

# Crawler excavator

**R 966**  
Litronic®

Operating Weight with Backhoe Attachment:	66,000 – 71,500 kg
Operating Weight with Shovel Attachment:	68,500 – 69,200 kg
Engine Output:	320 kW / 435 HP
Bucket Capacity:	2.00 – 5.00 m <sup>3</sup>
Shovel Capacity:	3.50 – 4.00 m <sup>3</sup>
Emission standard:	Stage IIIA / Tier 3



# LIEBHERR

## Equipment

- Cast steel elements
- Greater resistance to stresses
- Longer service life
- Safety check valves for stick and boom cylinders with integrated regeneration for less fuel consumption



## Tools

- Different levels of protection to suit the different areas of application
- New Liebherr Z-type tooth system

## Operator's cab

- New comfortable and ergonomic design
- 7" high definition colour touch screen
- Wider than the cab in the small excavators range
- Bullet-proof panels at the front and in the roof as standard
- Optional FOPS and FGPS protective guards

## Accessibility

- Maintenance platform in the engine compartment
- Broad, anti-slip side catwalks as standard
- Newly designed undercarriage steps for a longer service life



## Undercarriage

- Robust structure thanks to the more rigid profile
- Improved self-cleaning capacity
- Molded two-tooth sprocket for a longer service life
- Two types of undercarriage available: an HD fixed-track gauge and LC-V variable-track gauge

## Equipment

- Cast steel parts
- Parallel kinematics for powerful and regular digging
- Bucket cylinders positioned under the equipment for better protection against the elements
- Safety valves on boom cylinder for pipe burst protection



## Buckets

- The front shovel is the perfect shape for digging deep into the material and for a high filling rate
- Several levels of protection for the front shovel, depending on requirements



### Operator's cab

- New comfortable and ergonomic design
- 7" high-resolution colour touch screen
- Wider than the cab in the small excavators range
- Bullet-proof panels at the front and in the roof as standard
- Optional FOPS and FGPS protection guards
- Operator's cab with a fixed riser for a full view over the work area

# Technical Data



## Engine

Rating per ISO 9249	320 kW (435 HP) at 1,800 RPM
Model	Liebherr D9508
Type	8 cylinder V-engine
Bore/Stroke	128/157 mm
Displacement	16.16 l
Engine operation	4-stroke diesel common rail injection turbo-charged inter-cooled reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	1,140
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 180 Ah/12 V
Starter	24 V/7.8 kW
Alternator	three phase current 28 V/100 A



## Hydraulic System

Hydraulic pump for attachment and travel drive	two Liebherr variable flow, swash plate pumps
Max. flow	2 x 410 l/min.
Max. pressure	350 bar
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	245 l/min.
Max. pressure	340 bar
Hydraulic tank	435 l
Hydraulic system	920 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Hydraulic oil cooler	compact cooler for water cooler, after-cooler, fuel cooler and transmission pump oil, sandwiched with cooler for oil and condenser of air-conditioning with hydrostatically controlled fan drives
MODE selection	adjustment of engine and hydraulic performance via a mode pre-selector to match application for especially economical and environmentally friendly operation or for maximum digging performance and heavy-duty jobs
RPM adjustment	stepless adjustment of engine output via RPM at each selected mode
Tool Control	10 preadjustable pump flows and pressures for add-on tools



## Hydraulic Controls

Power distribution	via control valves in single block with integrated safety valves
Flow summation	to boom and stick
Closed-loop circuit	for uppercarriage swing drive
Servo circuit	electro-hydraulic control
Attachment and swing	proportional via joystick levers
Travel	– proportional via foot pedals or removable hand levers – speed pre-selection
Additional functions	via foot pedals or joystick toggle switch



## Swing Drive

Drive by	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	233 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal controlled positioning brake



## Operator's Cab

Cab	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 window shades for the sunroof window and wind-screen, 12 V plug, storage bins, lunchbox, cup holder
Operator's seat	Liebherr-Comfort seat, airsprung with automatic weight adjustment, vertical and horizontal seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination, seat heating as standard
Control system	arm consoles, swinging with the seat
Operation and displays	large high resolution colour display with self-explanatory operation via touch screen, video, versatile adjusting, control and monitoring facilities, e.g. climate control, implement and tool parameters
Air-conditioning	standard automatic air-conditioning, ambient air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu; ambient air and fresh air filters can be easily replaced and are accessible from the outside; heating-cooling unit, designed for extreme outside temperatures, sensors for solar radiation, inside and outside temperatures
Noise emission	
ISO 6396	$L_{DA}$ (inside cab) = 80 dB(A)
2000/14/EC	$L_{WA}$ (surround noise) = 109 dB(A)



## Undercarriage

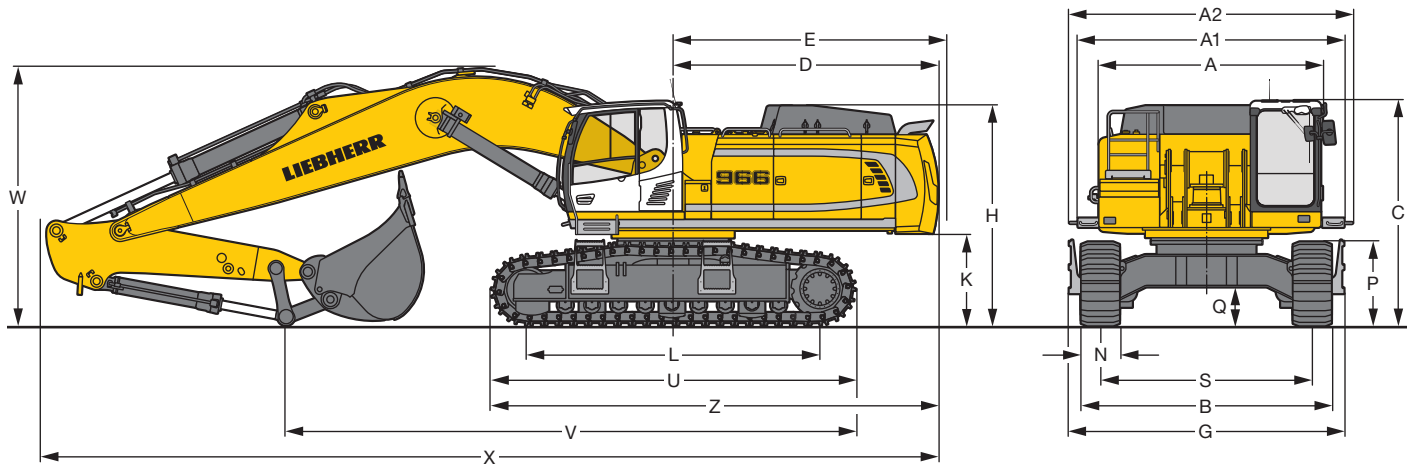
Version	
HD	gauge 3,300 mm
LC-V	gauge 3,390 mm
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	low range – 3.0 km/h high range – 4.1 km/h
Net drawbar pull on crawler	478 kN
Track components	D 8 K, maintenance-free
Track rollers/Carrier rollers	HD: 9/2 LC-V: 9/3
Tracks	sealed and greased
Track pads	double grouser
Digging locks	wet multi-discs (spring applied, pressure released)
Brake valves	outside the travel motor
Lashing eyes	integrated



## Attachment

Type	combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with special seal-system, shock protection
Pivots	sealed, low maintenance
Lubrication	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



	HD		mm	LC-V		mm
A			3,515			3,515
A1			4,160			4,160
A2			4,425			4,425
C			3,515/3,710*			3,670/3,865*
D			4,135			4,135
E			4,270			4,270
H			3,435			3,590
K			1,430			1,585
L			4,575			4,690
P			1,315			1,380
Q			610			890
S			3,300			2,730**/3,390
U			5,695			5,775
N	500	600	750	500	600	750
B	3,910	3,910	4,050	3,360**	3,360**	3,480**
G	4,290	4,290	4,290	3,780**	3,780**	3,780**
Z			6,985			7,025

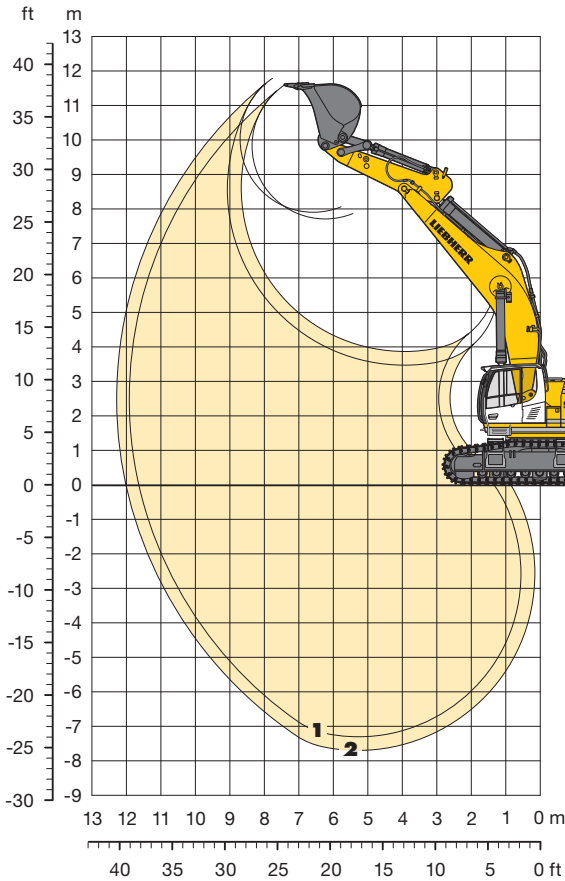
\* with FOPS top guard  
 \*\* transport position

HD-Undercarriage		
	Stick length	Mono boom 7.00 m
	m	mm
V	2.60	8,000
	3.00	6,150
W	2.60	3,900
	3.00	4,000
X	2.60	12,850
	3.00	12,750

LC-V-Undercarriage		
	Stick length	Mono boom 7.00 m
	m	mm
V	2.60	7,950
	3.00	7,600
W	2.60	3,900
	3.00	4,000
X	2.60	12,850
	3.00	12,750

# Backhoe Bucket

with Mono Boom 7.00 m



## Digging Envelope

		1	2
Stick length	m	2.60	3.00
Max. digging depth	m	7.30	7.70
Max. reach at ground level	m	11.65	12.00
Max. dumping height	m	7.70	7.90
Max. teeth height	m	11.60	11.80
Digging force ISO	kN	308	282
	t	31.4	28.7
Breakout force ISO	kN	354	354
	t	36.1	36.1

## Operating Weight and Ground Pressure

The operating weight includes the basic machine with mono boom 7.00 m, stick 2.60 m and bucket 4.00 m<sup>3</sup> (3,650 kg).

Undercarriage		HD			LC-V		
Pad width	mm	500	600	750	500	600	750
Weight	kg	66,000	66,700	67,700	69,700	70,400	71,500
Ground pressure	kg/cm <sup>2</sup>	1.33	1.12	0.91	1.37	1.16	0.94

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

	Cutting width mm	Capacity ISO 7451 m <sup>3</sup>	Weight kg	HD-Undercarriage		LC-V-Undercarriage	
				Stick length (m)		Stick length (m)	
				2.60	3.00	2.60	3.00
STD <sup>1)</sup>	1,550	2.50	2,950	○	○	○	○
	1,750	3.00	3,150	○	○	○	○
	1,950	3.50	3,450	○	□	○	□
	2,150	4.00	3,650	□	□	○	□
	2,400	4.50	3,950	□	△	□	△
	2,600	5.00	4,250	△	■	□	■
HD <sup>2)</sup>	2,600	5.50	4,500	■	▲	△	▲
	1,600	2.00	3,500	○	○	○	○
	1,800	2.50	3,800	○	○	○	○
	2,000	3.00	4,100	○	○	○	○
	2,150	3.50	4,400	○	□	○	□
	2,150	4.00	4,650	□	□	□	△
HDV <sup>3)</sup>	2,350	4.50	5,000	△	■	□	■
	2,550	5.00	5,300	■	▲	△	▲
	1,950	3.00	4,600	○	□	○	□
	2,150	3.50	5,000	□	△	○	△
	2,150	4.00	5,200	□	■	□	■
	2,150	4.50	5,400	△	▲	△	▲

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

<sup>1)</sup> Standard bucket with teeth Z 70

<sup>2)</sup> HD bucket with teeth Z 90

<sup>3)</sup> HDV bucket with teeth Z 90

Other backhoes available on request

Max. material weight ○ = ≤ 2.2 t/m<sup>3</sup>, □ = ≤ 1.8 t/m<sup>3</sup>, △ = ≤ 1.5 t/m<sup>3</sup>, ■ = ≤ 1.2 t/m<sup>3</sup>, ▲ = not authorized



# Lift Capacities

with Mono Boom 7.00 m

## Stick 2.60 m

↕ m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		m		
9.0	HD											10.1*	10.1*	7.2
	LC-V											10.0*	10.0*	
7.5	HD							14.8*	14.8*			9.4*	9.4*	8.3
	LC-V							14.9*	14.9*			9.4*	9.4*	
6.0	HD			23.2*	23.2*	18.1*	18.1*	15.6*	15.6*	11.8*	11.8*	9.2*	9.2*	9.1
	LC-V			23.9*	23.9*	18.4*	18.4*	15.7*	15.7*	13.2*	13.2*	9.2*	9.2*	
4.5	HD					20.9*	20.9*	16.3	16.9*	12.3	14.8*	9.3*	9.3*	9.6
	LC-V					21.2*	21.2*	17.1*	17.1*	13.4	14.9*	9.3*	9.3*	
3.0	HD					21.1	23.5*	15.5	18.3*	11.9	15.4*	9.7*	9.7*	9.8
	LC-V					23.1	23.7*	16.9	18.4*	13.0	15.5*	9.8*	9.8*	
1.5	HD					20.2	24.8*	14.9	19.2*	11.6	15.9*	10.4	10.4*	9.7
	LC-V					22.2	24.9*	16.3	19.3*	12.7	15.9*	10.5*	10.5*	
0	HD			21.8*	21.8*	19.9	24.9*	14.6	19.5*	11.4	15.9*	10.7	11.7*	9.4
	LC-V			23.6*	23.6*	21.9	24.8*	16.0	19.5*	12.5	15.8*	11.8*	11.8*	
-1.5	HD	23.2*	23.2*	29.9*	29.9*	19.9	23.7*	14.5	18.8*			11.7	13.8*	8.9
	LC-V	25.0*	25.0*	29.6*	29.6*	22.0	23.5*	16.0	18.6*			13.0	14.1*	
-3.0	HD	31.0*	31.0*	26.4*	26.4*	20.3	21.2*	14.8	16.6*			13.7	14.9*	8.0
	LC-V	30.5*	30.5*	25.9*	25.9*	20.8*	20.8*	16.2*	16.2*			14.9*	14.9*	
-4.5	HD			20.4*	20.4*	16.1*	16.1*					13.9*	13.9*	6.6
	LC-V			19.5*	19.5*	15.3*	15.3*					13.6*	13.6*	

## Stick 3.00 m

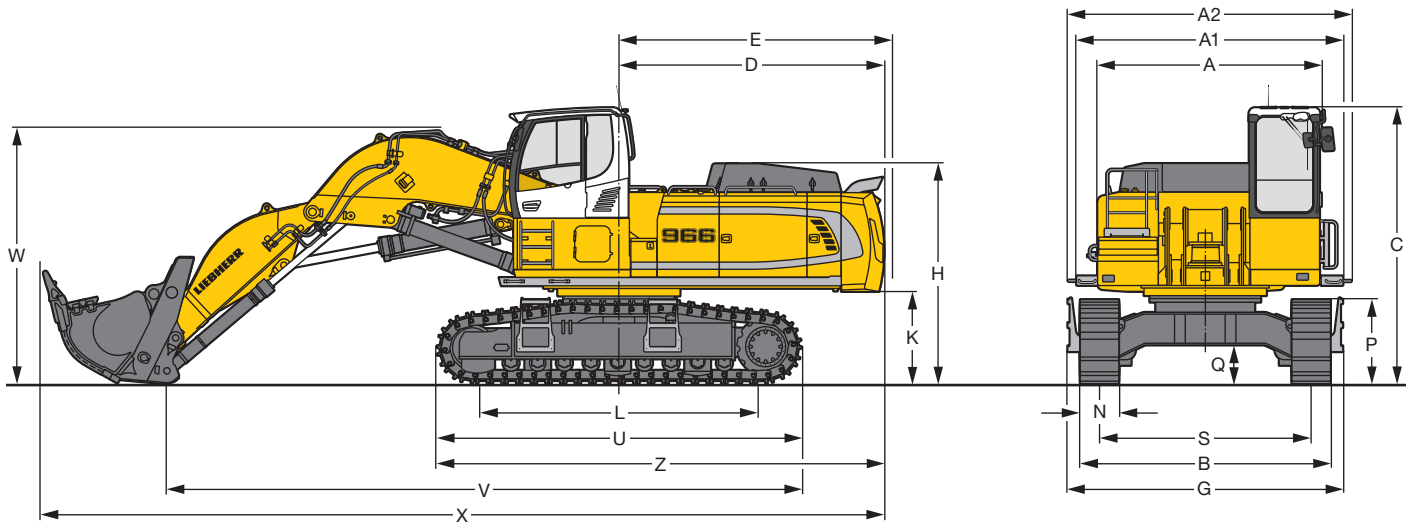
↕ m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		m		
9.0	HD							10.5*	10.5*			8.3*	8.3*	7.7
	LC-V							12.1*	12.1*			8.2*	8.2*	
7.5	HD							14.0*	14.0*			7.8*	7.8*	8.8
	LC-V							14.1*	14.1*			7.8*	7.8*	
6.0	HD					17.1*	17.1*	14.9*	14.9*	12.7	13.7*	7.6*	7.6*	9.5
	LC-V					17.4*	17.4*	15.0*	15.0*	13.7*	13.7*	7.6*	7.6*	
4.5	HD			28.2*	28.2*	19.9*	19.9*	16.3*	16.3*	12.3	14.3*	7.7*	7.7*	10.0
	LC-V			29.0*	29.0*	20.2*	20.2*	16.4*	16.4*	13.4	14.4*	7.7*	7.7*	
3.0	HD					21.4	22.7*	15.6	17.8*	11.9	15.0*	8.0*	8.0*	10.1
	LC-V					23.0*	23.0*	16.9	17.9*	13.0	15.1*	8.1*	8.1*	
1.5	HD					20.4	24.5*	14.9	18.9*	11.5	15.6*	8.6*	8.6*	10.1
	LC-V					22.3	24.6*	16.3	19.0*	12.6	15.7*	8.7*	8.7*	
0	HD			24.0*	24.0*	19.9	24.9*	14.5	19.4*	11.3	15.8*	9.6*	9.6*	9.8
	LC-V			25.1*	25.1*	21.9	24.8*	15.9	19.4*	12.4	15.8*	9.7*	9.7*	
-1.5	HD	22.4*	22.4*	31.3*	31.3*	19.8	24.1*	14.4	18.9*	11.3	15.1*	10.8	11.2*	9.3
	LC-V	23.7*	23.7*	31.0*	31.0*	21.8	23.9*	15.8	18.8*	12.4	15.0*	11.4*	11.4*	
-3.0	HD	34.9*	34.9*	27.9*	27.9*	20.0	21.9*	14.6	17.2*			12.5	14.2*	8.4
	LC-V	34.6*	34.6*	27.5*	27.5*	21.6*	21.6*	16.1	17.0*			14.0	14.4*	
-4.5	HD	27.7*	27.7*	22.5*	22.5*	17.7*	17.7*					13.8*	13.8*	7.2
	LC-V			21.7*	21.7*	17.1*	17.1*					13.7*	13.7*	

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

The load values are quoted in tons (t) at stick end (without bucket), and may be swung 360° on firm and even ground. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600 mm wide double grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via \*). Without bucket cylinder, link and lever the lift capacities will increase by 1,150 kg. Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.

According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device, a load diagram and automatic safety check valves on hoist cylinders and stick cylinder(s), when they are used for lifting operations which require the use of lifting accessories.

# Dimensions Front Shovel

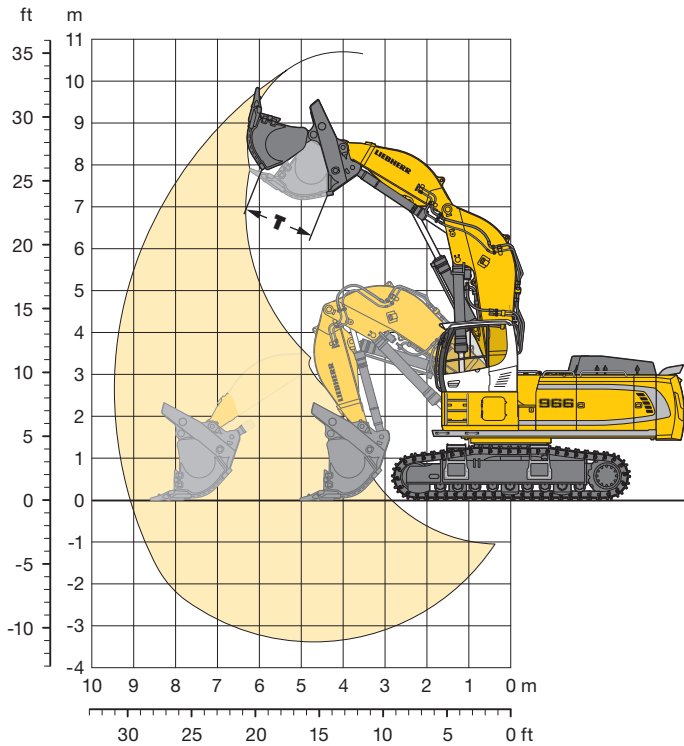


	HD	mm
A		3,515
A1		4,160
A2		4,425
C		4,315/4,510*
D		4,135
E		4,270
H		3,435
K		1,430
L		4,575
P		1,315

	HD	mm
Q		610
S		3,300
U		5,695
N	500 600 750	
B	3,910 3,910 4,050	
G	4,290 4,290 4,290	
Z		6,985
V		9,900
W		4,000
X		13,200

\* with FOPS top guard

# Front Shovel



## Digging Envelope

Max. reach at ground level	9.10 m
Max. dumping height	7.15 m
Max. crowd length	3.60 m
Bucket opening width T	1,650 mm
Max. crowd force	500 kN/51.0 t
Max. crowd force at ground level	410 kN/41.8 t
Max. breakout force	370 kN/37.7 t

## Operating Weight and Ground Pressure

The operating weight includes the basic machine with cab elevation 800 mm, shovel attachment and front shovel 4.00 m<sup>3</sup> (7,000 kg), level II.

Undercarriage	HD	
Pad width	mm	500 600
Weight	kg	68,500 69,200
Ground pressure	kg/cm <sup>2</sup>	1.38 1.16

## Front Shovels

Cutting width	Capacity ISO 7451	Weight	Wear kit level	HD-Undercarriage	Shovel Attachment
mm	m <sup>3</sup>	kg			
2,350	3.50	6,600	II		○
2,350	3.50	7,200	III		○
2,650	4.00	6,500	I		□
2,650	4.00	7,000	II		□
2,650	4.00	7,700	III		△

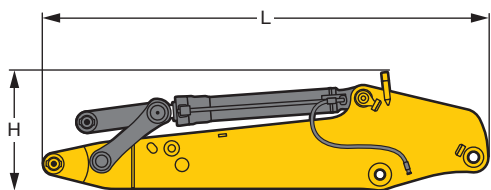
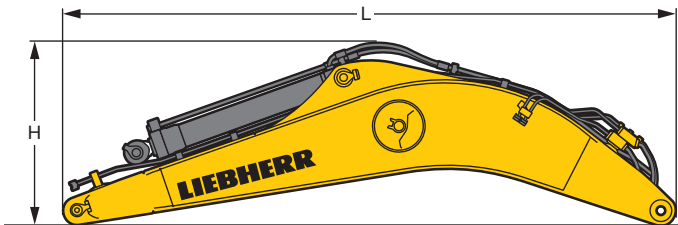
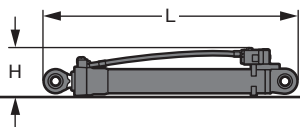
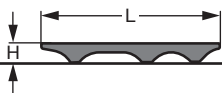
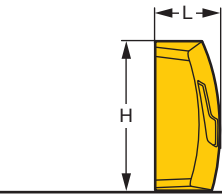
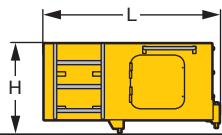
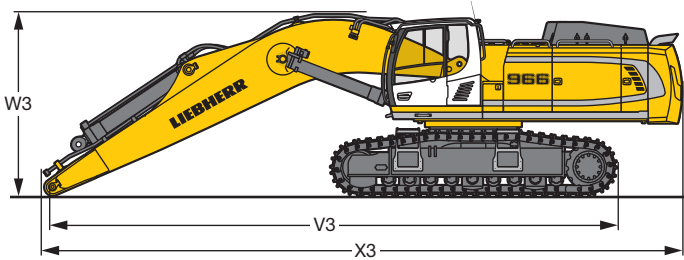
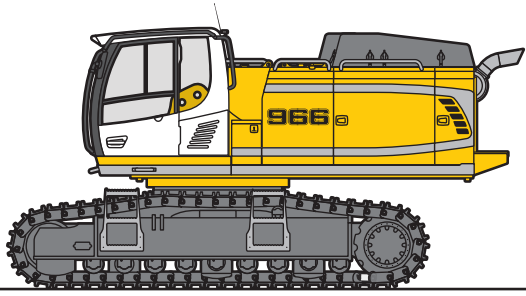
Level I: For non-abrasive materials, such as limestone without flint inclusion, shot material or easily breakable rock, i.e., deteriorated rock, soft limestone, shale, etc.

Level II: For pre-blasted heavy rock, or deteriorated, cracked material (classification 3 to 4, accord. to DIN 18300)

Level III: For highly-abrasive materials such as rock with a high silica content, sandstone etc.

Max. material weight ○ = ≤ 2.2 t/m<sup>3</sup>, □ = ≤ 1.8 t/m<sup>3</sup>, △ = ≤ 1.65 t/m<sup>3</sup>

# Component Dimensions and Weights



## Basic Machine

Track pads	mm	500	600	750
Weight with backhoe attachment and HD-undercarriage	kg	39,150	39,850	40,800
Weight with shovel attachment and HD-undercarriage	kg	39,250	39,950	40,900
Weight with backhoe attachment and LC-V-undercarriage	kg	42,800	43,500	44,600

## Basic Machine

		HD	LC-V
V3 Mono boom 7.00 m	mm	9,950	9,900
W3 Mono boom 7.00 m	mm	3,400	3,550
X3 Mono boom 7.00 m	mm	11,450	11,450

## Cab Elevation

		800 mm
L Length	mm	1,890
H Height	mm	925
Width	mm	1,370
Weight	kg	600

## Counterweight

		Std	heavy
L Length	mm	765	765
H Height	mm	1,545	1,545
Width	mm	3,360	3,360
Weight	kg	11,000	14,500

## Upper Protection Screen

L Length	mm	1,960
H Height	mm	190
Width	mm	1,110
Weight	kg	75

## Hoist Cylinders (two)

L Length	mm	2,650
H Height	mm	490
Width	mm	360
Weight	kg	2 x 750

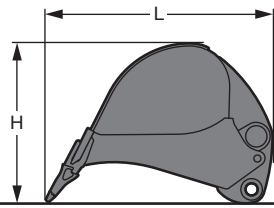
## Mono Boom with Stick Cylinder

Stick length	m	7.00
L Length	mm	7,350
H Height	mm	2,200
Width	mm	1,450
Weight	kg	7,200

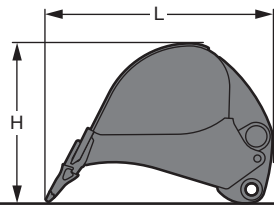
## Stick with Bucket Cylinder

Stick length	m	2.60	3.00
L Length	mm	3,950	4,250
H Height	mm	1,250	1,250
Width	mm	950	950
Weight	kg	3,500	3,650

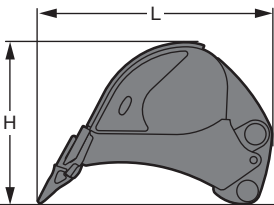
# Component Dimensions and Weights



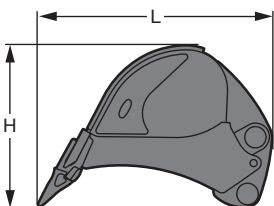
<b>Backhoe Buckets</b>		<b>Std</b>			
Cutting width	mm	1,550	1,750	1,950	2,150
Capacity	m <sup>3</sup>	2.50	3.00	3.50	4.00
L Length	mm	2,400	2,400	2,400	2,400
H Height	mm	1,700	1,700	1,700	1,700
Width	mm	1,600	1,800	2,000	2,200
Weight	kg	2,950	3,150	3,450	3,650



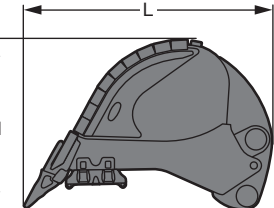
<b>Backhoe Buckets</b>		<b>Std</b>		
Cutting width	mm	2,400	2,600	2,600
Capacity	m <sup>3</sup>	4.50	5.00	5.50
L Length	mm	2,400	2,400	2,500
H Height	mm	1,700	1,700	1,750
Width	mm	2,450	2,650	2,650
Weight	kg	3,950	4,250	4,500



<b>Backhoe Buckets</b>		<b>HD</b>			
Cutting width	mm	1,600	1,800	2,000	2,150
Capacity	m <sup>3</sup>	2.00	2.50	3.00	3.50
L Length	mm	2,300	2,300	2,300	2,350
H Height	mm	1,600	1,600	1,600	1,650
Width	mm	1,650	1,850	2,050	2,200
Weight	kg	3,500	3,800	4,100	4,400

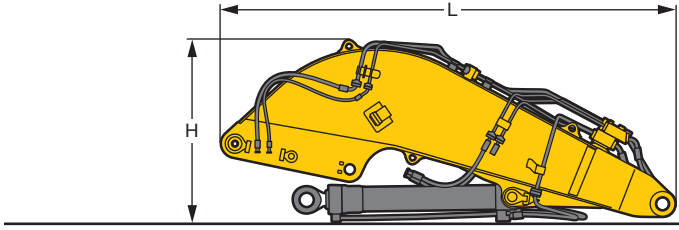


<b>Backhoe Buckets</b>		<b>HD</b>		
Cutting width	mm	2,150	2,350	2,550
Capacity	m <sup>3</sup>	4.00	4.50	5.00
L Length	mm	2,450	2,450	2,450
H Height	mm	1,700	1,700	1,700
Width	mm	2,200	2,400	2,600
Weight	kg	4,650	5,000	5,300



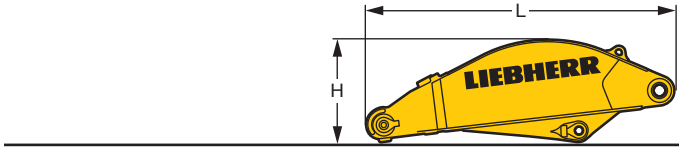
<b>Backhoe Buckets</b>		<b>HDV</b>			
Cutting width	mm	1,950	2,150	2,150	2,150
Capacity	m <sup>3</sup>	3.00	3.50	4.00	4.50
L Length	mm	2,350	2,350	2,450	2,600
H Height	mm	1,650	1,650	1,700	1,800
Width	mm	2,000	2,200	2,200	2,200
Weight	kg	4,600	5,000	5,200	5,400

# Component Dimensions and Weights



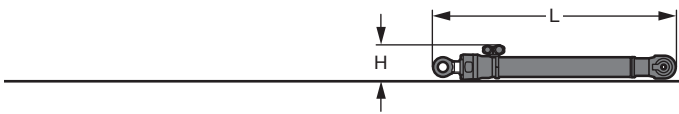
## Shovel Boom

L	Length	mm	4,750
H	Height	mm	1,950
	Width	mm	1,900
	Weight without crowd cylinder	kg	5,050
	Weight crowd cylinder	kg	650



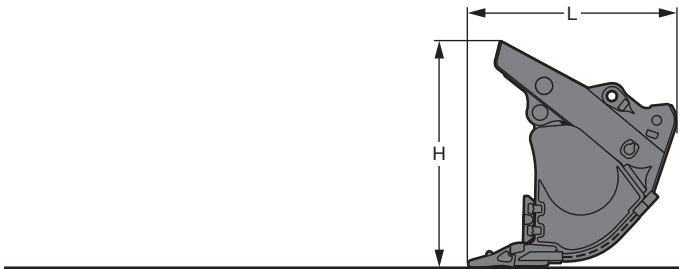
## Shovel Stick

L	Length	mm	3,250
H	Height	mm	1,100
	Width	mm	1,500
	Weight	kg	2,500



## Shovel Bucket Cylinders (two)

L	Length	mm	2,550
∅	Diameter	mm	350
	Width	mm	500
	Weight	kg	2 x 400



## Front Shovels

Cutting width	mm	2,350	2,650
I Capacity	m <sup>3</sup>	3.50	4.00
L Length	mm	2,200	2,200
H Height	mm	2,400	2,400
Width	mm	2,400	2,700
Weight			
Level I	kg	-	6,500
Level II	kg	6,600	7,000
Level III	kg	7,200	7,700

# Standard Equipment



## Undercarriage

Lashing eyelets  
Lifetime-lubricated track rollers  
Track guide at each track frame (three pieces)  
Tracks sealed and greased



## Uppercarriage

Engine hood with lift help  
Extended tool kit  
Fuel tank cap, lockable  
Handrails, non slip surfaces  
Maintenance-free swing brake lock  
Sound insulation  
Toolbox lockable  
Walkway, both-sided



## Hydraulic System

Filter with integrated fine filter area  
Hydraulic tank shut-off valve and pumps  
Liebherr hydraulic oil  
Pressure storage for controlled lowering of equipment with engine turned off  
Pressure test ports for hydraulic  
Stepless work mode selector



## Engine

After-cooled  
Common-Rail system injection  
Conform with stage IIIA/Tier 3 emission standard  
Dry-type air cleaner w/pre-cleaner, main and safety elements  
Engine cold starting aid  
Fuel filter and water separator  
Sensor-controlled automatic engine idling  
Turbo charger



## Operator's Cab

7" colour multifunction display with touchscreen  
All tinted windows  
Automatic air conditioning  
Cigarette lighter and ashtray  
Coat hook  
Cup holder  
Dome light  
Door with sliding windows  
Emergency exit rear window  
Fuel consumption indicator  
Hydro mounts  
Impact-resistant front window and roof window  
LiDAT Plus (enhanced Liebherr data transfer system)\*  
Mechanical hour meters, readable from outside the cab  
Operator seat Liebherr-Comfort  
Preparation for radio installation  
Rain hood over front window opening  
Rear space monitoring with camera  
Roll-down sun blind  
Rubber floor mat  
Seat belt  
Storage bin  
Storage space  
Two headlights (Halogen)  
Wiper/washer



## Attachment

Headlights on boom (both-sided, halogen)  
Liebherr full-automatic central lubrication system (except connecting link for bucket kinematics)  
Re-Generation plus  
Safety check valves hoist cylinder  
Safety check valves stick cylinder

\* optionally extendable after one year

# Individual Options



## Undercarriage

- Cover and base protection plates
- Protection plate for wrecking ball operation
- Track guide at each track frame (four pieces)
- Travel drive protection
- Travel gear support, reinforced



## Uppercarriage

- Cab elevation
- Headlights with protection
- Heavy counterweight
- Refuelling pump (electrical)
- Rock protection (swing gear and lubrication pipes)
- Walkway, wide version with guard rail
- Wiggins quick-coupling for fuel



## Hydraulic System

- Bypass filter
- Liebherr hydraulic oil, specially for warm and cold regions
- Pre-heating for hydraulic oil



## Engine

- Automatic engine shut-down (adjustable time-period)
- Engine compartment light
- Pre-heating for fuel, coolant and engine oil



## Operator's Cab

- Additional headlights front or/and rear (Halogen or LED)
- Amber beacon
- Auxiliary heater (programmable)
- Camera for side area monitoring
- Electric cool box (12 V)
- Electronic drive away lock
- Engine shut-down (emergency stop) in cab
- FGPS front guard, lockable
- Fire extinguisher
- Footrest
- FOPS top guard
- Headlights (two pieces, LED)
- Operator seat Liebherr-Premium
- Proportional controls Liebherr
- Radio Comfort
- Roof wiper
- Sun visor
- Travel alarm system



## Attachment

- Automatic lubrication system for connecting link
- Bottom boom protection for stick
- Headlights on boom (both-sided, LED)
- High pressure circuit
- Hydraulic or mechanical quick coupler
- Liebherr line of buckets
- Liebherr tooth system
- Middle pressure circuit
- Overload warning device
- Piston rod guard for bucket cylinder
- Piston rod guard for crowd cylinder
- Piston rod guard for hoist cylinder
- Security for hoist cylinder in grab or hammer operation

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.