



bmc
Tech Spec

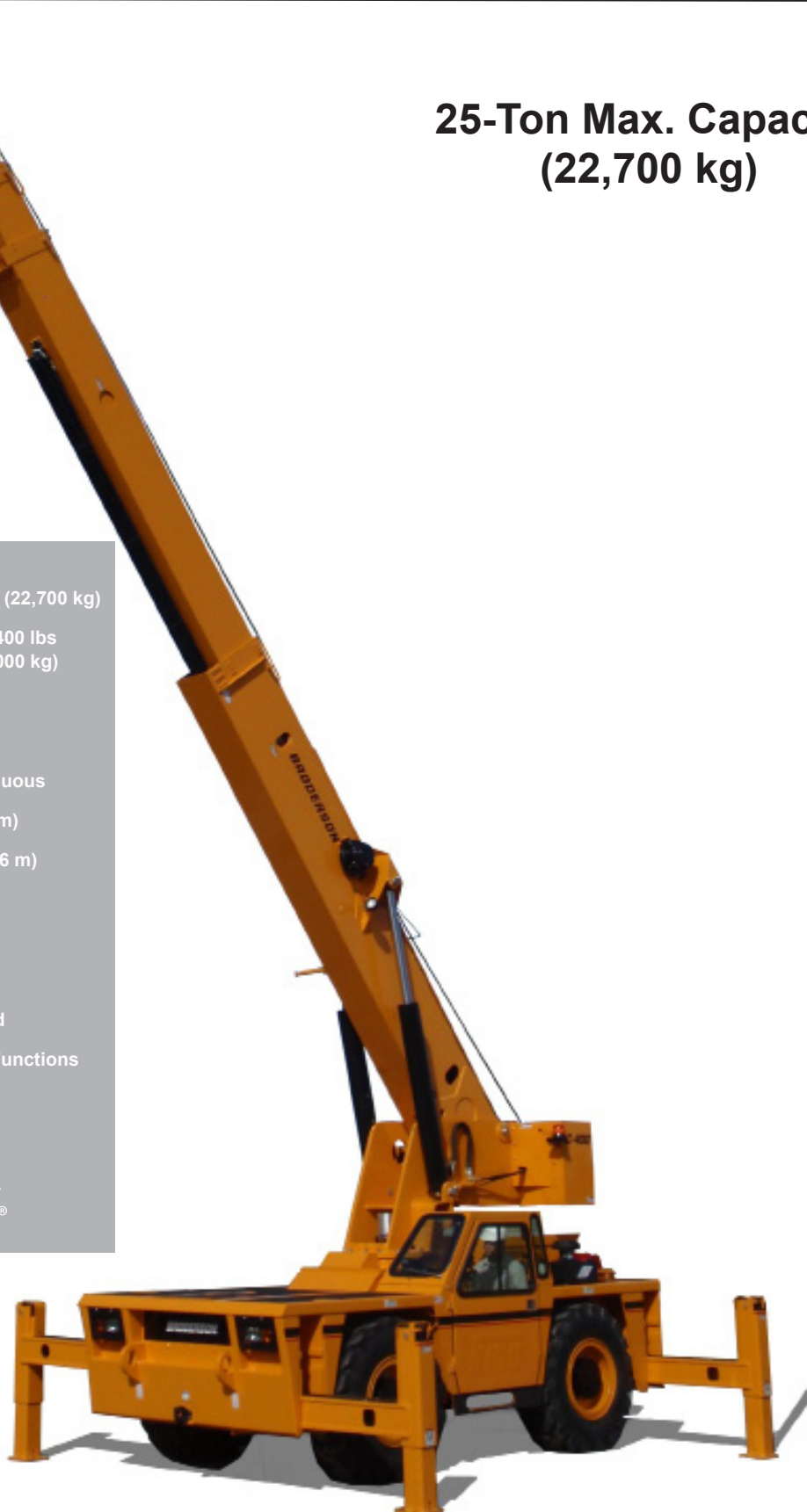
IC-400-3A

Industrial Crane

25-Ton Max. Capacity
(22,700 kg)

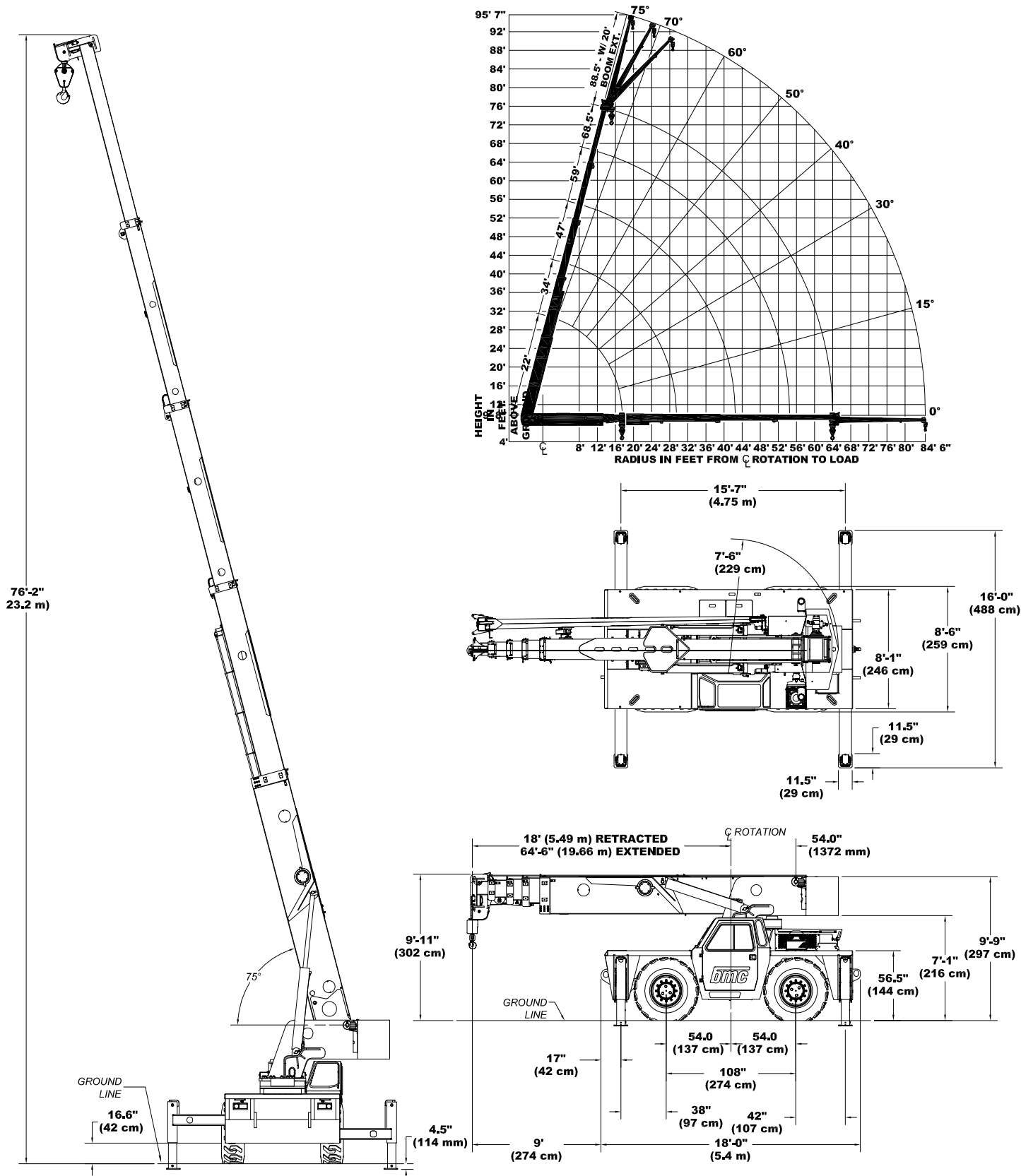
- Rated Capacity Limiter ... Standard
- Capacity on Outriggers ... 50,000 lbs (22,700 kg)
- Pick and Carry Capacity ... up to 24,400 lbs (11,000 kg)
- Height ... 9' 11" (2.96 m)
- Width ... 8' 6" (2.59 m)
- Boom Rotation ... 360 Degree Continuous
- Sheave Height ... up to 95' 0" (28.96 m)
- Horizontal Reach ... up to 84' 6" (25.76 m)
- Tight Turning Radius
- 4-Wheel Steer ... Standard
- 4-Wheel Drive ... Standard
- Powershift Transmission ... Standard
- Electro-Hydraulic Control of Crane Functions
- Independent Outrigger Controls
- Diesel Engine ... Standard

BRODERSON
Manufacturing Corp.





IC-400-3A





IC-400-3A

Specifications

GENERAL:

Boom Movement:	Rotation	Elevation	Extension
	Continuous	0° to 75°	46' 6" (14.17m)
Boom Speeds:	0.7 RPM	30 sec.	56 sec.
Weight:			
Total	54,900 lbs. (24,900kg)		
Front Axle	29,400 lbs. (13,330kg)		
Rear Axle	25,500 lbs. (11,570 kg)		
Gradeability:	70% (34°)		
Turning Radius:	15 Ft. 10 in. (4.83m)		

ENGINE:

Make	<u>Cummins</u>
Model	QSB4.5 (US EPA Tier 3)
Type	Turbocharged-Diesel, charge air cooled
No. Cyl.	4
Displacement	4.5L
HP @ Gov. Speed	160 H.P.
Fuel Tank Capacity	50 Gallons

TRANSMISSION:

Powershift transmission with 6-speeds forward & 3-reverse. Provides power shifts at any engine speed in any gear. All shifting is done with a single lever electrical control. Equipped with torque converter & transmission oil cooler. Torque converter has stall ratio of 2.640:1.

Forward gear ratios & speeds: Reverse gear ratios & speeds:

Gear	Ratio	Speed (MPH)	Gear	Ratio	Speed (MPH)
1st	8.20	2.7 (4.3km/h)	1st	8.20	2.7 (4.3km/h)
2nd	4.64	4.8 (7.7km/h)	2nd	3.53	6.3 (10.1km/h)
3rd	3.53	6.3 (10.1km/h)	3rd	1.41	15.8 (25.4km/h)
4th	2.00	11.2 (18 km/h)			
5th	1.41	15.8 (25 km/h)			
6th	0.80	23.0 (37 km/h)			

AXLES:**Front Axle:**

Planetary drive/steer front axle with 16:42 to 1.0 ratio. Differential equipped with "limited slip" feature. Front axle mounted rigidly to frame.

Rear Axle:

Planetary drive/steer axle with 16.42 to 1.0 ratio. Rear axle mounted with rubber elements to allow oscillation.

STEERING:

Hydraulic steering unit with two cylinders attached to each axle. Allows limited steering when engine is not running. A switch on the control panel is used to select rear-wheel steering, 4-wheel steering or crab steering. Electronic sensors and control box automatically align the steering after a new mode is selected.

BRAKES:

Service:	4-wheel hydraulic disc-type brakes
Parking:	Spring-applied & hydraulically released disc-type parking brake on transmission.

TIRES:

17.5 x 25, 20-ply rating, mud lug.

CHASSIS:**CARGO DECK:**

74 sq. ft.(6.94m²) of deck area. 20,000 lbs. (91,000kg) capacity on deck when load is centered over or between axles.

Headlight & Taillight Grilles:

Steel protective grilles for headlights & taillights. Easily removable for replacing bulbs.

OUTRIGGERS:

Four hydraulic out & down outriggers of box beam construction with direct-connected holding valves. Independent controls for each outrigger. Outrigger pad dimension 11.5" (29cm) x 11.5" (29cm).

ACCESSORY STORAGE BOXES:

One side deck compartment & one front deck compartment, each box has hinged lockable cover.

Lifting Rings

Lifting rings at each corner of cargo deck so sling can be attached for lifting crane.

OPERATOR COMPARTMENT:

Provides one-position access to all chassis & crane functions. Includes adjustable operator's seat, retracting seat belts, fire extinguisher, electronic level gauge & tilt steering wheel.

Drum Rotation Indicator:

An indicator lamp on engine display unit flashes as hoist drum rotates.

All Weather Cab:

Consists of rigid mounted canopy section and removable hinged door with safety glass. Rugged canopy structure with laminated glass front & top. Door is equipped with a keyed lock to protect operator's station. Includes defroster fan, dome light, heater with 2-speed fan & 12V electric windshield wiper and windshield washer.

Air Conditioning:

Provides factory system R134a refrigerant.

Electronic Controls:

Dual two-axis joysticks provide control of boom motions and hoist.

ELECTRICAL:**12 Volt System****Lighting Package:**

One pair headlights with high & low beams; tail, brake & turn signal lights & back-up lights in rear; turn signals & emergency flasher switch at operator's station.

Instrument Package:

Located on the dashboard at the operator's station is the key pad for outrigger operation, an engine display unit, rocker switches for various functions, and indicator lights. Included with the engine display are simulated gages displaying real-time values for engine RPM, battery voltage, engine hours, fuel level, oil pressure, and coolant temperature. Additional warning lamps monitor vitals like engine status, low fuel, low battery, low oil pressure, and high hydraulic fluid temperature.

Back-Up Alarm:

Provides pulsating sound from 102dB alarm when transmission is in reverse.

Outrigger Alarm System:

Two-tone alarm is activated when "jack down" or "beam out" controls are operated.

Emergency Stop Switch:

A two-position push button switch located on the top left-hand of the dash panel. Designed to stop the engine & shut down the hydraulic system.

HYDRAULIC SYSTEM:

Triple vane pump, delivers 13, 25 & 40 GPM (53, 106 & 151 L/min) at rated 3,000 PSI (207 bar) and 2,500 RPM engine speed. Hydraulic oil tank capacity of 81 gallons (307 L).

BOOM ASSEMBLY:

Five-section, high-strength steel construction, equipped with bearing pads for efficient support and extension. Second stage uses a double-acting hydraulic cylinder to telescope sequentially. Double-acting hydraulic cylinder and chain system telescopes boom sections 3, 4, & 5 proportionally. The telescope cylinders and the double-acting boom elevation cylinders are equipped with cylinder-mounted holding valves. Boom angle indicator is on cab side of boom.

Boom Rotation:

Heavy-duty ball bearing rotation gear with external teeth. Rotation is powered by hydraulic motor & worm gear drive.

Boom Hoist:

Turret-mounted 2-speed planetary gear hoist, is hydraulically powered to provide a low speed bare-drum line pull of 17,850 lbs(8100kg) and a speed of 123 ft/min(37m/min) and a high speed bare-drum line pull of 7,400 lbs(3350kg) and a speed of 300 ft/min(91m/min). Hoist drum is a grooved 10 5/8-inch(270mm) diameter by 17-1/8 in(435mm) long. The hoist includes 370 ft(113m) of 5/8in(16mm) wire rope, cable tensioner, downhaul weight and swivel hook

Anti-Two-Block Device:

Prevents damage to hoist rope and/or crane components from pulling load hook against tip.

Rated Capacity Limiter:

Warns operator of impending overload with audible & visual signals, stopping boom functions that will cause overloads.

Four-Part-Line Sheave Block:

Double-sheave block for 4-part-line requirements. Downhaul weight and hook also included.



IC-400-3A

Options

Listed below are brief descriptions of options available for this product.
Consult the IC-400-3A Engineering Spec for additional information.

MODEL:

IC-400-3A Industrial Crane

ENGINE OPTIONS:**Spark Arrester Muffler**

Installed in addition to std. muffler.

TIRE OPTIONS:

Spare Tire & Wheel

CHASSIS OPTIONS:**Auxiliary Winch**

Mounted on front outrigger bumper, hydraulically driven with control in operator's console.

Pintle Hook:

Pintle Hook, Rear
Pintle Hook, Front

Rearview Mirrors

One mounted on right-hand deck stake and one mounted on left-hand deck stake.

OPERATOR COMPARTMENT:**Floor Mat**

Vinyl mat with foam backing.

Noise Reduction Kit

Includes floor mat and side panels of foam backed vinyl for noise reduction.

Sun Visor

Adjustable sun visor for reducing glare mounted in roof of cab.

ELECTRICAL OPTIONS:**Strobe Lights**

Yellow strobe light mounted on each side of turret weight box.

Camera System

4-camera video system to assist operator with hard to see viewpoints

Boom Work Lights

One work light mounted to boom to light boom tip and one work light mounted to turret to light ground under boom tip.

BOOM ATTACHMENTS:**Boom Extension, 20 Ft., Offset**

Boom stowable. Boom extension is offsettable to 3 different positions; 0 degree (in line), 15 degree and 30 degree offset.

Should you require an option or special equipment not listed please consult your dealer salesperson or

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Dimensions and values shown are
for reference purposes only.
Specifications subject to change.



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Load Chart

IC-400-3A

Industrial Crane

CAPACITIES IN POUNDS FOR OPERATION ON FIRM LEVEL SURFACE														
LOAD RADIUS FEET	ON OUTRIGGERS										ON RUBBER		LOAD RADIUS FEET	
	OUT & DOWN 360° ROTATION OR IN & DOWN OVER FRONT					IN & DOWN 360° ROTATION					FRONT	360°		
	BOOM RETRACTED 22' BOOM	2ND STAGE OUT- 34' BOOM	47' BOOM	59' BOOM	FULLY EXTENDED 68.5' BOOM	BOOM RETRACTED 22' BOOM	2ND STAGE OUT- 34' BOOM	47' BOOM	59' BOOM	FULLY EXTENDED 68.5' BOOM	ANY BOOM	ANY BOOM		
8	50000	36000	36000			42000	36000	36000			24400	17000	8	
10	42000	36000	35200	34400		27900	26700	26600	28300		20300	13200	10	
12	36000	36000	31900	28100		20300	19300	19300	20600		17200	10500	12	
14	35100	34100	28600	26200	21900	15700	14800	14700	15900	16000	14700	8500	14	
16	30100	29100	25200	22900	19600	12500	11600	11600	12700	12900	12700	6900	16	
18	23600	23600	22300	20800	17800	10100	9300	9300	10400	10600	11100	5600	18	
20	4700	21100	20500	19300	16000		7500	7500	8400	8800	9400	4600	20	
22	4400	19000	18600	17900	14600		6000	6000	6900	7400	7900	3700	22	
24	4000	17100	17100	16300	13500		4900	4900	5800	6300	6600	3000	24	
26	3700	15300	15400	14400	12300		3900	3900	4900	5300	5600	2300	26	
28	3400	13300	13300	13300	11300		3100	3100	4100	4600	4800	1800	28	
30	3200	11700	11700	12200	10400		2500	2500	3400	3900	4100	1300	30	
32	3000	4000	10500	11200	9600			2000	2800	3300	3600	1100	32	
36	2800	3600	8500	9100	8200			1400	1900	2300	2800	700	36	
40		3200	7200	7400	7100			900	1200	1600	2200	---	40	
42		3000	6700	6800	6700			700	900	1300	2000	---	42	
44		2900	3700	6200	6200				700	1100	1800	---	44	
48		2700	3400	5400	5300				---	700	1400	---	48	
52			3100	4700	4600				---	---	1100	---	52	
54			3000	4400	4200				---	---	1000	---	54	
56			2900	4400	3900					---	900	---	56	
60			2800	4100	3500					---	---	---	60	
64				3600	3000					---	---	---	64	
68				3200	3000	CAPACITIES ON OUTRIGGERS OUT & DOWN ARE 85% OF TIPPING LOADS. CAPACITIES ON IN & DOWN OUTRIGGERS ARE LESS THAN 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINE ARE LIMITED BY TIPPING OR BOOM EXTENSION STRUCTURAL CAPABILITY. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPABILITY.							DO NOT LIFT LOADS ON BOOM EXTENSION WHEN ON RUBBER OR OVER SIDE ON IN & DOWN OUTRIGGERS.	
72				2800	2800									
76					2400									
80					2100									
84					1900									
BOOM EXT. OFFSET ANGLE	20' BOOM EXTENSION STRUCTURAL CAPACITIES													
	MAIN BOOM ANGLE													
	0°	15°	30°	40°	50°	60°	70°	75°						
	0°	2600	2750	3000	3400	4100	5100	6200	7000					
15°	---	2500	2600	2700	2900	3300	4300	4800						
30°	---	---	2300	2400	2500	2700	3200	3400						

IN & DOWN 360° CAPACITIES APPLY WHEN OPERATING OVER THE SIDES OR REAR WITH BEAMS AT LESS THAN FULL EXTENSION.

FOR BOOM LENGTHS BETWEEN COLUMNS, USE THE NEXT LONGER BOOM LENGTH COLUMN. FOR LOAD RADII BETWEEN ROWS, USE THE NEXT LONGER LOAD RADIUS ROW.

LOAD RADIUS IS THE HORIZONTAL DISTANCE FROM THE CENTER OF ROTATION OF THE UNLOADED CRANE TO THE VERTICAL LOAD LINE WITH LOAD APPLIED.

CAUTION BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. LOAD RADII BELOW DOUBLE LINES REQUIRE BOOM EXTENSION. DO NOT POSITION BOOM AT LOAD RADII WHERE " ---" CAPACITIES ARE SHOWN. EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.



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Load Chart

IC-400-3A

Industrial Crane

CAPACITIES IN KILOGRAMS FOR OPERATION ON FIRM LEVEL SURFACE																
LOAD RADIUS METERS	ON OUTRIGGERS										ON RUBBER		LOAD RADIUS METERS			
	OUT & DOWN 360° ROTATION OR IN & DOWN OVER FRONT					IN & DOWN 360° ROTATION					FRONT	360°				
	BOOM RETRACTED 6.7 m BOOM	2ND STAGE OUT- 10.4 m BOOM	14.3 m BOOM	18.0 m BOOM	FULLY EXTENDED 20.9 m BOOM	BOOM RETRACTED 6.7 m BOOM	2ND STAGE OUT- 10.4 m BOOM	14.3 m BOOM	18.0 m BOOM	FULLY EXTENDED 20.9 m BOOM	ANY BOOM	ANY BOOM				
2.4	22700	16300	16300			19000	16300	16300			11000	7700	2.4			
3.0	19300	16300	16000	15600		12900	12400	12300	12800		9300	6100	3.0			
3.5	16900	16300	14800	13200		10000	9600	9500	9900		8100	5000	3.5			
4.0	16100	15900	13600	12200	9900	7900	7500	7400	8100	7200	7100	4200	4.0			
4.5	15100	14600	12400	11300	9500	6500	6100	6000	6600	6700	6300	3500	4.5			
5.0	13100	12700	11100	10100	8700	5400	5000	5000	5500	5600	5600	3000	5.0			
5.5	10500	10600	10100	9400	8000	4600	4200	4200	4700	4800	5000	2500	5.5			
6.0	2100	9700	9400	8800	7400		3500	3500	3900	4100	4400	2100	6.0			
7.0	1900	8200	8100	7700	6300		2400	2400	2800	3100	3300	1500	7.0			
8.0	1600	6800	6800	6400	5500		1700	1700	2100	2400	2500	1000	8.0			
9.0	1500	5400	5400	5600	4800		1200	1200	1600	1800	1900	600	9.0			
10.0	1300	1700	4500	4900	4200			800	1100	1400	1500	400	10.0			
11.0	1200	1600	3800	4100	3700			600	800	1000	1200	---	11.0			
12.0		1500	3300	3400	3300			400	600	700	1000	---	12.0			
13.0		1300	2900	3000	2900			---	300	500	800	---	13.0			
14.0		1200	1600	2600	2600				---	400	700	---	14.0			
15.0		1200	1500	2300	2300				---	---	600	---	15.0			
16.0			1400	2100	2000				---	---	500	---	16.0			
16.5			1300	2000	1900				---	---	400	---	16.5			
17.0			1300	2000	1800					---	400	---	17.0			
18.0			1200	1900	1600					---	---	---	18.0			
19.0			1200	1700	1400					---	---	---	19.0			
19.5				1600	1300					---	---	---	19.5			
21.0				1400	1300											
22.0				1200	1200											
23.0					1100											
24.0					1000											
25.6					800											
BOOM EXT. OFFSET ANGLE	6.1 m BOOM EXTENSION STRUCTURAL CAPACITIES								CAPACITIES ON OUTRIGGERS OUT & DOWN ARE 85% OF TIPPING LOADS. CAPACITIES ON IN & DOWN OUTRIGGERS ARE LESS THAN 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINE ARE LIMITED BY TIPPING OR BOOM EXTENSION STRUCTURAL CAPABILITY. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPABILITY.					DO NOT LIFT LOADS ON BOOM EXTENSION WHEN ON RUBBER OR OVER SIDE ON IN & DOWN OUTRIGGERS.		
	MAIN BOOM ANGLE															
	0°	15°	30°	40°	50°	60°	70°	75°								
	0°	1200	1200	1300	1500	1800	2300	2800								3100
	15°	---	1100	1200	1200	1300	1500	1900								2200
30°	---	---	1000	1100	1100	1200	1400	1500								

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