

Machine for Industrial Applications

LH 60 C
Litronic®

Operating Weight:	118,050 – 125,000 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	640.7 in ³
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	198 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 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	with proportionally functioning foot pedals or adjusted with a plugable lever
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 – 7.6 rpm stepless
Swing torque	88,507 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_{WA} (inside cab) = 71 dB(A)
2000/14/EC	L_{WA} (surround noise) = 105 dB(A)



Undercarriage

Versions	EW, SW
Type	torsion-resistant box design made from high-strength steel plate, designed for the toughest requirements
Drive	per side of undercarriage one Liebherr swashplate motor with brake valves acting on both sides
Travel speed	0 – 3.4 mph stepless 0 – 2.1 mph stepless (creeper speed)
Track components	D 7, maintenance-free
Track pads	triple grouser, flat
Holding brake	wet, maintenance-free multi disc brakes



Attachment

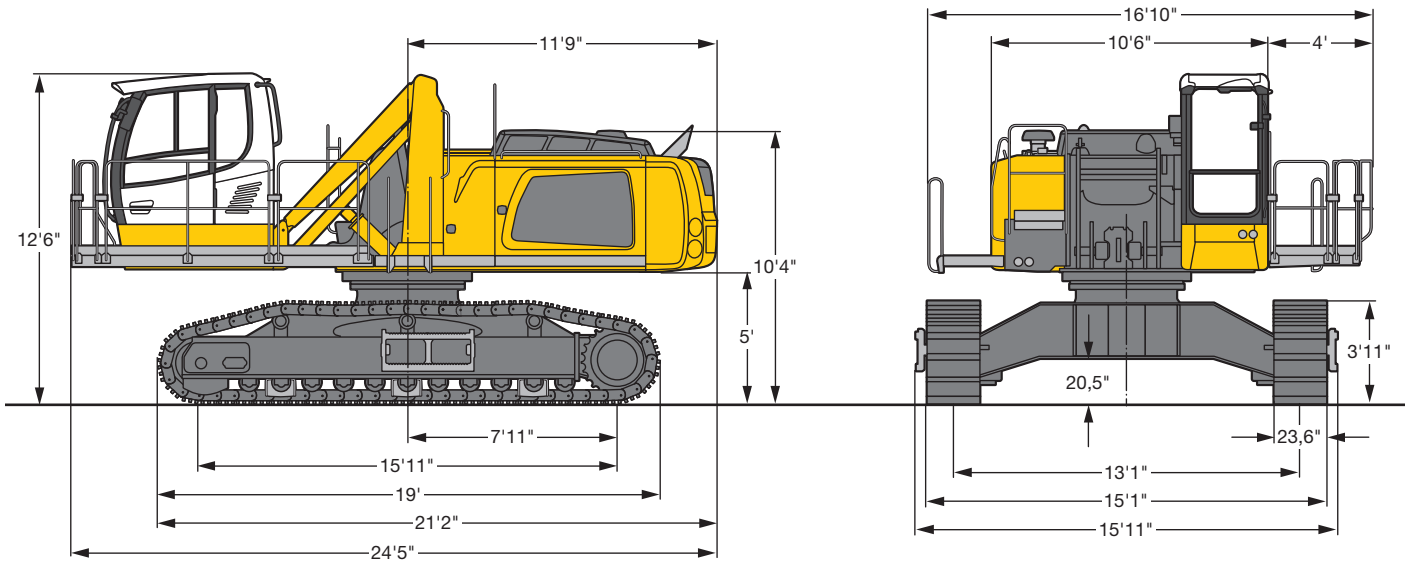
Type	high-strength steel plates at highlystressed points for the toughest requirements. Complex and stable mountings of attachment and cylinders.
Hydraulic cylinders	Liebherr cylinders with special seal system. Shock absorption
Energy recovering cylinder	Liebherr gas cylinder with special sealing and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



Complete Machine

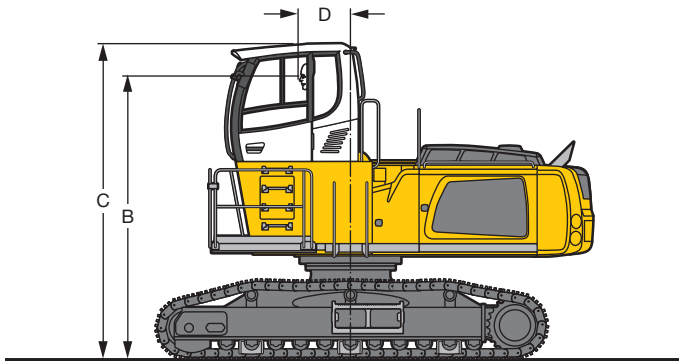
Lubrication	central lubrication system for uppercarriage and attachment, automatically
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Dimensions EW



Choice of Cab Elevation EW

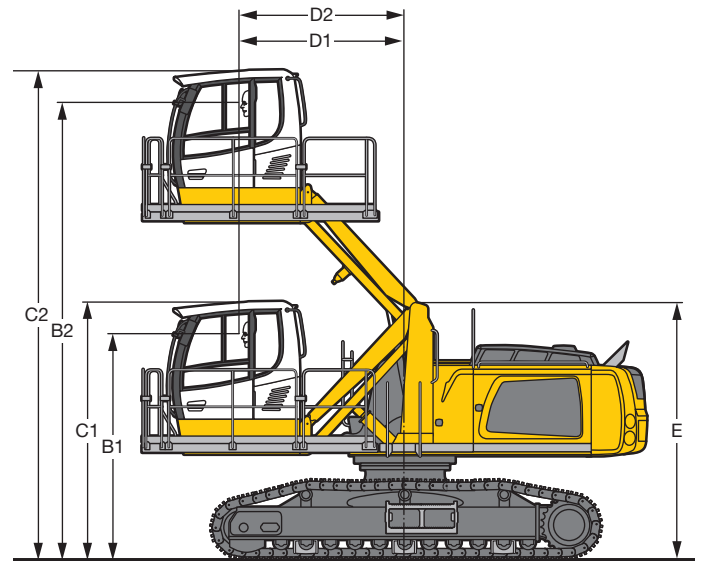
Cab Elevation LFC (Rigid Elevation)



Increase Type	LFC 120	LFC 150	LFC 200
Height	3' 11"	4' 11"	6' 7"
B	13' 8"	14' 8"	16' 4"
C	15' 3"	16' 3"	17' 11"
D	2' 6"	2' 6"	2' 6"

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 12'4".

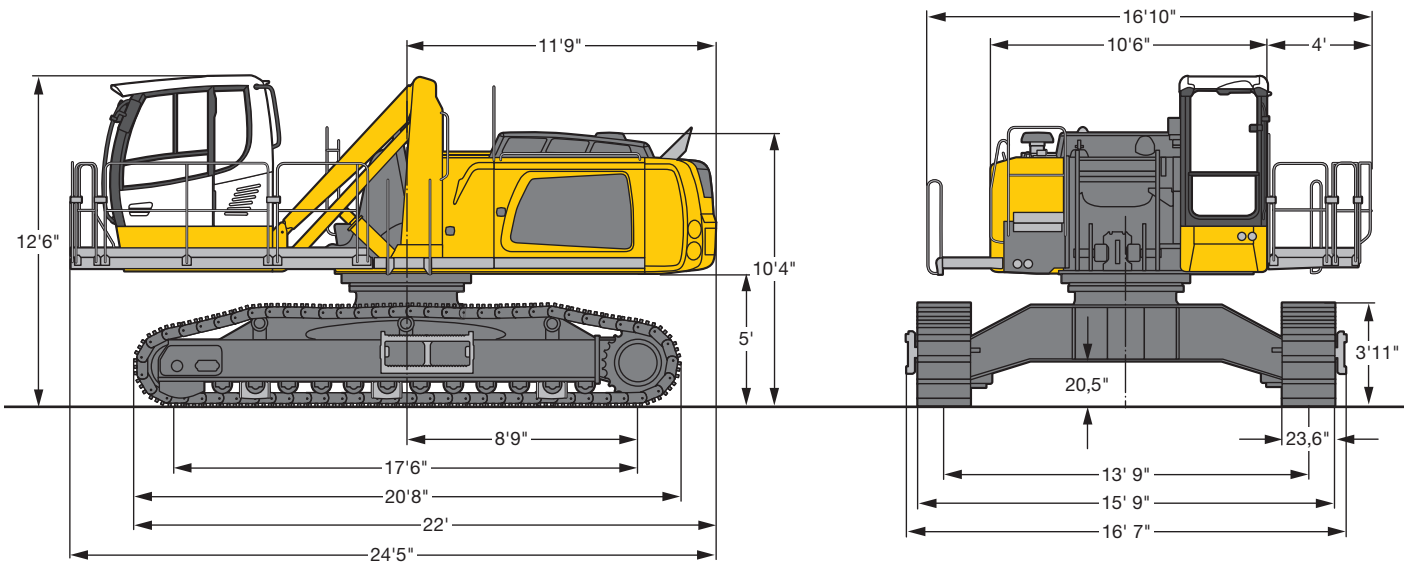
Cab Elevation LHC (Hydraulic Elevation)



Increase Type	LHC 340-35
B1	10' 11"
B2	22' 2"
C1	12' 6"
C2	23' 8"
D1	8'
D2	8'
E	12' 5"

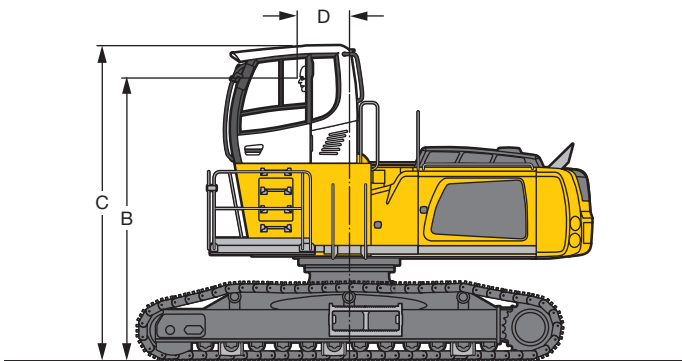
The hydraulically adjustable cab allows the driver, that he can choose his field of view freely and at any time within the stroke.

Dimensions SW



Choice of Cab Elevation SW

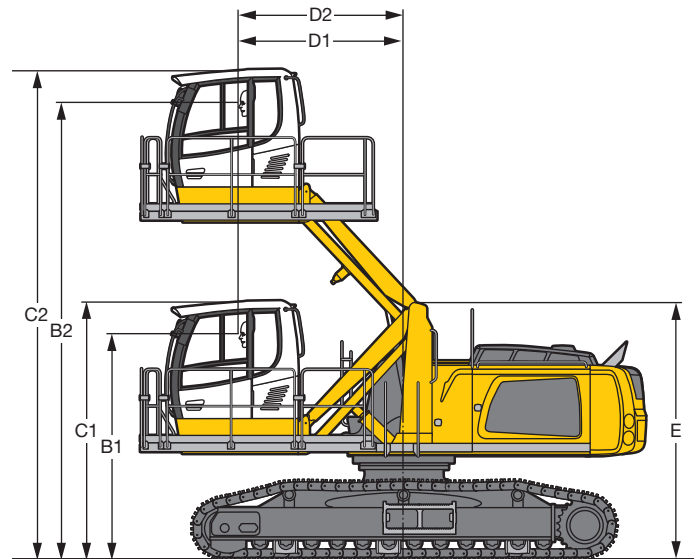
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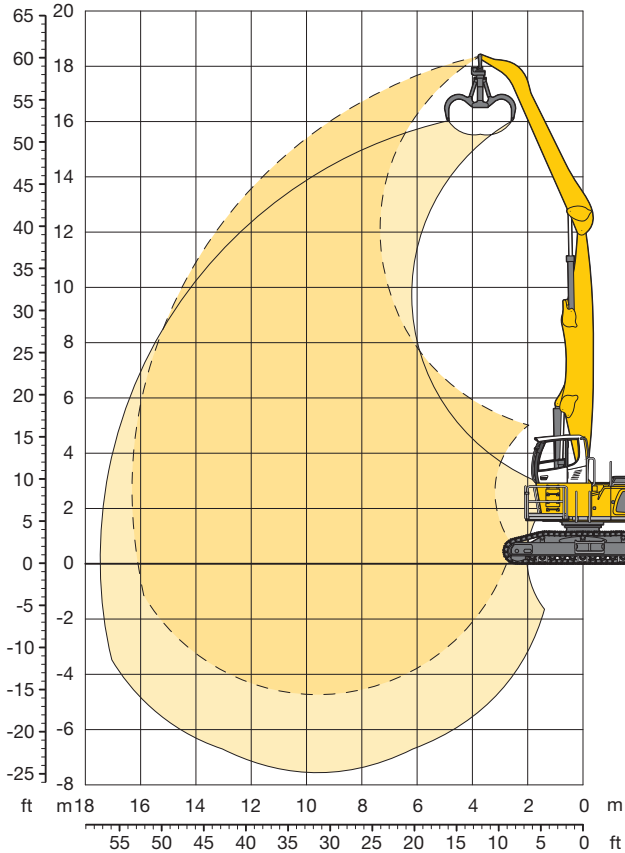
Cab Elevation LHC (Hydraulic Elevation)



Increase Type	LHC 340-35
B1	10'11"
B2	22' 2"
C1	12' 6"
C2	23' 8"
D1	8'
D2	8'
E	12' 5"

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

Attachment GA16 (Kinematic 2A)

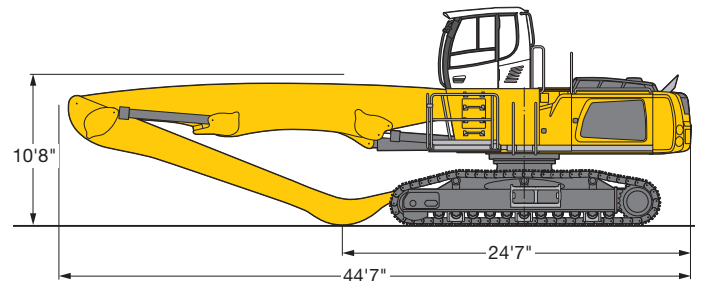


Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation, industrial-type straight mono boom 31'2", industrial-type angled stick 23'11" and grapple model GM 70C/1.05 yd³ semi-closed tines.

Undercarriage	EW
Pad width	in 24"
Weight	lb 118,850
Ground pressure	on request

Dimensions



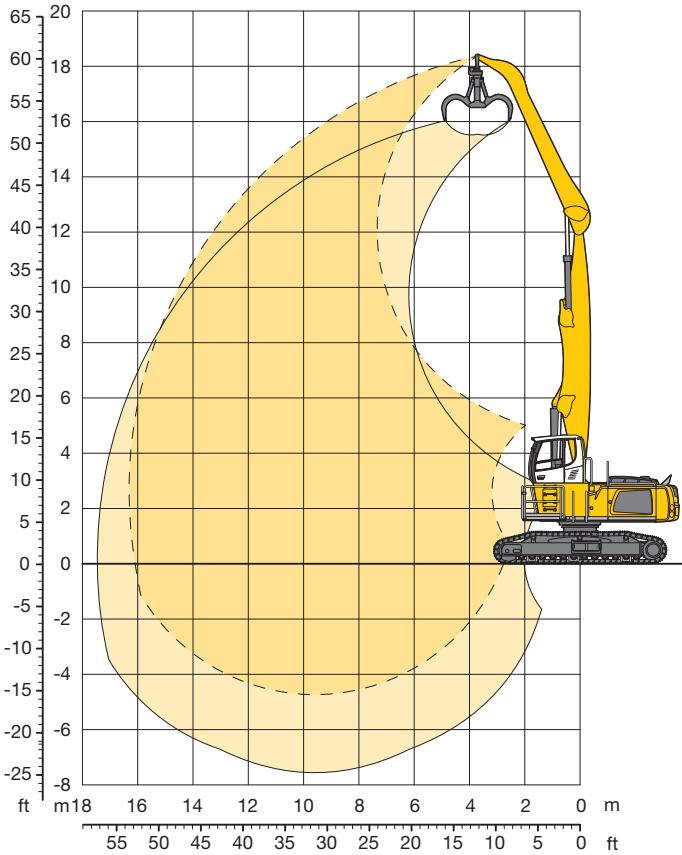
Industrial Stick 23'11"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in		
		EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	
60	EW																							28,9"	28,9"	13' 2"
55	EW					26,7*	26,7*	21,7*	21,7*															20,3*	20,3*	26'
50	EW							25,4*	25,4*	22,1*	22,1*													17,4*	17,4*	33' 6"
45	EW							24,6*	24,6*	21,8*	21,8*	19,7*	19,7*											15,9*	15,9*	38'11"
40	EW							24,3*	24,3*	21,5*	21,5*	19,4*	19,4*	17,8*	17,8*									15,0*	15,0*	43' 1"
35	EW							24,5*	24,5*	21,5*	21,5*	19,4*	19,4*	17,7*	17,7*	15,4	16,3*							14,4*	14,4*	46' 5"
30	EW							25,0*	25,0*	21,9*	21,9*	19,5*	19,5*	17,7*	17,7*	15,4	16,2*							13,1	14,1*	48'11"
25	EW					30,7*	30,7*	25,9*	25,9*	22,5*	22,5*	19,9*	19,9*	17,9*	17,9*	15,3	16,3*	12,5	14,8*					12,1	14,0*	50'11"
20	EW			31,3*	31,3*	32,8*	32,8*	27,2*	27,2*	23,3*	23,3*	20,4*	20,4*	18,2*	18,2*	15,0	16,4*	12,4	14,7					11,4	13,6	52' 2"
15	EW	67,4*	67,4*	46,7*	46,7*	35,4*	35,4*	28,7*	28,7*	24,2*	24,2*	21,0*	21,0*	17,7	18,5*	14,6	16,6*	12,2	14,5					11,0	13,1	53' 1"
10	EW			51,5*	51,5*	37,9*	37,9*	30,1*	30,1*	25,1*	25,1*	20,9	21,5*	17,1	18,8*	14,2	16,6*	12,0	14,3					10,7	12,8	53' 6"
5	EW	2,1*	2,1*	16,6*	16,6*	39,6*	39,6*	31,2*	31,2*	25,1	25,7*	20,1	21,8*	16,5	18,9*	13,8	16,5*	11,8	14,1					10,6	12,1*	53' 5"
0	EW	4,9*	4,9*	14,3*	14,3*	37,0*	37,0*	31,0	31,4*	24,0	25,8*	19,3	21,8*	16,0	18,7*	13,5	16,0*	11,6	13,3*					10,7	11,2*	52'11"
-5	EW			16,0*	16,0*	31,6*	31,6*	30,0	30,4*	23,2	25,1*	18,8	21,1*	15,6	17,9*	13,3	15,0*	11,5	11,7*					10,5*	10,5*	51' 4"
-10	EW					31,8*	31,8*	27,7*	27,7*	22,8	23,2*	18,4	19,4*	15,4	16,2*	13,0*	13,0*							11,7*	11,7*	46'10"
-15	EW									19,7*	19,7*	16,5*	16,5*											15,5*	15,5*	36' 7"
-20	EW																									
-25	EW																									

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

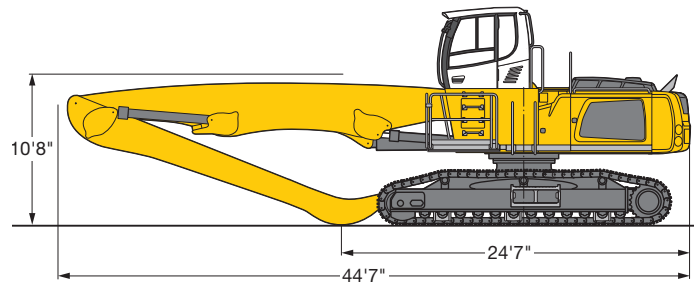


Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation, industrial-type straight mono boom 31'2", industrial-type angled stick 23'11" and grapple model GM 70C/1.05 yd³ semi-closed tines.

Undercarriage	SW
Pad width	in 24"
Weight	lb 123,450
Ground pressure	on request

Dimensions



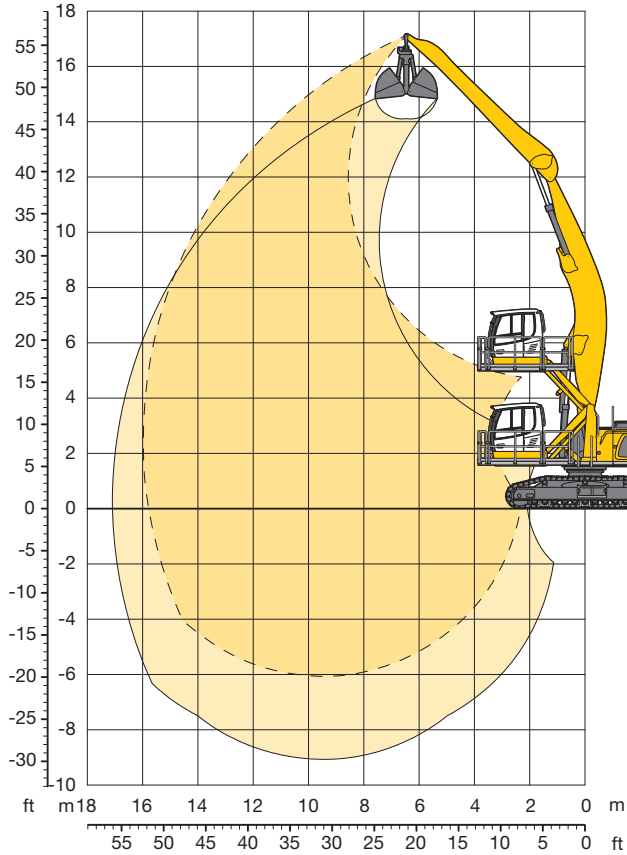
Industrial Stick 23'11"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in		
		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	
60	SW																							28,9*	28,9*	13' 2"
55	SW					26,7*	26,7*	21,7*	21,7*															20,3*	20,3*	26'
50	SW							26,0*	26,0*	22,1*	22,1*													17,4*	17,4*	33' 6"
45	SW							27,7*	27,7*	24,7*	24,7*	21,5*	21,5*											15,9*	15,9*	38'11"
40	SW							27,4*	27,4*	24,4*	24,4*	22,1*	22,1*	20,1*	20,1*									15,0*	15,0*	43' 1"
35	SW							27,6*	27,6*	24,5*	24,5*	22,1*	22,1*	20,3*	20,3*	17,0	17,3*							14,4*	14,4*	46' 5"
30	SW							28,2*	28,2*	24,9*	24,9*	22,3*	22,3*	20,3*	20,3*	17,0	18,7*							14,1*	14,1*	48'11"
25	SW					31,6*	31,6*	29,3*	29,3*	25,6*	25,6*	22,8*	22,8*	20,5	20,6*	16,8	18,8*	13,9	16,2*					13,4	14,0*	50'11"
20	SW			31,3*	31,3*	37,1*	37,1*	30,9*	30,9*	26,6*	26,6*	23,4*	23,4*	20,0	20,9*	16,5	18,9*	13,7	17,1*					12,7	14,0*	52' 2"
15	SW	67,4*	67,4*	52,9*	52,9*	40,2*	40,2*	32,7*	32,7*	27,7*	27,7*	24,0	24,1*	19,5	21,3*	16,1	19,1*	13,5	17,0*					12,2	14,2*	53' 1"
10	SW			52,6*	52,6*	43,3*	43,3*	34,4*	34,4*	28,7*	28,7*	23,1	24,7*	18,8	21,6*	15,7	19,1*	13,3	16,8*					11,9	14,5*	53' 6"
5	SW	2,1*	2,1*	16,6*	16,6*	45,2*	45,2*	35,7*	35,7*	27,7	29,4*	22,2	25,1*	18,2	21,7*	15,3	19,0*	13,1	16,3*					11,8	14,0*	53' 5"
0	SW	4,9*	4,9*	14,3*	14,3*	37,0*	37,0*	34,6	35,9*	26,6	29,5*	21,4	25,0*	17,7	21,4*	15,0	18,4*	12,9	15,4*					11,9	13,0*	52'11"
-5	SW			16,0*	16,0*	31,6*	31,6*	33,5	34,7*	25,9	28,7*	20,9	24,2*	17,4	20,5*	14,8	17,2*	12,8	13,6*					12,2*	12,2*	51' 4"
-10	SW					31,8*	31,8*	31,7*	31,7*	25,4	26,5*	20,6	22,3*	17,2	18,6*	14,7	15,0*							13,6*	13,6*	46'10"
-15	SW									22,7*	22,7*	19,0*	19,0*											17,9*	17,9*	36' 7"
-20	SW																									
-25	SW																									

↕ 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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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 AG 16 (Kinematic 2D)

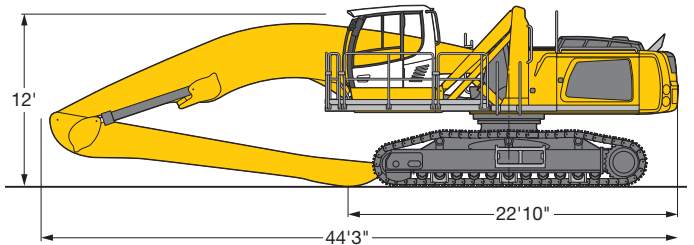


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 23'11" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	EW
Pad width	in 24"
Weight	lb 118,050
Ground pressure	on request

Dimensions



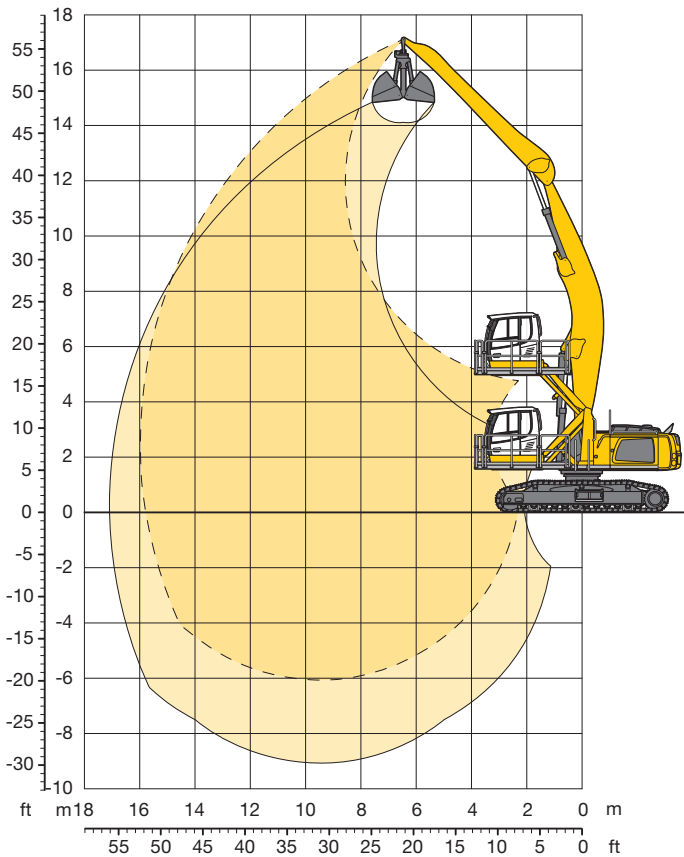
Industrial Stick 23'11"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in	
		EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW
60	EW																								
55	EW																								19,4* 19,4* 23' 7"
50	EW									18,9*	18,9*														16,7* 16,7* 31' 8"
45	EW									18,7*	18,7*	17,2*	17,2*												15,4* 15,4* 37' 5"
40	EW									18,5*	18,5*	16,9*	16,9*	15,8*	15,8*										14,6* 14,6* 41' 8"
35	EW									18,6*	18,6*	16,9*	16,9*	15,7*	15,7*	14,5*	14,5*								14,2* 14,2* 45' 1"
30	EW									18,9*	18,9*	17,1*	17,1*	15,8*	15,8*	14,7*	14,7*								13,8 14,0* 47' 8"
25	EW									22,3*	22,3*	19,6*	19,6*	17,6*	17,6*	16,0*	14,8*	14,8*							12,7 13,9* 49' 8"
20	EW					28,4*	28,4*	23,8*	23,8*	20,6*	20,6*	18,2*	18,2*	16,5*	16,5*	15,1	15,1*	12,4	14,0*						11,8 13,7* 51' 1"
15	EW	61,2*	61,2*	41,0*	41,0*	31,2*	31,2*	25,5*	25,5*	21,7*	21,7*	19,0*	19,0*	16,9*	16,9*	14,7	15,4*	12,2	14,1*						11,3 13,4 52'
10	EW			46,7*	46,7*	34,3*	34,3*	27,3*	27,3*	22,8*	22,8*	19,7*	19,7*	17,2	17,5*	14,2	15,7*	11,9	14,2						10,9 13,1 52' 5"
5	EW	5,8*	5,8*	22,2*	22,2*	36,8*	36,8*	28,9*	28,9*	23,9*	23,9*	20,2	20,4*	16,5	17,9*	13,8	15,9*	11,6	13,9						10,8 12,9 52' 4"
0	EW	8,1*	8,1*	18,0*	18,0*	38,3*	38,3*	30,0*	30,0*	24,0	24,7*	19,3	20,9*	15,9	18,2*	13,4	16,0	11,4	13,6						10,8 12,9 51'10"
-5	EW	11,5*	11,5*	18,8*	18,8*	34,6*	34,6*	29,7	30,4*	23,1	24,9*	18,6	21,1*	15,4	18,2*	13,0	15,7	11,2	13,3*						11,0 13,0* 50' 8"
-10	EW			21,0*	21,0*	33,6*	33,6*	29,0	29,6*	22,4	24,5*	18,2	20,7*	15,1	17,6*	12,9	14,9*								11,5 12,5* 49' 1"
-15	EW					33,4*	33,4*	27,6*	27,6*	22,2	23,0*	17,9	19,4*	15,0	16,2*	12,9	13,1*								12,6 12,6* 45' 8"
-20	EW																								
-25	EW																								

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

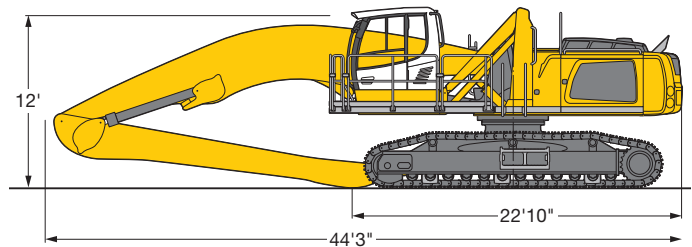


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 23'11" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	SW
Pad width	in 24"
Weight	lb 122,600
Ground pressure	on request

Dimensions



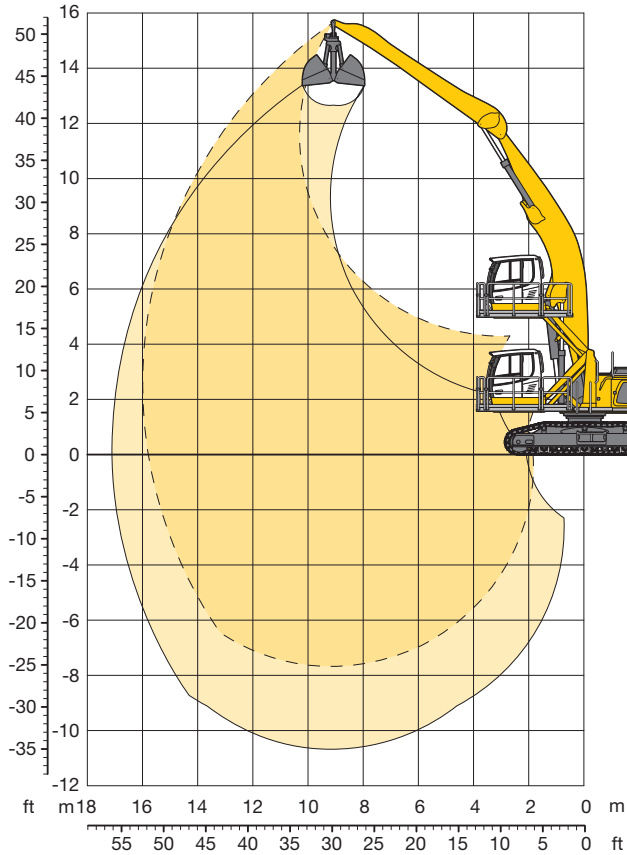
Industrial Stick 23'11"

ft	Undercarriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in	
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
60	SW																								
55	SW																								19,4* 19,4* 23' 7"
50	SW									18,9*	18,9*														16,7* 16,7* 31' 8"
45	SW									21,3*	21,3*	18,7*	18,7*												15,4* 15,4* 37' 5"
40	SW									21,0*	21,0*	19,4*	19,4*	17,4*	17,4*										14,6* 14,6* 41' 8"
35	SW									21,1*	21,1*	19,4*	19,4*	18,0*	18,0*	14,5*	14,5*								14,2* 14,2* 45' 1"
30	SW									21,6*	21,6*	19,7*	19,7*	18,2*	18,2*	17,0*	17,0*								14,0* 14,0* 47' 8"
25	SW							25,3*	25,3*	22,4*	22,4*	20,2*	20,2*	18,5*	18,5*	16,9*	17,2*								14,0 14,0* 49' 8"
20	SW					32,1*	32,1*	27,1*	27,1*	23,5*	23,5*	21,0*	21,0*	19,0*	19,0*	16,6*	17,5*	13,7*	16,2*						13,1 14,2* 51' 1"
15	SW	69,1*	69,1*	46,5*	46,5*	35,6*	35,6*	29,1*	29,1*	24,9*	24,9*	21,8*	21,8*	19,6*	19,6*	16,2*	17,8*	13,5*	16,3*						12,5 14,5* 52'
10	SW			53,4*	53,4*	39,2*	39,2*	31,3*	31,3*	26,3*	26,3*	22,8*	22,8*	18,9*	20,2*	15,7*	18,2*	13,2*	16,4*						12,2 14,9* 52' 5"
5	SW	5,8*	5,8*	22,2*	22,2*	42,3*	42,3*	33,2*	33,2*	27,5*	27,5*	22,3*	23,6*	18,3*	20,7*	15,2*	18,4*	12,9*	16,4*						12,0 15,3* 52' 4"
0	SW	8,1*	8,1*	18,0*	18,0*	41,8*	41,8*	34,5*	34,5*	26,6*	28,4*	21,4*	24,2*	17,7*	21,0*	14,8*	18,5*	12,7*	16,2*						12,0 15,3* 51'10"
-5	SW	11,5*	11,5*	18,8*	18,8*	34,6*	34,6*	33,2*	34,9*	25,7*	28,7*	20,7*	24,3*	17,2*	20,9*	14,5*	18,2*	12,5*	15,4*						12,3 15,0* 50' 8"
-10	SW			21,0*	21,0*	33,6*	33,6*	32,4*	34,0*	25,0*	28,1*	20,2*	23,8*	16,9*	20,3*	14,4*	17,2*								12,8 14,5* 49' 1"
-15	SW					35,0*	35,0*	31,6*	31,6*	24,8*	26,4*	20,0*	22,3*	16,7*	18,7*	14,3*	15,2*								14,1 14,6* 45' 8"
-20	SW																								
-25	SW																								

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

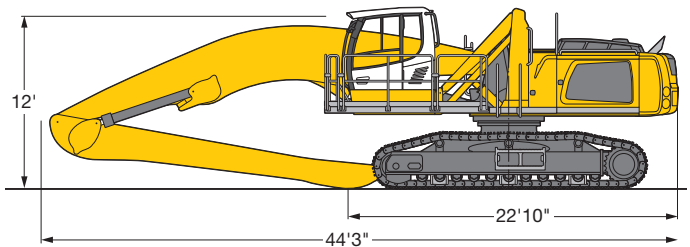


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 23'11" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	EW
Pad width	in 24"
Weight	lb 118,050
Ground pressure	on request

Dimensions



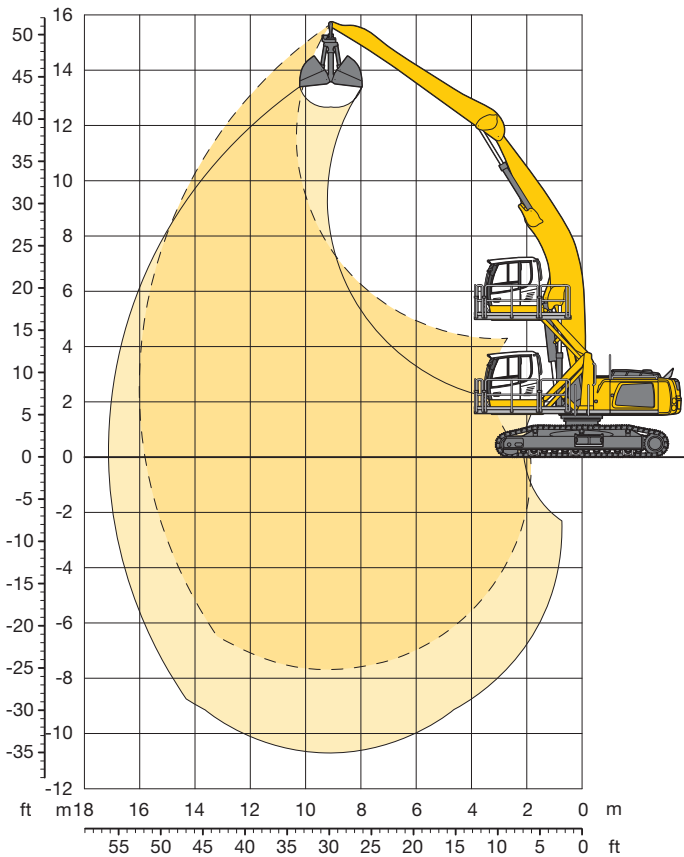
Industrial Stick 23'11"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in			
		EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW		
60	EW																										
55	EW																										
50	EW																								16,7* 16,7* 31' 8"		
45	EW												15,6* 15,6*												15,3* 15,3* 37' 5"		
40	EW												15,3* 15,3*	14,5* 14,5*											14,3* 14,3* 41' 8"		
35	EW												15,3* 15,3*	14,3* 14,3*	13,8* 13,8*										13,7* 13,7* 45' 1"		
30	EW												15,5* 15,5*	14,5* 14,5*	13,7* 13,7*										13,4* 13,4* 47' 8"		
25	EW									17,7* 17,7*			16,0* 16,0*	14,8* 14,8*	13,8* 13,8*											12,7 13,2* 49' 8"	
20	EW									18,7* 18,7*			16,7* 16,7*	15,3* 15,3*	14,1* 14,1*	12,4 13,3*										11,8 13,1* 51' 1"	
15	EW					28,4* 28,4*	23,3* 23,3*	19,9* 19,9*					17,6* 17,6*	15,8* 15,8*	14,5* 14,5*	12,2 13,5*										11,3 13,1* 52'	
10	EW			43,3* 43,3*	31,7* 31,7*	25,3* 25,3*	21,3* 21,3*	18,5* 18,5*					16,5* 16,5*	14,2 14,9*	11,9 13,7*											10,9 13,1 52' 5"	
5	EW	5,8* 5,8*	22,2* 22,2*	34,8* 34,8*	27,3* 27,3*	22,6* 22,6*	19,4* 19,4*	16,5 17,1*	13,8 15,3*	11,6 13,9*																10,8 12,9 52' 4"	
0	EW	8,1* 8,1*	18,0* 18,0*	36,9* 36,9*	28,8* 28,8*	23,7* 23,7*	19,3 20,1*	15,9 17,6*	13,4 15,6*	11,4 13,6																10,8 12,9 51'10"	
-5	EW	11,5* 11,5*	18,8* 18,8*	34,6* 34,6*	29,7* 29,7*	23,1 24,3*	18,6 20,6*	15,4 17,8*	13,0 15,6*	11,2 13,5																	11,0 13,2* 50' 8"
-10	EW	14,8* 14,8*	21,0* 21,0*	33,6* 33,6*	29,0 29,6*	22,4 24,4*	18,2 20,6*	15,1 17,7*	12,9 15,2*																		11,4 13,0* 49' 1"
-15	EW		23,6* 23,6*	34,8* 34,8*	28,3* 28,3*	22,2 23,5*	17,9 19,8*	15,0 16,8*	12,9 13,9*																		12,2 12,6* 46'11"
-20	EW			30,5* 30,5*	25,5* 25,5*	21,3* 21,3*	17,9* 17,9*	14,6* 14,6*																			11,7* 11,7* 44'
-25	EW					17,4* 17,4*																					15,4* 15,4* 33'

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

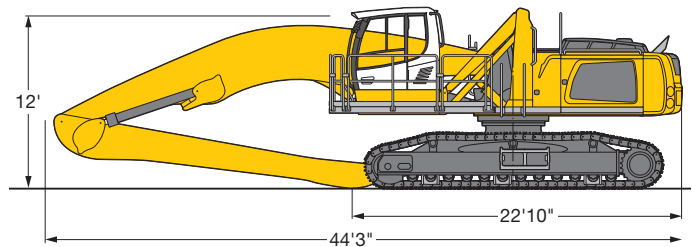


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 23'11" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	SW
Pad width	in 24"
Weight	lb 122,600
Ground pressure	on request

Dimensions



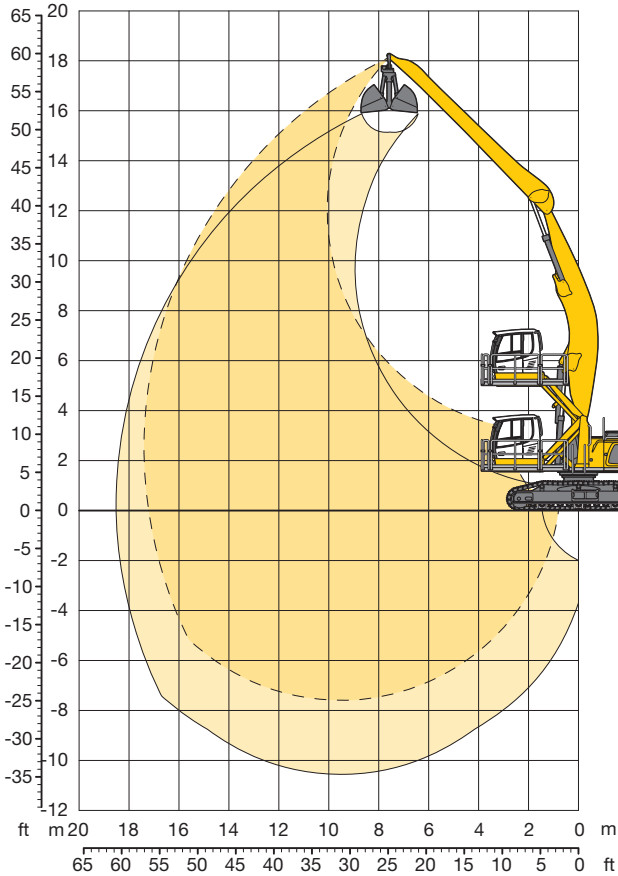
Industrial Stick 23'11"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in	
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW			
60	SW																								
55	SW																								
50	SW																								
45	SW												18,0*	18,0*									16,7*	16,7*	31' 8"
40	SW												17,5*	17,5*	16,7*	16,7*							15,4*	15,4*	37' 5"
35	SW												17,5*	17,5*	16,6*	16,6*	14,5*	14,5*					14,2*	14,2*	45' 1"
30	SW												17,8*	17,8*	16,7*	16,7*	15,9*	15,9*					14,0*	14,0*	47' 8"
25	SW										20,2*	20,2*	18,4*	18,4*	17,1*	17,1*	16,1*	16,1*					14,0*	14,0*	49' 8"
20	SW										21,4*	21,4*	19,3*	19,3*	17,7*	17,7*	16,4*	16,4*	13,7	15,5*			13,1	14,2*	51' 1"
15	SW					32,4*	32,4*	26,7*	26,7*	22,9*	22,9*	20,3*	20,3*	18,4*	18,4*	16,2	16,9*	13,5	15,7*				12,5	14,5*	52'
10	SW			49,7*	49,7*	36,4*	36,4*	29,2*	29,2*	24,6*	24,6*	21,4*	21,4*	18,9	19,1*	15,7	17,4*	13,2	15,9*				12,2	14,9*	52' 5"
5	SW	5,8*	5,8*	22,2*	22,2*	40,1*	40,1*	31,5*	31,5*	26,1*	26,1*	22,3	22,4*	18,3	19,8*	15,3	17,8*	12,9	16,1*				12,0	15,3	52' 4"
0	SW	8,1*	8,1*	18,0*	18,0*	41,8*	41,8*	33,2*	33,2*	26,6	27,3*	21,4	23,3*	17,7	20,4*	14,8	18,1*	12,7	16,1*				12,0	15,4	51' 10"
-5	SW	11,5*	11,5*	18,8*	18,8*	34,6*	34,6*	33,2	34,2*	25,7	28,1*	20,7	23,8*	17,2	20,7*	14,5	18,1*	12,5	15,7*				12,3	15,3*	50' 8"
-10	SW	14,8*	14,8*	21,0*	21,0*	33,6*	33,6*	32,4	34,1*	25,0	28,1*	20,2	23,8*	16,9	20,4*	14,4	17,6*						12,8	15,1*	49' 1"
-15	SW			23,6*	23,6*	35,0*	35,0*	32,1	32,6*	24,8	27,1*	20,0	22,9*	16,7	19,4*	14,3	16,1*						13,6	14,6*	46' 11"
-20	SW					35,2*	35,2*	29,4*	29,4*	24,7*	24,7*	20,1	20,7*	16,8	17,0*								13,7*	13,7*	44'
-25	SW							20,3*	20,3*														18,1*	18,1*	33'

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

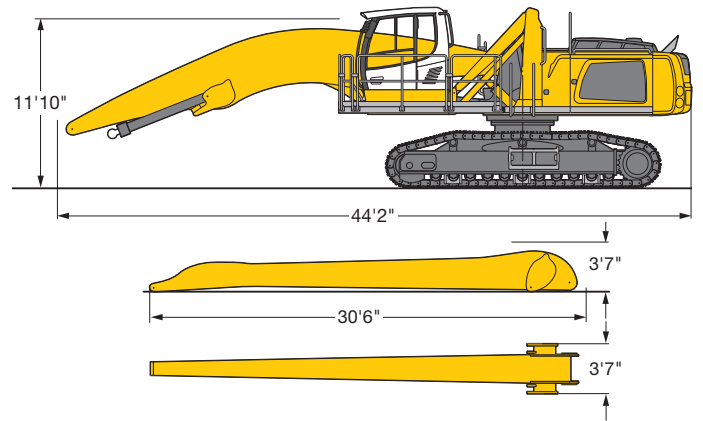


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 28'10" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	EW
Pad width	in 24"
Weight	lb 118,700
Ground pressure	on request

Dimensions



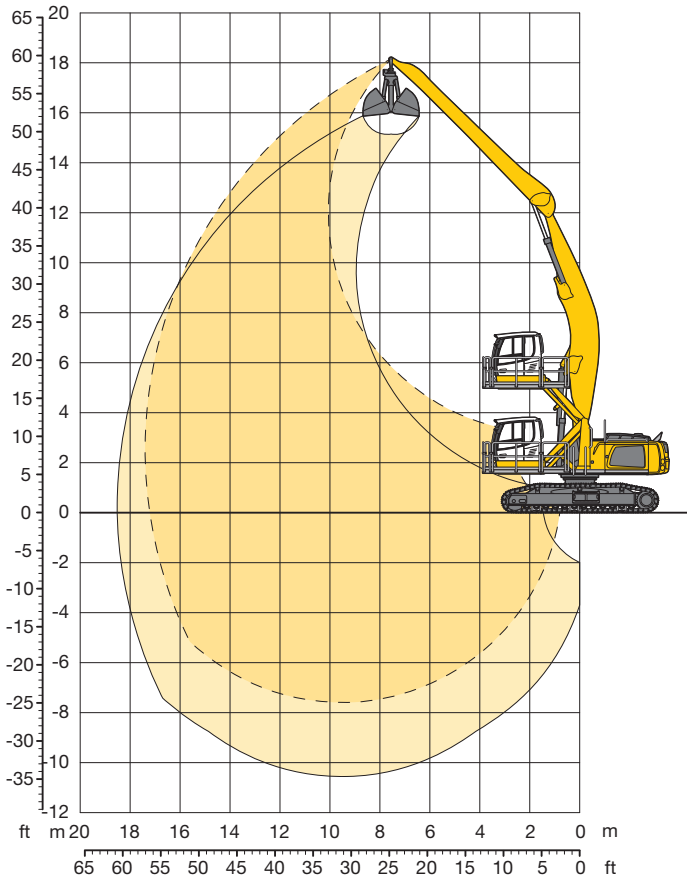
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in					
		EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW				
60	EW																												
55	EW									16,6*	16,6*														14,1*	14,1*	32' 7"		
50	EW											16,0*	16,0*													12,8*	12,8*	38'10"	
45	EW											15,5*	15,5*	14,5*	14,5*											12,0*	12,0*	43' 7"	
40	EW											15,3*	15,3*	14,3*	14,3*	13,5*	13,5*									11,5*	11,5*	47' 5"	
35	EW											15,4*	15,4*	14,3*	14,3*	13,4*	13,4*	11,8*	11,8*							11,2*	11,2*	50' 5"	
30	EW											15,6*	15,6*	14,4*	14,4*	13,5*	13,5*	12,7*	12,7*							11,1*	11,1*	52' 8"	
25	EW									17,8*	17,8*	16,1*	16,1*	14,7*	14,7*	13,7*	13,7*	12,8*	12,8*							11,0	11,1*	54' 6"	
20	EW									18,7*	18,7*	16,7*	16,7*	15,2*	15,2*	14,0*	14,0*	12,9	13,0*	10,6	12,1*					10,3	11,2*	55'10"	
15	EW					27,5*	27,5*	23,0*	23,0*	19,8*	19,8*	17,5*	17,5*	15,7*	15,7*	14,3*	14,3*	12,6	13,2*	10,4	12,2*					9,8	11,4*	56' 7"	
10	EW	60,7*	60,7*	40,4*	40,4*	30,6*	30,6*	24,8*	24,8*	21,0*	21,0*	18,3*	18,3*	16,3*	16,3*	14,6	14,7*	12,2	13,4*	10,2	12,2					9,5	11,4	57'	
5	EW	15,1*	15,1*	46,0*	46,0*	33,7*	33,7*	26,7*	26,7*	22,3*	22,3*	19,2*	19,2*	16,9*	16,9*	14,0	15,1*	11,8	13,7*	10,0	12,0					9,4	11,3	56'11"	
0	EW	10,8*	10,8*	26,2*	26,2*	36,1*	36,1*	28,3*	28,3*	23,3*	23,3*	19,8	19,9*	16,2	17,4*	13,5	15,4*	11,4	13,7	9,7	11,7					9,3	11,3	56' 5"	
-5	EW	11,8*	11,8*	21,3*	21,3*	37,5*	37,5*	29,4*	29,4*	23,5	24,1*	18,9	20,4*	15,5	17,7*	13,0	15,5*	11,1	13,4	9,6	11,6					9,5	11,4	55' 5"	
-10	EW	13,8*	13,8*	21,0*	21,0*	36,4*	36,4*	29,1	29,6*	22,5	24,3*	18,1	20,5*	15,0	17,7*	12,7	15,3	10,9	13,2							9,8	11,3*	54'	
-15	EW	16,0*	16,0*	22,2*	22,2*	34,6*	34,6*	28,3	28,9*	21,9	23,8*	17,7	20,1*	14,7	17,1*	12,5	14,6*	10,8	12,1*							10,3	10,9*	52'	
-20	EW					33,0*	33,0*	26,9*	26,9*	21,6	22,3*	17,4	18,8*	14,5	15,8*	12,4	13,0*									11,7	11,7*	47' 2"	
-25	EW																												

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

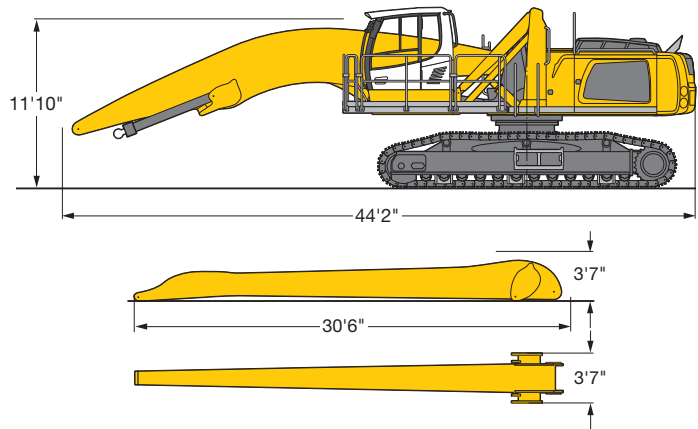


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 28'10" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	SW
Pad width	in 24"
Weight	lb 123,250
Ground pressure	on request

Dimensions



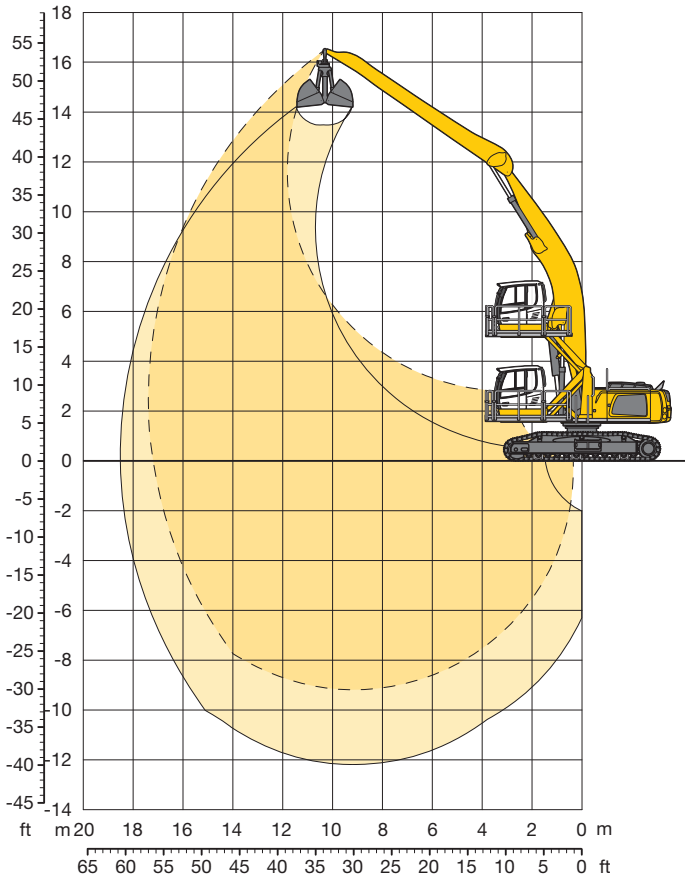
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in		
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
60	SW																									
55	SW									16,6*	16,6*													14,1*	14,1*	32' 7"
50	SW											16,4*	16,4*											12,8*	12,8*	38' 10"
45	SW											17,7*	17,7*	15,8*	15,8*									12,0*	12,0*	43' 7"
40	SW											17,5*	17,5*	16,4*	16,4*	14,4*	14,4*							11,5*	11,5*	47' 5"
35	SW											17,5*	17,5*	16,4*	16,4*	15,5*	15,5*	11,8*	11,8*					11,2*	11,2*	50' 5"
30	SW											17,9*	17,9*	16,6*	16,6*	15,6*	15,6*	14,6*	14,8*					11,1*	11,1*	52' 8"
25	SW									20,2*	20,2*	18,4*	18,4*	17,0*	17,0*	15,8*	15,8*	14,5*	14,9*					11,1*	11,1*	54' 6"
20	SW									21,3*	21,3*	19,2*	19,2*	17,5*	17,5*	16,2*	16,2*	14,2*	15,1*	11,8*	12,7*			11,2*	11,2*	55' 10"
15	SW					31,1*	31,1*	26,2*	26,2*	22,7*	22,7*	20,1*	20,1*	18,2*	18,2*	16,6*	16,6*	13,9*	15,4*	11,6*	14,3*			11,0*	11,4*	56' 7"
10	SW	68,7*	68,7*	45,9*	45,9*	35,0*	35,0*	28,5*	28,5*	24,2*	24,2*	21,2*	21,2*	18,9*	18,9*	16,1*	17,1*	13,5*	15,7*	11,4*	14,4*			10,6*	11,8*	57'
5	SW	15,1*	15,1*	52,7*	52,7*	38,7*	38,7*	30,8*	30,8*	25,7*	25,7*	22,2*	22,2*	18,7*	19,6*	15,5*	17,6*	13,1*	15,9*	11,1*	14,2*			10,5*	12,2*	56' 11"
0	SW	10,8*	10,8*	26,2*	26,2*	41,5*	41,5*	32,6*	32,6*	27,0*	27,0*	21,9*	23,0*	18,0*	20,1*	15,0*	17,9*	12,7*	16,0*	10,9*	14,0*			10,5*	12,8*	56' 5"
-5	SW	11,8*	11,8*	21,3*	21,3*	43,1*	43,1*	33,9*	33,9*	26,1*	27,8*	20,9*	23,6*	17,3*	20,5*	14,5*	18,0*	12,4*	15,9*	10,7*	13,7*			10,6*	13,5*	55' 5"
-10	SW	13,8*	13,8*	21,0*	21,0*	36,4*	36,4*	32,6*	34,1*	25,1*	28,1*	20,2*	23,7*	16,8*	20,4*	14,2*	17,8*	12,2*	15,4*					10,9*	13,2*	54'
-15	SW	16,0*	16,0*	22,2*	22,2*	34,6*	34,6*	31,8*	33,3*	24,5*	27,5*	19,7*	23,2*	16,4*	19,8*	14,0*	16,9*	12,1*	14,1*					11,5*	12,7*	52'
-20	SW					35,2*	35,2*	30,9*	30,9*	24,2*	25,7*	19,5*	21,7*	16,3*	18,3*	13,9*	15,1*							13,1*	13,6*	47' 2"
-25	SW																									

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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 2C)

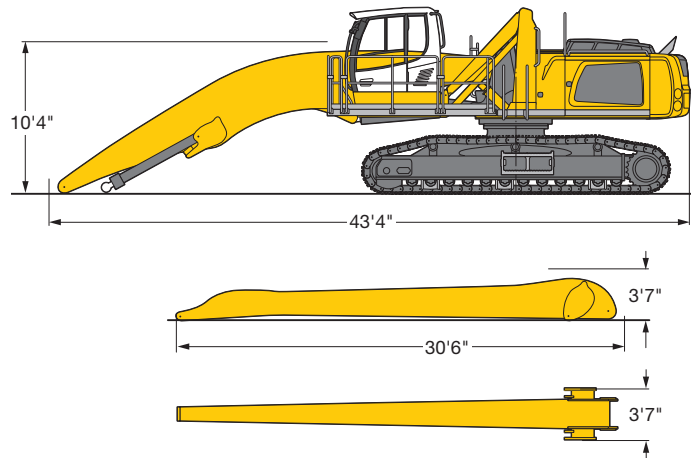


Operating Weight and Ground Pressure

The operating weight includes basic machine with hydr. cab elevation, industrial-type angled mono boom 31'2", industrial-type straight stick 28'10" and clamshell model GM 20B/1.96 yd³ shells for loose material.

Undercarriage	SW
Pad width	in 24"
Weight	lb 123,250
Ground pressure	on request

Dimensions



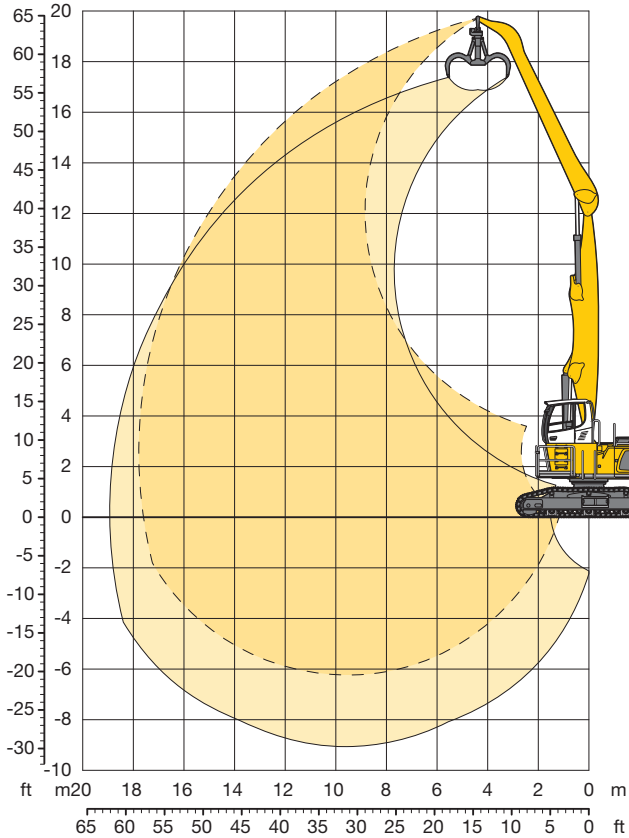
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW		
55	SW																							
50	SW																						12,8*	
45	SW													15,1*	15,1*									
40	SW													14,8*	14,8*	14,3*	14,3*							
35	SW													14,8*	14,8*	14,2*	14,2*	11,8*	11,8*					
30	SW													15,0*	15,0*	14,3*	14,3*	13,8*	13,8*					
25	SW													15,5*	15,5*	14,6*	14,6*	13,9*	13,9*					
20	SW													17,4*	17,4*	16,1*	16,1*	15,0*	15,0*	14,2*	14,2*	11,8	12,7*	
15	SW													20,6*	20,6*	18,4*	18,4*	16,8*	16,8*	15,5*	15,5*	13,9	14,5*	
10	SW													31,7*	31,7*	26,0*	26,0*	22,2*	22,2*	19,6*	19,6*	17,6*	17,6*	
5	SW	15,1*	15,1*	49,0*	49,0*	35,9*	35,9*	28,6*	28,6*	24,0*	24,0*	20,8*	20,8*	18,5*	18,5*	15,6	16,7*	13,1	15,3*	11,1	14,1*	10,5		
0	SW	10,8*	10,8*	26,2*	26,2*	39,3*	39,3*	30,9*	30,9*	25,5*	25,5*	21,9*	21,9*	18,0	19,2*	15,0	17,2*	12,7	15,6*	10,9	14,0	10,5		
-5	SW	11,8*	11,8*	21,3*	21,3*	41,7*	41,7*	32,6*	32,6*	26,1	26,8*	21,0	22,8*	17,3	19,8*	14,5	17,6*	12,4	15,7*	10,7	13,8	10,6		
-10	SW	13,8*	13,8*	21,0*	21,0*	36,4*	36,4*	32,6	33,5*	25,1	27,5*	20,2	23,3*	16,8	20,1*	14,2	17,6*	12,2	15,5*			10,9		
-15	SW	16,0*	16,0*	22,2*	22,2*	34,6*	34,6*	31,8	33,3*	24,5	27,4*	19,7	23,2*	16,4	19,9*	14,0	17,2*	12,1	14,6*			11,5		
-20	SW	18,1*	18,1*	23,9*	23,9*	35,2*	35,2*	31,4	31,9*	24,2	26,4*	19,5	22,3*	16,3	18,9*	13,9	15,9*					12,4		
-25	SW			26,0*	26,0*	34,8*	34,8*	28,7*	28,7*	24,0*	24,0*	19,6	20,1*	16,4	16,7*	13,0*	13,0*					12,1*		
-30	SW									19,5*	19,5*											17,8*		

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

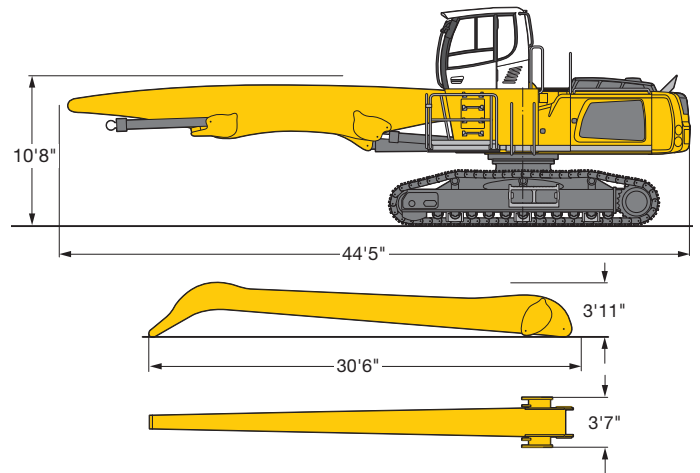


Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation, industrial-type straight mono boom 31'2", industrial-type angled stick 28'10" and grapple model GM 70C/1.05 yd³ semi-closed tines.

Undercarriage	EW
Pad width	in 24"
Weight	lb 119,500
Ground pressure	on request

Dimensions



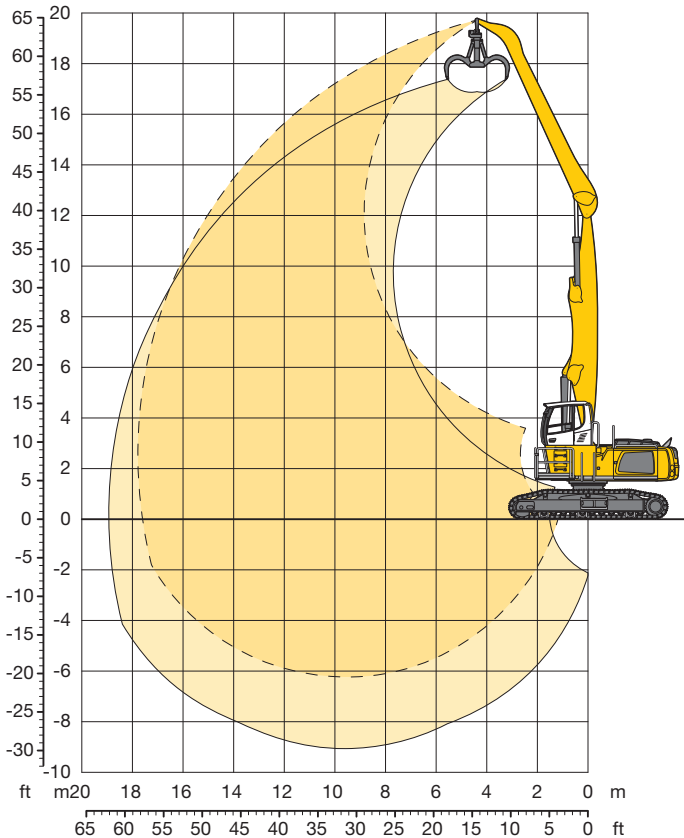
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in			
		EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW			
65	EW																										
60	EW							19,5*	19,5*															17,5*	17,5*	26'10"	
55	EW							22,5*	22,5*	19,5*	19,5*														14,7*	14,7*	34'10"
50	EW									20,4*	20,4*	18,5*	18,5*	14,3*	14,3*										13,3*	13,3*	40' 8"
45	EW									19,9*	19,9*	18,0*	18,0*	16,6*	16,6*	12,9*	12,9*								12,4*	12,4*	45' 4"
40	EW									19,7*	19,7*	17,9*	17,9*	16,4*	16,4*	15,2*	15,2*								11,8*	11,8*	49'
35	EW									19,8*	19,8*	17,9*	17,9*	16,4*	16,4*	15,1*	15,1*	13,1	14,1*						11,4*	11,4*	51'11"
30	EW									20,1*	20,1*	18,1*	18,1*	16,5*	16,5*	15,2*	15,2*	13,2	14,1*						11,1	11,2*	54' 2"
25	EW									20,7*	20,7*	18,5*	18,5*	16,8*	16,8*	15,3*	15,3*	13,0	14,1*	10,7	12,8				10,4	11,0*	55'11"
20	EW							24,8*	24,8*	21,5*	21,5*	19,1*	19,1*	17,1*	17,1*	15,5	15,5*	12,8	14,2*	10,6	12,7				9,8	11,1*	57' 2"
15	EW					29,5*	29,5*	26,4*	26,4*	22,5*	22,5*	19,7*	19,7*	17,5*	17,5*	15,0	15,8*	12,5	14,3*	10,5	12,5				9,5	11,2*	58'
10	EW	59,0*	59,0*	46,1*	46,1*	34,8*	34,8*	28,0*	28,0*	23,6*	23,6*	20,4*	20,4*	17,6	18,0*	14,5	16,0*	12,1	14,4*	10,3	12,3				9,2	11,1	58' 4"
5	EW	8,0*	8,0*	50,9*	50,9*	37,3*	37,3*	29,6*	29,6*	24,5*	24,5*	20,7	21,0*	16,8	18,3*	14,0	16,1*	11,8	14,1	10,1	12,1				9,2	10,8*	58' 2"
0	EW	6,7*	6,7*	20,3*	20,3*	38,9*	38,9*	30,6*	30,6*	24,6	25,1*	19,7	21,3*	16,2	18,4*	13,5	16,1*	11,5	13,8	9,9	11,8*				9,2	10,1*	57' 8"
-5	EW	8,7*	8,7*	17,5*	17,5*	39,0*	39,0*	30,5	30,7*	23,5	25,2*	18,9	21,2*	15,6	18,2*	13,1	15,7*	11,3	13,3*	9,8	10,6*				9,2*	9,2*	56'10"
-10	EW	11,4*	11,4*	18,4*	18,4*	33,4*	33,4*	29,4	29,7*	22,7	24,5*	18,3	20,5*	15,2	17,4*	12,9	14,7*	11,1	12,0*						9,5*	9,5*	53' 8"
-15	EW			20,4*	20,4*	32,9*	32,9*	27,1*	27,1*	22,2	22,5*	18,0	18,9*	15,0	15,8*	12,7	12,9*								10,8*	10,8*	48' 5"
-20	EW									19,0*	19,0*	15,9*	15,9*												14,9*	14,9*	36' 7"

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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)

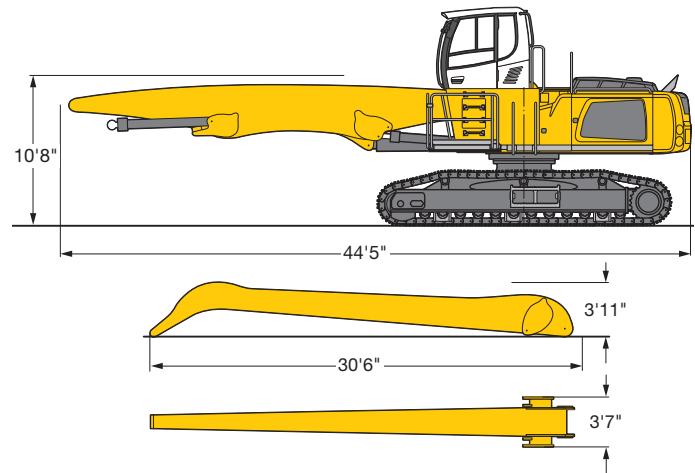


Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation, industrial-type straight mono boom 31'2", industrial-type angled stick 28'10" and grapple model GM 70C/1.05 yd³ semi-closed tines.

Undercarriage	SW
Pad width	in 24"
Weight	lb 124,100
Ground pressure	on request

Dimensions



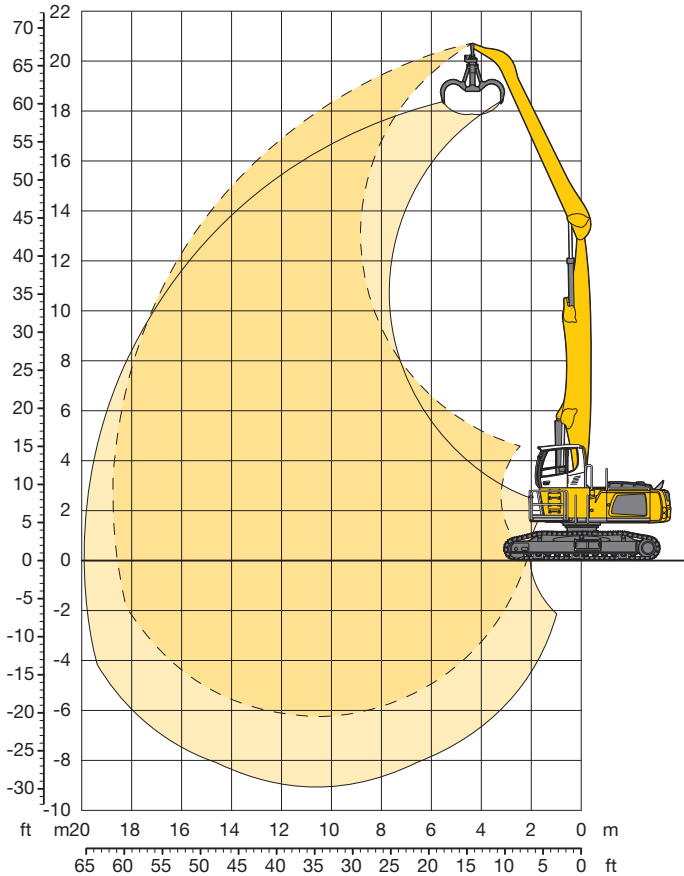
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in						
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW								
65	SW																													
60	SW							19,5*	19,5*														17,5*	17,5*	26'10"					
55	SW							22,5*	22,5*	19,5*	19,5*														14,7*	14,7*	34'10"			
50	SW									21,6*	21,6*	18,9*	18,9*	14,3*	14,3*											13,3*	13,3*	40' 8"		
45	SW									22,5*	22,5*	20,6*	20,6*	18,1*	18,1*	12,9*	12,9*										12,4*	12,4*	45' 4"	
40	SW									22,3*	22,3*	20,3*	20,3*	18,8*	18,8*	16,8*	16,8*											11,8*	11,8*	49'
35	SW									22,4*	22,4*	20,4*	20,4*	18,8*	18,8*	17,4*	17,4*	14,3*	14,3*									11,4*	11,4*	51'11"
30	SW									22,8*	22,8*	20,7*	20,7*	18,9*	18,9*	17,5*	17,5*	14,5*	16,3*									11,2*	11,2*	54' 2"
25	SW									23,5*	23,5*	21,2*	21,2*	19,2*	19,2*	17,4*	17,7*	14,3*	16,3*	11,9*	12,8*							11,0*	11,0*	55'11"
20	SW							27,4*	27,4*	24,5*	24,5*	21,8*	21,8*	19,7*	19,7*	17,0*	17,9*	14,1*	16,4*	11,8*	15,0*							10,9*	11,1*	57' 2"
15	SW					29,5*	29,5*	30,0*	30,0*	25,8*	25,8*	22,6*	22,6*	20,1*	20,2*	16,5*	18,2*	13,8*	16,5*	11,6*	14,8*							10,6*	11,2*	58'
10	SW	59,0*	59,0*	52,4*	52,4*	39,6*	39,6*	32,1*	32,1*	27,0*	27,0*	23,4*	23,4*	19,3*	20,7*	16,0*	18,5*	13,5*	16,6*	11,4*	14,6*							10,3*	11,4*	58' 4"
5	SW	8,0*	8,0*	53,7*	53,7*	42,7*	42,7*	33,9*	33,9*	28,2*	28,2*	22,8*	24,1*	18,6*	21,1*	15,5*	18,6*	13,1*	16,5*	11,2*	14,4*							10,2*	11,7*	58' 2"
0	SW	6,7*	6,7*	20,3*	20,3*	44,6*	44,6*	35,1*	35,1*	27,3*	28,9*	21,8*	24,5*	17,9*	21,2*	15,0*	18,6*	12,8*	16,2*	11,1*	13,7*							10,3*	11,7*	57' 8"
-5	SW	8,7*	8,7*	17,5*	17,5*	39,3*	39,3*	34,0*	35,3*	26,1*	29,0*	21,0*	24,4*	17,4*	21,0*	14,6*	18,1*	12,6*	15,4*	11,0*	12,3*							10,5*	10,7*	56'10"
-10	SW	11,4*	11,4*	18,4*	18,4*	33,4*	33,4*	32,9*	34,0*	25,3*	28,1*	20,4*	23,6*	16,9*	20,1*	14,4*	17,0*	12,4*	14,0*									11,1*	11,1*	53' 8"
-15	SW			20,4*	20,4*	32,9*	32,9*	31,1*	31,1*	24,9*	25,9*	20,1*	21,7*	16,7*	18,2*	14,3*	14,9*											12,6*	12,6*	48' 5"
-20	SW							22,0*	22,0*	18,4*	18,4*																	17,3*	17,3*	36' 7"

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 can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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 GA19 (Kinematic 2A)

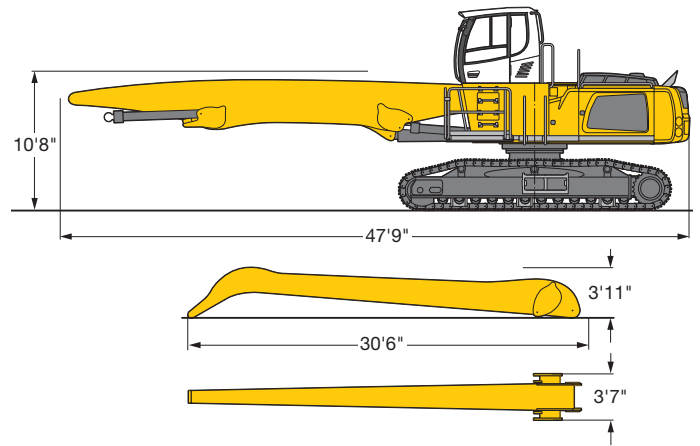


Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation, industrial-type straight mono boom 34'5", industrial-type angled stick 28'10" and grapple model GM 70C/1.05 yd³ semi-closed tines.

Undercarriage	SW
Pad width	in 24"
Weight	lb 125,000
Ground pressure	on request

Dimensions



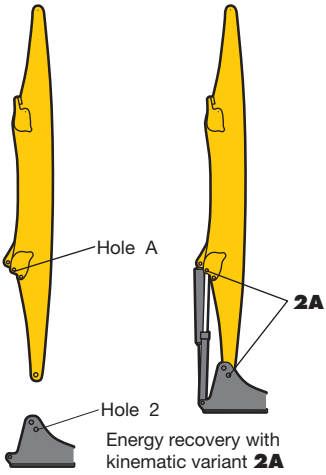
Industrial Stick 28'10"

ft	Under-carriage	10 ft		15 ft		20 ft		25 ft		30 ft		35 ft		40 ft		45 ft		50 ft		55 ft		60 ft		ft in							
		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW						
65	SW					22,4*	22,4*																	19,2*	19,2*	23' 6"					
60	SW							21,9*	21,9*																	15,6*	15,6*	33' 2"			
55	SW									21,2*	21,2*	18,5*	18,5*														13,8*	13,8*	40'		
50	SW									22,4*	22,4*	20,2*	20,2*	17,9*	17,9*	13,0*	13,0*											12,7*	12,7*	45' 2"	
45	SW									22,2*	22,2*	20,0*	20,0*	18,2*	18,2*	16,8*	16,8*												12,0*	12,0*	49' 5"
40	SW									22,2*	22,2*	19,9*	19,9*	18,1*	18,1*	16,7*	16,7*	14,4	15,3*										11,6*	11,6*	52' 8"
35	SW									22,4*	22,4*	20,1*	20,1*	18,2*	18,2*	16,7*	16,7*	14,4	15,4*	11,8	12,0*								11,3*	11,3*	55' 5"
30	SW									22,9*	22,9*	20,4*	20,4*	18,4*	18,4*	16,8*	16,8*	14,3	15,4*	11,8	14,2*								10,7	11,1*	57' 7"
25	SW									22,9*	22,9*	20,9*	20,9*	18,7*	18,7*	17,0*	17,0*	14,1	15,5*	11,7	14,2*								10,0	11,0*	59' 2"
20	SW					26,3*	26,3*	28,7*	28,7*	24,6*	24,6*	21,5*	21,5*	19,1*	19,1*	16,5	17,2*	13,7	15,7*	11,5	14,2*	9,7	12,0*					9,5	11,1*	60' 5"	
15	SW	19,6*	19,6*	32,6*	32,6*	37,5*	37,5*	30,4*	30,4*	25,6*	25,6*	22,2*	22,2*	19,4	19,6*	16,0	17,5*	13,3	15,8*	11,2	14,2*	9,5	12,3					9,2	11,2*	61' 2"	
10	SW			54,5*	54,5*	40,2*	40,2*	32,0*	32,0*	26,6*	26,6*	22,8*	22,8*	18,5	20,0*	15,4	17,7*	12,9	15,8*	11,0	14,1	9,4	12,2					9,0	11,4*	61' 6"	
5	SW	1,7*	1,7*	14,3*	14,3*	42,3*	42,3*	33,3*	33,3*	27,2	27,4*	21,6	23,3*	17,7	20,2*	14,8	17,8*	12,5	15,8*	10,7	13,8	9,3	11,8*					8,9	10,9*	61' 5"	
0	SW	3,3*	3,3*	10,7*	10,7*	28,5*	28,5*	33,3	33,8*	25,7	27,8*	20,6	23,5*	17,0	20,2*	14,3	17,7*	12,1	15,5*	10,5	13,4*	9,1	10,9*					8,1	10,2*	60' 11"	
-5	SW	5,9*	5,9*	11,5*	11,5*	23,0*	23,0*	31,7	33,3*	24,5	27,4*	19,8	23,2*	16,4	19,9*	13,8	17,2*	11,8	14,8*	10,3	12,5*	9,1	9,3*					8,9	9,3*	60'	
-10	SW			13,4*	13,4*	22,5*	22,5*	30,8	31,5*	23,7	26,2*	19,2	22,2*	15,9	19,0*	13,5	16,2*	11,6	13,7*	10,2	11,0*								9,6*	9,6*	57'
-15	SW					23,8*	23,8*	28,1*	28,1*	23,3	23,9*	18,8	20,3*	15,7	17,2*	13,3	14,5*	11,6	11,8*										10,8*	10,8*	51' 8"
-20	SW									20,1*	20,1*	17,2*	17,2*																14,5*	14,5*	39' 11"

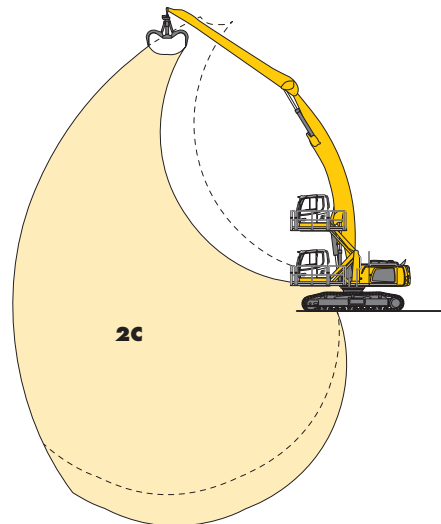
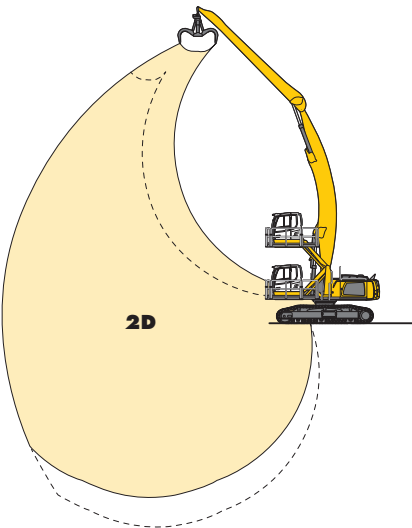
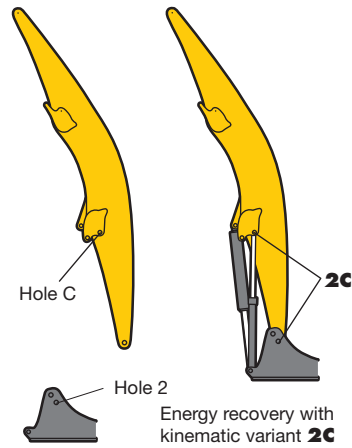
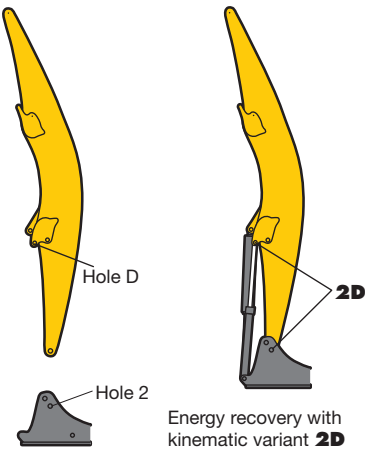
Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach * Limited by hydr. capacity

The lift capacities on the stick end without attachment are stated in lb x 1,000 and can be slewed through 360° on a firm, level supporting surface. Capacities are valid for 24" wide triple grouser pads (resp. flat pads). 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

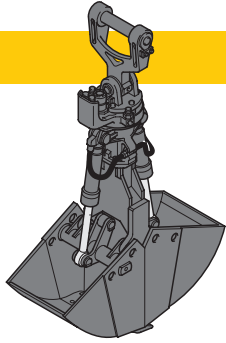


Kinematic Variant 2D/2C



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

Variety of Tools



Shells for Loose Material

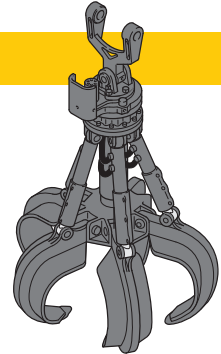
Shells for loose material with cutting edge (without teeth)

Clamshell Model GM 20B

Cutting width of shells	ft in	3'3"	3'11"	5'3"	6'7"
Capacity	yd ³	1.70	1.96	2.62	3.27
For loose material, specific weight up to lb/yd ³		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 ³	3.92	4.58	5.23
For loose material, specific weight up to lb/yd ³		2,530	2,275	2,025
Weight	lb	5,467	5,710	5,975



Multiple Tine Grapples

open tines

semi-closed tines

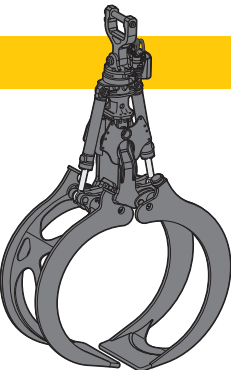
closed tines

Grapple Model GM 69 (4 tines)

Capacity	yd ³	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)

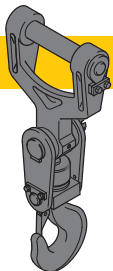
Capacity	yd ³	1.05	1.44	1.05	1.44	1.05	1.44
Weight	lb	3,275	3,505	3,760	4,100	4,300	4,400



Wood Grapple

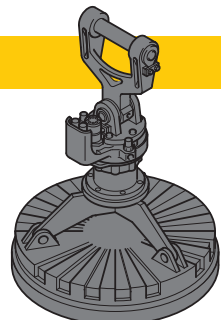
Grapple Model GM 20B

Claw width	ft in	2'8"	2'8"	2'8"	2'8"
Size	in ²	2,325	2,635	2,945	3,255
Height of grapple, closed	mm	9'10"	10'	10'4"	10'10"
Weight	kg	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
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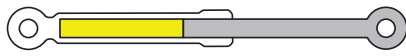
Electromagnets with Suspension

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.



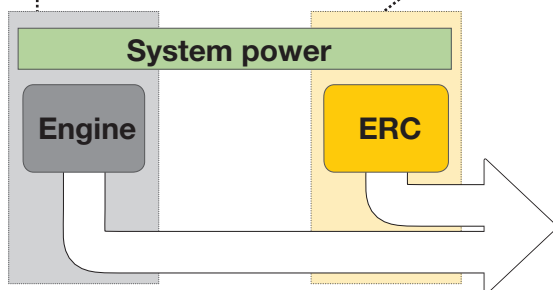
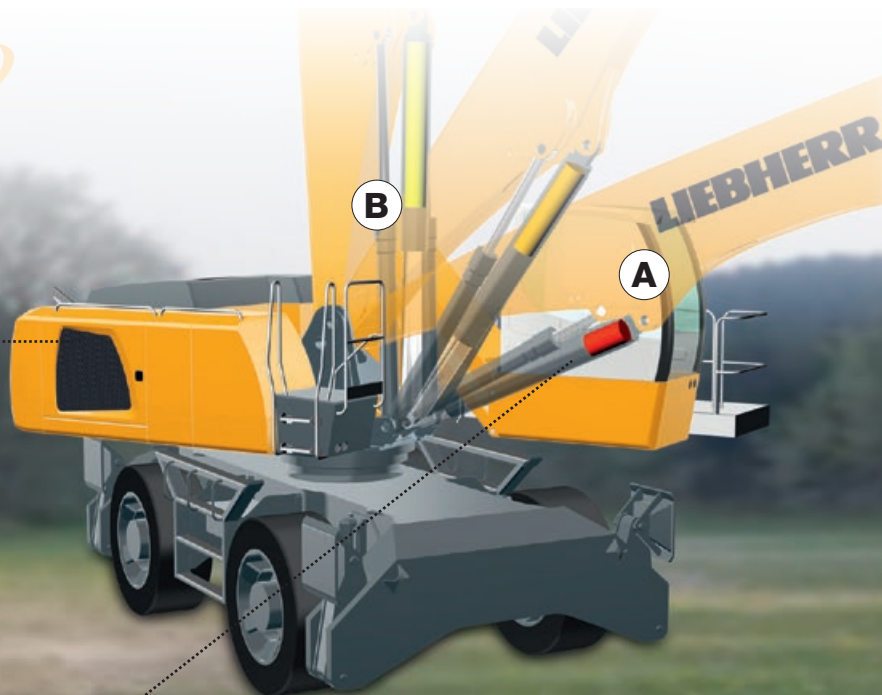
1. Attachment fitting raised / Energy released **(B)**



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



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

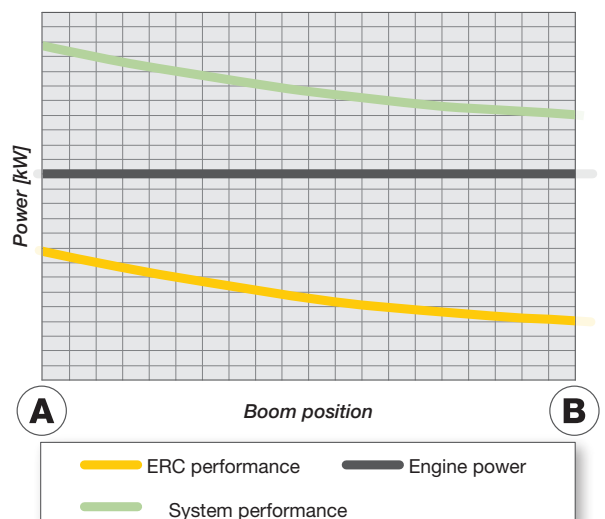


- increased overall power
- fuel savings of up to 30 %
- lower running costs
- reduced pollutant and noise emissions

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

Track pads, variants	+
Undercarriage, variants	+
Tool equipment, extended	•



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	+
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	+



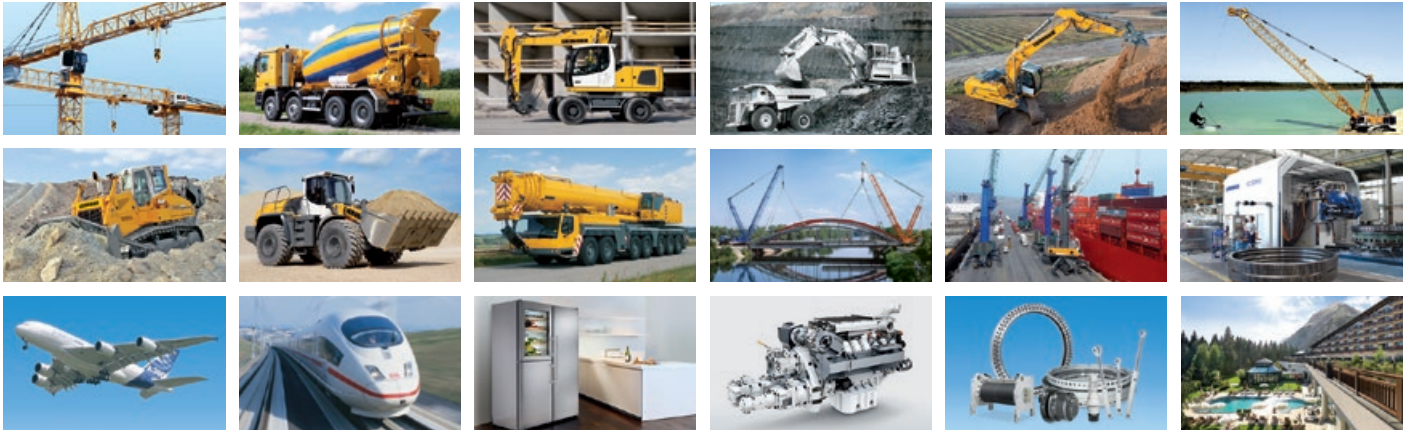
Complete Machine

Lubrication	
Central lubrication system for uppercarriage and attachment, automatically	•
Special coating	
Single-coloured, grey parts excepted	+
Single-coloured, grey parts included (except undercarriage)	+
Multicoloured (except undercarriage)	+
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

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