

# Crawler Excavator

**R 964 C**  
Litronic®

Operating Weight with Backhoe Attachment: 65,700 – 76,900 kg  
Operating Weight with Shovel Attachment: 67,300 – 76,400 kg  
Engine Output: 320 kW / 434 HP  
Bucket Capacity: 2,00 – 5,00 m<sup>3</sup>  
Shovel Capacity: 3,40 – 5,00 m<sup>3</sup>



# LIEBHERR

*Courtesy of Machine.Market*

# Technical Data



## Engine

Rating per ISO 9249	320 kW (434 HP) at 1800 RPM
Model	Liebherr D9508
Type	8 cylinder V-engine
Bore/Stroke	128/157 mm
Displacement	16,16 l
Engine operation	4-stroke diesel common rail injection turbo-charged inter-cooled reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	1250 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 170Ah/12 V
Starter	24 V/7,8 kW
Alternator	three phase current 28 V/80 A



## Hydraulic System

Hydraulic pump for attachment and travel drive	2 Liebherr variable flow, swash plate pumps
Max. flow	2 x 410 l/min.
Max. pressure	350 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer, flow summation
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	245 l/min.
Max. pressure	340 bar
Hydraulic tank	565 l
Hydraulic system	1050 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 aftercooler as well as 2 <sup>nd</sup> 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 tool



## Hydraulic Controls

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



## Swing Drive

Drive by	Liebherr swash plate motor with integrated brake valves
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0–5,6 RPM stepless
Swing torque	233 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal-controlled positioning brake



## Uppercarriage

Design	torque resistant modular upper frame design
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) = 75 dB(A)
2000/14/EC	$L_{WA}$ (surround noise) = 107 dB(A)



## Undercarriage

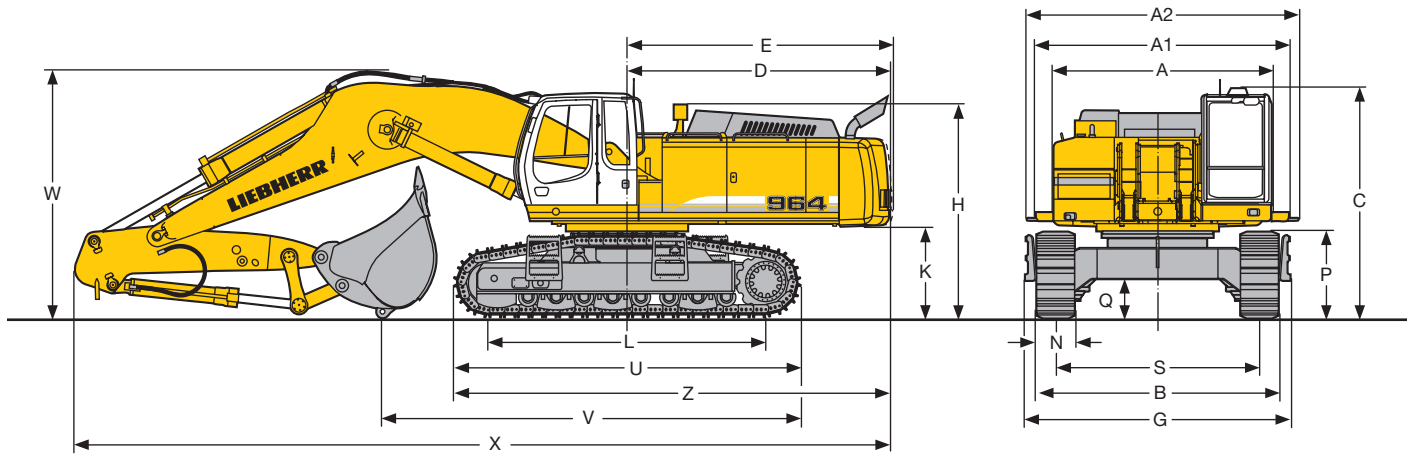
Versions	
HD	heavy duty
HD-SL	heavy duty, long undercarriage
S-HD	heavy duty version for extreme and difficult application
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	HD/HD-SL: low range –2,9 km/h high range –4,1 km/h S-HD: low range –2,6 km/h high range –3,7 km/h
Drawbar pull max.	HD/HD-SL: 553 kN S-HD: 715 kN
Track components	HD/HD-SL: D 8 K, maintenance-free S-HD: B 9 S, maintenance-free
Track rollers/Carrier rollers	HD/S-HD: 8/2 HD-SL: 9/2
Tracks	HD/HD-SL: 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	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
Bucket	standard equipped with 27 t lifting eye

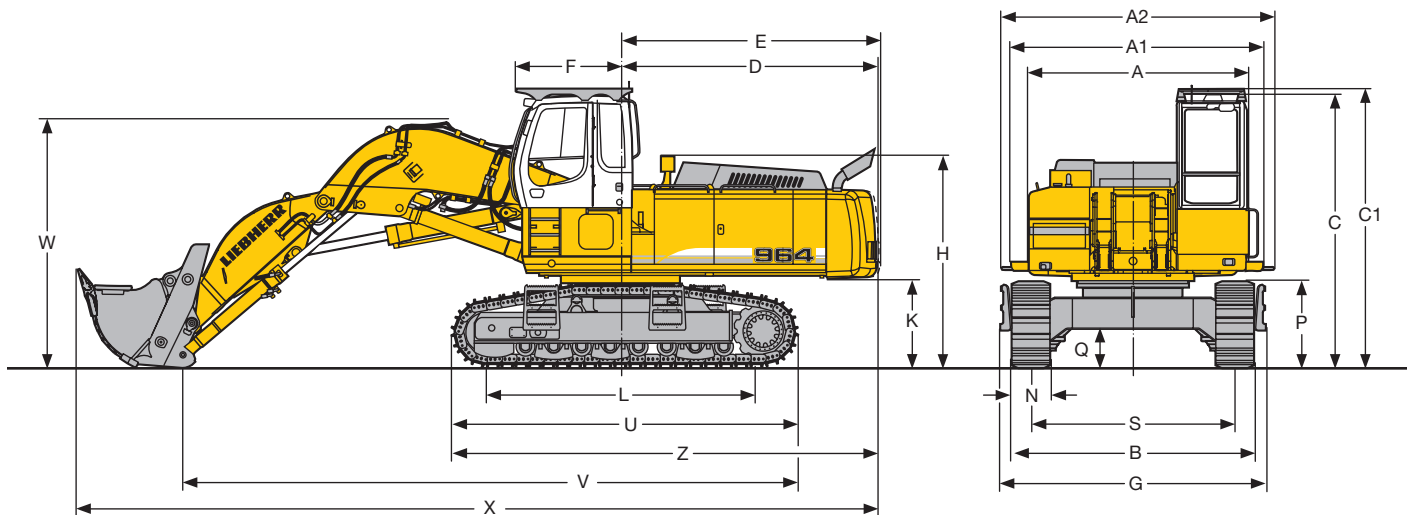
# Dimensions



	HD	mm	HD-SL	mm
A		3506		3506
A1		3976		3976
A2		4235		4235
C		3640		3640
D		4120		4120
E		4155		4155
H		3345		3345
K		1440		1440
L		4345		4575
P		1350		1350
Q		605		605
S		3200		3200
U		5460		5700
N	500 600 750		500 600 750	
B	4120 4120 4120		4120 4120 4120	
G	4170 4170 4320		4170 4170 4320	
Z		6850		6970

	Stick Length	Gooseneck Boom 7,00 m	Gooseneck Boom 8,20 m
	m	mm	mm
V with HD-Undercarriage	2,60	6600	8000
	3,40	6150	7050
	4,20*	5800	7550
V with HD-SL-Undercarriage	2,60	6750	8150
	3,40	6300	7200
	4,20*	5950	7700
W	2,60	3900	4300
	3,40	4200	4250
	4,20*	3800	4350
X	2,60	12800	14150
	3,40	12750	14000
	4,20*	12650	14000

\* without bucket

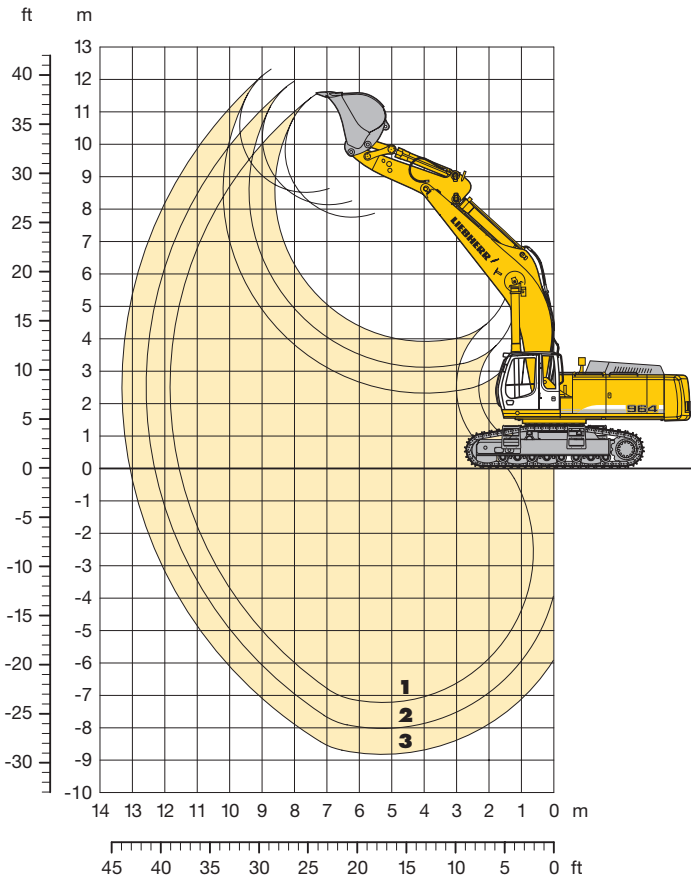


	HD	mm	HD-SL	mm
A		3506		3506
A1		3976		3976
A2		4235		4235
C		4440		4440
C1		4490		4490
D		4120		4120
E		4155		4155
F		1680		1680
H		3345		3345
K		1440		1440
L		4345		4575

	HD	mm	HD-SL	mm
P		1350		1350
Q		605		605
S		3200		3200
U		5460		5700
N	500 600 750		500 600 750	
B	4120 4120 4120		4120 4120 4120	
G	4170 4170 4320		4170 4170 4320	
Z		6850		6970
V1		9800		9800
W1		4000		4000
X1		12900		12900

# Backhoe Attachment

with Gooseneck Boom 7,00 m



## Digging Envelope

		1	2	3
Stick lengths	m	2,60	3,40	4,20
Max. digging depth	m	7,25	8,05	8,85
Max. reach at ground level	m	11,55	12,30	13,10
Max. dump height	m	7,75	8,15	8,50
Max. teeth height	m	11,55	11,95	12,35
Digging force ISO	kN	308	260	225
	t	31,4	26,5	22,9
Breakout force ISO	kN	335	335	335
	t	34,2	34,2	34,2

Breakout force ISO max.

356 kN/36,3 t

## Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 7,00 m, stick 2,60 m and bucket 4,00 m<sup>3</sup>.

Undercarriage		HD			HD-SL		
Pad width	mm	500	600	750	500	600	750
Weight	kg	65700	66350	67350	66700	67350	68400
Ground pressure	kg/cm <sup>2</sup>	1,39	1,17	0,95	1,35	1,13	0,92

## Buckets

		Std						HD				
Cutting width	mm	1550	1750	1950	2150	2400	2600	1550	1750	1950	2100	2100
Capacity ISO 7451	m <sup>3</sup>	2,50	3,00	3,50	4,00	4,50	5,00	2,00	2,50	3,00	3,50	4,00
Weight Standard bucket with Liebherr teeth Z 25 C	kg	2850	3100	3350	3600	-	-	-	-	-	-	-
Weight Standard bucket with Liebherr teeth Z 20 C	kg	-	-	-	-	3850	4100	-	-	-	-	-
Weight HD bucket with Liebherr teeth V 61 SD	kg	-	-	-	-	-	-	3200	3500	3800	4100	4300
Suitable for material up to a specific weight of												
with stick 2,60 m	t/m <sup>3</sup>	-	2,20	2,20	1,80	1,80	1,50	-	-	2,20	2,20	1,80
with stick 3,40 m	t/m <sup>3</sup>	2,20	1,80	1,80	1,50	1,20	-	-	2,20	1,80	1,50	1,20
with stick 4,20 m	t/m <sup>3</sup>	1,80	1,50	1,20	-	-	-	1,80	1,50	1,20	-	-

# Lift Capacities

with Gooseneck Boom 7,00 m

## Stick 2,60 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							
	HD-SL							
9,0	HD				7,0# ( 7,0#)			
	HD-SL				7,0# ( 7,0#)			
7,5	HD				10,8# (10,8#)			
	HD-SL				10,8# (10,8#)			
6,0	HD				11,7# (11,7#)	10,3 (10,6#)		
	HD-SL				11,7# (11,7#)	10,4 (10,6#)		
4,5	HD	22,6# (22,6#)	16,2# (16,2#)	13,1# (13,1#)	9,8 (11,3#)			
	HD-SL	22,6# (22,6#)	16,2# (16,2#)	13,1# (13,1#)	10,0 (11,3#)			
3,0	HD	27,8 (28,3#)	18,0 (18,9#)	12,7 (14,5#)	9,3 (12,1#)			
	HD-SL	28,3# (28,3#)	18,3 (18,9#)	12,9 (14,5#)	9,5 (12,1#)			
1,5	HD	25,9 (25,9#)	16,7 (20,8#)	11,9 (15,8#)	8,8 (12,6 )			
	HD-SL	25,9# (25,9#)	17,0 (20,8#)	12,1 (15,8#)	9,0 (12,8#)			
0	HD	16,7# (16,7#)	25,5 (29,7#)	16,0 (21,6#)	11,3 (16,3 )	8,5 (12,2 )		
	HD-SL	16,7# (16,7#)	25,9 (29,7#)	16,2 (21,6#)	11,5 (16,4#)	8,7 (13,2#)		
-1,5	HD	24,7# (24,7#)	25,6 (28,9#)	15,8 (21,3#)	11,1 (16,1 )	8,4 (12,1 )		
	HD-SL	24,7# (24,7#)	26,1 (28,9#)	16,0 (21,3#)	11,3 (16,3#)	8,6 (12,9#)		
-3,0	HD	32,4# (32,4#)	26,2 (26,2#)	16,0 (19,8#)	11,2 (15,2#)			
	HD-SL	32,4# (32,4#)	26,2# (26,2#)	16,2 (19,8#)	11,4 (15,2#)			
-4,5	HD	28,7# (28,7#)	21,7# (21,7#)	16,6 (16,6#)				
	HD-SL	28,7# (28,7#)	21,7# (21,7#)	16,6# (16,6#)				
-6,0	HD		14,0# (14,0#)					
	HD-SL		14,0# (14,0#)					
-7,5	HD							
	HD-SL							

## Stick 3,40 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								
	HD-SL								
9,0	HD								
	HD-SL								
7,5	HD						7,9# ( 7,9#)		
	HD-SL						7,9# ( 7,9#)		
6,0	HD						10,2# (10,2#)	9,4# ( 9,4#)	
	HD-SL						10,2# (10,2#)	9,4# ( 9,4#)	
4,5	HD					14,2# (14,2#)	11,7# (11,7#)	9,9 (10,2#)	6,2# (6,2#)
	HD-SL					14,2# (14,2#)	11,7# (11,7#)	10,1 (10,2#)	6,2# (6,2#)
3,0	HD					25,1# (25,1#)	17,1# (17,1#)	12,9 (13,3#)	9,3 (11,1#)
	HD-SL					25,1# (25,1#)	17,1# (17,1#)	13,1 (13,3#)	9,5 (11,1#)
1,5	HD					26,8 (29,2#)	17,0 (19,6#)	11,9 (14,8#)	8,8 (12,0#)
	HD-SL					27,2 (29,2#)	17,3 (19,6#)	12,1 (14,8#)	8,9 (12,0#)
0	HD	15,1# (15,1#)	25,6 (29,6#)	16,0 (21,0#)	11,3 (15,8#)	8,3 (12,1 )	6,4 (7,7#)		
	HD-SL	15,1# (15,1#)	26,0 (29,6#)	16,3 (21,0#)	11,5 (15,8#)	8,5 (12,6#)	6,5 (7,7#)		
-1,5	HD	20,8# (20,8#)	25,3 (29,9#)	15,6 (21,3#)	10,9 (15,9 )	8,1 (11,8 )			
	HD-SL	20,8# (20,8#)	25,7 (29,9#)	15,8 (21,3#)	11,1 (16,2#)	8,3 (12,8#)			
-3,0	HD	26,9# (26,9#)	25,5 (28,0#)	15,5 (20,5#)	10,8 (15,6#)	8,1 (11,8 )			
	HD-SL	26,9# (26,9#)	26,0 (28,0#)	15,8 (20,5#)	11,0 (15,6#)	8,3 (12,1#)			
-4,5	HD	33,6# (33,6#)	24,5# (24,5#)	15,9 (18,2#)	11,1 (13,8#)				
	HD-SL	33,6# (33,6#)	24,5# (24,5#)	16,2 (18,2#)	11,3 (13,8#)				
-6,0	HD	25,3# (25,3#)	18,5# (18,5#)	13,7# (13,7#)					
	HD-SL	25,3# (25,3#)	18,5# (18,5#)	13,7# (13,7#)					
-7,5	HD								
	HD-SL								

## Stick 4,20 m

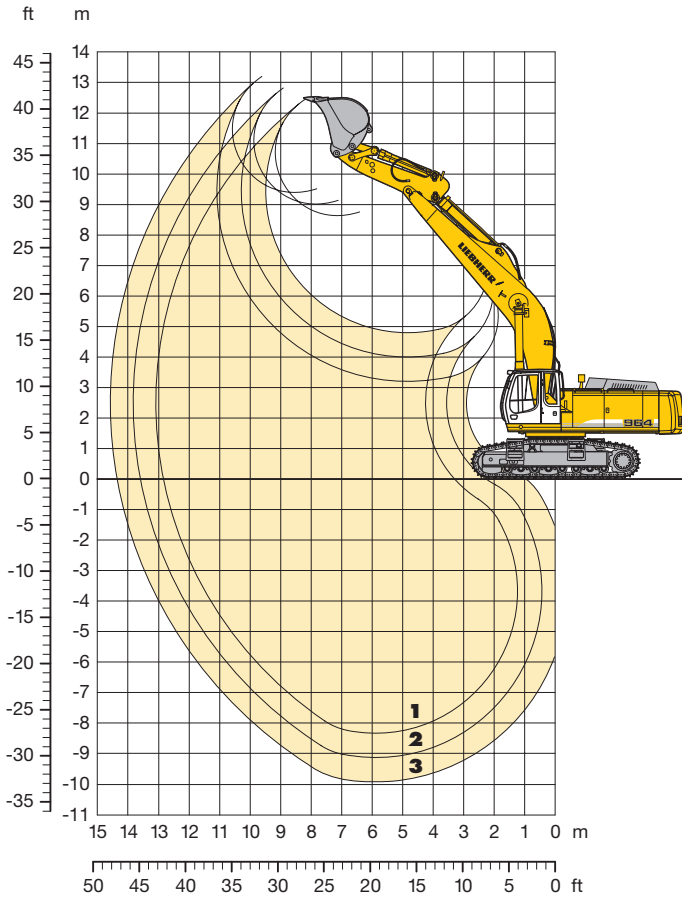
Height (m)	Under-carriage	Radius of load from centerline of machine (m)						
		3,0	4,5	6,0	7,5	9,0	10,5	12,0
10,5	HD							
	HD-SL							
9,0	HD							
	HD-SL							
7,5	HD					7,6# ( 7,6#)	2,8# ( 2,8#)	
	HD-SL					7,6# ( 7,6#)	2,8# ( 2,8#)	
6,0	HD					8,2# ( 8,2#)	6,2# ( 6,2#)	
	HD-SL					8,2# ( 8,2#)	6,2# ( 6,2#)	
4,5	HD				10,2# (10,2#)	9,1# ( 9,1#)	7,3 ( 8,3#)	
	HD-SL				10,2# (10,2#)	9,1# ( 9,1#)	7,5 ( 8,3#)	
3,0	HD	23,9# (23,9#)	21,5# (21,5#)	15,2# (15,2#)	12,0# (12,0#)	9,5 (10,1#)	6,9 ( 8,9#)	
	HD-SL	23,9# (23,9#)	21,5# (21,5#)	15,2# (15,2#)	12,0# (12,0#)	9,6 (10,1#)	7,1 ( 8,9#)	
1,5	HD	12,4# (12,4#)	26,8# (26,8#)	17,5 (18,1#)	12,1 (13,7#)	8,8 (11,2#)	6,6 ( 9,5 )	
	HD-SL	12,4# (12,4#)	26,8# (26,8#)	17,8 (18,1#)	12,4 (13,7#)	9,0 (11,2#)	6,7 ( 9,5#)	
0	HD	14,5# (14,5#)	26,0 (29,6#)	16,2 (20,1#)	11,3 (15,0#)	8,3 (12,0#)	6,2 ( 9,2 )	
	HD-SL	14,5# (14,5#)	26,4 (29,6#)	16,5 (20,1#)	11,5 (15,0#)	8,5 (12,0#)	6,4 (10,0#)	
-1,5	HD	18,5# (18,5#)	25,2 (30,2#)	15,5 (21,0#)	10,8 (15,8#)	7,9 (11,7 )	6,0 ( 9,0 )	
	HD-SL	18,5# (18,5#)	25,6 (30,2#)	15,8 (21,0#)	11,0 (15,8#)	8,1 (12,5#)	6,2 (10,0 )	
-3,0	HD	23,2# (23,2#)	25,1 (29,2#)	15,2 (20,8#)	10,6 (15,5 )	7,8 (11,5 )		
	HD-SL	23,2# (23,2#)	25,5 (29,2#)	15,5 (20,8#)	10,8 (15,7#)	8,0 (12,3#)		
-4,5	HD	28,6# (28,6#)	25,5 (26,6#)	15,4 (19,4#)	10,6 (14,7#)	7,9 (11,2#)		
	HD-SL	28,6# (28,6#)	25,9 (26,6#)	15,7 (19,4#)	10,8 (14,7#)	8,1 (11,2#)		
-6,0	HD	32,1# (32,1#)	22,1# (22,1#)	15,9 (16,3#)	11,1 (11,9#)			
	HD-SL	32,1# (32,1#)	22,1# (22,1#)	16,2 (16,3#)	11,3 (11,9#)			
-7,5	HD		14,1# (14,1#)					
	HD-SL		14,1# (14,1#)					

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 (3,00 m³), the lift capacities will increase by 3100 kg, without bucket cylinder, link and lever they increase by an additional 1080 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.

# Backhoe Attachment

with Gooseneck Boom 8,20 m



## Digging Envelope

		1	2	3
Stick lengths	m	2,60	3,40	4,20
Max. digging depth	m	8,30	9,10	9,90
Max. reach at ground level	m	12,80	13,55	14,35
Max. dump height	m	8,65	9,00	9,40
Max. teeth height	m	12,45	12,80	13,20
Digging force ISO	kN	308	260	225
	t	31,4	26,5	22,9
Breakout force ISO	kN	335	335	335
	t	34,2	34,2	34,2

Breakout force ISO max.

356 kN/36,3 t

## Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 8,20 m, stick 3,40 m and bucket 2,50 m<sup>3</sup>.

Undercarriage		HD			HD-SL		
Pad width	mm	500	600	750	500	600	750
Weight	kg	65900	66550	67550	66900	67550	68600
Ground pressure	kg/cm <sup>2</sup>	1,39	1,17	0,95	1,35	1,13	0,92

## Buckets

		Std					HD				
Cutting width	mm	1550	1750	1950	2150	2400	1550	1750	1950	2100	2100
Capacity ISO 7451	m <sup>3</sup>	2,50	3,00	3,50	4,00	4,50	2,00	2,50	3,00	3,50	4,00
Weight Standard bucket with Liebherr teeth Z 25 C	kg	2850	3100	3350	3600	–	–	–	–	–	–
Weight Standard bucket with Liebherr teeth Z 20 C	kg	–	–	–	–	3850	–	–	–	–	–
Weight HD bucket with Liebherr teeth V 61 SD	kg	–	–	–	–	–	3200	3500	3800	4100	4300
Suitable for material up to a specific weight of											
with stick 2,60 m	t/m <sup>3</sup>	2,20	1,80	1,50	1,20	1,20	2,20	2,20	1,80	1,50	1,20
with stick 3,40 m	t/m <sup>3</sup>	1,80	1,50	1,20	–	–	1,80	1,50	1,20	–	–
with stick 4,20 m	t/m <sup>3</sup>	1,50	1,20	–	–	–	1,50	1,20	–	–	–

# Lift Capacities

with Gooseneck Boom 8,20 m

## Stick 2,60 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							
	HD-SL							
9,0	HD					7,9# ( 7,9#)		
	HD-SL					7,9# ( 7,9#)		
7,5	HD					8,5# ( 8,5#)		
	HD-SL					8,5# ( 8,5#)		
6,0	HD			13,1# (13,1#)	10,6# (10,6#)	9,1# ( 9,1#)	7,1 (8,3#)	
	HD-SL			13,1# (13,1#)	10,6# (10,6#)	9,1# ( 9,1#)	7,2 (8,3#)	
4,5	HD			15,8# (15,8#)	12,0# (12,0#)	9,1 ( 9,9#)	6,7 (8,7#)	
	HD-SL			15,8# (15,8#)	12,0# (12,0#)	9,3 ( 9,9#)	6,9 (8,7#)	
3,0	HD			15,5 (18,3#)	11,3 (13,4#)	8,4 (10,8#)	6,4 (9,2#)	
	HD-SL			15,8 (18,3#)	11,5 (13,4#)	8,6 (10,8#)	6,5 (9,2#)	
1,5	HD			14,4 (19,6#)	10,4 (14,5#)	7,9 (11,5#)	6,0 (8,0 )	
	HD-SL			14,7 (19,6#)	10,6 (14,5#)	8,0 (11,5#)	6,2 (9,6#)	
0	HD		14,0# (14,0#)	14,0 (19,9#)	9,9 (14,9 )	7,5 (11,2 )	5,8 (8,7 )	
	HD-SL		14,0# (14,0#)	14,3 (19,9#)	10,2 (15,0#)	7,7 (11,9#)	5,9 (9,7 )	
-1,5	HD		23,4# (23,4#)	14,0 (19,4#)	9,8 (14,7 )	7,3 (11,0 )	5,7 (8,7 )	
	HD-SL		23,4# (23,4#)	14,3 (19,4#)	10,0 (15,0#)	7,5 (12,0#)	5,9 (9,7 )	
-3,0	HD	24,9# (24,9#)	23,3# (23,3#)	14,3 (18,3#)	9,9 (14,4#)	7,4 (11,1 )		
	HD-SL	24,9# (24,9#)	23,3# (23,3#)	14,6 (18,3#)	10,1 (14,4#)	7,6 (11,5#)		
-4,5	HD	25,9# (25,9#)	20,6# (20,6#)	14,8 (16,4#)	10,3 (12,9#)			
	HD-SL	25,9# (25,9#)	20,6# (20,6#)	15,1 (16,4#)	10,5 (12,9#)			
-6,0	HD		16,3# (16,3#)	13,1# (13,1#)				
	HD-SL		16,3# (16,3#)	13,1# (13,1#)				
-7,5	HD							
	HD-SL							

## Stick 3,40 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							4,1# ( 4,1#)	
	HD-SL							4,1# ( 4,1#)	
9,0	HD								
	HD-SL								
7,5	HD							7,4# ( 7,4#)	7,0# (7,0#)
	HD-SL							7,4# ( 7,4#)	7,0# (7,0#)
6,0	HD						9,3# ( 9,3#)	8,1# ( 8,1#)	7,2 (7,3#)
	HD-SL						9,3# ( 9,3#)	8,1# ( 8,1#)	7,3 (7,3#)
4,5	HD						21,2# (21,2#)	14,0# (14,0#)	10,8# (10,8#)
	HD-SL						21,2# (21,2#)	14,0# (14,0#)	10,8# (10,8#)
3,0	HD						11,5# (11,5#)	16,3 (16,8#)	11,5 (12,4#)
	HD-SL						11,5# (11,5#)	16,6 (16,8#)	11,7 (12,4#)
1,5	HD						11,1# (11,1#)	14,8 (18,7#)	10,5 (13,7#)
	HD-SL						11,1# (11,1#)	15,0 (18,7#)	10,8 (13,7#)
0	HD						15,6# (15,6#)	14,0 (19,5#)	9,9 (14,5#)
	HD-SL						15,6# (15,6#)	14,3 (19,5#)	10,1 (14,5#)
-1,5	HD	14,8# (14,8#)	20,8# (20,8#)	13,8 (19,6#)	9,6 (14,5 )	7,1 (10,8 )	5,4 (8,4 )		
	HD-SL	14,8# (14,8#)	20,8# (20,8#)	14,1 (19,6#)	9,8 (14,8#)	7,3 (11,7#)	5,6 (9,3 )		
-3,0	HD	20,1# (20,1#)	23,3 (25,3#)	13,9 (18,8#)	9,5 (14,5 )	7,0 (10,7 )	5,4 (8,4 )		
	HD-SL	20,1# (20,1#)	23,8 (25,3#)	14,2 (18,8#)	9,7 (14,5#)	7,2 (11,5#)	5,6 (9,2#)		
-4,5	HD	25,7# (25,7#)	22,8# (22,9#)	14,2 (17,4#)	10,0 (13,5#)	7,4 (10,6#)			
	HD-SL	25,7# (25,7#)	22,9# (22,9#)	14,5 (17,4#)	10,0 (13,5#)	7,4 (10,6#)			
-6,0	HD	25,8# (25,8#)	19,2# (19,2#)	14,8# (14,8#)	10,3 (11,5#)				
	HD-SL	25,8# (25,8#)	19,2# (19,2#)	14,8# (14,8#)	10,5 (11,5#)				
-7,5	HD		13,4# (13,4#)	10,3# (10,3#)					
	HD-SL		13,4# (13,4#)	10,3# (10,3#)					

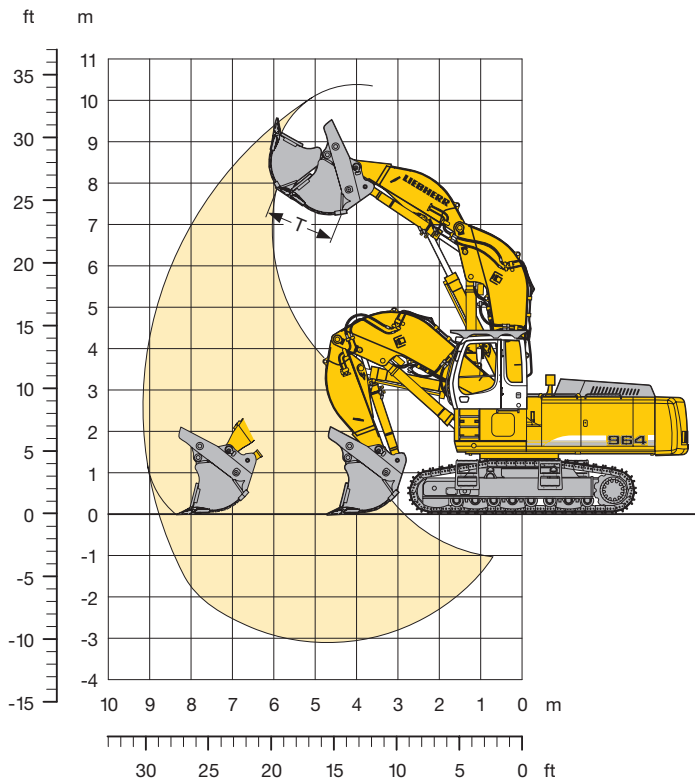
## Stick 4,20 m

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							
	HD-SL							
9,0	HD						5,6# (5,6#)	
	HD-SL						5,6# (5,6#)	
7,5	HD						6,0# (6,0#)	
	HD-SL						6,0# (6,0#)	
6,0	HD					7,1# ( 7,1#)	6,5# (6,5#)	5,2 (5,4#)
	HD-SL					7,1# ( 7,1#)	6,5# (6,5#)	5,4 (5,4#)
4,5	HD			12,1# (12,1#)	9,5# ( 9,5#)	8,0# ( 8,0#)	6,8 (7,0#)	5,0 (6,4#)
	HD-SL			12,1# (12,1#)	9,5# ( 9,5#)	8,0# ( 8,0#)	7,0 (7,0#)	5,1 (6,4#)
3,0	HD		23,3# (23,3#)	15,0# (15,0#)	11,2# (11,2#)	8,6 ( 9,0#)	6,3 (7,7#)	4,7 (6,8#)
	HD-SL		23,3# (23,3#)	15,0# (15,0#)	11,2# (11,2#)	8,8 ( 9,0#)	6,5 (7,7#)	4,8 (6,8#)
1,5	HD		15,3# (15,3#)	15,3 (17,4#)	10,8 (12,7#)	7,9 (10,0#)	5,9 (8,3#)	4,4 (6,8 )
	HD-SL		15,3# (15,3#)	15,6 (17,4#)	11,0 (12,7#)	8,1 (10,0#)	6,0 (8,3#)	4,5 (7,2#)
0	HD	8,1# ( 8,1#)	16,0# (16,0#)	14,2 (18,8#)	9,9 (13,8#)	7,3 (10,8#)	5,5 (8,4 )	4,2 (6,6 )
	HD-SL	8,1# ( 8,1#)	16,0# (16,0#)	14,4 (18,8#)	10,2 (13,8#)	7,5 (10,8#)	5,6 (8,8#)	4,3 (7,4 )
-1,5	HD	12,6# (12,6#)	19,2# (19,2#)	13,6 (19,4#)	9,5 (14,4 )	6,9 (10,6 )	5,2 (8,2 )	4,0 (6,4 )
	HD-SL	12,6# (12,6#)	19,2# (19,2#)	13,9 (19,4#)	9,7 (14,4#)	7,1 (11,3#)	5,4 (8,1#)	4,1 (7,3 )
-3,0	HD	16,9# (16,9#)	22,7 (23,6#)	13,5 (19,1#)	9,3 (14,2 )	6,8 (10,4 )	5,1 (8,1 )	
	HD-SL	16,9# (16,9#)	23,1 (23,6#)	13,8 (19,1#)	9,5 (14,4#)	6,9 (11,3#)	5,3 (8,1 )	
-4,5	HD	21,5# (21,5#)	23,2 (24,6#)	13,7 (18,1#)	9,3 (13,9#)	6,8 (10,5 )	5,2 (8,2 )	
	HD-SL	21,5# (21,5#)	23,6 (24,6#)	14,0 (18,1#)	9,6 (13,9#)	7,0 (10,9#)	5,4 (8,5#)	
-6,0	HD	26,7# (26,7#)	21,6# (21,6#)	14,2 (16,2#)	9,7 (12,5#)	7,1 ( 9,6#)		
	HD-SL	26,7# (26,7#)	21,6# (21,6#)	14,5 (16,2#)	9,9 (12,5#)	7,3 ( 9,6#)		
-7,5	HD	23,5# (23,5#)	17,0# (17,0#)	12,8# (12,8#)	9,6# ( 9,6#)			
	HD-SL	23,5# (23,5#)	17,0# (17,0#)	12,8# (12,8#)	9,6# ( 9,6#)			

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 (3,00 m³), the lift capacities will increase by 3100 kg, without bucket cylinder, link and lever they increase by an additional 1080 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	8,79 m
Max. dump height	7,25 m
Max. crowd length	3,61 m
Bucket opening width T	1650 mm
Max. crowd force	500 kN/51,0 t
Max. crowd force at ground level	410 kN/41,8 t
Max. breakout force	370 kN/37,7 t

## Operating Weight and Ground Pressure

Operating weight includes basic machine with cab elevation, shovel attachment and bottom dump bucket 4,00 m<sup>3</sup>, level II.

Undercarriage		HD		HD-SL	
Pad width	mm	500	600	500	600
Weight	kg	67300	67950	68300	68950
Ground pressure	kg/cm <sup>2</sup>	1,42	1,20	1,38	1,16

## Bottom Dump Bucket

Cutting width SAE	mm	2270 <sup>1)</sup>	2270 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>
Capacity SAE	m <sup>3</sup>	3,50	3,50	4,00	4,00	4,50
Weight	kg	5850	6400	5500	6300	5700
Suitable for material up to a specific weight of	t/m <sup>3</sup>	2,20	2,20	1,80	1,80	1,65
Wear kit level		II	III	I	II	I

<sup>1)</sup> Bottom dump bucket with Delta cutting edge and teeth size 25

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.

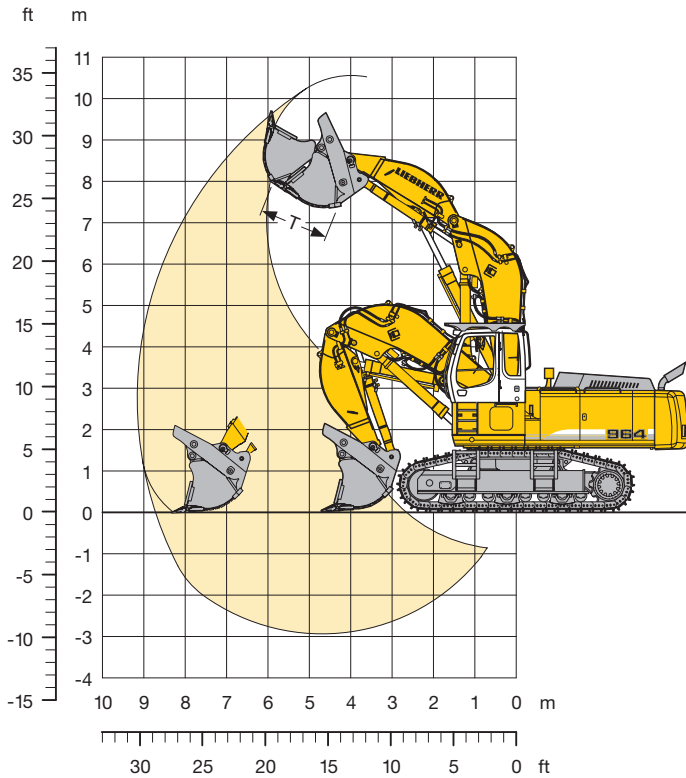
Level II: For pre-blasted heavy rock, or deteriorated, cracked material (classification 3 to 4, accord. to DIN 18300).

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	8,75 m
Max. dump height	7,40 m
Max. crowd length	3,66 m
Bucket opening width T	1650 mm
Max. crowd force	500 kN/51,0 t
Max. crowd force at ground level	410 kN/41,8 t
Max. breakout force	370 kN/37,7 t

### Operating Weight and Ground Pressure

Operating weight includes basic machine with counterweight 14,5 t, cab elevation, shovel attachment and bottom dump bucket 4,50 m<sup>3</sup>, level II.

Undercarriage	S-HD	
Pad width	mm	500 600
Weight	kg	75750 76400
Ground pressure	kg/cm <sup>2</sup>	1,53 1,28

### Bottom Dump Bucket

Cutting width SAE	mm	2570 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>	2570 <sup>1)</sup>
Capacity SAE	m <sup>3</sup>	4,00	4,50	4,50	4,50	5,00	5,00
Weight	kg	7000	5700	6450	7150	5800	6550
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

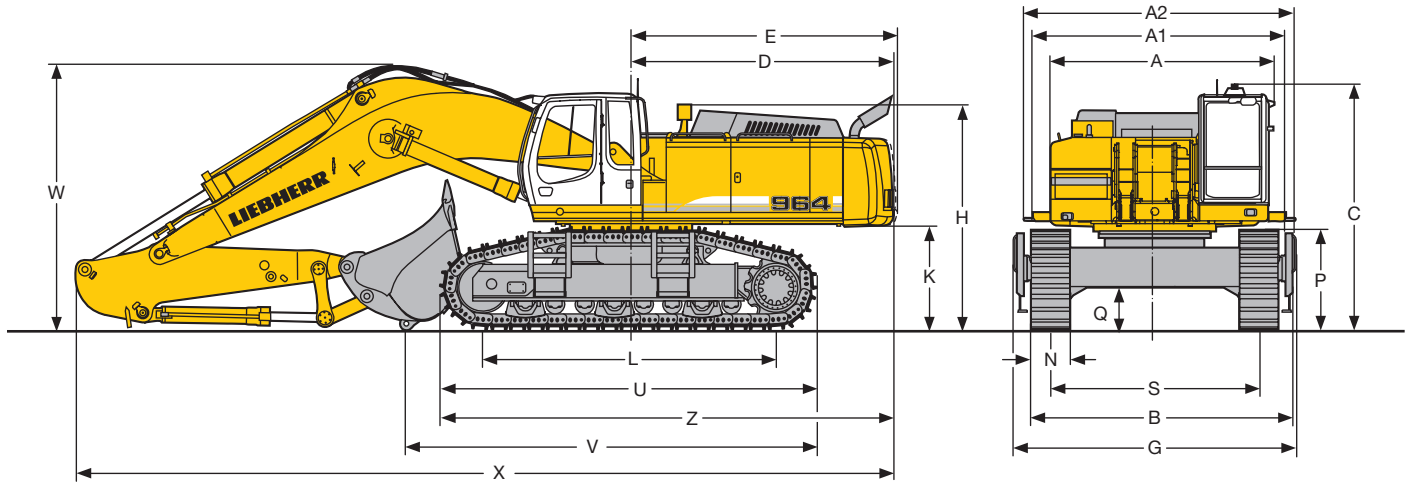
<sup>1)</sup> Bottom dump bucket with Delta cutting edge and teeth size 25

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).

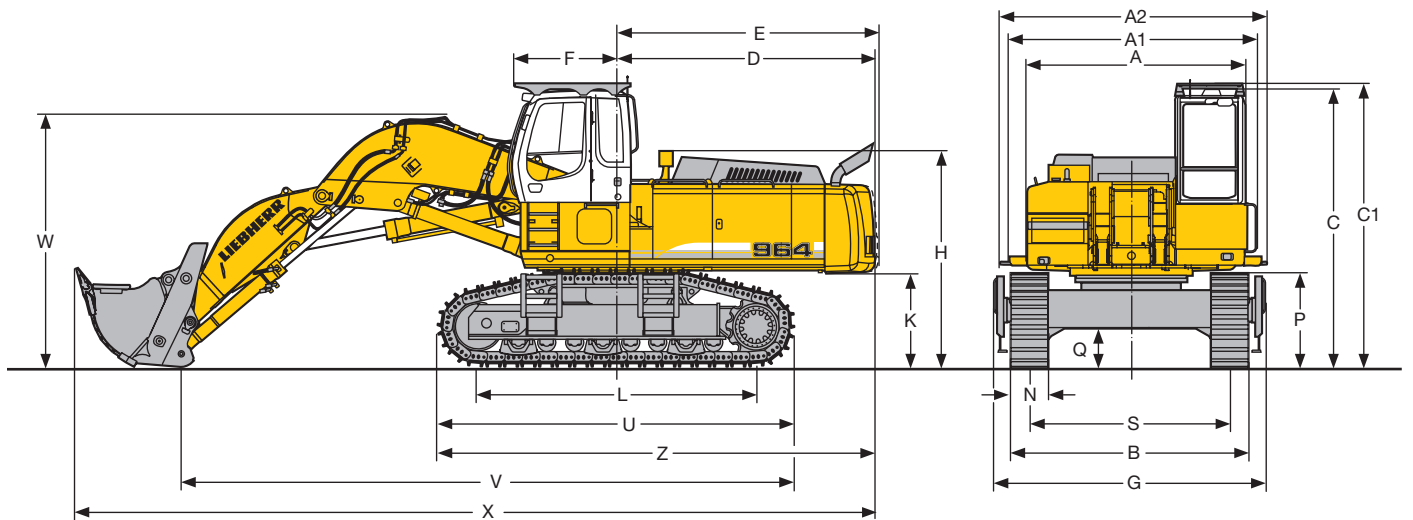
Level III: For highly-abrasive materials such as rock with a high silica content, sandstone etc.

# Dimensions SME



	S-HD	mm
A		3506
A1		3976
A2		4235
C		3790
D		4120
E		4155
H		3490
K		1585
L		4540
P		1527
Q		650
S		3250
U		5740
N	500 600	750
B	3985 3985	4000
G	4410 4410	4410
Z		7000

	Stick Length m	Gooseneck Boom 7,00 m mm
V with S-HD- Undercarriage	3,00	6350
W	3,00	4100
X	3,00	12750

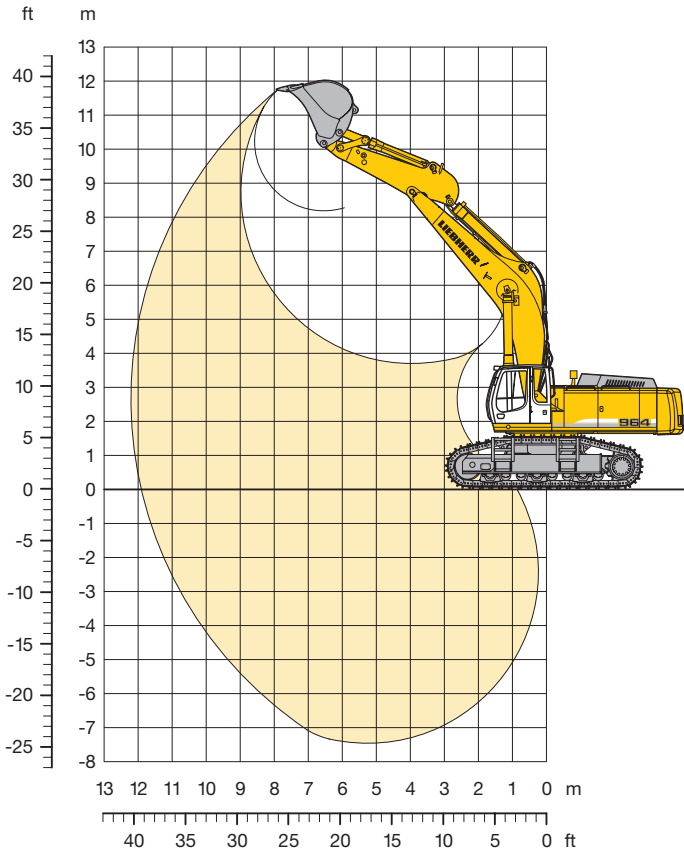


	S-HD	mm
A		3506
A1		3976
A2		4235
C		4585
C1		4635
D		4120
E		4155
F		1680
H		3490
K		1585
L		4540

	S-HD	mm
P		1527
Q		650
S		3250
U		5740
N	500 600	750
B	3985 3985	4000
G	4410 4410	4410
Z		7000
V1		9950
W1		4100
X1		12900

# Backhoe Attachment

## Super Mass Excavation with Gooseneck Boom 7,00 m SME



### Digging Envelope

Stick length	m	3,00
		SME
Max. digging depth	m	7,45
Max. reach at ground level	m	11,90
Max. dump height	m	8,20
Max. teeth height	m	11,80
Digging force ISO	kN	328
	t	33,4
Breakout force ISO	kN	395
	t	40,3

### Operating Weight and Ground Pressure

Operating weight includes basic machine with counterweight 14,5 t, gooseneck boom SME 7,00 m, stick SME 3,00 m and bucket 4,50 m<sup>3</sup>.

Undercarriage		S-HD		
Pad width	mm	500	600	750
Weight	kg	75250	75900	76900
Ground pressure	kg/cm <sup>2</sup>	1,51	1,27	1,03

### Buckets

		HD	HD-V
Cutting width SAE	mm	2350 <sup>1)</sup>	2350 <sup>3)</sup>
Capacity ISO 7451	m <sup>3</sup>	4,50	4,00
Weight	kg	4500	5050
Suitable for material up to a specific weight of with stick 3,00 m SME	t/m <sup>3</sup>	1,80	1,80

- 1) Heavy duty rock bucket with teeth size V 61 SD (appropriate for material above classification 6, according to VOB, section C DIN 18300)
- 2) Heavy duty rock bucket with delta cutting edge and teeth size V 61 SD (appropriate for material above classification 6, according to VOB, section C DIN 18300)
- 3) HD-V rock bucket with teeth size V 61 SD (appropriate for material above classification 6, according to VOB, section C DIN 18300)

# Lift Capacities

## Super Mass Excavation with Gooseneck Boom 7,00 m SME

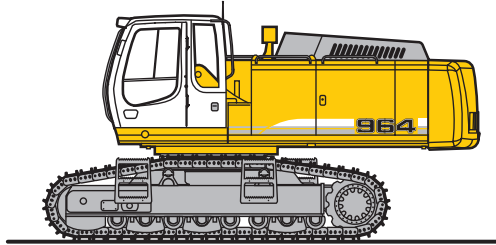
### Stick 3,00 m SME

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	
7,5	S-HD					8,3# ( 8,3#)			
6,0	S-HD				9,7# ( 9,7#)	8,7# ( 8,7#)			
4,5	S-HD	19,8# (19,8#)	19,7# (19,7#)	14,0# (14,0#)	11,1# (11,1#)	9,4# ( 9,4#)			
3,0	S-HD		25,2# (25,2#)	16,6# (16,6#)	12,6# (12,6#)	10,3# (10,3#)	7,9# (7,9#)		
1,5	S-HD		28,1# (28,1#)	18,7# (18,7#)	13,8# (13,8#)	10,6 (11,0#)	8,0 (8,1#)		
0	S-HD	16,5# (16,5#)	28,5# (28,5#)	19,7# (19,7#)	13,8 (14,6#)	10,2 (11,4#)			
-1,5	S-HD	24,6# (24,6#)	27,4# (27,4#)	19,4 (19,5#)	13,5 (14,6#)	10,0 (11,3#)			
-3,0	S-HD	33,0# (33,0#)	25,0# (25,0#)	18,3# (18,3#)	13,5 (13,8#)				
-4,5	S-HD	29,1# (29,1#)	20,9# (20,9#)	15,5# (15,5#)	11,4# (11,4#)				
-6,0	S-HD		14,0# (14,0#)						

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 (4,50 m³), the lift capacities will increase by 4500 kg, without bucket cylinder, link and lever they increase by an additional 1140 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

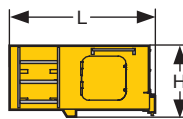
According to European Standard, EN 474-5 in the European Union: Excavators must be equipped with an overload warning device, a load diagram and automatic check valves on the hoist cylinders when they are used for lifting operations which require the use of lifting accessories.

# Component Dimensions and Weights



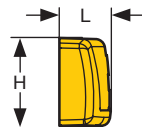
## Basic Machine

Track pads	mm	500	600	750
Weight with HD-Undercarriage	kg	50000	50650	51650
Weight with HD-Undercarriage and counterweight 14500 kg	kg	53450	54100	55100
Weight with HD-SL-Undercarriage	kg	51000	51650	52700
Weight with HD-SL-Undercarriage and counterweight 14500 kg	kg	54450	55100	56150
Weight with S-HD-Undercarriage and counterweight 14500 kg	kg	58300	58950	59950



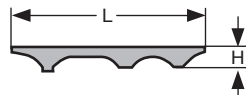
## Cab Elevation

L Length	mm	1820
H Height	mm	930
Width	mm	1370
Weight	kg	600



## Counterweight

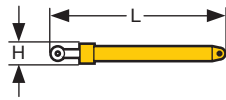
L Length	mm	790	790
H Height	mm	1390	1390
Width	mm	3260	3260
Weight	kg	11000	14500



## Upper Protection Screen

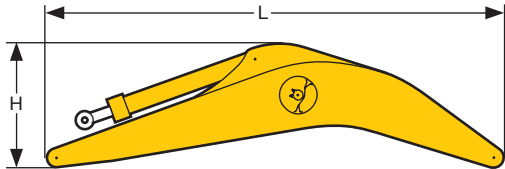
L Length	mm	1960
H Height	mm	185
Width	mm	1110
Weight	kg	75

# Component Dimensions and Weights



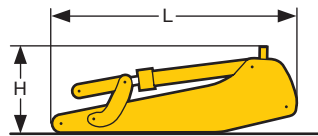
## Hoist Cylinders (two)

L Length	mm	2650
H Height	mm	490
Width	mm	360
Weight	kg	2 x 750



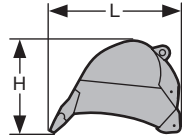
## Gooseneck Boom with Stick Cylinder

Stick length	m	7,00	7,00	8,20
		SME		
L Length	mm	7350	7350	8550
H Height	mm	2250	2200	2250
Width	mm	1450	1450	1450
Weight	kg	7300	7150	7800



## Stick with Bucket Cylinder

Stick length	m	3,00	2,60	3,40	4,20
		SME			
L Length	mm	4400	3950	4650	5450
H Height	mm	1350	1250	1250	1200
Width	mm	950	950	950	950
Weight	kg	3850	3450	3750	4050



## Backhoe Buckets Std

Cutting width	mm	1550	1750	1950	2150	2400	2600
I Capacity	m <sup>3</sup>	2,50	3,00	3,50	4,00	4,50	5,00
L Length	mm	2250	2250	2250	2250	2250	2250
H Height	mm	1650	1650	1650	1650	1650	1650
Width	mm	1550	1750	1950	2200	2450	2650
Weight	kg	2850	3100	3350	3600	3850	4100

## Backhoe Buckets HD

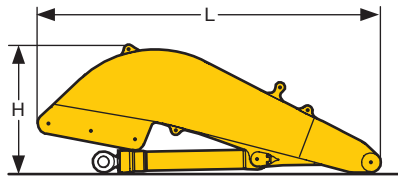
Cutting width	mm	1550	1750	1950	2100	2100
I Capacity	m <sup>3</sup>	2,00	2,50	3,00	3,50	4,00
L Length	mm	2200	2200	2300	2300	2300
H Height	mm	1600	1600	1600	1600	1700
Width	mm	1600	1800	2000	2150	2150
Weight	kg	3200	3500	3800	4100	4300

## Backhoe Buckets SME

		<b>HD</b>	<b>HD-V</b>	
Cutting width	mm	2350	2350*	2350
I Capacity	m <sup>3</sup>	4,50	4,50	4,00
L Length	mm	2500	2500	2300
H Height	mm	1700	1700	1700
Width	mm	2400	2400	2400
Weight	kg	4500	4650	5050

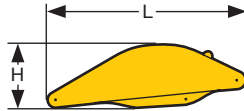
\* with Delta-cutting edge

# Component Dimensions and Weights



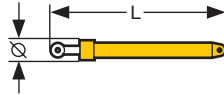
## Shovel Boom

L Length	mm	4800
H Height	mm	1950
Width	mm	1900
Weight without crowd cylinder	kg	5000
Weight crowd cylinder	kg	650



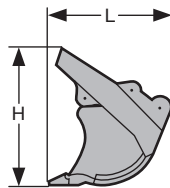
## Shovel Stick

L Length	mm	3250
H Height	mm	1100
Width	mm	1600
Weight	kg	2400



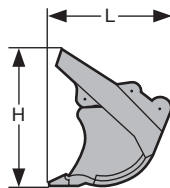
## Shovel Bucket Cylinders (two)

L Length	mm	2550
Ø Diameter	mm	350
Weight	kg	2 x 425



## Bottom Dump Buckets

Cutting width	mm	2270	2570	2570
I Capacity	m <sup>3</sup>	3,50	4,00	4,50
L Length	mm	2000	2000	2100
H Height	mm	2150	2150	2250
Width	mm	2300	2600	2600
Weight				
Level I	kg	-	5500	5700
Level II	kg	5850	6300	-
Level III	kg	6400	-	-



## Bottom Dump Buckets SME

Cutting width	mm	2570	2570	2570
I Capacity	m <sup>3</sup>	4,00	4,50	5,00
L Length	mm	2000	2050	2200
H Height	mm	2150	2350	2400
Width	mm	2600	2600	2600
Weight				
Level I	kg	-	5700	5800
Level II	kg	-	6450	6550
Level III	kg	7000	7150	-

# Equipment



## Undercarriage

S O

Three track guides per track	•	
Integrated travel drive	•	
Digging locks	•	
Tracks greased and sealed	•	
Protection on idler end	•	
Different undercarriage versions		•
Different track pad widths		•



## Uppercarriage

S O

Engine hood with lift assistance	•	
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

S O

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		•



## Engine

S O

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



## Operator's Cab

S O

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

S O

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		•
Completely sealed bucket linkage		•
Quick disconnect hose couplers for additional tools		•
Hydraulic lines for additional tools		•
Central lubrication for lever with protection cover		•
Liebherr working tools		•
Special application buckets		•
Customized colors		•

S = Standard, O = 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.**

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