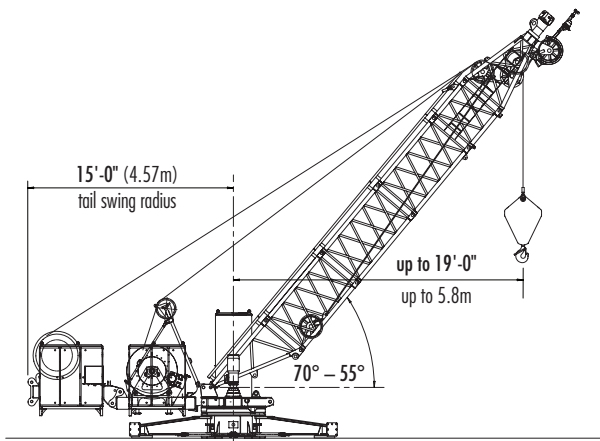


LIEBHERR 200 DR 5-10

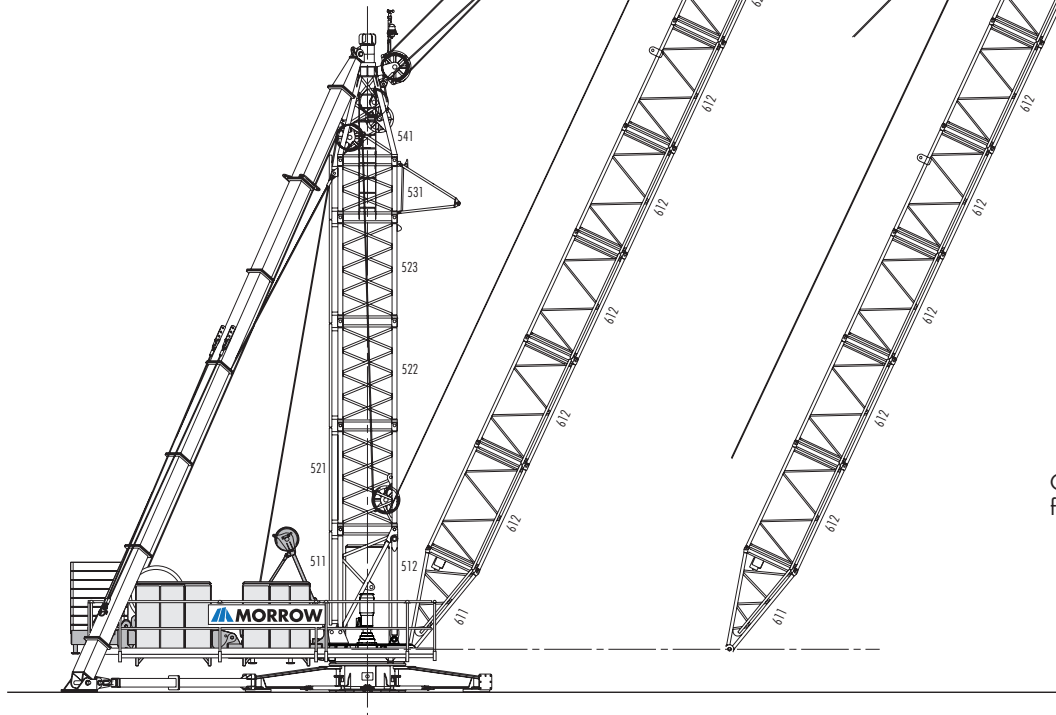
Derrick Crane



Configuration III

one-part operation using mast **only** for lifting during derrick erection and dismantlement

Unit approximate wt: 29,290 lbs (13,285 kg)

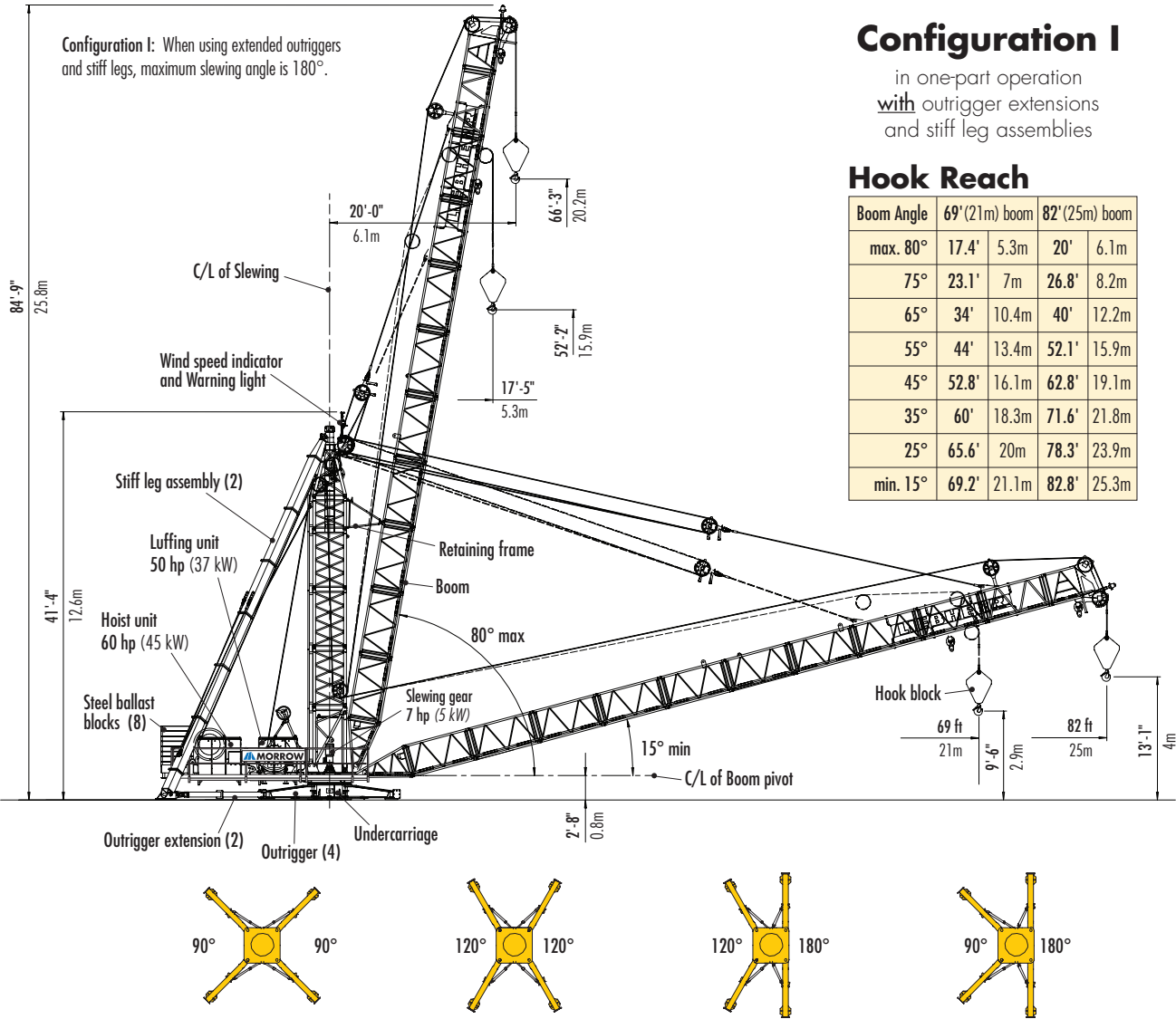


Configuration I

in two-part operation with outrigger extensions and stiff legs

Contact Morrow for alternate configurations.

LIEBHERR 200 DR 5-10



Configuration I

in one-part operation
with outrigger extensions
and stiff leg assemblies

Hook Reach

Boom Angle	69' (21m) boom		82' (25m) boom	
max. 80°	17.4'	5.3m	20'	6.1m
75°	23.1'	7m	26.8'	8.2m
65°	34'	10.4m	40'	12.2m
55°	44'	13.4m	52.1'	15.9m
45°	52.8'	16.1m	62.8'	19.1m
35°	60'	18.3m	71.6'	21.8m
25°	65.6'	20m	78.3'	23.9m
min. 15°	69.2'	21.1m	82.8'	25.3m

Plan View

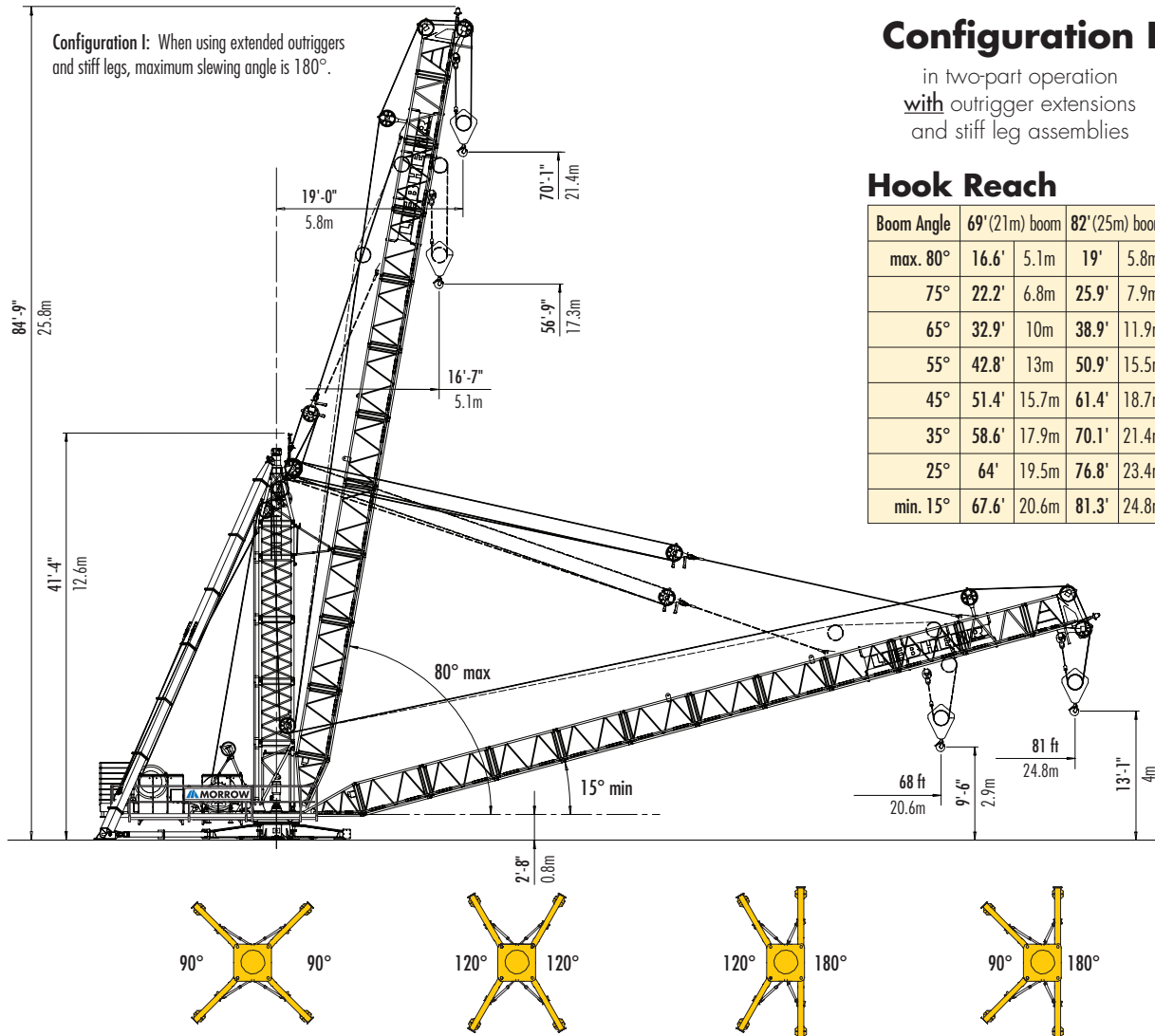
Alternative positions for outriggers with outrigger extensions installed

Radius and Capacities

1-PART OPERATION

Boom Length	Hook Reach	Maximum Capacity – Radius	ft m	20 6	36 11	39 12	43 13	46 14	49 15	52 16	56 17	59 18	62 19	66 20	69 21	72 22	75 23	79 24	82 25
82 ft 25m	82 ft 25m	11,025 lbs – 82 ft 5 000 kg – 25m	lbs kg	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000
69 ft 21m	69 ft 21m	11,025 lbs – 69 ft 5 000 kg – 21m	lbs kg	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000				

NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). Over 328 feet (100m) hoisting height, the lifting capacity is reduced by the additional rope weight. Contact Morrow for additional information.

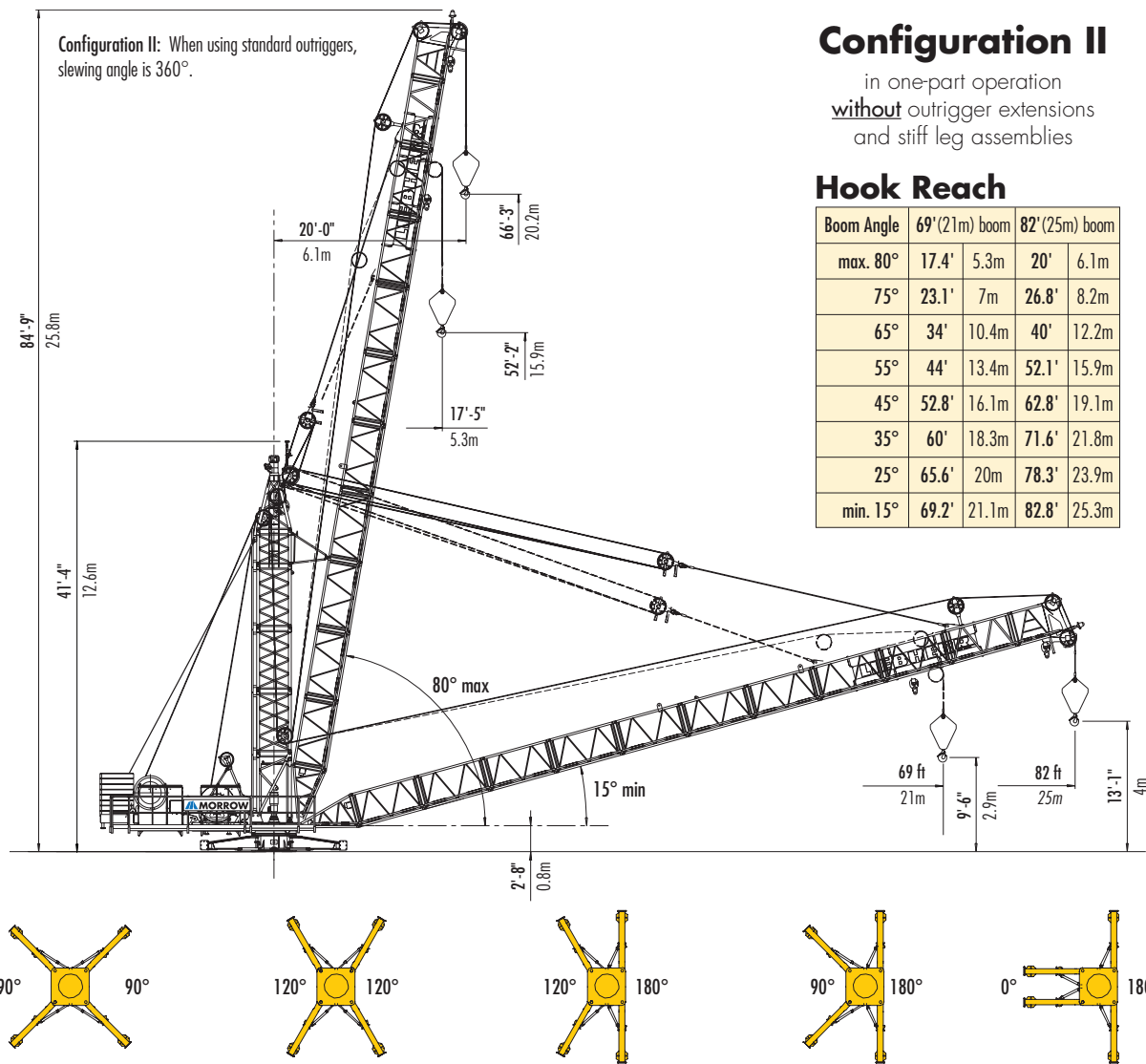


Radius and Capacities

2-PART OPERATION

Boom Length	Hook Reach	Maximum Capacity — Radius	ft m	20 6	36 11	39 12	43 13	46 14	49 15	52 16	56 17	59 18	62 19	68 20.6	69 21	72 22	75 23	79 24	81 24.8
82 ft 25m	81 ft 24.8m	22,050 lbs — 62 ft 10 000 kg — 19m	lbs kg	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	20,200 9 160	19,800 8 980	18,850 8 550	17,970 8 150	17,150 7 780	16,530 7 500
69 ft 21m	68 ft 20.6m	22,050 lbs — 68 ft 10 000 kg — 20.6m	lbs kg	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000	22,050 10 000					

NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). Over 328 feet (100m) hoisting height, the lifting capacity is reduced by the additional rope weight. Contact Morrow for additional information.

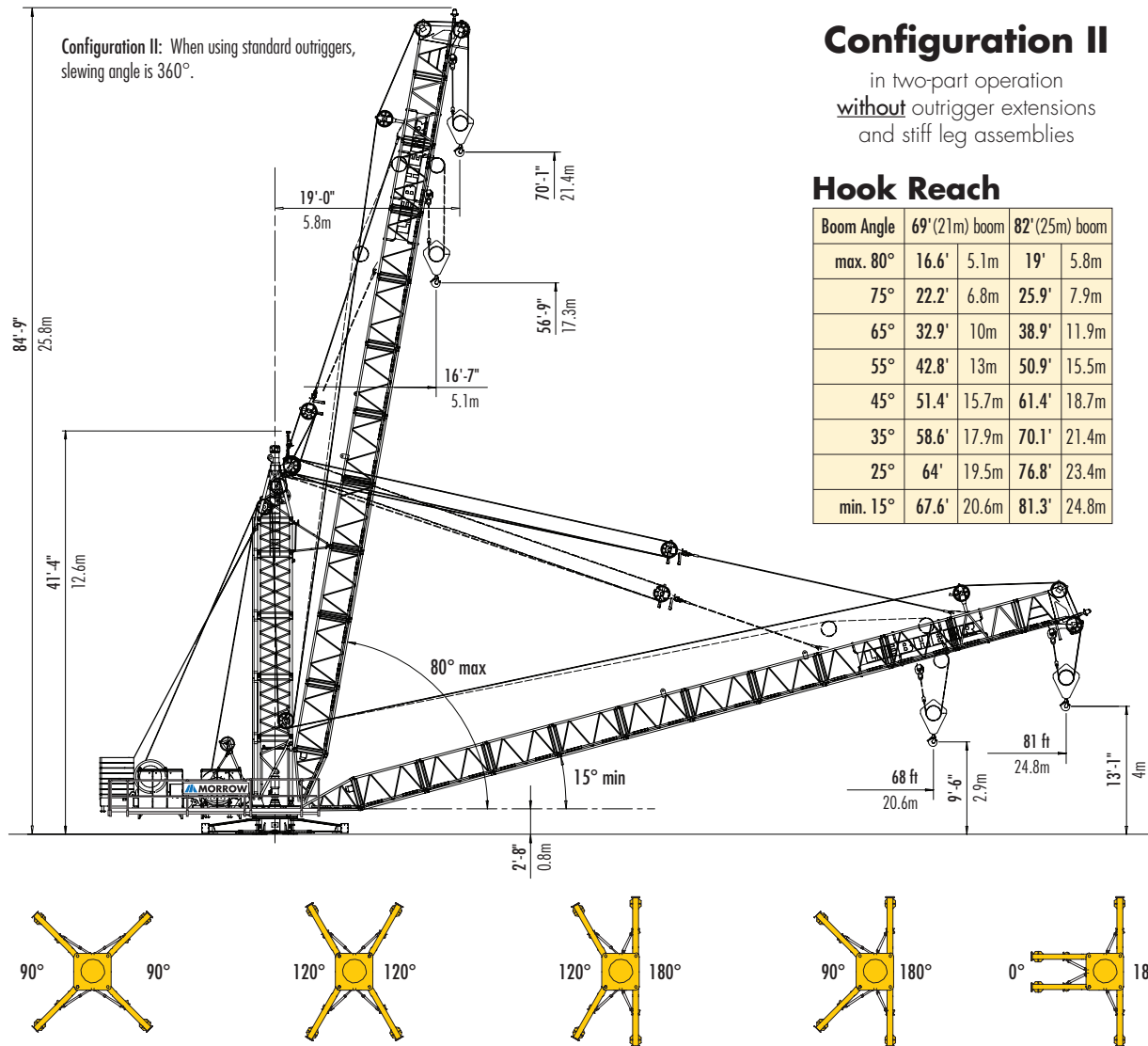


Radius and Capacities

1-PART OPERATION

Boom Length	Hook Reach	Maximum Capacity – Radius	ft m	20 6	36 11	39 12	43 13	46 14	49 15	52 16	56 17	59 18	62 19	66 20	69 21	72 22	75 23	79 24	82 25
82 ft 25m	82 ft 25m	11,025 lbs – 66 ft 5 000 kg – 20m	lbs kg	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5,000	10,360 4 700	9,880 4 480	9,370 4 250	8,840 4 010	8,380 3 800
69 ft 21m	69 ft 21m	11,025 lbs – 69 ft 5 000 kg – 21m	lbs kg	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5 000	11,025 5,000					

NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). Over 328 feet (100m) hoisting height, the lifting capacity is reduced by the additional rope weight. Contact Morrow for additional information.



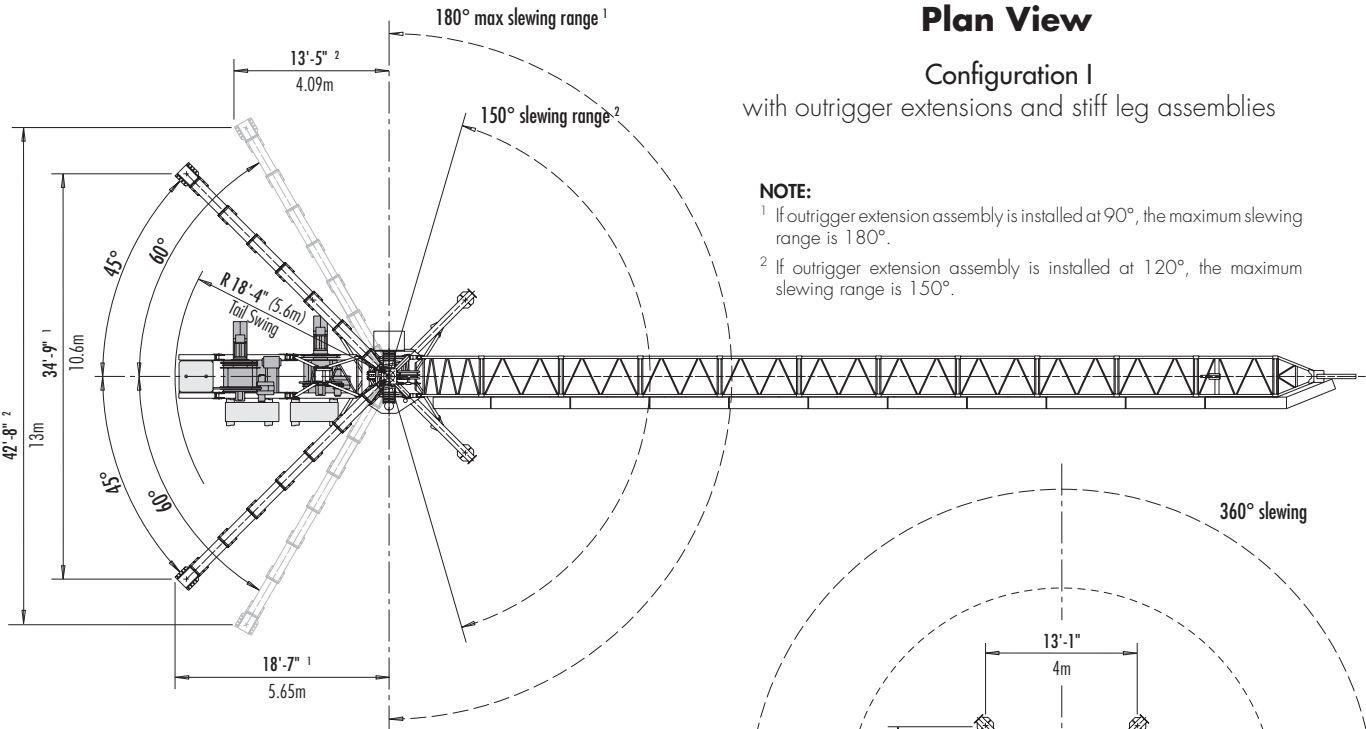
Radius and Capacities

2-PART OPERATION

Boom Length	Hook Reach	Maximum Capacity – Radius	ft m	20 6	36 11	39 12	43 13	46 14	49 15	52 16	56 17	59 18	62 19	68 20.6	69 21	72 22	75 23	79 24	81 24.8
82 ft 25m	81 ft 24.8m	22,050 lbs – 35.8 ft 10 000 kg – 10.9m	lbs kg	22,050 10 000	21,800 9 890	19,470 8 830	17,550 7 960	15,920 7 220	14,550 6 600	13,360 6 060	12,320 5 590	11,420 5 180	10,600 4 810	9,480 4 300	9,240 4 190	8,640 3 920	8,140 3 690	7,630 3 460	7,280 3 300
69 ft 21m	68 ft 20.6m	22,050 lbs – 36.4 ft 10 000 kg – 11.1m	lbs kg	22,050 10 000	22,050 10 000	19,950 9 050	18,060 8 190	16,420 7 450	15,040 6 820	13,850 6 280	12,810 5 810	11,880 5 390	11,070 5 020	9,920 4 500					

NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). Over 328 feet (100m) hoisting height, the lifting capacity is reduced by the additional rope weight. Contact Morrow for additional information.

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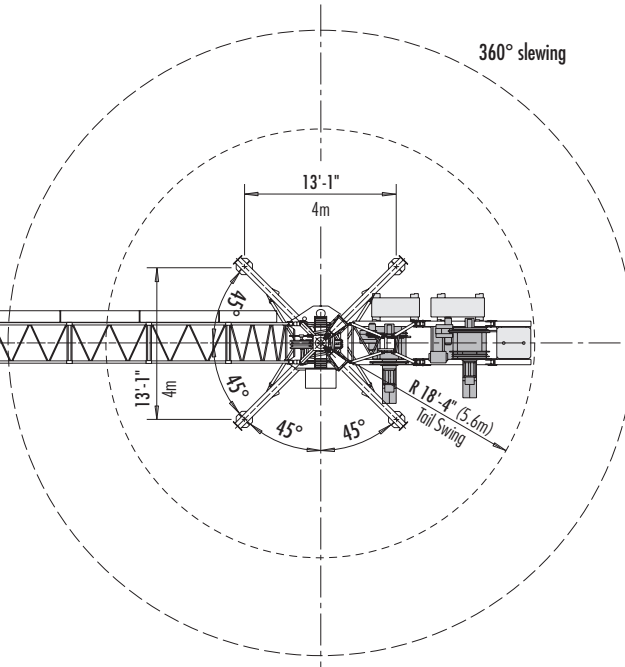


Plan View

Configuration I
with outrigger extensions and stiff leg assemblies

NOTE:
¹ If outrigger extension assembly is installed at 90°, the maximum slewing range is 180°.
² If outrigger extension assembly is installed at 120°, the maximum slewing range is 150°.

Plan View
Configuration II
without outrigger extensions



Configuration III
in one-part operation using mast only
for lifting during derrick erection
and dismantlement

Radius and Capacities

Hook Height		Boom Angle 70° with Hook Radius 11.5' (3.5m)		Boom Angle 60° with Hook Radius 16.7' (5.1m)		Boom Angle 55° with Hook Radius 19' (5.8m)	
164 ft	50m	2,205 lbs	1000 kg	1,720 lbs	780 kg	1,435 lbs	650 kg
328 ft	100m	2,205 lbs	1000 kg	1,545 lbs	700 kg	1,260 lbs	570 kg
492 ft	150m	2,095 lbs	950 kg	1,370 lbs	620 kg	1,080 lbs	490 kg
656 ft	200m	1,920 lbs	870 kg	1,190 lbs	540 kg	905 lbs	410 kg
820 ft	250m	1,740 lbs	790 kg	1,015 lbs	460 kg	730 lbs	330 kg
984 ft	300m	1,545 lbs	700 kg	840 lbs	380 kg	550 lbs	250 kg

NOTE: Load capacities vary depending on weight of hoist rope. Two-part operation not available in this configuration. Contact Morrow for additional information.

Hoist Speed and Capacity

Hoist Unit	WiW 260 MZ 407	1-Part Line				
60 hp (45 kW) AC hoist unit Variable frequency drive (VFD) Single-speed gearbox Electromagnetic gear shifting Lebus™ drum	1P - 10L - 633 2P - 10L - 317	Speed	Capacity	Hook Speed	Capacity	Hook Speed
		1	up to 10,800 lbs @ 0-144 fpm		up to 4 900 kg @ 0-44 m/min	
			up to 440 lbs @ 0-564 fpm		up to 200 kg @ 0-172 m/min	
		2-Part Line				
		1	up to 22,050 lbs @ 0-72 fpm		up to 10 000 kg @ 0-22 m/min	
			up to 2,205 lbs @ 0-328 fpm		up to 1 000 kg @ 0-100 m/min	

NOTE: Capacities and hook speeds indicated will vary depending on the amount of hoist rope installed. This crane model may be equipped with a hoist unit other than that specified in the data above. To verify, check the serial number of the crane and refer to the Liebherr 200 DR 5-10 Operation Manual for additional information.

Motor Information

Drive Unit	Horsepower	Kilowatts	Speed
Luffing WiW 250 MZ 407 (VFD)	50 hp	37 kW	1.3 min *
Swing (VFD)	7 hp	5 kW	0.8 rpm

* Boom luffing range is 15° to 80° for Configurations I and II.

NOTE: This crane is equipped with a Liebherr PLC system, which includes slewing angle, hook level, load measurement and operating area limiting sensors. These features provide precise monitoring, control and coordination of all crane functions. All drive units are energy efficient variable frequency drives.

Counterweights

Boom Length	Steel blocks required	Total weight	Total weight (metric)
69' (21m)	8	17,640 lbs	8 000 kg
82' (25m)	8	17,640 lbs	8 000 kg

NOTE: Weight of the steel counterweight blocks is 2,205 lbs (1000 kg) each. It is recommended that the weight of each counterweight be verified before installation. Counterweight figures displayed in the chart above are for crane with hoist unit WiW 260 MZ 407 and luffing unit WiW 250 MZ 407. If another hoist unit is installed, refer to the 200 DR 5-10 Operation Manual or contact Morrow Equipment for additional information.

Power Requirements

Power supply: 3-phase 480 V, 60 Hz; 3-wire plus ground; no Neutral.

480 V phase-phase, 277 V each phase to ground with 120° phase shift between phases.

Service size: 150 Amperes

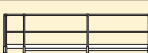
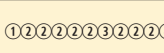
NOTES:

1. For electric power provided by an electric utility, do not use open Delta transformers.

2. For electric power provided by a generator, the minimum generator size required is 125 kW. A properly sized generator is critical to the safe operation of the crane.

Specifications subject to change without prior notice. For additional information, contact Morrow Equipment.

Component List

Description		Dimensions L x V x H	Weight	Description		Dimensions L x V x H	Weight
Undercarriage with pins		4'-8" x 4'-8" x 1'-10" 1.42m x 1.42m x 0.56m	2,510 lbs 1 140 kg	Pivot Tower Section 511 ⁵ with legs (2) 512		3'-7" x 4'-2" x 6'-7" 1.1m x 1.27m x 2.01m	850 lbs 387 kg
Outrigger (4) (each)		7'-10" x 1'-4" x 1'-5" 2.4m x 0.4m x 0.425m	830 lbs 376 kg	Tower Section 521		4'-2" x 3'-7" x 6'-8" 1.26m x 1.1m x 2.03m	790 lbs 360 kg
Slewing Platform with slewing ring		5'-5" x 5'-4" x 2'-0" 1.66m x 1.62m x 0.61m	2,310 lbs 1 050 kg	Tower Section 522		4'-2" x 3'-7" x 6'-8" 1.26m x 1.1m x 2.03m	645 lbs 292 kg
Slewing Gear		4'-1" x 1'-2" x 1'-2" 1.25m x 0.36m x 0.36m	375 lbs 170 kg	Tower Section 523		4'-2" x 3'-7" x 6'-8" 1.26m x 1.1m x 2.03m	650 lbs 296 kg
Electrical Panel S1		2'-11" x 2'-2" x 6'-9" 0.9m x 0.66m x 2.05m	710 lbs 323 kg	Tower Section 531 with ladders		4'-8" x 4'-5" x 3'-11" 1.41m x 1.34m x 1.2m	505 lbs 229 kg
Electrical Panel S2		5'-0" x 2'-9" x 5'-1" 1.52m x 0.83m x 1.55m	900 lbs 407 kg	Tower Top 541 with ladders		4'-7" x 4'-2" x 7'-3" 1.39m x 1.27m x 2.2m	1,910 lbs 868 kg
Electrical Panel S4		5'-0" x 2'-9" x 5'-1" 1.52m x 0.83m x 1.55m	730 lbs 332 kg	Retaining Frame		3'-10" x 3'-5" x 3'-3" 1.17m x 1.04m x 0.98m	105 lbs 47 kg
Luffing Gear Frame ¹ (complete)		7'-1" x 7'-1" x 4'-4" 2.17m x 2.17m x 1.32m	4,080 lbs 1 850 kg	Boom Pivot Section ① 611		6'-3" x 4'-6" x 4'-9" 1.91m x 1.38m x 1.44m	335 lbs 152 kg
Luffing Gear ² Motor + drum		6'-10" x 2'-10" x 3'-0" 2.09m x 0.87m x 0.92m	2,730 lbs 1 240 kg	Boom Section ② 612		7'-4" x 4'-6" x 3'-6" 2.23m x 1.38m x 1.07m	335 lbs 152 kg
Hoist Gear Frame ³ (complete)		6'-11" x 6'-7" x 5'-5" 2.12m x 2.01m x 1.65m	4,780 lbs 2 170 kg	Boom Section ③ 621		7'-4" x 4'-6" x 3'-9" 2.23m x 1.38m x 1.15m	340 lbs 154 kg
Hoist Gear ⁴ Motor + drum		6'-6" x 3'-5" x 3'-6" 1.99m x 1.05m x 1.06m	3,400 lbs 1 540 kg	Boom Section ④ 631 with hoist rope sheave		7'-4" x 4'-6" x 6'-8" 2.23m x 1.38m x 2.02m	435 lbs 197 kg
Ballast Frame		4'-0" x 3'-7" x 2'-0" 1.21m x 1.1m x 0.61m	680 lbs 310 kg	Boom Tip Section ⑤ 641		6'-3" x 4'-7" x 5'-11" 1.91m x 1.4m x 1.8m	730 lbs 330 kg
Counterweights (8) (each)		3'-6" x 2'-8" x 6" 1.06m x 0.81m x 0.16m	2,200 lbs 1 000 kg	Boom Assembly ⁶ ①②③④⑤ 69-ft (21m) boom		68'-6" x 4'-7" x 5'-11" 20.88m x 1.4m x 1.8m	4,410 lbs 2 000 kg
Machine Deck Platforms (2)		14'-5" x 4'-9" x 4'-2" 4.4m x 1.45m x 1.28m	870 lbs 393 kg	Boom Assembly ⁶ ①②③④⑤ 82-ft (25m) boom		82'-7" x 4'-7" x 5'-11" 25.18m x 1.4m x 1.8m	5,180 lbs 2 350 kg
Slewing Assembly Platform		6'-3" x 3'-4" x 4'-0" 1.9m x 1.02m x 1.22m	435 lbs 198 kg	Outrigger Extension ⁷ with shoe (each)		15'-9" x 11" x 1'-1" 4.8m x 0.29m x 0.32m	610 lbs 278 kg
Hook Block		2'-8" x 1'-5" x 4'-9" 0.82m x 0.42m x 1.46m	790 lbs 360 kg	Stiff Leg Assembly ⁷ (each)		45'-11" x 1'-3" x 1'-3" 14m x 0.39m x 0.39m	2,560 lbs 1 160 kg

NOTE: Weights and dimensions are approximate. Scale components before lifting. Consult operation manual before erecting, operating, servicing and dismantling crane.

¹ Luffing gear frame (complete) includes luffing drive with rope drum and mounting frame. Does not include electrical panel.

² Does not include weight of wire rope. Luffing wire rope is 20mm diameter and weighs 1.8 kg/m. Typical installed length of luffing wire rope is 302 feet (92 meters).

³ Hoist gear frame (complete) includes hoist drive with rope drum and mounting frame. Does not include electrical panel.

⁴ Does not include weight of wire rope. Hoist wire rope is 18mm diameter and weighs 1.6 kg/m. Typical installed length of hoist wire rope is 984 feet (300 meters).

⁵ The pivot tower section (511) comes with two removable tower legs (512). The pivot section weighs 590 lbs (267 kg) and the tower legs (2) weigh 130 lbs (60 kg) each leg.

⁶ Boom assemblies can be broken-down into smaller components in order to facilitate transport, erection and dismantlement of crane.

⁷ Outrigger extension and stiff leg assemblies (2) can be broken-down into smaller components for ease of handling when transporting, erecting and dismantling crane.