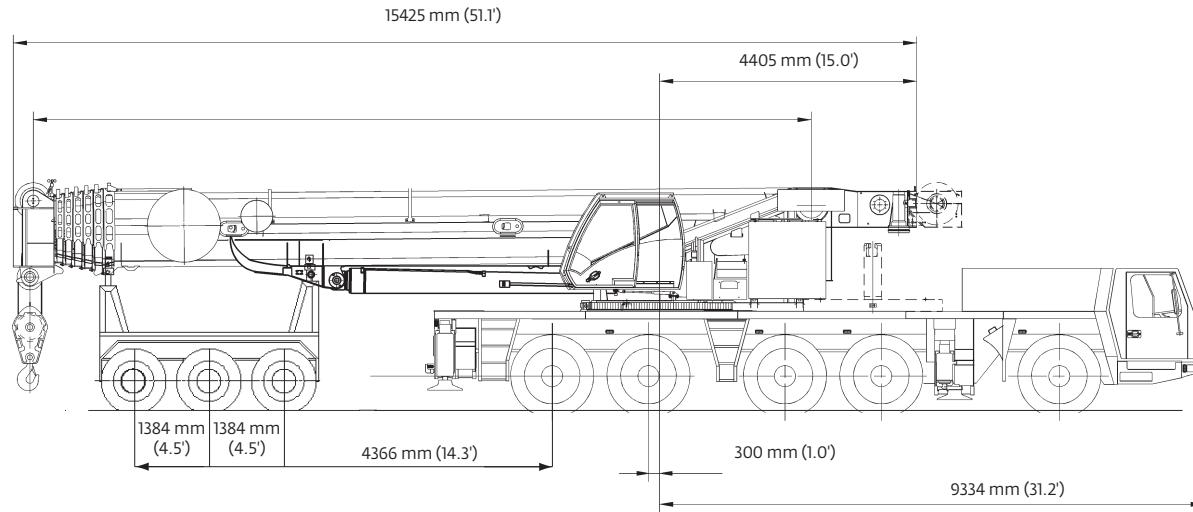
Ra = Radius all wheels steered

\*Lowered

# Weights

## North American version

### Trailing boom



Basic weights - kg (lb)	Axes 1-3	Axes 4 and 5	Dolly	Total
GMK 5275 Cummins power with: 20.5R25 tires, 10x8x10 drive/steer, 11 m - 18m (36 ft - 59 ft) hydraulic luffing swingaway, 2nd oil cooler, outrigger pads, auxiliary hoist, driver and tanks filled, 3 axle boom dolly (4309 kg / 9400 lb)	30 877 (68,072)	18 123 (39,954)	20 079 (44,267)	69 079 (152,293)
<b>Additions:</b>				
5000 kg (11,000 lb) section pinned to superstructure (special counterweight version)	4845 (10,681)	155 (342)	0 (0)	5000 (11,023)
11 000 kg (24,250 lb) base section stowed on carrier	10 660 (23,501)	340 (750)	0 (0)	11 000 (24,251)
<b>Removals:</b>				
Brackets for hydraulic swingaway incl. hose reel	- 9 (-20)	- 4 (-9)	- 257 (-567)	- 270 (-595)
11 m - 18 m (36 ft - 59 ft) hydraulic swingaway	- 360 (-794)	- 161 (-355)	- 1489 (-3283)	- 2010 (-4431)
Front outriggers	- 2165 (-4773)	275 (606)	0 (0)	- 1890 (-4167)
Rear outriggers	1031 (2273)	- 3371 (-7432)	0 (0)	- 2340 (-5159)
Front and rear outrigger floats	- 70 (-154)	- 130 (-287)	0 (0)	- 200 (-441)
<b>Substitutions:</b>				
10x6x10 drive/steer	- 319 (-703)	- 36 (-79)	0 (0)	- 355 (-783)
14.00R25 tires	- 612 (-1349)	- 408 (-899)	0 (0)	- 1020 (-2249)
16.00R25 tires	- 252 (-556)	- 168 (-370)	0 (0)	- 420 (-926)

### Boom over front

Basic Weights - kg (lb)	Axes 1 - 3	Axes 4 and 5	Total
Cummins power, 16.00R25 tires, 10x6x10 drive/steer, 2nd oil cooler, outrigger pads, driver and tanks filled	37 809 (83,355)	22 126 (48,779)	59 935 (132,134)
<b>Additions:</b>			
10x8x10 drive/steer	319 (703)	36 (79)	355 (783)
Spare wheel 14.00 R25 XGC steel rim with stowage	- 124 (-273)	384 (847)	260 (573)
Spare wheel 16.00 R25 XGC steel rim with stowage	- 153 (-337)	473 (1043)	320 (705)
Spare wheel 20.5 R25 XGC steel rim with stowage	- 173 (-381)	535 (1179)	362 (798)
Brackets for hydraulic swingaway	91 (201)	- 11 (-24)	80 (176)
Hose reel + parts for hydraulic swingaway	327 (721)	- 137 (-302)	190 (419)
11 m - 18 m (36 ft - 59 ft) hydraulic swingaway	2295 (5060)	- 285 (-628)	2010 (4431)
Auxiliary hoist	- 1154 (-2544)	2894 (6380)	1740 (3836)
11 000 kg (24,250 lb) base plate stowed on carrier	10 611 (23,393)	339 (747)	10 950 (24,141)
5000 kg (11,000 lb) slab fixed to turntable (special counterweight version)	- 2748 (-6058)	7728 (17,037)	4980 (10,979)
<b>Substitutions:</b>			
14.00R25 tires	- 360 (-794)	- 240 (-529)	- 600 (-1323)
20.5R25 tires	252 (556)	168 (370)	420 (926)
<b>Removals:</b>			
Boom assembly w/o lift cylinder	-19 776 (-43,599)	-1359 (-2996)	-21 135 (-46,595)
Front outriggers	-2187 (-4822)	277 (611)	-1910 (-4211)
Rear outriggers	1022 (2253)	-3342 (-7368)	-2320 (-5115)
Front and rear outrigger floats	- 70 (-154)	- 130 (-287)	- 200 (-441)

# Specifications

## European version

### Superstructure

#### Boom

13,3 m - 68 m (44 ft - 223 ft) 7-section, full power MEGAFORM™ boom with TWINLOCK™ Pinning.  
Maximum tip height: 71 m (233 ft)

#### Boom nose

Eight nylatron sheaves, mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeve boom nose. Removable auxiliary boom nose with removable pin type rope guard.



#### Boom elevation

Single lift cylinder with safety valve provides boom angle from -1.5° to +83°.



#### \*Hydraulic offsettable lattice extension

12 m - 21 m (39 ft – 69 ft) bi-fold lattice swingaway extension, hydraulically offsettable and luffing under load, 5°- 40°.

Maximum tip height: 92 m (302 ft)



#### \*Lattice inserts

2 x 8 m (26 ft) inserts for use with lattice swingaway extension to increase length to 29 m (95 ft) or 37 m (121 ft)

Maximum tip height: 108 m (354 ft)



#### Load moment and anti-two block system

Load moment and anti-two block system with audio/visual warning and control lever lockout provides electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition.



#### Cab

All aluminum constructed cab with acoustical lining, hydraulic tilted to 20°. Includes tinted safety glass, adjustable operator's seat, opening windows at side and rear, hinged windshield with wiper, sun visor and window shade. Other features include diesel heater/defroster, armrest integrated crane controls and ergonomically arranged instrumentation.



#### Swing

3 planetary gear boxes with fixed displacement axial piston motors. Infinitely variable to 1.3 rpm. Free swing or hydrostatically engaged brake controlled by swing lever. Swing brake selected by foot operated switch.



#### Counterweight

77 t (169,700 lb) consisting of various sections with hydraulic installation/removal system controlled from the superstructure cab.



#### Engine

Mercedes OM 906 LA, 6 cylinder

Horsepower: 170 kW (228 bhp) at 2200 rpm

Torque: 810 Nm (597 ft/lb) at 1200 rpm

Engine emissions: EPA/CARB/EUROMOT (off road)



#### Fuel tank capacity

Supplied from chassis fuel tank.



#### Electrical system

3 phase alternator: 28V/80A

2 batteries: 12V/170Ah



#### Hydraulic system

2 separate circuits, 1 axial piston variable displacement pump (load sensing) with electronic power limiting control for crane functions and 1 double gear pump for slewing. Thermostatically controlled oil coolers keep oil at optimum operating temperature.

Hydraulic tank capacity: 915 L (242 gal)

# Specifications

## European version

### Superstructure continued

#### Hoist

Main and auxiliary hoist are powered by axial piston motor with planetary gear and brake. "Thumb-thumper" hoist drum rotation indicator alerts operator of hoist movement.

	Main	Auxiliary
Rope length:	290 m (951 ft)	290 m (951 ft)
Rope diameter:	22 mm	22 mm
Line speed:	125 m/min (410 fpm)	125 m/min (410 fpm)
Line pull:	93.5 kN (21,020 lb)	93.5 kN (21,020 lb)

#### \*Optional equipment

- Work lights, mounted on boom base section
- Boom mounted aircraft warning light
- Radio/CD player for superstructure cab
- Stainless steel exhaust system with spark arrestor
- Air conditioning
- Hook blocks/headache ball
- Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer.
- Additional cab mounted work light
- Strobe light
- Working range limiter
- Data logger
- 360° NYC swing lock
- 2,0 m (6.6 ft) side stowed heavy duty jib with 19 t (41,900 lb) maximum capacity using two parts of line, offset 0° and 25°
- 2,3 m (7.5 ft) side stowed heavy duty jib with 38 t (83,000 lb) maximum capacity using four parts of line, offset 8° and 30°
- EKS5 Light semi-graphic display in lieu of standard EKS5

### Carrier



#### Chassis

Box type, torsion resistant frame is fabricated from high strength steel.



#### Outrigger system

Four hydraulic two stage outrigger beams with vertical cylinders and outrigger pads, 600 mm (23.6 in) square. Outrigger can be set in 5 positions:

Full:	8,1 m (26.6 ft)
Partial:	6,8 m (22.3 ft)
Partial:	5,6 m (18.4 ft)
Partial:	4,4 m (14.4 ft)
Retracted:	2,7 m (9.0 ft)

Independent horizontal and vertical movement controlled from each side of carrier and the superstructure cab. Electronic crane level indicators. Hydraulic disconnect for all outrigger beams



#### Transmission

Allison automatic 4000 SP, 6 speeds forward, 1 reverse  
2 speed transfer case



#### Drive/steer

10 x 6 x 10



#### Axes

1st axle line – steer

2nd axle line – steer/(optional drive)

3rd axle line – drive/steer (permanent drive with 10 x 6, disconnects for highway with 10 x 8)

4th axle line – drive/steer (connects for all wheel steer)

5th axle line – drive/steer

Drive axles with planetary hub reduction and center mounted gearing. Standard inter-axle and cross axle differential locks.



#### Suspension

Grove exclusive MEGATRAK™ suspension. Independent hydro-pneumatic system acting on all wheels with hydraulic lockout. Suspension can be raised 160 mm (6.3 in) or lowered 120 mm (4.7 in), both longitudinally and transversely. Features an automatic leveling system for highway travel.

\*Denotes optional equipment

# Specifications

## European version

### Carrier continued

#### Tires

10 tires, 16.00R25 (Vehicle width – 3,0 m [9.8 ft])

#### Steering

Dual circuit, hydraulic power assisted steering system. Transfer case mounted, ground driven emergency steering pump. Axles 1, 2, 3 and 5 steer on highway. Separate steering (steer by wire) of the 4th and 5th axles for all wheel and crab steering, controlled by an electronic rocker switch.

#### Engine

Mercedes OM 502 LA, 8 cylinder  
Horsepower: 420 kW (563 bhp) at 1800 rpm  
Torque: 2700 Nm (1991 ft/lb) at 1200 rpm  
Engine emissions: EPA/CARB/EUROMOT (off road)

#### Fuel tank capacity

515 L (136 gal). Supplies superstructure and carrier engines.

#### Brakes

Service brakes: pneumatic dual circuit acting on all wheels.  
Parking brake: pneumatically operated spring loaded brake acting on axle lines 2, 3, 4 and 5.  
Air dryer

#### Cab

Two-man, aluminum construction with the following features: safety glass, driver seat with pneumatic suspension, engine-dependent hot water heater, power windows, heated rear view mirrors, complete instrumentation and driving controls.

#### Electrical system

24V system with three phase alternator, 28V/100A  
2 batteries, 12V/170 Ah



#### Maximum speed

85 km/h (53 mph)



#### Gradeability (theoretical)

50% - 14.00 tires

45% - 16.00/20.5 tires

#### Miscellaneous standard equipment

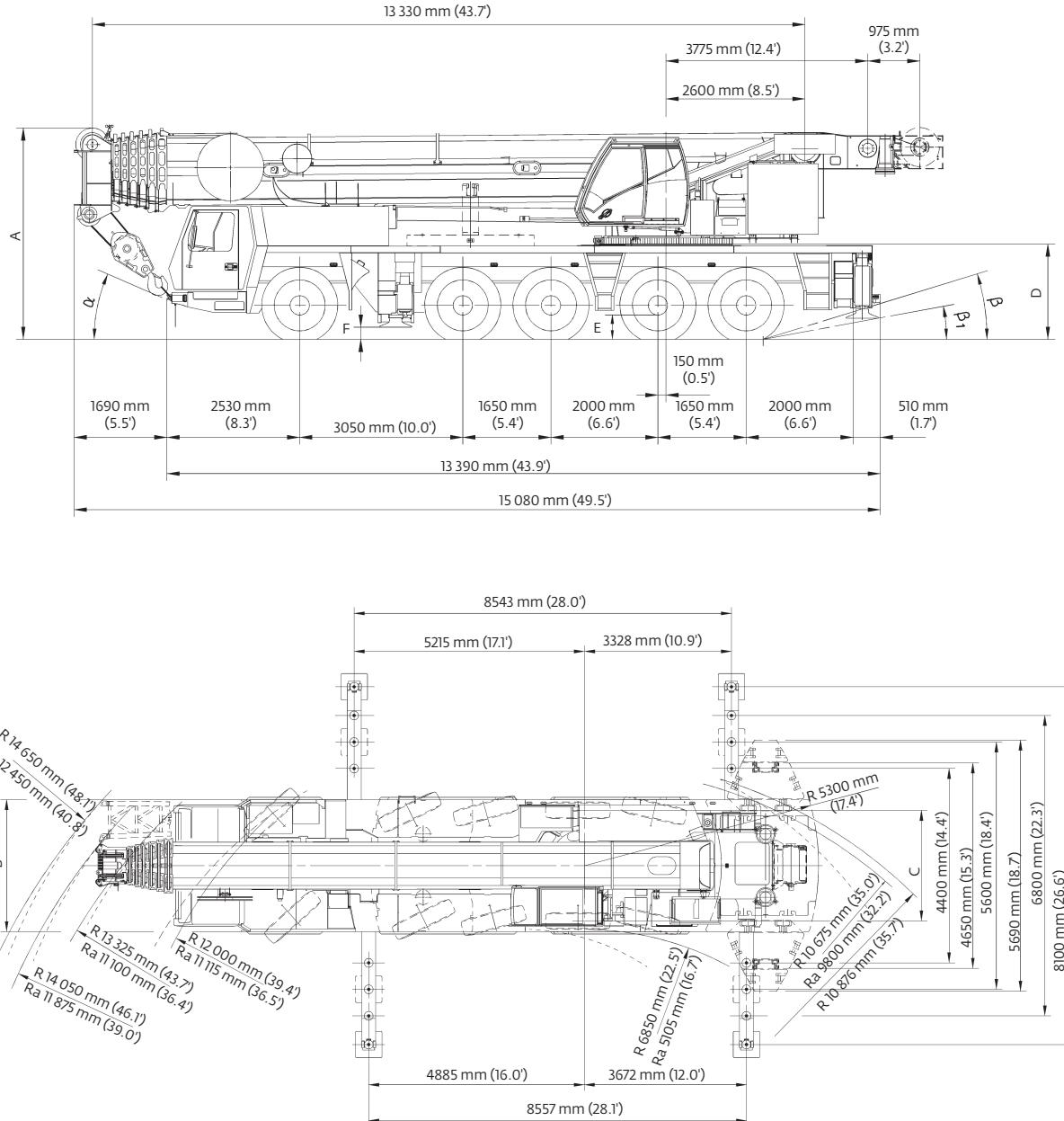
Work light; tool kit; fire extinguishers; auxiliary boom nose; radio /CD player in carrier cab, heated rear view mirrors, wind speed indicator.

#### \*Optional equipment

- Stainless steel exhaust system with spark arrestor
- Air conditioning
- 14.00R25 tires (vehicle width. 3 m [9.8 ft])
- 20.5R25 tires (vehicle width. 3,1 m [10.2 ft])
- 10x8x10 drive/steer
- Transmission retarder (in lieu of engine compression brake)
- Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer.
- Strobe light
- Work lights for outriggers
- Spare tire and wheel with carry bracket
- Rear mounted stowage box
- Outrigger pad load indicator
- Trailer hitch
- Steel outrigger pads

# Dimensions

## European version



Tires	A	A <sup>a</sup> 130 mm (0.4')	B	C	D	E	F	α	β	β <sub>1</sub>
14.00 R25	3950 mm (13')	3820 mm (12.5')	2990 mm (9.8')	2570 mm (8.4')	1780 mm (5.8')	400 mm (1.3')	228 mm (0.7')	23°	15°	10°
16.00 R25	4000 mm (13.1')	3870 mm (12.7')	3000 mm (9.8')	2510 mm (8.2')	1830 mm (6.0')	450 mm (1.5')	258 mm (0.8')	25°	17°	12°
20.5 R25	4000 mm (13.1')	3870 mm (12.7')	3000 mm (9.8')	2530 mm (8.3')	1830 mm (6.0')	450 mm (1.5')	258 mm (0.8')	25°	17°	12°

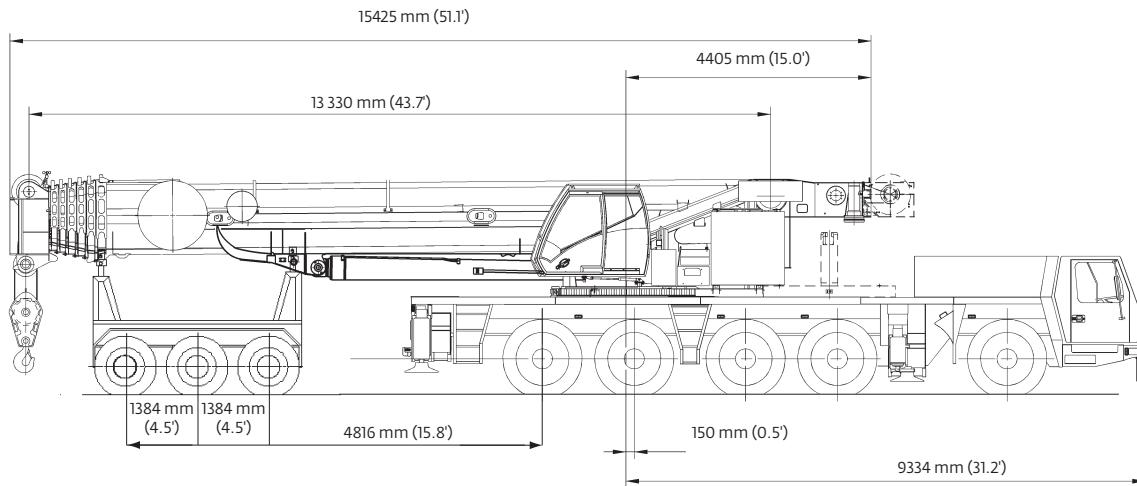
Ra = Radius all wheels steered

<sup>a</sup>Lowered

# Weights

## European version

### Trailing boom

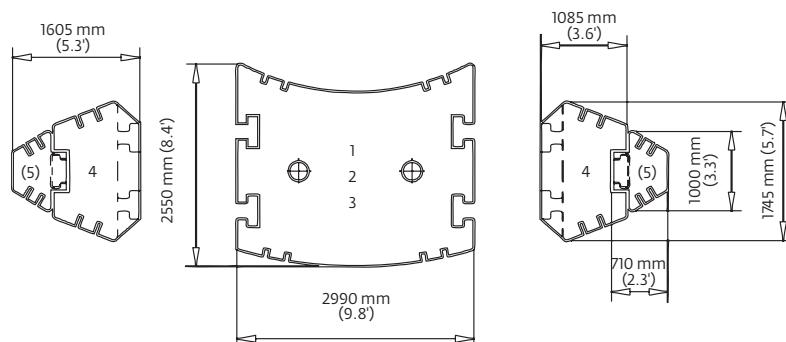
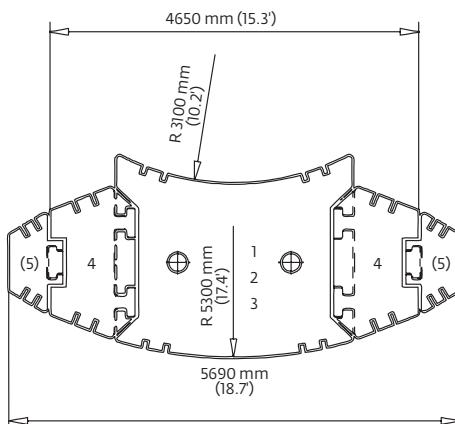
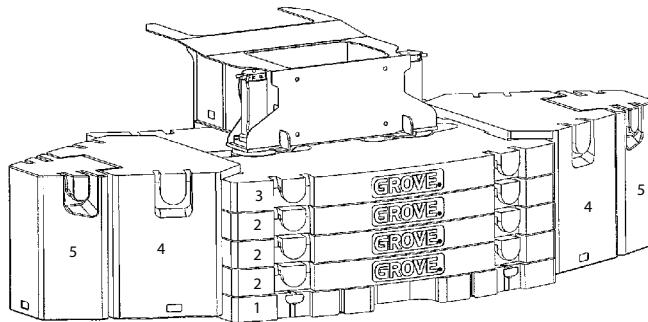


Basic weights - kg (lb)	Axes 1-3	Axes 4 and 5	Dolly	Total
GMK 5275 Mercedes power with: 20.5R25 tires, 10x8x10 drive/steer, 11m-18m (36-59 ft) hydraulic luffing swingaway, 2nd oil cooler, outrigger pads, auxiliary hoist, driver and tanks filled, 3 axle boom dolly (4309 kg / 9400 lb)	27 881 (61,467)	20 119 (44,355)	20 079 (44,267)	68 079 (150,089)
<b>Additions:</b>				
5000 kg (11,000 lb) section pinned to superstructure (special counterweight version)	4831 (10,651)	169 (373)	0 (0)	5000 (11,023)
11 000 kg (24,250 lb) base section stowed on carrier	10 629 (23,433)	371 (818)	0 (0)	11 000 (24,251)
<b>Removals:</b>				
Brackets for hydraulic swingaway incl. hose reel	- 8 (-18)	- 4 (-9)	- 257 (-567)	- 270 (-595)
11 m - 18 m (36 ft - 59 ft) hydraulic swingaway	- 345 (-761)	- 176 (-388)	- 1489 (-3283)	- 2010 (-4431)
Front outriggers	- 2190 (-4828)	300 (661)	0 (0)	- 1890 (-4167)
Rear outriggers	1338 (2950)	- 3678 (-8109)	0 (0)	- 2340 (-5159)
Front and rear outrigger floats	- 59 (-130)	- 141 (-311)	0 (0)	- 200 (-441)
<b>Substitutions:</b>				
10x6x10 drive/steer	- 316 (-697)	- 39 (-86)	0 (0)	- 355 (-783)
14.00R25 tires	- 612 (-1349)	- 408 (-899)	0 (0)	- 1020 (-2249)
16.00R25 tires	- 252 (-556)	- 168 (-370)	0 (0)	- 420 (-926)

### Boom over front

Basic weights - kg (lb)	Axes 1 - 3	Axes 4 and 5	Total
Mercedes power, 16.00R25 tires, 10x6x10 drive/steer, 2nd oil cooler, outrigger pads, driver and tanks filled	34 340 (75,707)	24 645 (54,333)	58 985 (130,040)
<b>Additions:</b>			
10x8x10 drive/steer	316 (697)	39 (86)	355 (783)
Spare wheel 14.00 R25 XGC steel rim with stowage	- 186 (-410)	446 (983)	260 (573)
Spare wheel 16.00 R25 XGC steel rim with stowage	- 229 (-505)	549 (1210)	320 (705)
Spare wheel 20.5 R25 XGC steel rim with stowage	- 259 (-571)	621 (1369)	362 (798)
Brackets for hydraulic swingaway	92 (203)	- 12 (-26)	80 (176)
Hose reel + parts for hydraulic swingaway	339 (747)	- 149 (-328)	190 (419)
11 m - 18 m (36 ft - 59 ft) hydraulic swingaway	2321 (5117)	- 311 (-686)	2010 (4431)
Auxiliary hoist	- 1417 (-3124)	3157 (6960)	1740 (3836)
11 000 kg (24,250 lb) base plate stowed on carrier	10 581 (23,327)	369 (814)	10 950 (24,141)
5000 kg (11,000 lb) slab fixed to turntable (special counterweight version)	- 3452 (-7610)	8432 (18,589)	4980 (10,979)
<b>Substitutions:</b>			
14.00R25 tires	- 360 (-794)	- 240 (-529)	- 600 (-1323)
20.5R25 tires	252 (556)	168 (370)	420 (926)
<b>Removals:</b>			
Boom assembly w/o lift cylinder	- 19 612 (-43,237)	- 1523 (-3358)	- 21 135 (-46,595)
Front outriggers	- 2213 (-4879)	303 (668)	- 1910 (-4211)
Rear outriggers	1326 (2923)	- 3646 (-8038)	- 2320 (-5115)
Front and rear outrigger floats	- 59 (-130)	- 141 (-311)	- 200 (-441)

# Counterweight



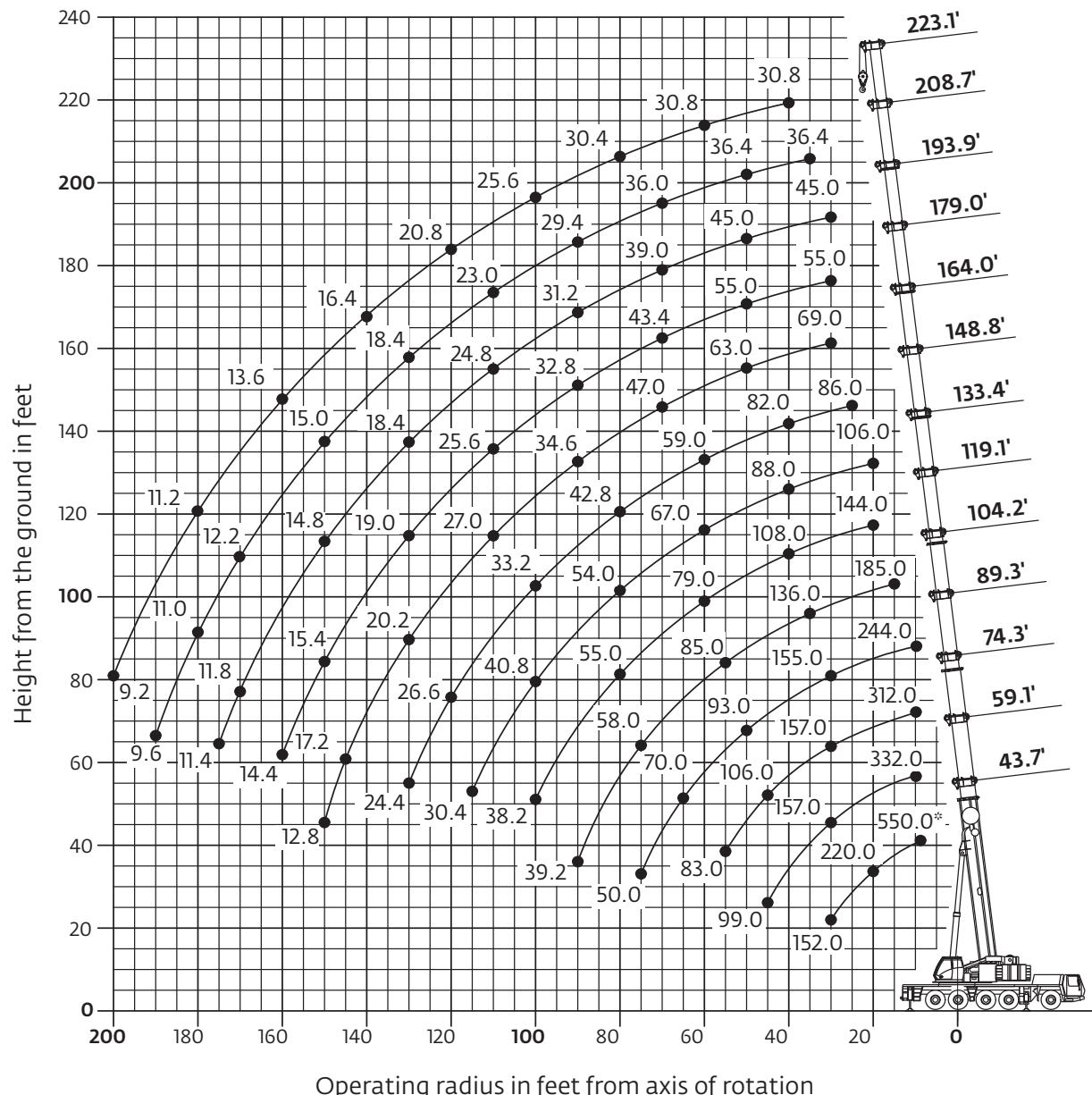
Counterweight Configuration kg (lb)

1 (Baseplate)	2 (Stackable)	3 (Stackable)	4 (Wing)	5 (Wing)
11 000 (24,200)	10 000 (22,046)	10 000 (22,046)	10 000 (22,046)	3000 (6600)

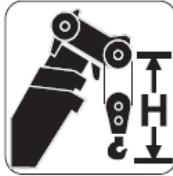
11 000 (24,200)	•			
21 000 (46,200)	•	•		
31 000 (68,300)	•	X2		
41 000 (90,300)	•	X3		
51 000 (112,400)	•	X3	•	
71 000 (156,500)	•	X3	•	X2
77 000 (169,700)	•	X3	•	X2

# Working range

44 ft - 223 ft main boom



*Hook heights shown in the working diagram do not consider loaded boom deflection.*



Hook block	H
200 ton, 9 sheave	12.0 ft (3650 mm)
160 ton, 7 sheave	12.0 ft (3650 mm)
125 ton, 5 sheave	10.8 ft (3300 mm)
80 ton, 3 sheave	10.8 ft (3300 mm)
32 ton, 1 sheave	10.5 ft (3200 mm)
12 ton, single line headache ball	8.0 ft (2450 mm)

*THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
The chart, operating instructions and other instructional plates must be read and understood prior to use.*

# Load charts

## Main boom

 13,3 m - 68 m  
 (44 ft - 223 ft)     
  77 000 kg  
 (169,700 lb)     
  26 ft 7 in spread  
 (100%)     
  360°

Feet	Pounds x 1000												
	43.7'	59.1'	74.3'	89.3'	104.2'	119.1'	133.4'	148.8'	164.0'	179.0'	193.9'	208.7'	223.1'
8	*550.0												
10	346.0	332.0	312.0	244.0									
15	272.0	270.0	260.0	242.0	185.0								
20	220.0	222.0	215.0	212.0	182.0	144.0	106.0						
25	184.0	185.0	181.0	181.0	166.0	140.0	106.0	86.0					
30	152.0	157.0	157.0	155.0	151.0	129.0	105.0	86.0	69.0	55.0	45.0		
35		136.0	136.0	135.0	136.0	118.0	96.0	86.0	69.0	55.0	45.0	36.4	
40		121.0	119.0	118.0	120.0	108.0	88.0	82.0	69.0	55.0	45.0	36.4	30.8
45		99.0	106.0	104.0	106.0	99.0	81.0	75.0	68.0	55.0	45.0	36.4	30.8
50		95.0	93.0	95.0	92.0	76.0	70.0	63.0	55.0	45.0	36.4	30.8	
55		83.0	84.0	85.0	85.0	72.0	64.0	59.0	52.0	45.0	36.4	30.8	
60			76.0	77.0	79.0	67.0	59.0	54.0	49.0	44.0	36.4	30.8	
65			70.0	70.0	72.0	63.0	54.0	50.0	46.0	41.2	36.4	30.8	
70			63.0	64.0	66.0	60.0	50.0	47.0	43.4	39.0	36.0	30.8	
75			50.0	58.0	61.0	57.0	46.0	43.0	40.4	36.8	34.4	30.8	
80				53.0	55.0	54.0	42.8	39.6	37.6	34.8	32.6	30.4	
85				49.0	51.0	51.0	40.2	37.2	35.2	33.0	31.0	29.2	
90				39.2	46.0	48.0	37.6	34.6	32.8	31.2	29.4	28.0	
95					42.4	44.0	35.2	32.4	30.8	29.4	28.0	26.8	
100					38.2	40.8	33.2	30.4	28.8	27.8	26.4	25.6	
105						37.6	31.4	28.8	27.2	26.4	24.8	24.4	
110						34.8	29.6	27.0	25.6	24.8	23.0	23.2	
115						30.4	28.0	25.2	23.8	23.0	21.4	22.0	
120							26.6	23.2	21.8	21.2	20.4	20.8	
125							25.2	21.4	20.0	19.4	19.4	19.4	
130							24.4	20.2	19.0	18.4	18.4	18.0	
135								19.2	18.0	17.4	17.4	17.2	
140								18.2	17.0	16.4	16.6	16.4	
145								17.2	16.0	15.6	15.8	15.6	
150								12.8	15.4	14.8	15.0	15.0	
155									14.8	14.0	14.2	14.2	
160									14.4	13.2	13.4	13.6	
165										12.6	12.8	13.0	
170										11.8	12.2	12.4	
175										11.4	11.6	11.8	
180											11.0	11.2	
185											10.6	10.6	
190											9.6	10.2	
195												9.6	
200												9.2	

\* Over the rear with special equipment

Loads greater than 297,000 lb/335,000 lb can only be lifted with additional special equipment.



# Load charts

## Main boom

13,3 m - 68 m  
(44 ft - 223 ft)21 000 kg  
(46,200 lb)26 ft 7 in spread  
(100%)

360°



Feet	43.7'	59.1'	74.3'	89.3'	104.2'	119.1'	133.4'	148.8'	164.0'	179.0'	193.9'	208.7'	223.1'
10	320.0	318.0	312.0	244.0									
15	248.0	248.0	246.0	242.0	185.0								
20	199.0	200.0	187.0	175.0	158.0	144.0	106.0						
25	154.0	148.0	138.0	128.0	123.0	113.0	106.0	86.0					
30	114.0	111.0	105.0	103.0	96.0	94.0	87.0	81.0	69.0	55.0	45.0		
35		90.0	87.0	83.0	82.0	77.0	71.0	66.0	63.0	55.0	45.0	36.4	
40		72.0	72.0	68.0	68.0	64.0	59.0	59.0	52.0	51.0	45.0	36.4	30.8
45		58.0	60.0	61.0	58.0	54.0	50.0	51.0	43.8	43.0	42.0	36.4	30.8
50		50.0	52.0	50.0	47.0	45.0	43.4	39.2	40.6	39.6	36.0	30.8	
55		45.0	46.0	43.2	40.2	41.2	37.4	36.8	37.4	36.6	34.0	30.8	
60			39.2	37.8	36.0	36.0	32.6	34.6	34.0	32.2	29.8	27.4	
65			33.8	33.2	33.8	31.8	30.6	31.4	30.2	28.4	26.2	24.0	
70			29.4	29.0	30.6	28.2	29.0	28.4	26.8	25.2	23.2	21.0	
75				22.8	25.4	27.4	25.0	27.0	25.4	24.0	22.4	20.4	18.4
80					22.2	24.2	23.2	24.4	23.0	21.4	20.0	18.2	16.2
85						22.0	21.4	20.8	22.0	20.6	19.2	17.8	16.0
90							19.6	19.0	19.4	20.0	18.6	17.2	16.0
95								17.4	18.4	18.0	16.8	15.6	14.2
100									16.6	16.4	16.2	14.0	12.6
105										14.8	14.6	13.8	12.6
110											13.4	13.0	12.4
115											12.0	11.6	11.0
120												10.4	9.8
125												9.4	8.6
130													8.4
135													6.8
140													6.0
145													4.4
150													3.6
155													3.0

13,3 m - 68 m  
(44 ft - 223 ft)0 kg  
(0 lb)26 ft 7 in spread  
(100%)

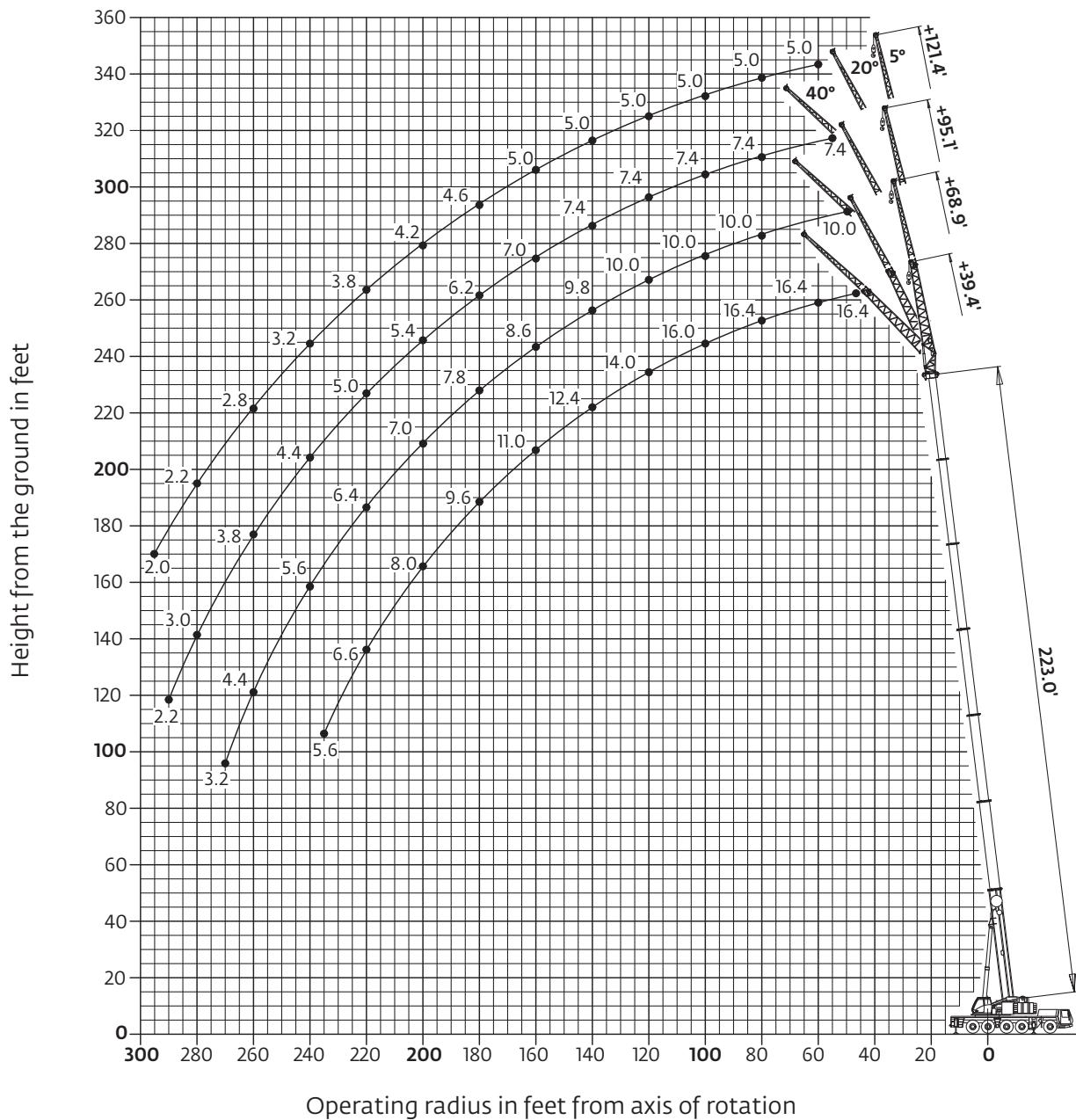
360°



Feet	43.7'	59.1'	74.3'	89.3'	104.2'	119.1'	133.4'	148.8'	164.0'	177.6'	192.6'
10	308.0	308.0	286.0	232.0							
15	222.0	185.0	160.0	144.0	125.0						
20	122.0	114.0	105.0	100.0	90.0	79.0	76.0				
25	81.0	80.0	77.0	72.0	65.0	63.0	57.0	56.0			
30	56.0	58.0	57.0	54.0	53.0	49.0	48.0	45.0	41.2	37.6	34.4
35		44.0	44.0	44.0	42.4	41.2	38.8	36.4	33.4	30.6	28.0
40		34.2	35.6	36.0	35.0	33.8	32.0	30.0	27.6	25.2	22.8
45		27.4	28.8	29.6	29.0	28.0	26.6	25.0	23.0	20.8	18.8
50		23.8	24.8	24.2	23.6	22.4	21.0	19.2		17.2	15.4
55		19.8	20.8	20.4	20.0	19.0	17.8	16.2		14.4	12.8
60		17.6	17.4	17.0	16.2	15.0	13.6			12.0	10.4
65		15.0	14.8	14.6	13.8	12.8	11.4			9.8	8.4
70		12.6	12.6	12.4	11.8	10.8	9.4			8.0	6.8
75		5.8	10.8	10.6	10.0	9.2	7.8			6.6	5.2
80			9.2	9.0	8.4	7.6	6.4			5.2	4.0
85			7.6	7.8	7.2	6.4	5.2			4.0	2.8
90			6.2	6.6	6.0	5.2	4.0				
95				5.4	4.8	4.2	3.0				
100				4.4	4.0	3.2					
105											

# Working range

223 ft main boom with 39 ft and 69 ft swingaway



*Hook heights shown in the working diagram do not consider loaded boom deflection.*

*THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
First, operating instructions and other instructional plates must be read and understood prior to operation.*



# Load charts

## Hydraulic offsettable swingaway

### Intermediate angle and loads for luffing

 68 m (223 ft)  
  12-21-29-37 m (39-69-95-121 ft)  
  51 000 kg (112,400 lb)  
  26 ft 7 in spread (100%)  
  360°

Radius	Pounds x 1000											
	5°	5° - 20°	20° - 40°	5°	5° - 20°	20° - 40°	5°	5° - 20°	20° - 40°	5°	5° - 20°	20° - 40°
45	16.4			10.0								
50	16.4	16.4		10.0			7.4			5.0		
55	16.4	16.4		10.0			7.4			5.0		
60	16.4	16.4	16.4	10.0			7.4			5.0		
65	16.4	16.4	16.4	10.0			7.4			5.0		
70	16.4	16.4	16.4	10.0	10.0		7.4	7.4		5.0		
75	16.4	16.4	16.4	10.0	10.0		7.4	7.4		5.0		
80	16.4	16.4	16.4	10.0	10.0		7.4	7.4		5.0	5.0	
85	16.4	16.4	16.0	10.0	10.0		7.4	7.4		5.0	5.0	
90	16.4	16.2	15.6	10.0	10.0	9.4	7.4	7.4		5.0	5.0	
95	16.4	15.8	15.2	10.0	10.0	9.4	7.4	7.4	7.2	5.0	5.0	4.0
100	16.0	15.2	14.8	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
105	15.6	14.8	14.4	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
110	15.0	14.4	14.0	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
115	14.4	13.8	13.6	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
120	14.0	13.4	13.2	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
125	13.6	13.0	12.8	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
130	13.2	12.6	12.4	10.0	9.8	8.8	7.4	7.4	7.2	5.0	5.0	4.0
135	12.8	12.2	12.2	10.0	9.6	8.8	7.4	7.4	7.2	5.0	5.0	4.0
140	12.4	12.0	11.8	9.8	9.4	8.8	7.4	7.2	7.0	5.0	5.0	4.0
145	12.0	11.6	11.4	9.4	9.0	8.6	7.4	7.2	7.0	5.0	5.0	4.0
150	11.2	11.2	9.2	8.8	8.6	8.6	7.4	7.0	6.8	5.0	4.8	4.0
155	10.2	10.2	10.8	9.0	8.6	8.4	7.2	6.8	6.6	5.0	4.8	4.0
160	9.4	9.4	10.0	8.6	8.4	8.2	7.0	6.6	6.6	5.0	4.8	4.0
165	8.6	8.6	9.2	8.4	8.2	8.0	6.8	6.6	6.4	4.8	4.8	4.0
170	7.8	7.8	8.4	8.2	8.0	8.0	6.6	6.4	6.2	4.8	4.6	4.0
175	7.0	7.0	7.6	8.0	7.8	7.8	6.4	6.2	6.2	4.8	4.6	4.0
180	6.4	6.4	6.8	7.2	7.2	7.6	6.2	6.0	6.0	4.6	4.6	4.0
185	5.6	5.6	6.0	6.6	6.6	7.4	6.0	5.8	5.8	4.6	4.4	4.0
190	5.0	5.0	5.4	6.0	6.0	6.8	5.8	5.6	5.8	4.4	4.4	4.0
195	4.4	4.4	4.8	5.4	5.4	6.2	5.4	5.4	5.6	4.2	4.2	4.0
200	3.8	3.8		4.8	4.8	5.6	4.8	4.8	5.4	4.2	4.0	
205	3.2	3.2		4.4	4.4	5.0	4.2	4.2	5.0	4.0	4.0	
210	2.6	2.6		3.8	3.8	4.4	3.8	3.8	4.4	3.6	3.6	
215	2.2	2.2		3.2	3.2	3.8	3.2	3.2	4.0	3.2	3.2	3.8
220				2.8	2.8	3.4	2.8	2.8	3.4	2.6	2.6	3.4
225				2.2	2.2	2.8	2.4	2.4	3.0	2.2	2.2	3.0
230							2.0	2.0	2.6			2.4
235									2.2			2.0

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
It, operating instructions and other instructional plates must be read and understood prior to use.

# Load charts

## Hydraulic offsettable swingaway

Intermediate angle and loads for luffing



68 m  
(223 ft)



12-21-29-37 m  
(39-69-95-121 ft)



41 000 kg  
(90,300 lb)



26 ft 7 in spread  
(100%)



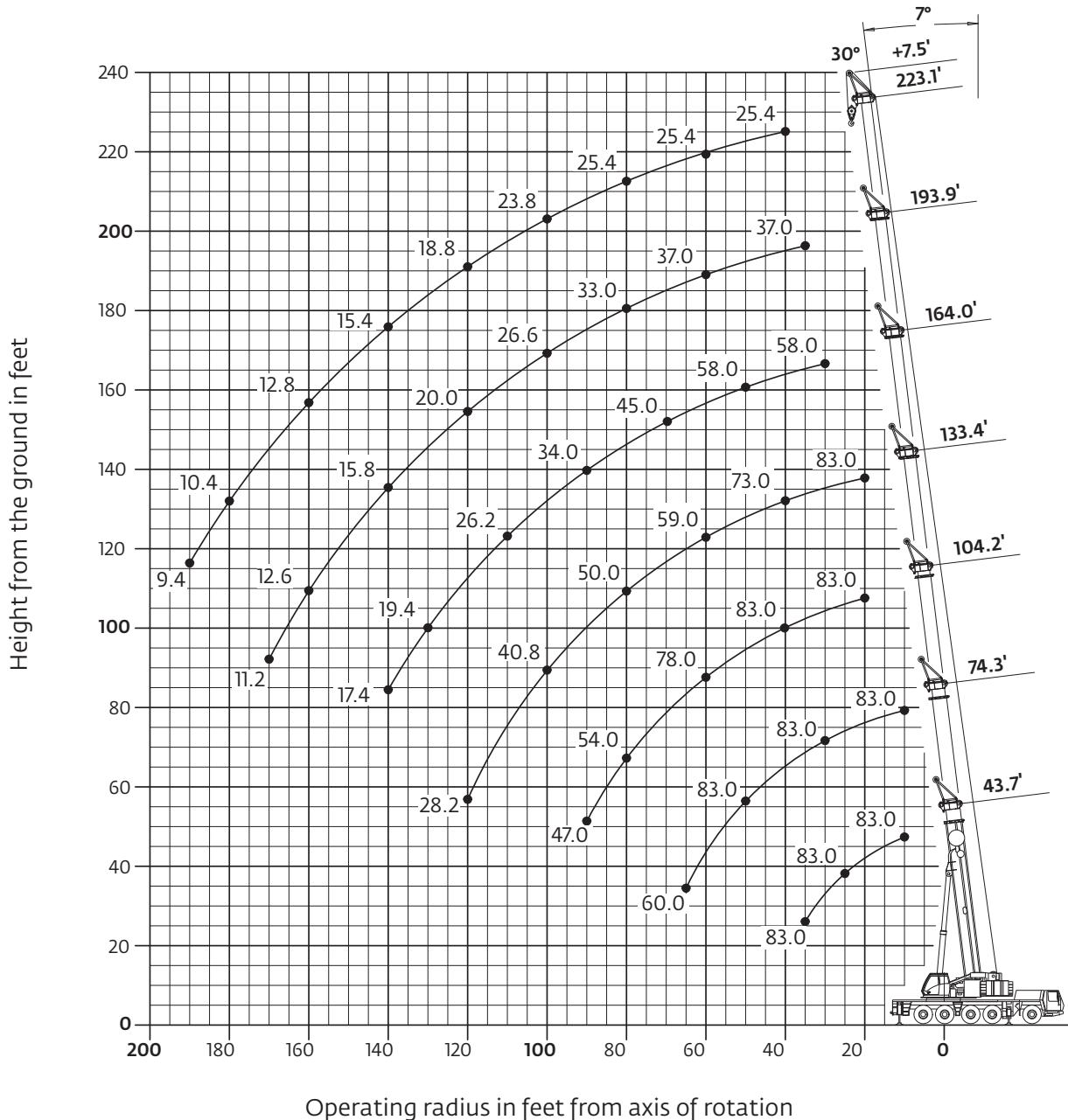
360°

Radius	Pounds (thousands)											
	5°	223' + 39.4'		5°	223' + 68.9'		5°	223' + 95.1'		5°	223' + 121.4'	
		5° - 20°	20° - 40°		5° - 20°	20° - 40°		5° - 20°	20° - 40°		5° - 20°	20° - 40°
45	16.4											
50	16.4	16.4		10.0								
55	16.4	16.4		10.0			7.4					
60	16.4	16.4	16.4	10.0			7.4			5.0		
65	16.4	16.4	16.4	10.0			7.4			5.0		
70	16.4	16.4	16.4	10.0	10.0		7.4			5.0		
75	16.4	16.4	16.4	10.0	10.0		7.4	7.4		5.0		
80	16.4	16.4	16.4	10.0	10.0		7.4	7.4		5.0	5.0	
85	16.4	16.4	16.0	10.0	10.0		7.4	7.4		5.0	5.0	
90	16.4	16.2	15.6	10.0	10.0	9.4	7.4	7.4		5.0	5.0	
95	16.4	15.8	15.2	10.0	10.0	9.4	7.4	7.4	7.2	5.0	5.0	4.0
100	16.0	15.2	14.8	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
105	15.6	14.8	14.4	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
110	15.0	14.4	14.0	10.0	10.0	9.2	7.4	7.4	7.2	5.0	5.0	4.0
115	14.4	13.8	13.6	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
120	13.8	13.4	13.2	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
125	12.6	12.6	12.8	10.0	10.0	9.0	7.4	7.4	7.2	5.0	5.0	4.0
130	11.6	11.6	12.4	10.0	9.8	8.8	7.4	7.4	7.2	5.0	5.0	4.0
135	10.4	10.4	11.2	10.0	9.6	8.8	7.4	7.4	7.2	5.0	5.0	4.0
140	9.4	9.4	10.2	9.8	9.4	8.8	7.4	7.2	7.0	5.0	5.0	4.0
145	8.6	8.6	9.2	9.4	9.0	8.6	7.4	7.2	7.0	5.0	5.0	4.0
150	7.6	7.6	8.4	8.6	8.6	8.6	7.4	7.0	6.8	5.0	4.8	4.0
155	6.8	6.8	7.4	7.8	7.8	8.4	7.2	6.8	6.6	5.0	4.8	4.0
160	6.0	6.0	6.6	7.0	7.0	8.2	6.8	6.6	6.6	5.0	4.8	4.0
165	5.4	5.4	6.0	6.2	6.2	7.4	6.2	6.2	6.4	4.8	4.8	4.0
170	4.8	4.8	5.2	5.6	5.6	6.6	5.4	5.4	6.2	4.8	4.6	4.0
175	4.0	4.0	4.6	5.0	5.0	6.0	4.8	4.8	6.0	4.6	4.6	4.0
180	3.4	3.4	4.0	4.4	4.4	5.4	4.2	4.2	5.2	4.0	4.0	4.0
185	2.8	2.8	3.4	3.8	3.8	4.6	3.6	3.6	4.6	3.6	3.6	4.0
190	2.4	2.4	2.8	3.2	3.2	4.0	3.2	3.2	4.0	3.0	3.0	4.0
195			2.2	2.8	2.8	3.6	2.6	2.6	3.6	2.6	2.6	3.4
200				2.2	2.2	3.0	2.2	2.2	3.0	2.0	2.0	2.8
205						2.4			2.4		2.4	
210							2.0			2.0		2.0

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
It, operating instructions and other instructional plates must be read and understood prior to use.

# Working range

**Heavy duty jib 6.6 ft**



*Hook heights shown in the working diagram do not consider loaded boom deflection.*

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
It, operating instructions and other instructional plates must be read and understood prior to use.

# Load charts

## Heavy duty jib

### Fixed angle



13,3 m-68 m  
(44 ft-223 ft)



2,3 m  
(7.5 ft)



77 000 kg  
(169,700 lb)



26 ft 7 in spread  
(100%)



360°



Pounds (thousands)

Radius	43.7' + 7.5'		74.3' + 7.5'		104.2' + 7.5'		133.4' + 7.5'		164.0' + 7.5'		193.9' + 7.5'		223.1' + 7.5'	
	8°	30°	8°	30°	8°	30°	8°	30°	8°	30°	8°	30°	8°	30°
10.0	83.0		83.0											
15.0	83.0		83.0											
20.0	83.0		83.0		83.0		83.0							
25.0	83.0		83.0		83.0		83.0							
30.0	83.0	83.0	83.0		83.0		81.0		58.0					
35.0	83.0	83.0	83.0		83.0		77.0		58.0		37.0			
40.0			83.0		83.0		73.0		58.0		37.0		25.4	
45.0			83.0		83.0		69.0		58.0		37.0		25.4	
50.0			83.0	83.0	83.0		65.0		58.0		37.0		25.4	
55.0			83.0	83.0	83.0		62.0		55.0		37.0		25.4	
60.0			74.0				78.0		59.0		52.0		25.4	
65.0			60.0				71.0		57.0		49.0		25.4	
70.0					65.0		54.0		45.0		36.6		25.4	
75.0					59.0	59.0	52.0		42.2		34.8		25.4	
80.0					54.0	54.0	50.0		38.8		33.0		25.4	
85.0					51.0	51.0	47.0		36.2		31.2		25.4	
90.0					45.0	47.0	46.0		34.0		29.8		25.4	
95.0							44.0	43.4	31.8		28.2		24.6	
100.0							40.6	40.8	29.6		26.6		23.8	
105.0							37.4	37.6	27.8		24.8		22.4	
110.0							34.4	34.6	26.2		23.0		21.0	
115.0							31.8	32.0	24.6		21.2		19.6	
120.0							28.2		22.6		20.0		18.8	
125.0									20.6		18.8		17.8	
130.0									19.4		17.8		17.0	
135.0									18.4		16.8		16.2	
140.0									17.4		15.8		15.4	
145.0											15.0		14.6	
150.0											14.0		14.0	
155.0											13.4		13.4	
160.0											12.6		12.8	
165.0											11.8		12.2	
170.0											11.2		11.6	
175.0													11.0	
180.0													10.4	
185.0													10.0	
190.0													9.4	

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
All operating instructions and other instructional plates must be read and understood prior to use.



# Symbols glossary

	Axles		Counterweight		Grade		Gear
	Boom		Drive		Heavy duty jib		Radius
	Boom elevation		Electrical system		Hoist		Rotation
	Boom extension		Engine		Hookblock		Speed
	Boom length		Extension		Hydraulic system		Steering
	Boom nose		Frame		Lights		Suspension
	Brakes		Fuel tank capacity		Oil		Swing
	Cab		Outriggers		Outrigger controls		Tires
					Transmission		

# Notes

## Regional headquarters

### Manitowoc - Americas

Manitowoc, Wisconsin, USA  
Tel: +1 920 684 6621  
Fax: +1 920 683 6277

**Shady Grove, Pennsylvania, USA**  
Tel: +1 717 597 8121  
Fax: +1 717 597 4062

### Manitowoc - Europe, Middle East & Africa

Ecully, France  
Tel: +33 (0)4 72 18 20 20  
Fax: +33 (0)4 72 18 20 00

### Manitowoc - Asia Pacific

Shanghai, China  
Tel: +86 21 6457 0066  
Fax: +86 21 6457 4955

## Regional offices

### Americas

**Brazil**  
Alphaville  
**Mexico**  
Monterrey  
**Chile**  
Santiago

### Europe, Middle East & Africa

**Czech Republic**  
Netvorice  
**France**  
Baudemont  
Cergy  
Decines  
**Germany**  
Langenfeld  
**Hungary**  
Budapest  
**Italy**  
Parabiago  
**Netherlands**  
Breda  
**Poland**  
Warsaw

### Portugal

Baltar  
**Russia**  
Moscow  
**U.A.E.**  
Dubai  
**U.K.**  
Gawcott

### Asia - Pacific

**Australia**  
Brisbane  
Melbourne  
Sydney  
**China**  
Beijing  
Xi'an  
**India**  
Hyderabad  
Pune  
**Korea**  
Seoul  
**Philippines**  
Makati City  
**Singapore**

## Factories

**Brazil**  
Alphaville  
**China**  
TaiAn  
Zhangjiagang  
**France**  
Charlieu  
La Clayette  
Moulins  
**Germany**  
Wilhelmshaven  
**India**  
Pune  
**Italy**  
Niella Tanaro  
**Portugal**  
Baltar  
Fânzeres  
**Slovakia**  
Saris  
**USA**  
Manitowoc  
Port Washington  
Shady Grove

This document is non-contractual. Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment.