

# Machine for Industrial Applications

# LH 40 M

Litronic®

Operating Weight:	83,800 – 85,650 lb
Engine Output (SAE J1349):	188 HP / 140 kW
Engine Output (ISO 9249):	190 HP / 140 kW
Max. System Performance (SAE J1349):	226 kW
Max. System Performance (ISO 9249):	226 kW



# LIEBHERR

# Technical Data



## Engine

Rating per SAE J1349	188 HP (140 kW) at 1,700 rpm
Rating per ISO 9249	190 HP (140 kW) at 1,700 rpm
Model	Liebherr D934 according to stage IIIB/Tier 4i
Type	4 cylinder in-line
Bore/Stroke	4.8/5.9 in
Displacement	427.1 in <sup>3</sup>
Engine operation	4-stroke diesel Common-Rail turbo-charged and after-cooled reduced emissions
Harmful emissions values	in accordance with EPA/CARB-40CFR stage Tier 4 interim
Emission control	Liebherr particle filter
Cooling	water-cooled with integrated motor oil cooler
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	172 gal
Engine idling	sensor controlled
Electrical system	
Voltage	24 V
Batteries	2 x 170 Ah/12 V
Alternator	three phase current 28 V/100 A



## Hydraulic System

Hydraulic pump for attachment and travel drive	two Liebherr variable flow, swashplate pumps (double construction)
Max. flow	2 x 59 gpm
Max. pressure	5,076 psi
Hydraulic pump regulation and control	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swashplate pump, closed-loop circuit
Max. flow	36 gpm
Max. pressure	5,366 psi
Hydraulic tank	85 gal
Hydraulic system	160 gal
Hydraulic oil filter	1 main return filter with integrated partial micro filtration (5 µm)
Hydraulic oil cooler	compact cooling system consisting cooling unit for water, hydraulic oil and charge air with stepless thermostatically controlled fan
MODE selection	adjustment of engine and hydraulic performance via a mode pre-selector to match application, e.g. for especially economical and environmentally friendly operation or for maximum material handling and heavy-duty jobs
S (Sensitive)	for precision work and lifting through very sensitive movements
E (ECO)	for especially economical and environmentally friendly operation
P (Power)	for maximum digging power and heavy duty jobs
Tool Control (Option)	ten preadjustable pump flows and pressures for add on tools



## Hydraulic Controls

Power distribution	via control valves in single block with integrated safety valves
Servo circuit	
Attachment and swing	with hydraulic pilot control and proportional joystick levers
Travel	electroproportional via foot pedal
Additional functions	via switch or electroproportional foot pedals
Option	proportional control, proportionally acting transmitters on the joysticks for additional hydraulic functions



## Swing Drive

Drive	Liebherr swashplate motor in a closed system with integrated brake valve
Transmission	Liebherr planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0 – 7.5 rpm stepless
Swing torque	61,955 lbf ft
Brake	holding brake (spring applied – pressure released)
Option	pedal controlled positioning swing brake



## Uppercarriage

Type	slewing platform made from high-strength steel plate, designed for the toughest requirements
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## Operator's Cab

Cab	safety cab structure with individual windscreens or featuring a slide-in subpart under the ceiling, work headlights integrated in the ceiling, a door with a side window (can be opened on both sides), large stowing and depositing possibilities, shock-absorbing suspension, sounddamping insulating, tinted laminated safety glass, separate shades for the sunroof window and windscreen
Operator's seat Standard	air cushioned operator's seat with headrest, lap belt, seat heater, manual weight adjustment, adjustable seat cushion inclination and length and mechanical lumbar vertebrae support
Operator's seat Comfort (Option)	in addition to operator's seat standard: lockable horizontal suspension, automatic weight adjustment, adjustable suspension stiffness, pneumatic lumbar vertebrae support and passive seat climatization with active coal
Operator's seat Premium (Option)	in addition to operator's seat comfort: active electronic weight adjustment (automatic readjustment), pneumatic low frequency suspension and active seat climatization with active coal and ventilator
Control system	joysticks with arm consoles and swivel seat
Operation and displays	large high-resolution operating unit, self-explanatory, colour display with touchscreen, video-compatible, numerous setting, control and monitoring options, e.g. air conditioning control, fuel consumption, machine and tool parameters
Air-conditioning	automatic air-conditioning, recirculated air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu; recirculated air and fresh air filters can be easily replaced and are accessible from the outside; heating-cooling unit, designed for extreme out-side temperatures, sensors for solar radiation, inside and outside temperatures
Noise emission	
ISO 6396	$L_{PA}$ (inside cab) = 71 dB(A)
2000/14/EC	$L_{WA}$ (surround noise) = 103 dB(A)



## Undercarriage

Type	torsion-resistant box design made from high-strength steel plate, designed for the toughest requirements
Drive	Liebherr variable flow swashplate motor with automatic brake valve
Transmission	oversized two speed power shift transmission with additional creeper speed
Travel speed	0 – 1.6 mph stepless (creeper speed + transmission stage 1) 0 – 3.7 mph stepless (transmission stage 1) 0 – 6.5 mph stepless (creeper speed + transmission stage 2) 0 – 12.4 mph stepless (transmission stage 2)
Driving operation	automotive driving using accelerator pedal, cruise control function: storage of variable accelerator pedal positions
Axles	132,277 lb drive axles; manual or automatic hydraulically controlled front axle oscillation lock
Service brake	two circuit travel brake system with accumulator; maintenance-free, wet and backlash-free disc brake
Holding brake	wet, maintenance-free multi disc brakes
Stabilization	4 point outriggers
Option	blade, at the front, for 4 point outriggers



## Attachment

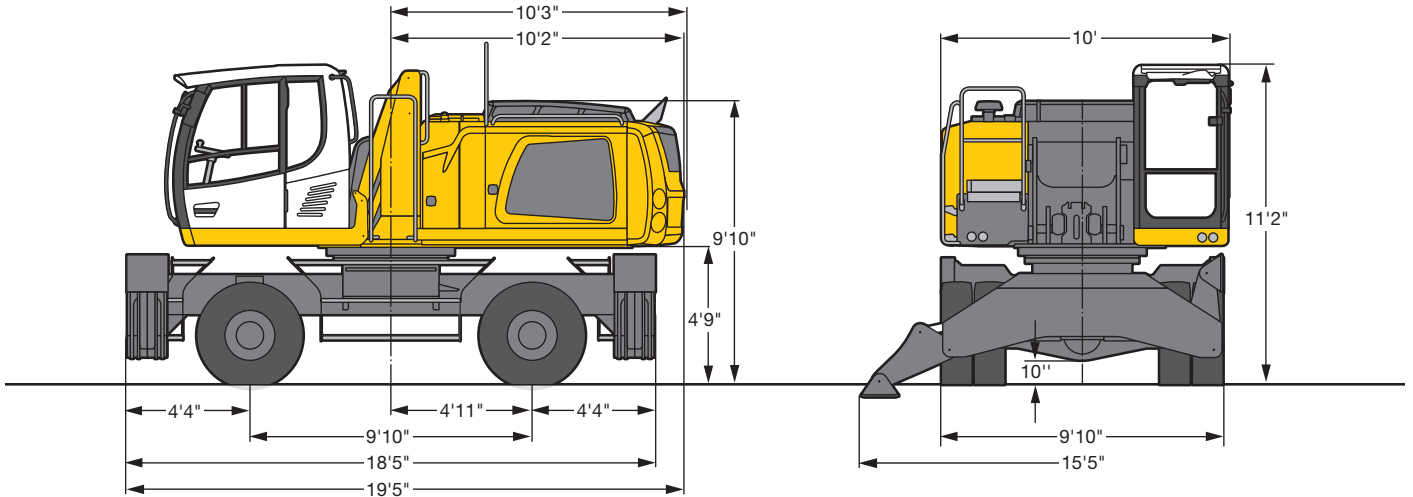
Type	high-strength steel plates at highly stressed points for the toughest requirements. Complex and stable mountings of attachment and cylinders.
Hydraulic cylinders	Liebherr cylinders with special seal system. Shock absorption
Energy recovering cylinder	Liebherr gas cylinder with special sealing and control system
Bearings	sealed, low maintenance



## Complete Machine

Lubrication	central lubrication system for uppercarriage and attachment, automatically
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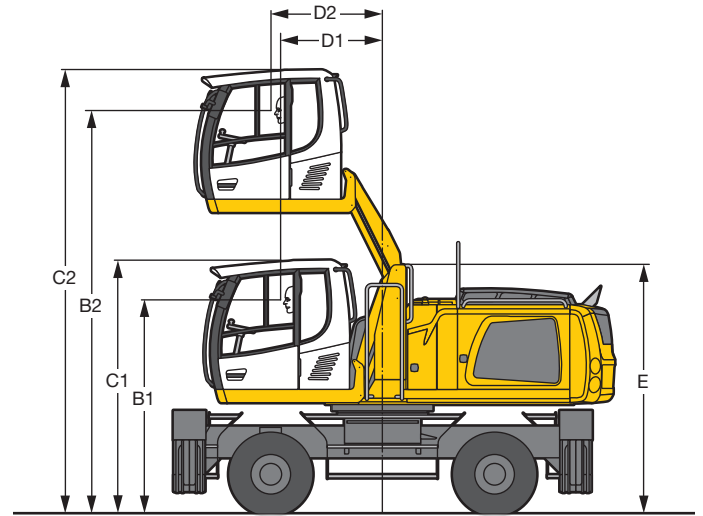
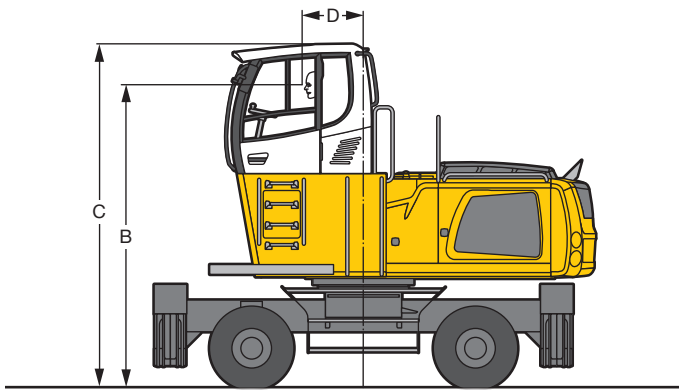
# Dimensions



# Choice of Cab Elevation

## Cab Elevation LFC (Rigid Elevation)

## Cab Elevation LHC (Hydraulic Elevation)



Increase Type	LFC 80	LFC 120	LFC 150
Height	2'7"	3'11"	4'11"
B	12'	13' 3"	14' 3"
C	13'9"	15' 1"	16' 1"
D	2'8"	2' 8"	2' 8"

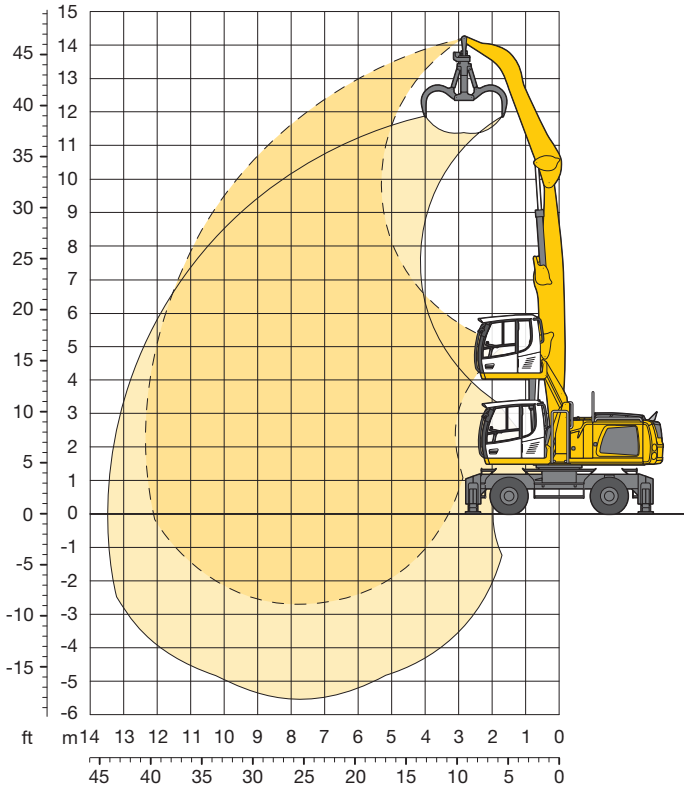
Increase Type	LHC 255
B1	9' 4"
B2	17' 8"
C1	11' 2"
C2	19' 6"
D1	4' 6"
D2	4'11"
E	10'11"

A rigid cab elevation has a fixed eye level height. For a lower transport height, the shell of the cab can be removed and replaced by a transport device. The dimension C is in this machine design for all rigid cab elevations 12'2".

The hydraulically adjustable cab allows the driver, that he can choose his field of view freely and at any time within the stroke.

**Tires 12.00-20**

# Attachment GA12 (Kinematic 2A)

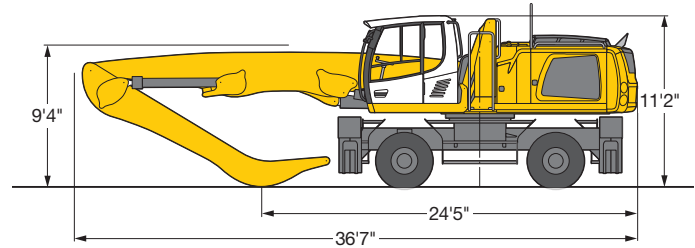


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type straight mono boom 24'11" and industrial-type angled stick 16'5".

with grapple model GM 70C/1.05 yd<sup>3</sup> semi-closed tines | 83,800 lb

## Dimensions



## Industrial Stick 16'5"

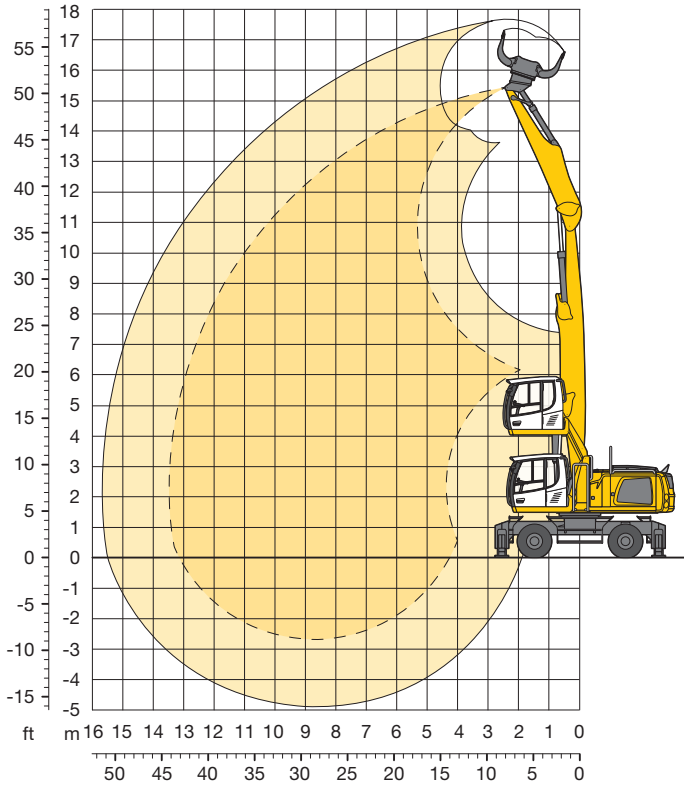
ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in		
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	
50	Stabilizers raised 4 pt. outriggers down																					
45	Stabilizers raised 4 pt. outriggers down																			21,8*	21,8*	14' 6"
40	Stabilizers raised 4 pt. outriggers down					18,7	22,0*													13,8	16,6*	23'10"
35	Stabilizers raised 4 pt. outriggers down					19,3	21,1*	13,3	17,1											9,8	12,7	29' 6"
30	Stabilizers raised 4 pt. outriggers down					21,1*	21,1*	18,4*	18,4*											14,6*	14,6*	
25	Stabilizers raised 4 pt. outriggers down					19,3	21,0*	13,4	17,2	9,7	12,6									7,8	10,3	33' 6"
20	Stabilizers raised 4 pt. outriggers down					18,8	21,6*	13,1	16,9	9,6	12,5	7,2	9,6							6,7	8,9	36' 5"
15	Stabilizers raised 4 pt. outriggers down					21,6*	21,6*	18,5*	18,5*	16,4*	16,4*	14,8*	14,8*							13,2*	13,2*	36' 5"
10	Stabilizers raised 4 pt. outriggers down					17,8	22,8*	12,6	16,3	9,3	12,2	7,1	9,5							5,9	8,0	38' 5"
5	Stabilizers raised 4 pt. outriggers down	47,2*	47,2*	25,3	31,8*	28,5*	28,5*	22,8*	22,8*	19,2*	19,2*	16,7*	16,7*	14,9*	14,9*					12,8	13,0*	38' 5"
0	Stabilizers raised 4 pt. outriggers down	47,2*	47,2*	31,8*	31,8*	24,5*	24,5*	20,1*	20,1*	17,2*	17,2*	14,7*	15,0*							5,5	7,5	39' 8"
-5	Stabilizers raised 4 pt. outriggers down	4,3*	4,3*	22,2	30,8	15,0	20,2	11,0	14,7	8,4	11,3	6,6	8,9	5,3	7,3					11,8	12,6*	40' 5"
-10	Stabilizers raised 4 pt. outriggers down	2,4*	2,4*	35,3*	35,3*	26,2*	26,2*	21,0*	21,0*	17,6*	17,6*	14,4	15,1*	11,8	12,6*					5,3	7,2	40' 5"
-15	Stabilizers raised 4 pt. outriggers down	2,4*	2,4*	19,8	22,0*	13,7	18,9	10,3	13,9	8,0	10,8	6,4	8,7	5,2	7,2					11,7	11,8*	40' 5"
-20	Stabilizers raised 4 pt. outriggers down	2,4*	2,4*	22,0*	22,0*	27,2*	27,2*	21,5*	21,5*	17,7*	17,7*	14,1	14,8*	11,7	11,8*					5,2	7,1	39' 8"
	Stabilizers raised 4 pt. outriggers down			18,4*	18,4*	12,9	18,0	9,7	13,3	7,6	10,4	6,2	8,5							10,3*	10,3*	39' 8"
	Stabilizers raised 4 pt. outriggers down			18,4*	18,4*	26,7*	26,7*	21,1*	21,1*	17,2*	17,2*	13,9	14,0*							5,9	8,1	35'11"
	Stabilizers raised 4 pt. outriggers down			18,5	20,4*	12,5	17,6	9,4	13,0	7,5	10,3	6,1	8,4							11,3*	11,3*	

↑ Height    🛠️ Can be slewed through 360°    📏 In longitudinal position of undercarriage    🚛 Max. reach    \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.



# Attachment GK13 (Kinematic 2A)

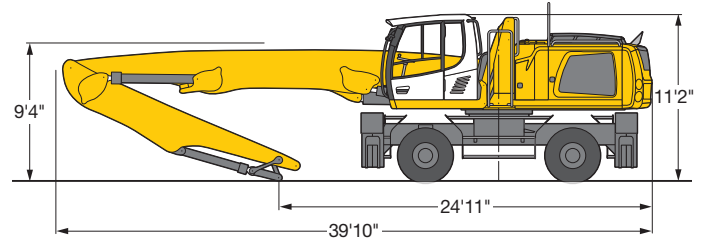


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type straight mono boom 28'3" and industrial-type stick with tipping kinematics 16'5".

with sorting grab SG 30/1.11 yd<sup>3</sup> tines 85,100 lb

## Dimensions



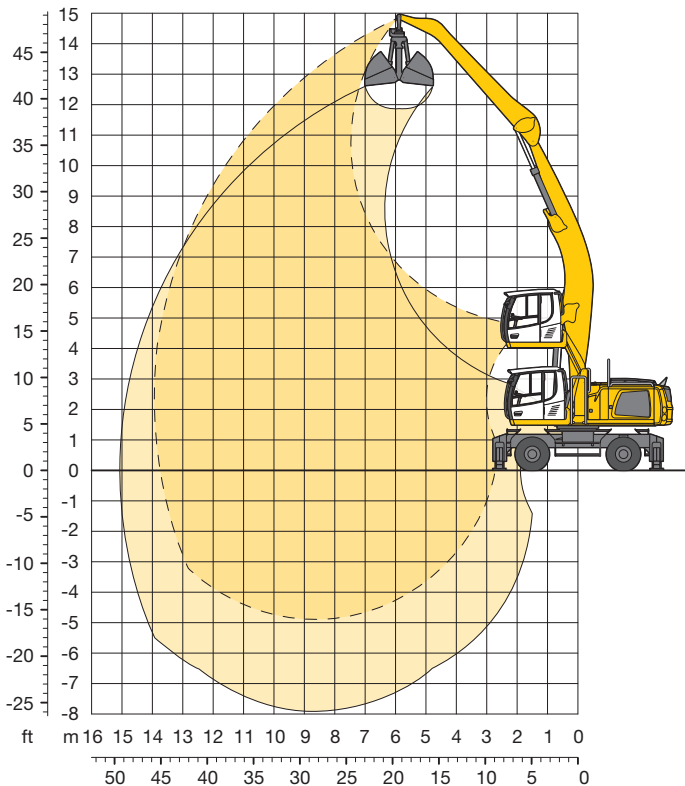
## Industrial Stick 16'5"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in			
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down
50	Stabilizers raised 4 pt. outriggers down	29,1* 29,1*	29,1* 29,1*																		27,8* 27,8*	27,8* 27,8*	10'10"
45	Stabilizers raised 4 pt. outriggers down			26,2* 26,2*	26,2* 26,2*	17,6 21,0*	21,0* 21,0*														13,5 17,9*	17,8 17,9*	22'11"
40	Stabilizers raised 4 pt. outriggers down					18,5 20,0*	20,0* 17,0*	12,4 16,2													8,6 15,0*	11,5 15,0*	29' 8"
35	Stabilizers raised 4 pt. outriggers down					18,7 19,7*	19,7* 16,7*	12,6 16,7*	16,5 14,7*	8,9 14,7*	11,8										6,4 13,4*	8,8 13,4*	34' 5"
30	Stabilizers raised 4 pt. outriggers down					18,3 20,0*	20,0* 16,8*	12,4 16,8*	16,3 14,6*	8,8 14,6*	11,8 8,7	6,4 8,7									5,1 12,2	7,2 12,2*	37'11"
25	Stabilizers raised 4 pt. outriggers down			26,4* 26,4*	26,4* 26,4*	17,4 20,8*	20,8* 17,2*	11,9 17,2*	15,8 14,8*	8,6 14,8*	11,5 13,0*	6,3 13,0*	8,6 11,0	4,5 11,6*	6,5						4,4 10,8	6,3 11,4*	40' 6"
20	Stabilizers raised 4 pt. outriggers down	29,0* 29,0*	29,0* 29,0*	25,4 28,8*	28,8* 22,0*	16,1 22,0*	21,5 17,9*	11,1 17,9*	14,9 15,2*	8,1 15,2*	11,0 13,2*	6,0 13,2*	8,3 11,0	4,5 11,6*	6,4						3,8 9,9	5,6 10,7*	42' 4"
15	Stabilizers raised 4 pt. outriggers down			21,7 31,8*	30,4 31,8*	14,3 23,5*	19,6 23,5*	10,2 18,7*	13,9 18,7*	7,5 15,6*	10,4 15,6*	5,7 13,4*	8,0 13,4*	4,3 11,5*	6,2						3,5 9,3	5,3 10,1*	43' 6"
10	Stabilizers raised 4 pt. outriggers down			7,3* 7,3*	7,3* 24,7*	12,5 24,7*	17,7 19,4*	9,2 19,4*	12,8 19,4*	6,9 15,9*	9,7 15,9*	5,3 13,1	7,6 13,4*	4,1 10,6	6,0 11,4*						3,3 9,0	5,0 9,4*	44' 1"
5	Stabilizers raised 4 pt. outriggers down			4,1* 4,1*	4,1* 24,9*	11,2 24,9*	16,2 19,5*	8,3 19,5*	12,0 15,9*	6,4 15,9*	9,2 12,7	5,0 13,2*	7,3 10,4	3,9 10,9*	5,9						3,3 8,5*	5,0 8,5*	44' 1"
0	Stabilizers raised 4 pt. outriggers down			6,4* 6,4*	6,4* 6,4*	10,5 22,9*	15,5 22,9*	7,8 18,8*	11,4 18,8*	6,0 15,3*	8,8 15,3*	4,7 12,4	7,0 12,6*	3,8 10,0*	5,7 10,0*						3,4 7,7*	5,1 7,7*	43' 2"
- 5	Stabilizers raised 4 pt. outriggers down					10,2 20,1*	15,2 20,1*	7,5 16,9*	11,1 16,9*	5,8 13,8*	8,6 13,8*	4,6 11,1*	6,9 11,1*								3,9 8,7*	5,8 8,7*	39' 2"
- 10	Stabilizers raised 4 pt. outriggers down																						
- 15	Stabilizers raised 4 pt. outriggers down																						
- 20	Stabilizers raised 4 pt. outriggers down																						

↑ Height    🛠️ Can be slewed through 360°    🚧 In longitudinal position of undercarriage    🚛 Max. reach    \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

# Attachment AF14 (Kinematic 2D)

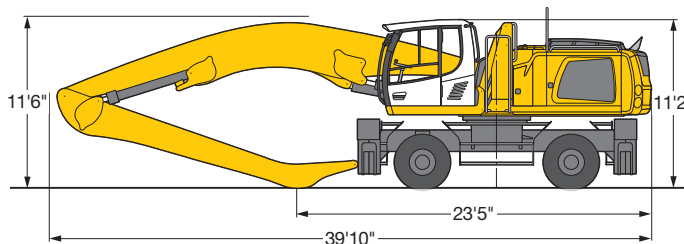


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type angled mono boom 28'3" and industrial-type flat angled stick 19'8".

with clamshell model GM 20B/1.96 yd <sup>3</sup> shells for loose material	85,100 lb
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## Dimensions



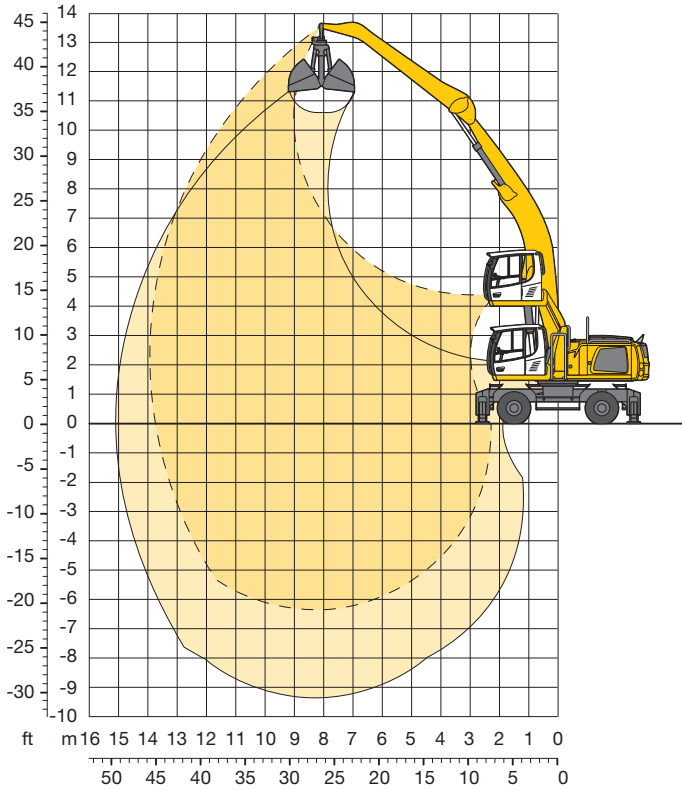
## Industrial Stick 19'8"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in			
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down
50	Stabilizers raised 4 pt. outriggers down																						
45	Stabilizers raised 4 pt. outriggers down							13,2*	13,2*												12,8*	12,8*	25' 3"
40	Stabilizers raised 4 pt. outriggers down							14,5	14,6*	10,3	13,2*										9,3	11,6*	31' 6"
35	Stabilizers raised 4 pt. outriggers down							14,4*	14,4*	10,6	13,0*	7,7	10,1								7,2	9,5	36'
30	Stabilizers raised 4 pt. outriggers down							14,4	14,6*	10,4	13,0*	7,7	10,1								10,9*	10,9*	39' 5"
25	Stabilizers raised 4 pt. outriggers down							13,9	15,1*	10,1	13,1	7,5	9,9	5,7	7,7						5,1	6,9	41'11"
20	Stabilizers raised 4 pt. outriggers down					18,7	18,9*	13,0	15,8*	9,5	12,5	7,2	9,6	12,0*	12,0*	11,0*	11,0*				10,6*	10,6*	41'11"
15	Stabilizers raised 4 pt. outriggers down	40,2*	40,2*	25,8	26,9*	16,7	20,6*	15,8*	15,8*	13,8*	13,8*	12,3*	12,3*	11,1*	11,1*						10,4	10,5*	43' 7"
10	Stabilizers raised 4 pt. outriggers down	40,2*	40,2*	26,9*	26,9*	20,6*	20,6*	16,8*	16,8*	14,4*	14,4*	12,6*	12,6*	11,3*	11,3*						4,1	5,8	44'10"
5	Stabilizers raised 4 pt. outriggers down	7,8*	7,8*	21,4	30,0	14,6	19,9	10,6	14,4	8,1	11,0	6,3	8,6	4,9	6,9	3,9	5,6				3,8	5,5	45' 4"
0	Stabilizers raised 4 pt. outriggers down	4,7*	4,7*	17,9	19,1*	12,6	17,8	9,5	13,2	7,3	10,2	5,8	8,1	4,6	6,6	3,7	5,4				9,4	10,2*	45' 4"
-5	Stabilizers raised 4 pt. outriggers down	7,1*	7,1*	15,5*	15,5*	11,3	16,4	8,6	12,2	6,7	9,5	5,4	7,7	4,4	6,3	9,3	10,1*				9,2	10,0*	45' 4"
-10	Stabilizers raised 4 pt. outriggers down	7,1*	7,1*	15,5*	15,5*	24,5*	24,5*	19,3*	19,3*	15,9*	15,9*	13,2	13,5*	10,9	11,6*						3,6	5,3	44'10"
-15	Stabilizers raised 4 pt. outriggers down			15,4	16,0*	10,6	15,5	8,0	11,6	6,3	9,1	5,1	7,4	4,2	6,1						9,2	9,9*	44'10"
-20	Stabilizers raised 4 pt. outriggers down			16,0*	16,0*	24,1*	24,1*	19,2*	19,2*	15,8*	15,8*	12,8	13,2*	10,7	11,2*						3,7	5,4	43' 7"
	Stabilizers raised 4 pt. outriggers down			15,3	17,7*	10,3	15,2	7,7	11,2	6,0	8,8	4,9	7,2	4,1	6,0						9,5	9,6*	43' 7"
	Stabilizers raised 4 pt. outriggers down			17,7*	17,7*	22,3*	22,3*	18,1*	18,1*	15,0*	15,0*	12,4*	12,4*	10,1*	10,1*						3,9	5,7	41'11"
	Stabilizers raised 4 pt. outriggers down					7,6	11,2	6,0	8,8												4,9	7,2	41'11"
	Stabilizers raised 4 pt. outriggers down					15,9*	15,9*	13,2*	13,2*												10,7*	10,7*	34'11"

Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

# Attachment AF14 (Kinematic 2C)

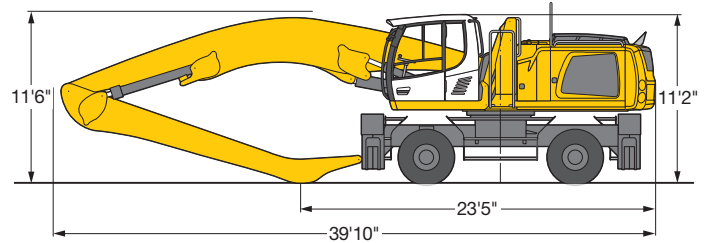


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type angled mono boom 28'3" and industrial-type flat angled stick 19'8".

with clamshell model GM 20B/1.96 yd <sup>3</sup> shells for loose material	85,100 lb
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## Dimensions



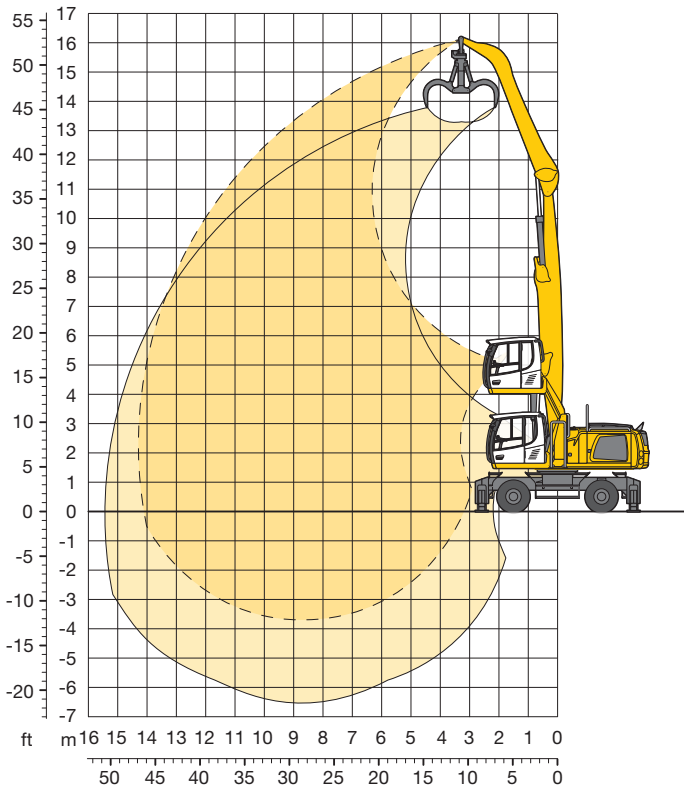
## Industrial Stick 19'8"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in			
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	ft	in
50	Stabilizers raised																						
45	Stabilizers raised																						
40	Stabilizers raised									10,4	11,9*										9,3	11,6*	31' 6"
35	Stabilizers raised									10,6	11,6*	7,7	10,1								7,2	9,5	36'
30	Stabilizers raised									10,5	11,7*	7,7	10,1								5,9	8,0	39' 5"
25	Stabilizers raised									10,1	12,0*	7,6	9,9	5,7	7,7						5,1	6,9	41'11"
20	Stabilizers raised							13,0	14,2*	9,6	12,5	7,2	9,6	5,5	7,5						4,5	6,3	43' 7"
15	Stabilizers raised			24,1*	24,1*	16,7	18,6*	11,9	15,3*	8,8	11,8	6,8	9,1	5,2	7,2						4,1	5,8	44'10"
10	Stabilizers raised	7,8*	7,8*	21,4	28,2*	14,6	19,9	10,6	14,4	8,1	11,0	6,3	8,6	4,9	6,9	3,9	5,6				3,8	5,5	45' 4"
5	Stabilizers raised	4,7*	4,7*	17,9	19,1*	12,7	17,8	9,5	13,2	7,3	10,2	5,8	8,1	4,6	6,6	3,7	5,4				3,6	5,3	45' 4"
0	Stabilizers raised	7,1*	7,1*	15,5*	15,5*	11,3	16,4	8,6	12,2	6,7	9,6	5,4	7,7	4,4	6,3						3,6	5,3	44'10"
-5	Stabilizers raised	9,9*	9,9*	15,4	16,0*	10,6	15,5	8,0	11,6	6,3	9,1	5,1	7,4	4,2	6,1						3,7	5,4	43' 7"
-10	Stabilizers raised	12,5*	12,5*	15,3	17,7*	10,3	15,2	7,7	11,2	6,0	8,8	4,9	7,2	4,1	6,0						3,9	5,7	41'11"
-15	Stabilizers raised			15,5	19,7*	10,3	15,3	7,6	11,2	6,0	8,8	4,9	7,2								4,2	6,2	39' 5"
-20	Stabilizers raised			19,7*	19,7*	20,6*	20,6*	16,9*	16,9*	14,0*	14,0*	11,4*	11,4*								9,1*	9,1*	33' 1"

Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

# Attachment GA14 (Kinematic 2A)

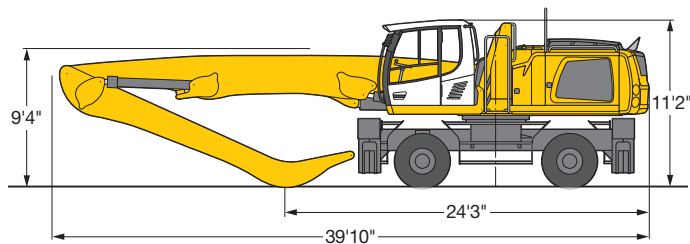


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type straight mono boom 28'3" and industrial-type angled stick 19'8".

with grapple model GM 70C/1.05 yd<sup>3</sup> semi-closed tines | 84,900 lb

## Dimensions



## Industrial Stick 19'8"

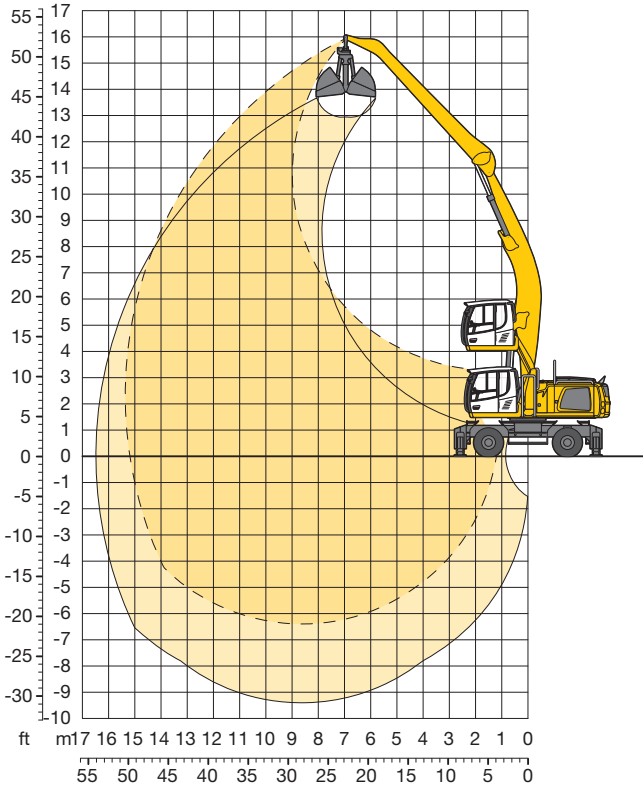
ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in		
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised
50	Stabilizers raised			21,6*	21,6*															17,0*	17,0*	19' 4"
45	4 pt. outriggers down			21,6*	21,6*															17,0*	17,0*	19' 4"
45	Stabilizers raised					19,7	20,2*	13,4	17,2											10,8	13,7*	27'11"
40	4 pt. outriggers down					20,2*	20,2*	17,4*	17,4*											13,7*	13,7*	27'11"
40	Stabilizers raised							13,9	16,7*	10,0	12,9									7,8	10,3	33' 7"
35	4 pt. outriggers down							16,7*	16,7*	14,9*	14,9*									12,2*	12,2*	33' 7"
35	Stabilizers raised							14,1	16,5*	10,2	13,1	7,5	9,8							6,2	8,3	37'11"
30	4 pt. outriggers down							16,5*	16,5*	14,6*	14,6*	13,3*	13,3*							11,3*	11,3*	37'11"
30	Stabilizers raised					19,5*	19,5*	13,8	16,7*	10,1	13,0	7,5	9,9							5,2	7,1	41' 1"
25	4 pt. outriggers down					19,5*	19,5*	16,7*	16,7*	14,7*	14,7*	13,2*	13,2*	12,0*	12,0*					10,9*	10,9*	41' 1"
25	Stabilizers raised					19,2	20,2*	13,3	17,1*	9,7	12,7	7,3	9,7	5,6	7,5					4,5	6,3	43' 6"
20	4 pt. outriggers down					20,2*	20,2*	17,1*	17,1*	14,9*	14,9*	13,3*	13,3*	12,0*	12,0*					10,4	10,6*	43' 6"
20	Stabilizers raised			27,3*	27,3*	17,9	21,5*	12,5	16,3	9,2	12,1	7,0	9,4	5,4	7,4	4,1	5,8			4,1	5,8	45' 2"
15	4 pt. outriggers down			27,3*	27,3*	21,5*	21,5*	17,8*	17,8*	15,3*	15,3*	13,5*	13,5*	12,0	12,1*	9,7	10,7*			9,7	10,6*	45' 2"
15	Stabilizers raised	45,5*	45,5*	24,9	30,3*	16,1	21,5	11,5	15,3	8,6	11,5	6,6	9,0	5,2	7,1	4,1	5,7			3,8	5,4	46' 4"
10	4 pt. outriggers down	45,5*	45,5*	30,3*	30,3*	23,0*	23,0*	18,7*	18,7*	15,9*	15,9*	13,8*	13,8*	11,7	12,2*	9,6	10,6*			9,2	10,2*	46' 4"
10	Stabilizers raised			20,9	29,4	14,2	19,4	10,4	14,1	7,9	10,8	6,2	8,5	4,9	6,9	3,9	5,6			3,6	5,2	46'10"
5	4 pt. outriggers down			33,4*	33,4*	24,6*	24,6*	19,6*	19,6*	16,3*	16,3*	14,0*	14,0*	11,4	12,2*	9,5	10,5*			8,9	9,6*	46'10"
5	Stabilizers raised			13,1*	13,1*	12,5	17,6	9,4	13,0	7,3	10,1	5,8	8,1	4,7	6,6	3,8	5,5			3,6	5,1	46'10"
0	4 pt. outriggers down			13,1*	13,1*	25,5*	25,5*	20,1*	20,1*	16,6*	16,6*	13,6	14,1*	11,1	12,0*	9,4	10,0*			8,8	9,0*	46'10"
0	Stabilizers raised			11,4*	11,4*	11,4	16,4	8,6	12,2	6,8	9,6	5,5	7,7	4,5	6,4	3,7	5,4			3,6	5,2	46' 4"
-5	4 pt. outriggers down			11,4*	11,4*	25,2*	25,2*	20,0*	20,0*	16,4	16,4*	13,2	13,8*	10,9	11,5*	9,1*	9,1*			8,1*	8,1*	46' 4"
-5	Stabilizers raised			13,1*	13,1*	10,9	15,8	8,2	11,7	6,4	9,2	5,2	7,5	4,3	6,3					3,8	5,6	43'10"
-10	4 pt. outriggers down			13,1*	13,1*	23,3*	23,3*	18,9*	18,9*	15,6*	15,6*	12,9*	12,9*	10,4*	10,4*					8,2*	8,2*	43'10"
-10	Stabilizers raised			10,7	15,7	8,0	11,5	6,3	9,1	5,1	7,4									4,7	6,8	37' 7"
-15	4 pt. outriggers down			19,6*	19,6*	16,5*	16,5*	13,7*	13,7*			11,1*	11,1*							9,7*	9,7*	37' 7"
-20	Stabilizers raised																					
-20	4 pt. outriggers down																					

Height 
 Can be slewed through 360° 
 In longitudinal position of undercarriage 
 Max. reach 
 \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.



# Attachment AF15 (Kinematic 2D)

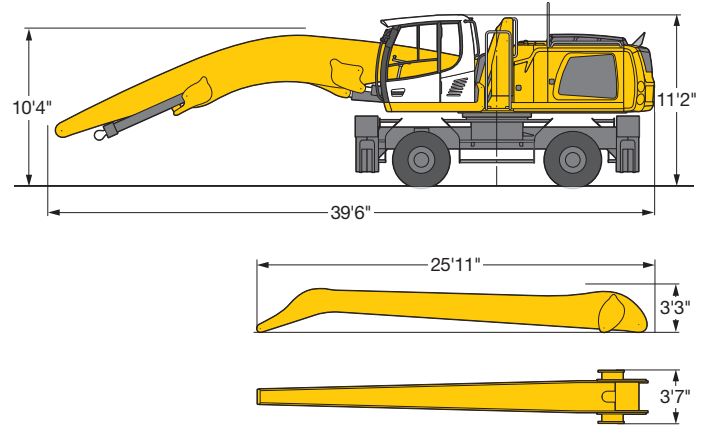


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type angled mono boom 28'3" and industrial-type flat angled stick 24'7".

with clamshell model GM 20B/1.96 yd<sup>3</sup> shells for loose material 85,650 lb

## Dimensions



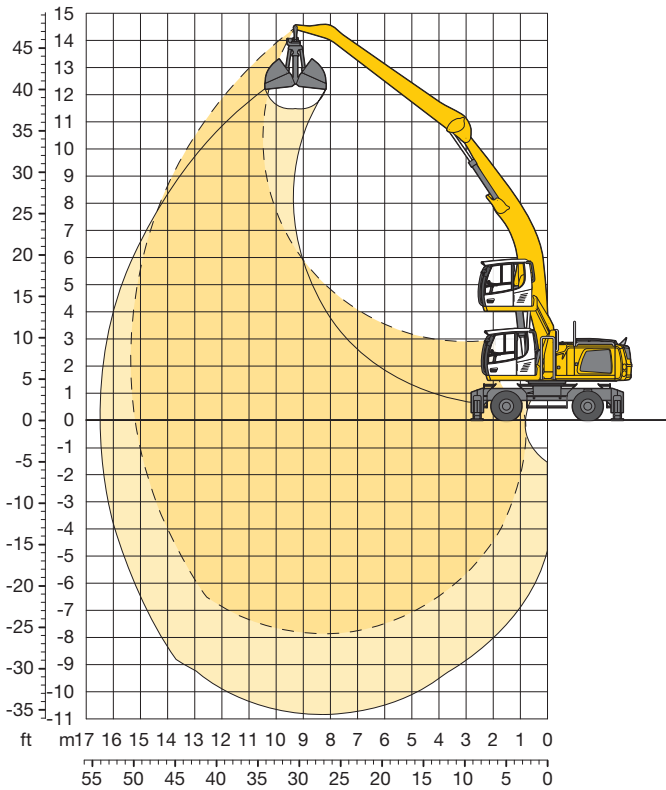
## Industrial Stick 24'7"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in		
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	ft in
50	Stabilizers raised							11,6*	11,6*											10,6*	10,6*	26' 2"
45	Stabilizers raised							11,6*	11,6*	11,0	11,9*									9,0	9,4*	33'
40	Stabilizers raised									11,4	11,7*	8,4	10,8							9,4*	9,4*	33'
35	Stabilizers raised									11,7*	11,7*	10,9*	10,9*							6,9	8,7*	38'
30	Stabilizers raised									11,5	11,6*	8,5	10,7*	6,3	8,3					8,7*	8,7*	38'
25	Stabilizers raised									11,6*	11,6*	10,7*	10,7*	10,0*	10,0*					5,6	7,5	41'10"
20	Stabilizers raised									11,4	11,7*	8,4	10,7*	6,3	8,3					8,3*	8,3*	41'10"
15	Stabilizers raised									11,4	11,7*	8,4	10,7*	6,3	8,3					4,7	6,4	44' 8"
10	Stabilizers raised									11,7*	11,7*	10,7*	10,7*	10,0*	10,0*					8,1*	8,1*	44' 8"
5	Stabilizers raised									11,0	12,0*	8,2	10,6	6,2	8,2	4,6	6,3			4,1	5,7	46'11"
0	Stabilizers raised									12,0*	12,0*	10,9*	10,9*	10,0*	10,0*	9,4*	9,4*			8,1*	8,1*	46'11"
-5	Stabilizers raised							14,2*	14,2*	10,4	12,5*	7,8	10,2	5,9	7,9	4,5	6,2			3,6	5,2	48' 6"
-10	Stabilizers raised							14,2*	14,2*	12,5*	12,5*	11,2*	11,2*	10,2*	10,2*	9,4*	9,4*			8,1*	8,1*	48' 6"
-15	Stabilizers raised			18,2*	18,2*	13,1	15,2*	9,6	12,6	9,6	7,3	9,6	5,6	7,6	4,3	6,0			3,3	4,8	49' 6"	
-20	Stabilizers raised			18,2*	18,2*	15,2*	15,2*	13,1*	13,1*	13,1*	13,1*	11,6*	11,6*	10,5*	10,5*	9,6*	9,6*			8,2*	8,2*	49' 6"
50	Stabilizers raised	39,9*	39,9*	26,5*	26,5*	20,1*	20,1*	16,3*	16,3*	8,7	11,7	6,7	9,0	5,2	7,1	4,0	5,7	3,1	4,6	3,1	4,6	50'
45	Stabilizers raised	39,9*	39,9*	26,5*	26,5*	20,1*	20,1*	16,3*	16,3*	13,8*	13,8*	12,1*	12,1*	10,8*	10,8*	9,7	9,7*	8,0	8,6*	8,0	8,5*	50'
40	Stabilizers raised	12,3*	12,3*	20,8	29,5	14,1	19,4	10,3	14,1	7,8	10,7	6,1	8,4	4,8	6,7	3,7	5,4	2,9	4,4	2,9	4,4	50'
35	Stabilizers raised	12,3*	12,3*	29,9*	29,9*	21,9*	21,9*	17,4*	17,4*	14,6*	14,6*	12,6*	12,6*	11,1*	11,1*	9,4	9,9*	7,9	8,7*	7,9	8,7*	50'
30	Stabilizers raised	8,9*	8,9*	17,4	21,7*	12,2	17,3	9,1	12,8	7,0	9,9	5,5	7,8	4,4	6,3	3,5	5,2			2,9	4,4	49' 6"
25	Stabilizers raised	8,9*	8,9*	21,7*	21,7*	23,3*	23,3*	18,3*	18,3*	15,1*	15,1*	12,9*	12,9*	10,9	11,2*	9,1	9,9*			7,8	8,6*	49' 6"
20	Stabilizers raised	9,7*	9,7*	15,6	17,4*	10,8	15,8	8,1	11,8	6,3	9,2	5,0	7,4	4,1	6,0	3,3	5,0			2,9	4,4	48' 6"
15	Stabilizers raised	9,7*	9,7*	17,4*	17,4*	23,9*	23,9*	18,8*	18,8*	15,4*	15,4*	12,9	13,1*	10,6	11,2*	8,9	9,6*			8,0	8,4*	48' 6"
10	Stabilizers raised	11,2*	11,2*	14,7	17,1*	10,0	15,0	7,5	11,1	5,9	8,7	4,7	7,0	3,8	5,8	3,2	4,9			3,0	4,6	46'11"
5	Stabilizers raised	11,2*	11,2*	17,1*	17,1*	23,5*	23,5*	18,6*	18,6*	15,3*	15,3*	12,5	12,8*	10,4	10,9*	8,8	9,0*			8,1*	8,1*	46'11"
0	Stabilizers raised			14,5	17,9*	9,7	14,7	7,2	10,8	5,6	8,4	4,5	6,8	3,8	5,7					3,2	5,0	44' 6"
-5	Stabilizers raised			17,9*	17,9*	21,8*	21,8*	17,6*	17,6*	14,5*	14,5*	12,0*	12,0*	9,9*	9,9*					7,8*	7,8*	44' 6"
-10	Stabilizers raised							7,1	10,7	5,6	8,4	4,5	6,8							4,5	6,7	35' 5"
-15	Stabilizers raised							15,4*	15,4*	12,7*	12,7*	10,3*	10,3*							10,1*	10,1*	35' 5"

Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

# Attachment AF15 (Kinematic 2C)

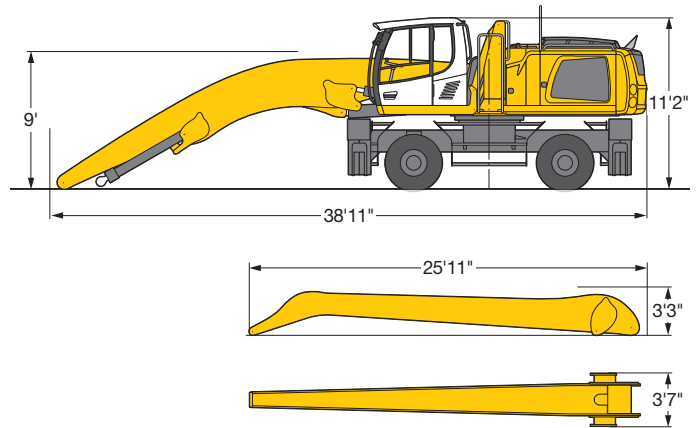


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type angled mono boom 28'3" and industrial-type flat angled stick 24'7".

with clamshell model GM 20B/1.96 yd <sup>3</sup> shells for loose material	85,650 lb
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## Dimensions



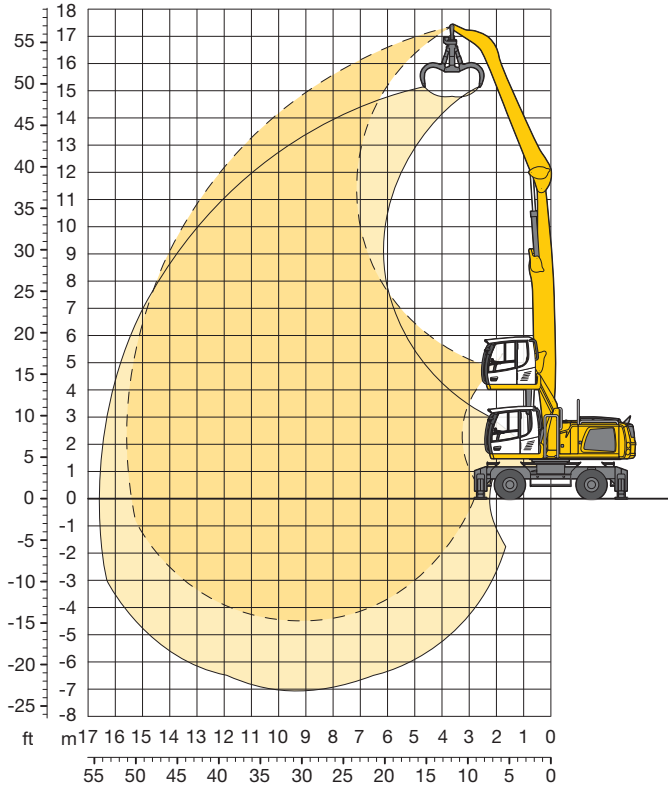
## Industrial Stick 24'7"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		ft in			
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down
45	Stabilizers raised																				9,0	9,4	33'
45	4 pt. outriggers down																				9,4	9,4	
40	Stabilizers raised											8,4	9,7								6,9	8,7	38'
40	4 pt. outriggers down											9,7	9,7								8,7	8,7	
35	Stabilizers raised											8,5	9,5	6,3	8,3						5,6	7,5	41'10"
35	4 pt. outriggers down											9,5	9,5	9,1	9,1						8,3	8,3	
30	Stabilizers raised											8,4	9,6	6,3	8,3						4,7	6,5	44' 8"
30	4 pt. outriggers down											9,6	9,6	9,0	9,0						8,1	8,1	
25	Stabilizers raised											8,2	9,8	6,2	8,2	4,6	6,3				4,1	5,7	46'11"
25	4 pt. outriggers down											9,8	9,8	9,1	9,1	8,7	8,7				8,1	8,1	
20	Stabilizers raised									10,4	11,1	7,8	10,1	5,9	7,9	4,5	6,2				3,6	5,2	48' 6"
20	4 pt. outriggers down									11,1	11,1	10,1	10,1	9,4	9,4	8,8	8,8				8,1	8,1	
15	Stabilizers raised									9,6	11,8	7,3	9,7	5,6	7,6	4,3	6,0				3,3	4,8	49' 6"
15	4 pt. outriggers down									11,8	11,8	10,6	10,6	9,7	9,7	9,0	9,0				8,2	8,2	
10	Stabilizers raised			23,7	23,7	16,6	18,1	11,7	14,8	8,7	11,7	6,7	9,0	5,2	7,2	4,0	5,7				3,1	4,6	50'
10	4 pt. outriggers down			23,7	23,7	18,1	18,1	14,8	14,8	12,7	12,7	11,2	11,2	10,1	10,1	9,2	9,2	3,1	4,6		8,0	8,5	
5	Stabilizers raised	12,3	12,3	20,9	27,7	14,2	19,5	10,3	14,1	7,8	10,7	6,1	8,4	4,8	6,7	3,8	5,4	2,9	4,4		2,9	4,4	50'
5	4 pt. outriggers down	12,3	12,3	27,7	27,7	20,2	20,2	16,1	16,1	13,5	13,5	11,8	11,8	10,5	10,5	9,4	9,5	7,9	8,6		7,9	8,6	
0	Stabilizers raised	8,9	8,9	21,7	21,7	12,2	17,3	9,1	12,8	7,0	9,9	5,5	7,8	4,4	6,3	3,5	5,2				2,9	4,4	49' 6"
0	4 pt. outriggers down	8,9	8,9	21,7	21,7	22,1	22,1	17,3	17,3	14,3	14,3	12,3	12,3	10,8	10,8	9,1	9,6				7,8	8,6	
-5	Stabilizers raised	9,7	9,7	15,6	17,4	10,8	15,9	8,1	11,8	6,3	9,2	5,0	7,4	4,1	6,0	3,3	5,0				2,9	4,4	48' 6"
-5	4 pt. outriggers down	9,7	9,7	17,4	17,4	23,2	23,2	18,1	18,1	14,9	14,9	12,7	12,7	10,6	11,0	8,9	9,6				8,0	8,6	
-10	Stabilizers raised	11,2	11,2	14,7	17,1	10,0	15,0	7,5	11,1	5,9	8,7	4,7	7,0	3,9	5,8	3,2	4,9				3,0	4,6	46'11"
-10	4 pt. outriggers down	11,2	11,2	17,1	17,1	23,4	23,4	18,4	18,4	15,1	15,1	12,5	12,7	10,4	10,9	8,8	9,3				8,3	8,5	
-15	Stabilizers raised	12,8	12,8	14,5	17,9	9,7	14,7	7,2	10,8	5,6	8,4	4,5	6,8	3,8	5,7						3,2	4,9	44' 8"
-15	4 pt. outriggers down	12,8	12,8	17,9	17,9	22,5	22,5	17,9	17,9	14,7	14,7	12,3	12,3	10,3	10,3						8,3	8,3	
-20	Stabilizers raised			14,7	19,3	9,7	14,7	7,1	10,7	5,6	8,4	4,5	6,8	3,8	5,8						3,6	5,5	41'10"
-20	4 pt. outriggers down			19,3	19,3	20,2	20,2	16,4	16,4	13,5	13,5	11,1	11,1	8,7	8,7						7,7	7,7	
-25	Stabilizers raised									7,3	10,9	5,7	8,5								5,0	7,4	
-25	4 pt. outriggers down									13,4	13,4	10,9	10,9								9,2	9,2	33' 6"

Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

# Attachment GA16 (Kinematic 2A)

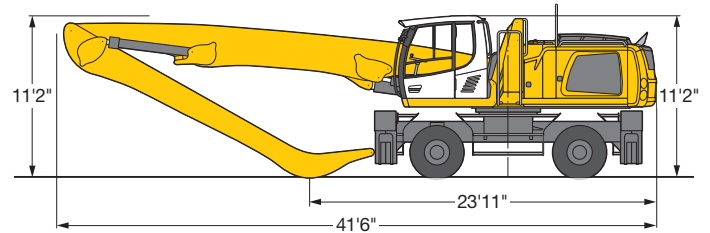


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 8 solid tires plus intermediate rings, industrial-type straight mono boom 29'10" and industrial-type angled stick 22'4".

with grapple model GM 65/0.78 yd<sup>3</sup> semi-closed tines | 84,900 lb

## Dimensions



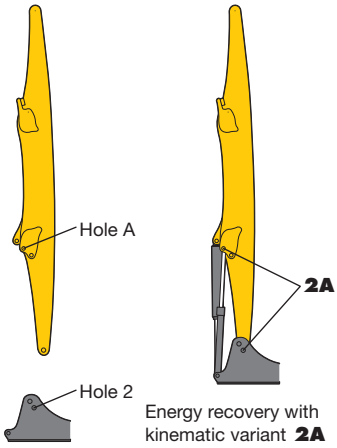
## Industrial Stick 22'4"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		Max. reach		ft in	
		Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down	Stabilizers raised	4 pt. outriggers down		
55	Stabilizers raised 4 pt. outriggers down			19,4*	19,4*																16,5*	16,5*	18' 1"
50	Stabilizers raised 4 pt. outriggers down					18,9*	18,9*	13,6	15,8*												10,8	12,6*	28'
45	Stabilizers raised 4 pt. outriggers down							14,4	16,1*	10,3	13,2										7,5	9,9	34' 6"
40	Stabilizers raised 4 pt. outriggers down							14,7	15,7*	10,6	13,6	7,7	10,1								5,8	7,8	39' 4"
35	Stabilizers raised 4 pt. outriggers down							14,7	15,7*	10,6	13,6	7,8	10,2	5,8	7,8						4,7	6,5	43'
30	Stabilizers raised 4 pt. outriggers down							14,4	15,9*	10,4	13,4	7,7	10,1	5,8	7,8	4,3	6,0				4,0	5,7	45'10"
25	Stabilizers raised 4 pt. outriggers down					19,5*	19,5*	13,7	16,4*	10,0	12,9	7,5	9,8	5,7	7,6	4,3	6,0				3,5	5,1	48'
20	Stabilizers raised 4 pt. outriggers down					18,5	20,6*	12,8	16,7	9,4	12,3	7,1	9,4	5,4	7,4	4,1	5,8				3,2	4,7	49' 6"
15	Stabilizers raised 4 pt. outriggers down	31,9*	31,9*	25,6	29,0*	22,0*	22,0*	17,9*	17,9*	15,1*	15,1*	13,1*	13,1*	11,5*	11,5*	9,6	10,2*	3,0	4,5		2,9	4,4	50' 6"
10	Stabilizers raised 4 pt. outriggers down			21,0	29,6	14,2	19,4	10,3	14,0	7,8	10,6	6,0	8,3	4,7	6,7	3,7	5,4	2,9	4,4		2,8	4,2	51'
5	Stabilizers raised 4 pt. outriggers down			12,0*	12,0*	12,1	17,2	9,1	12,7	7,0	9,8	5,5	7,8	4,4	6,3	3,5	5,2	2,8	4,3		2,7	4,1	51'
0	Stabilizers raised 4 pt. outriggers down	2,9*	2,9*	9,7*	9,7*	10,7	15,7	8,1	11,7	6,3	9,1	5,1	7,3	4,1	6,0	3,3	5,0	2,8	4,2		2,7	4,2	50' 6"
-5	Stabilizers raised 4 pt. outriggers down			10,7*	10,7*	9,9	14,8	7,5	11,0	5,9	8,6	4,7	7,0	3,9	5,8	3,2	4,9				2,8	4,4	48' 8"
-10	Stabilizers raised 4 pt. outriggers down					9,6	14,5	7,1	10,7	5,6	8,4	4,5	6,8	3,7	5,7	2,8	4,2				3,3	5,0	44' 1"
-15	Stabilizers raised 4 pt. outriggers down					20,1*	20,1*	16,7*	16,7*	13,9*	13,9*	11,6*	11,6*	9,4*	9,4*						7,5*	7,5*	

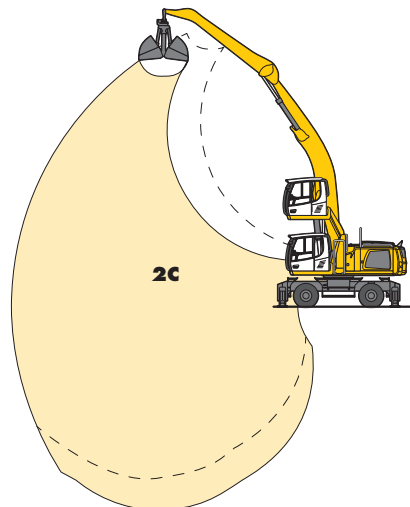
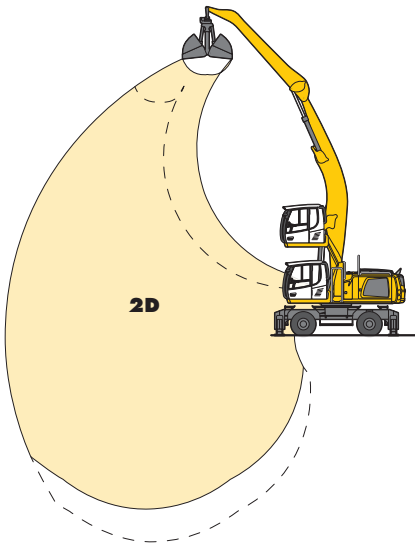
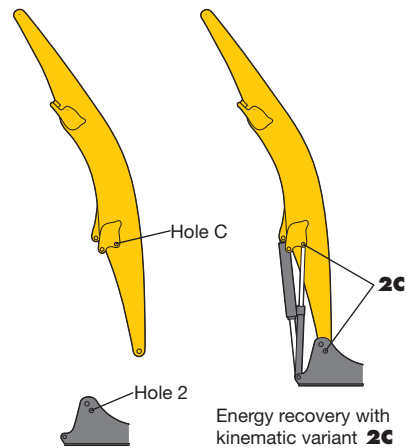
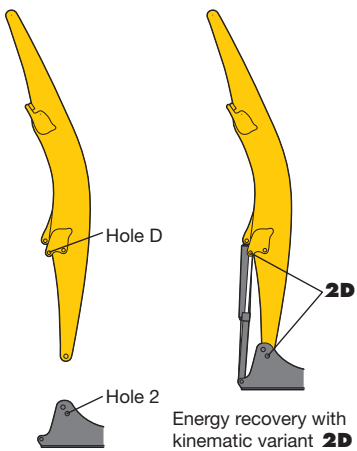
Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach \* Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity. The lift capacity values indicated are attained at the corresponding operating temperature. This operating temperature is ensured by continuous movement of the boom. Weights of fitted working tools (grabs, load hooks, etc.) and load accommodation equipment are to be deducted from the lift capacity values. The lift capacity of the unit is limited by its stability, the lifting capability of the hydraulic elements, or the maximum permissible lifting capacity of the load hook.

## Kinematic Variant 2A



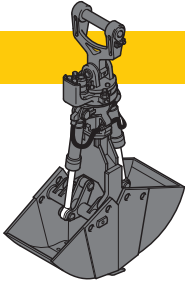
## Kinematic Variant 2D/2C



Altered range curve with additional reach depth,  
e.g. for unloading from ships



# Variety of Tools

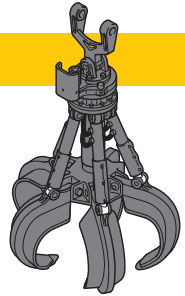


## Shells for Loose Material

Shells for loose material with cutting edge (without teeth)

### Clamshell Model GM 20B

Cutting width of shells	ft in	3'3"	3'11"	5'3"
Capacity	yd <sup>3</sup>	1.70	1.96	2.62
For loose material, specific weight up to	lb/yd <sup>3</sup>	2,528	2,528	2,528
Weight	lb	2,987	3,120	3,417



## Multiple Tine Grapples

open tines                      semi-closed tines                      closed tines

### Grapple Model GM 64 (4 tines)

Capacity	yd <sup>3</sup>	0.52	0.78	0.52	0.78	0.52	0.78
Weight	lb	1,863	2,491	2,326	2,932	2,337	3,351

### Grapple Model GM 65 (5 tines)

Capacity	yd <sup>3</sup>	0.52	0.78	0.52	0.78	0.52	0.78
Weight	lb	2,535	2,712	2,833	3,120	2,921	3,351

### Greifer Typ GM 69 (4 tines)

Capacity	yd <sup>3</sup>	1.05	1.44	1.05	1.44	1.05	1.44
Weight	lb	2,965	3,075	3,385	3,615	4,190	4,540

### Greifer Typ GM 70C (5 tines)

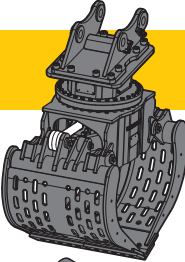
Capacity	yd <sup>3</sup>	1.05	1.44	1.05	1.44	1.05	1.44
Weight	lb	3,275	3,505	3,760	4,100	4,300	4,400



## Wood Grapple

### Grapple Model GM 20B

Claw width	ft in	2'8"	2'8"	2'8"	2'8"
Size	in <sup>2</sup>	2,015	2,325	2,635	2,945
Height of grapple, closed	ft in	9'8"	9'10"	10'	10'4"
Weight	lb	3,693	3,803	3,913	4,211

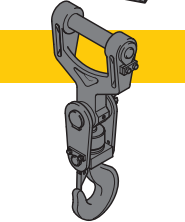


## Sorting Grapple

with ribbed shells                      with perforated shells                      with ribbed shells                      with perforated shells

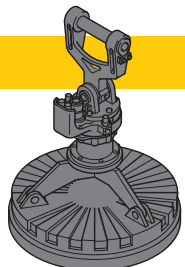
### Grapple Model SG 30

Cutting width of shells	ft in	3'3"	3'3"	3'9"	3'9"
Capacity	yd <sup>3</sup>	0.98	1.11	1.18	1.31
Max. closing force	lb	17,640	17,640	17,640	17,640
Weight incl. adapter plate	lb	3,595	3,550	3,770	3,725



## Crane Hook with Suspension

Max. load	lb	27,558
Height with suspension	ft in	3'1"
Weight	lb	212



## Magnet Devices/Lifting Magnets

Generator	kW	20	30
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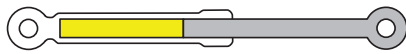
### Electromagnets with Suspension

Power	kW	8.5/10	10.4/11.7
Diameter of magnet	ft in	4'5"	4'11"
Weight	lb	3,748	5,291

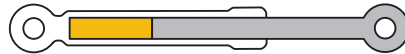


## ERC System - More performance, less consumption

Lowering the equipment stores energy in the ERC system. This stored energy is then made available to the machine to provide additional engine power. When the equipment is raised the stored energy is released and is reflected in powerful, homogeneous operating cycles. The result is a clear saving on fuel – and, at the same time, even greater performance.



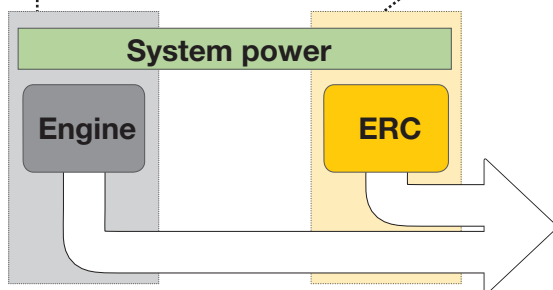
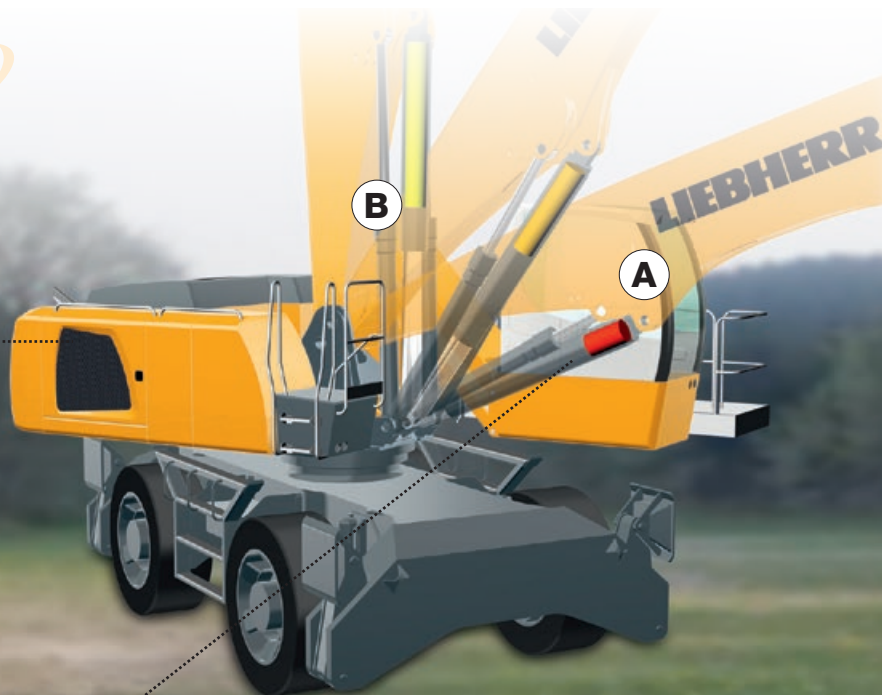
1. Attachment fitting raised / Energy released **(B)**



2. Lower attachment fitting / Store energy  
4. Raise attachment fitting / Release energy



3. Attachment fitting lowered / Energy stored **(A)**

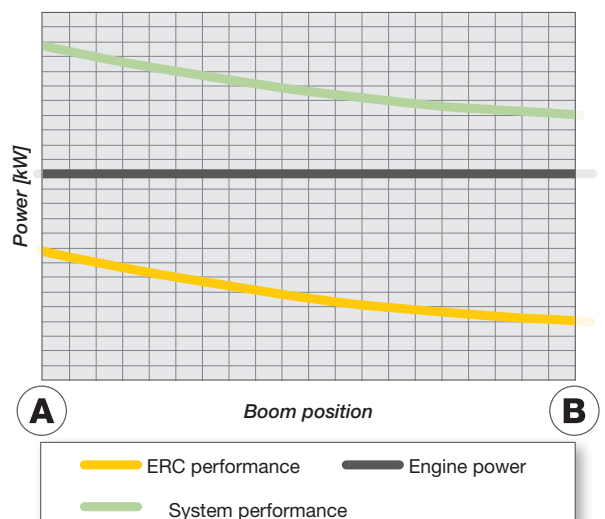


- increased overall power
- fuel savings of up to 30 %
- lower running costs
- reduced pollutant and noise emissions

### System power

The energy recovery cylinder is a storage system which is independent of the diesel engine. The system performance of material handling machines fitted with the ERC system is composed of the installed engine power and the energy recovery cylinder. When the equipment is raised, energy from the ERC system is supplied in addition to the power from the diesel engine.

ERC-System



# Equipment



## Undercarriage

Support rocker, variants	+
Individual control outriggers	+
Shuttle axle lock, automatic	•
Dozer blade	+
Outrigger monitoring system	+
Tyres, variants	+
Protection for travel drive	+
Protection for piston rods, outriggers	+
Tool equipment, extended	•
Two lockable storage boxes	•



## Uppercarriage

Refuelling system with filling pump	+
Railing on uppercarriage	+
Generator	+
Main battery switch for electrical system	•
Protection for headlights	+
Protection for rear lights	+



## Hydraulics

Electronic pump regulation	•
Liebherr hydraulic oil from -4 °F to +104 °F	•
Liebherr hydraulic oil, biologically degradable	+
Magnetic rod in hydraulic tank	•
Bypass filter	+
Preheating hydraulic oil	+



## Engine

Fuel anti-theft device	+
Liebherr particle filter	•
Reversible fan drive, fully automatic	+
Air pre-filter with dust discharge	+
Protective grid in front of cooler intake	•
Preheating fuel	+
Preheating coolant	+
Preheating engine oil	+



## Operator's Cab

Cab lights rear, halogen	+
Cab lights rear, LED 1300 lumen	+
Cab lights front, halogen	•
Cab lights front, LED 1300 lumen	+
Operator's seat Standard	•
Operator's seat Comfort	+
Operator's seat Premium	+
Driving alarm (acoustic signal is emitted during travel, can be switched ON/OFF)	+
Fire extinguisher	+
Joystick steering	+
Cab elevation, hydraulic (LHC)	+
Cab elevation, rigid (LFC)	+
Automatic air conditioning	•

Electric cooler	+
LiDAT Plus (extended Liebherr data transfer system)*	•
Bullet proof glass	+
Positioning swing brake	+
Proportional control	+
Radio Comfort (control via display)	+
Preparation for radio installation	•
Back-up alarm (acoustic signal is emitted traveling backward, can not be switched off)	+
Warning beacon on cab	+
Windscreen wiper, roof	+
Top guard	+
Front guard	+
Sun visor	+
Auxiliary heating, adjustable (week time switch)	+
Flashing light (xenon)	+
Electronic immobilizer	+



## Attachment

Boom lights, 2 pieces, halogen	•
Boom lights, 2 pieces, LED 1300 lumen	+
Stick lights, 2 pieces, halogen	•
Stick lights, 2 pieces, LED 1300 lumen, with protection	+
Boom shutoff, ascending	+
AutoLift	+
ERC system	•
Height limitation and stick shutoff, electronically	+
Boom cylinder cushioning	+
Industrial stick with quick coupling	+
Stick camera (with separate monitor), bottom side, with protection	+
Liebherr lightweight stick	+
Liebherr multi coupling system	+
Liebherr quick coupler, hydraulic or mechanical	+
Pipe fracture safety valves hoist cylinders	•
Pipe fracture safety valve stick cylinder	•
Quick coupling system LIKUFIX	+
Quick coupling system MH40/MH110	+
Protection for piston rod, ERC	+
Protection for piston rod, hoist cylinder	+
Retract stick without pressure	•
Overload warning device	+
Protection for stick	+



## Complete Machine

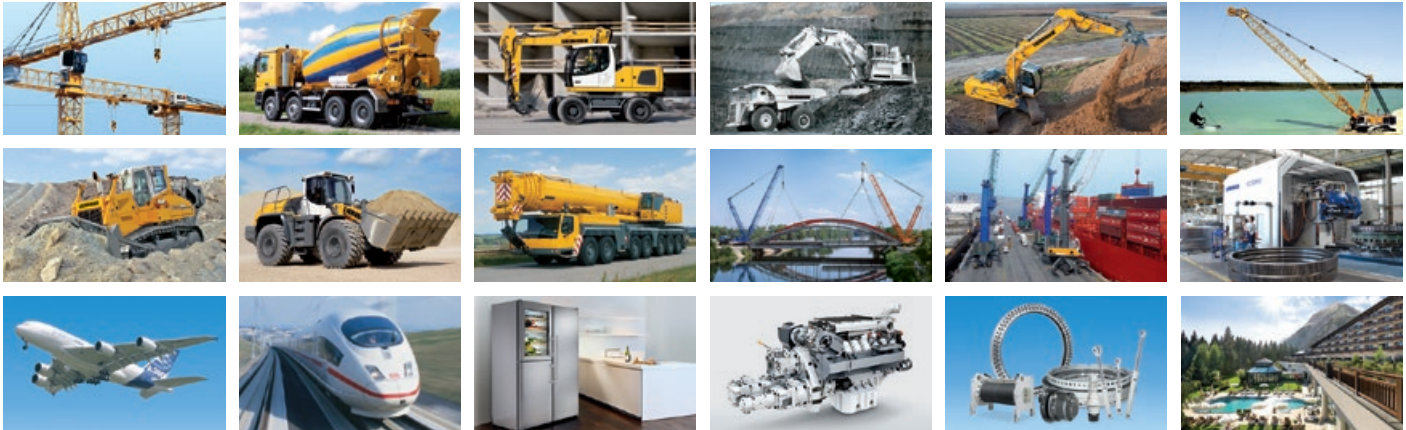
Lubrication	
Lubrication undercarriage, manually – decentralized (grease points)	•
Central lubrication system for uppercarriage and attachment, automatically	•
Central lubrication system for undercarriage, automatically	+
Special coating	
Single-coloured, grey parts excepted	+
Single-coloured, grey parts included (except power train)	+
Multicoloured (except power train)	+
Monitoring	
Rear view monitoring with camera	•
Side view monitoring with camera	+

• = Standard, + = Option  
\* = optionally extendable after one year

**Options and/or special attachments, supplied by vendors other than Liebherr, are only to be installed with the knowledge and approval of Liebherr in order to retain warranty.**



# The Liebherr Group of Companies



## Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

## Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

## State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment and mining trucks.

## Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 38,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

[www.liebherr.us](http://www.liebherr.us)

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