

# Technical Description

## Hydraulic Excavator

**R 954 B**  
Litronic®

**Operating weight with backhoe attachment 48,8 – 55,3 t**  
**Operating weight with shovel attachment 55,1 – 56,9 t**  
**Engine output 222 kW (302 HP)**  
**Bucket capacity 1,30 to 3,90 m<sup>3</sup>**  
**Shovel capacity 2,50 to 3,10 m<sup>3</sup>**



# LIEBHERR

The Better Machine.



## Engine

Rating per ISO 9249	222 kW (302 HP) at 2000 RPM
Model	Liebherr D 926 TI-E
Type	6 cylinder in-line
Bore/Stroke	122/142 mm
Displacement	10,0 l
Engine operation	4-stroke diesel direct injection turbo-charged and after-cooled reduced emissions
Cooling	water-cooled and integrated motor oil cooler
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	706 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 110 Ah/12 V
Starter	24 V/6,6 kW
Alternator	three phase current 28 V/80 A



## Hydraulic System

Hydraulic pump for attachment and travel drive	Liebherr variable flow, swash plate double pump
Max. flow	2 x 350 l/min
Max. pressure	350 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compen- sation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	185 l/min
Max. pressure	384 bar
Hydraulic tank	450 l
Hydraulic system	800 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
Hydraulic oil cooler	compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler and after-cooler cores and hydrostatically driven fan
MODE selection	adjustment of machine performance and the hydraulics via a mode selec- tor to match application
LIFT	for lifting
FINE	for precision work and lifting through very sensitive movements
ECO	for especially economical and envi- ronmentally 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 integrated safety valves
Flow summation	to boom and stick
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 with inte- grated brake valves
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0 - 6,2 RPM stepless
Swing torque	156 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal controlled positioning brake



## Operator's Cab

Cab	built from deep drawn components, resil- iently mounted, sound insulated, tinted windows, front window stores overhead, 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. Auto- matic monitoring, display, warning (acu- stical and optical signal) and saving machine malfunction data, for example, engine overheating, low engine oil pres- sure or low hydraulic oil level
Heating system	standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	$L_{pA}$ (inside cab) = 76 dB(A)
2000/14/EC	$L_{wA}$ (surround noise) = 109 dB(A)



## Undercarriage

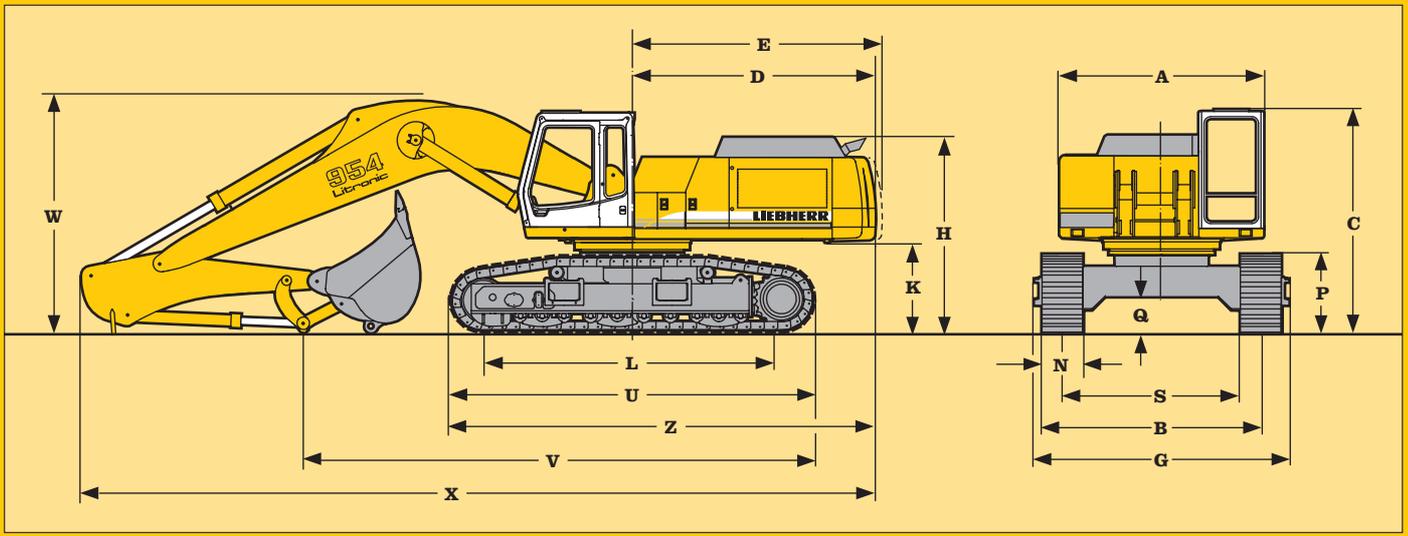
Versions:	HD heavy duty HD-S heavy duty, narrow reduced wheel base
Drive	Liebherr swash plate motors with inte- grated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	HD: low range - 3,4 km/h high range - 5,0 km/h HD-S: low range - 3,6 km/h high range - 5,2 km/h
Drawbar pull max.	HD: 404 kN HD-S: 400 kN
Track components	HD: D 7 G, maintenance-free HD-S: D 8 K, maintenance-free
Track rollers/ carrier rollers	HD: 10/2 HD-S: 7/2
Tracks	sealed and greased
Track pads	HD: triple grouser HD-S: double grouser
Digging locks	wet multi-discs (spring applied, pressure released)



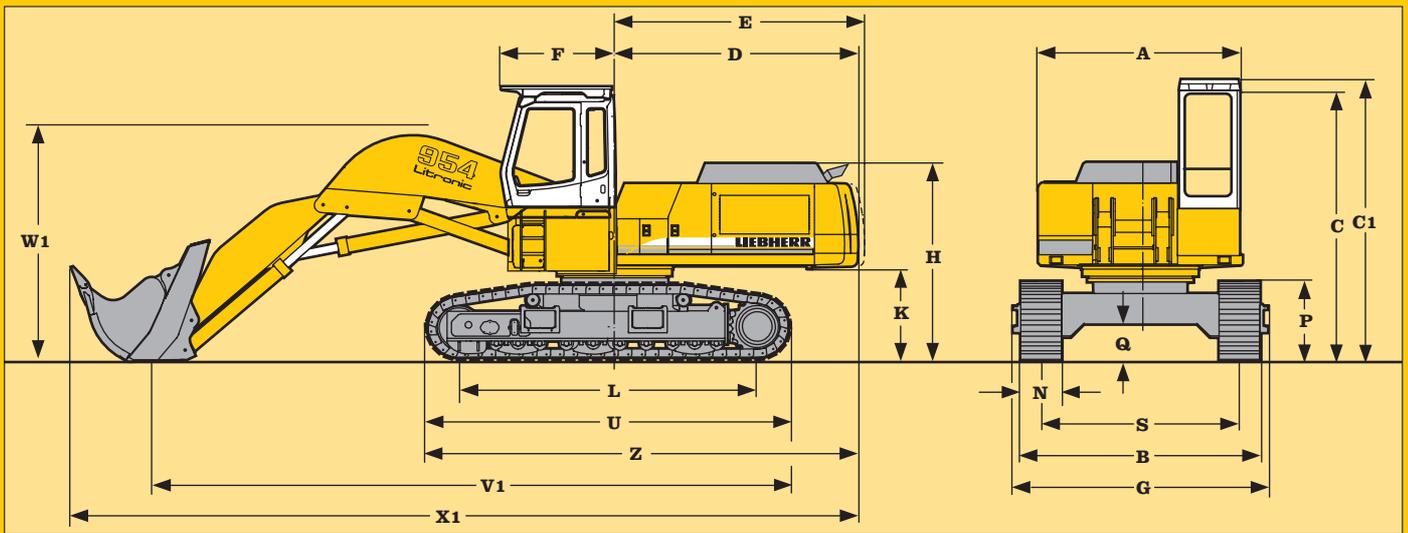
## Attachment

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	easily accessible centralized lubrication
Hydraulic connections	pipes and hoses equipped with SAE split- flange connections
Bucket	standard equipped with 27 t lifting eye

# Technical Data



	mm	Stick length	Goose-neck boom 6,70 m	Goose-neck boom 7,60 m	Goose-neck boom 9,20 m	Hydr. adjustable boom
A	2980					
C	3300					
D	3600					
E	3700					
H	2980					
K	1354	V	2,35	7600	8650	-
L	4400		2,90	7100	8100	9750
P	1170		3,80	6300	7100	8850
Q	543		5,00	-	-	7700
S	2900					
U	5378	W	2,35	3700	3800	-
N	500		2,90	3700	3900	4050
B	3524		3,80	3950	3900	4150
G	3720		5,00	-	-	4300
Z	6290	X	2,35	11850	12850	-
			2,90	11850	12850	14500
			3,80	11900	12850	14500
			5,00	-	-	14500



	mm		mm
A	2980	S	2978
C	4230	U	5041
C1	4400	N	500
D	3600	B	3670
E	3700	G	3883
F	1660	Y	4400
H	3110	Z	6115
K	1485	W1	3650
L	3963	V1	9900
P	1355	X1	12000
Q	674		

# Dimensions

## Digging envelope

- 1 with stick 2,35 m
- 2 with stick 2,90 m
- 3 with stick 3,80 m

Stick lengths	m	2,35	2,90	3,80
Max. digging depth	m	7,00	7,50	8,40
Max. reach at ground level	m	10,80	11,30	12,15
Max. dump height	m	7,00	7,30	7,70
Max. teeth height	m	10,40	10,70	11,00

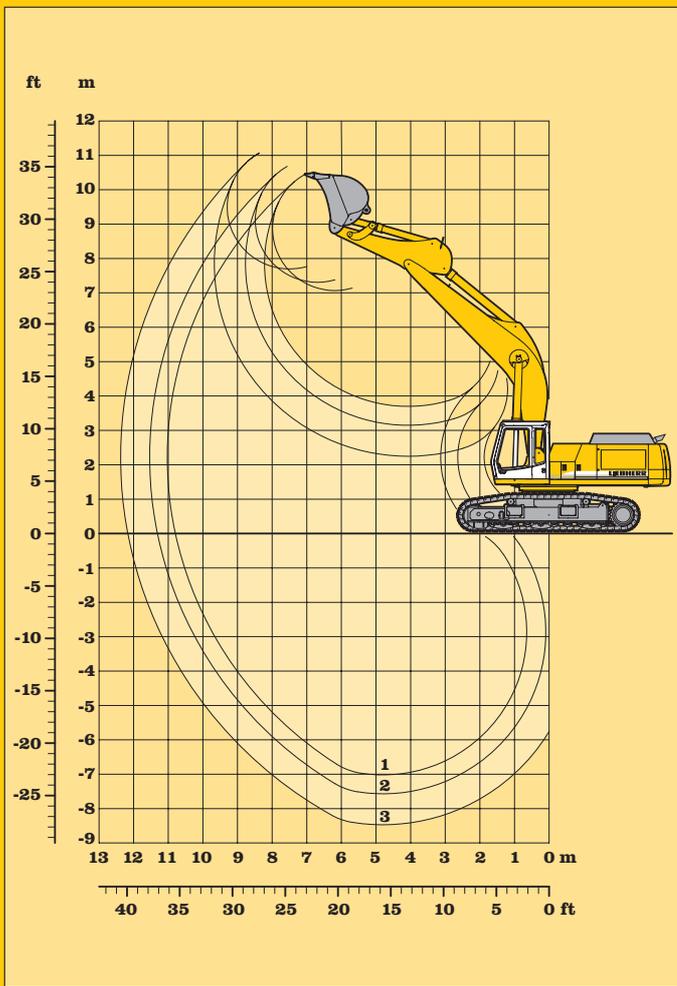
Digging force	kN/t	246/25,1	216/22,0	180/18,3
Breakout force	kN/t	285/29,1	285/29,1	285/29,1

## Operating Weight and Ground Pressure

Operating weight includes basic machine with 6,70 m gooseneck boom, 2,35 m stick and 2,70 m<sup>3</sup> bucket.

Undercarriage		HD		
Pad width	mm	500	600	750
Weight	kg	48800	49300	50640
Ground pressure	kg/cm <sup>2</sup>	1,03	0,87	0,71

Optional: heavy duty counterweight  
(Heavy duty counterweight increases the operating weight by 1860 kg and ground pressure by 0,03 kg/cm<sup>2</sup>)



## Buckets

Cutting width	mm	1500 <sup>1)</sup>	1550 <sup>2)</sup>	1700 <sup>1)</sup>	1750 <sup>2)</sup>	1900 <sup>1)</sup>	1950 <sup>2)</sup>	1900 <sup>3)</sup>	2200 <sup>4)</sup>
Capacity ISO 7451	m <sup>3</sup>	2,00	2,00	2,35	2,35	2,70	2,70	3,20	3,90
Weight	kg	2050	2400	2200	2575	2350	2730	2550	2650
Suitable for material up to a specific weight of									
with stick 2,35 m	t/m <sup>3</sup>	-	-	2,20	2,20	1,80	1,80	1,50	1,20
with stick 2,90 m	t/m <sup>3</sup>	2,20	2,20	1,80	1,80	1,50	1,50	1,20	-
with stick 3,80 m	t/m <sup>3</sup>	1,80	1,80	1,50	1,50	1,20	-	-	-

<sup>1)</sup> Medium-duty bucket with Liebherr-teeth size 20 (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

<sup>2)</sup> Heavy-duty rock bucket with Liebherr-teeth size 25 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

<sup>3)</sup> Loading bucket, with Liebherr-teeth size 20

<sup>4)</sup> Loading bucket, with Liebherr-teeth size 16

Note:  
Installation of optional side cutters onto medium-duty and loading buckets with Liebherr-teeth size 25 and 20 increase cutting width by approx. 160 and 170 mm respectively.

Side cutters installation kit consist of:

- Weld-on set of adapters
- Set of bolt-on side cutters

# Backhoe Attachment with Gooseneck Boom 6,70 m

Stick 2,35 m				
Height in m	Radius of load from centerline of machine in m			
	4,5	6,0	7,5	9,0
12,0				
10,5				
9,0				
7,5			8,5# ( 8,5#)	
6,0			9,1# ( 9,1#)	
4,5	16,3# (16,3#)	12,1# (12,1#)	9,9 (10,1#)	7,2 ( 9,1#)
3,0	20,1 (21,2#)	13,2 (14,3#)	9,3 (11,3#)	6,9 ( 9,7#)
1,5	18,5# (18,5#)	12,3 (16,1#)	8,8 (12,4#)	6,6 (10,2#)
0	18,3 (21,7#)	11,8 (17,1#)	8,5 (13,1#)	6,4 (10,5 )
- 1,5	18,3 (23,3#)	11,6 (17,1#)	8,3 (13,1#)	
- 3,0	18,7 (21,5#)	11,7 (16,1#)	8,4 (12,3#)	
- 4,5	18,2# (18,2#)	12,2 (13,7#)		
- 6,0	11,8# (11,8#)			
- 7,5				
- 9,0				
- 10,5				

Stick 2,90 m				
Height in m	Radius of load from centerline of machine in m			
	4,5	6,0	7,5	9,0
12,0				
10,5				
9,0				
7,5				
6,0			8,2# ( 8,2#)	6,5# ( 6,5#)
4,5		10,9# (10,9#)	9,3# ( 9,3#)	7,2 ( 8,4#)
3,0	19,2# (19,2#)	13,3# (13,3#)	9,4 (10,6#)	6,8 ( 9,1#)
1,5	19,1 (22,5#)	12,4 (15,4#)	8,8 (11,8#)	6,5 ( 9,7#)
0	18,3 (21,9#)	11,7 (16,6#)	8,4 (12,6#)	6,3 (10,2#)
- 1,5	18,2 (23,7#)	11,5 (17,0#)	8,2 (13,0#)	6,1 (10,2 )
- 3,0	18,4 (22,3#)	11,5 (16,4#)	8,1 (12,5#)	
- 4,5	18,8 (19,6#)	11,8 (14,6#)	8,4 (10,8#)	
- 6,0	14,6# (14,6#)			
- 7,5				
- 9,0				
- 10,5				

Stick 3,80 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				4,8# ( 4,8#)	
6,0				6,8# ( 6,8#)	
4,5			8,0# ( 8,0#)	7,3 ( 7,4#)	4,1# (4,1#)
3,0	16,2# (16,2#)	11,7# (11,7#)	9,5# ( 9,5#)	7,0 ( 8,2#)	5,2 (5,6#)
1,5	20,0 (20,7#)	12,8 (14,1#)	9,0 (10,9#)	6,6 ( 9,1#)	4,9 (6,3#)
0	18,7 (23,3#)	12,0 (15,9#)	8,5 (12,0#)	6,3 ( 9,8#)	4,8 (5,9#)
- 1,5	18,2 (24,0#)	11,5 (16,8#)	8,1 (12,7#)	6,1 (10,1 )	
- 3,0	18,2 (23,4#)	11,3 (16,8#)	8,0 (12,8#)	6,0 (10,0 )	
- 4,5	18,4 (21,6#)	11,5 (15,7#)	8,1 (11,9#)		
- 6,0	18,0# (18,0#)	11,9 (13,1#)			
- 7,5					
- 9,0					
- 10,5					

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 triple 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 (2,35 m<sup>3</sup>), the lift capacities will increase by 2200 kg, without bucket cylinder, link and lever they increase by an additional 680 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.

# Lift Capacities with Gooseneck Boom 6,70 m

## Digging envelope

- 1 with stick 2,35 m
- 2 with stick 2,90 m
- 3 with stick 3,80 m

Stick lengths	m	2,35	2,90	3,80
Max. digging depth	m	7,80	8,40	9,30
Max. reach at ground level	m	11,70	12,20	13,10
Max. dump height	m	7,70	7,90	8,30
Max. teeth height	m	11,00	11,30	11,70

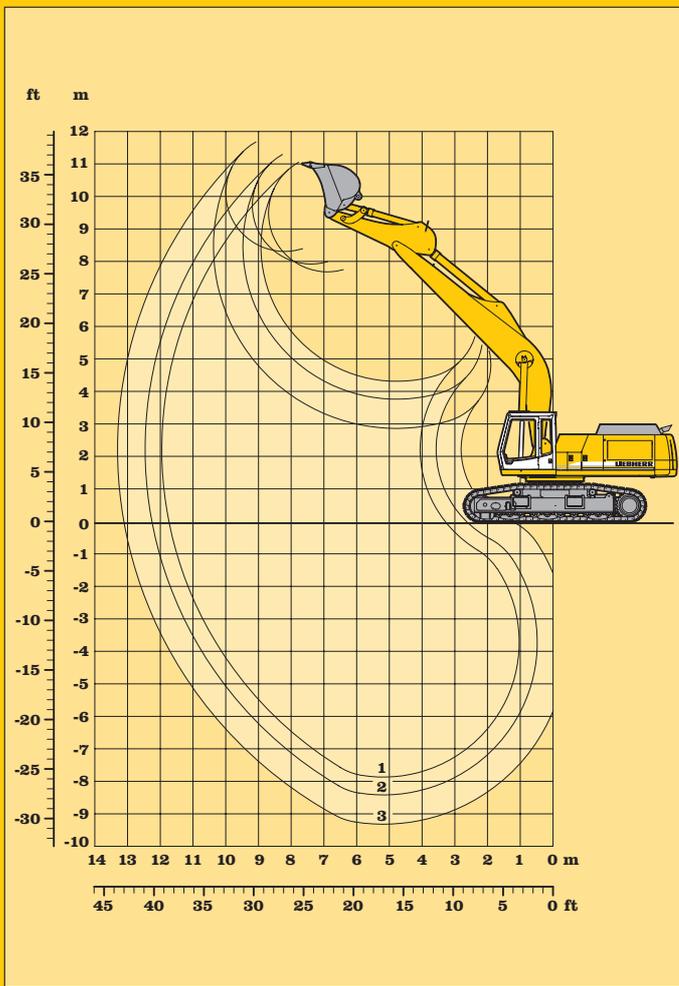
Digging force	kN/t	246/25,1	216/22,0	180/18,3
Breakout force	kN/t	285/29,1	285/29,1	285/29,1

## Operating Weight and Ground Pressure

Operating weight includes basic machine with 7,60 m gooseneck boom, 2,90 m stick and 2,00 m<sup>3</sup> bucket.

Undercarriage		HD		
Pad width	mm	500	600	750
Weight	kg	49100	49600	50940
Ground pressure	kg/cm <sup>2</sup>	1,04	0,87	0,72

Optional: heavy duty counterweight  
(Heavy duty counterweight increases the operating weight by 1860 kg and ground pressure by 0,05 kg/cm<sup>2</sup>)



## Bucket

Cutting width	mm	1100 <sup>1)</sup>	1150 <sup>2)</sup>	1300 <sup>1)</sup>	1350 <sup>2)</sup>	1500 <sup>1)</sup>	1550 <sup>2)</sup>	1700 <sup>1)</sup>	1750 <sup>2)</sup>	1900 <sup>1)</sup>	1950 <sup>2)</sup>	1900 <sup>3)</sup>
Capacity ISO 7451	m <sup>3</sup>	1,30	1,30	1,65	1,65	2,00	2,00	2,35	2,35	2,70	2,70	3,20
Weight	kg	1700	2020	1850	2250	2050	2400	2200	2575	2350	2730	2550
Suitable for material up to a specific weight of												
with stick 2,35 m	t/m <sup>3</sup>	-	-	-	-	2,20	2,20	1,80	1,80	1,50	1,50	1,20
with stick 2,90 m	t/m <sup>3</sup>	-	-	2,20	2,20	1,80	1,80	1,50	1,50	1,20	-	-
with stick 3,80 m	t/m <sup>3</sup>	2,20	2,20	1,80	1,80	1,50	1,50	1,20	-	-	-	-

<sup>1)</sup> Medium-duty bucket with Liebherr-teeth size 20 (appropriate for materials up to classification 5, according to VOB, Section C, DIN 18300)

<sup>2)</sup> Heavy-duty rock bucket with Liebherr-teeth size 25 (appropriate for materials above classification 6, according to VOB, Section C, DIN 18300)

<sup>3)</sup> Loading bucket with Liebherr-teeth size 20

### Note:

Installation of optional side cutters onto medium-duty and loading buckets with Liebherr-teeth size 25 and 20 increase cutting width by approx. 160 and 170 mm respectively.

### Side cutters installation kit consist of:

- Weld-on set of adapters
- Set of bolt-on side cutters

# Backhoe Attachment with Gooseneck Boom 7,60 m

Stick 2,35 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				6,5# ( 6,5#)	
6,0			8,5# ( 8,5#)	7,4 ( 7,7#)	
4,5	18,2# (18,2#)	12,1# (12,1#)	9,6 ( 9,6#)	7,1 ( 8,3#)	
3,0		12,3 (14,3#)	8,9 (10,8#)	6,7 ( 9,0#)	5,1 (7,1#)
1,5		11,4 (15,8#)	8,4 (11,9#)	6,4 ( 9,7#)	4,9 (8,0#)
0	10,7# (10,7#)	11,0 (16,5#)	8,0 (12,5#)	6,1 (10,1#)	
- 1,5	17,5 (18,6#)	10,9 (16,4#)	7,9 (12,7#)	6,0 (10,0 )	
- 3,0	17,8 (20,4#)	11,1 (15,7#)	7,9 (12,3#)	6,1 ( 9,8#)	
- 4,5	18,3# (18,3#)	11,4 (14,2#)	8,2 (11,1#)		
- 6,0	14,5# (14,5#)	11,2# (11,2#)			
- 7,5					
- 9,0					
- 10,5					

Stick 2,90 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				6,7# (6,7#)	
6,0				7,1# (7,1#)	
4,5	15,7# (15,7#)	11,0# (11,0#)	8,9# ( 8,9#)	7,1 (7,7#)	5,3 (7,1#)
3,0	10,7# (10,7#)	12,5 (13,3#)	9,0 (10,2#)	6,7 (8,5#)	5,0 (7,5#)
1,5	8,4# ( 8,4#)	11,5 (15,2#)	8,3 (11,3#)	6,3 (9,2#)	4,8 (7,9#)
0	12,2# (12,2#)	11,0 (16,1#)	7,9 (12,1#)	6,0 (9,8#)	4,7 (7,9 )
- 1,5	17,2 (17,4#)	10,8 (16,3#)	7,7 (12,5#)	5,8 (9,9 )	
- 3,0	17,5 (21,3#)	10,8 (15,9#)	7,7 (12,3#)	5,8 (9,8#)	
- 4,5	17,9 (19,4#)	11,1 (14,7#)	7,9 (11,4#)		
- 6,0	16,2# (16,2#)	11,6 (12,3#)			
- 7,5					
- 9,0					
- 10,5					

Stick 3,80 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5					3,7# (3,7#)
6,0				6,2# (6,2#)	5,6 (6,0#)
4,5			7,8# ( 7,8#)	6,9# (6,9#)	5,4 (6,3#)
3,0	17,6# (17,6#)	11,8# (11,8#)	9,2# ( 9,2#)	6,8 (7,7#)	5,1 (6,9#)
1,5	13,5# (13,5#)	12,0 (14,0#)	8,6 (10,5#)	6,4 (8,6#)	4,9 (7,4#)
0	13,4# (13,4#)	11,2 (15,5#)	8,0 (11,6#)	6,0 (9,3#)	4,6 (7,8#)
- 1,5	16,2# (16,2#)	10,8 (16,2#)	7,7 (12,2#)	5,8 (9,7#)	4,5 (7,7 )
- 3,0	17,2 (20,5#)	10,7 (16,2#)	7,6 (12,4#)	5,7 (9,7 )	4,5 (7,7 )
- 4,5	17,5 (21,0#)	10,8 (15,5#)	7,6 (11,9#)	5,8 (9,4#)	
- 6,0	18,1 (18,5#)	11,2 (13,8#)	7,9 (10,6#)		
- 7,5	14,3# (14,3#)	10,5# (10,5#)			
- 9,0					
- 10,5					

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 triple grouser pads.

Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via #).

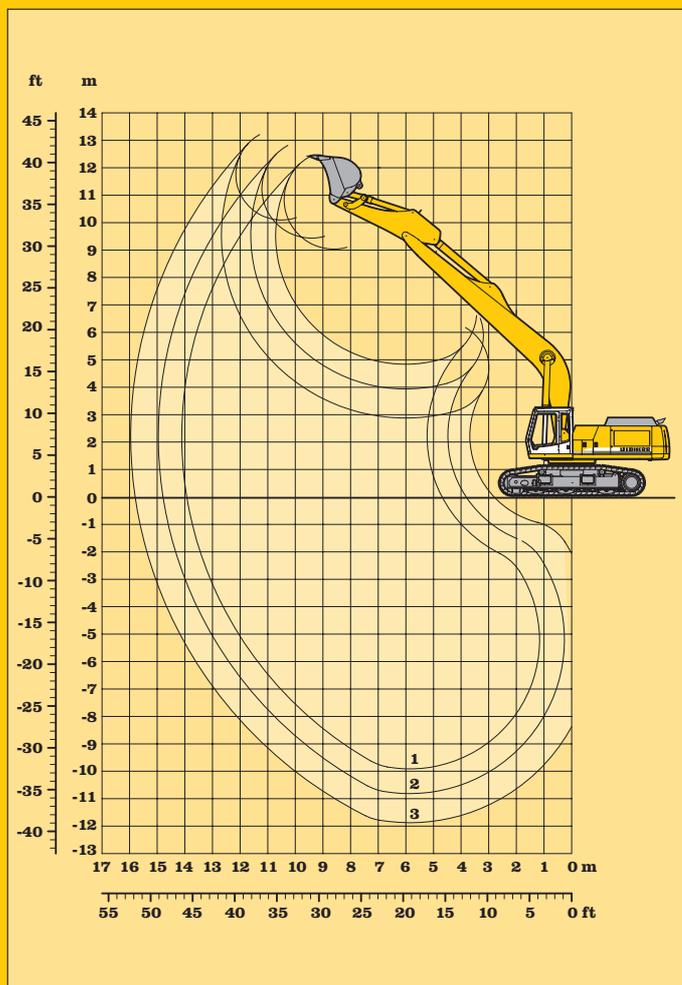
Maximum load for the backhoe bucket's lifting eye is 27 t.

Without bucket (1,65 m<sup>3</sup>), the lift capacities will increase by 1850 kg, without bucket cylinder, link and lever they increase by an additional 680 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.

# Lift Capacities with Gooseneck Boom 7,60 m



## Digging envelope

- 1 with stick 2,90 m
- 2 with stick 3,80 m
- 3 with stick 5,00 m with R 944 buckets

Stick lengths	m	2,90	3,80	5,00
Max. digging depth	m	9,90	10,80	11,85
Max. reach at ground level	m	13,95	14,80	15,80
Max. dump height	m	9,05	9,45	10,10
Max. teeth height	m	12,40	12,80	13,20

Digging force	kN/t	216/22,0	180/18,3	150/14,8
Breakout force	kN/t	285/29,1	285/29,1	195/19,9

## Operating Weight and Ground Pressure

Operating weight includes basic machine with 9,20 m gooseneck boom, 3,80 m stick, heavy duty counterweight and 1,65 m<sup>3</sup> bucket.

Undercarriage		HD		
Pad width	mm	500	600	750
Weight	kg	50500	51000	52340
Ground pressure	kg/cm <sup>2</sup>	1,06	0,90	0,74

## Bucket

Cutting width	mm	1100 <sup>1)</sup>	1300 <sup>1)</sup>	1500 <sup>1)</sup>	1700 <sup>1)</sup>	1900 <sup>1)</sup>	1200 <sup>2)</sup>	1350 <sup>2)</sup>	1500 <sup>2)</sup>	1650 <sup>2)</sup>
Capacity ISO 7451	m <sup>3</sup>	1,30	1,65	2,00	2,35	2,70	1,30	1,50	1,75	1,95
Weight	kg	1700	1850	2050	2200	2350	1220	1360	1450	1480
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	-	-	-	-
with stick 3,80 m	t/m <sup>3</sup>	2,20	1,80	1,50	1,20	-	-	-	-	-
with stick 5,00 m	t/m <sup>3</sup>	-	-	-	-	-	2,20	1,80	1,50	1,20

<sup>1)</sup> Medium-duty bucket with Liebherr-teeth size 20

<sup>2)</sup> R 944 Litronic bucket with teeth size 20

**Note:**  
Installation of optional side cutters onto medium-duty and loading buckets with Liebherr-teeth size 25 and 20 increase cutting width by approx. 160 and 170 mm respectively.

Side cutters installation kit consist of:

- Weld-on set of adapters
- Set of bolt-on side cutters

# Backhoe Attachment with Gooseneck Boom 9,20 m and Heavy Counterweight

Stick 2,90 m							
Height in m	Radius of load from centerline of machine in m						
	4,5	6,0	7,5	9,0	10,5	12,0	
12,0							
10,5							
9,0					4,7# (4,7#)		
7,5					4,8# (4,8#)		
6,0			6,7# ( 6,7#)	5,8# (5,8#)	5,2# (5,2#)	4,3 (4,9#)	
4,5		11,2# (11,2#)	8,1# ( 8,1#)	6,5# (6,5#)	5,4 (5,7#)	4,2 (5,2#)	
3,0			8,6 ( 9,3#)	6,6 (7,3#)	5,1 (6,2#)	4,0 (5,5#)	
1,5			8,0 (10,4#)	6,2 (8,1#)	4,9 (6,7#)	3,9 (5,8#)	
0		9,9# ( 9,9#)	7,7 (11,0#)	5,9 (8,6#)	4,7 (7,1#)	3,7 (6,1#)	
- 1,5		10,9 (14,7#)	7,6 (11,3#)	5,8 (8,9#)	4,6 (7,3#)	3,7 (6,2#)	
- 3,0	13,0# (13,0#)	11,1 (14,4#)	7,7 (11,2#)	5,8 (9,0#)	4,6 (7,4#)		
- 4,5	17,5# (17,5#)	11,4 (13,7#)	7,9 (10,8#)	6,0 (8,7#)	4,8 (7,1#)		
- 6,0	15,9# (15,9#)	11,8 (12,5#)	8,3 (10,0#)	6,3 (8,0#)			
- 7,5	13,4# (13,4#)	10,6# (10,6#)	8,3# ( 8,3#)				
- 9,0							
- 10,5							

Stick 3,80 m							
Height in m	Radius of load from centerline of machine in m						
	4,5	6,0	7,5	9,0	10,5	12,0	13,5
12,0							
10,5					3,8# (3,8#)		
9,0							
7,5					4,2# (4,2#)	4,1# (4,1#)	
6,0				5,0# (5,0#)	4,6# (4,6#)	4,3# (4,3#)	
4,5		9,5# ( 9,5#)	7,1# ( 7,1#)	5,8# (5,8#)	5,1# (5,1#)	4,2 (4,6#)	
3,0		11,9# (11,9#)	8,5# ( 8,5#)	6,7# (6,7#)	5,2 (5,7#)	4,0 (5,0#)	3,1 (3,8#)
1,5		11,2 (11,5#)	8,2 ( 9,7#)	6,3 (7,5#)	4,9 (6,2#)	3,8 (5,4#)	3,0 (4,1#)
0		10,8 (11,0#)	7,8 (10,5#)	5,9 (8,2#)	4,6 (6,7#)	3,7 (5,7#)	
- 1,5	7,5# ( 7,5#)	10,7 (14,5#)	7,6 (11,0#)	5,7 (8,6#)	4,5 (7,1#)	3,6 (6,0#)	
- 3,0	11,4# (11,4#)	10,8 (14,7#)	7,6 (11,2#)	5,7 (8,9#)	4,4 (7,2#)	3,6 (6,1#)	
- 4,5	15,7# (15,7#)	11,1 (14,2#)	7,7 (11,0#)	5,8 (8,8#)	4,5 (7,2#)		
- 6,0	17,6# (17,6#)	11,4 (13,3#)	7,9 (10,5#)	6,0 (8,4#)	4,7 (6,7#)		
- 7,5	15,5# (15,5#)	11,9# (11,9#)	8,4 ( 9,3#)	6,4 (7,3#)			
- 9,0	12,1# (12,1#)	9,3# ( 9,3#)					
- 10,5							

Stick 5,00 m							
Height in m	Radius of load from centerline of machine in m						
	4,5	6,0	7,5	9,0	10,5	12,0	13,5
12,0							
10,5						2,6# (2,6#)	
9,0						3,8# (3,8#)	
7,5						3,9# (3,9#)	3,0# (3,0#)
6,0					4,4# (4,4#)	4,2# (4,2#)	4,0 (4,2#)
4,5				5,5# (5,5#)	5,0# (5,0#)	4,6# (4,6#)	3,8 (4,4#)
3,0	7,8# ( 7,8#)	10,6# (10,6#)	7,9# ( 7,9#)	6,5# (6,5#)	5,6# (5,6#)	4,6 (5,0#)	3,7 (4,7#)
1,5	5,0# ( 5,0#)	12,4 (12,7#)	9,2 ( 9,3#)	7,0 (7,4#)	5,5 (6,2#)	4,4 (5,5#)	3,5 (5,0#)
0	6,0# ( 6,0#)	11,6 (14,2#)	8,6 (10,4#)	6,6 (8,2#)	5,2 (6,8#)	4,2 (5,9#)	3,4 (5,3#)
- 1,5	8,1# ( 8,1#)	11,3 (15,0#)	8,2 (11,1#)	6,3 (8,8#)	5,0 (7,3#)	4,0 (6,2#)	3,3 (5,5#)
- 3,0	10,6# (10,6#)	11,2 (15,3#)	8,0 (11,6#)	6,1 (9,2#)	4,9 (7,6#)	4,0 (6,4#)	3,3 (5,0#)
- 4,5	13,6# (13,6#)	11,3 (15,2#)	8,0 (11,7#)	6,1 (9,3#)	4,8 (7,7#)	4,0 (6,5#)	
- 6,0	17,3# (17,3#)	11,5 (14,7#)	8,2 (11,4#)	6,2 (9,2#)	4,9 (7,6#)	4,1 (6,1#)	
- 7,5	18,2# (18,2#)	11,9 (13,7#)	8,4 (10,8#)	6,4 (8,7#)	5,2 (6,9#)		
- 9,0	15,7# (15,7#)	12,0# (12,0#)	8,9 ( 9,4#)	6,9 (7,3#)			
- 10,5	11,6# (11,6#)	8,8# ( 8,8#)					

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 triple 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 (1,65 m<sup>3</sup>/1,50 m<sup>3</sup>\*), the lift capacities will increase by 1850 kg/1360 kg\*, without bucket cylinder, link and lever they increase by an additional 680 kg/490 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.

\* only for stick 5,00 m

# Lift Capacities with Gooseneck Boom 9,20 m and Heavy Counterweight

## Digging envelope

- 1 with stick 2,35 m
- 2 with stick 2,90 m
- 3 with stick 3,80 m

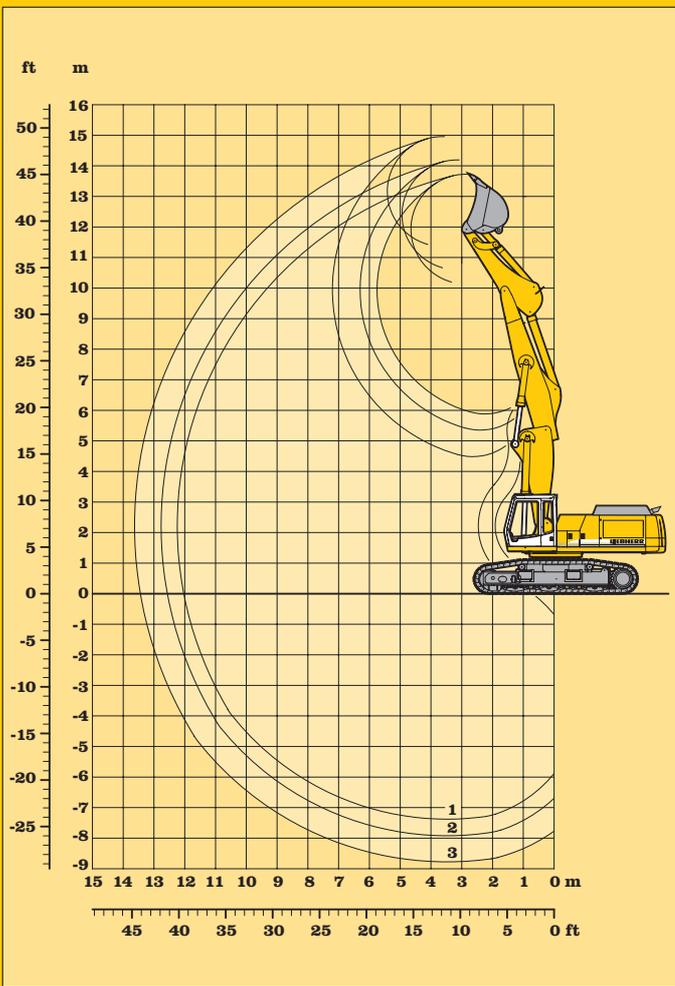
Stick lengths	m	2,35	2,90	3,80
Max. digging depth	m	7,40	7,90	9,30
Max. reach at ground level	m	12,00	12,60	13,10
Max. dump height	m	10,20	7,90	8,30
Max. teeth height	m	13,75	11,30	11,70

Digging force	kN/t	246/25,1	216/22,0	180/18,3
Breakout force	kN/t	285/29,1	285/29,1	285/29,1

## Operating Weight and Ground Pressure

Operating weight includes basic machine with 4,80 m hydraulically adjustable boom, 2,90 m stick, heavy duty counterweight and 2,00 m<sup>3</sup> bucket.

Undercarriage		HD		
Pad width	mm	500	600	750
Weight	kg	53450	53950	55300
Ground pressure	kg/cm <sup>2</sup>	1,13	0,95	0,78



## Bucket

Cutting width	mm	1100 <sup>1)</sup>	1300 <sup>1)</sup>	1500 <sup>1)</sup>	1700 <sup>1)</sup>	1900 <sup>1)</sup>	1900 <sup>1)</sup>
Capacity ISO 7451	m <sup>3</sup>	1,30	1,65	2,00	2,35	2,70	3,20
Weight	kg	1700	1850	2400	2200	2350	2575
Suitable for material up to a specific weight of							
with stick 2,35 m	t/m <sup>3</sup>	-	2,20	2,20	1,80	1,50	1,20
with stick 2,90 m	t/m <sup>3</sup>	2,20	2,20	1,80	1,50	1,20	1,50
with stick 3,80 m	t/m <sup>3</sup>	2,20	1,80	1,50	1,20	-	-

<sup>1)</sup> Medium-duty bucket with Liebherr-teeth size 20

<sup>2)</sup> Loading bucket with Liebherr-teeth size 20

### Note:

Installation of optional side cutters onto medium-duty and loading buckets with Liebherr-teeth size 25 and 20 increase cutting width by approx. 160 and 170 mm respectively.

Side cutters installation kit consist of:

- Weld-on set of adapters
- Set of bolt-on side cutters

# Backhoe Attachment with Hydr. Adjustable Boom 4,80 m and Heavy Counterweight

Stick 2,35 m						
Height in m	Radius of load from centerline of machine in m					
	4,5	6,0	7,5	9,0	10,5	
12,0						
10,5		10,1# (10,1#)				
9,0		12,3# (12,3#)	10,4# (10,4#)			
7,5	15,2# (15,2#)	14,3# (14,3#)	11,5# (11,8#)	8,3 ( 9,4#)		
6,0	21,0# (21,0#)	15,4# (15,4#)	11,2 (12,2#)	8,3 (10,1#)		
4,5	21,6# (21,6#)	15,0 (16,4#)	10,9 (12,7#)	8,3 (10,3#)	5,9 (8,2#)	
3,0	21,4# (21,4#)	14,5 (16,7#)	10,7 (12,8#)	8,1 (10,3#)	5,8 (8,4#)	
1,5	22,0 (22,7#)	14,5# (16,5#)	10,7 (12,7#)	7,9 (10,2#)	5,7 (8,2#)	
0	22,0 (23,8#)	14,3 (16,7#)	10,3 (12,7#)	7,6 (10,3#)	5,6 (7,5#)	
- 1,5	21,9 (24,4#)	14,0 (17,1#)	10,1 (13,1#)	7,3 (10,1#)		
- 3,0	22,1 (24,3#)	14,1 (17,4#)	9,9 (12,7#)	7,2 ( 7,6#)		
- 4,5	22,6# (22,6#)	14,2 (15,3#)	8,6# ( 8,6#)			
- 6,0	12,4# (12,4#)					
- 7,5						
- 9,0						
- 10,5						

Stick 2,90 m						
Height in m	Radius of load from centerline of machine in m					
	4,5	6,0	7,5	9,0	10,5	
12,0						
10,5		9,1# ( 9,1#)	6,1# ( 6,1#)			
9,0		10,0# (10,0#)	9,3# ( 9,3#)	5,5# ( 5,5#)		
7,5	10,9# (10,9#)	11,5# (11,5#)	11,0# (11,0#)	8,3# ( 9,1#)		
6,0	19,7# (19,7#)	14,6# (14,6#)	11,2 (11,7#)	8,3 ( 9,7#)	6,0 (6,6#)	
4,5	22,6# (22,6#)	15,0 (15,8#)	10,8 (12,2#)	8,2 (10,0#)	5,9 (8,3#)	
3,0	21,3# (21,3#)	14,5 (16,5#)	10,5 (12,6#)	8,1 (10,1#)	5,9 (8,2#)	
1,5	21,8# (21,8#)	14,3 (16,4#)	10,4# (12,5#)	7,9 (10,0#)	5,7 (8,2#)	
0	22,1 (23,3#)	14,3 (16,4#)	10,2 (12,5#)	7,6 (10,0#)	5,5 (8,0#)	
- 1,5	21,8 (23,9#)	13,9 (16,7#)	10,0 (12,7#)	7,3 (10,2#)	5,4 (6,8#)	
- 3,0	21,8 (24,3#)	13,8 (17,2#)	9,8 (13,0#)	7,1 ( 9,2#)		
- 4,5	22,3 (23,3#)	14,1 (16,7#)	9,7 (10,8#)	4,0# ( 4,0#)		
- 6,0	17,9# (17,9#)	9,6# ( 9,6#)				
- 7,5						
- 9,0						
- 10,5						

Stick 3,80 m						
Height in m	Radius of load from centerline of machine in m					
	4,5	6,0	7,5	9,0	10,5	12,0
12,0		6,5# ( 6,5#)				
10,5			6,5# ( 6,5#)	3,3# ( 3,3#)		
9,0			7,3# ( 7,3#)	6,3# ( 6,3#)		
7,5		7,9# ( 7,9#)	8,1# ( 8,1#)	7,6# ( 7,6#)	5,3# (5,3#)	
6,0	9,8# ( 9,8#)	10,3# (10,3#)	9,9# ( 9,9#)	8,3 ( 9,1#)	6,2 (7,1#)	
4,5	20,8# (20,8#)	14,9# (14,9#)	10,9 (11,7#)	8,1 ( 9,6#)	6,1 (8,1#)	3,7# (3,7#)
3,0	21,9# (21,9#)	14,6 (16,1#)	10,5 (12,3#)	8,0# ( 9,8#)	6,0 (8,1#)	4,4 (5,1#)
1,5	21,7# (21,7#)	14,3 (16,4#)	10,3 (12,5#)	7,9 ( 9,9#)	5,9 (8,0#)	4,3 (5,6#)
0	21,8 (22,7#)	14,2 (16,3#)	10,3 (12,3#)	7,7 ( 9,8#)	5,6 (8,0#)	4,2 (4,9#)
- 1,5	21,9 (23,5#)	14,0 (16,4#)	9,9 (12,4#)	7,5 ( 9,9#)	5,5 (7,9#)	
- 3,0	21,7 (24,1#)	13,7 (16,8#)	9,8 (12,8#)	7,2 (10,0#)	5,3 (6,6#)	
- 4,5	21,9 (24,0#)	13,8 (17,0#)	9,7 (12,6#)	7,0 ( 8,3#)		
- 6,0	22,2# (22,2#)	13,9 (14,7#)	8,8# ( 8,8#)			
- 7,5	11,6# (11,6#)					
- 9,0						
- 10,5						

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 triple grouser pads with adjusting cylinder in optimal position.

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 (2,35 m<sup>3</sup>), the lift capacities will increase by 2200 kg, without bucket cylinder, link and lever they increase by an additional 680 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.

# Lift Capacities with 4,80 m Hydr. Adjustable Boom and Heavy Counterweight

Stick 2,35 m				
Height in m	Radius of load from centerline of machine in m			
	4,5	6,0	7,5	9,0
12,0				
10,5				
9,0				
7,5			8,5# (8,5#)	
6,0			9,1# (9,1#)	
4,5	16,3# (16,3#)	12,1# (12,1#)	10,1# (10,1#)	8,1 ( 9,1#)
3,0	21,2# (21,2#)	14,3# (14,3#)	10,5 (11,3#)	7,8 ( 9,7#)
1,5	18,5# (18,5#)	13,8 (16,1#)	10,0 (12,4#)	7,5 (10,2#)
0	20,6 (21,7#)	13,3 (17,1#)	9,6 (13,1#)	7,3 (10,6#)
- 1,5	20,6 (23,3#)	13,1 (17,1#)	9,5 (13,1#)	
- 3,0	20,9 (21,5#)	13,2 (16,1#)	9,5 (12,3#)	
- 4,5	18,2# (18,2#)	13,7 (13,7#)		
- 6,0	11,8# (11,8#)			
- 7,5				
- 9,0				
- 10,5				

Stick 2,90 m				
Height in m	Radius of load from centerline of machine in m			
	4,5	6,0	7,5	9,0
12,0				
10,5				
9,0				
7,5				
6,0			8,2# ( 8,2#)	6,5# ( 6,5#)
4,5		10,9# (10,9#)	9,3# ( 9,3#)	8,1 ( 8,4#)
3,0	19,2# (19,2#)	13,3# (13,3#)	10,5 (10,6#)	7,7 ( 9,1#)
1,5	21,3 (22,5#)	13,9 (15,4#)	9,9 (11,8#)	7,4 ( 9,7#)
0	20,6 (21,9#)	13,3 (16,6#)	9,5 (12,6#)	7,2 (10,2#)
- 1,5	20,4 (23,7#)	13,0 (17,0#)	9,3 (13,0#)	7,1 (10,3#)
- 3,0	20,6 (22,3#)	13,0 (16,4#)	9,3 (12,5#)	
- 4,5	19,6# (19,6#)	13,3 (14,6#)	9,5 (10,8#)	
- 6,0	14,6# (14,6#)			
- 7,5				
- 9,0				
- 10,5				

Stick 3,80 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				4,8# ( 4,8#)	
6,0				6,8# ( 6,8#)	
4,5			8,0# ( 8,0#)	7,4# ( 7,4#)	4,1# (4,1#)
3,0	16,2# (16,2#)	11,7# (11,7#)	9,5# ( 9,5#)	7,9 ( 8,2#)	5,6# (5,6#)
1,5	20,7# (20,7#)	14,1# (14,1#)	10,1 (10,9#)	7,5 ( 9,1#)	5,7 (6,3#)
0	21,0 (23,3#)	13,5 (15,9#)	9,6 (12,0#)	7,2 ( 9,8#)	5,5 (5,9#)
- 1,5	20,5 (24,0#)	13,0 (16,8#)	9,3 (12,7#)	7,0 (10,2#)	
- 3,0	20,4 (23,4#)	12,9 (16,8#)	9,1 (12,8#)	6,9 (10,0#)	
- 4,5	20,7 (21,6#)	13,0 (15,7#)	9,2 (11,9#)		
- 6,0	18,0# (18,0#)	13,1# (13,1#)			
- 7,5					
- 9,0					
- 10,5					

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 triple 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 (2,35 m<sup>3</sup>), the lift capacities will increase by 2200 kg, without bucket cylinder, link and lever they increase by an additional 680 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.

# Lift Capacities with Gooseneck Boom 6,70 m and Heavy Counterweight

Stick 2,35 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				6,5# ( 6,5#)	
6,0			8,5# ( 8,5#)	7,7# ( 7,7#)	
4,5	18,2# (18,2#)	12,1# (12,1#)	9,6# ( 9,6#)	8,0 ( 8,3#)	
3,0		13,8 (14,3#)	10,1 (10,8#)	7,6 ( 9,0#)	5,9 (7,1#)
1,5		12,9 (15,8#)	9,5 (11,9#)	7,3 ( 9,7#)	5,7 (8,0#)
0	10,7# (10,7#)	12,5 (16,5#)	9,1 (12,5#)	7,0 (10,1#)	
- 1,5	18,6# (18,6#)	12,4 (16,4#)	9,0 (12,7#)	6,9 (10,2#)	
- 3,0	20,1 (20,4#)	12,6 (15,7#)	9,0 (12,3#)	7,0 ( 9,8#)	
- 4,5	18,3# (18,3#)	13,0 (14,2#)	9,3 (11,1#)		
- 6,0	14,5# (14,5#)	11,2# (11,2#)			
- 7,5					
- 9,0					
- 10,5					

Stick 2,90 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5				6,7# ( 6,7#)	
6,0				7,1# ( 7,1#)	
4,5	15,7# (15,7#)	11,0# (11,0#)	8,9# ( 8,9#)	7,7# ( 7,7#)	6,0 (7,1#)
3,0	10,7# (10,7#)	13,3# (13,3#)	10,1 (10,2#)	7,6 ( 8,5#)	5,8 (7,5#)
1,5	8,4# ( 8,4#)	13,0 (15,2#)	9,5 (11,3#)	7,2 ( 9,2#)	5,6 (7,9#)
0	12,2# (12,2#)	12,5 (16,1#)	9,1 (12,1#)	6,9 ( 9,8#)	5,4 (8,2#)
- 1,5	17,4# (17,4#)	12,3 (16,3#)	8,8 (12,5#)	6,8 (10,0#)	
- 3,0	19,7 (21,3#)	12,4 (15,9#)	8,8 (12,3#)	6,8 ( 9,8#)	
- 4,5	19,4# (19,4#)	12,6 (14,7#)	9,0 (11,4#)		
- 6,0	16,2# (16,2#)	12,3# (12,3#)			
- 7,5					
- 9,0					
- 10,5					

Stick 3,80 m					
Height in m	Radius of load from centerline of machine in m				
	4,5	6,0	7,5	9,0	10,5
12,0					
10,5					
9,0					
7,5					3,7# (3,7#)
6,0				6,2# (6,2#)	6,0# (6,0#)
4,5			7,8# ( 7,8#)	6,9# (6,9#)	6,1 ( 6,3#)
3,0	17,6# (17,6#)	11,8# (11,8#)	9,2# ( 9,2#)	7,7 (7,7#)	5,9 (6,9#)
1,5	13,5# (13,5#)	13,5 (14,0#)	9,7 (10,5#)	7,3 (8,6#)	5,6 (7,4#)
0	13,4# (13,4#)	12,7 (15,5#)	9,2 (11,6#)	6,9 (9,3#)	5,4 (7,8#)
- 1,5	16,2# (16,2#)	12,3 (16,2#)	8,8 (12,2#)	6,7 (9,7#)	5,2 (8,1#)
- 3,0	19,5 (20,5#)	12,2 (16,2#)	8,7 (12,4#)	6,6 (9,8#)	5,2 (7,8#)
- 4,5	19,8 (21,0#)	12,3 (15,5#)	8,8 (11,9#)	6,7 (9,4#)	
- 6,0	18,5# (18,5#)	12,7 (13,8#)	9,0 (10,6#)		
- 7,5	14,3# (14,3#)	10,5# (10,5#)			
- 9,0					
- 10,5					

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 triple 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 (2,35 m<sup>3</sup>), the lift capacities will increase by 2200 kg, without bucket cylinder, link and lever they increase by an additional 680 kg.

Lifting capacity of the excavator is limited by machine stability, hydraulic capacity and maximum permissible load of the load hook.

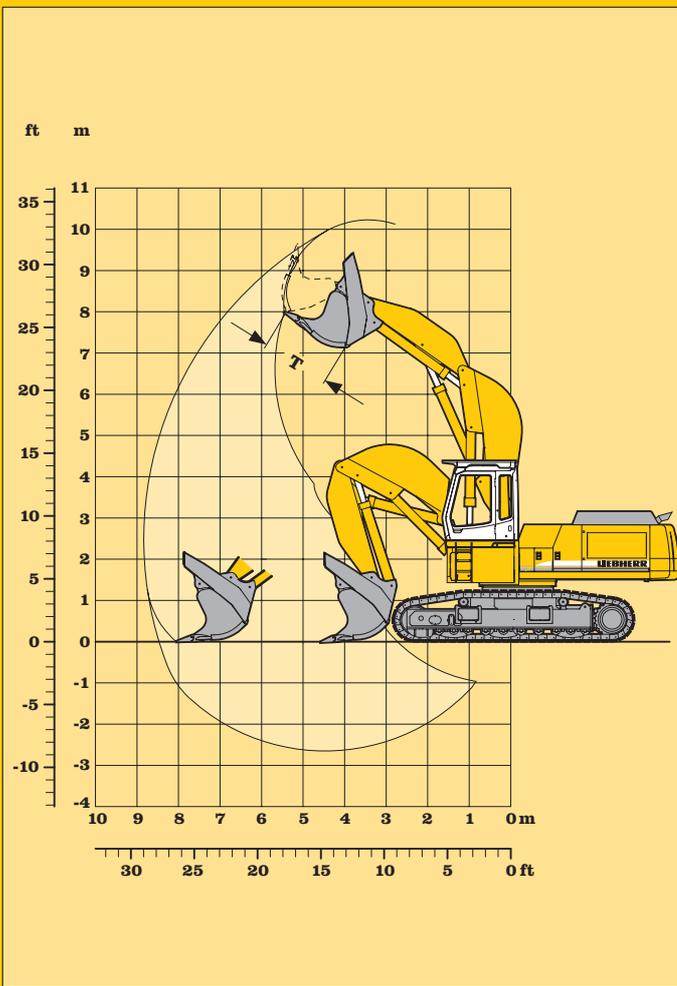
When lifting loads, the hydraulic excavator must be equipped with automatic check valve on its hoist cylinders and overload warning device according to European Standard, EN 474-5.

# Lift Capacities with Gooseneck Boom 7,60 m and Heavy Counterweight

## Digging envelope

Max. reach at ground level	8,50 m
Max. dump height	7,10 m
Max. crowd length	3,40 m
Bucket opening width T	1650 mm

Max. crowd force:	440 kN/44,9 t
Max. crowd force at ground level:	320 kN/32,6 t
Max. breakout force:	355 kN/36,2 t



## Operating Weight and Ground Pressure

Operating weight includes basic machine, cab elevation 800 mm, protective grid, with shovel attachment and 3,10 m<sup>3</sup> bottom dump bucket, level II.

Undercarriage		HD-S	
Pad width	mm	500	600
Weight	kg	55900	56500
Ground pressure	kg/cm <sup>2</sup>	1,29	1,08

## Bottom dump bucket

Cutting width SAE	mm	1850	1850	2150	2150	2150
Capacity SAE	m <sup>3</sup>	2,50	2,50	3,10	3,10	3,10
Weight	kg	4540	4830	4750	5300	5720
Suitable for material up to a specific weight of	t/m <sup>3</sup>	2,20	2,20	1,80	1,80	1,80
Wear kit level		II	III	I	II	III

- Notes:**  
**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.

# Shovel Attachment

## Standard Equipment

### Undercarriage

- Two-stage travel motors
- Three track guide per track
- Lifetime lubricated track rollers
- Hydraulic hose protection
- Idler protection
- Tracks sealed and greased

### 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
- Mechanical swing lock upper/lower

### 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)
- High pressure filter
- Pressure test ports

### Engine

- After-cooled
- Direct injection
- Turbo charger
- Dry-type air cleaner w/pre-cleaner, main and safety element
- Air filter with automatic dust ejector
- Sensor controlled engine idling

### Operator's Cab

- Deep drawn cab shell components
- All tinted windows
- Door with sliding window
- All-round adjustable roof flap
- Rain protective shade for front window
- Washer and wiper
- 6-way adjustable cloth suspension seat
- Seat and consoles independently adjustable
- Removable handle for travel pedals
- Air conditioner
- Coat hook
- Dome light
- Sun visor
- Inside rear mirrors
- Radio installation prep-kit
- 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

### Attachment

- Cylinders with shock absorbers
- Sealed pivots
- Centralized lube points
- SAE split flanges on all high pressure lines
- 27 t lifting eye on buckets
- Work light on boom
- O-ring sealant between bucket and stick

## Optional Equipment

- Different undercarriage versions
- Different track pad width
- Four track guide
- Reinforced cover
- Streng. bottom sheet center part

- Electric fuel tank filler pump
- Foot pedal swing positioning brake
- Extended tool kit
- Customized colors

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

- Engine cold starting aid

- Removable lower section of front window
- AM/FM stereo radio w/cassette
- Air power seat adjustment with heating
- Warning beacon
- Additional flood lights
- Ventilator
- Armored glass

- Safety check valves for hoist cylinder
- Overload warning device
- Hydr. or mechanical quick change coupler
- Liebherr line of clams and grapples
- Quick disconnect hose couplers
- Special application buckets
- Hydr. lines, on stick, for clam operation
- Two-way selector valve for bucket/clam
- Bucket link holder f'/clam application
- Customized colors

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.

# Standard and Optional Equipment

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**With compliments:**