

# Crawler Excavator

**R 974 C**  
Litronic®

Operating Weight with Backhoe Attachment: 84,500 – 101,300 kg  
Operating Weight with Shovel Attachment: 90,200 – 106,000 kg  
Engine Output: 400 kW / 544 HP  
Bucket Capacity: 2.00 – 6.80 m<sup>3</sup>  
Shovel Capacity: 4.40 – 6.50 m<sup>3</sup>



# LIEBHERR

# Technical Data



## Engine

Rating per ISO 9249	400 kW (544 HP) at 1,800 RPM
Model	Liebherr D 9508
Type	8 cylinder V-engine
Bore/Stroke	128/157 mm
Displacement	16.16 l
Engine operation	4-stroke diesel common rail injection turbo-charged after-cooled reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	1,460 l
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 pumps	
for attachment and travel drive	2 Liebherr variable flow swash plate pumps
Max. flow	2 x 496 l/min.
Max. hydr. pressure	320 bar
Pump control	electro-hydraulic with electronic engine speed sensing regulation over entire RPM range, pressure compensation, flow compensation automatic oil flow optimizer, flow summation
Hydraulic pump	
for swing drive	1 reversible swash plate pump, closed-loop circuit
Max. flow	315 l/min.
Max. hydr. pressure	350 bar
Hydraulic tank	745 l
Hydraulic system	1,350 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm), 1 high pressure filter for each main pump
Cooler	radiator, consisting of cooling unit for coolant and after-cooler as well as 2nd cooler for hydraulic oil with hydrostatically regulated fan drive
MODE selection	adjustment of machine performance and the hydraulics via a mode selector to match application
LIFT	for lifting
FINE	for precision work and lifting through very sensitive movements
ECO	for especially economical and environmentally friendly operation
POWER	for maximum digging power and heavy duty jobs
RPM adjustment	stepless adjustment of engine output via the rpm at each selected mode
Menu for auxiliary functions	4 fixed adjustable oil flow parameters for optional working tools



## Hydraulic Controls

Power distribution	via control valves in single block with integrated safety valves
Flow summation	to boom stick and bucket cylinders
Closed-loop circuit	for uppercarriage swing drive
Activation	electro-hydraulic control
Attachment and swing	proportional via joystick levers
Travel	proportional via foot pedals or removable hand levers
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 – 5.9 RPM stepless
Swing torque	295 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal controlled positioning brake



## Uppercarriage

Design	torque resistant modular design upper frame
Attachment mounting	parallel length girders
Catwalks	on both sides



## Operator's Cab

Cab	profiles and deep drawn technology, resiliently mounted, sound insulated, tinted windows. Front window armored glass, door with sliding window
Operator's seat	shock absorbing suspension, adjustable to operator's weight, 6-way adjustable seat
Joysticks	integrated into adjustable seat consoles
Monitoring	menu driven query of current operating conditions via the LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and saving machine malfunction data, for example, engine overheating, low engine oil pressure or low hydraulic oil level
Heating system	standard automatic air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	$L_{pA}$ (inside cab) = 72 dB(A)
2000/14/EC	$L_{WA}$ (surround noise) = 109 dB(A)



## Undercarriage

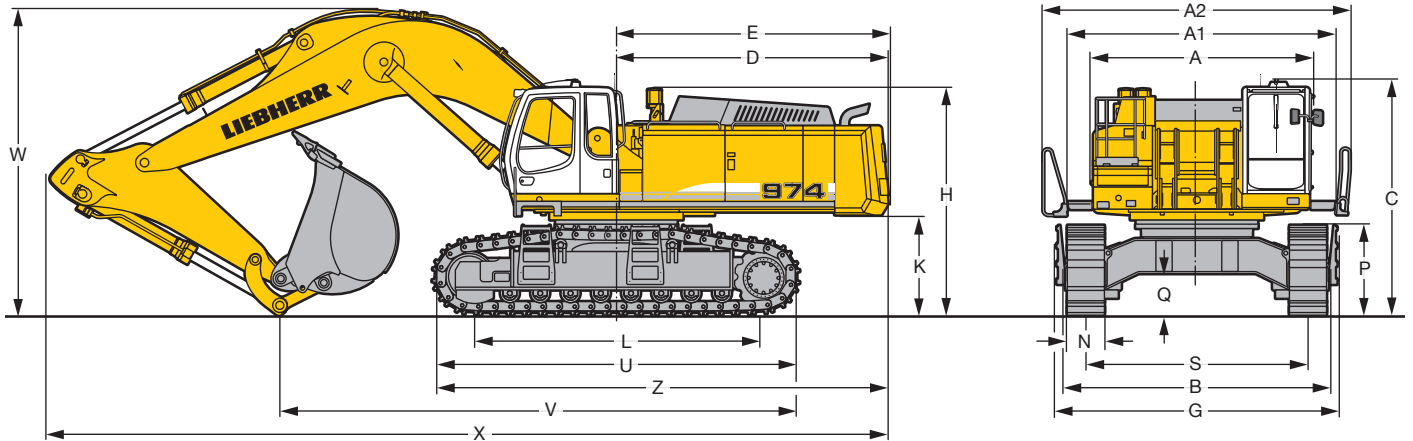
Versions	
HD	heavy duty
LC-V	heavy duty, variable gauge
S-HD	heavy duty version for extreme and difficult application
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	HD/LC-V: low range – 2.7 km/h high range – 4.3 km/h S-HD: low range – 2.1 km/h high range – 3.6 km/h
Net drawbar pull on crawler	HD/LC-V: 568 kN S-HD: 730 kN
Track components	D 9 G, maintenance-free
Track rollers/Carrier rollers	HD: 8/2 LC-V: 9/3 S-HD: 9/2
Tracks	sealed and greased
Track pads	double-grouser beveled
Digging locks	wet multi-discs (spring applied, pressure released)
Brake valves	integrated into travel motor



## Attachment

Type	box-type, combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with special seal-system, shock absorbed
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

# Dimensions



	HD			LC-V		
	mm			mm		
A	3,605			3,605		
A1	4,365			4,365		
A2	5,000			5,000		
C	3,825			3,965		
D	4,400			4,400		
E	4,440			4,440		
H	3,665			3,805		
K	1,625			1,765		
L	4,770			5,160		
P	1,460			1,493		
Q	682			955		
S	3,600			2,750*/3,590		
U	5,953			6,334		
N	500	600	750	500	600	750
B	4,290	4,290	4,350	3,490	3,490	3,500
G	4,540	4,540	4,540	3,866	3,866	3,866
Z	7,377			7,567		

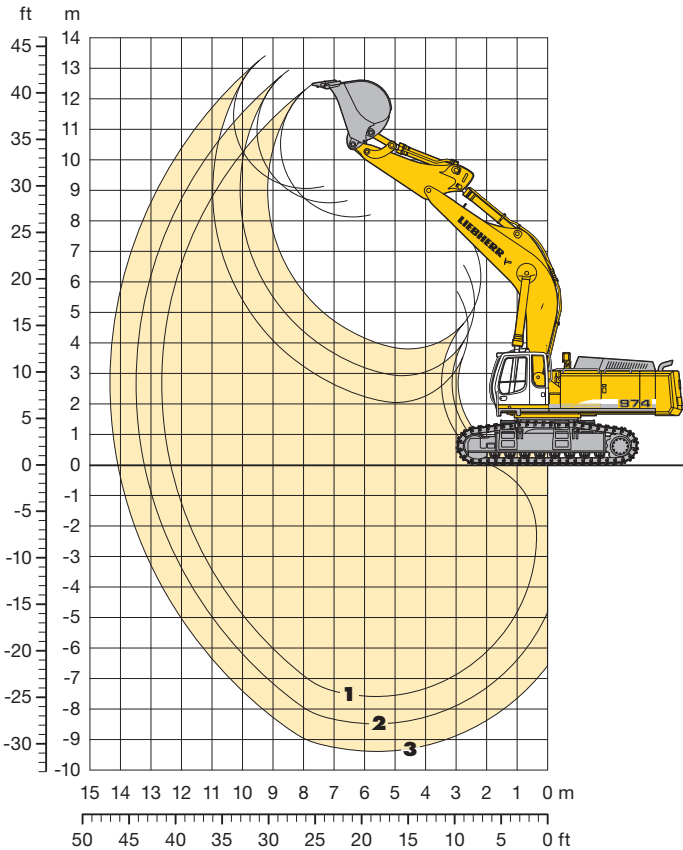
\* Transport position

	HD-Undercarriage			
	Stick Length	Mono Boom 7.20 m	Mono Boom 8.60 m	Mono Boom 10.50 m
	m	mm	mm	mm
V	2.90	8,450	10,150	-
	3.80	8,050	9,800	12,000
	4.70	7,950	9,700	11,800
	5.80	-	-	11,700
W	2.90	5,000	5,250	-
	3.80	5,450	5,550	5,650
	4.70	6,000	6,000	6,000
	5.80	-	-	6,800
X	2.90	13,650	15,100	-
	3.80	13,250	14,600	16,450
	4.70	13,000	14,400	16,300
	5.80	-	-	16,000

	LC-V-Undercarriage			
	Stick Length	Mono Boom 7.20 m	Mono Boom 8.60 m	Mono Boom 10.50 m
	m	mm	mm	mm
V	2.90	8,600	10,300	-
	3.80	8,200a	9,950	12,150
	4.70	8,050	9,800	11,950
	5.80	-	-	11,850
W	2.90	5,050	5,300	-
	3.80	5,500	5,650	5,750
	4.70	6,050	6,000	6,100
	5.80	-	-	6,800
X	2.90	13,650	15,100	-
	3.80	13,300	14,650	16,500
	4.70	13,100	14,450	16,350
	5.80	-	-	16,100

# Backhoe Bucket

with Mono Boom 7.20 m



## Digging Envelope

		1	2	3
Stick length	m	2.90	3.80	4.70
Max. digging depth	m	7.60	8.50	9.40
Max. reach at ground level	m	12.35	13.20	14.10
Max. dump height	m	8.10	8.60	9.05
Max. teeth height	m	12.45	12.95	13.40
Digging force ISO	kN	357.3	301.2	260.2
	t	36.4	30.7	26.5
Breakout force ISO	kN	444.8	444.8	444.8
	t	45.4	45.4	45.4

## Operating Weight and Ground Pressure

Operating weight includes basic machine with mono boom 7.20 m, stick 2.90 m and bucket 5.20 m<sup>3</sup> (4,600 kg).

Undercarriage		HD			LC-V		
Pad width	mm	500	600	750	500	600	750
Weight	kg	84,500	85,200	86,300	89,600	90,400	91,500
Ground pressure	kg/cm <sup>2</sup>	1.63	1.37	1.11	1.61	1.35	1.09

Optional: heavy counterweight  
(heavy counterweight increases the operating weight by 1,900 kg and ground pressure by 0.04 kg/cm<sup>2</sup>)

## 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)			
			2.90	3.80	4.70	2.90	3.80	4.70	
STD <sup>1)</sup>	1,800	3.80	4,000	○	○	□	○	○	□
	1,950	4.30	4,200	○	○	□	○	○	□
	2,150	4.80	4,450	□	□	△	○	○	△
	2,300	5.20	4,600	□	□	■	□	□	△
	2,300	5.80	4,800	△	△	■	□	△	■
HD <sup>2)</sup>	2,600	6.60	5,100	■	■	▲	△	△	▲
	1,800	3.60	4,400	○	○	□	○	○	□
	1,950	4.10	4,750	○	○	△	○	○	□
	2,150	4.60	5,050	□	□	■	○	□	△
	2,300	5.20	5,400	□	△	■	□	□	■
HD-V <sup>3)</sup>	2,300	5.60	5,550	△	△	▲	□	△	■
	1,950	4.20	5,250	○	□	△	○	○	△
	2,150	4.70	5,550	□	□	-	□	□	-
2,300	5.20	5,850	△	△	-	□	△	-	

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

1) Standard bucket with Liebherr teeth Z 90

2) HD bucket with Liebherr teeth Z 90

3) HD-V bucket with Liebherr 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 7.20 m

## Stick 2.90 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD				19.1# (19.1#)			
	LC-V				19.1# (19.1#)			
7.5	HD				19.3# (19.3#)	18.1# (18.1#)		
	LC-V				19.4# (19.4#)	18.4# (18.4#)		
6.0	HD			24.2# (24.2#)	20.5# (20.5#)	18.1 (18.6#)		
	LC-V			24.5# (24.5#)	20.7# (20.7#)	18.6# (18.6#)		
4.5	HD			27.8# (27.8#)	22.3# (22.3#)	17.5 (19.3#)		
	LC-V			28.1# (28.1#)	22.5# (22.5#)	18.4 (19.4#)		
3.0	HD			30.3 (30.9#)	22.0 (24.0#)	16.9 (20.2#)		
	LC-V			31.2# (31.2#)	23.1 (24.2#)	17.8 (20.3#)		
1.5	HD			29.0 (32.5#)	21.1 (25.2#)	16.3 (20.8#)		
	LC-V			30.6 (32.6#)	22.3 (25.2#)	17.3 (20.8#)		
0	HD			28.4 (32.3#)	20.6 (25.4#)	16.0 (20.7#)		
	LC-V			30.0 (32.2#)	21.8 (25.4#)	17.0 (20.7#)		
-1.5	HD		34.4# (34.4#)	28.3 (30.7#)	20.4 (24.4#)	15.9 (19.5#)		
	LC-V		36.1# (36.1#)	30.0 (30.5#)	21.6 (24.3#)	16.9 (19.3#)		
-3.0	HD	36.2# (36.2#)	34.1# (34.1#)	27.5# (27.5#)	20.6 (21.8#)			
	LC-V	38.0# (38.0#)	33.5# (33.5#)	27.0# (27.0#)	21.4# (21.4#)			
-4.5	HD		26.6# (26.6#)	21.5# (21.5#)				
	LC-V		25.7# (25.7#)	20.7# (20.7#)				
-6.0	HD							
	LC-V							
-7.5	HD							
	LC-V							

## Stick 3.80 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD					16.3# (16.3#)		
	LC-V					16.9# (16.9#)		
9.0	HD						14.0# (14.0#)	
	LC-V						14.8# (14.8#)	
7.5	HD						17.1# (17.1#)	16.3# (16.3#)
	LC-V						17.2# (17.2#)	16.3# (16.3#)
6.0	HD						18.6# (18.6#)	16.9# (16.9#)
	LC-V						18.8# (18.8#)	17.0# (17.0#)
4.5	HD					25.2# (25.2#)	20.6# (20.6#)	17.8 (18.0#)
	LC-V					25.5# (25.5#)	20.8# (20.8#)	18.1# (18.1#)
3.0	HD					28.9# (28.9#)	22.4 (22.7#)	17.0 (19.1#)
	LC-V					29.2# (29.2#)	22.8# (22.8#)	18.0 (19.2#)
1.5	HD					29.5 (31.4#)	21.3 (24.3#)	16.4 (20.1#)
	LC-V					31.1 (31.6#)	22.5 (24.4#)	17.3 (20.1#)
0	HD					28.5 (32.4#)	20.6 (25.1#)	15.9 (20.5#)
	LC-V					30.1 (32.4#)	21.8 (25.1#)	16.9 (20.5#)
-1.5	HD					31.2# (31.2#)	28.1 (31.7#)	20.2 (24.9#)
	LC-V					32.3# (32.3#)	29.8 (31.6#)	21.4 (24.8#)
-3.0	HD	29.2# (29.2#)				38.3# (38.3#)	28.1 (29.5#)	20.2 (23.3#)
	LC-V	30.3# (30.3#)				37.9# (37.9#)	29.2# (29.2#)	21.4 (23.1#)
-4.5	HD	42.1# (42.1#)				32.3# (32.3#)	25.3# (25.3#)	19.7# (19.7#)
	LC-V	41.0# (41.0#)				31.6# (31.6#)	24.8# (24.8#)	19.1# (19.1#)
-6.0	HD							
	LC-V							
-7.5	HD							
	LC-V							

## Stick 4.70 m

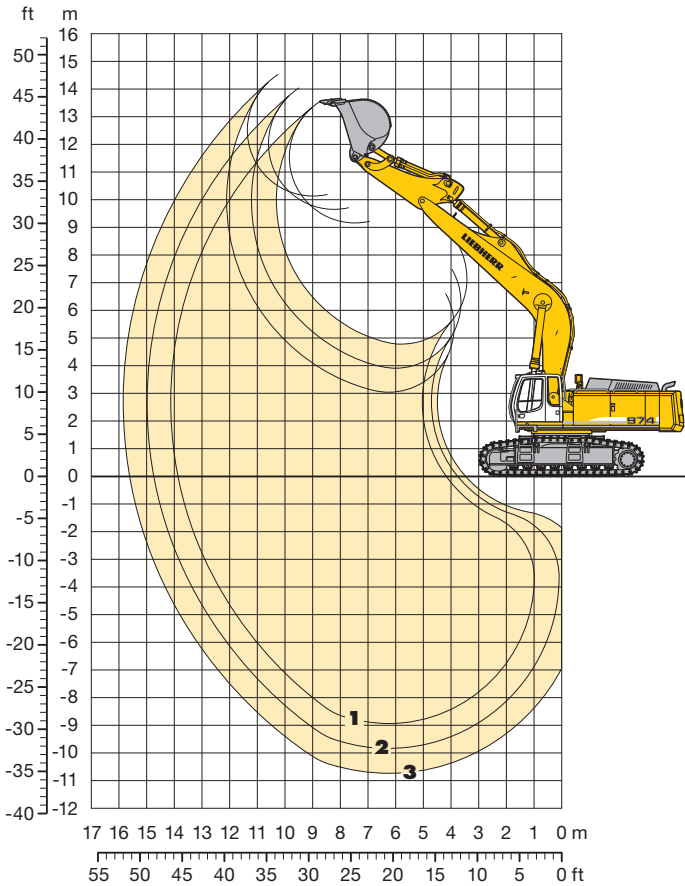
Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD					14.0# (14.0#)		
	LC-V					11.1# (11.1#)		
7.5	HD					14.4# (14.4#)	12.3# (12.3#)	
	LC-V					14.1# (14.1#)		
6.0	HD					15.2# (15.2#)	14.3 (14.4#)	
	LC-V					14.4# (14.4#)	12.6# (12.6#)	
4.5	HD			22.1# (22.1#)	18.6# (18.6#)	16.4# (16.4#)	13.9 (15.0#)	
	LC-V			16.6# (16.6#)	15.3# (15.3#)	14.5# (14.5#)		
3.0	HD			26.3# (26.3#)	20.9# (20.9#)	17.2 (17.8#)	13.5 (15.8#)	
	LC-V			22.5# (22.5#)	18.8# (18.8#)	16.6# (16.6#)	14.7 (15.1#)	
1.5	HD			29.6# (29.6#)	21.6 (22.9#)	16.5 (19.0#)	13.0 (16.5#)	
	LC-V			26.6# (26.6#)	21.1# (21.1#)	17.9# (17.9#)	14.2 (15.9#)	
0	HD			28.7 (31.5#)	20.6 (24.3#)	15.8 (19.9#)	12.6 (16.6 )	
	LC-V			29.9# (29.9#)	22.7 (23.1#)	17.4 (19.1#)	13.8 (16.5#)	
-1.5	HD	16.1# (16.1#)	28.9# (28.9#)	27.9 (31.8#)	20.0 (24.7#)	15.4 (20.1#)	12.4 (16.3 )	
	LC-V		23.2# (23.2#)	30.3 (31.6#)	21.8 (24.4#)	16.8 (19.9#)	13.4 (16.8#)	
-3.0	HD	24.4# (24.4#)	38.8# (38.8#)	27.6 (30.7#)	19.8 (24.0#)	15.3 (19.3#)		
	LC-V	16.8# (16.8#)	29.7# (29.7#)	29.5 (31.8#)	21.2 (24.7#)	16.4 (20.0#)	13.2 (16.6#)	
-4.5	HD	35.1# (35.1#)	36.4# (36.4#)	27.8# (27.8#)	19.9 (21.8#)	15.4 (16.9#)		
	LC-V	25.2# (25.2#)	40.0# (40.0#)	29.3 (30.5#)	21.0 (23.9#)	16.2 (19.2#)		
-6.0	HD	39.0# (39.0#)	29.0# (29.0#)	22.4# (22.4#)	16.7# (16.7#)			
	LC-V	36.2# (36.2#)	35.9# (35.9#)	27.4# (27.4#)	21.2 (21.5#)	16.5 (16.5#)		
-7.5	HD							
	LC-V	37.6# (37.6#)	28.1# (28.1#)	21.7# (21.7#)	16.0# (16.0#)			

The load values are quoted in tons (t) at stick end (without bucket), 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 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 1,250 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 check valves on the hoist and stick cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Backhoe Bucket

with Mono Boom 8.60 m



## Digging Envelope

		1	2	3
Stick length	m	2.90	3.80	4.70
Max. digging depth	m	8.95	9.85	10.75
Max. reach at ground level	m	13.85	14.75	15.60
Max. dump height	m	9.15	9.65	10.15
Max. teeth height	m	13.55	14.05	14.50
Digging force ISO	kN	357.3	301.2	260.2
	t	36.4	30.7	26.5
Breakout force ISO	kN	444.8	444.8	444.8
	t	45.4	45.4	45.4

## Operating Weight and Ground Pressure

Operating weight includes basic machine with mono boom 8.60 m, stick 3.80 m and bucket 3.80 m<sup>3</sup> (4,000 kg).

Undercarriage		HD			LC-V		
Pad width	mm	500	600	750	500	600	750
Weight	kg	85,100	85,800	86,900	90,200	91,000	92,100
Ground pressure	kg/cm <sup>2</sup>	1.64	1.38	1.12	1.62	1.36	1.10

Optional: heavy counterweight  
(heavy counterweight increases the operating weight by 1,900 kg and ground pressure by 0.04 kg/cm<sup>2</sup>)

## 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)		
				2.90	3.80	4.70	2.90	3.80	4.70
STD <sup>1)</sup>	1,400	2.70	3,450	○	○	□	○	○	○
	1,600	3.20	3,750	○	○	△	○	○	□
	1,800	3.80	4,000	□	□	■	□	□	△
	1,950	4.30	4,200	△	△	■	□	△	■
	2,150	4.80	4,450	■	■	▲	△	△	▲
HD <sup>2)</sup>	1,800	3.60	4,400	□	□	■	□	□	△
	1,950	4.10	4,750	△	△	▲	□	△	■
	2,150	4.60	5,050	■	■	▲	△	■	▲

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

<sup>1)</sup> Standard bucket with Liebherr teeth Z 90

<sup>2)</sup> HD bucket with Liebherr 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 8.60 m

## Stick 2.90 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD					14.8# (14.8#)		
	LC-V					14.8# (14.8#)		
7.5	HD				16.9# (16.9#)	15.2# (15.2#)	13.8 (14.4#)	
	LC-V				17.1# (17.1#)	15.3# (15.3#)	14.4# (14.4#)	
6.0	HD				18.7# (18.7#)	16.1# (16.1#)	13.6 (14.7#)	
	LC-V				18.9# (18.9#)	16.2# (16.2#)	14.3 (14.7#)	
4.5	HD				20.8# (20.8#)	16.5 (17.2#)	13.1 (15.2#)	
	LC-V				20.9# (20.9#)	17.3# (17.3#)	13.9 (15.3#)	
3.0	HD				20.1 (22.5#)	15.7 (18.3#)	12.6 (15.8#)	
	LC-V				21.2 (22.6#)	16.6 (18.4#)	13.4 (15.8#)	
1.5	HD				19.3 (23.5#)	15.1 (19.0#)	12.2 (16.2 )	
	LC-V				20.4 (23.5#)	16.0 (19.1#)	13.0 (16.2#)	
0	HD				18.8 (23.7#)	14.7 (19.3#)	12.0 (15.9 )	
	LC-V				20.1 (23.6#)	15.7 (19.3#)	12.8 (16.3#)	
-1.5	HD			28.0 (28.1#)	18.7 (23.1#)	14.6 (19.0#)	11.9 (15.8 )	
	LC-V			20.0 (23.0#)	15.6 (19.0#)	12.7 (15.8#)		
-3.0	HD	25.7# (25.7#)	26.3# (26.3#)	18.9 (21.6#)	14.7 (18.0#)			
	LC-V	27.4# (27.4#)	26.1# (26.1#)	20.2 (21.6#)	15.7 (17.8#)			
-4.5	HD	27.3# (27.3#)	23.3# (23.3#)	19.3# (19.3#)	15.2 (15.2#)			
	LC-V	26.9# (26.9#)	22.9# (22.9#)	19.0# (19.0#)	14.8# (14.8#)			
-6.0	HD		18.3# (18.3#)	14.1# (14.1#)				
	LC-V		17.6# (17.6#)	13.2# (13.2#)				
-7.5	HD							
	LC-V							

## Stick 3.80 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD						13.2# (13.2#)	
	LC-V						13.2# (13.2#)	
9.0	HD						13.2# (13.2#)	12.9# (12.9#)
	LC-V						13.2# (13.2#)	12.9# (12.9#)
7.5	HD						13.8# (13.8#)	13.0# (13.0#)
	LC-V						13.9# (13.9#)	13.0# (13.0#)
6.0	HD				17.1# (17.1#)	14.8# (14.8#)	13.5# (13.5#)	10.8 (12.8#)
	LC-V				17.2# (17.2#)	14.9# (14.9#)	13.5# (13.5#)	11.5 (12.8#)
4.5	HD				19.2# (19.2#)	16.1# (16.1#)	13.2 (14.2#)	10.6 (13.0#)
	LC-V				19.4# (19.4#)	16.2# (16.2#)	14.0 (14.3#)	11.2 (13.1#)
3.0	HD				20.6 (21.2#)	15.9 (17.3#)	12.7 (15.0#)	10.3 (13.4#)
	LC-V				21.4# (21.4#)	16.8 (17.4#)	13.4 (15.0#)	10.9 (13.4#)
1.5	HD				19.5 (22.7#)	15.2 (18.3#)	12.2 (15.6#)	10.0 (13.2 )
	LC-V				20.7 (22.8#)	16.1 (18.4#)	13.0 (15.6#)	10.7 (13.7#)
0	HD				18.9 (23.3#)	14.7 (18.9#)	11.8 (15.8 )	9.8 (13.0 )
	LC-V				20.1 (23.4#)	15.6 (19.0#)	12.6 (16.0#)	10.5 (13.8#)
-1.5	HD			25.9 (27.9#)	18.6 (23.3#)	14.4 (19.0#)	11.6 (15.5 )	
	LC-V			27.6 (28.9#)	19.8 (23.2#)	15.3 (19.0#)	12.4 (15.9#)	
-3.0	HD		22.9# (22.9#)	22.9# (22.9#)	18.5 (22.5#)	14.3 (18.4#)	11.7 (15.2#)	
	LC-V		24.0# (24.0#)	27.7# (27.7#)	19.8 (22.4#)	15.3 (18.3#)	12.5 (15.1#)	
-4.5	HD	26.3# (26.3#)	31.6# (31.6#)	25.5# (25.5#)	18.8 (20.7#)	14.6 (16.9#)		
	LC-V	27.4# (27.4#)	31.2# (31.2#)	25.2# (25.2#)	20.1 (20.5#)	15.6 (16.7#)		
-6.0	HD		26.4# (26.4#)	21.6# (21.6#)				
	LC-V		25.8# (25.8#)	21.2# (21.2#)				
-7.5	HD							
	LC-V							

## Stick 4.70 m

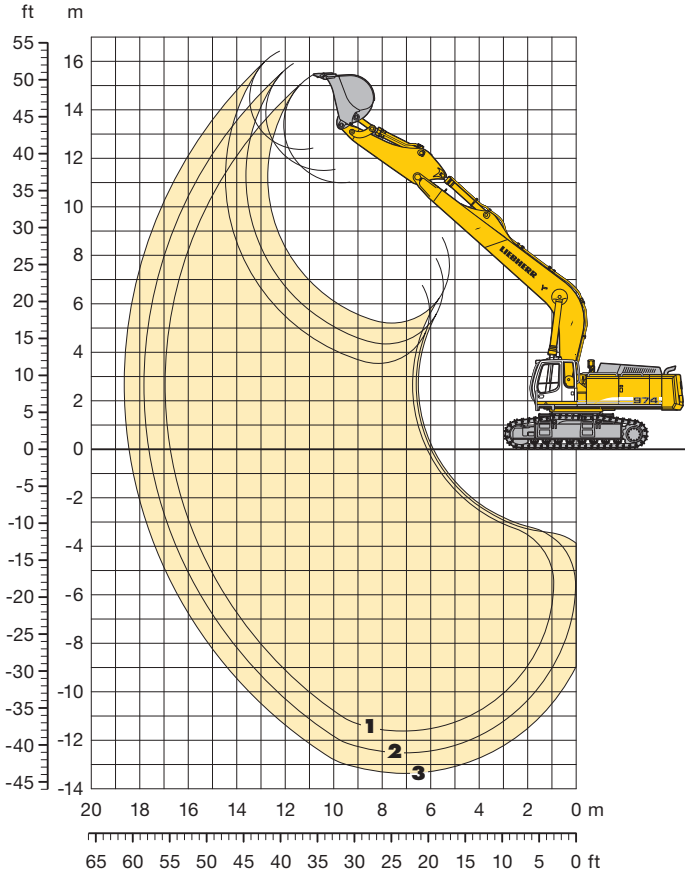
Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD						11.5# (11.5#)	
	LC-V						11.5# (11.5#)	
9.0	HD						11.3# (11.3#)	
	LC-V						11.3# (11.3#)	
7.5	HD						11.6# (11.6#)	11.2 (11.3#)
	LC-V					12.4# (12.4#)	11.7# (11.7#)	11.3# (11.3#)
6.0	HD					13.4# (13.4#)	12.3# (12.3#)	11.0 (11.5#)
	LC-V				15.4# (15.4#)	13.5# (13.5#)	12.3# (12.3#)	11.6# (11.6#)
4.5	HD				17.4# (17.4#)	14.7# (14.7#)	13.1# (13.1#)	10.6 (12.0#)
	LC-V				17.6# (17.6#)	14.9# (14.9#)	13.2# (13.2#)	11.3 (12.0#)
3.0	HD				19.6# (19.6#)	16.1 (16.1#)	12.7 (14.0#)	10.2 (12.5#)
	LC-V				19.8# (19.8#)	16.3# (16.3#)	13.5 (14.0#)	10.9 (12.6#)
1.5	HD				19.7 (21.4#)	15.2 (17.3#)	12.1 (14.7#)	9.9 (13.0#)
	LC-V				20.9 (21.6#)	16.1 (17.4#)	12.9 (14.8#)	10.5 (13.0#)
0	HD				18.8 (22.5#)	14.6 (18.2#)	11.7 (15.3#)	9.6 (12.8 )
	LC-V				20.0 (22.6#)	15.5 (18.3#)	12.5 (15.4#)	10.2 (13.3#)
-1.5	HD			25.5 (27.1#)	18.3 (23.0#)	14.1 (18.6#)	11.4 (15.3 )	9.4 (12.6 )
	LC-V			27.2 (27.7#)	19.5 (23.0#)	15.1 (18.6#)	12.2 (15.6#)	10.1 (13.3#)
-3.0	HD		20.4# (20.4#)	25.5 (28.7#)	18.1 (22.6#)	14.0 (18.4#)	11.2 (15.2 )	9.4 (12.6 )
	LC-V		21.1# (21.1#)	27.2 (28.6#)	19.4 (22.6#)	14.9 (18.4#)	12.1 (15.3#)	10.1 (12.6#)
-4.5	HD	21.6# (21.6#)	29.9# (29.9#)	25.7 (26.9#)	18.2 (21.5#)	14.0 (17.5#)	11.4 (14.3#)	
	LC-V	22.4# (22.4#)	30.9# (30.9#)	26.7# (26.7#)	19.5 (21.3#)	15.0 (17.4#)	12.2 (14.2#)	
-6.0	HD	31.4# (31.4#)	30.4# (30.4#)	23.9# (23.9#)	18.6 (19.3#)	14.4 (15.4#)		
	LC-V	32.5# (32.5#)	29.9# (29.9#)	23.6# (23.6#)	19.0# (19.0#)	15.2# (15.2#)		
-7.5	HD		23.9# (23.9#)	19.1# (19.1#)				
	LC-V		23.1# (23.1#)	18.5# (18.5#)	14.4# (14.4#)			

The load values are quoted in tons (t) at stick end (without bucket), 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 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 1,250 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 check valves on the hoist and stick cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Backhoe Bucket

with Mono Boom 10.50 m and Heavy Counterweight



## Digging Envelope

		1	2	3
Stick length	m	3.80	4.70	5.80
Max. digging depth	m	11.60	12.50	13.35
Max. reach at ground level	m	16.75	17.60	18.45
Max. dump height	m	11.00	11.50	12.35
Max. teeth height	m	15.45	15.90	16.40
Digging force ISO	kN	301.2	260.2	228.1
	t	30.7	26.5	23.2
Breakout force ISO	kN	444.8	444.8	356.0
	t	45.3	45.3	36.3

## Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight, mono boom 10.50 m, stick 4.70 m and bucket 2.20 m<sup>3</sup> (3,200 kg).

Undercarriage		HD			LC-V		
Pad width	mm	500	600	750	500	600	750
Weight	kg	87,700	88,500	89,600	92,800	93,600	94,700
Ground pressure	kg/cm <sup>2</sup>	1.69	1.42	1.15	1.67	1.40	1.13

## 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)			
			2.90	3.80	4.70	2.90	3.80	4.70	
STD <sup>1)</sup>	1,250	2.20	3,200	□	□	▲	○	□	▲
	1,400	2.70	3,450	△	△	▲	□	△	▲
	1,600	3.20	3,750	■	■	▲	△	■	▲
STD <sup>2)</sup>	1,350	2.00	2,750	▲	▲	□	▲	▲	□
	1,550	2.50	2,950	▲	▲	△	▲	▲	△
HD <sup>3)</sup>	1,600	2.00	3,500	▲	▲	△	▲	▲	△

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

1) Standard bucket with Liebherr teeth Z 90

2) Standard bucket from R 964 C Litronic with Liebherr teeth Z 70

3) HD bucket with Liebherr 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 7.20 m and Heavy Counterweight

## Stick 2.90 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD				19.1# (19.1#)			
	LC-V				19.1# (19.1#)			
7.5	HD				19.3# (19.3#)	18.1# (18.1#)		
	LC-V				19.4# (19.4#)	18.4# (18.4#)		
6.0	HD			24.2# (24.2#)	20.5# (20.5#)	18.6# (18.6#)		
	LC-V			24.5# (24.5#)	20.7# (20.7#)	18.6# (18.6#)		
4.5	HD			27.8# (27.8#)	22.3# (22.3#)	18.7 (19.3#)		
	LC-V			28.1# (28.1#)	22.5# (22.5#)	19.4# (19.4#)		
3.0	HD			30.9# (30.9#)	23.5 (24.0#)	18.0 (20.2#)		
	LC-V			31.2# (31.2#)	24.2# (24.2#)	19.0 (20.3#)		
1.5	HD			31.0 (32.5#)	22.6 (25.2#)	17.5 (20.8#)		
	LC-V			32.6# (32.6#)	23.8 (25.2#)	18.5 (20.8#)		
0	HD			30.4 (32.3#)	22.1 (25.4#)	17.2 (20.7#)		
	LC-V			32.1 (32.2#)	23.3 (25.4#)	18.1 (20.7#)		
-1.5	HD		34.4# (34.4#)	30.3 (30.7#)	21.9 (24.4#)	17.1 (19.5#)		
	LC-V		36.1# (36.1#)	30.5# (30.5#)	23.1 (24.3#)	18.1 (19.3#)		
-3.0	HD	36.2# (36.2#)	34.1# (34.1#)	27.5# (27.5#)	21.8# (21.8#)			
	LC-V	38.0# (38.0#)	33.5# (33.5#)	27.0# (27.0#)	21.4# (21.4#)			
-4.5	HD		26.6# (26.6#)	21.5# (21.5#)				
	LC-V		25.7# (25.7#)	20.7# (20.7#)				
-6.0	HD							
	LC-V							
-7.5	HD							
	LC-V							

## Stick 3.80 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)							
		3.0	4.5	6.0	7.5	9.0	10.5	12.0	
10.5	HD				16.3# (16.3#)				
	LC-V				16.9# (16.9#)				
9.0	HD					14.0# (14.0#)			
	LC-V					14.8# (14.8#)			
7.5	HD					17.1# (17.1#)	16.3# (16.3#)		
	LC-V					17.2# (17.2#)	16.3# (16.3#)		
6.0	HD					18.6# (18.6#)	16.9# (16.9#)	13.9# (13.9#)	
	LC-V					18.8# (18.8#)	17.0# (17.0#)	14.4# (14.4#)	
4.5	HD				25.2# (25.2#)	20.6# (20.6#)	18.0# (18.0#)	14.8 (16.4#)	
	LC-V				25.5# (25.5#)	20.8# (20.8#)	18.1# (18.1#)	15.5 (16.4#)	
3.0	HD				28.9# (28.9#)	22.7# (22.7#)	18.2 (19.1#)	14.4 (16.9#)	
	LC-V				29.2# (29.2#)	22.8# (22.8#)	19.1 (19.2#)	15.2 (16.9#)	
1.5	HD				31.4# (31.4#)	22.8 (24.3#)	17.6 (20.1#)	14.0 (17.2#)	
	LC-V				31.6# (31.6#)	24.0 (24.4#)	18.5 (20.1#)	14.8 (17.3#)	
0	HD				30.5 (32.4#)	22.1 (25.1#)	17.1 (20.5#)	13.8 (17.2#)	
	LC-V				32.2 (32.4#)	23.3 (25.1#)	18.0 (20.5#)	14.6 (17.1#)	
-1.5	HD			31.2# (31.2#)	30.1 (31.7#)	21.7 (24.9#)	16.8 (20.2#)		
	LC-V			32.3# (32.3#)	31.6# (31.6#)	22.9 (24.8#)	17.8 (20.1#)		
-3.0	HD	29.2# (29.2#)	38.3# (38.3#)	31.6# (31.6#)	21.7 (23.3#)	16.9 (18.4#)			
	LC-V	30.3# (30.3#)	37.9# (37.9#)	29.2# (29.2#)	22.9 (23.1#)	17.9 (18.2#)			
-4.5	HD	42.1# (42.1#)	32.3# (32.3#)	25.3# (25.3#)	19.7# (19.7#)				
	LC-V	41.0# (41.0#)	31.6# (31.6#)	24.8# (24.8#)	19.1# (19.1#)				
-6.0	HD								
	LC-V								
-7.5	HD								
	LC-V								

## Stick 4.70 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD					14.0# (14.0#)		
	LC-V					11.1# (11.1#)		
7.5	HD					14.4# (14.4#)	12.3# (12.3#)	
	LC-V					14.1# (14.1#)		
6.0	HD					15.2# (15.2#)	14.4# (14.4#)	
	LC-V					14.4# (14.4#)	12.6# (12.6#)	
4.5	HD			22.1# (22.1#)	18.6# (18.6#)	16.4# (16.4#)	14.9 (15.0#)	
	LC-V				16.6# (16.6#)	15.3# (15.3#)	14.5# (14.5#)	
3.0	HD			26.3# (26.3#)	20.9# (20.9#)	17.8# (17.8#)	14.4 (15.8#)	
	LC-V			22.5# (22.5#)	18.8# (18.8#)	16.6# (16.6#)	15.1# (15.1#)	
1.5	HD			29.6# (29.6#)	22.9# (22.9#)	17.6 (19.0#)	14.0 (16.5#)	
	LC-V			26.6# (26.6#)	21.1# (21.1#)	17.9# (17.9#)	15.2 (15.9#)	
0	HD			30.7 (31.5#)	22.1 (24.3#)	17.0 (19.9#)	13.6 (16.8#)	
	LC-V			29.9# (29.9#)	23.1# (23.1#)	18.5 (19.1#)	14.7 (16.5#)	
-1.5	HD	16.1# (16.1#)	28.9# (28.9#)	29.9 (31.6#)	21.5 (24.7#)	16.6 (20.1#)	13.3 (16.6#)	
	LC-V		23.2# (23.2#)	31.6# (31.6#)	23.3 (24.4#)	17.9 (19.9#)	14.4 (16.8#)	
-3.0	HD	24.4# (24.4#)	38.8# (38.8#)	29.7 (30.7#)	21.3 (24.0#)	16.4 (19.3#)		
	LC-V	16.8# (16.8#)	29.7# (29.7#)	31.6 (31.6#)	22.7 (24.7#)	17.5 (20.0#)	14.2 (16.6#)	
-4.5	HD	35.1# (35.1#)	36.4# (36.4#)	27.8# (27.8#)	21.4 (21.8#)	16.6 (16.9#)		
	LC-V	25.2# (25.2#)	40.0# (40.0#)	30.5# (30.5#)	22.5 (23.9#)	17.4 (19.2#)		
-6.0	HD	39.0# (39.0#)	29.0# (29.0#)	22.4# (22.4#)	16.7# (16.7#)			
	LC-V	36.2# (36.2#)	35.9# (35.9#)	27.4# (27.4#)	21.5# (21.5#)	16.5# (16.5#)		
-7.5	HD							
	LC-V	37.6# (37.6#)	28.1# (28.1#)	21.7# (21.7#)	16.0# (16.0#)			

The load values are quoted in tons (t) at stick end (without bucket), 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 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 1,250 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 check valves on the hoist and stick cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Lift Capacities

with Mono Boom 8.60 m and Heavy Counterweight

## Stick 2.90 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3.0	4.5	6.0	7.5	9.0	10.5	12.0
10.5	HD							
	LC-V							
9.0	HD					14.8# (14.8#)		
	LC-V					14.8# (14.8#)		
7.5	HD				16.9# (16.9#)	15.2# (15.2#)	14.4# (14.4#)	
	LC-V				17.1# (17.1#)	15.3# (15.3#)	14.4# (14.4#)	
6.0	HD				18.7# (18.7#)	16.1# (16.1#)	14.5 (14.7#)	
	LC-V				18.9# (18.9#)	16.2# (16.2#)	14.7# (14.7#)	
4.5	HD				20.8# (20.8#)	17.2# (17.2#)	14.1 (15.2#)	
	LC-V				20.9# (20.9#)	17.3# (17.3#)	14.8 (15.3#)	
3.0	HD				21.6 (22.5#)	16.9 (18.3#)	13.6 (15.8#)	
	LC-V				22.6# (22.6#)	17.8 (18.4#)	14.4 (15.8#)	
1.5	HD				20.7 (23.5#)	16.3 (19.0#)	13.2 (16.2#)	
	LC-V				21.9 (23.5#)	17.2 (19.1#)	14.0 (16.2#)	
0	HD				20.3 (23.7#)	15.9 (19.3#)	12.9 (16.3#)	
	LC-V				21.6 (23.6#)	16.8 (19.3#)	13.7 (16.3#)	
-1.5	HD				20.2 (23.1#)	15.7 (19.0#)	12.9 (15.9#)	
	LC-V			28.1# (28.1#)	21.5 (23.0#)	16.7 (19.0#)	13.7 (15.8#)	
-3.0	HD		25.7# (25.7#)	26.3# (26.3#)	20.4 (21.8#)	15.9 (18.0#)		
	LC-V		27.4# (27.4#)	26.1# (26.1#)	21.6# (21.6#)	16.9 (17.8#)		
-4.5	HD		27.3# (27.3#)	23.3# (23.3#)	19.3# (19.3#)	15.2# (15.2#)		
	LC-V		26.9# (26.9#)	22.9# (22.9#)	19.0# (19.0#)	14.8# (14.8#)		
-6.0	HD			18.3# (18.3#)	14.1# (14.1#)			
	LC-V			17.6# (17.6#)	13.2# (13.2#)			
-7.5	HD							
	LC-V							

## Stick 3.80 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)							
		3.0	4.5	6.0	7.5	9.0	10.5	12.0	
10.5	HD						13.2# (13.2#)		
	LC-V						13.2# (13.2#)		
9.0	HD						13.2# (13.2#)	12.9# (12.9#)	
	LC-V						13.2# (13.2#)	12.9# (12.9#)	
7.5	HD						13.8# (13.8#)	13.0# (13.0#)	
	LC-V						13.9# (13.9#)	13.0# (13.0#)	
6.0	HD					17.1# (17.1#)	14.8# (14.8#)	13.5# (13.5#)	11.6 (12.8#)
	LC-V					17.2# (17.2#)	14.9# (14.9#)	13.5# (13.5#)	12.3 (12.8#)
4.5	HD					19.2# (19.2#)	16.1# (16.1#)	14.2 (14.2#)	11.4 (13.0#)
	LC-V					19.4# (19.4#)	16.2# (16.2#)	14.3# (14.3#)	12.1 (13.1#)
3.0	HD					21.2# (21.2#)	17.1 (17.3#)	13.6 (15.0#)	11.1 (13.4#)
	LC-V					21.4# (21.4#)	17.4# (17.4#)	14.4 (15.0#)	11.8 (13.4#)
1.5	HD					21.0 (22.7#)	16.3 (18.3#)	13.2 (15.6#)	10.8 (13.7#)
	LC-V					22.2 (22.8#)	17.3 (18.4#)	13.9 (15.6#)	11.5 (13.7#)
0	HD					20.3 (23.3#)	15.8 (18.9#)	12.8 (16.0#)	10.6 (13.8#)
	LC-V					21.5 (23.4#)	16.8 (19.0#)	13.6 (16.0#)	11.3 (13.8#)
-1.5	HD					27.9# (27.9#)	20.0 (23.3#)	15.5 (19.0#)	12.6 (15.9#)
	LC-V					28.9# (28.9#)	21.3 (23.2#)	16.5 (19.0#)	13.4 (15.9#)
-3.0	HD			22.9# (22.9#)	27.9# (27.9#)	20.0 (22.5#)	15.5 (18.4#)	12.6 (15.2#)	
	LC-V			24.0# (24.0#)	27.7# (27.7#)	21.3 (22.4#)	16.5 (18.3#)	13.5 (15.1#)	
-4.5	HD		26.3# (26.3#)	31.6# (31.6#)	25.5# (25.5#)	20.3 (20.7#)	15.7 (16.9#)		
	LC-V		27.4# (27.4#)	31.2# (31.2#)	25.2# (25.2#)	20.5# (20.5#)	16.7# (16.7#)		
-6.0	HD			26.4# (26.4#)	21.6# (21.6#)	17.5# (17.5#)			
	LC-V			25.8# (25.8#)	21.2# (21.2#)	17.1# (17.1#)			
-7.5	HD								
	LC-V								

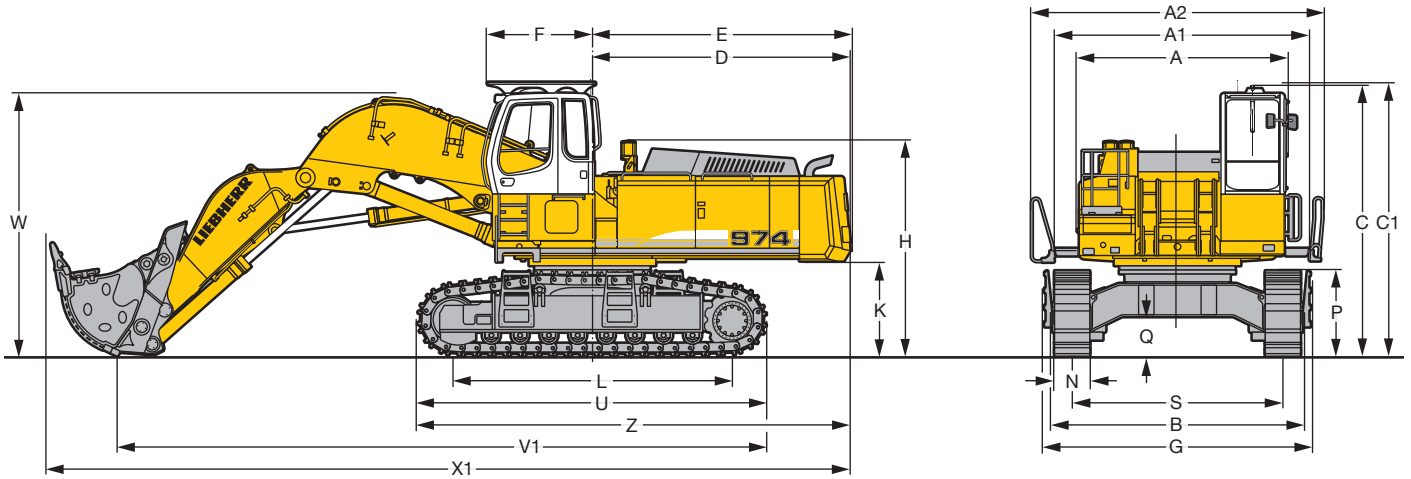
## Stick 4.70 m

Height (m)	Under-carriage	Radius of load from centerline of machine (m)							
		3.0	4.5	6.0	7.5	9.0	10.5	12.0	
10.5	HD						11.5# (11.5#)		
	LC-V						11.5# (11.5#)		
9.0	HD						11.3# (11.3#)		
	LC-V						11.3# (11.3#)		
7.5	HD						11.6# (11.6#)	11.3# (11.3#)	
	LC-V					12.4# (12.4#)	11.7# (11.7#)	11.3# (11.3#)	
6.0	HD					13.4# (13.4#)	12.3# (12.3#)	11.5# (11.5#)	
	LC-V				15.4# (15.4#)	13.5# (13.5#)	12.3# (12.3#)	11.6# (11.6#)	
4.5	HD					17.4# (17.4#)	14.7# (14.7#)	13.1# (13.1#)	11.4 (12.0#)
	LC-V					17.6# (17.6#)	14.9# (14.9#)	13.2# (13.2#)	12.0# (12.0#)
3.0	HD					19.6# (19.6#)	16.1# (16.1#)	13.7 (14.0#)	11.1 (12.5#)
	LC-V					19.8# (19.8#)	16.3# (16.3#)	14.0# (14.0#)	11.7 (12.6#)
1.5	HD					21.2 (21.4#)	16.4 (17.3#)	13.1 (14.7#)	10.7 (13.0#)
	LC-V					21.6# (21.6#)	17.3 (17.4#)	13.9 (14.8#)	11.4 (13.0#)
0	HD					20.3 (22.5#)	15.7 (18.2#)	12.6 (15.3#)	10.4 (13.3#)
	LC-V					21.5 (22.6#)	16.7 (18.3#)	13.4 (15.4#)	11.1 (13.3#)
-1.5	HD			27.1# (27.1#)	19.8 (23.0#)	15.3 (18.6#)	12.3 (15.6#)	10.2 (13.3#)	
	LC-V			27.7# (27.7#)	21.0 (23.0#)	16.3 (18.6#)	13.1 (15.6#)	10.9 (13.3#)	
-3.0	HD		20.4# (20.4#)	27.5 (28.7#)	19.6 (22.6#)	15.1 (18.4#)	12.2 (15.3#)	10.2 (12.7#)	
	LC-V		21.1# (21.1#)	28.6# (28.6#)	20.9 (22.6#)	16.1 (18.4#)	13.0 (15.3#)	10.9 (12.6#)	
-4.5	HD	21.6# (21.6#)	29.9# (29.9#)	26.9# (26.9#)	19.7 (21.5#)	15.2 (17.5#)	12.3 (14.3#)		
	LC-V	22.4# (22.4#)	30.9# (30.9#)	26.7# (26.7#)	21.0 (21.3#)	16.2 (17.4#)	13.2 (14.2#)		
-6.0	HD	31.4# (31.4#)	30.4# (30.4#)	23.9# (23.9#)	19.3# (19.3#)	15.4# (15.4#)			
	LC-V	32.5# (32.5#)	29.9# (29.9#)	23.6# (23.6#)	19.0# (19.0#)	15.2# (15.2#)			
-7.5	HD		23.9# (23.9#)	19.1# (19.1#)	15.0# (15.0#)				
	LC-V		23.1# (23.1#)	18.5# (18.5#)	14.4# (14.4#)				

The load values are quoted in tons (t) at stick end (without bucket), 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 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 1,250 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 check valves on the hoist and stick cylinders, when they are used for lifting operations which require the use of lifting accessories.

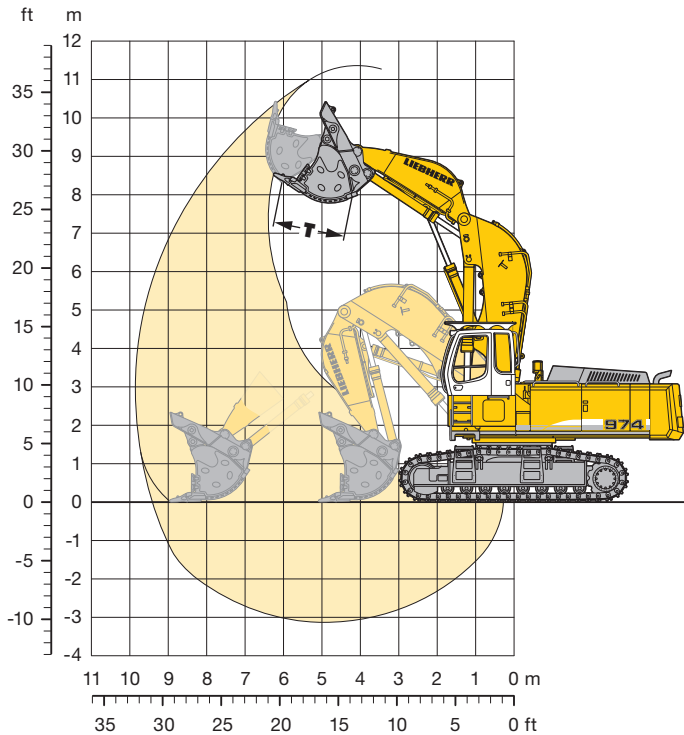
# Dimensions Front Shovel



	HD	mm
A		3,605
A1		4,365
A2		5,000
C		4,625
C1		4,670
D		4,400
E		4,440
F		1,800
H		3,665
K		1,625
L		4,770

	HD	mm
P		1,460
Q		682
S		3,600
U		5,953
N	500 600 750	
B	4,290 4,290 4,350	
G	4,540 4,540 4,540	
Z		7,377
V1		11,100
W1		4,500
X1		13,750

# Front Shovel



## Digging Envelope

Max. reach at ground level	9.40 m
Max. dump height	7.80 m
Max. crowd length	3.90 m
Bucket opening width T	1,825 mm
Max. crowd force	630 kN/64.2 t
Max. crowd force at ground level	450 kN/45.9 t
Max. breakout force	460 kN/46.9 t

## Operating Weight and Ground Pressure

Operating weight includes basic machine with cab elevation 0.8 m, rock protection, shovel attachment and front shovel 5.10 m<sup>3</sup> (9,090 kg), level II.

Undercarriage		HD		
Pad width	mm	500	600	750
Weight	kg	90,200	90,900	92,000
Ground pressure	kg/cm <sup>2</sup>	1.74	1.46	1.18

## Front Shovels

Cutting width mm	Capacity ISO 7451 m <sup>3</sup>	Weight kg	Wear kit level	HD-Undercarriage	
				Shovel Attachment	
2,300	4.40	8,310	II		○
2,300	4.40	9,160	III		○
2,700	5.10	8,430	I		□
2,700	5.10	9,090	II		□
2,700	5.10	10,030	III		□
2,700	5.40	9,920	III		△
2,700	5.60	8,750	I		△
2,700	5.60	9,190	II		△

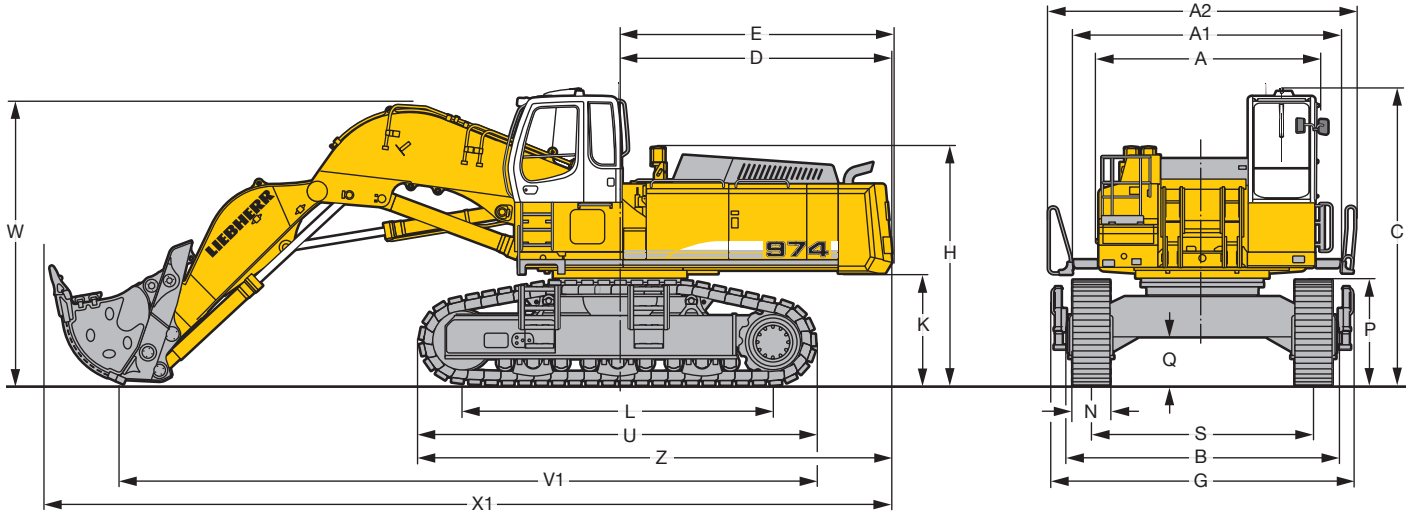
Level I: For non-abrasive materials, such as limestone without flint inclusion, shot material or easily breakable rock, i.e., deteriorated rock, soft limestone, shale, etc.

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.

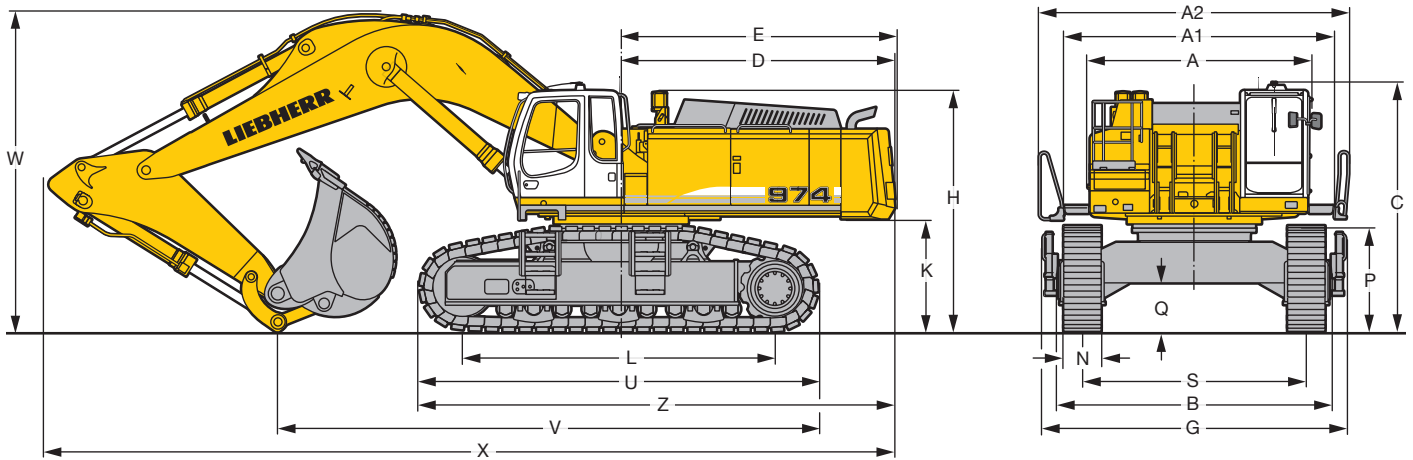
Max. material weight ○ = ≤ 2.2 t/m<sup>3</sup>, □ = ≤ 1.8 t/m<sup>3</sup>, △ = ≤ 1.65 t/m<sup>3</sup>

# Dimensions SME



	S-HD	mm
A		3,605
A1		4,365
A2		5,000
C		4,820
D		4,400
E		4,440
H		3,860
K		1,815
L		5,035
P		1,700

	S-HD	mm
Q		780
S		3,600
U		6,430
N	500 600	750
B	4,430 4,430	4,430
G	4,845 4,845	4,845
Z		7,660
V1		11,250
W1		4,600
X1		13,700

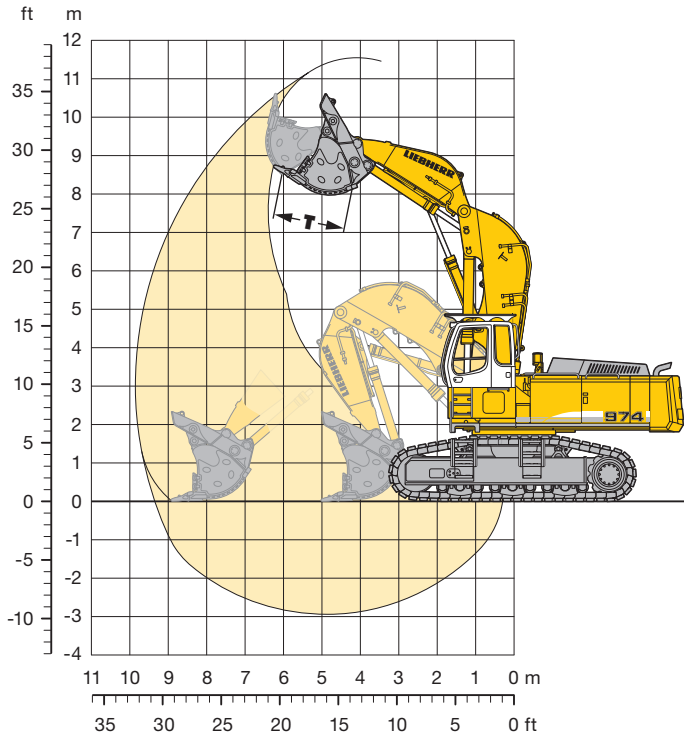


	S-HD	mm
A		3,605
A1		4,365
A2		5,000
C		4,020
D		4,400
E		4,440
H		3,860
K		1,815
L		5,035
P		1,700
Q		780
S		3,600
U		6,430
N	500 600	750
B	4,430 4,430	4,430
G	4,845 4,845	4,845
Z		7,660

	Stick Length	Mono Boom
	m	7.20 m
		mm
V	2.90 SME	8,700
	3.30 SME	8,500
W	2.90 SME	5,150
	3.30 SME	5,300
X	2.90 SME	13,700
	3.30 SME	13,300

# Front Shovel

## Super Mass Excavation



### Digging Envelope

Max. reach at ground level	9.35 m
Max. dump height	8.00 m
Max. crowd length	3.90 m
Bucket opening width T	1,825 mm
Max. crowd force	630 kN/64.2 t
Max. crowd force at ground level	450 kN/45.9 t
Max. breakout force	460 kN/46.9 t

### Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight, cab elevation 0.8 m, rock protection, shovel attachment SME and front shovel 6.00 m<sup>3</sup> (10,700 kg), level II.

Undercarriage		S-HD		
Pad width	mm	500	600	750
Weight	kg	104,000	104,800	106,000
Ground pressure	kg/cm <sup>2</sup>	1.88	1.58	1.28

### Front Shovels

Cutting width mm	Capacity ISO 7451 m <sup>3</sup>	Weight kg	Wear kit level	S-HD-Undercarriage	
				Shovel Attachment SME	
2,700	5.10	10,130	III		○
2,700	5.60	8,750	I		○
2,700	5.60	9,190	II		○
2,700	5.60	9,910	III		□
2,700	6.00	10,630	II		□
2,700	6.00	11,350	III		□
3,150	6.00	8,200	I		□
3,150	6.50	8,340	I		△
3,150	6.50	9,830	II		△

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.

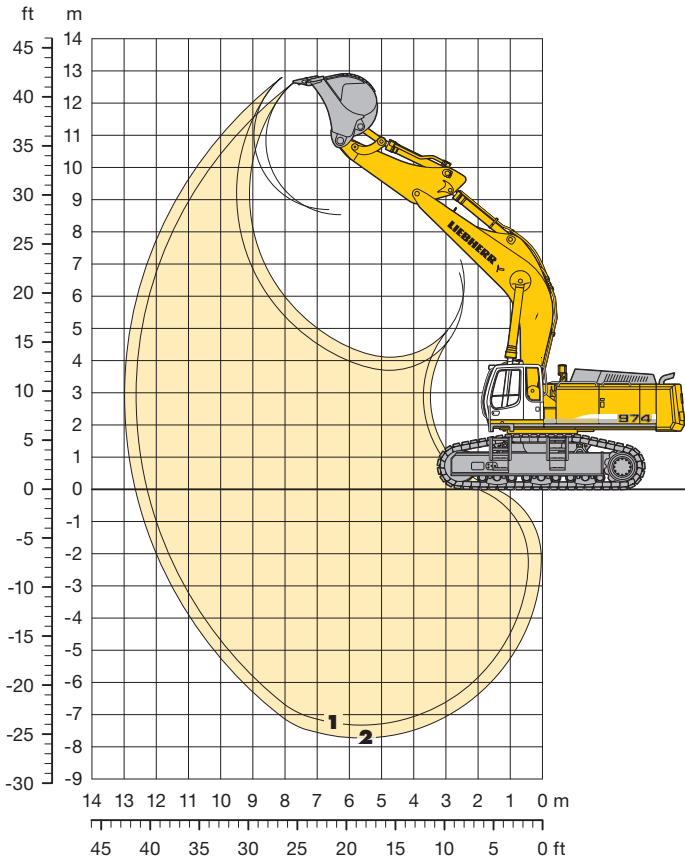
Level II: For pre-blasted heavy rock, or deteriorated, cracked material (classification 3 to 4, accord. to DIN 18300)

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>

# Backhoe Bucket

with Mono Boom 7.20 m SME and Heavy Counterweight



## Digging Envelope

		1	2
Stick length	m	2.90	3.30
Max. digging depth	m	7.30	7.70
Max. reach at ground level	m	12.30	12.65
Max. dump height	m	8.50	8.70
Max. teeth height	m	12.60	12.80
Digging force ISO	kN	389.5	360.5
	t	39.7	36.8
Breakout force ISO	kN	464.2	464.2
	t	47.3	47.3

## Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight 16.0 t, mono boom 7.20 m SME, stick 2.90 m SME and HD bucket 6.20 m<sup>3</sup> (6,350 kg).

Undercarriage	S-HD		
Pad width	mm	500	600 750
Weight	kg	99,300	100,100 101,300
Ground pressure	kg/cm <sup>2</sup>	1.80	1.51 1.22

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

Cutting width mm	Capacity ISO 7451 m <sup>3</sup>	Weight kg	S-HD-Undercarriage	
			Stick length (m)	
			2.90	3.30
HD <sup>1)</sup> 2,500	6.20	6,350	□	△
2,600	6.80	6,700	△	■
2,300	5.70	6,700	○	□
HD-V <sup>2)</sup> 2,500	6.30	7,500	△	■

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

1) HD bucket with Liebherr teeth Z 90

2) HD-V bucket with Liebherr teeth Z 90

Autres godets rétro disponibles sur demande

Max. material weight ○ = ≤ 2.0 t/m<sup>3</sup>, □ = ≤ 1.8 t/m<sup>3</sup>, △ = ≤ 1.65 t/m<sup>3</sup>, ■ = ≤ 1.5 t/m<sup>3</sup>



# Lift Capacities

with Mono Boom 7.20 m SME and Heavy Counterweight

## Stick 2.90 m SME

Height (m)	Under-carriage	Radius of load from centerline of machine (m)					
		3.0	4.5	6.0	7.5	9.0	10.5
9.0	S-HD				18.4# (18.4#)		
7.5	S-HD				18.7# (18.7#)	17.6# (17.6#)	
6.0	S-HD			23.8# (23.8#)	20.0# (20.0#)	17.9# (17.9#)	
4.5	S-HD			27.3# (27.3#)	21.7# (21.7#)	18.7# (18.7#)	
3.0	S-HD				23.4# (23.4#)	19.4 (19.5#)	
1.5	S-HD				31.5# (31.5#)	24.4# (24.4#)	18.9 (20.0#)
0	S-HD				31.2# (31.2#)	23.9 (24.4#)	18.6 (19.8#)
-1.5	S-HD		37.1# (37.1#)	29.4# (29.4#)	23.3# (23.3#)	18.4# (18.4#)	
-3.0	S-HD	38.1# (38.1#)	32.1# (32.1#)	25.9# (25.9#)	20.4# (20.4#)		
-4.5	S-HD		24.2# (24.2#)	19.4# (19.4#)			

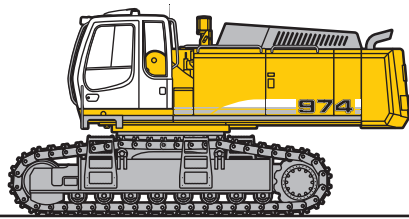
## Stick 3.30 m SME

Height (m)	Under-carriage	Radius of load from centerline of machine (m)					
		3.0	4.5	6.0	7.5	9.0	10.5
9.0	S-HD				17.2# (17.2#)		
7.5	S-HD				17.8# (17.8#)	16.7# (16.7#)	
6.0	S-HD			22.6# (22.6#)	19.2# (19.2#)	17.2# (17.2#)	
4.5	S-HD			26.2# (26.2#)	21.0# (21.0#)	18.1# (18.1#)	15.7 (16.3#)
3.0	S-HD			29.5# (29.5#)	22.8# (22.8#)	19.0# (19.0#)	15.4 (16.6#)
1.5	S-HD				31.2# (31.2#)	24.0# (24.0#)	18.9 (19.7#)
0	S-HD				31.3# (31.3#)	23.9 (24.4#)	18.5 (19.8#)
-1.5	S-HD		37.2# (37.2#)	29.9# (29.9#)	23.6# (23.6#)	18.3 (18.9#)	
-3.0	S-HD	37.3# (37.3#)	34.2# (34.2#)	26.9# (26.9#)	21.2# (21.2#)		
-4.5	S-HD		27.0# (27.0#)	21.5# (21.5#)	15.5# (15.5#)		

The load values are quoted in tons (t) at stick end (without bucket), 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 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 1,300 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 check valves on the hoist and stick cylinders, when they are used for lifting operations which require the use of lifting accessories.

# Component Dimensions and Weights



## Basic Machine

Track pads	mm	500	600	750
Weight with HD-Undercarriage and counterweight	kg	64,100	64,850	65,950
Weight with HD-Undercarriage and heavy counterweight	kg	66,000	66,750	67,850
Weight with LC-V-Undercarriage and counterweight	kg	69,200	70,000	71,150
Weight with LC-V-Undercarriage and heavy counterweight	kg	71,100	71,900	73,050
Weight with S-HD-Undercarriage and heavy counterweight	kg	76,350	77,150	78,350

## Undercarriage

		HD	LC-V	S-HD
V3 Mono boom 7.20 m	mm	10,350	10,500	-
Mono boom 8.60 m	mm	11,700	11,850	-
Mono boom 10.50 m	mm	13,650	13,850	-
Mono boom 7.20 m SME	mm	-	-	10,500
W3 Mono boom 7.20 m	mm	4,000	4,050	-
Mono boom 8.60 m	mm	4,350	4,450	-
Mono boom 10.50 m	mm	4,700	4,800	-
Mono boom 7.20 m SME	mm	-	-	4,100
X3 Mono boom 7.20 m	mm	11,800	11,750	-
Mono boom 8.60 m	mm	13,250	13,200	-
Mono boom 10.50 m	mm	15,300	15,250	-
Mono boom 7.20 m SME	mm	-	-	11,700

## Counterweight

L Length	mm	865	865
H Height	mm	1,445	1,445
Width	mm	3,360	3,360
Weight	kg	14,100	16,000

## Cab Elevation

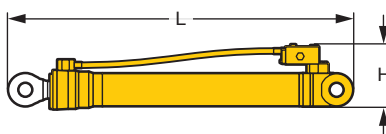
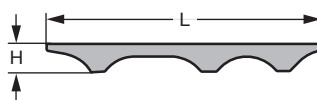
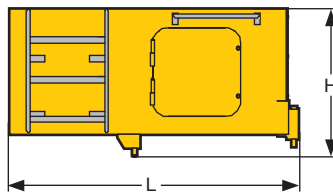
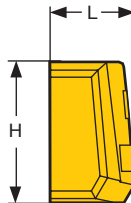
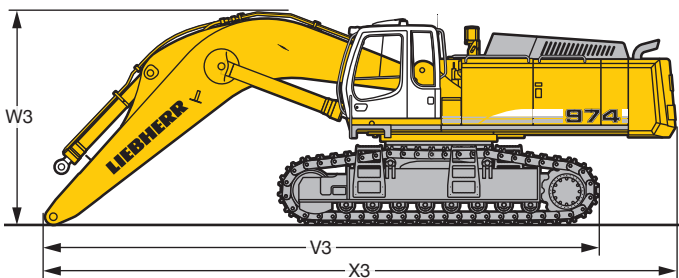
		800 mm	1,200 mm
L Length	mm	1,820	2,300
H Height	mm	930	1,350
Width	mm	1,370	1,800
Weight	kg	600	850

## Upper Protection Screen

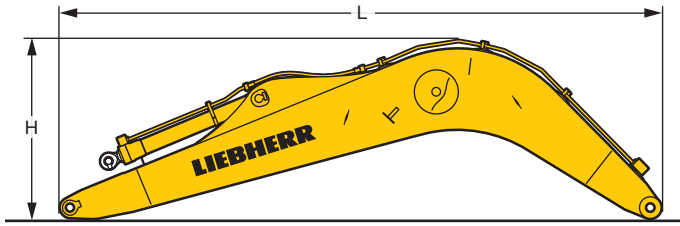
L Length	mm	1,960
H Height	mm	185
Width	mm	1,110
Weight	kg	75

## Hoist Cylinders (two)

L Length	mm	2,920
H Height	mm	550
Ø Diameter	mm	400
Weight	kg	2 x 1,050

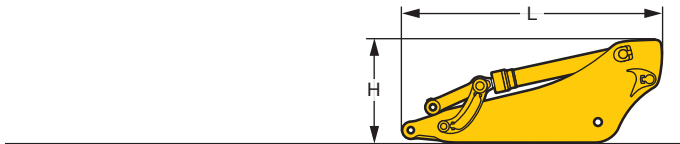


# Component Dimensions and Weights



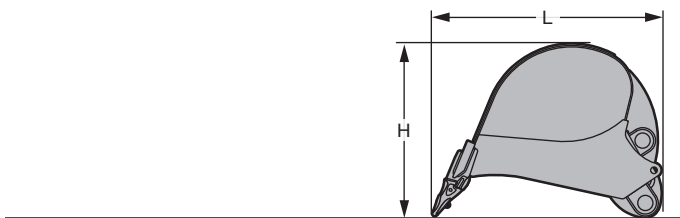
## Mono Boom with Stick Cylinder

Stick length	m	7.20	8.60	10.50	7.20	
					SME	
L Length	mm	7,550	8,950	10,850	7,550	
H Height	mm	2,600	2,700	2,900	2,600	
Width	mm	1,460	1,460	1,460	1,460	
Weight	kg	9,200	10,100	11,250	9,600	



## Stick with Bucket Cylinder

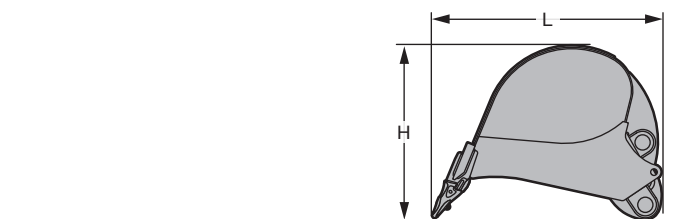
Stick length	m	2.90	3.80	4.70	5.80	2.90	3.30
						SME	SME
L Length	mm	4,050	4,900	5,800	6,900	4,100	4,450
H Height	mm	1,700	1,500	1,450	1,400	1,750	1,650
Width	mm	900	900	900	900	1,030	1,030
Weight	kg	4,450	4,750	5,150	5,000	4,900	5,100



## Backhoe Buckets

Std

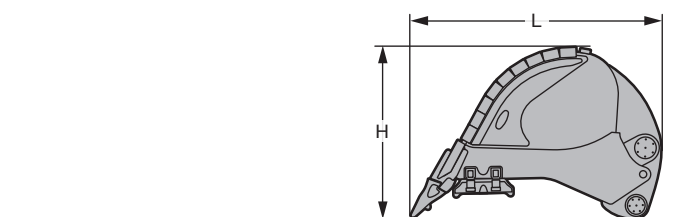
Cutting width	mm	1,250	1,400	1,600	1,800	1,950
Capacity	m <sup>3</sup>	2.20	2.70	3.20	3.80	4.30
L Length	mm	2,500	2,500	2,500	2,500	2,500
H Height	mm	1,900	1,900	1,900	1,900	1,900
Width	mm	1,300	1,450	1,650	1,850	2,000
Weight	kg	3,200	3,450	3,750	4,000	4,200



## Backhoe Buckets

Std

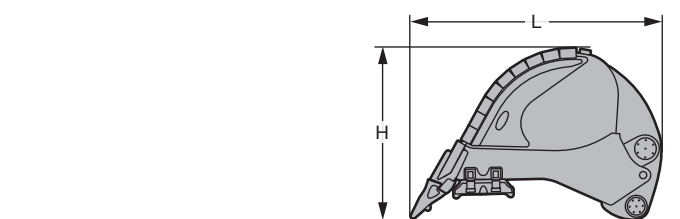
Cutting width	mm	2,150	2,300	2,300	2,600
Capacity	m <sup>3</sup>	4.80	5.30	5.80	6.60
L Length	mm	2,500	2,500	2,600	2,600
H Height	mm	1,900	1,950	1,950	1,950
Width	mm	2,200	2,350	2,350	2,650
Weight	kg	4,450	4,600	4,800	5,100



## Backhoe Buckets

HD

Cutting width	mm	1,800	1,950	2,150	2,300	2,300
Capacity	m <sup>3</sup>	3.60	4.10	4.60	5.10	5.60
L Length	mm	2,450	2,450	2,450	2,450	2,550
H Height	mm	1,950	1,950	1,950	1,950	1,950
Width	mm	1,850	2,000	2,200	2,350	2,350
Weight	kg	4,400	4,750	5,050	5,350	5,550

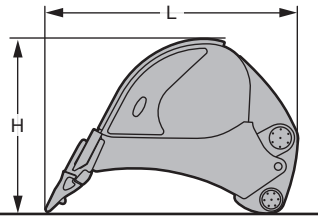


## Backhoe Buckets

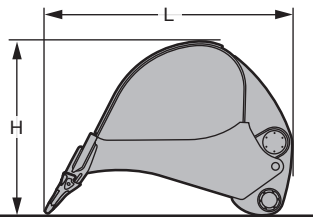
HD-V

Cutting width	mm	1,950	2,150	2,300
Capacity	m <sup>3</sup>	4.20	4.70	5.20
L Length	mm	2,450	2,450	2,450
H Height	mm	1,950	1,950	1,950
Width	mm	2,000	2,200	2,350
Weight	kg	5,250	5,550	5,850

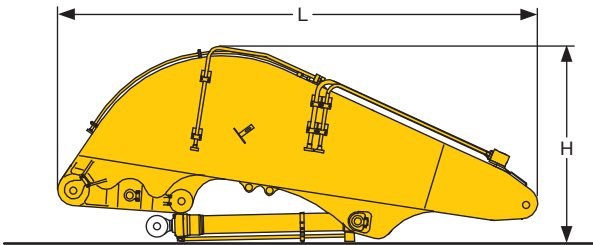
# Component Dimensions and Weights



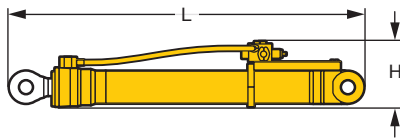
		SME		HD		HD-V	
Cutting width	mm	2,500	2,600	2,300	2,500		
Capacity	m <sup>3</sup>	6.20	6.80	5.70	6.30		
L Length	mm	2,550	2,550	2,600	2,550		
H Height	mm	2,050	2,050	2,050	2,050		
Width	mm	2,550	2,650	2,350	2,550		
Weight	kg	6,350	6,700	6,700	7,500		



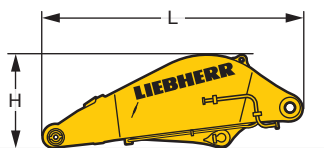
		R 964 C		
Cutting width	mm	1,350	1,550	1,750
Capacity	m <sup>3</sup>	2.00	2.50	3.00
L Length	mm	2,400	2,400	2,400
H Height	mm	1,700	1,700	1,700
Width	mm	1,400	1,600	1,800
Weight	kg	2,750	2,950	3,150



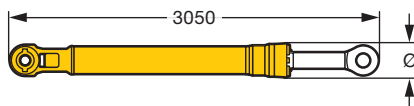
		Shovel Boom	
L Length	mm		4,950
H Height	mm		2,050
Width	mm		1,650
Weight without crowd cylinder	kg		7,300
Weight crowd cylinder	kg		2 x 450



		Shovel Hoist Cylinder (two)	
L Length	mm		2,920
H Height	mm		550
Ø Diameter	mm		450
Weight	kg		2 x 1,100

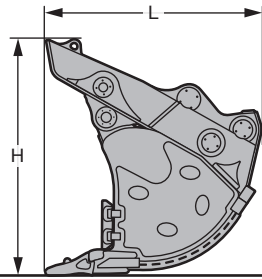


		Shovel Stick	
L Length	mm		3,660
H Height	mm		1,300
Width	mm		1,800
Weight	kg		4,650



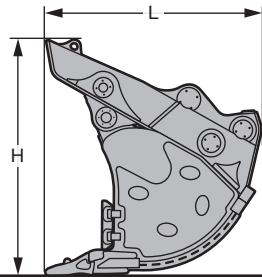
		Shovel Bucket Cylinders (two)	
L Length	mm		3,050
Ø Diameter	mm		300
Weight	kg		2 x 625

# Component Dimensions and Weights



## Front Shovels

Cutting width	mm	2,300	2,600	2,600
Capacity	m <sup>3</sup>	4.40	5.10	5.60
L Length	mm	2,600	2,600	2,800
H Height	mm	2,600	2,600	2,600
Width	mm	2,350	2,600	2,600
Weight				
Level I	kg	–	8,450	8,750
Level II	kg	8,300	9,100	–
Level III	kg	9,150	10,150	–



## Front Shovels SME

Cutting width	mm	2,700	2,700	3,150	3,150
Capacity	m <sup>3</sup>	5.10	5.60	6.00	6.50
L Length	mm	2,600	2,700	2,600	2,800
H Height	mm	2,600	2,600	2,600	2,800
Width	mm	2,750	2,750	3,200	3,200
Weight					
Level I	kg	–	8,750	9,950	10,750
Level II	kg	–	9,450	10,700	11,600
Level III	kg	10,150	10,600	11,950	12,900

# Standard Equipment



## Undercarriage

- Digging locks
- Integrated travel drive
- Lubrified tracks
- Protection on idler end
- Three track guide per track



## Uppercarriage

- Engine hood with lift help
- Handrails, non slip surfaces
- Lockable tool box
- Maintenance-free HD-batteries
- Maintenance-free swing brake lock
- Sound insulation
- Tool kit



## Hydraulics

- Electronic pump regulation
- Filter with integrated fine filter area (5 µm)
- Flow compensation
- Hydraulic tank shut-off valve
- Pressure compensation
- Pressure storage for controlled lowering of attachments with engine turned off
- Pressure test ports
- Stepless work mode selector



## Engine

- Air filter with automatic dust ejector
- Automatic engine idling
- Common rail injection
- Conform with standard stage IIIA/Tier 3
- Dry-type air cleaner w/pre-cleaner, main and safety elements
- Engine cold starting aid
- Main switch for electric circuit
- Turbo charger



## Operator's Cab

- Automatic air conditioning with defroster
- Bullet-proof windscreen (fixed installation – can not be opened) and bullet-proof roof windows
- Cigarette lighter and ashtray
- Closed storage space – literature tray
- Coat hook
- Dome light
- Door with sliding window
- Emergency exit rear window
- Inside rear mirror
- Load bearing sectional profile structure, covered with deep-drawn panels
- Mechanical hour meters, readable from outside the cab
- Multifunction display
- Preparation for radio installation
- Removable customized foot mat
- Removable handles for travel pedals
- Right window made of one piece (without post)
- Seat and console independently adjustable (6-way adjustable seat)
- Seat belt
- Storage bin
- Sun roller blind
- Tinted side windows
- Washer-wiper for front and roof window



## Attachment

- Automatic central lubrication system (except link and tilt geometry)
- Cylinders with shock absorbers
- Re-Generation plus
- SAE split flanges on all high pressure lines
- Sealed pivots/O-ring sealed between bucket and stick
- Work light on boom

# Individual Options



## Undercarriage

Different track pad width  
Different undercarriage versions



## Uppercarriage

Customized paint – compl. machine  
Electric fuel tank filler pump  
Heavy counterweight  
Pedal controlled positioning swing brake  
Protection for front working light



## Hydraulics

Additional hydraulic circuits  
Bio-degradable hydr. oil  
Filter for secondary circuit  
High lift circuit



## Engine

Fuel pre-heater



## Operator's Cab

Additional flood lights (front)  
Additional flood lights (rear)  
Air pressure operator seat with heating and head-rest  
Auxiliary heating with clock timer  
Beacon  
Electric cool box  
Electric drive away lock  
Extinguisher  
Front guard tiltable or fixed  
Lower windscreen with wiper  
Stereo radio  
Sun visor  
Upper protection screen (FOPS)



## Attachment

Central lubrication for lever with protection cover  
Customized colors  
Hydraulic lines for additional tools  
Hydraulic quick coupler  
Liebherr working tools  
Overload warning device  
Piston rod protection  
Special application buckets

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

# The Liebherr Group of Companies



## Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

## Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

## State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

## Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 38,000 employees located on all continents. The corporate headquarters of the Group is Liebherr - International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

[www.liebherr.com](http://www.liebherr.com)