

R 904 C

Litronic®

Operating Weight: 44,530 - 48,500 lb
Engine Output: 99 kW / 135 hp
Bucket Capacity: 0.20 - 1.37 yd³



Performance

Liebherr crawler excavators feature state-of-the-art technology and exceptional workmanship. The primary components of the drive system are all produced by Liebherr factories and are precisely matched to each other. This assures excellent performance, efficient operation and a long service life.

Reliability

Liebherr crawler excavators are designed with longevity in mind. Steel castings, Liebherr manufactured components and industry leading features ensure the highest level of dependability and a long service life.

Comfort

Liebherr crawler excavators are particularly service-friendly: maintenance work is quickly and easily accomplished due to easily accessible service points. The spacious operator's cab is designed according to the latest state-of-the-art ergonomic standards.

Economy

Liebherr crawler excavators provide outstanding production. The Litronic system assures optimal efficiency in the interaction of excavator hydraulics with the electronic functions. A wide selection of tools and a choice of undercarriages allow the correct configuration for each application and ensure high productivity and low fuel consumption.





Liebherr diesel engine

- Designed specifically for construction equipment
- High performance reserves
- Long life expectancy
- Lubrication supply capability on up to 100% incline
- Maximum performance at low engine speed
- Complies with emission standards 97/68/CEE and Tier 2



Performance

The R 904 C features a compact design, which allows the machine to be utilized effectively even in confined conditions. Its high digging and breakout forces, combined with fast cycle times, make it a true multi-purpose machine. The drive system is designed and manufactured by Liebherr and provides excellent performance, substantial power and outstanding reliability.

Solid footing

Stability

Effective utilization of the digging forces is achieved due to the weight concentration on the undercarriage. The excellent stability under all ground conditions is one of the outstanding features of the R 904 C. A range of undercarriages is available to suit any application.

Outstanding lift capacities

The low center of gravity combined with the wide base of the undercarriage allow for the high lift capacities of the R 904 C.

Large ground clearance

The distance between the carbody and the ground assures substantial protection of the undercarriage components as well as easy travelling under difficult ground conditions.

High Loading Performance

High digging- and breakout forces

Due to optimized attachment geometry, the R 904 C provides high digging and breakout forces - allowing the use of high capacity buckets.

High bucket fill factor

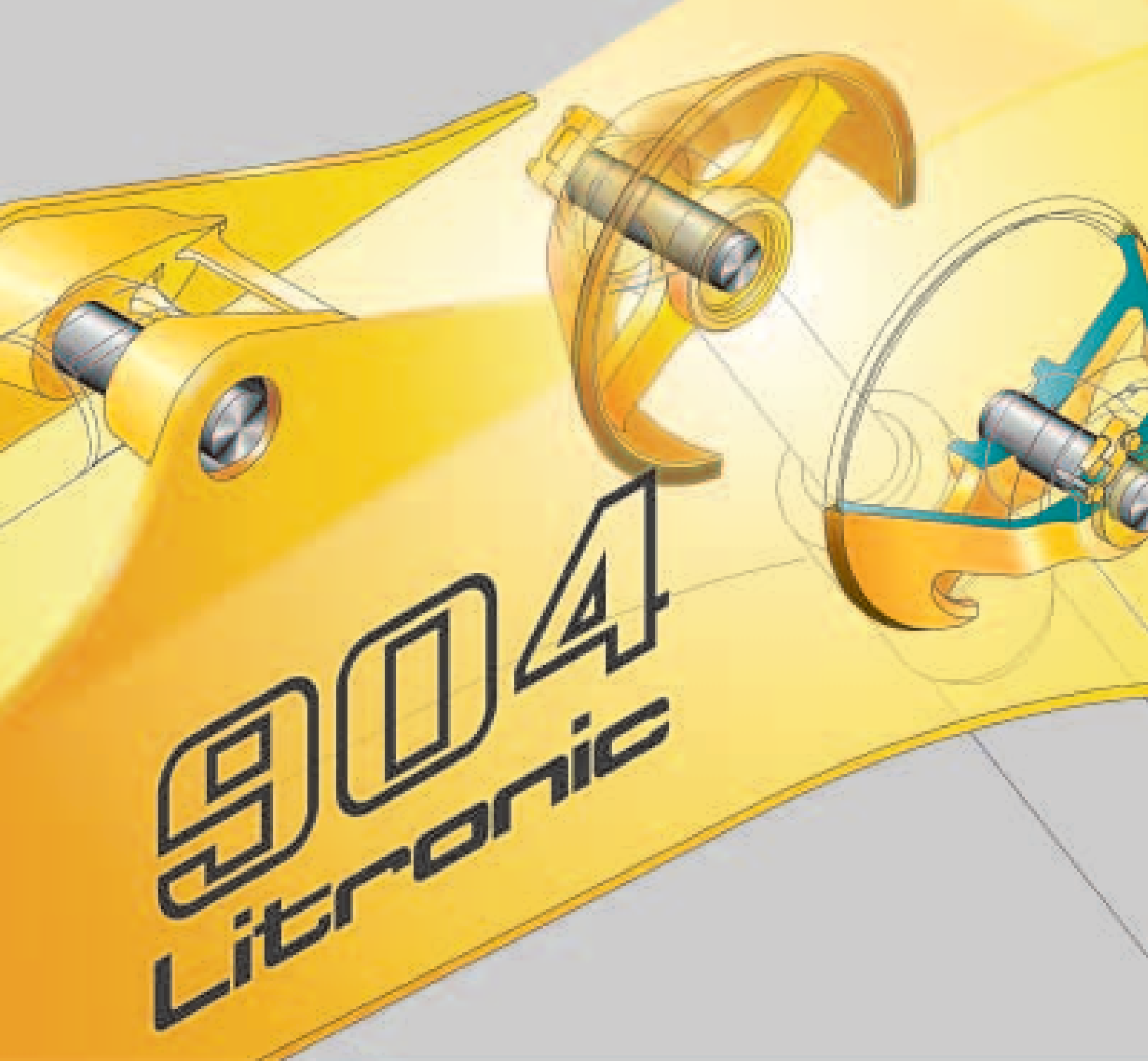
The digging tools manufactured by Liebherr are designed specifically to provide high fill factors. The bucket shape provides good material penetration and assures excellent production.

Short cycle times

High displacement hydraulic pumps make short cycle times possible. The coordinated and simultaneous functions are a result of precision matched Liebherr components such as engine, pumps, swing drive and control unit.

Multi-function tool carrier

- Digging tools for every material and application
- Patented Liebherr tooth system for high life expectancy and time-saving tooth change
- Ideal tooth shapes for different materials and applications
- Heavy-duty tooth versions for wear intensive jobs



R904
Litronic



Liebherr hydraulic cylinders

- Cylinder sizes matched to each model
- High-quality coating of piston rod
- Special gasket packages for piston rod and piston
- Sealed special bushings for pin mountings
- End-cushion at each end



Reliability

Liebherr crawler excavators prove everyday at construction sites all over the world their high reliability, productivity and longevity. 50 years of experience in designing and building excavators, continuous development and the use of the latest technologies make the R 904 C one of the most powerful and dependable excavators available.

Heavy-duty attachments

Robust attachment concept

Liebherr excavators utilize steel castings at every pivot point, the result is that the attachment is able to withstand even the most demanding operating conditions.

Unique concept for hydraulic cylinder bearing

The R 904 C is the only machine in this class featuring two separate pins and bell-house castings, which means a great deal of strength – even under high load.

Optimized stress flow

The swing ring tower is a one-piece, cold-rolled item, which transfers the forces - following the principal of „stress flow design“ - into the undercarriage. In addition, Liebherr swing rings are sealed and utilize internal teeth to protect against dirt and damage.

Quality down to the last detail

Power package

Liebherr manufactured components in the drive system, e.g. engine, travel and swing gearboxes, hydraulic pumps, motors and cylinders are precisely matched to one another. As elements of a total system, each component contributes to the long service life and high reliability of the Liebherr R 904 C.

Large capacity hydraulic system

The large hydraulic tank and total system capacity assures long life of the hydraulic oil between oil change intervals. This results in cooler components and extended service life.

Integrated Electronics

Automatic control

The operator can concentrate on the job at hand because the integrated on-board electronic system will alert the operator to any discrepancies that occur.

Data storage

The on-board computer stores all machine data. The data can be easily recalled and transferred by radio to a service center.

Key technologies made by Liebherr

- Decades of experience with the development, design and manufacturing of components
- Engines, hydraulic pumps and motors, swing and travel gearboxes as well as electronic components - manufactured by Liebherr
- High quality precision manufacturing of components to the latest standards from our Liebherr factories in Germany and Switzerland



Easy accessibility

- Engine arrangement and location of service points simplify the scheduled maintenance
- Access steps on both sides allow comfortable access to all service points
- Ergonomically positioned handrails for safe access
- The engine cover is easy to open with pressurized lift cylinders - while it maintains excellent visibility to the rear when closed due to its slanted shape



Comfort

The operator will find the generous, state-of-the-art operator station of the R 904 C to be an ergonomically designed work place with outstanding visibility over the entire working area. The automatic climate control and the simple operation of the machine provide for an effective and relaxed working environment. The easy accessibility to all service points in the upper allows accomplishing maintenance work quickly and conveniently.

Comfortable workplace

- Operator station** The large windows provide excellent visibility to both the work area and machine surroundings. A large roof window and the unobstructed, all-around view contribute to the open-space feeling.
- Comfortable operation** Design and layout of the seat, console, machine controls and display are all ergonomically coordinated.
- Standard climate control** The cab is kept comfortable with automatic temperature control, electrically actuated ventilation valves and a re-heat function that de-humidifies the cab within seconds.
- Generous storage options** Open and lockable storage space both beside and behind the operator provide for plenty of storage.

Standard maintenance advantage

- Easy accessibility** All service points are easily accessible and the R 904 C features a central lubrication point as standard equipment. The daily preventive maintenance can be completed in a short period of time.
- Fewer fuel stops** The high-capacity fuel tank allows a two-shift operation without refueling - even under severe job conditions.
- Maintenance friendly track components** Top rollers, track rollers and track pins are lifetime lubricated, while the grease cylinder of the idler tensioner is sealed against dirt.

Effective modes for top performance

- 4 Modes** Four selectable working modes ensure effective and efficient operation.
- Eco-Mode** For high output with large fuel savings.
- Power-Mode** For heavy-duty digging-and loading performance under severe conditions.
- Lift-Mode** For precise handling of heavy loads.
- Fine-Mode** For fine control at precision work.

Hydraulic reservoir stop valve

- Oil flow to the hydraulic system can be shut off by simply turning the valve
- No drainage of fluid is necessary for service or repair work on the hydraulic system



Hydrostatic fan drive

- Thermostatically regulated fan speed maintains optimum engine oil and coolant temperatures
- Accelerated warm-up period
- Assurance of constant viscosity due to constant temperature
- Increased longevity of drive components
- Fan uses only the power needed to maintain optimum cooling - reducing fuel consumption



Economy

The compact design of the upper as well as the heavy-duty undercarriage with the variety of attachments and the optional modular quick-coupler system make the R 904 C a multi-purpose tool carrier – ideally suited for many applications.

Top technology for maximum profitability

Minimum lubrication effort

Daily preventive maintenance can be accomplished quickly and easily with the standard equipment central lubrication point and service points that are easily accessible.

Automatic low idle speed

This function automatically reduces engine speed when no attachments or travel functions are activated - reducing fuel consumption and exhaust emissions.

Electronic engine speed sensing control

This regulating system ensures an efficient conversion of the engine output in hydraulic performance - ensuring better utilization of engine power. The result: higher digging forces, shorter cycle times and lower fuel consumption.

Liebherr Tool Control

This option allows the operator to store up to 10 combinations of pressure and hydraulic flow settings for different tools. Selection of the settings is done with the push of a button after the tool change.

Outstanding parts availability

Quick spare parts supply

Emergency parts orders are shippable within 24 hours.

Professional help on-call

Liebherr's customer service is accessible on a 24/7 basis. Qualified professionals are available around the clock in order to respond to questions from parts supplies to repair advice.

Extensive service packages

Custom-tailored service packages guarantee service with individually focused, technical and logistical attention. Liebherr provides solutions with components from the remanufactured repair or rebuild programs for every requirement – manufactured to maintain genuine quality.

Heavy-duty undercarriage

The combination of high-tensile strength steel plates and steel castings to minimize tension

Technical Data



Engine

Rating per ISO 9249	135 hp (99 kW) at 2000 RPM
Model	Liebherr D 924 TI-E
Type	4 cylinder in-line
Bore/Stroke	4.8/5.8 in
Displacement	402 cu in
Engine operation	4-stroke diesel direct injection turbo-charged after-cooled reduced emissions
Cooling system	water-cooled and integrated motor oil cooler
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	90 gal
Engine idling	sensor controlled
Electrical system	
Voltage	24 V
Batteries	2 x 92 Ah/12 V
Alternator	24 V/55 A



Hydraulic System

Hydraulic pump	Liebherr, variable displacement, swashplate pump
Max. flow	87 gpm
Max. hydr. pressure	5,076 PSI
Hydraulic pump regulation and control	Liebherr-Synchron-Comfort-system (LSC) with electronic engine speed sensing regulation, pressure and flow compensation, load sensing and torque controlled swing drive priority
Hydraulic tank capacity	46 gal
Hydraulic system capacity	max. 87 gal
Filtration	one main return filter with integrated partial micro filtration (5 µm)
Cooling system	compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler and after-cooler cores and hydrostatically driven fan can also be adjusted by the operator to adjust engine and hydraulic performance to match job conditions (Note: All modes provide full max. power)
Modes	
ECO	for most economic performance at best environmental conditions
POWER	for max. output
LIFT	for precise lifting tasks
FINE	for precision work at high speed i.e. grading
Super-Finish	additional operator adjustable work speed function for further increased feathering. Applies to all modes and all control functions
RPM adjustment	stepless adjustment of engine output via rpm
Liebherr Tool Control	ten preadjustable pump flows and pressures for add on tools



Hydraulic Controls

Power distribution	via control valve with integrated safety valves, simultaneous and independent operation of travel drive, swing drive and all attachment functions
Control type	
Attachment and swing	proportional via joystick levers
Travel	proportional via foot pedal
Additional functions	via switch and/or proportional foot pedals



Swing Drive

Drive	Liebherr swashplate motor with torque control and integrated brake valve
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr sealed single race ball bearing swing ring, internal teeth
Swing speed	0–9.0 RPM
Swing torque	33,957 lb ft
Holding brake	wet discs (spring applied – pressure released)
Option	pedal controlled positioning brake



Operator's Cab

Cab	resiliently mounted, sound insulated, tinted windows, front window stores overhead, door with sliding window
Operator's seat	fully adjustable, shockabsorbing suspension, adjustable to operator's weight and size, 6-way adjustable Liebherr seat
Joysticks	integrated into adjustable consoles
Monitoring	menu driven query of current operating conditions via the LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and saving machine data, for example, engine overheating, low engine oil pressure or low hydraulic oil level
Air conditioning	standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	L_{PA} (inside cab) = 73 dB(A)
2000/14/EC	L_{WA} (surround noise) = 100 dB(A)



Undercarriage

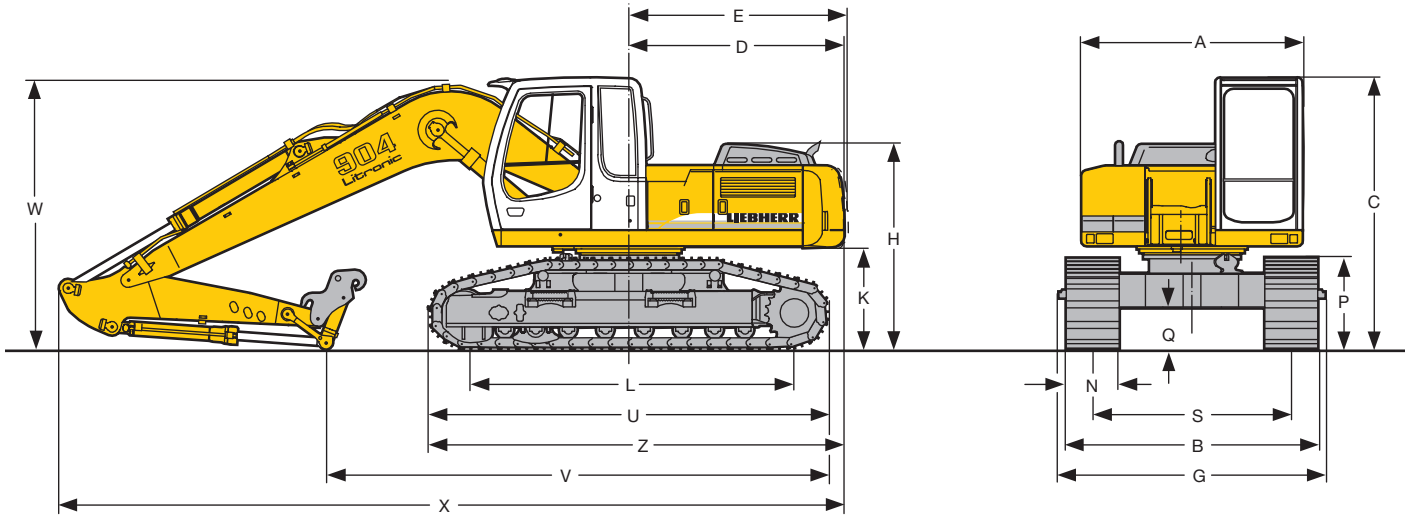
Versions	
HD-SL	heavy duty, gauge 6'7" or 7'5"
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	HD-SL: low range –1.6 mph high range –3.2 mph
Drawbar pull max.	HD-SL: 52,603 lb
Track components	HD-SL: B 60, maintenance-free
Track rollers/Carrier rollers	HD-SL: 8/2
Tracks	sealed and greased
Track pads	triple grouser
Digging locks	wet multi-discs (spring applied, pressure released)
Brake valves	integrated into travel motor



Attachment

Hydraulic cylinders	Liebherr cylinders with special seal system. Shock absorption
Pivots	sealed, low maintenance
Lubrication	via grease distributor and a grease nipple installed on the uppercarriage
Bucket	standard equipped with 13.2 tons safety hook for lifting
Option	hydr. or mechanical quick change adapter

Dimensions



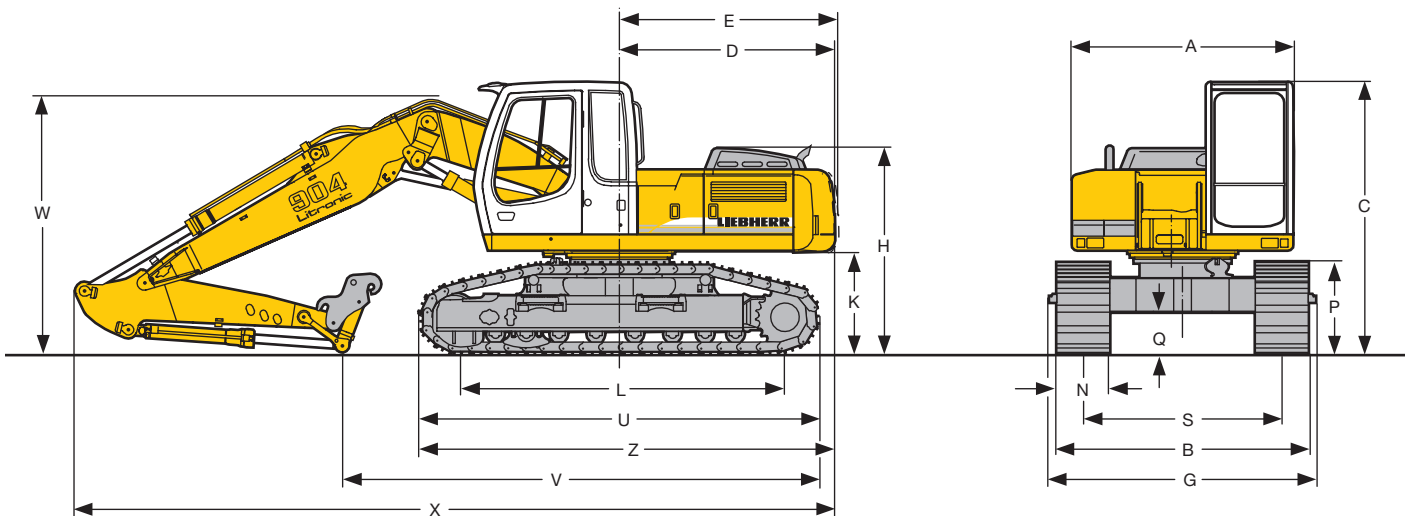
	HD-SL 6'7" ft in	HD-SL 7'5" ft in	
A	Upper – overall width	8' 3"	8' 3"
C	Basic machine – height overall	10' 1"	10' 1"
D	Tail reach	8'	8'
E	Tail swing	8' 1"	8' 1"
H	Height – engine cover	7' 7"	7' 7"
K	Clearance under counterweight	3' 9"	3' 9"
L	Center idler to center sprocket	12' 4"	12' 4"
P	Track height	3' 3"	3' 3"
Q	Ground clearance	1' 6"	1' 6"
S	Track gauge	6' 7"	7' 4"
U	Track length	14' 11"	14' 11"
N	Pad width	24" 30"	24" 30"
B	Track outside width	8' 6" 9"	9' 4" 9' 10"
G	Undercarriage width overall	9' 1" 9' 1"	9' 11" 9' 11"
Z	Basic machine – length overall	15' 6"	15' 6"

E = Tail radius

G = Width with removable catwalks

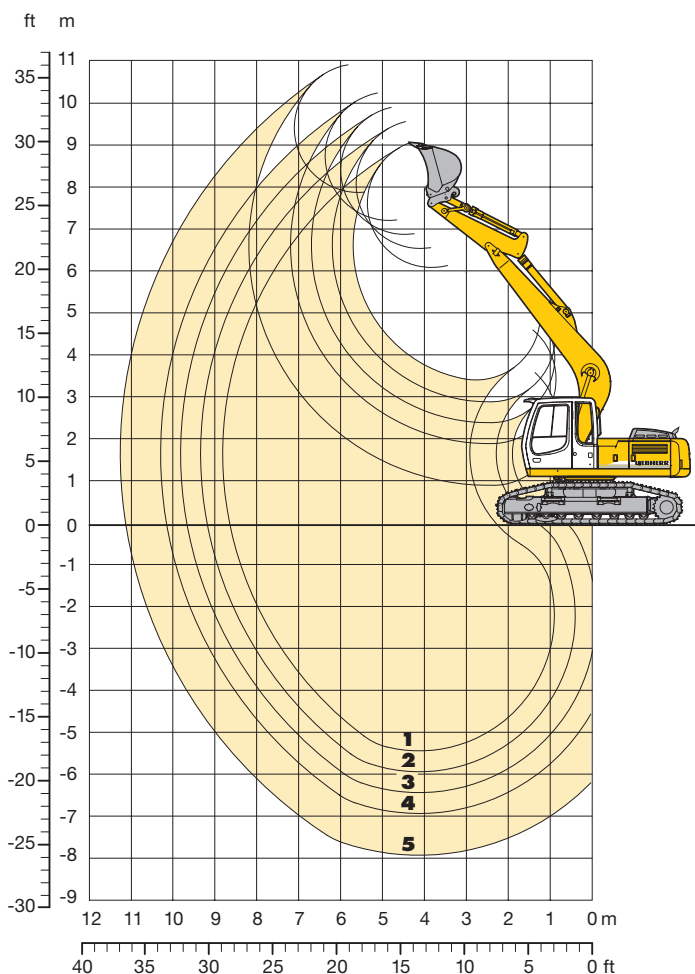
Gooseneck Boom 17'9" with HD-SL-Undercarriage							
Stick length	ft in	5' 7"	7'3"	8'10"	10'6"	13' 9"	
V	Rear of track to link/ lever pin for HD-SL 6'7"	ft in	21' 2"	18'8"	17' 5"	16'1"	14'11"
V	Rear of track to link/ lever pin for HD-SL 7'5"	ft in	21' 2"	18'8"	17' 5"	16'1"	14'11"
W	Attachment height	ft in	10' 4"	10'	10' 2"	10'6"	11' 6"
X	Complete machine length overall	ft in	29'10"	29'6"	29' 6"	29'6"	29' 6"

Gooseneck Boom 18'8" with HD-SL-Undercarriage							
Stick length	ft in	5'7"	7'3"	8'10"	10' 6"	13' 9"	
V	Rear of track to link/ lever pin for HD-SL 6'7"	ft in	23'	20'8"	19' 6"	18' 6"	17' 3"
V	Rear of track to link/ lever pin for HD-SL 7'5"	ft in	23'	20'8"	19' 6"	18' 6"	17' 3"
W	Attachment height	ft in	9'6"	9'2"	9' 6"	9'10"	12' 4"
X	Complete machine length overall	ft in	31'2"	30'6"	30' 8"	30' 6"	29'10"



Backhoe Attachment

with Gooseneck Boom 17'9"



Digging Envelope

with Quick Change Adapter

		1	2	3	4	5
Stick lengths	ft in	5'7"	7' 3"	8'10"	10' 6"	13' 9"
Max. digging depth	ft in	17'9"	19' 4"	21'	22' 8"	25'11"
Max. reach at ground level	ft in	28'5"	30' 2"	31' 8"	33' 4"	36' 7"
Max. dump height	ft in	20'2"	21'10"	22'10"	23'11"	26' 1"
Max. teeth height	ft in	30'	31' 8"	32'10"	33'11"	36' 1"

Digging Forces

without Quick Change Adapter

		1	2	3	4	5
Digging force ISO	lb	25,627	21,806	19,108	16,860	13,713
Breakout force ISO	lb	31,697	31,697	31,697	31,697	31,697

with Quick Change Adapter

Digging force ISO	lb	23,829	20,457	17,984	15,961	13,038
Breakout force ISO	lb	26,302	26,302	26,302	26,302	26,302

Max. breakout force with ripper bucket

35,518 lb

Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 17'9", stick 7'3", quick change adapter 48 and bucket 1.3 yd³.

Undercarriage		HD-SL 6'7"		HD-SL 7'5"	
Pad width	in	24"	30"	24"	30"
Weight	lb	46,704	47,619	46,914	47,828
Ground pressure	PSI	6.30	5.10	6.30	5.10

Buckets

		without Quick Change Adapter					with Quick Change Adapter			
Cutting width SAE	in	24" ¹⁾	33"	41"	49"	55"	41"	41"	49"	49"
Capacity ISO 7451	yd ³	.46	.72	.91	1.18	1.37	.91	1.05	1.18	1.30
Max. possible material weight	lb/yd ³	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750
Weight with Liebherr teeth Z 13 ²⁾	lb	1,543	1,168	1,312	1,510	1,609	1,356	1,411	1,543	1,576
Max. stick length for machine stability per ISO 10567:										
HD-SL 6'7"	ft in	13'9"	10'6"	8'10"	7' 3"	5'7"	8'10"	7' 3"	7'3"	5'7"
HD-SL 7'5"	ft in	13'9"	13'9"	10' 6"	8'10"	7'3"	8'10"	8'10"	7'3"	7'3"

¹⁾ Ripper bucket with teeth size Z 16 P

²⁾ Bucket with Liebherr teeth Z 13 (for applications up to surface class 5, heavy soils)

Lift Capacities

with Gooseneck Boom 17'9"

Stick 7'3"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"					
	HD-SL 7'5"					
20	HD-SL 6'7"			8,375 (8,816x)		
	HD-SL 7'5"			8,816x (8,816x)		
15	HD-SL 6'7"		10,579 (10,579x)	8,155 (9,477x)		
	HD-SL 7'5"		10,579 (10,579x)	9,257 (9,477x)		
10	HD-SL 6'7"	14,676x (14,767x)	11,461 (14,326x)	7,494 (11,240x)	5,290 (9,698x)	
	HD-SL 7'5"	14,676x (14,767x)	13,224 (14,326x)	8,596 (11,240x)	6,171 (9,698x)	
5	HD-SL 6'7"		10,579 (17,852x)	7,053 (12,783x)	5,069 (10,359)	
	HD-SL 7'5"		12,122 (17,852x)	8,155 (12,783x)	5,951 (10,359)	
0	HD-SL 6'7"	11,681x (11,681x)	9,918 (19,836x)	6,832 (14,106x)	4,849 (10,138)	
	HD-SL 7'5"	11,681x (11,681x)	11,681 (19,836x)	7,714 (14,106x)	5,730 (10,359)	
- 5	HD-SL 6'7"	18,514 (20,277x)	9,918 (20,056x)	6,612 (14,106x)		
	HD-SL 7'5"	20,277x (20,277x)	11,461 (20,056x)	7,714 (14,106x)		
- 10	HD-SL 6'7"	18,954 (27,550x)	9,918 (18,734x)	6,612 (13,665x)		
	HD-SL 7'5"	22,481 (27,550x)	11,681 (18,734x)	7,714 (13,665x)		
- 15	HD-SL 6'7"	19,616 (21,379x)	10,579 (14,546x)			
	HD-SL 7'5"	21,379x (21,379x)	12,122 (14,546x)			
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Stick 8'10"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"			4,628x (4,628x)		
	HD-SL 7'5"			4,628x (4,628x)		
20	HD-SL 6'7"			7,714x (7,714x)		
	HD-SL 7'5"			7,714x (7,714x)		
15	HD-SL 6'7"			8,155 (8,596x)	5,510 (7,494x)	
	HD-SL 7'5"			8,596x (8,596x)	6,392 (7,494x)	
10	HD-SL 6'7"	20,277x (20,277x)	11,902 (12,783x)	7,714 (10,359x)	5,289 (9,257x)	
	HD-SL 7'5"	20,277x (20,277x)	12,783x (12,783x)	8,816 (10,359x)	6,171 (9,257x)	
5	HD-SL 6'7"	10,138x (10,138x)	10,800 (16,750x)	7,053 (12,122x)	5,069 (10,138x)	
	HD-SL 7'5"	10,138x (10,138x)	12,342 (16,750x)	8,155 (12,122x)	5,951 (10,138x)	
0	HD-SL 6'7"	12,563x (12,563x)	9,918 (19,175x)	6,612 (13,665x)	4,849 (10,138)	
	HD-SL 7'5"	12,563x (12,563x)	11,681 (19,175x)	7,714 (13,665x)	5,730 (10,138)	
- 5	HD-SL 6'7"	18,293 (18,293x)	9,698 (20,056x)	6,392 (14,106)	4,849 (10,138)	
	HD-SL 7'5"	18,293x (18,293x)	11,461 (20,056x)	7,494 (14,106)	5,510 (10,138)	
- 10	HD-SL 6'7"	18,514 (26,448x)	9,698 (19,395x)	6,612 (13,885x)		
	HD-SL 7'5"	22,260 (26,448x)	11,461 (19,395x)	7,494 (13,885x)		
- 15	HD-SL 6'7"	19,175 (24,244x)	10,138 (16,310x)			
	HD-SL 7'5"	22,922 (24,244x)	11,902 (16,310x)			
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Stick 10'6"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"			6,612x (6,612x)		
	HD-SL 7'5"			6,612x (6,612x)		
20	HD-SL 6'7"			6,612x (6,612x)	5,069x (5,069x)	
	HD-SL 7'5"			6,612x (6,612x)	5,069x (5,069x)	
15	HD-SL 6'7"			7,494x (7,494x)	5,730 (7,494x)	
	HD-SL 7'5"			7,494x (7,494x)	6,392 (7,494x)	
10	HD-SL 6'7"	16,089x (16,089x)	11,240x (11,240x)	7,714 (9,257x)	5,290 (8,375x)	
	HD-SL 7'5"	16,089x (16,089x)	11,240x (11,240x)	8,816 (9,257x)	6,171 (8,375x)	
5	HD-SL 6'7"	15,428x (15,428x)	11,020 (15,208x)	7,273 (11,240x)	5,069 (9,477x)	2,865x (2,865x)
	HD-SL 7'5"	15,428x (15,428x)	12,563 (15,208x)	8,375 (11,240x)	5,951 (9,477x)	2,865x (2,865x)
0	HD-SL 6'7"	13,224x (13,224x)	10,138 (18,293x)	6,612 (13,004x)	4,849 (10,138)	
	HD-SL 7'5"	13,224x (13,224x)	11,681 (18,293x)	7,714 (13,004x)	5,510 (10,138)	
- 5	HD-SL 6'7"	16,971x (16,971x)	9,698 (19,836x)	6,392 (13,885)	4,628 (9,918)	
	HD-SL 7'5"	16,971x (16,971x)	11,240 (19,836x)	7,494 (14,106)	5,510 (9,918)	
- 10	HD-SL 6'7"	18,073 (23,142x)	9,698 (19,616x)	6,392 (13,885)	4,628 (6,832x)	
	HD-SL 7'5"	21,820 (23,142x)	11,240 (19,616x)	7,494 (13,885)	5,510 (6,832x)	
- 15	HD-SL 6'7"	18,734 (26,448x)	9,918 (17,632x)	6,612 (12,342x)		
	HD-SL 7'5"	22,481 (26,448x)	11,461 (17,632x)	7,714 (12,342x)		
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Stick 13'9"

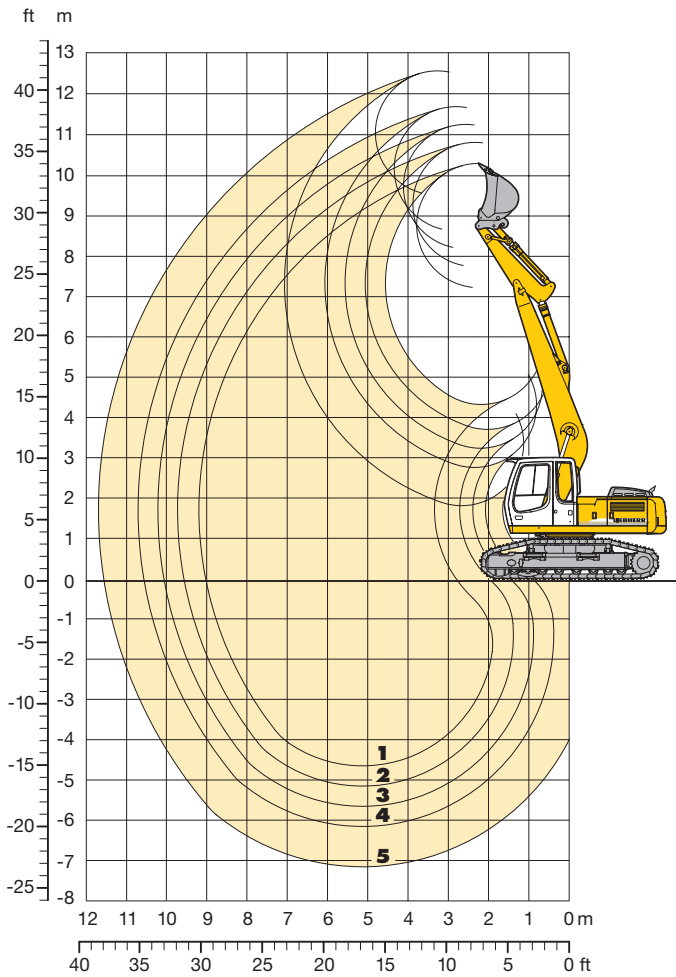
Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"				4,188x (4,188x)	
	HD-SL 7'5"				4,188x (4,188x)	
20	HD-SL 6'7"				5,510x (5,510x)	
	HD-SL 7'5"				5,510x (5,510x)	
15	HD-SL 6'7"				5,951 (5,951x)	4,188 (4,408x)
	HD-SL 7'5"				5,951x (5,951x)	4,408x (4,408x)
10	HD-SL 6'7"			7,273x (7,273x)	5,510 (7,053x)	3,967 (5,510x)
	HD-SL 7'5"			7,273x (7,273x)	6,392 (7,053x)	4,628 (5,510x)
5	HD-SL 6'7"	19,616x (19,616x)	11,461 (12,342x)	7,494 (9,477x)	5,069 (8,155x)	3,747 (6,612x)
	HD-SL 7'5"	19,616x (19,616x)	12,342x (12,342x)	8,596 (9,477x)	5,951 (8,155x)	4,408 (6,612x)
0	HD-SL 6'7"	16,089x (16,089x)	10,359 (16,310x)	6,832 (11,681x)	4,849 (9,477x)	3,526 (7,053x)
	HD-SL 7'5"	16,089x (16,089x)	12,122 (16,310x)	7,934 (11,681x)	5,510 (9,477x)	4,188 (7,053x)
- 5	HD-SL 6'7"	15,869x (15,869x)	9,698 (18,734x)	6,392 (13,224x)	4,628 (9,918)	3,526 (5,730x)
	HD-SL 7'5"	15,869x (15,869x)	11,240 (18,734x)	7,494 (13,224x)	5,290 (9,918)	3,967 (5,730x)
- 10	HD-SL 6'7"	17,632 (19,395x)	9,257 (19,616x)	6,171 (13,665)	4,408 (9,698)	
	HD-SL 7'5"	19,395x (19,395x)	11,020 (19,616x)	7,273 (13,665)	5,290 (9,698)	
- 15	HD-SL 6'7"	17,852 (25,346x)	9,477 (18,954x)	6,171 (13,665x)	4,628 (6,832x)	
	HD-SL 7'5"	21,599 (25,346x)	11,020 (18,954x)	7,273 (13,665x)	5,290 (6,832x)	
- 20	HD-SL 6'7"	18,514 (24,264x)	9,698 (16,089x)	6,612 (9,698x)		
	HD-SL 7'5"	22,260 (24,264x)	11,461 (16,089x)	7,714 (9,698x)		

Capacities are in lb and can be lifted 360° with machine on firm, supporting surface, equipped with 30" triple grouser pads. Capacities in (...) can be lifted over end only. Indicated capacities are based on standards SAE J 10567 and ISO 10567 and do not exceed 75 % of tipping and 87 % of hydraulic capacity (x). Load point is the change adapter's load hook which limits max. load to 13.2 tons (26,400 lb). Without quick change adapter the lift capacities will increase by 518 lb, without bucket cylinder, link and lever, they increase by an additional 606 lb.

Note: Safe lifting of the excavator is limited by its stability, hydraulic capacity and max. permissible load on the load hook.

Backhoe Attachment

with Gooseneck Boom 18'8"



Digging Envelope

with Quick Change Adapter

		1	2	3	4	5
Stick lengths	ft in	5' 7"	7'3"	8'10"	10'6"	13' 9"
Max. digging depth	ft in	15' 1"	16'9"	18' 4"	20'	23' 4"
Max. reach at ground level	ft in	29' 6"	32'4"	33'	34'7"	37'11"
Max. dump height	ft in	23' 7"	25'3"	26'11"	28'5"	31' 4"
Max. teeth height	ft in	33'10"	35'5"	36'11"	38'5"	41' 4"

Digging Forces

without Quick Change Adapter

		1	2	3	4	5
Digging force ISO	lb	25,627	21,806	19,108	16,860	13,713
Breakout force ISO	lb	31,697	31,697	31,697	31,697	31,697

with Quick Change Adapter

Digging force ISO	lb	23,829	20,457	17,984	15,961	13,038
Breakout force ISO	lb	26,302	26,302	26,302	26,302	26,302

Max. breakout force with ripper bucket

35,518 lb

Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 18'8", stick 7'3", quick change adapter 48 and bucket 1.31 yd³.

Undercarriage		HD-SL 6'7"		HD-SL 7'5"	
Pad width	in	24"	30"	24"	30"
Weight	lb	46,759	47,674	46,967	47,884
Ground pressure	PSI	6.30	5.10	6.30	5.10

Buckets

		without Quick Change Adapter					with Quick Change Adapter			
Cutting width SAE	in	24" ¹⁾	33"	41"	49"	55"	41"	41"	49"	49"
Capacity ISO 7451	yd ³	.46	.72	.91	1.18	1.37	.91	1.05	1.18	1.30
Max. possible material weight	lb/yd ³	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750
Weight with Liebherr teeth Z 13 ²⁾	lb	1,543	1,168	1,312	1,510	1,609	1,356	1,411	1,543	1,576
Max. stick length for machine stability per ISO 10567:										
HD-SL 6'7"	ft in	10'6"	8'10"	7' 3"	5'7"	–	7' 3"	7'3"	5'7"	–
HD-SL 7'5"	ft in	10'6"	10' 6"	8'10"	7'3"	5'7"	8'10"	7'3"	7'3"	5'7"

¹⁾ Ripper bucket with teeth size Z 16 P

²⁾ Bucket with Liebherr teeth Z 13 (for applications up to surface class 5, heavy soils)

Lift Capacities

with Gooseneck Boom 18'8"

Stick 7'3"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"		11,461x (11,461x)			
	HD-SL 7'5"		11,461x (11,461x)			
20	HD-SL 6'7"		11,902x (11,902x)	7,934 (10,800x)		
	HD-SL 7'5"		11,902x (11,902x)	9,257 (10,800x)		
15	HD-SL 6'7"	20,056x (20,056x)	12,122 (14,106x)	7,714 (11,461x)	5,290 (9,477x)	
	HD-SL 7'5"	20,056x (20,056x)	13,885 (14,106x)	8,816 (11,461x)	6,171 (9,477x)	
10	HD-SL 6'7"		10,800 (17,191x)	7,053 (12,783x)	5,069 (10,359)	
	HD-SL 7'5"		12,563 (17,191x)	8,155 (12,783x)	5,951 (10,359)	
5	HD-SL 6'7"		9,918 (19,616x)	6,612 (13,885x)	4,849 (10,138)	
	HD-SL 7'5"		11,461 (19,616x)	7,714 (13,885x)	5,510 (10,138)	
0	HD-SL 6'7"		9,477 (19,836x)	6,392 (13,885)	4,628 (9,918)	
	HD-SL 7'5"		11,240 (19,836x)	7,494 (13,885)	5,510 (9,918)	
- 5	HD-SL 6'7"	15,648x (15,648x)	9,477 (18,293x)	6,392 (13,665x)	4,628 (9,918)	
	HD-SL 7'5"	15,648x (15,648x)	11,020 (18,293x)	7,273 (13,665x)	5,510 (9,918)	
- 10	HD-SL 6'7"		9,698 (15,428x)	6,392 (11,461x)		
	HD-SL 7'5"		11,461 (15,428x)	7,494 (11,461x)		
- 15	HD-SL 6'7"					
	HD-SL 7'5"					
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Stick 8'10"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"		7,494x (7,494x)			
	HD-SL 7'5"		7,494x (7,494x)			
25	HD-SL 6'7"		10,138x (10,138x)	8,155x (8,155x)		
	HD-SL 7'5"		10,138x (10,138x)	8,155x (8,155x)		
20	HD-SL 6'7"		10,579x (10,579x)	8,155 (9,918x)	5,510 (6,171x)	
	HD-SL 7'5"		10,579x (10,579x)	9,257 (9,918x)	6,171x (6,171x)	
15	HD-SL 6'7"	14,546x (14,546x)	12,342 (12,783x)	7,714 (10,800x)	5,290 (9,698x)	
	HD-SL 7'5"	14,546x (14,546x)	12,783x (12,783x)	8,816 (10,800x)	6,171 (9,698x)	
10	HD-SL 6'7"		11,240 (16,089x)	7,273 (12,122x)	5,069 (10,138x)	
	HD-SL 7'5"		12,783 (16,089x)	8,375 (12,122x)	5,951 (10,138x)	
5	HD-SL 6'7"		9,918 (18,734x)	6,612 (13,444x)	4,849 (10,138)	
	HD-SL 7'5"		11,681 (18,734x)	7,714 (13,444x)	5,510 (10,138)	
0	HD-SL 6'7"	8,155x (8,155x)	9,477 (19,836x)	6,392 (13,885)	4,628 (9,918)	
	HD-SL 7'5"	8,155x (8,155x)	11,020 (19,836x)	7,273 (13,885)	5,290 (9,918)	
- 5	HD-SL 6'7"	14,326x (14,326x)	9,257 (18,954x)	6,171 (13,665)	4,628 (9,698)	
	HD-SL 7'5"	14,326x (14,326x)	11,020 (18,954x)	7,273 (13,665)	5,290 (9,918)	
- 10	HD-SL 6'7"	18,073 (22,260x)	9,477 (16,530x)	6,171 (12,342x)	4,628 (5,951x)	
	HD-SL 7'5"	21,820 (22,260x)	11,020 (16,530x)	7,273 (12,342x)	5,510 (5,951x)	
- 15	HD-SL 6'7"					
	HD-SL 7'5"					
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Stick 10'6"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)				
		10	15	20	25	30
30	HD-SL 6'7"					
	HD-SL 7'5"					
25	HD-SL 6'7"			7,934x (7,934x)		
	HD-SL 7'5"			7,934x (7,934x)		
20	HD-SL 6'7"			8,375 (8,816x)	5,510 (7,273x)	
	HD-SL 7'5"			8,816x (8,816x)	6,392 (7,273x)	
15	HD-SL 6'7"		10,359x (10,359x)	7,934 (9,918x)	5,290 (9,036x)	2,645x (2,645x)
	HD-SL 7'5"		10,359x (10,359x)	9,036 (9,918x)	6,171 (9,036x)	2,645x (2,645x)
10	HD-SL 6'7"	21,599 (23,142x)	11,461 (14,767x)	7,273 (11,461x)	5,069 (9,698x)	3,747 (5,730x)
	HD-SL 7'5"	23,142x (23,142x)	13,224 (14,767x)	8,375 (11,461x)	5,951 (9,698x)	4,188 (5,730x)
5	HD-SL 6'7"		10,138 (17,852x)	6,832 (13,004x)	4,849 (10,138)	3,526 (6,832x)
	HD-SL 7'5"		11,902 (17,852x)	7,934 (13,004x)	5,510 (10,138)	4,188 (6,832x)
0	HD-SL 6'7"	9,036x (9,036x)	9,477 (19,395x)	6,392 (13,885)	4,628 (9,918)	3,526 (6,392x)
	HD-SL 7'5"	9,036x (9,036x)	11,020 (19,395x)	7,273 (13,885)	5,290 (9,918)	3,967 (6,392x)
- 5	HD-SL 6'7"	13,224x (13,224x)	9,257 (19,395x)	6,171 (13,444)	4,408 (9,698)	
	HD-SL 7'5"	13,224x (13,224x)	10,800 (19,395x)	7,053 (13,665)	5,290 (9,698)	
- 10	HD-SL 6'7"	17,632 (19,395x)	9,257 (17,632x)	6,171 (13,004x)	4,408 (9,477x)	
	HD-SL 7'5"	19,395x (19,395x)	10,800 (17,632x)	7,053 (13,004x)	5,290 (9,477x)	
- 15	HD-SL 6'7"		9,477 (13,885x)	6,392 (9,918x)		
	HD-SL 7'5"		11,240 (13,885x)	7,494 (9,918x)		
- 20	HD-SL 6'7"					
	HD-SL 7'5"					

Capacities are in lb and can be lifted 360° with machine on firm, supporting surface, equipped with 30" triple grouser pads. Capacities in (...) can be lifted over end only. Indicated capacities are based on standards SAE J 10567 and ISO 10567 and do not exceed 75 % of tipping and 87 % of hydraulic capacity (x). Load point is the change adapter's load hook which limits max. load to 13.2 tons (26,400 lb). Without quick change adapter the lift capacities will increase by 518 lb, without bucket cylinder, link and lever, they increase by an additional 606 lb.

Note: Safe lifting of the excavator is limited by its stability, hydraulic capacity and max. permissible load on the load hook.

Equipment



Undercarriage

	S	O
Two-stage travel motors	•	
Lifetime lubricated track rollers	•	
Protective cover of travel gears	•	
Idler protection	•	
Track guide at each track frame	•	
Tracks sealed and greased	•	
Track guides at sprocket and in center		•
B 60 sprocket with material ejector		•
Reinforced bottom plate of center-piece		•



Uppercarriage

	S	O
Maintenance-free swing brake lock	•	
Handrails, Non slip surfaces	•	
Main switch for electric circuit	•	
Engine hood with lift cylinder	•	
Sound insulation	•	
Maintenance-free HD-batteries	•	
Lockable tool box	•	
Tool kit	•	
Pedal controlled positioning swing brake		•
Extended tool kit		•
Electric fuel tank filler pump		•
Customized colors		•



Hydraulics

	S	O
Hydraulic tank shut-off valve	•	
Pressure compensation	•	
Hook up for pressure checks	•	
Pressure storage for controlled lowering of attachments with engine turned off	•	
Filter with partial micro filtration (5 µm)	•	
Electronic pump regulation	•	
Flow compensation	•	
Four adjustable mixed modes	•	
Full flow micro filtration		•
Bio degradable hydraulic oil	•	
Additional hydraulic circuits	•	
Extra hydr. control for hydr. swivel	•	
Liebherr Tool Control		•



Engine

	S	O
Turbo charger	•	
Direct injection	•	
After-cooled	•	
Sensor controlled engine idling	•	
Air filter with pre-cleaner main- and safety element	•	
Cold start aid		•

S = Standard, O = Option



Operator's Cab

	S	O
Tinted windows	•	
Roof hatch	•	
Door with sliding window	•	
Rain hood over front window opening	•	
Wiper/washer	•	
6-way adjustable seat	•	
Seat and consoles independently adjustable	•	
Storage tray	•	
Dome light	•	
Inside rear mirror	•	
Clothing hook	•	
Cigarette lighter and ashtray	•	
Displays for engine operating condition	•	
Mechanical hour meters, readable from outside the cab	•	
Sun roller blind	•	
Removable customized foot mat	•	
Air conditioning	•	
Cab heater with defroster	•	
Auxiliary heating		•
Air pressure operator seat with heating and head-rest		•
Stereo radio		•
Preparation for radio installation		•
Electric cooler		•
Bullet proof window (fixed installation – can not be opened)		•
Beacon		•
Electronic theft protection		•
Additional flood lights		•
Extinguisher	•	



Attachment

	S	O
Flood lights on boom	•	
Sealed pivots	•	
Safety lift hook on buckets	•	
SAE-dbl flange connection for all hi-pressure lines	•	
Centralized lube points	•	
Cylinders with shock absorber	•	
Hydr. lines for clam operation on stick		•
Liebherr line of clams		•
Load holding valves for hoist cylinder	•	
Load holding valves for stick cylinder		•
Hose quick connection		•
Hydraulic or manual quick change tool adapter		•
Customized colors		•
Special buckets and other tools		•
Overload warning device		•
Two way valves for bucket/clam use		•
Locking of connections for clam operation		•
Liebherr automatic lubrication system for attachment and swing ring		•

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