

# Machine for Industrial Applications

**LH 60 M**  
Litronic®



product  
design award

2014

Operating Weight:

129,650 – 133,500 lb

Engine Output (SAE J1349):

241 HP / 180 kW

Engine Output (ISO 9249):

244 HP / 180 kW

Max. System Performance (SAE J1349):

288 kW

Max. System Performance (ISO 9249):

288 kW



# LIEBHERR

# Technical Data



## Engine

Rating per SAE J1349	241 HP (180 kW) at 1,700 rpm
Rating per ISO 9249	244 HP (180 kW) at 1,700 rpm
Model	Liebherr D936 according to stage IIIB/Tier 4i
Type	6 cylinder in-line
Bore/Stroke	4.8/5.9 in
Displacement	640 in <sup>3</sup>
Engine operation	4-stroke diesel Common-Rail turbocharged 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	198 gal
Engine idling	sensor controlled
Electrical system	24 V
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 77 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	50 gpm
Max. pressure	5,511 psi
Hydraulic tank	77 gal
Hydraulic system	235 gal
Hydraulic oil filter	2 main return filters 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	electropropotional via foot pedal
Additional functions	via switch or electropropotional 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 – 7.6 rpm stepless
Swing torque	88,500 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



## 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 vertebral support
Operator's seat Comfort (Option)	in addition to operator's seat standard: lockable horizontal suspension, automatic weight adjustment, adjustable suspension stiffness, pneumatic lumbar vertebral support and passive seat climatisation 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 climatisation with active coal and ventilator
Control system	joysticks with arm consoles and swivel seat
Operation and displays	large high-resolution operating unit, selfexplanatory, 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 outside 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) = 105 dB(A)



## Undercarriage

Type	torsion-resistant box design made from high-strength steel plate, designed for the toughest requirements
Drive	variable flow swashplate motor with automatic brake valve
Travel speed	0 – 6.8 mph stepless
Driving operation	automotive driving using accelerator pedal, cruise control function: storage of variable accelerator pedal positions
Axes	154,320 lb drive axles; manual or automatic hydraulically controlled front axle oscillation lock
Service brake	disc brake, two circuit travel brake system with accumulator
Holding brake	wet, maintenance-free multi disc brakes
Stabilization	4 point outriggers



## Attachment

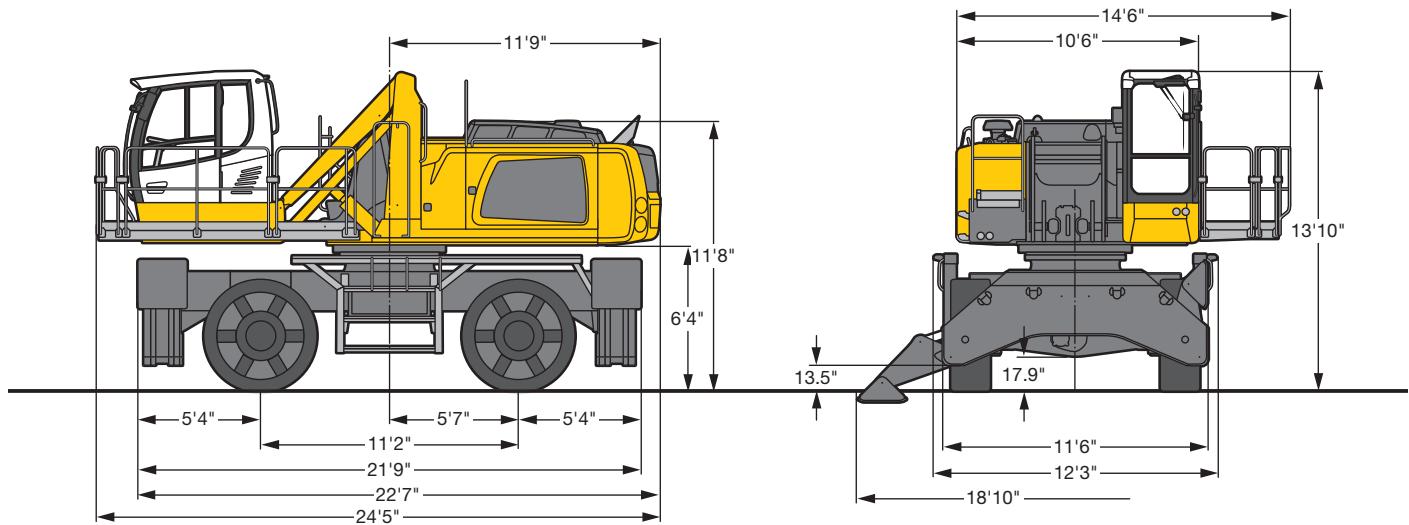
Type	high-strength steel plates at highly stressed points for the toughest requirements. Complex and stable mountings of attachment and cylinders.
Hydraulic cylinders	Liebherr cylinders with special seal system.
Energy recovering cylinder	Shock absorption
Bearings	Liebherr gas cylinder with special sealing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



## Complete Machine

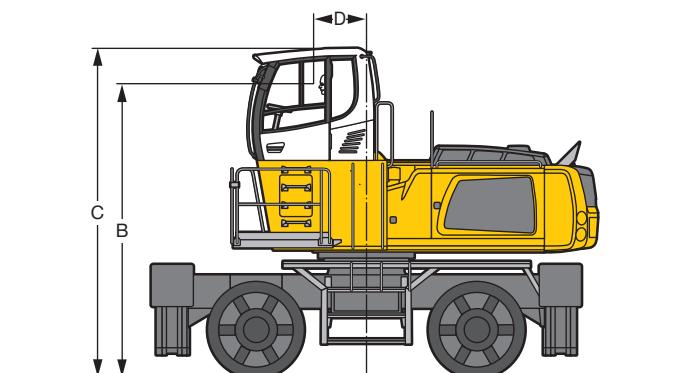
Lubrication central lubrication system for uppercarriage and attachment, automatically

# Dimensions

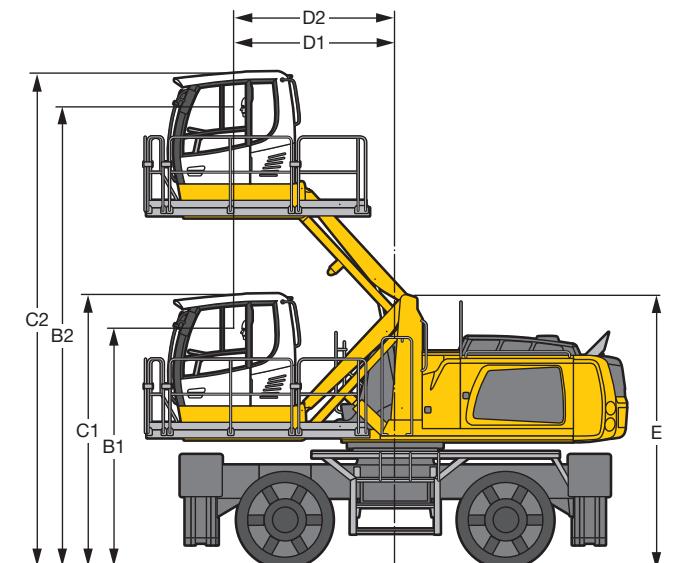


## Choice of Cab Elevation

### 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	13'7"	14'10"	15'10"
C	15'4"	16' 8"	17' 7"
D	2'8"	2' 8"	2' 8"

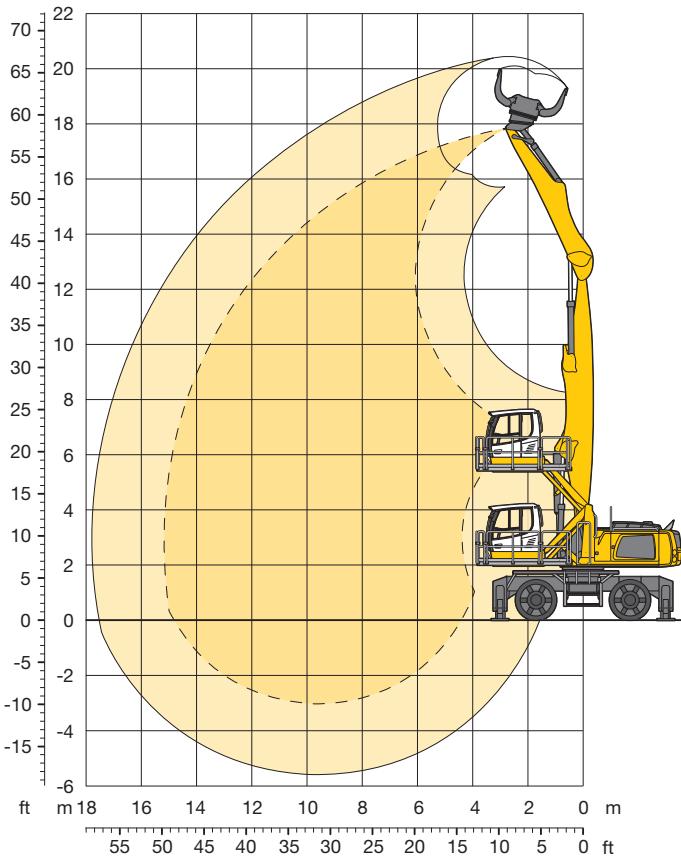
A rigid cab elevation has a fixed eye level height. For a lower transport height, the shell of the cab can be removed and replaced by a transport device. The dimension C is in this machine design for all rigid cab elevations 13'8".

Increase Type	LHC 255	LHC 340-35
B1	10'11"	12' 1"
B2	19' 3"	23' 3"
C1	12' 8"	13'10"
C2	21' 1"	25' 1"
D1	4' 6"	8' 2"
D2	4'11"	8' 2"
E	12' 6"	13' 9"

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

**Tires 20.5 x 25**

# Attachment GK15 (Kinematic 2A)



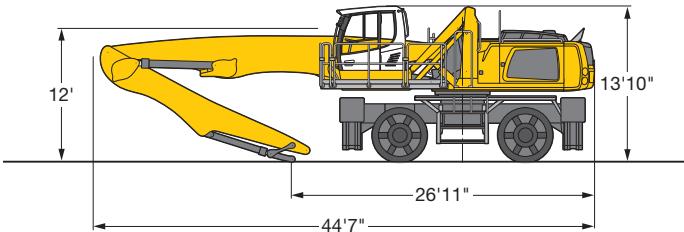
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type straight mono boom 31'2" and industrial-type stick with tipping kinematics 19'8".

with sorting grab SG 40/1.70 yd<sup>3</sup> tines

131,600 lb

## Dimensions



## Industrial Stick 19'8"

ft ft	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in						
<b>55</b>	Stabilizers raised	34,7*	34,7*	28,1*	28,1*	25,8*	28,6*	19,2	24,0	13,9	17,7		27,1*	27,1*	20' 7"				
	4 pt. outriggers down	34,7*	34,7*	28,1*	28,1*	25,8*	28,6*	33,0*	33,0*	19,8*	19,8*		27,1*	27,1*	29' 4"				
<b>50</b>	Stabilizers raised			33,7*	33,7*	28,6*	28,6*	25,2*	25,2*	19,8*	19,8*		19,1	21,7*	17,5				
	4 pt. outriggers down			33,7*	33,7*	28,6*	28,6*	19,4	24,2	14,4	18,2		19,3*	19,3*	19'3"				
<b>45</b>	Stabilizers raised			33,4*	33,4*	26,8	28,4*	24,9*	24,9*	22,3*	22,3*		10,9	14,1	35' 2"				
	4 pt. outriggers down			33,4*	33,4*	28,4*	28,4*	24,9*	24,9*	22,3*	22,3*		17,9*	17,9*	39' 7"				
<b>40</b>	Stabilizers raised			33,9*	33,9*	26,5	28,6*	19,3	24,0	14,4	18,2		9,1	12,0	43'				
	4 pt. outriggers down			33,9*	33,9*	28,6*	28,6*	24,9*	24,9*	22,2*	22,2*		17,1*	17,1*	16,6' 16,6"				
<b>35</b>	Stabilizers raised			35,1*	35,1*	25,6	29,4*	18,7	23,5	14,1	17,9		8,0	10,6	45' 7"				
	4 pt. outriggers down			35,1*	35,1*	29,4*	29,4*	25,4*	25,4*	22,4*	22,4*		16,6*	16,6*	47' 6"				
<b>30</b>	Stabilizers raised			37,7*	37,7*	34,9	37,2*	24,3	30,6	17,9	22,6		7,2	9,7	16,4" 16,4"				
	4 pt. outriggers down			37,7*	37,7*	37,2*	37,2*	30,6*	30,6*	26,1*	26,1*		16,4"	16,4"	48'10"				
<b>25</b>	Stabilizers raised			80,1*	80,1*	50,1	52,9*	31,9	39,8*	22,5	28,7	16,8	21,5	12,9	16,7	10,1	13,2	8,0	10,6
	4 pt. outriggers down			80,1*	80,1*	52,9*	52,9*	39,8*	39,8*	32,1*	32,1*	27,0*	27,0*	23,4*	23,4*	20,5*	20,5*	18,1*	18,1*
<b>20</b>	Stabilizers raised			24,2*	24,2*	28,5	37,3	20,6	26,7	15,6	20,3	12,2	15,9	9,6	12,7	7,7	10,4		
	4 pt. outriggers down			24,2*	24,2*	42,6*	42,6*	33,7*	33,7*	27,9*	27,9*	23,8*	23,8*	20,7*	20,7*	18,0*	18,0*		
<b>15</b>	Stabilizers raised			5,1*	5,1*	25,4	34,0	18,8	24,8	14,5	19,1	11,4	15,1	9,2	12,3	7,4	10,1		
	4 pt. outriggers down			5,1*	5,1*	44,4*	44,4*	34,7*	34,7*	28,5*	28,5*	24,1*	24,1*	20,7*	20,7*	17,7*	17,7*		
<b>10</b>	Stabilizers raised			5,1*	5,1*	23,4	26,9*	17,4	23,3	13,6	18,1	10,8	14,5	8,8	11,8	7,2	9,8		
	4 pt. outriggers down			5,1*	5,1*	26,9	26,9	34,8*	34,8*	28,5*	28,5*	23,9*	23,9*	20,2*	20,2*	17,0*	17,0*		
<b>5</b>	Stabilizers raised			8,8*	8,8*	22,3	24,6*	16,5	22,4	12,9	17,4	10,3	14,0	8,4	11,5	7,0	9,7		
	4 pt. outriggers down			8,8*	8,8*	24,6*	24,6*	33,3*	33,3*	27,5*	27,5*	22,9*	22,9*	19,2*	19,2*	15,5*	15,5*		
<b>-5</b>	Stabilizers raised			22,0	22,0	26,9*	16,1	22,0	12,5	17,0	10,1	13,7	8,3	11,3					
	4 pt. outriggers down			26,9*	26,9*	30,0*	30,0*	25,1*	25,1*	20,9*	20,9*	17,1*	17,1*						
<b>-10</b>	Stabilizers raised																		
<b>-15</b>	Stabilizers raised																		
	4 pt. outriggers down																		

Height

Can be slewed through 360°

In longitudinal position of undercarriage

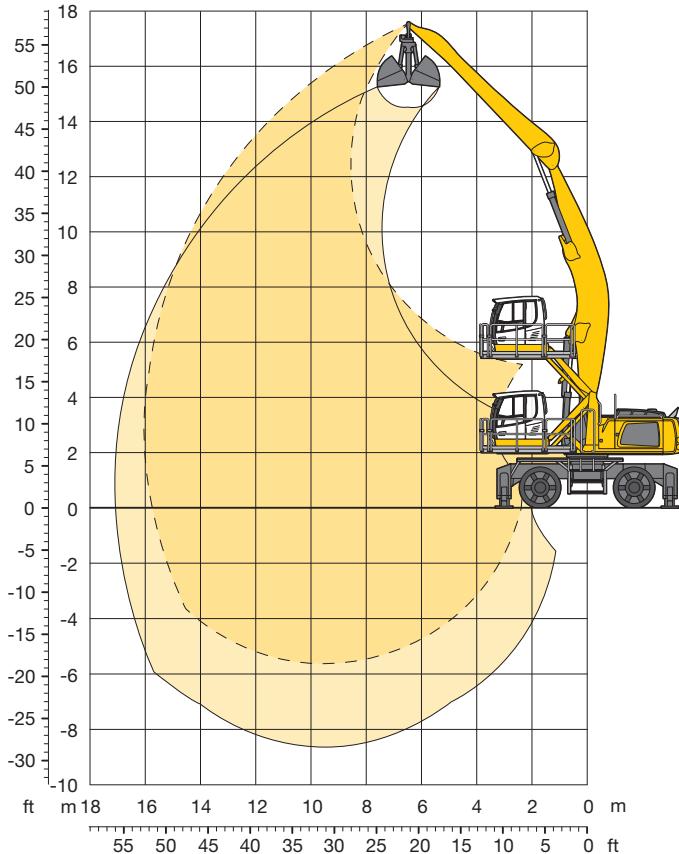


Max. reach

\* 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 AG16 (Kinematic 2D)



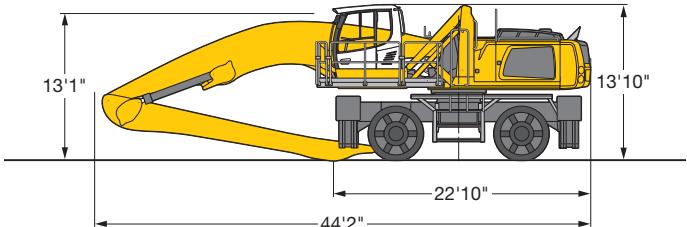
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 31'2" and industrial-type straight stick 23'11".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

130,200 lb

## Dimensions



## Industrial Stick 23'11"

		10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft in
<b>Undercarriage</b>														
55	Stabilizers raised 4 pt. outriggers down	19.8*	19.8*	19.8*	19.8*	20.3*	20.3*	20.3*	20.3*	20.3*	20.3*	20.3*	20.3*	18.4*
50	Stabilizers raised 4 pt. outriggers down					21.2*	21.2*	16.9	19.6*					18.4*
45	Stabilizers raised 4 pt. outriggers down					21.2*	21.2*	19.6*	19.6*					16.2*
40	Stabilizers raised 4 pt. outriggers down					21.0*	21.0*	17.1	19.3*	13.2	16.4			16.2*
35	Stabilizers raised 4 pt. outriggers down					21.0*	21.0*	19.3*	19.3*	18.1*	18.1*			15.1*
30	Stabilizers raised 4 pt. outriggers down					21.2*	21.2*	17.0	19.4*	13.2	16.4	10.2	13.0	11.3
25	Stabilizers raised 4 pt. outriggers down					21.2*	21.2*	19.4*	19.4*	18.0*	18.0*	15.8*	15.8*	14.5*
20	Stabilizers raised 4 pt. outriggers down					21.8*	21.8*	16.7	19.8*	13.0	16.2	10.2	12.9	14.5*
15	Stabilizers raised 4 pt. outriggers down					21.8*	21.8*	19.8*	19.8*	18.2*	18.2*	17.0*	17.0*	12.4
10	Stabilizers raised 4 pt. outriggers down					25.7*	25.7*	20.9	22.7*	16.0	19.9	12.6	15.8	14.1*
5	Stabilizers raised 4 pt. outriggers down					25.7*	25.7*	22.7*	22.7*	20.4*	20.4*	18.6*	18.6*	14.1*
0	Stabilizers raised 4 pt. outriggers down					33.0*	33.0*	26.3	27.6*	19.7	23.9	15.3	19.1	12.1
-5	Stabilizers raised 4 pt. outriggers down					33.0*	33.0*	27.6*	27.6*	23.9	23.9	21.2*	21.2*	19.1*
-10	Stabilizers raised 4 pt. outriggers down					73.9*	73.9*	48.5*	48.5*	24.2	29.7*	18.3	23.1	14.3
-15	Stabilizers raised 4 pt. outriggers down					73.9*	73.9*	48.5*	48.5*	33.7	36.6*	24.2	29.7*	18.3

Height Can be slewed through 360°

In longitudinal position of undercarriage

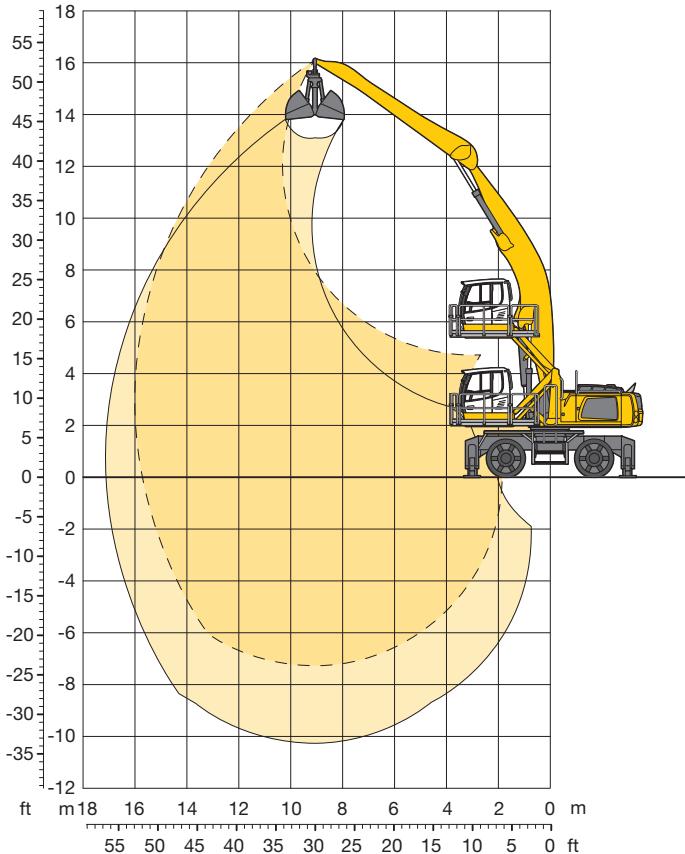


Max. reach

\* 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 AG16 (Kinematic 2C)



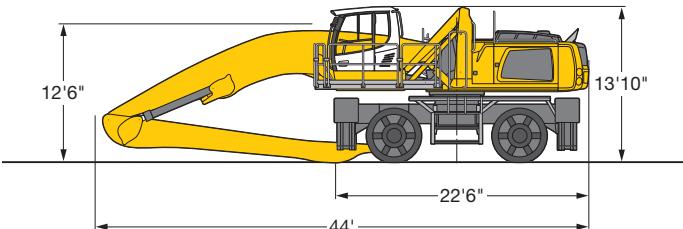
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 31'2" and industrial-type straight stick 23'11".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

130,200 lb

## Dimensions



## Industrial Stick 23'11"

ft in	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in
<b>Undercarriage</b>													
50	Stabilizers raised 4 pt. outriggers down												16.2* 16.2* 33' 5"
45	Stabilizers raised 4 pt. outriggers down					16.9 17.8*	17.1 17.5*	17.8* 17.8*	17.0 17.6*	17.6* 17.6*	17.7 17.7*	17.8* 17.8*	16.2* 16.2* 38' 6"
40	Stabilizers raised 4 pt. outriggers down					17.5* 17.5*	17.5* 17.5*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	15.1* 15.1* 42'10"
35	Stabilizers raised 4 pt. outriggers down					17.0 17.6*	17.0 17.6*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	17.6* 17.6*	9.8 12.4 45'11"
30	Stabilizers raised 4 pt. outriggers down					16.7 18.0*	16.7 18.0*	17.0 17.0*	17.0 17.0*	17.0 17.0*	17.0 17.0*	17.0 17.0*	8.7 11.1 48' 4"
25	Stabilizers raised 4 pt. outriggers down					18.0* 18.0*	18.0* 18.0*	18.7* 18.7*	18.7* 18.7*	18.7* 18.7*	18.7* 18.7*	18.7* 18.7*	14.0* 14.0* 50' 2"
20	Stabilizers raised 4 pt. outriggers down					20.5* 20.5*	20.5* 20.5*	20.5* 20.5*	20.5* 20.5*	20.5* 20.5*	20.5* 20.5*	20.5* 20.5*	7.9 10.2 51' 5"
15	Stabilizers raised 4 pt. outriggers down	67.3* 67.3*	44.1* 44.1*	33.5* 33.5*	25.0* 25.0*	19.7 21.8*	19.7 21.8*	19.7 21.8*	19.7 21.8*	19.7 21.8*	19.7 21.8*	19.7 21.8*	6.9 9.1 52' 2"
10	Stabilizers raised 4 pt. outriggers down	41.3* 41.3*	37.5* 37.5*	37.5* 37.5*	25.0* 25.0*	18.3 23.1	18.3 23.1	18.3 23.1	18.3 23.1	18.3 23.1	18.3 23.1	18.3 23.1	6.6 8.8 52' 5"
5	Stabilizers raised 4 pt. outriggers down	6.2* 6.2*	20.1* 20.1*	26.6 35.2	19.9 26.0	15.6 20.2	12.5 16.2	10.2 16.2	13.3 16.2	8.4 11.1	7.0 9.4	6.5 8.7 52' 2"	
0	Stabilizers raised 4 pt. outriggers down	9.0* 9.0*	18.0* 18.0*	24.4 32.9	18.4 24.4	14.5 19.1	11.8 15.5	9.7 12.8	8.1 10.7	6.8 9.1	6.5 8.7 51' 6"		
-5	Stabilizers raised 4 pt. outriggers down	12.4* 12.4*	19.4* 19.4*	23.1 31.5	17.4 23.3	13.7 18.3	11.2 14.9	9.3 12.4	7.8 10.5	6.7 9.0	6.6 8.9 50' 4"		
-10	Stabilizers raised 4 pt. outriggers down	15.7* 15.7*	21.7* 21.7*	22.6 30.9	16.8 22.7	13.2 17.3	10.3 14.5	9.0 12.1	7.7 10.3	6.9 9.4	15.3 15.4* 48' 7"		
-15	Stabilizers raised 4 pt. outriggers down	24.4* 24.4*	24.4* 22.5	30.9 33.8*	16.6 22.5	13.1 17.6	10.7 14.3	9.0 12.0	7.7 10.4	7.5 10.1	14.4* 14.4* 46' 2"		
-20	Stabilizers raised 4 pt. outriggers down	33.5* 33.5*	28.2* 28.2*	28.2* 23.7	16.8 22.7	13.2 17.7	10.8 14.4	9.1 12.2	8.4 11.2	8.4 13.4* 43'			

Height

Can be slewed through 360°

In longitudinal position of undercarriage

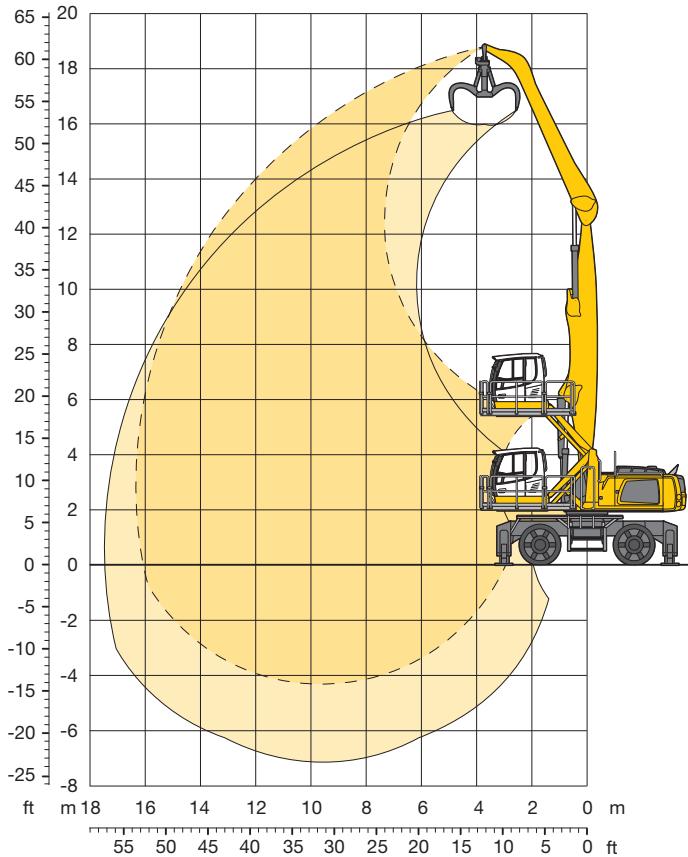


Max. reach

\* 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)

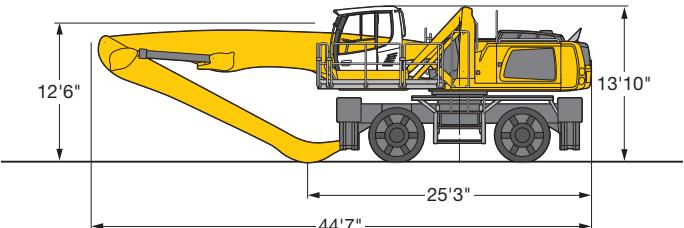


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type straight mono boom 31'2" and industrial-type angled stick 23'11".

with grapple model GM 70C/1.44 yd<sup>3</sup> semi-closed tines | 129,650 lb

## Dimensions



## Industrial Stick 23'11"

Height ft	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in
<b>Undercarriage</b>	28.4° 28.4°	28.4° 28.4°	27.5° 27.5°	23.4° 23.4°	21.1 21.1	15.7 17.2°	12.4 15.6	10.0 12.7	7.8 10.2	6.9 9.1	6.6 8.6	6.4 8.6	5.9' 10" 28' 4"
<b>60</b>	Stabilizers raised 4 pt. outriggers down												
<b>55</b>	Stabilizers raised 4 pt. outriggers down												
<b>50</b>	Stabilizers raised 4 pt. outriggers down												
<b>45</b>	Stabilizers raised 4 pt. outriggers down												
<b>40</b>	Stabilizers raised 4 pt. outriggers down												
<b>35</b>	Stabilizers raised 4 pt. outriggers down												
<b>30</b>	Stabilizers raised 4 pt. outriggers down												
<b>25</b>	Stabilizers raised 4 pt. outriggers down												
<b>20</b>	Stabilizers raised 4 pt. outriggers down												
<b>15</b>	Stabilizers raised 4 pt. outriggers down	73.4° 73.4°	49.9 54.6°	32.4 41.1°	23.3 32.2°	19.7 28.0°	14.7 24.2°	10.0 19.1°	7.8 19.1°	6.9 16.8°	6.6 17.0°	6.4 17.1°	5.9' 6" 53' 4"
<b>10</b>	Stabilizers raised 4 pt. outriggers down												
<b>5</b>	Stabilizers raised 4 pt. outriggers down	2.7° 2.7°	15.2° 15.2°	26.0° 45.5°	34.5° 35.8°	25.3° 29.5°	18.9° 29.5°	14.7° 25.1°	11.7° 18.9°	9.4° 16.1°	7.7° 16.1°	6.3° 16.1°	5.3' 4" 53' 4"
<b>0</b>	Stabilizers raised 4 pt. outriggers down	6.0° 6.0°	14.6° 14.6°	24.2° 34.5°	32.6° 34.5°	18.2° 34.5°	14.3° 29.4°	11.6° 24.8°	9.6° 24.8°	8.1° 18.2°	6.9° 15.0°	6.4° 15.0°	8.6' 5" 52' 7"
<b>-5</b>	Stabilizers raised 4 pt. outriggers down												
<b>-10</b>	Stabilizers raised 4 pt. outriggers down												

Height Can be slewed through 360°

In longitudinal position of undercarriage

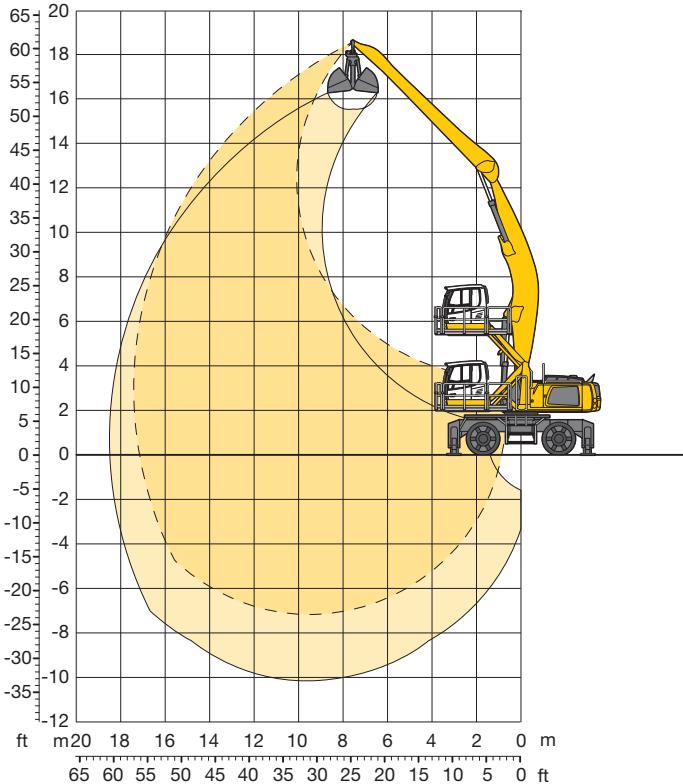


Max. reach

\* 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 AG17 (Kinematic 2D)



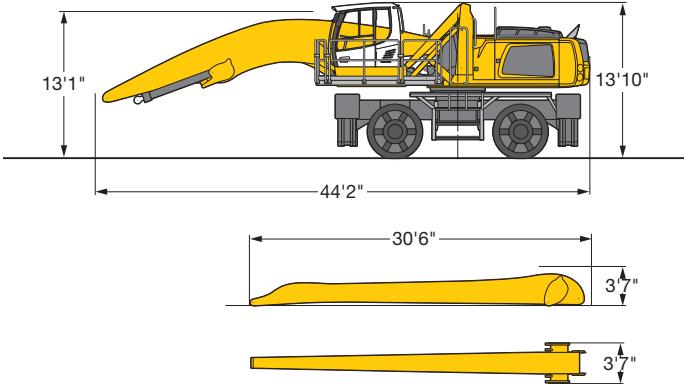
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 31'2" and industrial-type straight stick 28'10".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

130,850 lb

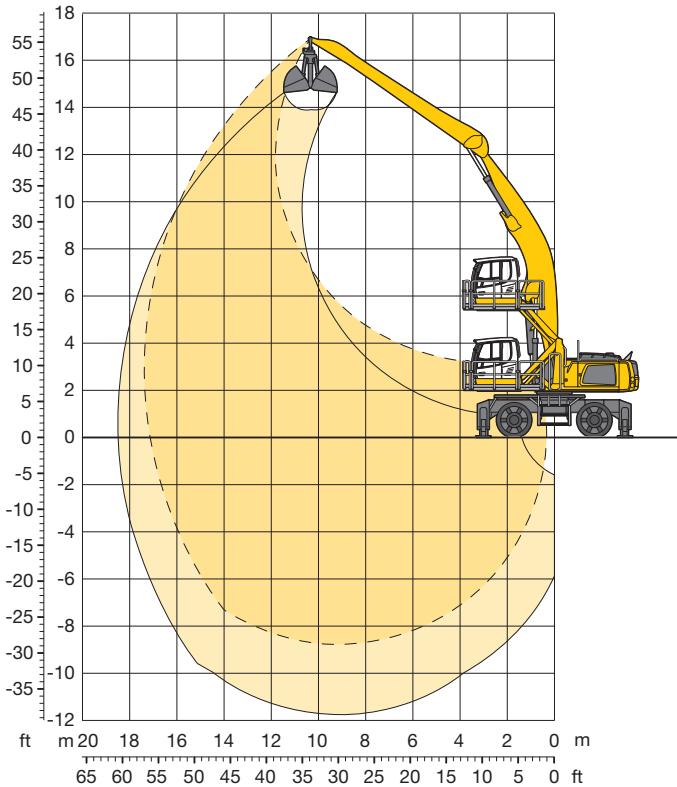
## Dimensions



## Industrial Stick 28'10"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	in
<b>Undercarriage</b>													
Stabilizers raised													
4 pt. outriggers down													
Stabilizers raised													
4 pt. outriggers down													
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# Attachment AG17 (Kinematic 2C)



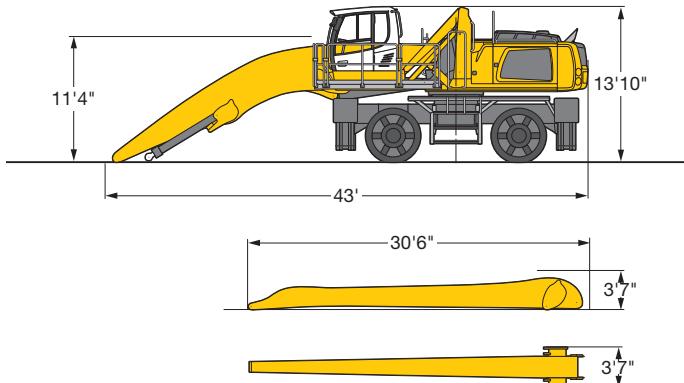
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 31'2" and industrial-type straight stick 28'10".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

130,850 lb

## Dimensions



## Industrial Stick 28' 10"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	Hydraulics	ft in
<b>ft</b>	<b>Undercarriage</b>													
<b>55</b>	Stabilizers raised 4 pt. outriggers down													13.7' 13.7' 34' 6"
<b>50</b>	Stabilizers raised 4 pt. outriggers down													12.5' 12.5' 40' 4"
<b>45</b>	Stabilizers raised 4 pt. outriggers down													12.5' 12.5' 11.0' 11.9' 44' 8"
<b>40</b>	Stabilizers raised 4 pt. outriggers down													9.3' 11.4' 48' 4"
<b>35</b>	Stabilizers raised 4 pt. outriggers down													8.2' 10.5' 51' 1"
<b>30</b>	Stabilizers raised 4 pt. outriggers down													7.3' 9.5' 53' 4"
<b>25</b>	Stabilizers raised 4 pt. outriggers down													6.7' 8.8' 54' 11"
<b>20</b>	Stabilizers raised 4 pt. outriggers down													6.2' 8.3' 56' 1"
<b>15</b>	Stabilizers raised 4 pt. outriggers down													5.9' 7.9' 56' 10"
<b>10</b>	Stabilizers raised 4 pt. outriggers down	66.8' 66.8"	43.6" 43.6"	43.6" 43.6"	32.9" 32.9"	32.9" 32.9"	26.7*	18.1" 21.0"	21.0"	19.8	21.0"	19.8	13.7' 13.7' 34' 6"	
<b>5</b>	Stabilizers raised 4 pt. outriggers down	66.8" 66.8"	43.6" 43.6"	43.6" 43.6"	32.9" 32.9"	32.9" 32.9"	26.7*	18.1" 21.0"	21.0"	19.8	21.0"	19.8	13.7' 13.7' 34' 6"	
<b>0</b>	Stabilizers raised 4 pt. outriggers down	10.9" 10.9"	23.9" 23.9"	23.9" 23.9"	25.9	34.5	19.3	25.4	15.1	19.7	12.1	15.3	13.7' 13.7' 34' 6"	
<b>-5</b>	Stabilizers raised 4 pt. outriggers down	12.3" 12.3"	21.0" 21.0"	21.0" 21.0"	23.7	32.1	17.8	23.7	14.0	18.5	11.3	15.0	13.7' 13.7' 34' 6"	
<b>-10</b>	Stabilizers raised 4 pt. outriggers down	12.3" 12.3"	21.0" 21.0"	21.0" 21.0"	41.0"	41.0"	32.9*	27.0"	27.0"	22.6	19.9"	19.9"	13.7' 13.7' 34' 6"	
<b>-15</b>	Stabilizers raised 4 pt. outriggers down	14.4" 14.4"	21.3" 21.3"	21.3" 21.3"	22.4	30.8	16.7	22.6	13.2	17.7	10.7	14.4	8.8' 11.9	
<b>-20</b>	Stabilizers raised 4 pt. outriggers down	14.4" 14.4"	21.3" 21.3"	21.3" 21.3"	35.5" 35.5"	33.5*	33.5*	27.5	27.5	27.3*	23.0"	20.1"	17.6' 17.6' 15.3*	
<b>-25</b>	Stabilizers raised 4 pt. outriggers down	18.7" 18.7"	24.5" 24.5"	24.5" 24.5"	21.7	30.0	16.0	21.8	12.5	17.0	10.2	13.8	8.5' 11.6	

Height Can be slewed through 360°

In longitudinal position of undercarriage

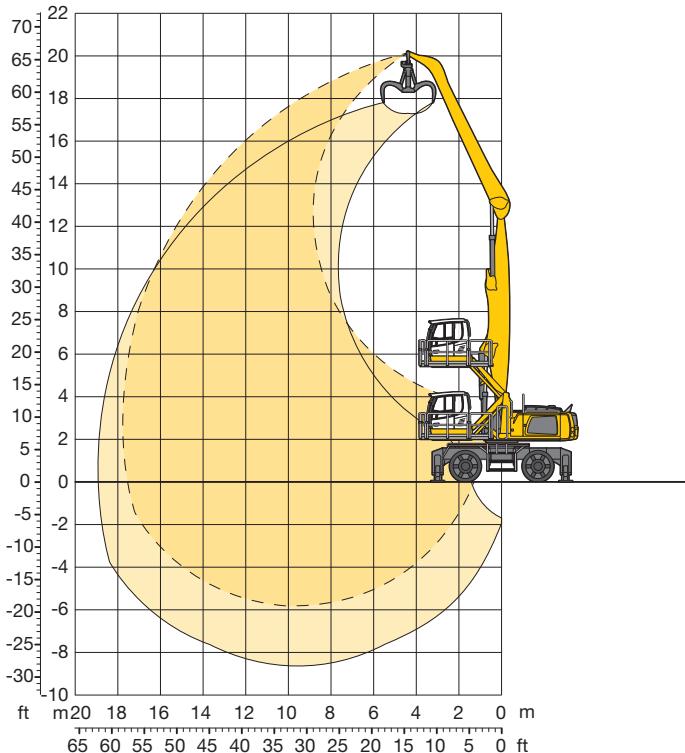


Max. reach

\* 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 GA18 (Kinematic 2A)

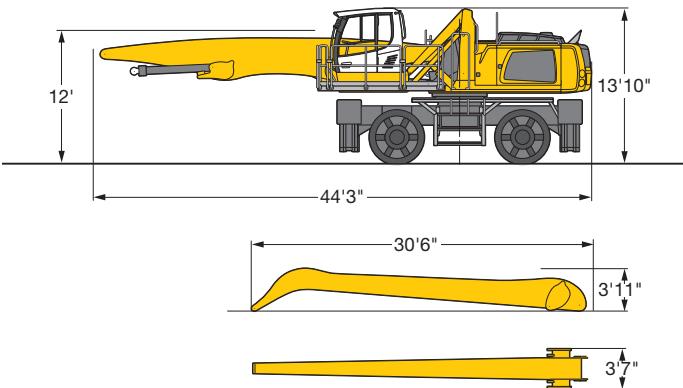


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type straight mono boom 31'2" and industrial-type angled stick 28'10".

with grapple model GM 70C/1.44 yd<sup>3</sup> semi-closed tines | 130,300 lb

## Dimensions



## Industrial Stick 28'10"

ft	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in
<b>Undercarriage</b>													18'
<b>65</b>	Stabilizers raised												22'2"
<b>60</b>	4 pt. outriggers down												22'2", 22'2"
<b>55</b>	Stabilizers raised												16'5", 16'5"
<b>50</b>	4 pt. outriggers down												16'5", 16'5"
<b>45</b>	Stabilizers raised												14'3", 14'3"
<b>40</b>	4 pt. outriggers down												14'3", 14'3"
<b>35</b>	Stabilizers raised												36' 7"
<b>30</b>	4 pt. outriggers down												11'6", 13'0"
<b>25</b>	Stabilizers raised												42' 1"
<b>20</b>	4 pt. outriggers down												9'6", 12'2"
<b>15</b>	Stabilizers raised	25,1*	25,1*	32,8*	32,8*	25,3*	25,3*	21,8*	20,8*	19,0*	17,5*	16,3*	46' 5"
<b>10</b>	4 pt. outriggers down	62,4*	62,4*	49,3	54,1*	32,0	40,5*	23,0	29,2	17,4	22,1	13,7	12,2", 12,2"
<b>5</b>	Stabilizers raised	6,8*	6,8*	33,8*	33,8*	28,3	37,0	20,8	26,8	16,0	20,6	12,7	8,3, 10,7
<b>0</b>	4 pt. outriggers down	6,8*	6,8*	33,8*	33,8*	43,4*	43,4*	34,3*	34,3*	24,8*	24,8*	24,3*	49'10"
<b>-5</b>	Stabilizers raised	7,1*	7,1*	18,8*	18,8*	25,4	33,9	18,9	24,9	14,8	19,3	11,9	11,6", 11,6"
<b>-10</b>	4 pt. outriggers down	7,1*	7,1*	18,8*	18,8*	44,8*	44,8*	35,2*	35,2*	29,0*	29,0*	24,6*	11,8", 11,8"
<b>-15</b>	Stabilizers raised	9,4*	9,4*	17,5*	17,5*	23,5	31,9	17,6	23,5	13,8	18,3	11,2	11,1", 11,1"
<b>-20</b>	4 pt. outriggers down	9,4*	9,4*	17,5*	17,5*	36,7*	36,7*	35,1*	35,1*	28,8*	28,8*	24,3*	58' 1"



Can be slewed through 360°



In longitudinal position of undercarriage

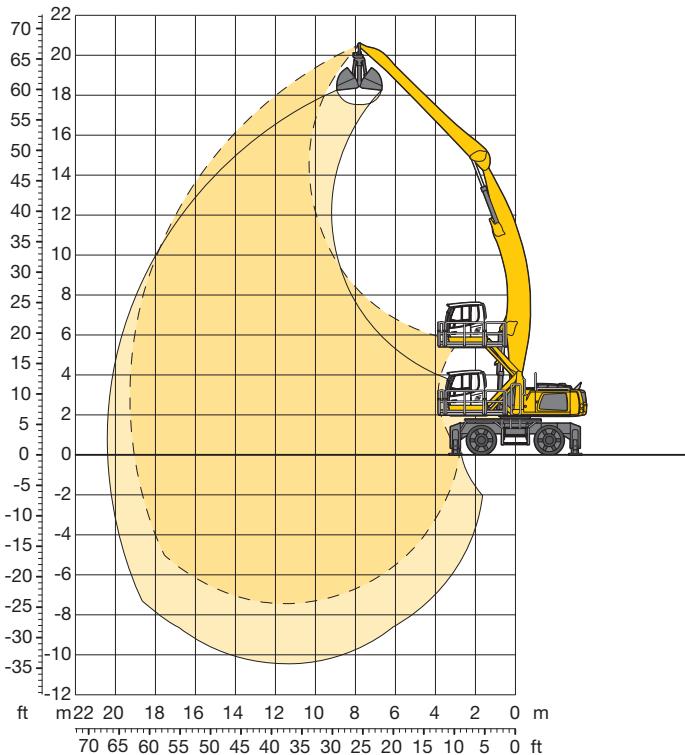


Max. reach

\* 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 AG19 (Kinematic 2D)



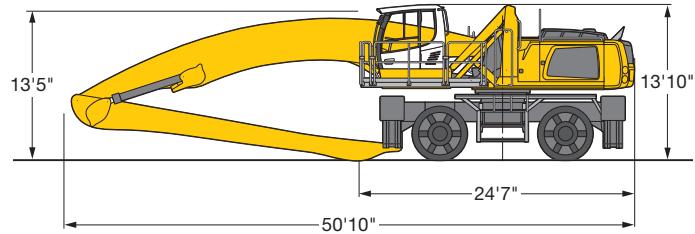
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 37'9" and industrial-type straight stick 28'10".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

132,950 lb

## Dimensions



## Industrial Stick 28'10"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	
<b>ft</b>													
<b>Undercarriage</b>													
<b>65</b>	Stabilizers raised 4 pt. outriggers down												
<b>60</b>	Stabilizers raised 4 pt. outriggers down												15,1* 15,1* 30' 6"
<b>55</b>	Stabilizers raised 4 pt. outriggers down												13,4* 13,4* 38' 2"
<b>50</b>	Stabilizers raised 4 pt. outriggers down												11,0 12,4* 12,4* 12,4* 44' 1"
<b>45</b>	Stabilizers raised 4 pt. outriggers down												8,9 11,4 11,8* 48' 8"
<b>40</b>	Stabilizers raised 4 pt. outriggers down												7,4 9,7 11,4* 52' 6"
<b>35</b>	Stabilizers raised 4 pt. outriggers down												6,3 8,4 11,2* 55' 6"
<b>30</b>	Stabilizers raised 4 pt. outriggers down												5,5 7,5 11,1* 58'
<b>25</b>	Stabilizers raised 4 pt. outriggers down												4,8 6,8 11,1* 59'11"
<b>20</b>	Stabilizers raised 4 pt. outriggers down												4,4 6,2 11,1* 61' 5"
<b>15</b>	Stabilizers raised 4 pt. outriggers down												4,0 5,8 10,9* 62' 5"
<b>10</b>	Stabilizers raised 4 pt. outriggers down												3,7 5,5 10,7* 63' 1"
<b>5</b>	Stabilizers raised 4 pt. outriggers down												3,5 5,2 10,5* 63' 4"
<b>0</b>	Stabilizers raised 4 pt. outriggers down												3,3 5,1 10,4* 63' 1"
<b>-5</b>	Stabilizers raised 4 pt. outriggers down												3,2 5,0 10,3* 62' 6"
<b>-10</b>	Stabilizers raised 4 pt. outriggers down												3,3 5,2 10,1* 61' 6"
<b>-15</b>	Stabilizers raised 4 pt. outriggers down												3,5 5,5 9,7* 60' 1"
<b>-20</b>	Stabilizers raised 4 pt. outriggers down												3,5 5,5 9,2* 58' 2"
													4,1 6,3 9,9* 53'

Height   Can be slewed through 360°

In longitudinal position of undercarriage

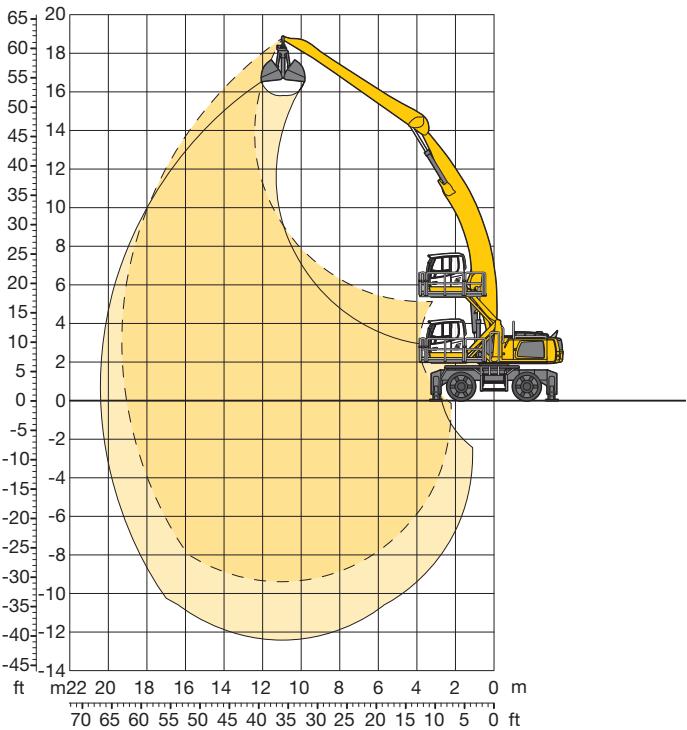


Max. reach

\* 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 AG19** (Kinematic 2C)



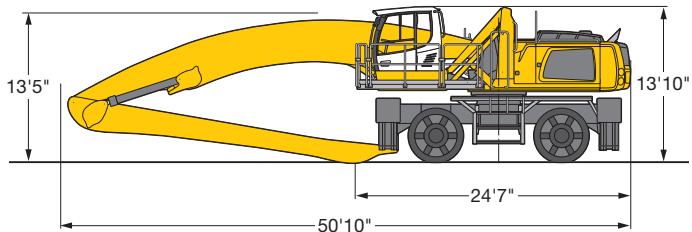
# **Operating Weight**

The operating weight includes basic machine with 4 point outriggers, hyd. cab elevation, 4 solid tires, industrial-type angled mono boom 37'9" and industrial-type straight stick 28'10".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

132,950 lb

# **Dimensions**

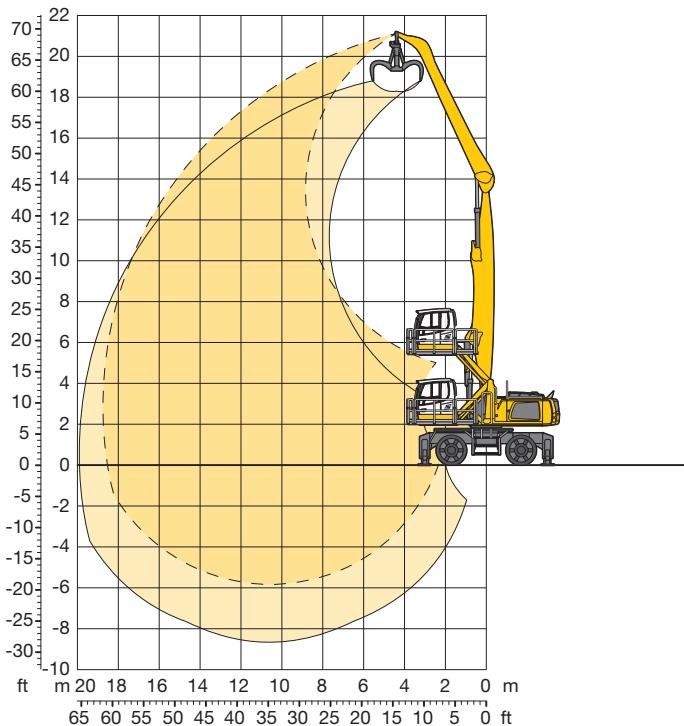


## **Industrial Stick 28'10"**

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 GA 19 (Kinematic 2A)

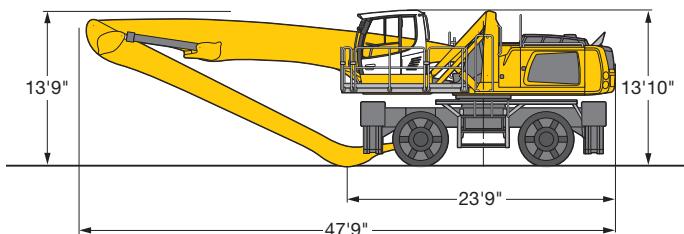


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type straight mono boom 34'5" and industrial-type angled stick 28'10".

with grapple model GM 70C/1.44 yd<sup>3</sup> semi-closed tines | 131,200 lb

## Dimensions



## Industrial Stick 28' 10"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft in
<b>Undercarriage</b>													
65	Stabilizers raised												17,9" 17,9"
	4 pt. outriggers down												26' 8"
60	Stabilizers raised												17,9" 17,9"
	4 pt. outriggers down												35' 4"
55	Stabilizers raised												15,0" 15,0"
	4 pt. outriggers down												41' 6"
50	Stabilizers raised												13,4" 13,4"
	4 pt. outriggers down												12,0" 12,0"
45	Stabilizers raised												12,5" 12,5"
	4 pt. outriggers down												10,3" 10,3"
40	Stabilizers raised												11,9" 11,9"
	4 pt. outriggers down												50' 5"
35	Stabilizers raised												6,8" 9,0"
	4 pt. outriggers down												53' 6"
30	Stabilizers raised												6,1" 8,1"
	4 pt. outriggers down												56' 1"
25	Stabilizers raised												5,5" 7,4"
	4 pt. outriggers down												58' 1"
20	Stabilizers raised												6,0" 6,9"
	4 pt. outriggers down												59' 7"
15	Stabilizers raised	38,2"	38,2"	45,4"	45,4"	33,2"	38,3"	23,6	29,8	17,7	22,4	13,8	19,3" 19,3"
	4 pt. outriggers down	38,2"	38,2"	45,4"	45,4"	38,3"	38,3"	30,8"	25,9"	24,9"	24,9"	19,7"	19,3" 19,3"
10	Stabilizers raised												17,3" 17,3"
	4 pt. outriggers down												15,7" 15,7"
5	Stabilizers raised	1,9"	1,9"	12,4"	12,4"	24,9	33,5	18,6	24,6	14,5	19,1	11,6	15,3" 15,3"
	4 pt. outriggers down	1,9"	1,9"	12,4"	12,4"	42,6"	42,6"	33,5"	33,5"	27,6"	27,6"	9,4	12,5" 12,5"
0	Stabilizers raised	3,9"	3,9"	10,7"	22,3	26,0"	16,8	22,7	13,2	17,8	10,7	14,4	8,8" 11,8"
	4 pt. outriggers down	3,9"	3,9"	10,7"	10,7"	26,0"	33,8"	33,8"	27,7"	27,7"	23,4"	20,2"	11,5" 12,0"
-5	Stabilizers raised	6,6"	6,6"	11,9"	20,7	22,6"	15,6	21,4	12,3	16,8	10,0	13,6	8,2" 11,3"
	4 pt. outriggers down	6,6"	6,6"	11,9"	11,9"	22,6"	22,6"	32,9"	32,9"	27,2"	27,2"	23,0"	19,7" 19,7"
-10	Stabilizers raised												17,0" 17,0"
	4 pt. outriggers down												14,6" 14,6"
-15	Stabilizers raised												12,2" 12,2"
	4 pt. outriggers down												12,2" 12,2"
-20	Stabilizers raised												10,5" 10,5"
	4 pt. outriggers down												10,5" 10,5"
-25	Stabilizers raised												10,5" 10,5"

Height Can be slewed through 360°

In longitudinal position of undercarriage

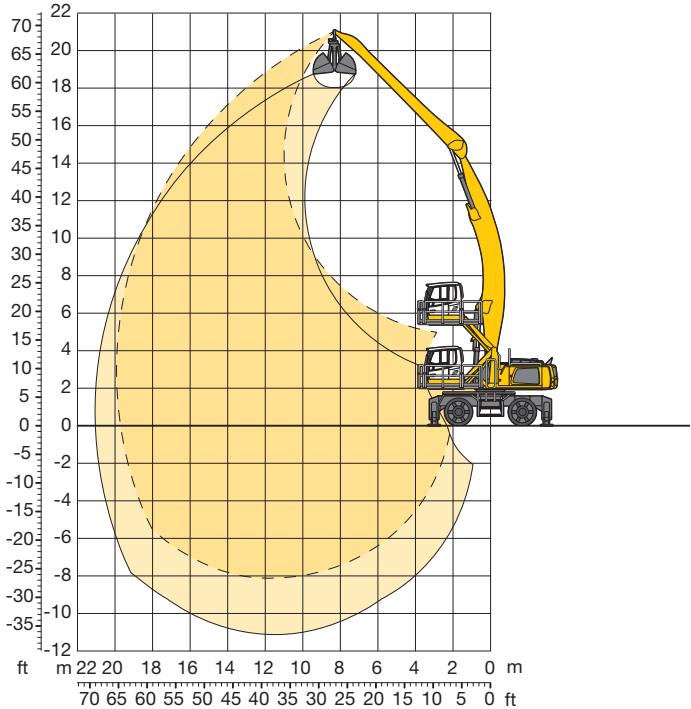


Max. reach

\* 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 AG20 (Kinematic 2D)



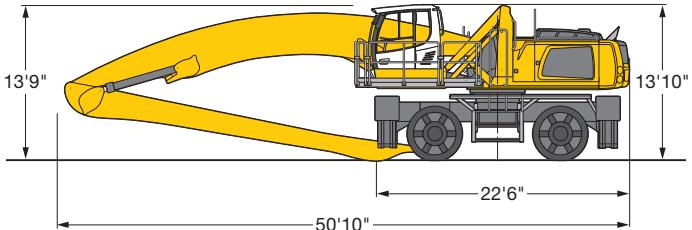
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type angled mono boom 37'9" and industrial-type straight stick 31'2".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

133,500 lb

## Dimensions



## Industrial Stick 31'2"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in
<b>ft</b>													
<b>Undercarriage</b>	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"	12'9"
Stabilizers raised													12'9"
4 pt. outriggers down													12'9"
Stabilizers raised													12'9"
4 pt. outriggers down													12'9"
<b>65</b>													34' 8"
<b>60</b>													11'7"
<b>55</b>													11'7"
<b>50</b>													41' 8"
<b>45</b>													11'7"
<b>40</b>													9'7"
<b>35</b>													9'7"
<b>30</b>													10'9"
<b>25</b>													10'9"
<b>20</b>													10'9"
<b>15</b>													10'9"
<b>10</b>													10'9"
<b>5</b>													10'9"
<b>0</b>													10'9"
<b>-5</b>													10'9"
<b>-10</b>													10'9"
<b>-15</b>													10'9"
<b>-20</b>													10'9"
<b>-25</b>													10'9"

Height

Can be slewed through 360°

In longitudinal position of undercarriage

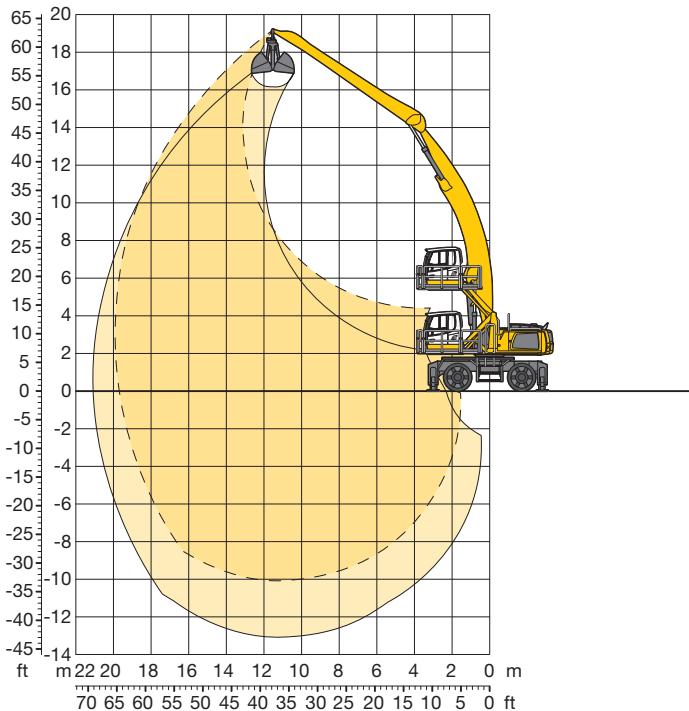


Max. reach

\* 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 AG20 (Kinematic 2C)



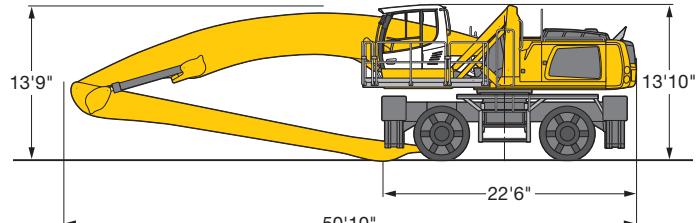
## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hyd. cab elevation, 4 solid tires, industrial-type angled mono boom 37'9" and industrial-type straight stick 31'2".

with clamshell model GM 20B/2.62 yd<sup>3</sup>  
shells for loose material

133,500 lb

## Dimensions



## Industrial Stick 31'2"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft in
<b>Undercarriage</b>	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	13.1*	11.7*
60	Stabilizers raised												11.7*, 11.7"
55	4 pt. outriggers down												11.7", 11.7"
50	Stabilizers raised												9.7*, 10.9"
45	4 pt. outriggers down												10.9", 10.9"
40	Stabilizers raised												10.4", 10.4"
35	4 pt. outriggers down												10.1", 10.1"
30	Stabilizers raised												5.6, 7.6
25	4 pt. outriggers down												9.8*, 9.8"
20	Stabilizers raised												5.2, 6.8
15	4 pt. outriggers down												6.1, 6.8
10	Stabilizers raised												62' 2"
5	4 pt. outriggers down												63' 7"
0	Stabilizers raised												64' 7"
-5	4 pt. outriggers down												65' 2"
-10	Stabilizers raised												65' 5"
-15	4 pt. outriggers down												65' 2"
-20	Stabilizers raised												64' 8"
-25	4 pt. outriggers down												63' 8"
-30	Stabilizers raised												62' 4"

Height Can be slewed through 360°

In longitudinal position of undercarriage

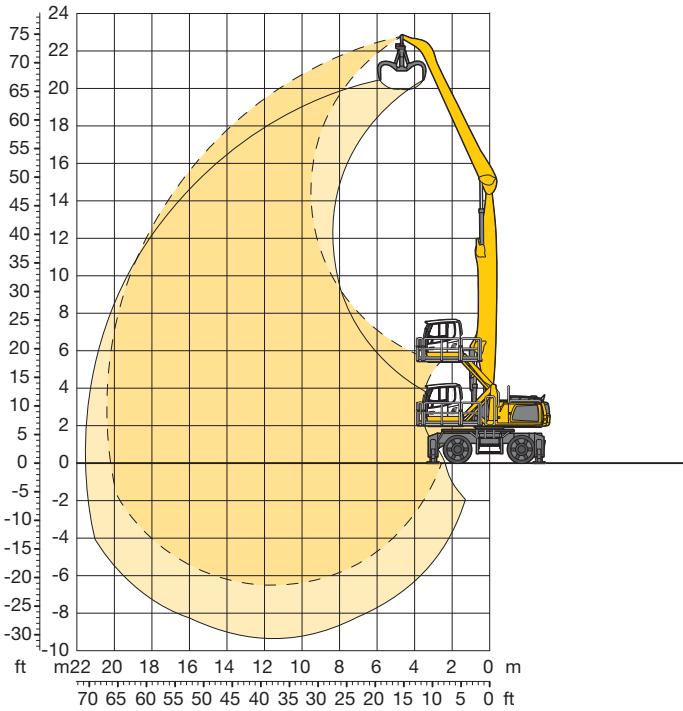


Max. reach

\* 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 GA20 (Kinematic 2A)

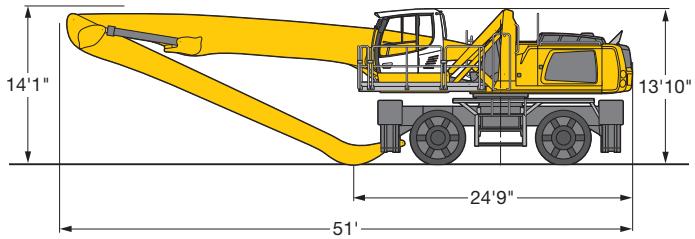


## Operating Weight

The operating weight includes basic machine with 4 point outriggers, hydr. cab elevation, 4 solid tires, industrial-type straight mono boom 37'9" and industrial-type angled stick 31'2".

with grapple model GM 70C/1.44 yd<sup>3</sup> semi-closed tines | 132,700 lb

## Dimensions



## Industrial Stick 31'2"

	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft	40 ft	45 ft	50 ft	55 ft	60 ft	65 ft	ft in
<b>Undercarriage</b>													16,3" 16,3" 28'10"
<b>70</b>	Stabilizers raised 4 pt. outriggers down			19,2" 19,2" 19,2"	19,0" 19,0" 16,0"	19,5" 18,5" 13,3" 15,9"	18,0" 19,2" 13,8" 17,1" 10,6" 13,4	18,2" 19,0" 14,1" 17,1" 10,9" 13,7	18,4" 19,0" 14,1" 17,1" 10,9" 13,7	18,6" 19,0" 14,1" 17,1" 11,0" 13,8	18,8" 19,0" 14,1" 17,1" 11,0" 13,8	19,0" 19,0" 14,1" 17,1" 11,0" 13,8	16,3" 16,3" 28'10"
<b>65</b>	Stabilizers raised 4 pt. outriggers down				19,0" 19,0" 16,0"	19,5" 18,5" 13,3" 15,9"	18,0" 19,2" 13,8" 17,1" 10,6" 13,4	18,2" 19,0" 14,1" 17,1" 10,9" 13,7	18,4" 19,0" 14,1" 17,1" 10,9" 13,7	18,6" 19,0" 14,1" 17,1" 11,0" 13,8	18,8" 19,0" 14,1" 17,1" 11,0" 13,8	16,3" 16,3" 28'10"	
<b>60</b>	Stabilizers raised 4 pt. outriggers down				20,3" 20,3" 20,3"	17,5" 18,5" 13,3" 15,9"	18,0" 19,2" 13,8" 17,1" 10,6" 13,4	18,2" 19,0" 14,1" 17,1" 10,9" 13,7	18,4" 19,0" 14,1" 17,1" 10,9" 13,7	18,6" 19,0" 14,1" 17,1" 11,0" 13,8	18,8" 19,0" 14,1" 17,1" 11,0" 13,8	16,3" 16,3" 28'10"	
<b>55</b>	Stabilizers raised 4 pt. outriggers down					18,0" 19,2" 13,8" 17,1" 10,6" 13,4	18,2" 19,0" 14,1" 17,1" 10,9" 13,7	18,4" 19,0" 14,1" 17,1" 10,9" 13,7	18,6" 19,0" 14,1" 17,1" 10,9" 13,7	18,8" 19,0" 14,1" 17,1" 11,0" 13,8	19,0" 19,0" 14,1" 17,1" 11,0" 13,8	19,2" 19,2" 14,1" 17,1" 11,0" 13,8	13,7" 13,7" 37' 7"
<b>50</b>	Stabilizers raised 4 pt. outriggers down					19,2" 19,2" 13,8" 17,1" 10,6" 13,4	19,4" 19,4" 14,1" 17,1" 10,9" 13,7	19,6" 19,6" 14,1" 17,1" 11,0" 13,8	19,8" 19,8" 14,1" 17,1" 11,0" 13,8	20,0" 19,0" 14,1" 17,1" 11,0" 13,8	20,2" 19,2" 14,1" 17,1" 11,0" 13,8	20,4" 19,4" 14,1" 17,1" 11,0" 13,8	10,5" 12,3" 44' 1"
<b>45</b>	Stabilizers raised 4 pt. outriggers down					18,0" 19,2" 13,8" 17,1" 10,6" 13,4	18,2" 19,0" 14,1" 17,1" 10,9" 13,7	18,4" 19,0" 14,1" 17,1" 10,9" 13,7	18,6" 19,0" 14,1" 17,1" 10,9" 13,7	18,8" 19,0" 14,1" 17,1" 11,0" 13,8	19,0" 19,0" 14,1" 17,1" 11,0" 13,8	19,2" 19,2" 14,1" 17,1" 11,0" 13,8	8,3" 10,7" 11,4" 49' 2"
<b>40</b>	Stabilizers raised 4 pt. outriggers down					19,0" 19,0" 14,1" 17,1" 10,6" 13,4	19,2" 19,2" 14,1" 17,1" 10,9" 13,7	19,4" 19,4" 14,1" 17,1" 11,0" 13,8	19,6" 19,6" 14,1" 17,1" 11,0" 13,8	19,8" 19,8" 14,1" 17,1" 11,0" 13,8	20,0" 19,0" 14,1" 17,1" 11,0" 13,8	20,2" 19,2" 14,1" 17,1" 11,0" 13,8	6,9" 9,1" 10,8" 53' 5"
<b>35</b>	Stabilizers raised 4 pt. outriggers down					19,2" 19,2" 13,8" 17,1" 10,6" 13,4	19,4" 19,4" 14,1" 17,1" 10,9" 13,7	19,6" 19,6" 14,1" 17,1" 11,0" 13,8	19,8" 19,8" 14,1" 17,1" 11,0" 13,8	20,0" 19,0" 14,1" 17,1" 11,0" 13,8	20,2" 19,2" 14,1" 17,1" 11,0" 13,8	20,4" 19,4" 14,1" 17,1" 11,0" 13,8	10,8" 10,8" 10,8" 56' 11"
<b>30</b>	Stabilizers raised 4 pt. outriggers down					19,4" 19,4" 13,8" 17,1" 10,6" 13,4	19,6" 19,6" 14,1" 17,1" 10,9" 13,7	19,8" 19,8" 14,1" 17,1" 11,0" 13,8	20,0" 19,0" 14,1" 17,1" 11,0" 13,8	20,2" 19,2" 14,1" 17,1" 11,0" 13,8	20,4" 19,4" 14,1" 17,1" 11,0" 13,8	20,6" 19,6" 14,1" 17,1" 11,0" 13,8	5,8" 7,9" 9,9" 56' 11"
<b>25</b>	Stabilizers raised 4 pt. outriggers down					19,6" 19,6" 13,8" 17,1" 10,6" 13,4	19,8" 19,8" 14,1" 17,1" 10,9" 13,7	20,0" 19,0" 14,1" 17,1" 11,0" 13,8	20,2" 19,2" 14,1" 17,1" 11,0" 13,8	20,4" 19,4" 14,1" 17,1" 11,0" 13,8	20,6" 19,6" 14,1" 17,1" 11,0" 13,8	20,8" 19,8" 14,1" 17,1" 11,0" 13,8	5,1" 7,0" 10,1" 59' 8"
<b>20</b>	Stabilizers raised 4 pt. outriggers down					19,8" 19,8" 13,8" 17,1" 10,6" 13,4	20,0" 20,0" 14,1" 17,1" 10,9" 13,7	20,2" 20,2" 14,1" 17,1" 11,0" 13,8	20,4" 20,4" 14,1" 17,1" 11,0" 13,8	20,6" 20,6" 14,1" 17,1" 11,0" 13,8	20,8" 20,8" 14,1" 17,1" 11,0" 13,8	21,0" 21,0" 14,1" 17,1" 11,0" 13,8	4,5" 6,3" 10,0" 62'
<b>15</b>	Stabilizers raised 4 pt. outriggers down					20,0" 20,0" 13,8" 17,1" 10,6" 13,4	20,2" 20,2" 14,1" 17,1" 10,9" 13,7	20,4" 20,4" 14,1" 17,1" 11,0" 13,8	20,6" 20,6" 14,1" 17,1" 11,0" 13,8	20,8" 20,8" 14,1" 17,1" 11,0" 13,8	21,0" 21,0" 14,1" 17,1" 11,0" 13,8	21,2" 21,2" 14,1" 17,1" 11,0" 13,8	10,0" 10,0" 10,0" 63' 10"
<b>10</b>	Stabilizers raised 4 pt. outriggers down					20,2" 20,2" 13,8" 17,1" 10,6" 13,4	20,4" 20,4" 14,1" 17,1" 10,9" 13,7	20,6" 20,6" 14,1" 17,1" 11,0" 13,8	20,8" 20,8" 14,1" 17,1" 11,0" 13,8	21,0" 21,0" 14,1" 17,1" 11,0" 13,8	21,2" 21,2" 14,1" 17,1" 11,0" 13,8	21,4" 21,4" 14,1" 17,1" 11,0" 13,8	9,9" 9,9" 9,9" 63' 10"
<b>5</b>	Stabilizers raised 4 pt. outriggers down					20,4" 20,4" 13,8" 17,1" 10,6" 13,4	20,6" 20,6" 14,1" 17,1" 10,9" 13,7	20,8" 20,8" 14,1" 17,1" 11,0" 13,8	21,0" 21,0" 14,1" 17,1" 11,0" 13,8	21,2" 21,2" 14,1" 17,1" 11,0" 13,8	21,4" 21,4" 14,1" 17,1" 11,0" 13,8	21,6" 21,6" 14,1" 17,1" 11,0" 13,8	3,4" 5,1" 9,9" 66' 8"
<b>0</b>	Stabilizers raised 4 pt. outriggers down					20,6" 20,6" 13,8" 17,1" 10,6" 13,4	20,8" 20,8" 14,1" 17,1" 10,9" 13,7	21,0" 21,0" 14,1" 17,1" 11,0" 13,8	21,2" 21,2" 14,1" 17,1" 11,0" 13,8	21,4" 21,4" 14,1" 17,1" 11,0" 13,8	21,6" 21,6" 14,1" 17,1" 11,0" 13,8	21,8" 21,8" 14,1" 17,1" 11,0" 13,8	3,4" 5,1" 9,9" 66' 8"
<b>-5</b>	Stabilizers raised 4 pt. outriggers down					20,8" 20,8" 13,8" 17,1" 10,6" 13,4	21,0" 21,0" 14,1" 17,1" 10,9" 13,7	21,2" 21,2" 14,1" 17,1" 11,0" 13,8	21,4" 21,4" 14,1" 17,1" 11,0" 13,8	21,6" 21,6" 14,1" 17,1" 11,0" 13,8	21,8" 21,8" 14,1" 17,1" 11,0" 13,8	22,0" 22,0" 14,1" 17,1" 11,0" 13,8	3,0" 4,6" 8,8" 66' 10"
<b>-10</b>	Stabilizers raised 4 pt. outriggers down					21,0" 21,0" 13,8" 17,1" 10,6" 13,4	21,2" 21,2" 14,1" 17,1" 10,9" 13,7	21,4" 21,4" 14,1" 17,1" 11,0" 13,8	21,6" 21,6" 14,1" 17,1" 11,0" 13,8	21,8" 21,8" 14,1" 17,1" 11,0" 13,8	22,0" 22,0" 14,1" 17,1" 11,0" 13,8	22,2" 22,2" 14,1" 17,1" 11,0" 13,8	3,0" 4,7" 8,8" 66' 2"
<b>-15</b>	Stabilizers raised 4 pt. outriggers down					21,2" 21,2" 13,8" 17,1" 10,6" 13,4	21,4" 21,4" 14,1" 17,1" 10,9" 13,7	21,6" 21,6" 14,1" 17,1" 11,0" 13,8	21,8" 21,8" 14,1" 17,1" 11,0" 13,8	22,0" 22,0" 14,1" 17,1" 11,0" 13,8	22,2" 22,2" 14,1" 17,1" 11,0" 13,8	22,4" 22,4" 14,1" 17,1" 11,0" 13,8	3,0" 4,7" 8,8" 57'
<b>-20</b>	Stabilizers raised 4 pt. outriggers down					21,4" 21,4" 13,8" 17,1" 10,6" 13,4	21,6" 21,6" 14,1" 17,1" 10,9" 13,7	21,8" 21,8" 14,1" 17,1" 11,0" 13,8	22,0" 22,0" 14,1" 17,1" 11,0" 13,8	22,2" 22,2" 14,1" 17,1" 11,0" 13,8	22,4" 22,4" 14,1" 17,1" 11,0" 13,8	22,6" 22,6" 14,1" 17,1" 11,0" 13,8	5,1" 7,5" 10,7" 47' 4"

Height

Can be slewed through 360°

In longitudinal position of undercarriage

Max. reach

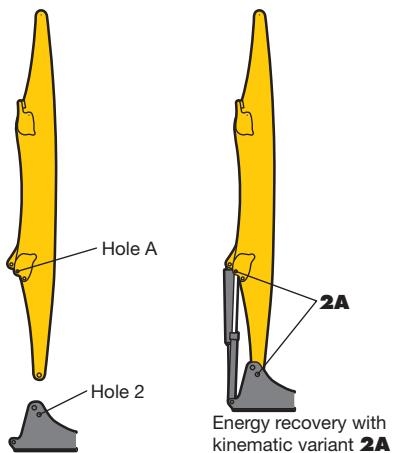
\* Limited by hydr. capacity

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 Variants

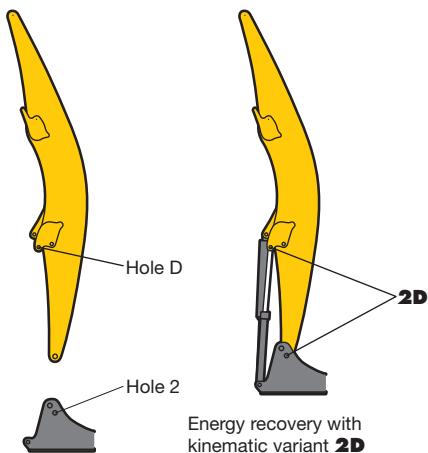
Variolift  plus®

## Kinematic Variant 2A

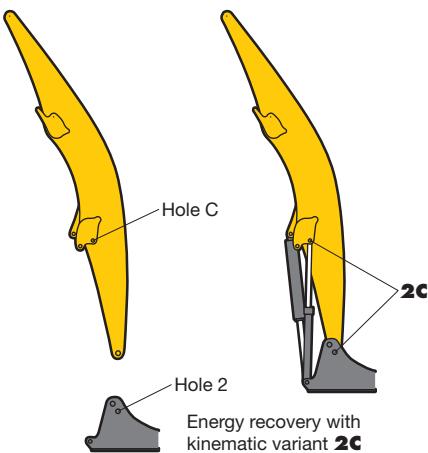


Energy recovery with  
kinematic variant **2A**

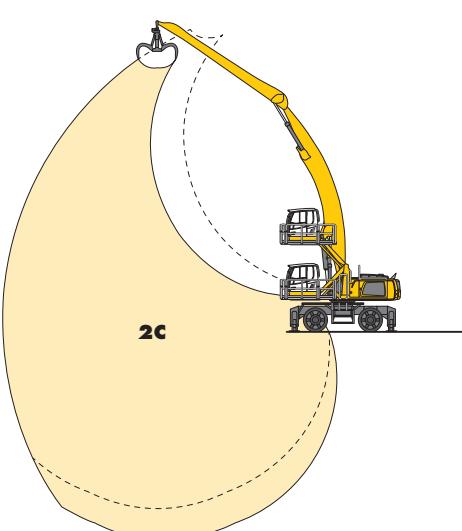
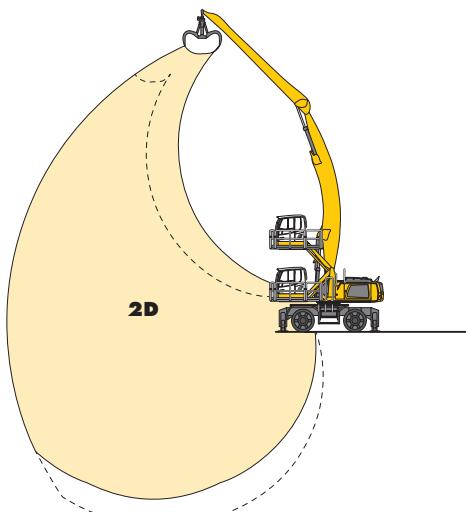
## Kinematic Variant 2D/2C



Energy recovery with  
kinematic variant **2D**

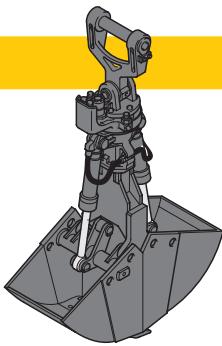


Energy recovery with  
kinematic variant **2C**



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

# Variety of Tools



## Shells for Loose Material

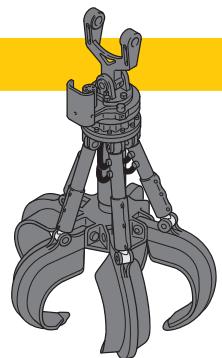
Shells for loose material with cutting edge (without teeth)

### Clamshell Model GM 20B

Cutting width of shells	ft in	3'3"	3'11"	5'3"	6'7"
Capacity	yd <sup>3</sup>	1.70	1.96	2.62	3.27
For loose material, specific weight up to lb/yd <sup>3</sup>		2,530	2,530	2,530	2,530
Weight	lb	2,990	3,120	3,415	4,012

### Clamshell Model GMZ 80

Cutting width of shells	ft in	4'3"	4'11"	5'7"	
Capacity	yd <sup>3</sup>	3.92	4.58	5.23	
For loose material, specific weight up to lb/yd <sup>3</sup>		2,530	2,275	2,025	
Weight	lb	5,467	5,710	5,975	



## Multiple Tine Grapples

open tines      semi-closed tines      closed tines

### Grapple Model 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

### Grapple Model GM 70C (5 tines)

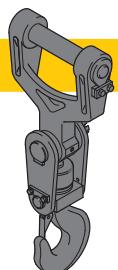
Capacity	yd <sup>3</sup>	1.05	1.44	1.05	1.44	1.05	1.44
Weight	lb	3,275	3,505	3,760	4,100	4,300	4,400



## Wood Grapple

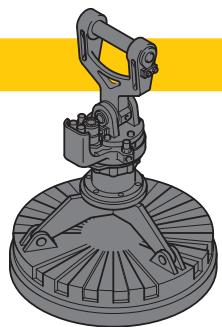
### Grapple Model GM 20B

Claw width	ft in	2'8"	2'8"	2'8"	2'8"
Size	in <sup>2</sup>	2,325	2,635	2,945	3,255
Height of grapple, closed	ft in	9'10"	10'	10'4"	10'10"
Weight	lb	3,803	3,913	4,211	4,299



## Crane Hook with Suspension

Max. load	lb	27,558
Height with suspension	ft in	3'1"
Weight	lb	210



## Magnet Devices/Lifting Magnets

Generator      kW | 13/20/25

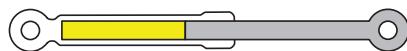
### Electromagnets with Suspension

Power	kW	12.8/17.8
Diameter of magnet	ft in	5'7"
Weight	lb	7,231



## 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.



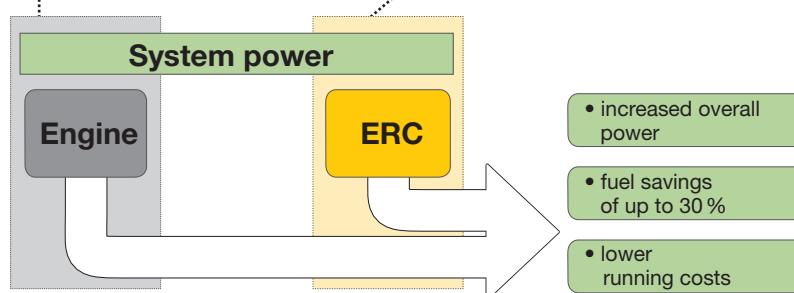
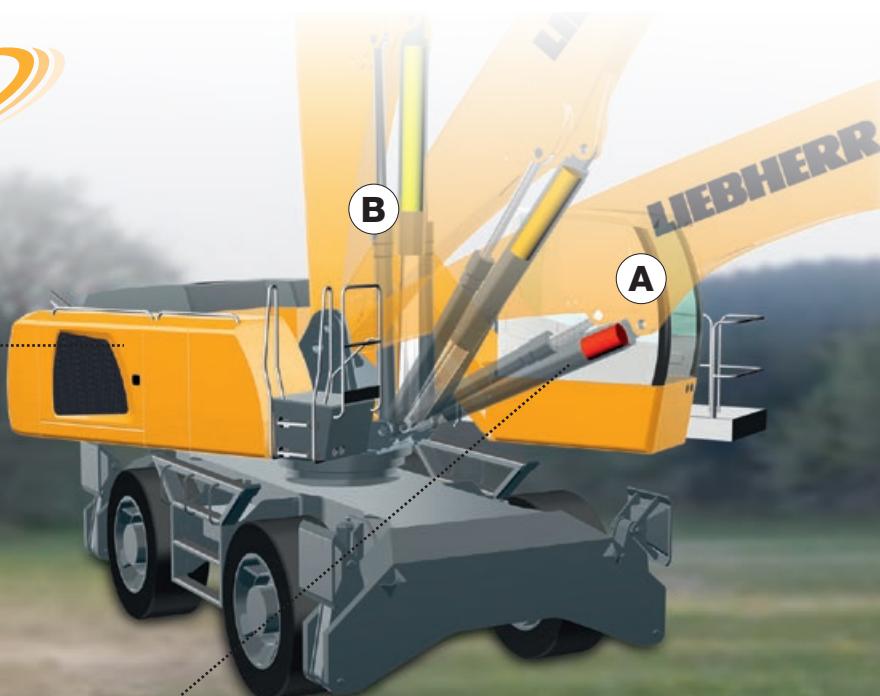
1. Attachment fitting raised / **B**  
Energy released



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

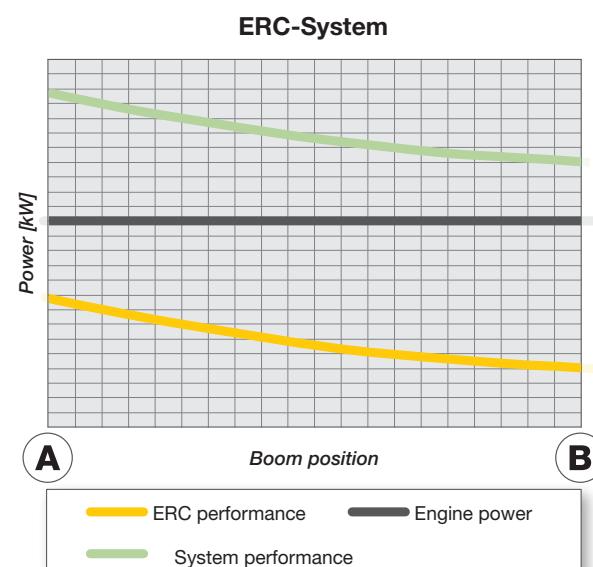


3. Attachment fitting lowered / **A**  
Energy stored



### 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.



# Equipment



## Undercarriage

Support rocker, variants	+
Individual control outriggers	+
Shuttle axle lock, automatic	•
Outrigger monitoring system	+
Tyres, variants	+
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	+



## 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.**

**Liebherr-Hydraulikbagger GmbH**

Liebherrstraße 12, D-88457 Kirchdorf/Ille

+49 7354 80-0, Fax +49 7354 80-7294

[www.liebherr.com](http://www.liebherr.com), E-Mail: [info.lhb@liebherr.com](mailto:info.lhb@liebherr.com)

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