

Technical Description

Hydraulic Excavator

R 984 C
Litronic®

Operating Weight with Backhoe Attachment 118,6 - 123,4 t
Operating Weight with Shovel Attachment 123,1 - 125,0 t
Engine Output 504 kW (685 HP)
Bucket Capacity 2,90 - 10,00 m³
Shovel Capacity 5,70 - 10,50 m³



LIEBHERR

Technical Data



Engine

Rating per ISO 9249	523 kW (710 HP) at 2100 RPM reduced to 504 kW (685 HP) at 1800 RPM
Model	Cummins-QSK-19 C 750
Type	6 cylinder in-line engine
Bore/Stroke	159/159 mm
Displacement	18,9 l
Engine operation	4-stroke diesel direct injection turbo-charged reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	1585 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 144 Ah/12 V
Starter	24 V/9,0 kW
Alternator	three phase current 24 V/100 A



Hydraulic System

Hydraulic pump for attachment and travel drive	3 Liebherr variable flow, swash plate pumps
Max. flow	3 x 472 l/min.
Max. pressure	320 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure com- pensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	403 l/min.
Max. pressure	340 bar
Hydraulic tank	880 l
Hydraulic system	1660 l
Hydraulic oil filter	2 full flow filters in return line with inte- grated fine filter area (5 µm), 1 high pres- sure filter for each main pump
Cooler	compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler and aftercooler cores and hydrostatically driven fan
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 environ- mentally friendly operation
POWER	for maximum digging power and heavy duty jobs
R.P.M. adjustment	stepless adjustment of engine output via the r.p.m.at each selected mode



Hydraulic Controls

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



Swing Drive

Drive by	Liebherr swash plate motor
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0–5,2 RPM stepless
Swing torque	390 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, resil- iently 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 with mountable head rest
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 over- heating, low engine oil pressure or low hydraulic oil level
Heating system	standard automatic air conditioning, com- bined cooler/heater, additional dust filter in fresh air/recirculated



Undercarriage

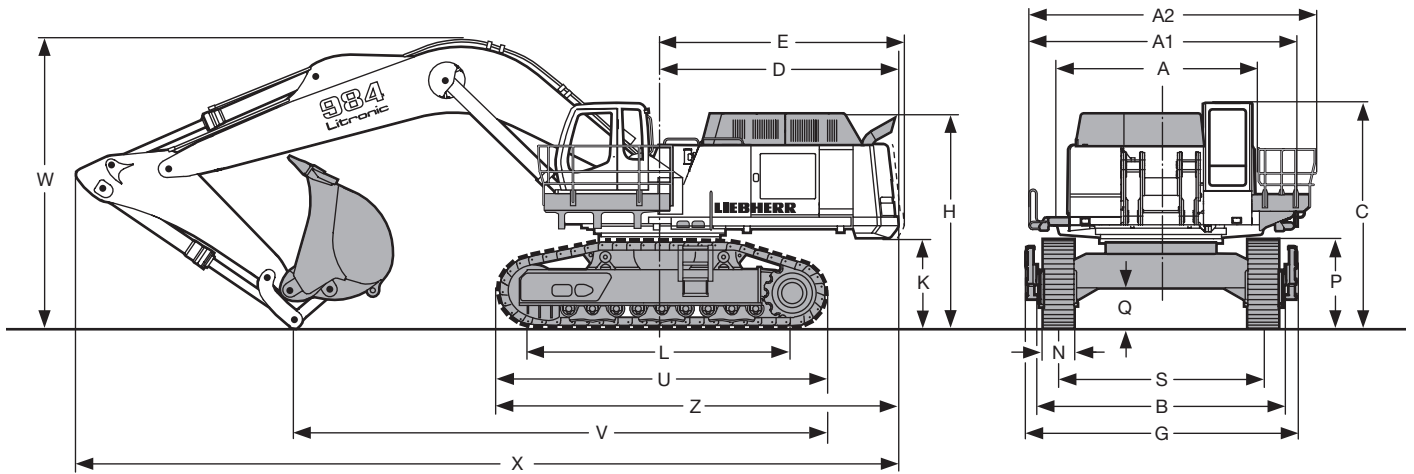
Version HD	heavy duty
Drive	Liebherr swash plate motors
Transmission	Liebherr planetary reduction gears
Travel speed	0–2,9 km/h
Drawbar pull max.	872 kN
Track components	track pitch 280 mm, maintenance-free
Track rollers/ Carrier rollers	9/2
Track pads	double grouser
Digging locks	wet multi-discs (spring applied, pressure released)
Brake valves	integrated in main valve block



Attachment

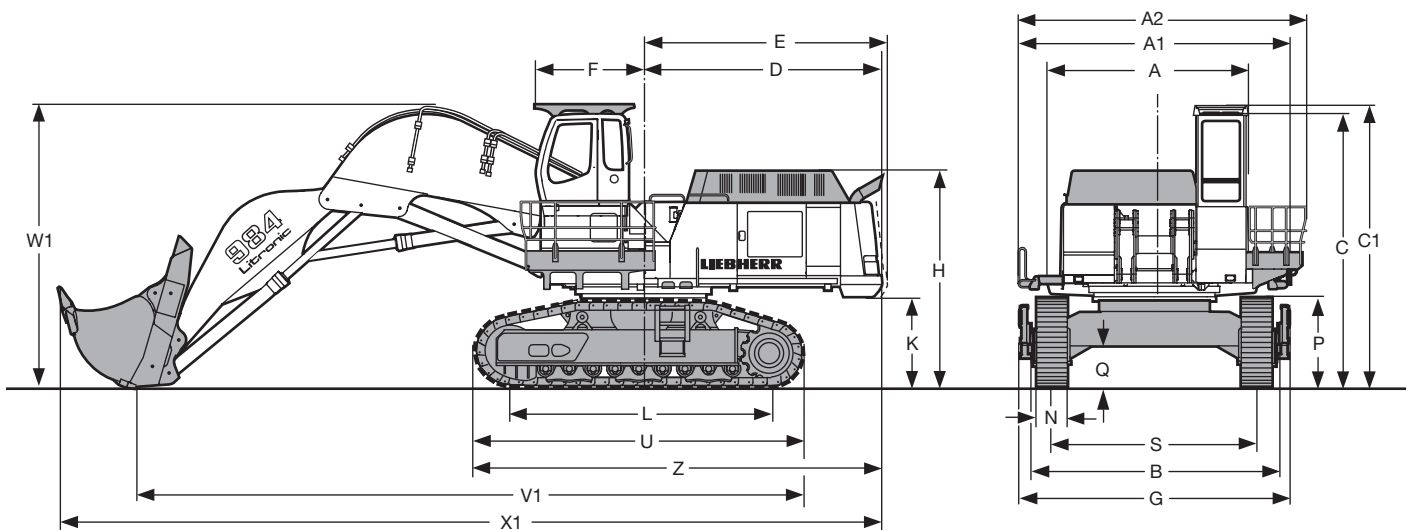
Type	box-type, combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with special sealsystem, shock absorbed
Pivots	sealed, low maintenance
Pivots bucket-to-stick bucket-to-link	O-ring sealed and completely enclosed
Lubrication	automatic lubrication system Lincoln "Centromatic" for attachment and swing ring
Hydraulic connections	pipes and hoses equipped with SAE split- flange connections
Bucket	standard equipped with 27 t lifting eye

Dimensions



	mm			
A	4050			
A1	5260			
A2	5690			
C	4455			
D	4690			
E	4805			
H	4235			
K	1830			
L	5055			
P	1745			
Q	860			
S	4000			
U	6471			
N	500	600	750	
B	4830	4830	4830	
G	5290	5290	5290	
Z	7980			

	Stick Length	Gooseneck Boom 7,80 m	Gooseneck Boom 9,20 m	Gooseneck Boom 11,00 m
	m	mm	mm	mm
V	3,40	8800	10550	-
	4,50	8500	10250	12150
	5,60	-	10150	11900
	6,80	-	8350	10000
W	3,40	5650	5850	-
	4,50	6300	6250	6650
	5,60	-	6950	7000
	6,80	-	7950	7750
X	3,40	14850	16250	-
	4,50	14300	15650	17400
	5,60	-	15400	17200
	6,80	-	14700	16750

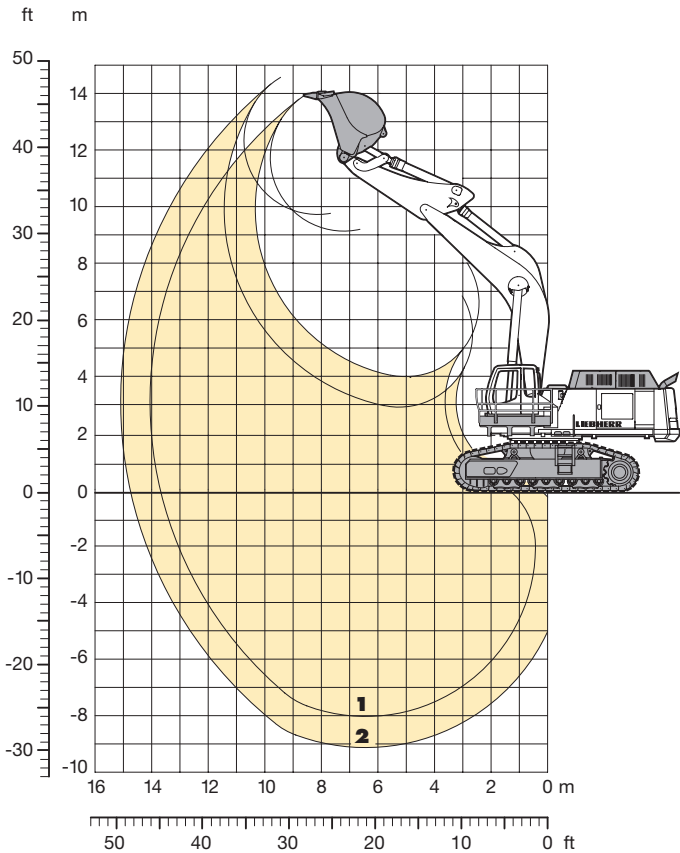


	mm			
A	4050			
A1	5260			
A2	5690			
C	5255			
C1	5430			
D	4690			
E	4805			
F	2075			
H	4235			
K	1830			
L	5055			

	mm			
P	1745			
Q	860			
S	4000			
U	6471			
Z	7980			
N	500	600	750	
B	4830	4830	4830	
G	5290	5290	5290	
V1	12600			
W1	5400			
X1	15500			

Backhoe Attachment

with Gooseneck Boom 7,80 m



Digging Envelope

		1	2
Stick lengths	m	3,40	4,50
Max. digging depth	m	7,95	9,05
Max. reach at ground level	m	13,70	14,75
Max. dump height	m	9,20	9,80
Max. teeth height	m	14,00	14,65
Digging force SAE	kN	416	346
	t	42,4	35,3
Digging force ISO	kN	437	367
	t	46,6	37,4
Breakout force SAE	kN	550	550
	t	56,1	56,1
Breakout force ISO	kN	590	590
	t	60,2	60,2

Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 7,80 m, stick 3,40 m and bucket 7,00 m³.

Undercarriage		HD	
Pad width	mm	600	750
Weight	kg	118600	119800
Ground pressure	kg/cm ²	1,78	1,44

Buckets

Cutting width	mm	1600 ¹⁾	1900 ²⁾	1800 ¹⁾	2100 ²⁾	2000 ¹⁾	2300 ²⁾	2200 ¹⁾	2400 ¹⁾	2600 ³⁾	2800 ³⁾	2800 ⁴⁾
Capacity ISO 7451	m ³	4,70	5,20	5,50	6,00	6,20	6,70	7,00	7,70	8,50	9,30	10,00
Weight	kg	4970	6200	5280	6680	5700	7030	6050	6310	6650	6800	6540
Suitable for material up to a specific weight of												
with stick 3,40 m	t/m ³	–	2,20	2,20	2,00	2,00	1,80	1,80	1,65	1,50	1,35	1,20
with stick 4,50 m	t/m ³	2,20	2,00	2,00	1,80	1,80	1,65	1,65	1,50	1,35	1,20	–

¹⁾ Medium-duty bucket with teeth size V 69 SD (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

²⁾ Heavy-duty rock bucket with teeth size V 71 SD (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

³⁾ Loading bucket with teeth size V 61 SYL

⁴⁾ Coal bucket with teeth size 25

Lift Capacities

with Gooseneck Boom 7,80 m

Stick 3,40 m

Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
12,0										
10,5										
9,0				15,5# (15,5#)	14,4# (14,4#)					
7,5				16,3# (16,3#)	14,8# (14,8#)					
6,0			20,4# (20,4#)	17,5# (17,5#)	15,4# (15,4#)					
4,5	43,3# (43,3#)	29,6# (29,6#)	22,9# (22,9#)	18,9# (18,9#)	16,2# (16,2#)	13,9 (14,4#)				
3,0		33,5# (33,5#)	25,1# (25,1#)	20,2# (20,2#)	17,0# (17,0#)	13,4 (14,7#)				
1,5	23,7# (23,7#)	35,8# (35,8#)	26,8# (26,8#)	21,2# (21,2#)	16,4 (17,5#)	12,9 (14,8#)				
0	29,7# (29,7#)	36,2# (36,2#)	27,3 (27,4#)	20,4 (21,7#)	15,8 (17,7#)					
- 1,5	39,2# (39,2#)	35,0# (35,0#)	26,6 (26,9#)	19,9 (21,3#)	15,5 (17,0#)					
- 3,0	42,4# (42,4#)	32,2# (32,2#)	25,0# (25,0#)	19,7# (19,7#)						
- 4,5	35,3# (35,3#)	27,5# (27,5#)	21,5# (21,5#)	16,3# (16,3#)						
- 6,0	24,9# (24,9#)	19,9# (19,9#)	14,8# (14,8#)							
- 7,5										
- 9,0										
- 10,5										
- 12,0										

Stick 4,50 m

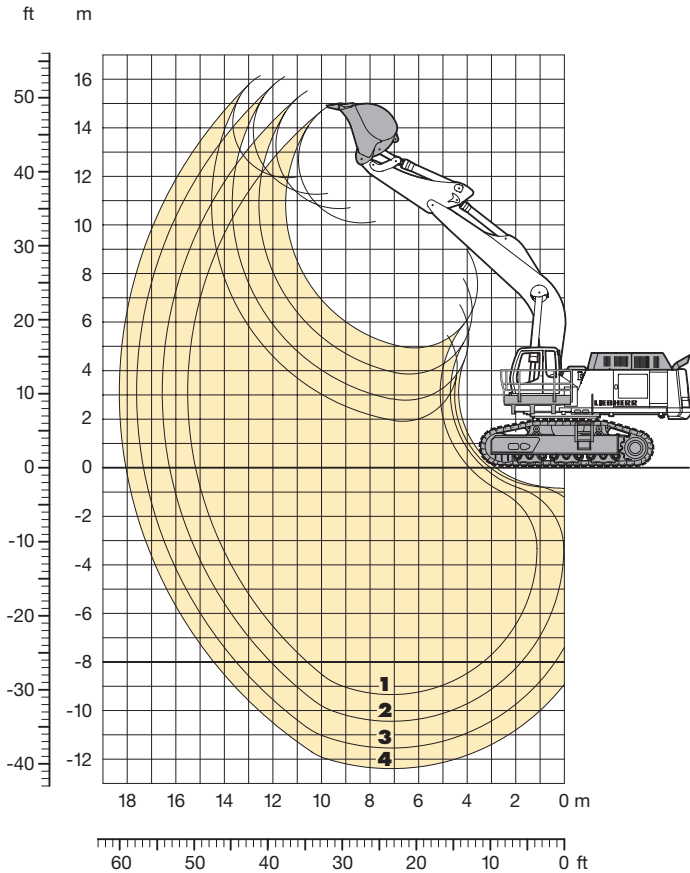
Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
12,0										
10,5					11,6# (11,6#)					
9,0					12,2# (12,2#)					
7,5					12,6# (12,6#)	11,9# (11,9#)				
6,0					15,0# (15,0#)	13,4# (13,4#)	12,3# (12,3#)			
4,5					19,9# (19,9#)	16,6# (16,6#)	14,4# (14,4#)	12,8# (12,8#)		
3,0		30,1# (30,1#)	22,7# (22,7#)	18,3# (18,3#)	15,4# (15,4#)	13,4# (13,4#)				
1,5	29,5# (29,5#)	33,7# (33,7#)	25,0# (25,0#)	19,8# (19,8#)	16,3# (16,3#)	12,8 (13,8#)				
0	28,9# (28,9#)	35,5# (35,5#)	26,4# (26,4#)	20,5 (20,7#)	15,7 (16,9#)	12,2 (14,0#)				
- 1,5	34,1# (34,1#)	35,7# (35,7#)	26,5 (26,8#)	19,6 (21,0#)	15,1 (16,9#)	11,9 (13,6#)				
- 3,0	42,6# (42,6#)	34,2# (34,2#)	26,0 (26,0#)	19,2 (20,3#)	14,8 (16,1#)					
- 4,5	41,7# (41,7#)	30,9# (30,9#)	23,7# (23,7#)	18,4# (18,4#)	13,9# (13,9#)					
- 6,0	33,7# (33,7#)	25,5# (25,5#)	19,5# (19,5#)	14,4# (14,4#)						
- 7,5		16,6# (16,6#)	11,5# (11,5#)							
- 9,0										
- 10,5										
- 12,0										

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 (6,20 m³), the lift capacities will increase by 5700 kg, without bucket cylinder, link and lever they increase by an additional 1900 kg. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

When lifting loads, the hydraulic excavator must be equipped with automatic check valve on its hoist cylinders and overload warning device according to European Standard, EN 474-5.

Backhoe Attachment

with Gooseneck Boom 9,20 m



Digging Envelope		1	2	3	4*
Stick lengths	m	3,40	4,50	5,60	6,80
Max. digging depth	m	9,25	10,35	11,45	12,30
Max. reach at ground level	m	15,20	16,25	17,35	18,10
Max. dump height	m	10,20	10,85	11,45	12,20
Max. teeth height	m	15,00	15,70	16,35	16,40
Digging force SAE	kN	416	346	300	273
	t	42,4	35,3	30,6	27,8
Digging force ISO	kN	437	367	316	284
	t	46,6	37,4	37,4	29,0
Breakout force SAE	kN	550	550	550	405
	t	56,1	56,1	56,1	41,3
Breakout force ISO	kN	590	590	590	445
	t	60,2	60,2	60,2	45,4

* with stick 6,80 m with R 974 B Litronic[®] buckets

Operating Weight and Ground Pressure

Operating weight includes basic machine with gooseneck boom 9,20 m, stick 4,50 m and bucket 4,70 m³.

Undercarriage		HD	
Pad width	mm	600	750
Weight	kg	118800	120000
Ground pressure	kg/cm ²	1,78	1,44

Buckets

Cutting width	mm	1300 ¹⁾	1300 ¹⁾	1400 ¹⁾	1600 ¹⁾	1800 ¹⁾	2000 ¹⁾	1350 ²⁾	1550 ²⁾	1750 ²⁾
Capacity ISO 7451	m ³	2,90	3,50	3,90	4,70	5,50	6,20	2,70	3,20	3,80
Weight	kg	3720	4080	4530	4970	5280	5700	3060	3310	3610
Suitable for material up to a specific weight of										
with stick 3,40 m	t/m ³	–	2,20	2,00	1,80	1,50	1,20	–	–	–
with stick 4,50 m	t/m ³	2,20	2,00	1,80	1,50	1,20	–	–	–	–
with stick 5,60 m	t/m ³	2,00	1,80	1,50	1,20	–	–	–	–	–
with stick 6,80 m	t/m ³	–	–	–	–	–	–	1,80	1,50	1,50

¹⁾ Medium-duty bucket with teeth size V 69 SD (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

²⁾ Bucket R 974 B Litronic[®] with teeth size V 61 SD

Lift Capacities

with Gooseneck Boom 9,20 m

Stick 3,40 m

Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
12,0										
10,5					12,2# (12,2#)					
9,0					12,5# (12,5#)	11,7# (11,7#)				
7,5				14,8# (14,8#)	13,1# (13,1#)	11,9# (11,9#)				
6,0		25,4# (25,4#)	19,5# (19,5#)	16,1# (16,1#)	13,8# (13,8#)	12,3# (12,3#)				
4,5			21,9# (21,9#)	17,5# (17,5#)	14,7# (14,7#)	12,9# (12,9#)	10,8# (11,5#)			
3,0			23,9# (23,9#)	18,8# (18,8#)	15,6# (15,6#)	13,1# (13,4#)	10,4# (11,7#)			
1,5			25,1# (25,1#)	19,8# (19,8#)	15,6# (16,2#)	12,5# (13,7#)	10,0# (11,9#)			
0		28,6# (28,6#)	25,1# (25,6#)	19,0# (20,2#)	14,9# (16,6#)	12,0# (13,9#)				
- 1,5	21,2# (21,2#)	32,2# (32,2#)	24,6# (25,2#)	18,5# (20,1#)	14,5# (16,5#)	11,7# (13,6#)				
- 3,0	31,6# (31,6#)	30,2# (30,2#)	24,0# (24,0#)	18,4# (19,3#)	14,4# (15,8#)	11,8# (12,7#)				
- 4,5	33,8# (33,8#)	27,1# (27,1#)	21,9# (21,9#)	17,7# (17,7#)	14,2# (14,2#)					
- 6,0	27,7# (27,7#)	22,7# (22,7#)	18,5# (18,5#)	14,7# (14,7#)						
- 7,5		16,1# (16,1#)	12,8# (12,8#)							
- 9,0										
- 10,5										
- 12,0										

Stick 4,50 m

Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
12,0										
10,5								9,8# (9,8#)		
9,0								9,9# (9,9#)	9,5# (9,5#)	
7,5								11,2# (11,2#)	10,2# (10,2#)	9,6# (9,6#)
6,0							14,0# (14,0#)	12,1# (12,1#)	10,8# (10,8#)	9,8# (9,8#)
4,5		25,9# (25,9#)	19,4# (19,4#)	15,6# (15,6#)	13,2# (13,2#)	11,5# (11,5#)	10,2# (10,2#)			
3,0			21,8# (21,8#)	17,2# (17,2#)	14,2# (14,2#)	12,1# (12,1#)	10,3# (10,6#)			
1,5		29,2# (29,2#)	23,7# (23,7#)	18,5# (18,5#)	15,1# (15,1#)	12,4# (12,7#)	9,8# (11,0#)			
0		28,9# (28,9#)	24,8# (24,8#)	19,1# (19,3#)	14,9# (15,7#)	11,8# (13,1#)	9,4# (11,1#)			
- 1,5	18,3# (18,3#)	33,1# (33,1#)	24,5# (25,0#)	18,3# (19,7#)	14,2# (15,9#)	11,3# (13,2#)	9,2# (11,0#)			
- 3,0	25,5# (25,5#)	31,9# (31,9#)	24,1# (24,5#)	17,9# (19,4#)	13,9# (15,7#)	11,1# (12,9#)	9,1# (10,3#)			
- 4,5	34,3# (34,3#)	29,6# (29,6#)	23,1# (23,1#)	17,9# (18,4#)	13,9# (14,8#)	11,2# (11,8#)				
- 6,0	34,0# (34,0#)	26,2# (26,2#)	20,7# (20,7#)	16,5# (16,5#)	12,9# (12,9#)					
- 7,5	26,8# (26,8#)	21,1# (21,1#)	16,7# (16,7#)	12,9# (12,9#)						
- 9,0			9,9# (9,9#)							
- 10,5										
- 12,0										

Stick 5,60 m

Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
13,5						8,1# (8,1#)				
12,0										
10,5							8,1# (8,1#)			
9,0							8,1# (8,1#)			
7,5						8,9# (8,9#)	8,4# (8,4#)	8,0# (8,0#)		
6,0					10,7# (10,7#)	9,6# (9,6#)	8,8# (8,8#)	8,2# (8,2#)		
4,5				13,9# (13,9#)	11,8# (11,8#)	10,4# (10,4#)	9,3# (9,3#)	8,5# (8,5#)		
3,0			19,9# (19,9#)	15,7# (15,7#)	13,0# (13,0#)	11,2# (11,2#)	9,8# (9,8#)	8,3# (8,8#)		
1,5		30,6# (30,6#)	22,3# (22,3#)	17,3# (17,3#)	14,1# (14,1#)	11,9# (11,9#)	10,1# (10,3#)	7,9# (9,0#)		
0		31,3# (31,3#)	24,0# (24,0#)	18,6# (18,6#)	15,0# (15,0#)	12,0# (12,5#)	9,5# (10,7#)	7,6# (9,2#)		
- 1,5	16,5# (16,5#)	31,9# (31,9#)	24,9# (24,9#)	18,8# (19,3#)	14,5# (15,6#)	11,4# (12,9#)	9,1# (10,8#)	7,3# (9,1#)		
- 3,0	21,7# (21,7#)	33,1# (33,1#)	24,4# (25,0#)	18,1# (19,6#)	14,0# (15,8#)	11,1# (12,9#)	8,9# (10,7#)			
- 4,5	28,3# (28,3#)	31,7# (31,7#)	24,1# (24,2#)	17,8# (19,1#)	13,7# (15,4#)	10,9# (12,5#)	8,9# (10,0#)			
- 6,0	36,6# (36,6#)	29,3# (29,3#)	22,6# (22,6#)	17,8# (17,9#)	13,8# (14,3#)	11,0# (11,3#)				
- 7,5	33,7# (33,7#)	25,4# (25,4#)	19,8# (19,8#)	15,6# (15,6#)	12,1# (12,1#)					
- 9,0	25,5# (25,5#)	19,7# (19,7#)	15,2# (15,2#)	11,4# (11,4#)						
- 10,5										

Stick 6,80 m

Height (m)	Radius of load from centerline of machine (m)									
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0
12,0								8,8# (8,8#)		
10,5								8,7# (8,7#)	7,5# (7,5#)	
9,0								8,9# (8,9#)	8,8# (8,8#)	
7,5								9,3# (9,3#)	9,0# (9,0#)	
6,0								10,4# (10,4#)	9,8# (9,8#)	9,3# (9,3#)
4,5								11,4# (12,6#)	10,4# (11,4#)	9,7# (10,4#)
3,0								12,4# (12,4#)	11,1# (11,1#)	10,2# (10,2#)
1,5		30,9# (30,9#)	23,1# (23,1#)	18,4# (18,4#)	15,4# (15,4#)	13,3# (13,3#)	11,8# (11,8#)	9,9# (10,6#)	8,1# (9,5#)	
0		34,2# (34,2#)	25,4# (25,4#)	20,1# (20,1#)	16,6# (16,6#)	14,2# (14,2#)	11,7# (12,3#)	9,5# (10,9#)	7,8# (8,9#)	
- 1,5	18,0# (18,0#)	35,1# (35,1#)	27,0# (27,0#)	21,3# (21,3#)	17,0# (17,5#)	13,7# (14,8#)	11,2# (12,7#)	9,2# (11,1#)		
- 3,0	21,6# (21,6#)	36,6# (36,6#)	27,4# (27,7#)	20,7# (21,9#)	16,3# (18,0#)	13,1# (15,1#)	10,8# (12,9#)	9,0# (11,0#)		
- 4,5	26,6# (26,6#)	36,0# (36,0#)	26,7# (27,6#)	20,1# (22,0#)	15,8# (18,0#)	12,8# (15,0#)	10,6# (12,6#)	8,9# (10,4#)		
- 6,0	32,9# (32,9#)	34,4# (34,4#)	26,6# (26,6#)	19,9# (21,3#)	15,7# (17,4#)	12,7# (14,4#)	10,6# (11,7#)			
- 7,5	41,2# (41,2#)	31,5# (31,5#)	24,6# (24,6#)	19,8# (19,8#)	15,8# (16,0#)	12,9# (12,9#)				
- 9,0	35,7# (35,7#)	27,0# (27,0#)	21,3# (21,3#)	16,9# (16,9#)	13,2# (13,2#)					
- 10,5	26,1# (26,1#)	20,2# (20,2#)	15,7# (15,7#)	11,7# (11,7#)						
- 12,0										

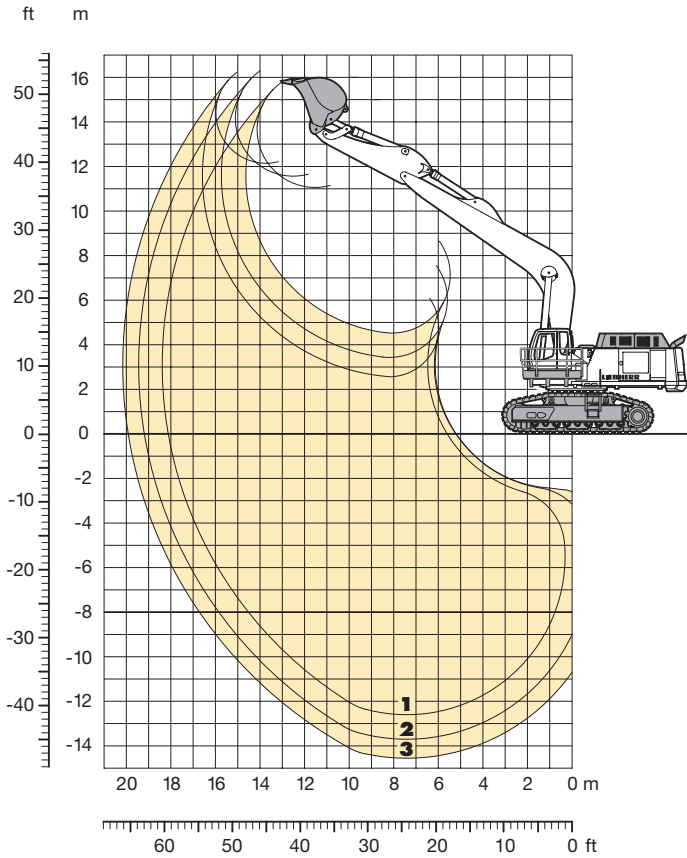
The load values are quoted in tons (t) on the backhoe bucket's load hook, and may be swung 360° on firm and even ground. Values quoted in brackets apply to the undercarriage when in longitudinal position. Capacities are valid for 600 mm wide double grouser pads. Indicated loads are based on ISO 10567 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 (3,90 m³/2,70 m³*), the lift capacities will increase by 4530 kg/3190 kg*, without bucket cylinder, link and lever they increase by an additional 1900 kg/1100 kg*. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

When lifting loads, the hydraulic excavator must be equipped with automatic check valve on its hoist cylinders and overload warning device according to European Standard, EN 474-5.

* Just for stick 6,80 m

Backhoe Attachment

with Gooseneck Boom 11,00 m



Digging envelope

		1	2	3*
Stick lengths	m	4,50	5,60	6,80
Max. digging depth	m	12,50	13,60	14,45
Max. reach at ground level	m	18,15	19,20	20,00
Max. dump height	m	11,25	11,80	12,65
Max. teeth height	m	16,05	16,60	16,80
Digging force SAE	kN	346	300	273
	t	35,3	30,6	27,8
Digging force ISO	kN	367	316	284
	t	37,4	37,4	29,0
Breakout force SAE	kN	550	550	405
	t	56,1	56,1	41,3
Breakout force ISO	kN	590	590	445
	t	60,2	60,2	45,4

* with stick 6,80 m with R 974 B Litronic[®] buckets

Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight with gooseneck boom 11,00 m, stick 5,60 m and bucket 2,90 m³.

Undercarriage		HD	
Pad width	mm	600	750
Weight	kg	122200	123400
Ground pressure	kg/cm ²	1,83	1,48

Buckets

Cutting width	mm	1300 ¹⁾	1300 ¹⁾	1400 ¹⁾	1600 ¹⁾	1200 ²⁾	1350 ²⁾	1550 ²⁾
Capacity ISO 7451	m ³	2,90	3,50	3,90	4,70	2,20	2,70	3,20
Weight	kg	3720	4080	4530	4970	2840	3060	3310
Suitable for material up to a specific weight of								
with stick 4,50 m	t/m ³	2,00	1,80	1,50	1,20	–	–	–
with stick 5,60 m	t/m ³	1,80	1,50	1,20	–	–	–	–
with stick 6,80 m	t/m ³	–	–	–	–	1,80	1,50	1,20

¹⁾ Medium-duty bucket with teeth size V 69 SD (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

²⁾ Bucket R 974 B Litronic[®] with teeth size V 61 SD

Lift Capacities

with Gooseneck Boom 11,00 m

Stick 4,50 m

Height (m)	Radius of load from centerline of machine (m)											
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0		
12,0							5,5# (5,5#)					
10,5							5,5# (5,5#)	5,5# (5,5#)				
9,0							5,7# (5,7#)	5,4# (5,4#)				
7,5							6,1# (6,1#)	5,6# (5,6#)				
6,0				10,7# (10,7#)	8,7# (8,7#)	7,4# (7,4#)	6,5# (6,5#)	5,9# (5,9#)	5,6# (5,6#)			
4,5				12,2# (12,2#)	9,7# (9,7#)	8,1# (8,1#)	7,0# (7,0#)	6,2# (6,2#)	5,7# (5,7#)			
3,0				13,6# (13,6#)	10,7# (10,7#)	8,8# (8,8#)	7,5# (7,5#)	6,6# (6,6#)	6,0# (6,0#)			
1,5				14,8# (14,8#)	11,6# (11,6#)	9,5# (9,5#)	8,0# (8,0#)	6,9# (6,9#)	6,1# (6,2#)			
0			20,7# (20,7#)	15,7# (15,7#)	12,4# (12,4#)	10,1# (10,1#)	8,4# (8,4#)	7,2# (7,2#)				
- 1,5			21,0# (21,0#)	16,2# (16,2#)	12,9# (12,9#)	10,5# (10,5#)	8,7# (8,8#)	7,1# (7,4#)				
- 3,0	13,0# (13,0#)	20,3# (20,3#)	20,9# (20,9#)	16,3# (16,3#)	13,1# (13,1#)	10,4# (10,7#)	8,5# (8,9#)	7,0# (7,4#)				
- 4,5	19,9# (19,9#)	26,3# (26,3#)	20,4# (20,4#)	16,1# (16,1#)	13,0# (13,0#)	10,4# (10,6#)	8,5# (8,8#)					
- 6,0	27,7# (27,7#)	24,7# (24,7#)	19,4# (19,4#)	15,5# (15,5#)	12,5# (12,5#)	10,2# (10,2#)	8,2# (8,2#)					
- 7,5	29,2# (29,2#)	22,4# (22,4#)	17,8# (17,8#)	14,3# (14,3#)	11,5# (11,5#)	9,1# (9,1#)						
- 9,0	24,5# (24,5#)	19,1# (19,1#)	15,3# (15,3#)	12,2# (12,2#)	9,5# (9,5#)							
- 10,5		14,2# (14,2#)	11,2# (11,2#)	8,2# (8,2#)								
- 12,0												

Stick 5,60 m

Height (m)	Radius of load from centerline of machine (m)														
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0					
12,0											4,4# (4,4#)				
10,5											4,3# (4,3#)				
9,0											4,5# (4,5#)	4,4# (4,4#)			
7,5										5,1# (5,1#)	4,7# (4,7#)	4,5# (4,5#)			
6,0									6,4# (6,4#)	5,6# (5,6#)	5,1# (5,1#)	4,7# (4,7#)			
4,5								10,8# (10,8#)	8,7# (8,7#)	7,2# (7,2#)	6,2# (6,2#)	5,5# (5,5#)	4,9# (4,9#)		
3,0								12,4# (12,4#)	9,8# (9,8#)	8,0# (8,0#)	6,8# (6,8#)	5,9# (5,9#)	5,2# (5,2#)		
1,5								18,6# (18,6#)	13,8# (13,8#)	10,8# (10,8#)	8,8# (8,8#)	7,4# (7,4#)	6,3# (6,3#)	5,5# (5,5#)	
0								20,0# (20,0#)	15,0# (15,0#)	11,7# (11,7#)	9,5# (9,5#)	7,9# (7,9#)	6,7# (6,7#)	5,8# (5,8#)	
- 1,5								13,3# (13,3#)	20,8# (20,8#)	15,8# (15,8#)	12,4# (12,4#)	10,0# (10,0#)	8,3# (8,3#)	7,0# (7,0#)	5,7# (6,0#)
- 3,0	11,0# (11,0#)	17,8# (17,8#)	21,1# (21,1#)	16,2# (16,2#)	12,8# (12,8#)	10,4# (10,4#)	8,4# (8,6#)	6,8# (7,2#)							
- 4,5	16,2# (16,2#)	23,4# (23,4#)	20,9# (20,9#)	16,3# (16,3#)	13,0# (13,0#)	10,3# (10,5#)	8,3# (8,7#)	6,7# (7,2#)							
- 6,0	22,2# (22,2#)	26,6# (26,6#)	20,3# (20,3#)	16,0# (16,0#)	12,8# (12,8#)	10,3# (10,4#)	8,3# (8,5#)	6,8# (6,8#)							
- 7,5	29,4# (29,4#)	24,8# (24,8#)	19,2# (19,2#)	15,2# (15,2#)	12,2# (12,2#)	9,8# (9,8#)	7,8# (7,8#)								
- 9,0	29,7# (29,7#)	22,2# (22,2#)	17,3# (17,3#)	13,8# (13,8#)	10,9# (10,9#)	8,5# (8,5#)									
- 10,5	24,2# (24,2#)	18,4# (18,4#)	14,4# (14,4#)	11,3# (11,3#)	8,5# (8,5#)										
- 12,0															

Stick 6,80 m

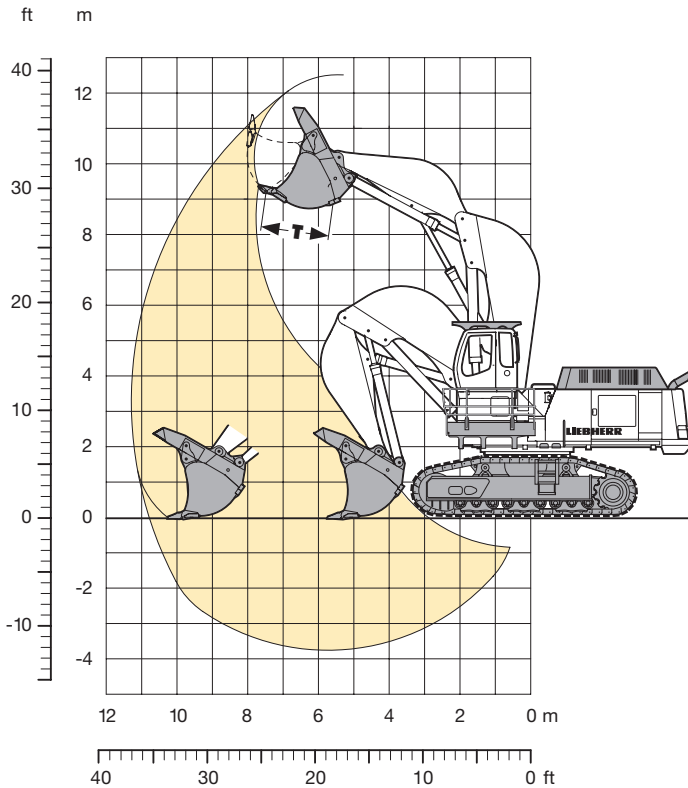
Height (m)	Radius of load from centerline of machine (m)																
	4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0							
12,0											5,6# (5,6#)						
10,5											5,5# (5,5#)						
9,0											5,6# (5,6#)						
7,5									6,0# (6,0#)	5,8# (5,8#)	5,7# (5,7#)						
6,0									6,9# (6,9#)	6,4# (6,4#)	6,0# (6,0#)	5,8# (5,8#)					
4,5									8,6# (8,6#)	7,6# (7,6#)	6,9# (6,9#)	6,4# (6,4#)	6,1# (6,1#)				
3,0									17,6# (17,6#)	13,7# (13,7#)	11,2# (11,2#)	9,5# (9,5#)	8,3# (8,3#)	7,4# (7,4#)	6,8# (6,8#)	6,3# (6,3#)	
1,5									20,0# (20,0#)	15,4# (15,4#)	12,4# (12,4#)	10,4# (10,4#)	9,0# (9,0#)	7,9# (7,9#)	7,2# (7,2#)	6,6# (6,6#)	
0									21,9# (21,9#)	16,8# (16,8#)	13,5# (13,5#)	11,2# (11,2#)	9,6# (9,6#)	8,4# (8,4#)	7,5# (7,5#)	6,5# (6,8#)	
- 1,5									15,3# (15,3#)	23,1# (23,1#)	17,9# (17,9#)	14,4# (14,4#)	11,9# (11,9#)	10,2# (10,2#)	8,8# (8,8#)	7,6# (7,8#)	6,3# (7,0#)
- 3,0	11,7# (11,7#)	18,5# (18,5#)	23,8# (23,8#)	18,6# (18,6#)	15,0# (15,0#)	12,5# (12,5#)	10,5# (10,6#)	8,8# (9,2#)	7,4# (8,0#)								
- 4,5	15,9# (15,9#)	22,8# (22,8#)	24,1# (24,1#)	19,0# (19,0#)	15,3# (15,4#)	12,4# (12,8#)	10,2# (10,8#)	8,6# (9,3#)	7,3# (8,0#)								
- 6,0	20,6# (20,6#)	28,1# (28,1#)	23,8# (23,8#)	18,9# (18,9#)	15,1# (15,4#)	12,2# (12,8#)	10,1# (10,8#)	8,5# (9,2#)									
- 7,5	26,3# (26,3#)	29,7# (29,7#)	23,0# (23,0#)	18,5# (18,5#)	15,1# (15,1#)	12,3# (12,6#)	10,2# (10,5#)	8,7# (8,7#)									
- 9,0	33,2# (33,2#)	27,6# (27,6#)	21,6# (21,6#)	17,4# (17,4#)	14,3# (14,3#)	11,8# (11,8#)	9,6# (9,6#)										
- 10,5	32,6# (32,6#)	24,6# (24,6#)	19,4# (19,4#)	15,6# (15,6#)	12,7# (12,7#)	10,1#											
- 12,0	26,1# (26,1#)	20,0# (20,0#)	15,8# (15,8#)	12,5# (12,5#)	9,5# (9,5#)												

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 (3,90 m³/2,70 m³*), the lift capacities will increase by 4530 kg/3190 kg*, without bucket cylinder, link and lever they increase by an additional 1900 kg/1100 kg*. Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

When lifting loads, the hydraulic excavator must be equipped with automatic check valve on its hoist cylinders and overload warning device according to European Standard, EN 474-5.

* Just for stick 6,80 m

Shovel Attachment



Digging Envelope

Max. reach at ground level	10,80 m
Max. dump height	8,90 m
Max. crowd length	4,50 m
Bucket opening width T	1900 mm
Max. crowd force SAE	750 kN/76,5 t
Max. crowd force at ground level SAE	550 kN/56,1 t
Max. breakout force SAE	550 kN/56,1 t

Operating Weight and Ground Pressure

Operating weight includes basic machine with shovel attachment and bottom dump bucket 7,00 m³, level II.

Undercarriage		HD-S	
Pad width	mm	600	750
Weight	kg	123800	125000
Ground pressure	kg/cm ²	1,86	1,47

Bottom Dump Bucket

Cutting width SAE	mm	2500 ¹⁾	2500 ¹⁾	2900 ¹⁾	2900 ¹⁾	2900 ¹⁾	3200 ²⁾
Capacity SAE	m ³	5,70	5,70	7,00	7,00	7,70	10,50
Weight	kg	10600	11200	10500	10900	11200	11200
Suitable for material up to a specific weight of	t/m ³	2,20	2,20	1,80	1,80	1,65	1,20
Wear kit level		II	III	I	II	I	-

¹⁾ Bottom dump bucket with Delta cutting edge and teeth V 69 RYL

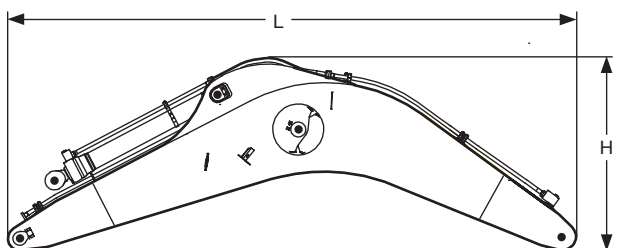
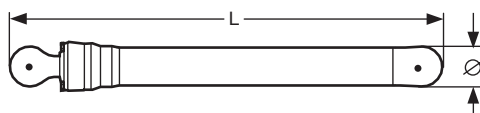
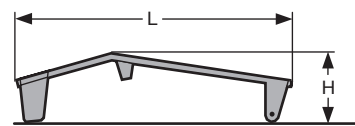
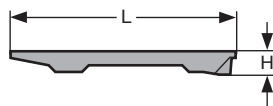
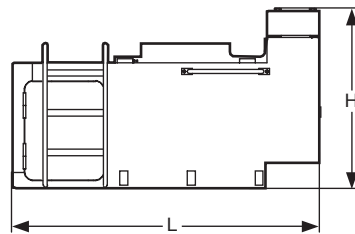
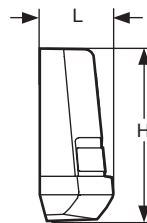
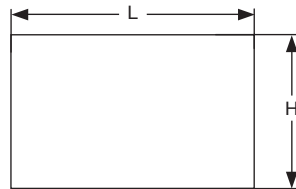
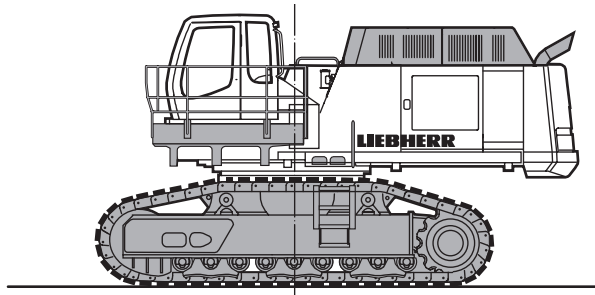
²⁾ Coal bottom dump bucket with straight cutting edge and teeth size V 61 RYL

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 preblasted 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.

Component Dimensions and Weights



Basic Machine (with Catwalks)

Track pads	mm	600	750
Weight with counterweight 19000 kg	kg	89140	90330

Catwalks and Railings (Wooden Crate)

L Length	mm	3500
H Height	mm	2400
Width	mm	1900
Weight	kg	1800

Counterweight

L Length	mm	900	900*
H Height	mm	1800	1800*
Width	mm	4050	4050*
Weight	kg	19020	22000*

* only with 11,00 m gooseneck boom

Cab Elevation

L Length	mm	1950
H Height	mm	1130
Width	mm	1250
Weight	kg	600

Protective Grid Up

L Length	mm	1730
H Height	mm	185
Width	mm	950
Weight	kg	30

Front Window Screen

L Length	mm	1970
H Height	mm	500
Width	mm	970
Weight	kg	45

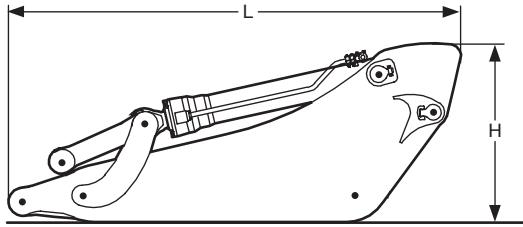
Hoist Cylinder (two)

L Length	mm	3300
Ø Diameter	mm	400
Weight	kg	2 x 1330

Gooseneck Boom with Stick Cylinder

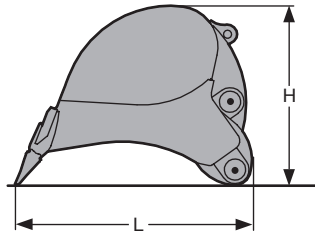
Boom length	m	7,80	9,20	11,00
L Length	mm	8200	9600	11400
H Height	mm	2800	2800	3250
Width	mm	1600	1600	1600
Weight	kg	13345	14285	15810

Component Dimensions and Weights



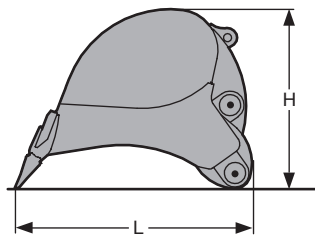
Stick with Bucket Cylinder

Stick length	m	3,40	4,50	5,60	6,80
L Length	mm	4800	5700	6800	8000
H Height	mm	1850	1650	1550	1400
Width	mm	945	945	945	945
Weight	kg	7400	7730	7885	6600



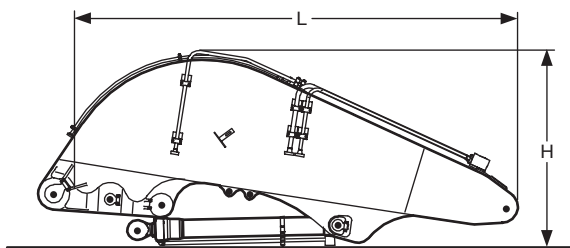
Backhoe Buckets

Cutting width	mm	1300	1300	1400	1600	1900	1800	2100
Capacity	m ³	2,90	3,50	3,90	4,70	5,20	5,50	6,00
L Length	mm	2700	2900	2900	2900	3000	2900	3000
H Height	mm	2100	2250	2250	2250	2250	2250	2250
Width	mm	1350	1350	1450	1650	1900	1850	2150
Weight	kg	3720	4080	4530	4970	6200	5280	6680



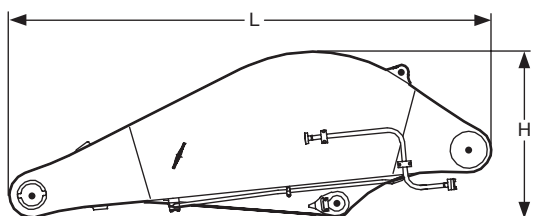
Backhoe Buckets

Cutting width	mm	2000	2300	2200	2400	2600	2800	2800
Capacity	m ³	6,20	6,70	7,00	7,70	8,50	9,30	10,00
L Length	mm	2900	3000	2900	2900	2900	2900	3000
H Height	mm	2250	2250	2250	2250	2250	2250	2250
Width	mm	2050	2350	2250	2450	2650	2850	2850
Weight	kg	5700	7030	6050	6310	6650	6800	6540



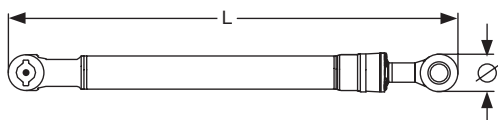
Shovel Boom

L Length	mm	5800
H Height	mm	2400
Width	mm	1800
Weight without crowd cylinder	kg	11090
Weight crowd cylinder	kg	2 x 563



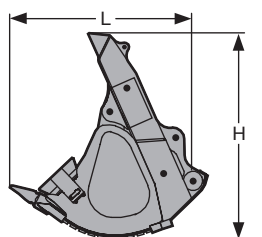
Shovel Stick

L Length	mm	4350
H Height	mm	1500
Width	mm	1900
Weight	kg	6130



Shovel Bucket Cylinder (two)

L Length	mm	3350
Ø Diameter	mm	300
Weight	kg	2 x 810



Bottom Dump Buckets

Cutting width	mm	2500	2900	2900	3200
Capacity	m ³	5,70	7,00	7,70	10,50
L Length	mm	2800	2800	2850	3000
H Height	mm	2900	2900	2950	3100
Width	mm	2500	2900	2900	3200
Weight					
Wear kit level I	kg	-	10500	10900	11200
Wear kit level II	kg	10600	11200	-	-
Wear kit level III	kg	11200	-	-	-

Equipment



Undercarriage

	S	O
Three track guide per track	•	
Integrated travel drive	•	
Digging locks	•	
Different undercarriage versions		•
Different track pad width		•



Uppercarriage

	S	O
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

	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 hydraulic oils		•
Filter for secondary circuit		•



Engine

	S	O
Direct injection	•	
Turbo charger	•	
Air filter with pre-cleaner, main and safety element	•	
Air filter with automatic dust ejector	•	
Automatic idling	•	
Main switch for electric circuit	•	
Cold start aid	•	
Fuel pre-heater		•



Operator's Cab

	S	O
Profile and deep drawn component	•	
Tinted side windows	•	
Armored windshield	•	
Door with sliding window	•	
Washer and wiper	•	
6-way adjustable cloth suspension seat	•	
Seat and consoles independently adjustable	•	
Coat hook	•	
Dome light	•	
Sun blinds	•	
Radio installation prep-kit	•	
Removable handle for travel pedals	•	
Cigar 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	•	
Automatic air conditioning system	•	
AM/FM stereo radio w/cassette		•
Air power seat adjustment with heating		•
Warning beacon		•
Additional flood lights		•



Attachment

	S	O
Cylinders with shock absorber	•	
Sealed pivots	•	
Two flood lights on the boom	•	
Bucket mounted 27 t lifting eye	•	
Automatic lubrication system Lincoln "Centromatic" for attachment and swing ring	•	
Safety check valves		•
Overload warning device		•
Hydraulic quick change tool adapter		•
Liebherr equipment program		•
Special buckets		•
Cylinder – rod protection		•

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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