

# Crawler Excavator

**R 954 C**  
Litronic®

Operating Weight with Backhoe Attachment: 107,915 - 117,615 lb  
Engine Output (SAE J1349): 322 HP / 240 kW  
Engine Output (ISO 9249): 326 HP / 240 kW  
Bucket Capacity: 1.63 - 3.92 yd<sup>3</sup>



# LIEBHERR

# R 954 C

Litronic<sup>®</sup>

Operating Weight with Backhoe Attachment: 107,915 - 117,615 lb  
Engine Output (SAE J1349): 322 HP / 240 kW  
Engine Output (ISO 9249): 326 HP / 240 kW  
Bucket Capacity: 1.63 - 3.92 yd<sup>3</sup>



## Performance

Liebherr crawler excavators feature state-of-the-art technology and high-quality workmanship. The critical components of the drive system are all produced by Liebherr and are perfectly coordinated with one another. The Liebherr diesel engine assures effective power delivery, exceptional efficiency, long service life and complies with Tier 3 emission standards.

## Reliability

Backed by more than 50 years experience designing and building hydraulic excavators, Liebherr excavators provide the maximum in reliability and performance.

## Comfort

Designed to the latest ergonomic standards, the operators cab provides exceptional comfort, ease of operation and an outstanding, wide view to the working area. For Liebherr, comfort also applies to service, with centrally located service points and easy, rapid access.

## Economy

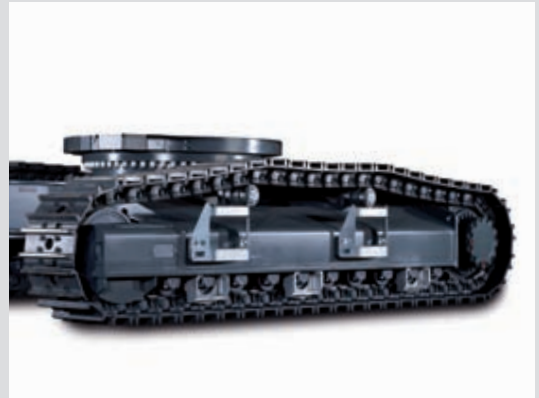
Crawler excavators from Liebherr guarantee maximum productivity. The optimized interaction of hydraulics and electronics means that individual movements as well as multiple functions can be performed at the same time without decreasing efficiency. A wide selection of tools and attachments allows the machine to be configured for multiple applications.





#### **Liebherr Diesel Engine**

- Specifically designed for construction equipment
- Long life expectancy
- Incline lubrication capability for an up to 100 % grade
- LIDEC-Engine Control – Liebherr Diesel Engine Control
- Complies with emission standard IIIA / Tier 3



# Performance

Liebherr crawler excavators feature state-of-the-art technology and high-quality workmanship. The critical components of the drive system are all produced by Liebherr factories and are perfectly coordinated to each other.

The Liebherr diesel engine assures effective power delivery, exceptional efficiency, long service life and complies with Tier 3 emission standards.

## High Productivity

### High digging and break-out forces

The R 954 C features high digging and break-out forces due to optimal attachment geometry - due to the utilization of large stick and bucket cylinders.

### Regeneration Plus

The "Regeneration Plus" function guarantees faster lowering speed, reduced pressure loss and increased safety. Productivity is increased with the optimization and consolidation of functions: "pressure less lowering", "regeneration" and "load holding valves" all combined with high hydraulic pressure.

## Liebherr Engine Technology

### Liebherr Diesel Power

The 6-cylinder in-line engine, developed for the R 954 C assures an effective power output, a high efficiency and a long life expectancy.

The engine develops high output power at low rpm - resulting in economic operation without sacrificing power.

### Emission standards

The new engine generation with optimal performance density assures for a more environment friendly fuel combustion. Higher ignition pressures and the newly designed injection technology guarantee the compliance with the emission standard IIIA / Tier 3.

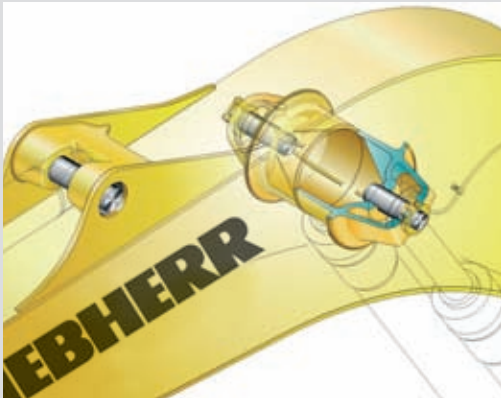
### Heavy-duty undercarriage

- The combination of high-tensile strength steel plates and steel castings minimize tension
- Undercarriage sizes for every application are available



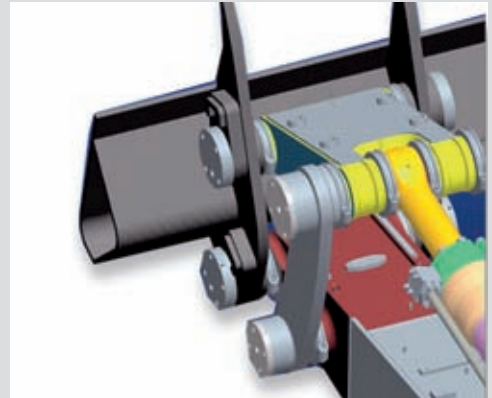
### Multi-function tool carrier

- Attachments for every material and application
- Modular quick coupler system designed and manufactured by Liebherr
- LIKUFIX: a quick change system that combined with an automatic coupling system allows the operator to quickly change attachments and make all hydraulic connections from the cab



**Dependable design**

- Designed with cast bell-housings
- Features two separate pins
- Maximum strength even at high forces
- Optimized stress flow design



# Reliability

Backed by more than 50 years experience designing and building hydraulic excavators, Liebherr excavators provide the maximum in reliability and performance.

## Technology with a vision

### Optimized hydraulics

External bypass lines at the control valve route the oil flow to the appropriate attachment functions. The optimal hose routing from the control valve to the attachment substantially increases the dependability of the hydraulic system.

### Power pack

The individual components of the drive unit (i.e. construction equipment engine, travel and swing drives, main pumps and hydraulic cylinders), produced by Liebherr are coordinated to fit each other perfectly. They guarantee maximum dependability as an integral part of the total system designed for long life expectancy.

### Quality to the last detail

The clearly laid out routing of the hydraulic, lubrication and electrical lines assures the highest reliability and performance of the machine. Optimal corrosion protection is achieved with pre-painted and surface treated parts.

## Heavy-duty attachments

### Robust attachment concept

Steel castings are utilized at each pivot point - ensuring that the attachment is consistently able to withstand the most severe demands.

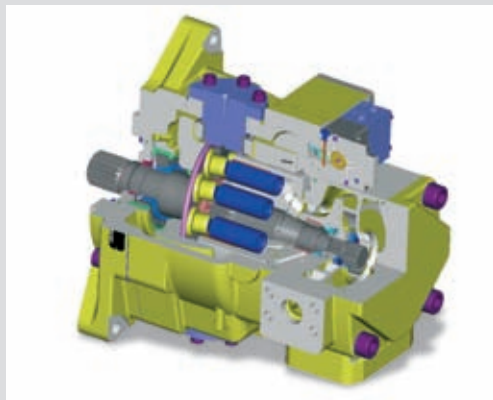
### Optimized stress flow

The swing ring tower is made from one piece, which transfers the forces - following the principal of "stress flow design" - into the undercarriage. For lasting protection against dirt and damage, Liebherr swing rings are sealed and have internal teeth.



### Bucket linkage

- Optional sealed linkage bearings
- Optimal protection for under-water work
- Increased life expectancy of the attachment



### Key components made by Liebherr

- Decades of experience designing and manufacturing components for construction applications
- Engines, hydraulic pumps and motors, swing and travel drive and electronic elements - all manufactured in-house by Liebherr
- State-of-the-art component manufacturing centers in Germany and Switzerland



#### Hydraulic reservoir shut-off valve

- Easy and quick shut-off of the oil circuit between hydraulic reservoir and hydraulic system
- No drainage of fluid necessary for service or repair work on the hydraulic system





# Comfort

Designed to the latest ergonomic standards, the operators cab provides exceptional comfort, ease of operation and an outstanding, wide view to the working area - with air-conditioning standard. For Liebherr, comfort also applies to service, with centrally located service points and easy, rapid access.

## Standard maintenance advantage

### Easy accessibility

All service points are easily accessible and the R 954 C features a central lubrication point as a standard feature. Daily preventive maintenance can be completed quickly and easily.

### Maintenance friendly track components

Top rollers, track rollers and track link pins are lubricated for the life of the excavator. The grease cylinder of the idler tensioner is sealed against dirt.

## The operator takes center stage

### Optimal visibility

The cab features exceptional window area - providing outstanding visibility to the work and surrounding area.

### Well thought-out arrangement

Designed to the latest ergonomic standards, the controls, displays, the arrangement of the seat - all are perfectly tuned in an integrated concept. The seat is fully adjustable to ensure maximum operator comfort over a long work day.

### Easy operation

The control consoles and information display are arranged within clear view of the operator and are easy to reach. New joysticks, with reduced operating force, are ergonomically shaped and placed within easy reach of the operator.

### Easy access

- Comfortably positioned steps on both sides provide good accessibility to all service points
- Ergonomically positioned hand rails ensure secure access
- Additional hand rails guarantee maximum safety



### Liebherr Operator's cab

- Generously-sized windows allow for optimal visibility
- Operator's seat is individually adjustable and includes a shock-absorbing cushion
- Standard automatic climate control
- Right-side window without vertical center post
- Lockable storage behind seat



#### Hydrostatic fan drive

- The new cooling system consists of two hydrostatically driven fans
- The fan speed is thermostatically-controlled by the temperature of hydraulic fluid, charging air and radiator fluid
- Accelerated warm-up period
- Fan utilizes only the minimum required power; reducing fuel consumption



# Economy

Crawler excavators from Liebherr guarantee maximum productivity. The optimized interaction of hydraulics and electronics means that individual movements as well as multiple functions can be performed at the same time without decreasing efficiency. A wide selection of tools and attachments allows the machine to be configured for multiple applications

## Technology for maximum profitability

### Electronic engine speed sensing control

This regulating system provides efficient conversion of the engine output in hydraulic performance - ensuring better utilization of engine power. The result: increased output, decreased fuel consumption and protection of the diesel engine.

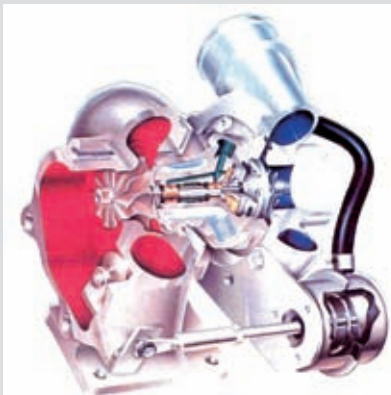
### Liebherr Tool Control

A unique and large selection of tools and quick couplers provide advantages in applications requiring frequent tool changes. Designed and manufactured by Liebherr - assuring the efficiency and productivity of matched components.



### New bucket shape

- The new L-shape features a longer bottom and a strong waved side cutters
- Suitable for applications in rocky conditions as well as for loading hard and coarse material
- Ideal for placing rip-rap on embankments



### Turbo charger with waste-gate

- Optimized turbo charger technology
- Full utilization of the performance potential for power development in lower speed ranges
- Less wear on the turbine components

# Technical Data



## Engine

Rating per SAE J1349	322 HP (240 kW) at 1,800 rpm
Rating per ISO 9249	326 HP (240 kW) at 1,800 rpm
Model	Liebherr D 936 L
Type	6 cylinder in-line
Bore/Stroke	4.80/5.90 in
Displacement	641 in <sup>3</sup>
Engine operation	4-stroke diesel unit pump system turbo-charged and after-cooled reduced emissions
Cooling	water-cooled and integrated motor oil cooler
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	195 gal
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 170 Ah/12 V
Starter	24 V/7.8 kW
Alternator	three phase current 28 V/80 A



## Hydraulic System

Hydraulic pump for attachment and travel drive	two Liebherr variable flow, swash plate pumps
Max. flow	2 x 92.5 gpm
Max. pressure	5,075 psi
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	56 gpm
Max. pressure	5,569 psi
Hydraulic tank	116 gal
Hydraulic system	209 gal
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Cooling system	cooler unit, consisting of radiator for engine coolant with after-cooler core, sandwiched with cooler for hydraulic fluid and fuel with hydro-statically controlled fan drive
MODE selection	adjustment of machine performance and the hydraulics via a mode selector to match application
ECO	for economical and environmentally friendly operation
POWER	for maximum digging power and heavy duty jobs
LIFT	for lifting
FINE	for precision work and lifting
RPM adjustment	stepless adjustment of engine output via rpm at each selected mode
Liebherr Tool-Control	ten pre-adjustable pump flows and pressures for add on tools



## Hydraulic Controls

Power distribution	via monoblock control valve with integrated relief and safety valves
Flow summation	to boom and stick
Closed-loop circuit	for uppercarriage swing drive
Servo circuit	
Attachment and swing	– proportional via joystick levers
Travel	– proportional via foot pedals or removable hand levers – speed pre-selection
Additional functions	via joystick push buttons or foot pedals



## Swing Drive

Drive	Liebherr swash plate motor with integrated brake valves
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0 – 5.6 rpm stepless
Swing torque	121,698 lbf ft
Holding brake	wet multi-disc (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, shock absorbing suspension, adjustable to operator's weight and size, 6-way adjustable Liebherr seat
Joysticks	integrated into adjustable consoles
Monitoring	LCD display with menu-driven current operating data display. Acoustical and optical warning signals. Automatic engine shut-off e.g. engine over heating, low engine oil pressure, low hydraulic fluid level
Air conditioning	standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	L <sub>PA</sub> (inside cab) = 77 dB(A)
2000/14/EC	L <sub>WA</sub> (surround noise) = 105 dB(A)



## Undercarriage

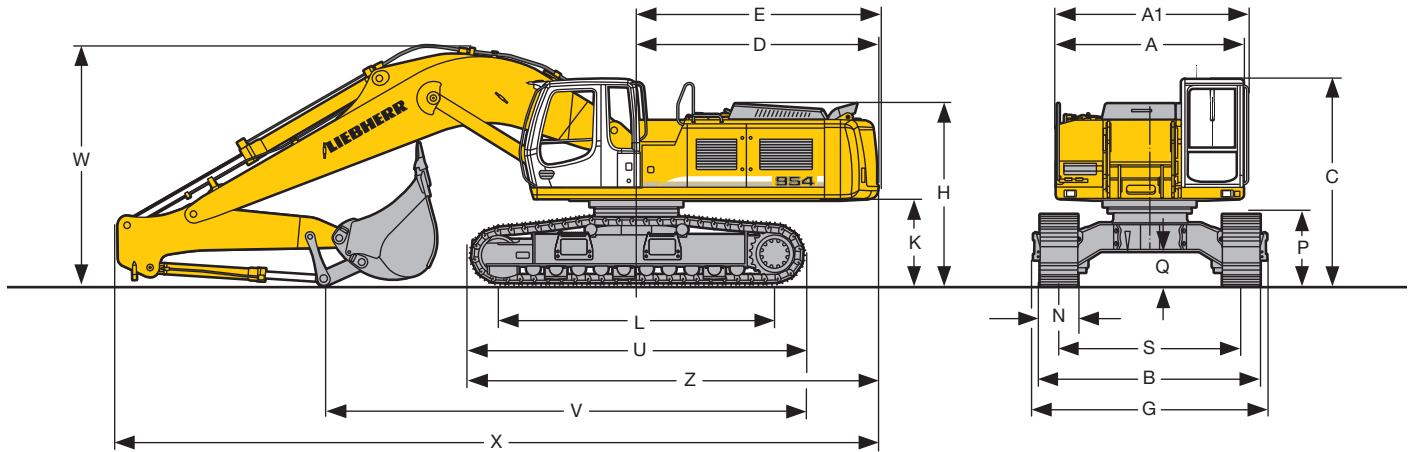
HD	heavy duty
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	low range – 2.05 mph high range – 3.00 mph
Net drawbar pull on crawler	80,706 lbf
Track components	D 7 G, maintenance-free
Track rollers/Carrier rollers	10/2
Tracks	sealed and greased
Track pads	HD triple grouser
Digging locks	wet multi-discs (spring applied, pressure released)



## Attachment

Design	high strength steel plates with steel castings in high-stress areas
Hydraulic cylinders	Liebherr cylinders with special seal-system, shock absorbing
Pivots	sealed, low maintenance
Lubrication	semi-automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	pipes and hoses equipped with SAE split-flange connections
Bucket	standard equipped with Liebherr tooth system

# Dimensions



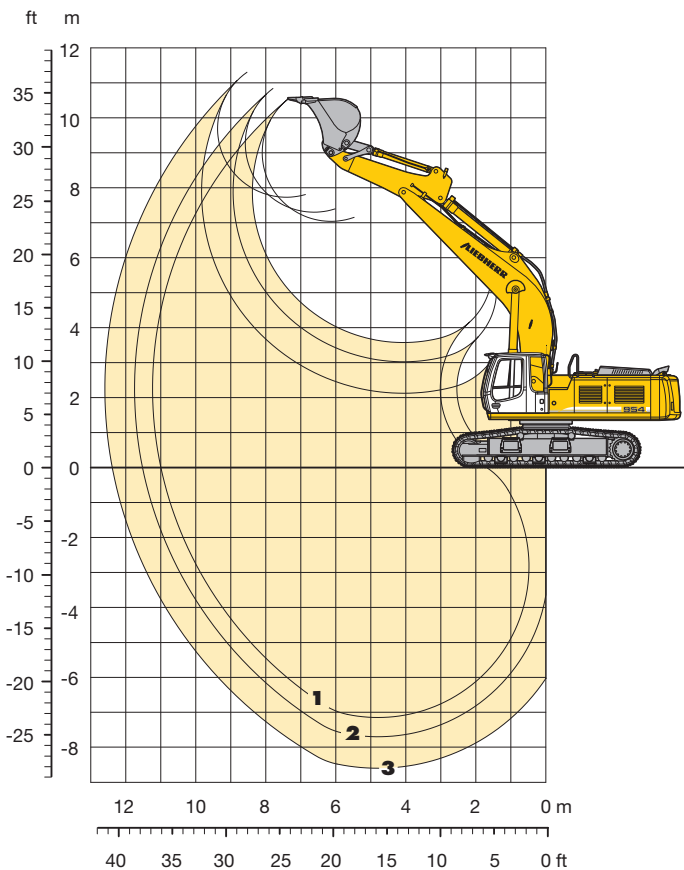
	ft in	
A	9' 9"	
A1	10'	
C	10'10"	
D	12' 8"	
E	12' 8"	
H	9' 7"	
K	4' 6"	
L	14' 5"	
P	3' 9"	
Q	1'10"	
S	9' 6"	
U	17' 7"	
Z	21' 6"	
N	20"	24"
B	11' 4"	11' 6"
G	12' 2"	12' 2"

	HD-Undercarriage			
	Stick Length	Gooseneck Boom 22'	Gooseneck Boom 24' 11"	Gooseneck Boom 30' 2"
	ft in	ft in	ft in	ft in
V	7'8"	25' 1"	24'11"	-
	9'6"	23' 4"	26'11"	28'7"
	12'5"	30' 6"*	23'11"	29'6"
W	16'5"	-	-	25'5"
	7'8"	12'10"	12'10"	-
	9'6"	13'	13'	13'9"
	12'5"	12'10"*	13' 1"	14'1"
X	16'5"	-	-	14'5"
	7'8"	39'10"	43' 6"	-
	9'6"	40'	43' 4"	48'9"
	12'5"	39'10"*	43' 4"	48'9"
	16'5"	-	-	48'9"

\* without bucket

# Backhoe Attachment

with Gooseneck Boom 22' and Heavy Duty Counterweight



## Digging Envelope

		1	2	3
Stick lengths	ft in	7'8"	9' 6"	12'5"
Max. digging depth	ft in	23'5"	25' 3"	28'3"
Max. reach at ground level	ft in	36'5"	37' 9"	40'8"
Max. dump height	ft in	23'2"	23'11"	25'3"
Max. teeth height	ft in	34'7"	35' 7"	37'1"
Digging force ISO	lbf	55,753	48,784	40,690
	lb	56,879	48,722	41,006
Breakout force ISO	lbf	70,365	70,365	70,365
	lb	70,327	70,327	70,327

Breakout force max. ISO

77,625 lbf/77,603 lb

## Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy duty counterweight, gooseneck boom 22', stick 7'8" and bucket 3.10 yd<sup>3</sup>.

Undercarriage	HD			
Pad width	in	20"	24"	30"
Weight	lb	107,915	109,240	111,995
Ground pressure	psi	14.7	12.4	10.1

## Buckets Machine stability per ISO 10567\* (75% of tipping capacity)

	Cutting width in	Capacity ISO 7451 yd <sup>3</sup>	Weight lb	HD-Undercarriage		
				Stick length (ft in)		
				7'8"	9'6"	12'5"
STD <sup>1)</sup>	53"	2.16	4,630	○	○	○
	61"	2.62	4,960	○	○	○
	69"	3.07	5,510	○	○	□
	77"	3.53	5,840	○	□	△
	77"	3.92	6,070	□	△	■
HD <sup>2)</sup>	53"	2.16	5,290	○	○	○
	61"	2.62	5,950	○	○	□
	69"	3.07	6,510	○	○	△
	77"	3.53	7,060	○	□	■

\* Indicated loads are based on ISO 10567 max. stick length, lifted 360° on firm

<sup>1)</sup> Standard bucket with Liebherr teeth Z 70 (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

<sup>2)</sup> HD bucket with Liebherr teeth Z 70 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

Other backhoes available on request

Max. material weight ○ = ≤ 3,708 lb/yd<sup>3</sup>, □ = ≤ 3,034 lb/yd<sup>3</sup>, △ = ≤ 2,528 lb/yd<sup>3</sup>, ■ = ≤ 2,023 lb/yd<sup>3</sup>, ▲ = not authorized

# Lift Capacities

## with Gooseneck Boom 22' and Heavy Duty Counterweight

### Stick 7'8"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD							
25	HD				15,653# (15,653#)			
20	HD				18,475# (18,475#)			
15	HD		32,805# (32,805#)	24,449# (24,449#)	20,437# (20,437#)	15,873 (16,336#)		
10	HD		42,858# (42,858#)	29,079# (29,079#)	20,856 (22,862#)	15,190 (19,533#)		
5	HD		41,998 (45,856#)	27,514 (32,871#)	19,599 (25,089#)	14,551 (20,679#)		
0	HD		40,918 (49,802#)	26,235 (34,899#)	18,761 (26,500#)	14,088 (21,341#)		
- 5	HD	38,581# (38,581#)	40,984 (48,193#)	25,838 (34,965#)	18,409 (26,676#)			
- 10	HD	55,402# (55,402#)	41,756 (44,291#)	26,125 (32,871#)	18,629 (24,890#)			
- 15	HD	50,817# (50,817#)	37,082# (37,082#)	27,183 (27,514#)				
- 20	HD							
- 25	HD							
- 30	HD							

### Stick 9'6"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD							
25	HD							
20	HD					16,623# (16,623#)	12,214# (12,214#)	
15	HD				22,090# (22,090#)	18,739# (18,739#)	15,984 (16,909#)	
10	HD			38,978# (38,978#)	26,985# (26,985#)	21,054 (21,385#)	15,234 (18,298#)	
5	HD			43,122 (46,584#)	27,911 (31,328#)	19,687 (23,920#)	14,462 (19,709#)	
0	HD	21,164# (21,164#)	41,182 (49,516#)	26,345 (34,083#)	18,673 (25,728#)	13,889 (20,723#)		
- 5	HD	33,797# (33,797#)	40,741 (49,119#)	25,662 (34,899#)	18,144 (26,433#)	13,603 (20,856#)		
- 10	HD	47,510# (47,510#)	41,160 (46,231#)	25,662 (33,643#)	18,144 (25,485#)			
- 15	HD	57,783# (57,783#)	40,345# (40,345#)	26,389 (29,674#)				
- 20	HD	40,609# (40,609#)	29,123# (29,123#)					
- 25	HD							
- 30	HD							

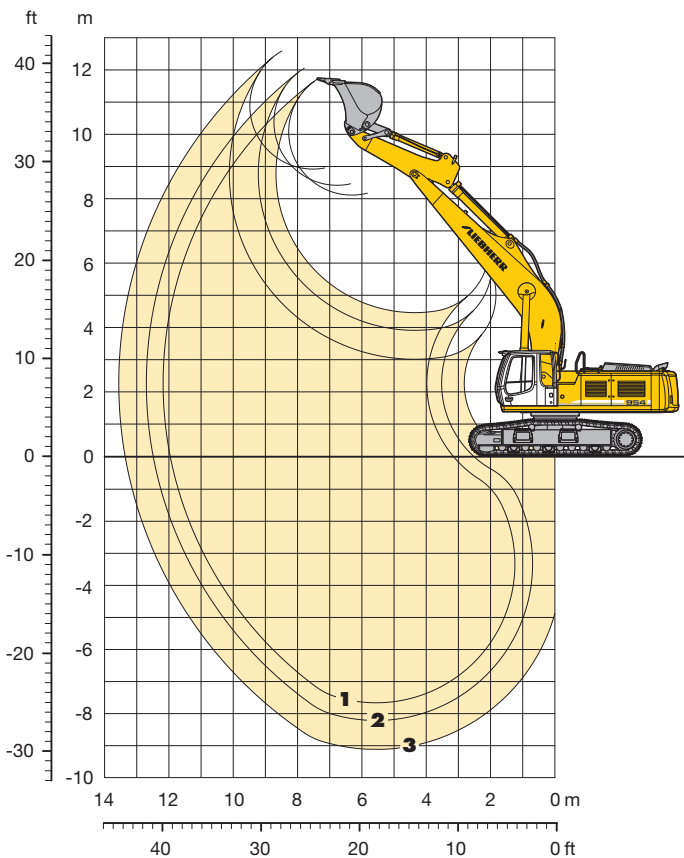
### Stick 12'5"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD							
25	HD					9,370# (9,370#)		
20	HD					13,448# (13,448#)		
15	HD				16,006# (16,006#)	14,705# (14,705#)	7,584# (7,584#)	
10	HD	47,047# (47,047#)	32,452# (32,452#)	23,391# (23,391#)	18,938# (18,938#)	15,521 (16,380#)	10,670# (10,670#)	
5	HD	17,461# (17,461#)	42,108# (42,108#)	28,528# (28,528#)	20,150 (21,914#)	14,639 (18,144#)	10,825 (12,170#)	
0	HD	21,142# (21,142#)	42,241 (47,708#)	26,918 (32,342#)	18,894 (24,339#)	13,867 (19,621#)	10,428 (11,023#)	
- 5	HD	28,991# (28,991#)	40,896 (49,538#)	25,750 (34,348#)	18,078 (25,816#)	13,360 (20,459#)		
- 10	HD	38,890# (38,890#)	40,697 (48,458#)	25,331 (34,392#)	17,747 (25,926#)	13,228 (20,150#)		
- 15	HD	51,302# (51,302#)	41,337 (44,533#)	25,596 (32,165#)	17,946 (24,074#)			
- 20	HD	54,013# (54,013#)	36,751# (36,751#)	26,433# (26,433#)				
- 25	HD							
- 30	HD							

The load values are quoted in lb on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 24" wide, triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via x). Maximum load for the backhoe bucket's lifting eye is 59,525 lb. Without bucket (3.10 yd³), the lift capacities will increase by 5,510 lb, without bucket cylinder, link and lever they increase by an additional 1,650 lb. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

# Backhoe Attachment

with Gooseneck Boom 24'11" and Heavy Duty Counterweight



## Digging Envelope

		1	2	3
Stick lengths	ft in	7'8"	9' 6"	12' 5"
Max. digging depth	ft in	25'1"	26'11"	29'10"
Max. reach at ground level	ft in	39'2"	41'	43'10"
Max. dump height	ft in	26'7"	27' 7"	29' 2"
Max. teeth height	ft in	38'5"	39' 6"	41' 4"
Digging force ISO	lbf	55,753	48,784	40,690
	lb	56,879	48,722	41,006
Breakout force ISO	lbf	70,365	70,365	70,365
	lb	70,327	70,327	70,327

Breakout force max. ISO

77,625 lbf/77,603 lb

## Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy duty counterweight and gooseneck boom 24'11", stick 9'6" and bucket 2.60 yd<sup>3</sup>.

Undercarriage	HD			
Pad width	in	20"	24"	30"
Weight	lb	108,690	112,215	114,970
Ground pressure	psi	14.8	12.7	10.4

## Buckets Machine stability per ISO 10567\* (75% of tipping capacity)

	Cutting width in	Capacity ISO 7451 yd <sup>3</sup>	Weight lb	HD-Undercarriage		
				Stick length (ft in)		
				7'8"	9'6"	12'5"
STD <sup>1)</sup>	53"	2.16	4,630	○	○	□
	61"	2.62	4,960	○	□	△
	69"	3.07	5,510	□	△	■
	77"	3.53	5,840	△	■	▲
	77"	3.92	6,070	■	▲	▲
HD <sup>2)</sup>	53"	2.16	5,290	○	□	△
	61"	2.62	5,950	□	△	■
	69"	3.07	6,510	△	■	▲
	77"	3.53	7,060	■	▲	▲

\* Indicated loads are based on ISO 10567 max. stick length, lifted 360° on firm

1) Standard bucket with Liebherr teeth Z 70 (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

2) HD bucket with Liebherr teeth Z 70 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

Other backhoes available on request

Max. material weight ○ = ≤ 3,708 lb/yd<sup>3</sup>, □ = ≤ 3,034 lb/yd<sup>3</sup>, △ = ≤ 2,528 lb/yd<sup>3</sup>, ■ = ≤ 2,023 lb/yd<sup>3</sup>, ▲ = not authorized



# Lift Capacities

with Gooseneck Boom 24'11" and Heavy Duty Counterweight

## Stick 7'8"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD				16,248# (16,248#)			
25	HD				16,865# (16,865#)	11,288# (11,288#)		
20	HD				18,298# (18,298#)	16,248# (16,380#)		
15	HD		38,052# (38,052#)	25,772# (25,772#)	20,393# (20,393#)	15,454# (17,417#)		
10	HD			27,293 (29,939#)	19,621 (22,641#)	14,573 (18,651#)		
5	HD			25,221 (32,673#)	18,298 (24,471#)	13,779 (19,731#)		
0	HD		25,618# (25,618#)	24,273 (33,532#)	17,461 (25,441#)	13,228 (20,327#)		
- 5	HD	26,059# (26,059#)	38,890 (41,734#)	24,119 (32,827#)	17,152 (25,331#)	13,029 (20,128#)		
- 10	HD	42,042# (42,042#)	39,529# (39,529#)	24,493 (30,644#)	17,328 (23,920#)	13,272 (18,519#)		
- 15	HD	42,549# (42,549#)	33,797# (33,797#)	25,419 (26,544#)	18,100 (20,371#)			
- 20	HD		24,339# (24,339#)	18,629# (18,629#)				
- 25	HD							
- 30	HD							

## Stick 9'6"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD							
25	HD						14,440# (14,440#)	
20	HD					16,777# (16,777#)	15,102# (15,102#)	
15	HD		33,687# (33,687#)	23,744# (23,744#)	18,982# (18,982#)	15,565 (16,292#)	11,376 (13,580#)	
10	HD		28,550# (28,550#)	28,065 (28,175#)	19,886 (21,429#)	14,617 (17,681#)	10,891 (15,388#)	
5	HD		20,437# (20,437#)	25,662 (31,548#)	18,431 (23,545#)	13,713 (18,960#)	10,406 (16,028#)	
0	HD		27,337# (27,337#)	24,361 (33,135#)	17,417 (24,890#)	13,073 (19,798#)	10,053 (16,358#)	
- 5	HD	23,193# (23,193#)	38,316# (38,316#)	23,920 (33,069#)	16,932 (25,199#)	12,721 (19,952#)		
- 10	HD	35,715# (35,715#)	39,000 (41,910#)	24,074 (31,482#)	16,932 (24,295#)	12,765 (19,026#)		
- 15	HD	49,494# (49,494#)	36,773# (36,773#)	24,758 (28,131#)	17,417 (21,671#)			
- 20	HD	37,192# (37,192#)	28,616# (28,616#)	21,914# (21,914#)				
- 25	HD							
- 30	HD							

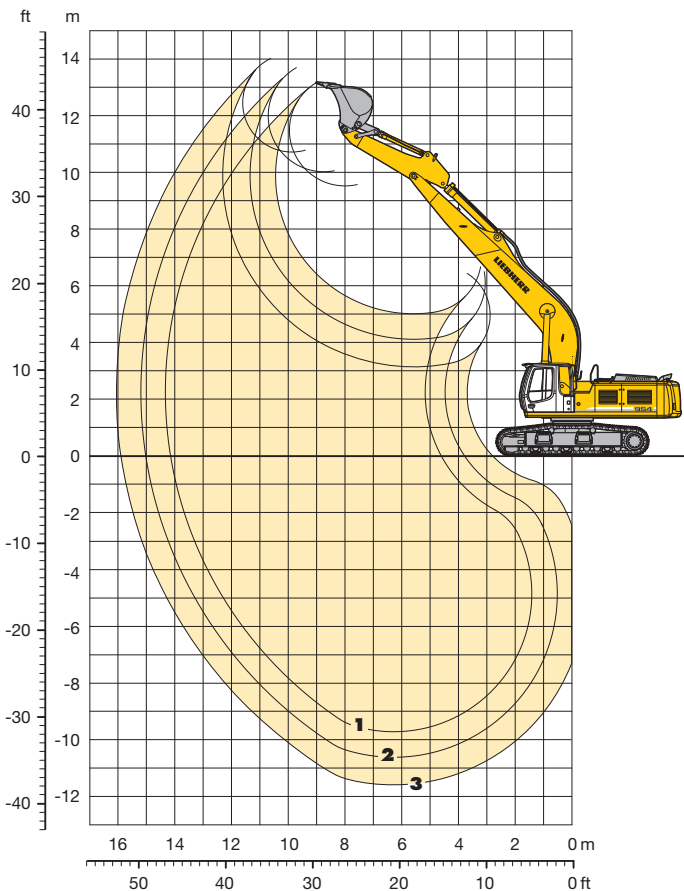
## Stick 12'5"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)						
		10	15	20	25	30	35	40
35	HD							
30	HD					10,670# (10,670#)		
25	HD					12,280# (12,280#)	6,989# (6,989#)	
20	HD					13,140# (13,140#)	11,993# (11,993#)	
15	HD				16,733# (16,733#)	14,528# (14,528#)	11,640 (13,140#)	
10	HD		37,302# (37,302#)	25,221# (25,221#)	19,445# (19,445#)	14,925 (16,138#)	11,045 (14,066#)	
5	HD		30,732# (30,732#)	26,742 (29,410#)	18,916 (21,980#)	13,911 (17,703#)	10,428 (14,991#)	
0	HD	11,089# (11,089#)	29,123# (29,123#)	24,890 (32,077#)	17,659 (23,876#)	13,095 (18,938#)	9,921 (15,697#)	
- 5	HD	19,798# (19,798#)	34,921# (34,921#)	23,942 (33,069#)	16,887 (24,824#)	12,544 (19,577#)	9,612 (15,939#)	
- 10	HD	28,881# (28,881#)	38,316 (44,467#)	23,722 (32,474#)	16,601 (24,670#)	12,346 (19,379#)	9,590 (15,036#)	
- 15	HD	39,308# (39,308#)	39,132 (40,940#)	24,052 (30,269#)	16,777 (23,149#)	12,544 (17,835#)		
- 20	HD	48,656# (48,656#)	34,524# (34,524#)	24,934 (25,882#)	17,483 (19,467#)			
- 25	HD		23,920# (23,920#)	17,394# (17,394#)				
- 30	HD							

The load values are quoted in lb on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 24" wide, triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via x). Maximum load for the backhoe bucket's lifting eye is 59,525 lb. Without bucket (2.60 yd³), the lift capacities will increase by 4,960 lb, without bucket cylinder, link and lever they increase by an additional 1,650 lb. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

# Backhoe Attachment

with Gooseneck Boom 30'2" and Heavy Duty Counterweight



## Digging Envelope

		1	2	3*
Stick lengths	ft in	9' 6"	12' 5"	16' 5"
Max. digging depth	ft in	31' 10"	34' 9"	38' 1"
Max. reach at ground level	ft in	46' 3"	49' 3"	52' 2"
Max. dump height	ft in	31' 4"	33'	35' 3"
Max. teeth height	ft in	43' 2"	44' 11"	45' 11"
Digging force ISO	lbf	48,784	40,690	33,721
	lb	48,722	41,006	33,731
Breakout force ISO	lbf	70,365	70,365	53,055
	lb	70,327	70,327	53,131

\* with bucket R 944 C

## Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy duty counterweight, gooseneck boom 30'2", stick 12'5" and bucket 2.15 yd<sup>3</sup>.

Undercarriage	HD			
Pad width	in	20"	24"	30"
Weight	lb	113,540	114,860	117,615
Ground pressure	psi	15.5	13.1	10.7

## Buckets Machine stability per ISO 10567\* (75% of tipping capacity)

Cutting width in	Capacity ISO 7451 yd <sup>3</sup>	Weight lb	HD-Undercarriage		
			9'6"	12'5"	16'5"
53"	2.16	4,630	□	△	▲
61"	2.62	4,960	△	■	▲
69"	3.07	5,510	■	▲	▲
77"	3.53	5,840	▲	▲	▲
47"	1.63	2,870	▲	▲	○
53"	1.96	3,090	▲	▲	□
59"	2.29	3,310	▲	▲	△
65"	2.62	3,530	▲	▲	■

\* Indicated loads are based on ISO 10567 max. stick length, lifted 360° on firm

1) Standard bucket with Liebherr teeth Z 70 (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

2) Standard bucket from R 944 C Litronic with Liebherr teeth Z 50

Other backhoes available on request

Max. material weight ○ = ≤ 3,708 lb/yd<sup>3</sup>, □ = ≤ 3,034 lb/yd<sup>3</sup>, △ = ≤ 2,528 lb/yd<sup>3</sup>, ■ = ≤ 2,023 lb/yd<sup>3</sup>, ▲ = not authorized

# Lift Capacities

with Gooseneck Boom 30'2" and Heavy Duty Counterweight

## Stick 9'6"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)							
		10	15	20	25	30	35	40	45
35	HD								
30	HD						10,538# (10,538#)		
25	HD					11,574# (11,574#)	10,692# (10,692#)		
20	HD	29,299# (29,299#)	19,357# (19,357#)	15,102# (15,102#)	12,721# (12,721#)	11,288# (11,288#)	8,267# (10,075#)		
15	HD		24,141# (17,549#)	17,549# (19,930#)	14,154# (14,154#)	10,648# (15,631#)	7,937# (13,051#)		
10	HD			20,878# (20,878#)	17,152# (19,930#)	12,985# (15,631#)	9,899# (13,051#)	7,518# (11,442#)	
5	HD			17,108# (17,108#)	15,719# (21,738#)	11,993# (16,887#)	9,237# (13,889#)	7,121# (11,949#)	
0	HD			20,988# (23,612#)	14,947# (22,730#)	11,310# (17,769#)	8,752# (14,528#)	6,834# (12,280#)	
- 5	HD		14,396# (14,396#)	21,098# (29,807#)	14,661# (22,950#)	10,979# (18,144#)	8,510# (14,793#)	6,746# (12,280#)	
- 10	HD	21,561# (21,561#)	28,528# (28,528#)	21,451# (28,594#)	14,749# (22,465#)	10,957# (17,924#)	8,510# (14,551#)		
- 15	HD	32,915# (32,915#)	33,400# (33,400#)	22,112# (26,588#)	15,168# (21,164#)	11,244# (16,954#)	8,885# (13,426#)		
- 20	HD	36,905# (36,905#)	29,299# (29,299#)	23,127# (23,479#)	15,939# (18,761#)	11,993# (14,705#)			
- 25	HD		22,818# (22,818#)	18,431# (18,431#)	14,176# (14,176#)				
- 30	HD								

## Stick 12'5"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)									
		10	15	20	25	30	35	40	45		
35	HD								7,341# (7,341#)		
30	HD								8,885# (8,885#)		
25	HD								9,237# (9,237#)	8,841# (8,929#)	
20	HD							11,199# (11,199#)	9,965# (9,965#)	8,532# (9,237#)	
15	HD					20,900# (20,900#)	15,631# (15,631#)	12,721# (12,721#)	10,891# (10,935#)	8,069# (9,789#)	
10	HD					24,780# (25,463#)	18,012# (18,232#)	13,382# (14,352#)	10,053# (11,971#)	7,540# (10,450#)	5,556# (6,680#)
5	HD					22,311# (26,985#)	16,292# (20,437#)	12,236# (15,829#)	9,304# (12,985#)	7,055# (11,089#)	5,291# (7,253#)
0	HD					21,208# (26,786#)	15,190# (21,936#)	11,398# (16,976#)	8,708# (13,801#)	6,680# (11,618#)	
- 5	HD					15,829# (15,829#)	20,856# (30,269#)	14,617# (22,641#)	10,869# (17,681#)	8,311# (14,308#)	6,438# (11,905#)
- 10	HD	17,483# (17,483#)	24,339# (24,339#)	20,966# (29,608#)	14,462# (22,619#)	10,670# (17,835#)	8,157# (14,418#)	6,393# (11,795#)			
- 15	HD	25,816# (25,816#)	33,863# (33,863#)	21,407# (28,153#)	14,639# (21,848#)	10,759# (17,328#)	8,267# (13,889#)				
- 20	HD	35,054# (35,054#)	33,488# (33,488#)	22,201# (25,684#)	15,168# (20,128#)	11,177# (15,917#)	8,774# (12,258#)				
- 25	HD	37,831# (37,831#)	28,021# (28,021#)	21,760# (21,760#)	16,138# (16,976#)	12,125# (12,765#)					
- 30	HD		19,511# (19,511#)	15,080# (15,080#)							

## Stick 16'5"

Height (ft)	Under-carriage	Radius of load from centerline of machine (ft)							
		10	15	20	25	30	35	40	45
35	HD								
30	HD							8,863# (8,863#)	
25	HD							9,061# (9,061#)	4,784# (4,784#)
20	HD						10,163# (10,163#)	9,568# (9,568#)	7,760# (8,356#)
15	HD					12,765# (12,765#)	11,266# (11,266#)	9,789# (10,252#)	7,474# (9,634#)
10	HD	17,725# (17,725#)	24,119# (24,119#)	18,012# (18,012#)	14,617# (14,617#)	11,927# (12,478#)	9,215# (11,067#)	7,121# (10,119#)	
5	HD	10,714# (10,714#)	25,838# (28,285#)	18,894# (20,679#)	14,330# (16,358#)	11,089# (13,669#)	8,664# (11,883#)	6,790# (10,648#)	
0	HD	12,699# (12,699#)	23,964# (30,931#)	17,483# (22,730#)	13,338# (17,857#)	10,406# (14,727#)	8,201# (12,610#)	6,482# (11,089#)	
- 5	HD	10,053# (10,053#)	17,174# (17,174#)	23,038# (32,165#)	16,601# (24,008#)	12,632# (18,916#)	9,877# (15,521#)	7,848# (13,140#)	6,283# (11,288#)
- 10	HD	16,028# (16,028#)	22,884# (22,884#)	22,730# (32,320#)	16,160# (24,560#)	12,214# (19,467#)	9,568# (15,939#)	7,628# (13,382#)	6,239# (7,981#)
- 15	HD	22,223# (22,223#)	29,740# (29,740#)	22,862# (31,548#)	16,094# (24,339#)	12,103# (19,423#)	9,480# (15,873#)	7,650# (13,118#)	
- 20	HD	29,189# (29,189#)	37,853# (38,206#)	23,325# (29,807#)	16,336# (23,281#)	12,280# (18,629#)	9,656# (15,102#)		
- 25	HD	37,523# (37,523#)	35,318# (35,318#)	24,163# (26,852#)	16,932# (21,120#)	12,765# (16,777#)	10,229# (12,963#)		
- 30	HD	39,749# (39,749#)	28,660# (28,660#)	22,046# (22,046#)	17,152# (17,152#)	12,632# (12,632#)			

The load values are quoted in lb on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 24" wide, triple grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity (indicated via x). Maximum load for the backhoe bucket's lifting eye is 59,525 lb/46,297 lb\*. Without bucket (2.15 yd<sup>3</sup>/2.00 yd<sup>3</sup>\*), the lift capacities will increase by 4,630 lb/3,085 lb\*, without bucket cylinder, link and lever they increase by an additional 1,650 lb/1,320 lb\*. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

\* only for stick 16'5"

# Equipment



## Undercarriage

Pads 24"	•
Lifetime lubricated track rollers	•
Tracks sealed and greased	•
Track guide at each track frame (three piece)	•
Idler protection	•
Two-stage travel motors	•
Pads 20"	+
Pads 30"	+
Track guide at each track frame (four piece)	+
Different undercarriage versions	+
Reinforced cover	+
Strong bottom sheet center part	+



## Uppercarriage

Lockable tool box	•
Handrails, non slip surfaces	•
Main switch for electric circuit	•
Sound insulation	•
Tool kit	•
Maintenance-free swing brake lock	•
Maintenance-free HD-batteries	•
Electric re-fueling pump	+
Foot pedal swing positioning brake	+
Heavy duty counterweight	+
Customized colors	+



## Hydraulics

Hydraulic tank shut-off valve	•
Pressure compensation	•
Pressure test ports	•
Accumulator for controlled attachment lowering with engine turned-off	•
Electronic pump regulation	•
Filter with integrated fine filter area	•
Flow compensation	•
Stepless work mode selector	•
Leakage filter	•
Additional hydraulic circuits	•
Bio-degradable hydr. oil	+
Filter for secondary circuit	+



## Engine

Turbo charger	•
Conform with standard level IIIA/Tier 3	•
Fuel water separator	•
After-cooled	•
Sensor controlled engine idling	•
Air filter with automatic dust ejector	•
Unit pump system	•
Dry-type air cleaner w/pre-cleaner, main and safety element	•
Two hydrostatic fans	•
Engine cold starting aid	+



## Operator's Cab

Storage tray	•
Automatic air conditioning with defroster	•
Mechanical hour meters, readable from outside the cab	•
Removable handles for travel pedals	•
Operator seat Comfort	•
Removable customized foot mat	•
Closed storage space – literature tray	•
Tinted side windows	•
Dome light	•
Inside rear mirror	•
Coat hook	•
Displays for engine operating condition	•
Emergency exit rear window	•
Bullet-proof windscreen (fixed installation – can not be opened) and bullet-proof roof windows	•
Preparation for radio installation	•
Single piece right-side window (no post)	•
Door with sliding window	•
Seat belt	•
Sun roller blind	•
Load bearing sectional profile structure, covered with deep-drawn panels	•
Washer-wiper for front and roof window	•
Cigarette lighter and ashtray	•
Operator seat Premium	+
Extinguisher	+
Front guard tiltable or fixed	+
Lower windscreen with wiper	+
Electric cooler	+
Stereo radio	+
Beacon	+
Auxiliary heating with clock timer	+
FOPS Protection	+
Sun visor	+
Electronic theft protection	+
Additional flood lights (back)	+
Additional flood lights (front)	+



## Attachment

Two flood lights on boom	•
Sealed pivots/O-ring sealant between bucket and stick	•
59,525 lb lifting hook on quick change coupler	•
ReGeneration plus	•
Liebherr Tool-Control	•
SAE split flanges on all high pressure lines	•
Semi-automatic central lubrication system (except link and tilt geometry)	•
Cylinders with shock absorbers	•
Hydr. or mechanical quick change coupler	+
Piston rod protection	+
Bucket kinematics sealed up completely	+
59,525 lb lifting hook on buckets	+
Hydraulic lines for additional tools	+
Liebherr line of buckets	+
LIKUFIX	+
Quick disconnect hose couplers for additional tools	+
Customized colors	+
Special application buckets	+
Overload warning device	+
Automatic central lubrication system (except link and tilt geometry)	+
Central lubrication for lever with protection cover	+

• = Standard, + = Option

**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.**