

# Crawler Excavator

**R 974 C**  
Litronic®

Operating Weight with Backhoe Attachment: 84,500 – 101,500 kg  
Operating Weight with Shovel Attachment: 90,400 – 105,900 kg  
Engine Output: 400 kW / 543 HP  
Bucket Capacity: 2.00 – 6.20 m<sup>3</sup>  
Shovel Capacity: 4.40 – 6.50 m<sup>3</sup>



# LIEBHERR

# Technical Data



## Engine

Rating per ISO 9249	400 kW (543 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
ECO	for especially economical and environmentally friendly operation
POWER	for maximum digging power and heavy duty jobs
LIFT	for lifting
FINE	for precision work and lifting through very sensitive movements
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

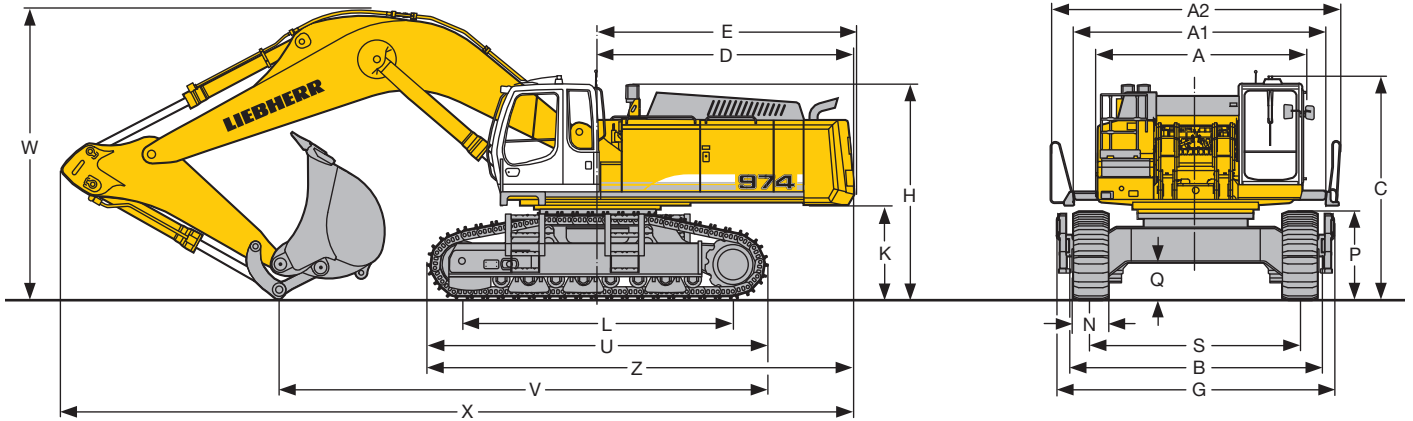
Versions	
HD	heavy duty
HD-SL	heavy duty, long undercarriage
S-HD	heavy duty version for extreme and difficult application
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	HD/HD-SL: low range – 2.7 km/h high range – 4.4 km/h S-HD: low range – 2.1 km/h high range – 3.6 km/h
Drawbar pull max.	HD/HD-SL: 729 kN S-HD: 867 kN
Track components	HD/HD-SL: B 9 S, maintenance-free S-HD: D 9 G, greased, maintenance-free
Track rollers/Carrier rollers	HD: 8/2 HD-SL: 9/2 S-HD: 9/2
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
Pivots bucket-to-stick bucket-to-link	O-ring sealed and completely enclosed
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 27 t lifting eye

# Dimensions

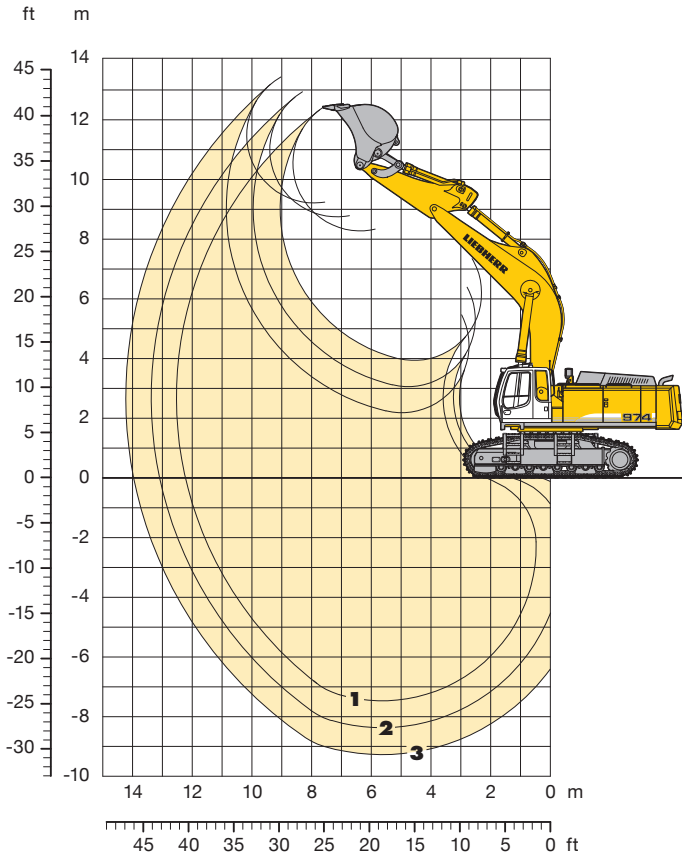


	HD			HD-SL			S-HD		
	mm			mm			mm		
A	3,605			3,605			3,605		
A1	4,365			4,365			4,365		
A2	5,000			5,000			5,000		
C	3,830			3,830			4,020		
D	4,400			4,400			4,400		
E	4,440			4,440			4,440		
H	3,670			3,670			3,860		
K	1,630			1,630			1,815		
L	4,640			5,166			5,035		
P	1,515			1,515			1,700		
Q	637			637			780		
S	3,600			3,600			3,600		
U	5,835			6,360			6,430		
N	500	600	750	500	600	750	500	600	750
B	4,334	4,334	4,350	4,334	4,334	4,350	4,430	4,430	4,430
G	4,776	4,776	4,776	4,776	4,776	4,776	4,915	4,915	4,915
Z	7,320			7,580			7,660		

	Stick Length	Goose-neck Boom	Goose-neck Boom	Goose-neck Boom	Goose-neck Boom
		7.20 m	8.60 m	10.50 m	7.20 m SME
	m	mm	mm	mm	mm
V with HD-Undercarriage	2.90	8,400	10,050	-	-
	3.80	8,050	9,750	11,900	-
	4.70	8,000	9,650	10,350	-
	5.80	-	-	11,200	-
V with HD-SL-Undercarriage	2.90	8,700	10,325	-	-
	3.80	8,350	10,050	12,200	-
	4.70	8,300	9,950	10,650	-
V with S-HD-Undercarriage	5.80	-	-	11,500	-
	2.90 SME	-	-	-	8,700
	3.30 SME	-	-	-	8,500
W	2.90	5,000	5,250	-	-
	3.80	5,450	5,550	5,650	-
	4.70	6,050	6,000	6,000	-
	5.80	-	-	6,800	-
	2.90 SME	-	-	-	5,150
	3.30 SME	-	-	-	5,300
X	2.90	13,600	15,100	-	-
	3.80	13,550	14,600	16,450	-
	4.70	13,450	14,400	16,300	-
	5.80	-	-	16,000	-
	2.90 SME	-	-	-	13,700
	3.30 SME	-	-	-	13,300

# Backhoe Attachment

with Gooseneck Boom 7.20 m



## Digging Envelope

		1	2	3
Stick lengths	m	2.90	3.80	4.70
Max. digging depth	m	7.45	8.35	9.25
Max. reach at ground level	m	12.20	13.05	13.95
Max. dump height	m	8.25	8.70	9.20
Max. teeth height	m	12.40	12.90	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 gooseneck boom 7.20 m, stick 2.90 m and bucket 5.20 m<sup>3</sup>.

Undercarriage		HD			HD-SL		
Pad width	mm	500	600	750	500	600	750
Weight	kg	84,500	85,200	86,300	85,800	86,600	87,700
Ground pressure	kg/cm <sup>2</sup>	1.67	1.40	1.14	1.54	1.29	1.05

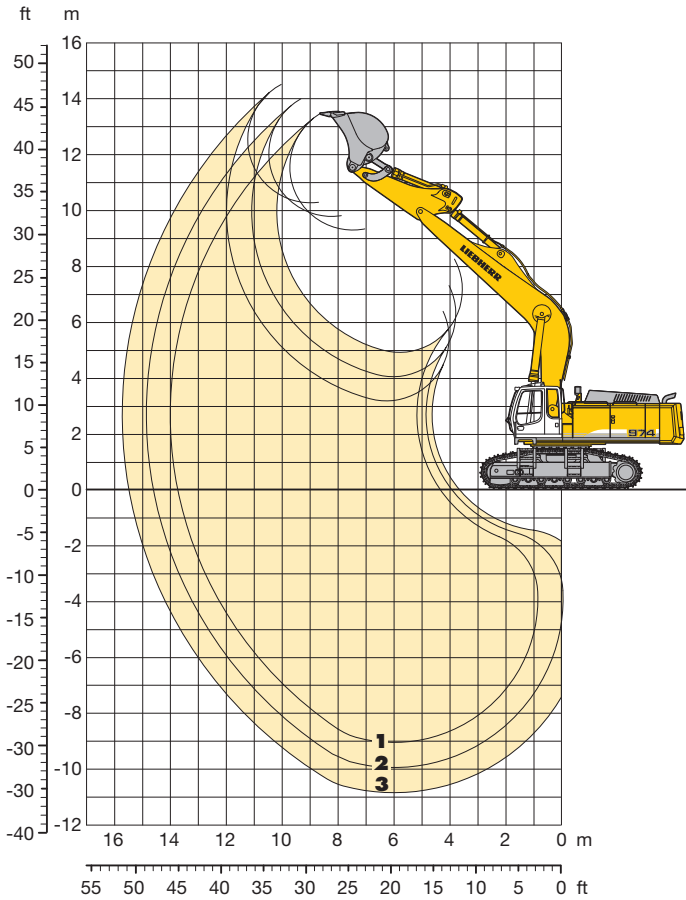
## Buckets

		Std						HD			HD-V	
Cutting width	mm	1,550	1,750	1,900	2,100	2,250	2,250	1,750	1,900	2,100	1,900	2,250
Capacity ISO 7451	m <sup>3</sup>	3.20	3.80	4.30	4.80	5.20	5.80	3.60	4.10	4.60	4.30	4.60
Weight Standard bucket with Esco teeth V 61 SD	kg	3,500	3,750	3,950	4,200	4,350	4,550	-	-	-	-	-
Weight HD bucket with Esco teeth V 61 RYL	kg	-	-	-	-	-	-	4,150	4,500	4,800	-	-
Weight HD-V bucket with Esco teeth V 69 SD	kg	-	-	-	-	-	-	-	-	-	6,000	6,050
Suitable for material up to a specific weight of												
with stick 2.90 m	t/m <sup>3</sup>	-	-	-	2.20	1.80	1.80	-	-	2.20	2.20	1.80
with stick 3.80 m	t/m <sup>3</sup>	-	2.20	2.20	1.80	1.50	1.50	2.20	2.20	1.80	1.80	1.50
with stick 4.70 m	t/m <sup>3</sup>	2.20	1.80	1.80	1.50	1.20	1.20	1.80	1.80	1.50	1.20	-



# Backhoe Attachment

with Gooseneck Boom 8.60 m



## Digging Envelope

		1	2	3
Stick lengths	m	2.90	3.80	4.70
Max. digging depth	m	9.05	9.95	10.85
Max. reach at ground level	m	13.70	14.60	15.50
Max. dump height	m	9.30	9.75	10.25
Max. teeth height	m	13.45	14.00	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 gooseneck boom 8.60 m, stick 3.80 m and bucket 3.80 m<sup>3</sup>.

Undercarriage		HD			HD-SL		
Pad width	mm	500	600	750	500	600	750
Weight	kg	85,100	85,800	86,900	86,400	87,200	88,300
Ground pressure	kg/cm <sup>2</sup>	1.68	1.41	1.15	1.55	1.30	1.06

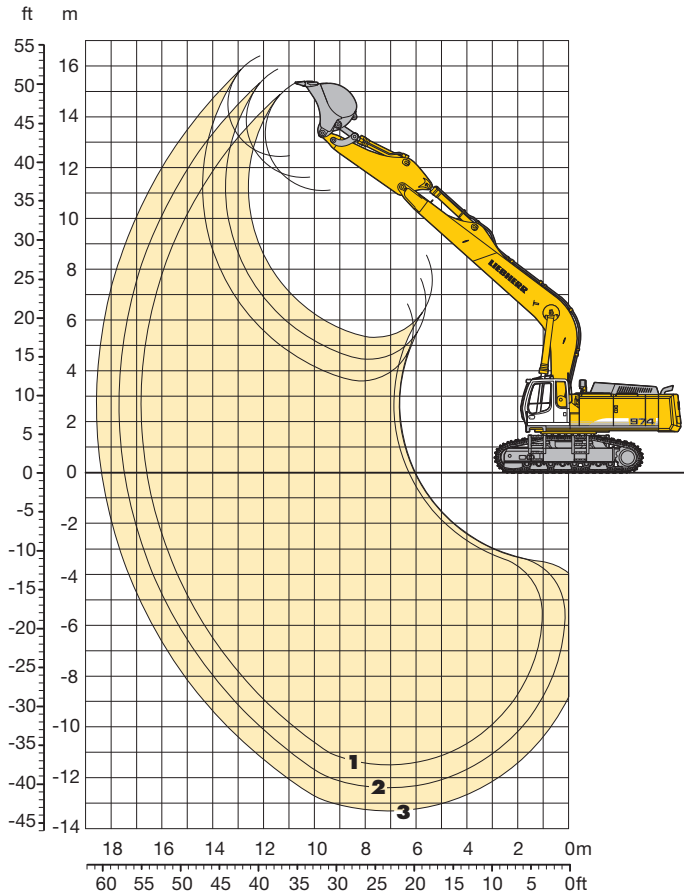
## Buckets

		Std						HD		
Cutting width	mm	1,350	1,550	1,750	1,900	2,100	2,250	1,750	1,900	2,100
Capacity ISO 7451	m <sup>3</sup>	2.70	3.20	3.80	4.30	4.80	5.20	3.60	4.10	4.60
Weight Standard bucket with Esco teeth V 61 SD	kg	3,200	3,500	3,750	3,950	4,200	4,350	–	–	–
Weight HD bucket with Esco teeth V 61 RYL	kg	–	–	–	–	–	–	4,150	4,500	4,800
Suitable for material up to a specific weight of										
with stick 2.90 m	t/m <sup>3</sup>	–	–	2.20	1.80	1.50	1.20	2.20	1.80	1.50
with stick 3.80 m	t/m <sup>3</sup>	–	2.20	1.80	1.50	1.20	–	1.80	1.50	1.20
with stick 4.70 m	t/m <sup>3</sup>	2.20	1.80	1.50	1.20	–	–	1.50	1.20	–



# Backhoe Attachment

with Gooseneck Boom 10.50 m and Heavy Counterweight



## Digging Envelope

		1	2	3
Stick lengths	m	3.80	4.70	5.80
Max. digging depth	m	11.50	12.40	13.30
Max. reach at ground level	m	16.60	17.45	18.35
Max. dump height	m	11.10	11.60	12.40
Max. teeth height	m	15.35	15.85	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, gooseneck boom 10.50 m, stick 4.70 m and bucket 2.20 m<sup>3</sup>.

Undercarriage		HD			HD-SL		
Pad width	mm	500	600	750	500	600	750
Weight	kg	87,900	88,600	89,700	89,200	90,000	91,100
Ground pressure	kg/cm <sup>2</sup>	1.77	1.46	1.18	1.60	1.34	1.09

## Buckets

		Std				Bucket from R 964 C		
Cutting width	mm	1,200	1,350	1,550	1,750	1,350	1,550	1,750
Capacity ISO 7451	m <sup>3</sup>	2.20	2.70	3.20	3.80	2.00	2.50	3.00
Weight Standard bucket with Esco teeth V 61 SD	kg	2,950	3,200	3,500	3,750	–	–	–
Weight Standard bucket with Liebherr teeth size 25	kg	–	–	–	–	2,750	2,950	3,150
Suitable for material up to a specific weight of								
with stick 3.80 m	t/m <sup>3</sup>	2.50	1.80	1.50	1.20	–	–	–
with stick 4.70 m	t/m <sup>3</sup>	1.80	1.50	1.20	–	–	–	–
with stick 5.80 m	t/m <sup>3</sup>	–	–	–	–	1.80	1.50	1.20



# Lift Capacities

with Gooseneck Boom 10.50 m and Heavy Counterweight

## 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	13.5	15.0	16.5					
13.5	HD															
	HD-SL															
12.0	HD										6.5# (6.5#)					
	HD-SL										6.5# (6.5#)					
10.5	HD										6.3# (6.3#)					
	HD-SL										6.3# (6.3#)					
9.0	HD										6.5# (6.5#)	6.2# (6.2#)				
	HD-SL										6.5# (6.5#)	6.2# (6.2#)				
7.5	HD							7.5# (7.5#)			6.8# (6.8#)	6.4# (6.4#)				
	HD-SL							7.5# (7.5#)			6.8# (6.8#)	6.4# (6.4#)				
6.0	HD					12.0# (12.0#)	9.7# (9.7#)	8.3# (8.3#)	7.3# (7.3#)		6.7# (6.7#)	5.7 (6.3#)				
	HD-SL					12.0# (12.0#)	9.7# (9.7#)	8.3# (8.3#)	7.3# (7.3#)		6.7# (6.7#)	5.8 (6.3#)				
4.5	HD									10.9# (10.9#)	9.1# (9.1#)	7.8# (7.8#)	7.0# (7.0#)	5.5 (6.5#)		
	HD-SL									10.9# (10.9#)	9.1# (9.1#)	7.8# (7.8#)	7.0# (7.0#)	5.5 (6.5#)		
3.0	HD														11.0# (11.0#)	8.9# (8.9#)
	HD-SL														11.0# (11.0#)	8.9# (8.9#)
1.5	HD															12.1# (12.1#)
	HD-SL															12.1# (12.1#)
0	HD															
	HD-SL															
- 1.5	HD															
	HD-SL															
- 3.0	HD															
	HD-SL															
- 4.5	HD															
	HD-SL															
- 6.0	HD															
	HD-SL															
- 7.5	HD															
	HD-SL															
- 9.0	HD															
	HD-SL															
- 10.5	HD															
	HD-SL															
- 12.0	HD															
	HD-SL															

## 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	13.5	15.0	16.5					
13.5	HD															
	HD-SL															
12.0	HD															
	HD-SL															
10.5	HD															
	HD-SL															
9.0	HD															
	HD-SL															
7.5	HD															
	HD-SL															
6.0	HD															
	HD-SL															
4.5	HD															
	HD-SL															
3.0	HD															
	HD-SL															
1.5	HD															
	HD-SL															
0	HD															
	HD-SL															
- 1.5	HD															
	HD-SL															
- 3.0	HD															
	HD-SL															
- 4.5	HD															
	HD-SL															
- 6.0	HD															
	HD-SL															
- 7.5	HD															
	HD-SL															
- 9.0	HD															
	HD-SL															
- 10.5	HD															
	HD-SL															
- 12.0	HD															
	HD-SL															

## Stick 5.80 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	13.5	15.0	16.5					
13.5	HD															
	HD-SL															
12.0	HD															
	HD-SL															
10.5	HD															
	HD-SL															
9.0	HD															
	HD-SL															
7.5	HD															
	HD-SL															
6.0	HD															
	HD-SL															
4.5	HD															
	HD-SL															
3.0	HD															
	HD-SL															
1.5	HD															
	HD-SL															
0	HD															
	HD-SL															
- 1.5	HD															
	HD-SL															
- 3.0	HD															
	HD-SL															
- 4.5	HD															
	HD-SL															
- 6.0	HD															
	HD-SL															
- 7.5	HD															
	HD-SL															
- 9.0	HD															
	HD-SL															
- 10.5	HD															
	HD-SL															
- 12.0	HD															
	HD-SL															

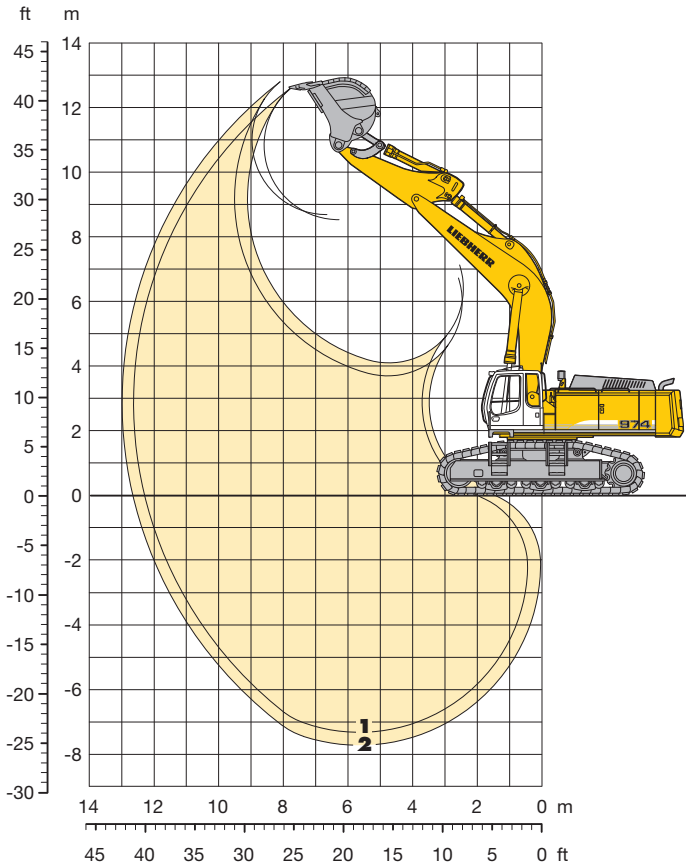
The load values are quoted in tons (t) on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide, double-grouser pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via #). Maximum load for the backhoe bucket's lifting eye is 27 t. Without bucket (2.20 m³/2.00 m³), the lift capacities will increase by 2,950 kg/2,750 kg\*, without bucket cylinder, link and lever they increase by an additional 1,250 kg/1,100 kg\*. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

According to European Standard, EN 474-5 in the European Union: Excavators must be equipped with an overload warning device, a load diagram and automatic check valves on the hoist cylinders when they are used for lifting operations which require the use of lifting accessories.

\* just for stick 5.80 m

# Backhoe Attachment

with Gooseneck Boom 7.20 m SME and Heavy Counterweight



## Digging Envelope

		1	2
Stick lengths	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, gooseneck boom 7.20 m SME, stick 2.90 m SME and HD bucket (6,350 kg) 6.20 m<sup>3</sup>.

Undercarriage	S-HD			
Pad width	mm	500	600	750
Weight	kg	99,500	100,300	101,500
Ground pressure	kg/cm <sup>2</sup>	1.80	1.51	1.23

## Buckets

Cutting width SAE	mm	2,250 <sup>1)</sup>	2,400 <sup>2)</sup>	2,400 <sup>3)</sup>
Capacity ISO 7451	m <sup>3</sup>	5.70	6.20	6.20
Weight	kg	6,550	6,300	6,450
Suitable for material up to a specific weight of				
with stick 2.90 m SME	t/m <sup>3</sup>	2.00	1.80	1.80
with stick 3.30 m SME	t/m <sup>3</sup>	1.80	1.65	1.65

<sup>1)</sup> HD-V rock bucket with delta cutting edge and teeth size V 69 RYL (appropriate for material above classification 6, according to VOB, section C, DIN 18300)

<sup>2)</sup> HD rock bucket and teeth size V 69 SD (appropriate for material above classification 6, according to VOB, section C, DIN 18300)

<sup>3)</sup> HD rock bucket with delta cutting edge and teeth size V 69 SD (appropriate for material above classification 6, according to VOB, section C, DIN 18300)

# Lift Capacities

with Gooseneck 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	12.0	13.5	15.0	16.5									
13.5	S-HD																			
12.0	S-HD																			
10.5	S-HD																			
9.0	S-HD							10.5# (10.5#)												
7.5	S-HD							10.7# (10.7#)												
6.0	S-HD						13.1# (13.1#)	11.4# (11.4#)	10.4# (10.4#)											
4.5	S-HD		27.3# (27.3#)	19.1# (19.1#)	14.9# (14.9#)	12.5# (12.5#)	10.9# (10.9#)													
3.0	S-HD			22.4# (22.4#)	16.8# (16.8#)	13.5# (13.5#)	11.4# (11.4#)													
1.5	S-HD			24.8# (24.8#)	18.3# (18.3#)	14.4# (14.4#)	11.4 (11.9#)													
0	S-HD		27.0# (27.0#)	25.8# (25.8#)	19.1# (19.1#)	14.6 (14.9#)	11.1 (11.9#)													
- 1.5	S-HD	20.6# (20.6#)	35.3# (35.3#)	25.4# (25.4#)	19.0# (19.0#)	14.2 (14.7#)														
- 3.0	S-HD	31.3# (31.3#)	32.1# (32.1#)	23.6# (23.6#)	17.8# (17.8#)	13.4# (13.4#)														
- 4.5	S-HD	37.0# (37.0#)	26.8# (26.8#)	20.0# (20.0#)	14.9# (14.9#)															
- 6.0	S-HD		18.2# (18.2#)	13.3# (13.3#)																
- 7.5	S-HD																			
- 9.0	S-HD																			
- 10.5	S-HD																			
- 12.0	S-HD																			

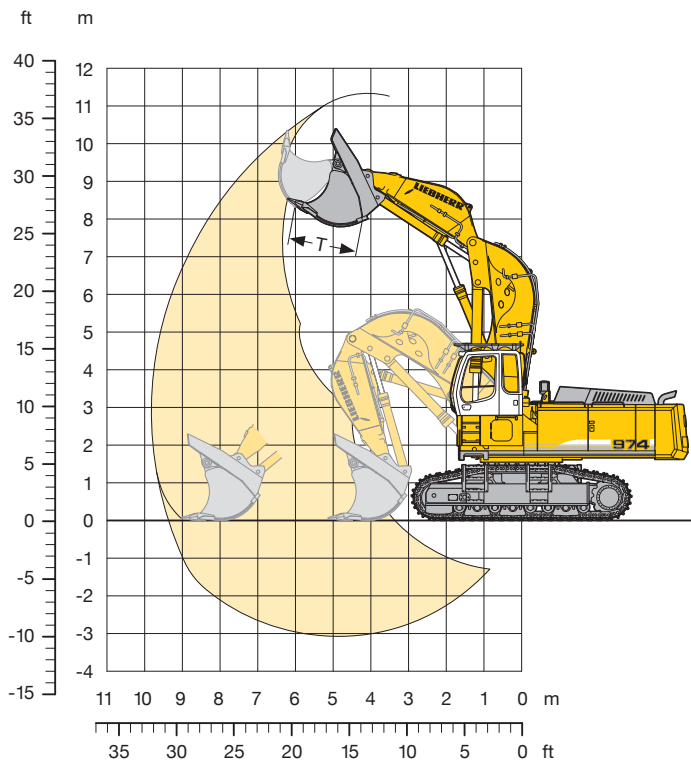
## Stick 3.30 m SME

Height (m)	Under-carriage	Radius of load from centerline of machine (m)																			
		3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	16.5										
13.5	S-HD																				
12.0	S-HD																				
10.5	S-HD																				
9.0	S-HD													9.6# (9.6#)							
7.5	S-HD													9.9# (9.9#)	9.4# (9.4#)						
6.0	S-HD												12.2# (12.2#)	10.7# (10.7#)	9.7# (9.7#)						
4.5	S-HD												25.1# (25.1#)	17.9# (17.9#)	14.1# (14.1#)	11.8# (11.8#)	10.3# (10.3#)				
3.0	S-HD												21.4# (21.4#)	16.1# (16.1#)	13.0# (13.0#)	10.9# (10.9#)					
1.5	S-HD												26.2# (26.2#)	24.1# (24.1#)	17.8# (17.8#)	14.0# (14.0#)	11.4 (11.5#)				
0	S-HD												27.4# (27.4#)	25.5# (25.5#)	18.8# (18.8#)	14.5 (14.6#)	11.0 (11.7#)				
- 1.5	S-HD	19.3# (19.3#)	34.3# (34.3#)	25.5# (25.5#)	19.0# (19.0#)	14.1 (14.7#)	10.8 (11.4#)														
- 3.0	S-HD	28.5# (28.5#)	33.3# (33.3#)	24.1# (24.1#)	18.1# (18.1#)	13.8# (13.8#)															
- 4.5	S-HD	40.2# (40.2#)	28.7# (28.7#)	21.1# (21.1#)	15.7# (15.7#)																
- 6.0	S-HD		21.1# (21.1#)	15.5# (15.5#)																	
- 7.5	S-HD																				
- 9.0	S-HD																				
- 10.5	S-HD																				
- 12.0	S-HD																				

The load values are quoted in tons (t) 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 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 #). Maximum load for the backhoe bucket's lifting eye is 27 t. Without bucket (6.20 m³), the lift capacities will increase by 6,300 kg, without bucket cylinder, link and lever they increase by an additional 1,300 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

According to European Standard, EN 474-5 in the European Union: Excavators must be equipped with an overload warning device, a load diagram and automatic check valves on the hoist cylinders when they are used for lifting operations which require the use of lifting accessories.

# Shovel Attachment



## Digging Envelope

Max. reach at ground level	9.70 m
Max. dump height	8.00 m
Max. crowd length	3.20 m
Bucket opening width T	1,870 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 bottom dump bucket 5.10 m<sup>3</sup>, level II.

Undercarriage	HD			
Pad width	mm	500	600	750
Weight	kg	90,400	91,100	92,200
Ground pressure	kg/cm <sup>2</sup>	1.79	1.50	1.22

## Bottom Dump Bucket

Cutting width SAE	mm	2,300 <sup>1)</sup>	2,300 <sup>1)</sup>	2,700 <sup>1)</sup>	2,700 <sup>1)</sup>	2,700 <sup>1)</sup>	2,700 <sup>1)</sup>
Capacity SAE	m <sup>3</sup>	4.40	4.40	5.10	5.10	5.10	5.60
Weight	kg	8,300	9,150	8,450	9,100	10,150	8,800
Suitable for material up to a specific weight of	t/m <sup>3</sup>	2.20	2.20	1.80	1.80	1.80	1.65
Wear kit level		II	III	I	II	III	I

<sup>1)</sup> Bottom dump bucket with Delta cutting edge and teeth size V 69 RYL

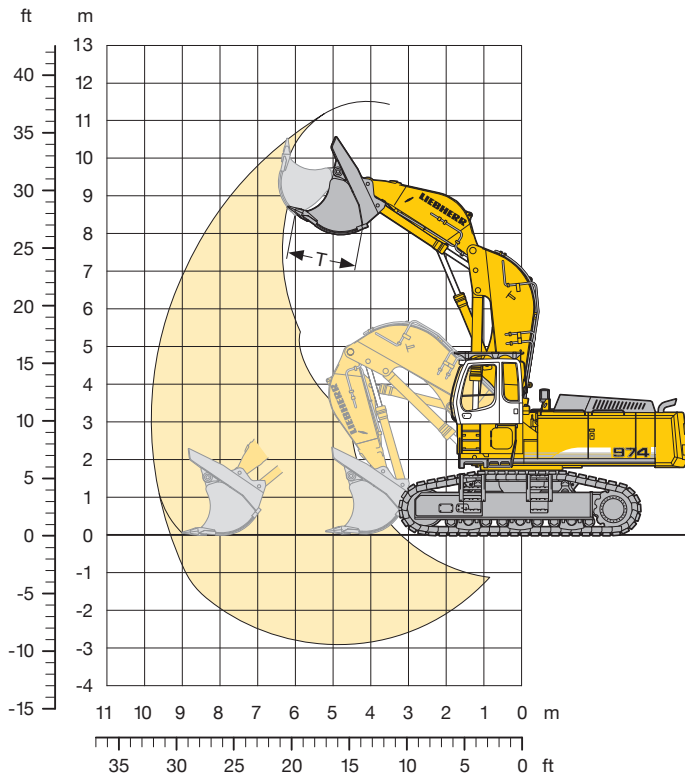
Level I: For non-abrasive materials, such as limestone without flint inclusion, shot material or easily breakable rock, i.e., deteriorated rock, soft limestone, shale, etc.

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.

# Shovel Attachment

## Super Mass Excavation



### Digging Envelope

Max. reach at ground level	9.70 m
Max. dump height	8.00 m
Max. crowd length	3.20 m
Bucket opening width T	1,870 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 bottom dump bucket 6.00 m<sup>3</sup>, level II.

Undercarriage		S-HD		
Pad width	mm	500	600	750
Weight	kg	103,900	104,700	105,900
Ground pressure	kg/cm <sup>2</sup>	1.88	1.58	1.28

### Bottom Dump Bucket

Cutting width SAE	mm	2,700 <sup>1)</sup>	3,150 <sup>1)</sup>	3,150 <sup>1)</sup>	3,150 <sup>1)</sup>	3,150 <sup>1)</sup>	3,150 <sup>1)</sup>
Capacity SAE	m <sup>3</sup>	5.10	6.00	6.00	6.00	6.50	6.50
Weight	kg	10,150	9,950	10,700	11,950	10,750	11,600
Suitable for material up to a specific weight of	t/m <sup>3</sup>	2.20	1.80	1.80	1.80	1.65	1.65
Wear kit level		III	I	II	III	I	II

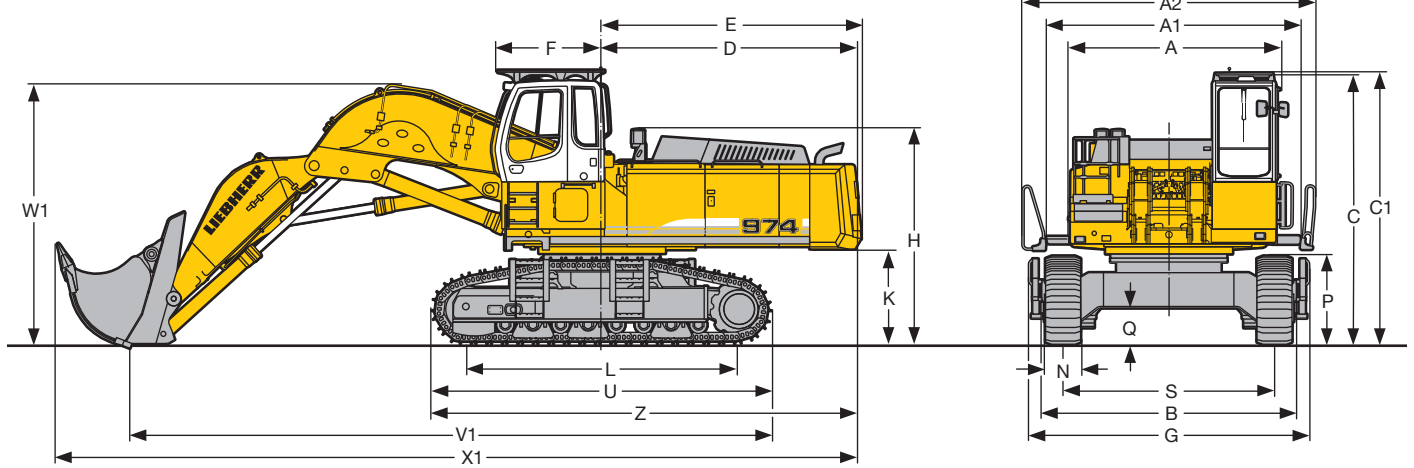
<sup>1)</sup> Bottom dump bucket with Delta cutting edge and teeth size V 69 RYL

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.

# Dimensions



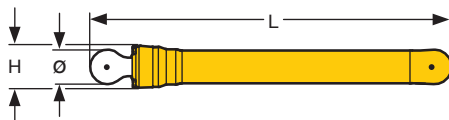
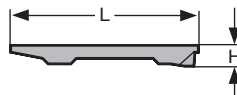
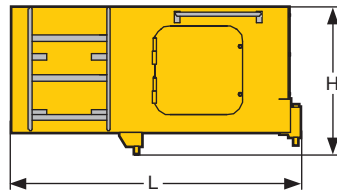
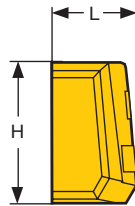
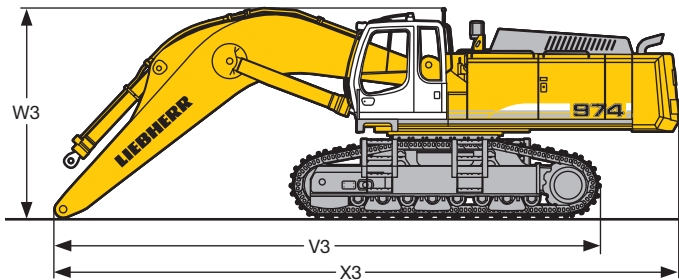
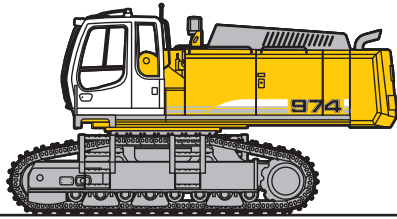
	<b>HD</b>	mm	<b>S-HD</b>	mm
A		3,605		3,605
A1		4,365		4,365
A2		5,000		5,000
C <sup>1)</sup>		4,630		4,820
C <sup>2)</sup>		5,050		5,240
C1 <sup>1)</sup>		4,675		4,865
C1 <sup>2)</sup>		5,095		5,285
D		4,400		4,400
E		4,440		4,440
F		1,800		1,800
H		3,670		3,860
K		1,360		1,815

	<b>HD</b>	mm	<b>S-HD</b>	mm
L		4,640		5,035
P		1,515		1,700
Q		637		780
S		3,600		3,600
U		5,835		6,430
N	500 600	750	500 600	750
B	4,334 4,334	4,350	4,430 4,430	4,430
G	4,776 4,776	4,776	4,915 4,915	4,915
Z		7,320		7,660
V1		11,000		11,200
W1		4,500		4,600
X1		13,750		13,700

<sup>1)</sup> with cab elevation 0.8 m

<sup>2)</sup> with cab elevation 1.2 m

# Component Dimensions and Weights



## Basic Machine

Track pads	mm	500	600	750
Weight with HD-Undercarriage and counterweight 14,100 kg	kg	64,500	65,200	66,300
Weight with HD-SL-Undercarriage and counterweight 14,100 kg	kg	65,800	66,600	67,700
Weight with S-HD-Undercarriage and counterweight 16,000 kg	kg	76,400	77,200	78,400

## Undercarriage

		HD	HD-SL	S-HD
V3 Gooseneck boom 7.20 m	mm	10,300	10,600	-
Gooseneck boom 8.60 m	mm	11,750	12,050	-
Gooseneck boom 10.50 m	mm	13,550	13,550	-
Gooseneck boom 7.20 m SME	mm	-	-	10,500
W3 Gooseneck boom 7.20 m	mm	4,000	4,000	-
Gooseneck boom 8.60 m	mm	4,350	4,350	-
Gooseneck boom 10.50 m	mm	4,700	4,700	-
Gooseneck boom 7.20 m SME	mm	-	-	4,100
X3 Gooseneck boom 7.20 m	mm	11,800	11,800	-
Gooseneck boom 8.60 m	mm	13,250	13,250	-
Gooseneck boom 10.50 m	mm	15,520	15,520	-
Gooseneck 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

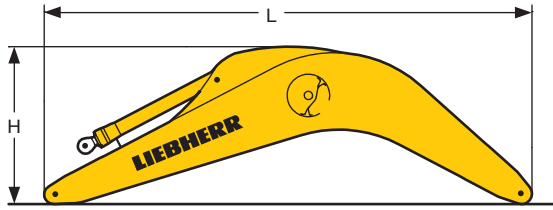
## Upper Protection Screen

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

## Hoist Cylinders (two)

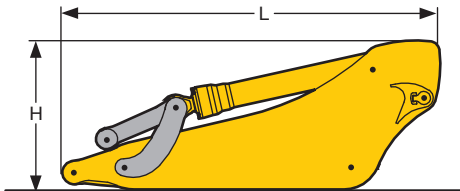
L Length	mm	2,920
H Height	mm	550
Ø Diameter	mm	400
Weight	kg	2 x 1,050

# Component Dimensions and Weights



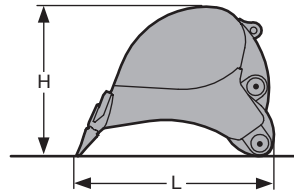
## Gooseneck Boom with Stick Cylinder

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	2,600	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

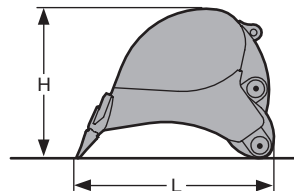
Stick length	m	2.90	3.80	4.70	5.80	2.90	3.30
						SME	SME
L Length	mm	4,050	4,900	5,800	6,900	4,100	4,450
H Height	mm	1,700	1,500	1,450	1,400	1,750	1,650
Width	mm	1,050	1,050	1,050	950	1,050	1,050
Weight	kg	4,300	4,650	5,150	5,000	5,100	5,300



## Backhoe Buckets

Std

Cutting width	mm	1,200	1,350	1,550	1,750	1,900
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	1,250	1,400	1,600	1,800	1,950
Weight	kg	2,950	3,200	3,500	3,750	3,950



## Backhoe Buckets

Std

Cutting width	mm	2,100	2,250	2,250
Capacity	m <sup>3</sup>	4.80	5.20	5.80
L Length	mm	2,500	2,500	2,600
H Height	mm	1,900	1,950	1,950
Width	mm	2,150	2,300	2,300
Weight	kg	4,200	4,350	4,550

## Backhoe Buckets

HD

HD-V

Cutting width	mm	1,750	1,900	2,100	1,900*	2,250*
Capacity	m <sup>3</sup>	3.60	4.10	4.60	4.30	4.60
L Length	mm	2,450	2,450	2,450	2,600	2,450
H Height	mm	1,950	1,950	1,950	2,000	1,950
Width	mm	1,800	1,950	2,150	1,950	2,300
Weight	kg	4,150	4,500	4,800	6,000	6,050

\* with Delta cutting edge

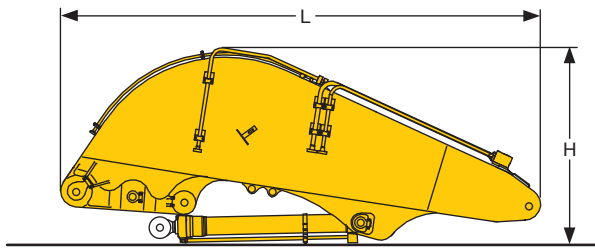


# Component Dimensions and Weights

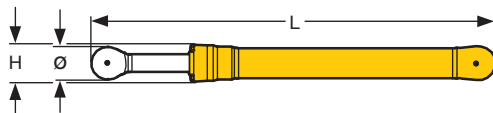
<b>Backhoe Buckets SME</b>		<b>HD</b>		<b>HD-V</b>
Cutting width	mm	2,400	2,400*	2,250
Capacity	m <sup>3</sup>	6.20	6.20	5.70
L Length	mm	2,550	2,650	2,600
H Height	mm	2,000	2,050	2,050
Width	mm	2,450	2,450	2,300
Weight	kg	6,300	6,450	6,550

\* with Delta cutting edge

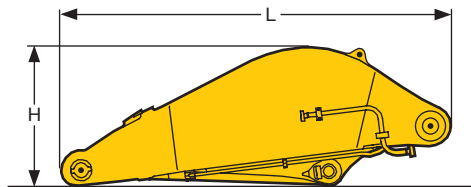
<b>Backhoe Buckets from R 964 C</b>				
Cutting width	mm	1,350	1,550	1,750
Capacity	m <sup>3</sup>	2.00	2.50	3.00
L Length	mm	2,250	2,250	2,250
H Height	mm	1,650	1,650	1,650
Width	mm	1,400	1,600	1,800
Weight	kg	2,750	2,950	3,150



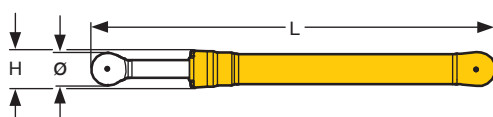
<b>Shovel Boom</b>			
L Length	mm		4,950
H Height	mm		2,050
Width	mm		1,650
Weight without crowd cylinder	kg		7,300
Weight crowd cylinder	kg		2 x 450



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

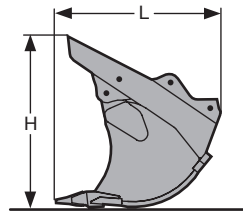


<b>Shovel Stick</b>			
L Length	mm		3,660
H Height	mm		1,300
Width	mm		1,800
Weight	kg		4,500



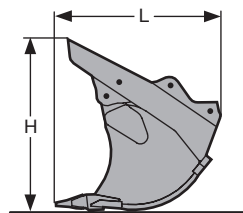
<b>Shovel Bucket Cylinders (two)</b>			
L Length	mm		3,050
H Height	mm		450
Ø Diameter	mm		450
Weight	kg		2 x 625

# Component Dimensions and Weights



## Bottom Dump Buckets

Cutting width	mm	2,300	2,700	2,700
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	2,750	2,750
Weight				
Level I	kg	–	8,450	8,800
Level II	kg	8,300	9,100	–
Level III	kg	9,150	10,150	–



## Bottom Dump Buckets SME

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

# Equipment



## Undercarriage

Three track guide per track	•
Integrated travel drive	•
Digging locks	•
Protection on idler end	•
Lubricated tracks	•
Different undercarriage versions	+
Different track pad width	+



## Uppercarriage

Engine hood with lift help	•
Lockable tool box	•
Handrails, non slip surfaces	•
Tool kit	•
Maintenance-free swing brake lock	•
Maintenance-free HD-batteries	•
Sound insulation	•
Electric fuel tank filler pump	+
Pedal controlled positioning swing brake	+
Customized paint – compl. machine	+
Protection for front working light	+
Heavy counterweight	+



## Hydraulics

Electronic pump regulation	•
Stepless work mode selector	•
Pressure storage for controlled lowering of attachments with engine turned off	•
Hydraulic tank shut-off valve	•
Pressure compensation	•
Flow compensation	•
Filter with integrated fine filter area (5 µm)	•
Pressure test ports	•
Additional hydraulic circuits	+
Bio-degradable hydr. oil	+
Filter for secondary circuit	+
High lift circuit	+



## Engine

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



## Operator's Cab

Load bearing sectional profile structure, covered with deep-drawn panels	•
Tinted side windows	•
Armored windshield	•
Door with sliding window	•
Washer-wiper for front and roof window	•
6-way adjustable cloth suspension seat	•
Seat and consoles independently adjustable	•
Coat hook	•
Automatic climate control with defroster function	•
Dome light	•
Sun blinds	•
Radio installation prep-kit	•
Removable handles for travel pedals	•
Cigarette lighter and ashtray	•
Removable custom floor mat	•
Storage and literature tray	•
Digital instrumentation	•
Digital instruments for oil temp., engine RPM and oil pressure	•
Digital hour meter visible from outside	•
AM/FM stereo radio	+
Electric cool box	+
Air power seat adjustment with heating	+
Warning beacon	+
Additional headlights on cabin roof (front and rear)	+
Upper protection screen (FOPS)	+
Front guard tiltable	+
Electric drive away lock	+
Extinguisher	+



## Attachment

Cylinders with shock absorbers	•
Automatic central lubrication system (except link and tilt geometry)	•
Re-Generation plus	•
Sealed pivots/O-ring sealed between bucket and stick	•
SAE split flanges on all high pressure lines	•
Work light on boom	•
27 t load eye on bucket or quick-coupler	•
Overload warning device	+
Hydraulic quick change coupler	+
Piston rod protection	+
Hydraulic lines for additional tools	+
Central lubrication for lever with protection cover	+
Liebherr working tools	+
Special application buckets	+
Customized colors	+

• = 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 to retain warranty.**

All illustrations and data may differ from standard equipment. Subject to change without notice. All indicated loads are based in accordance with ISO 9248.

# 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, too. 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 100 companies with over 32,000 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)



Printed in Germany by Typodruck RG-BK-RP LFR/SP 10410301-3-01.10\_enGB

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