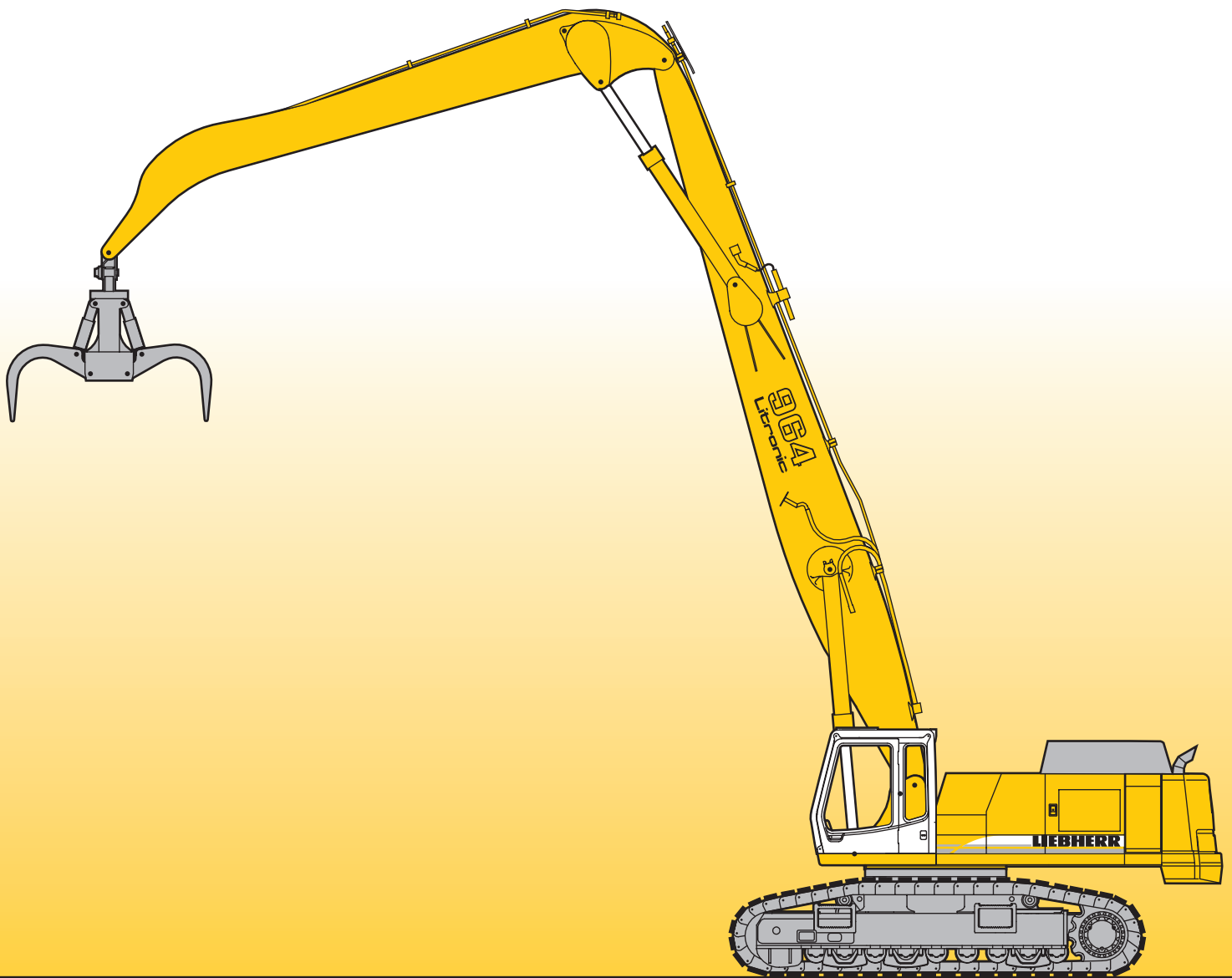


Technical Description Hydraulic Excavator

R 964 B
Litronic®

Machine for Industrial Applications

Operating Weight **67,0 - 69,3 t**
Engine Output **270 kW (367 HP)**



LIEBHERR

Technical Data



Engine

Rating per ISO 9249	270 kW (367 HP) at 1800 RPM
Model	Liebherr D 9406 TI-E
Type	6 cylinder V-engine
Bore/Stroke	135/150 mm
Displacement	12,88 l
Engine operation	4-stroke diesel direct injection turbo-charged after-cooled reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	1050 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 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	192 l/min.
Max. pressure	384 bar
Hydraulic tank	460 l
Hydraulic system	850 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	compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler and after-cooler cores and hydrostatically driven van adjustment of machine performance and the hydraulics via a mode selector to match application
MODE selection	
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
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 integrated brake valves
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0–5,5 RPM
Swing torque	220 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	built from deep drawn components, resiliently 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. 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 air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	L_{DA} (inside cab) = 77 dB(A)
2000/14/EC	L_{WA} (surround noise) = 110 dB(A)



Undercarriage

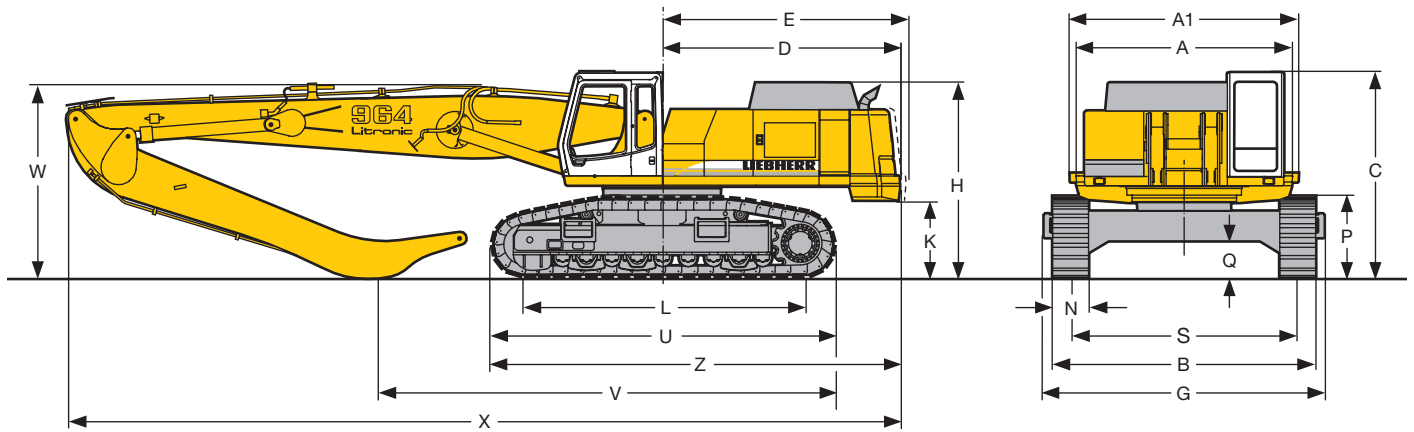
Versions:	
HD-SL	heavy duty, long undercarriage
EW	heavy duty, long undercarriage extra large
Drive	Liebherr swash plate motors with integrated brake valves on both sides
Transmission	Liebherr planetary reduction gears
Travel speed	low range –3,1 km/h high range –4,3 km/h
Drawbar pull max.	526 kN
Track components	D 8 K, maintenance-free
Track rollers/Varrier rollers	9/2
Tracks	sealed and greased
Track pads	double grouser
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	easily accessible centralized lubrication
Hydraulic connections	pipes and hoses equipped with SAE split-flange connections

Dimensions

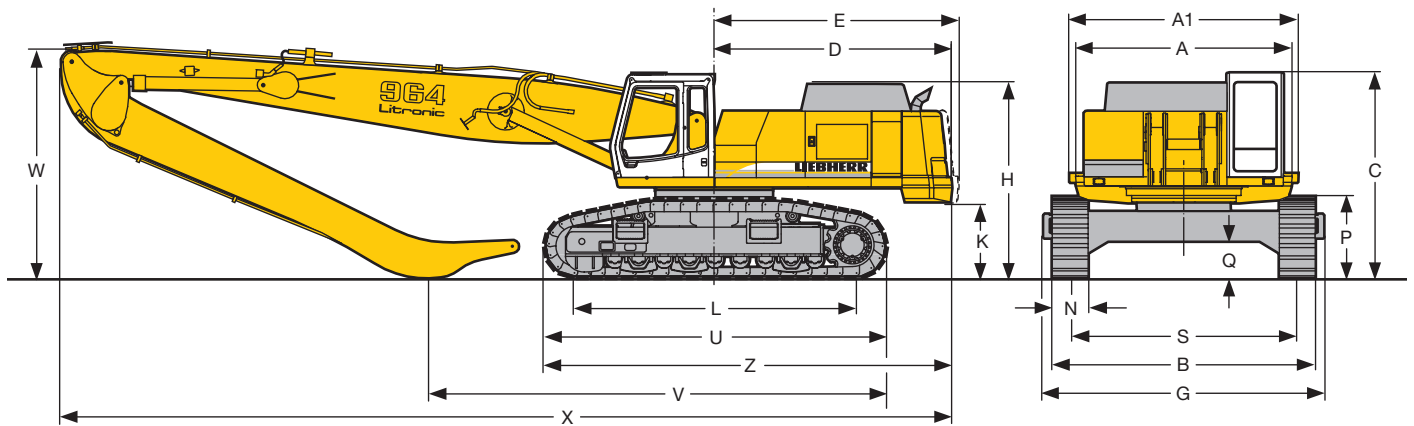


	HD-SL	mm	EW	mm
A		3630		3630
A1		3824		3824
C		3477		3477
D		4050		4050
E		4160		4160
H		3272		3272
K		1300		1300
L		4606		4606
P		1355		1355
Q		606		606
S		3200		3800
U		5696		5696

	HD-SL	mm	EW	mm
N		600 750		600 750
B		3908 3950		4490 4550
G		4105 4105		4690 4690
Z		6900		6900

Industrial Straight Boom 9,50 m and Industrial Stick 6,70 m

V		7750
W		3300
X		14050



	EW	mm
A		3630
A1		3824
C		3477
D		4050
E		4160
H		3272
K		1300
L		4606
P		1355
Q		606
S		3800
U		5696

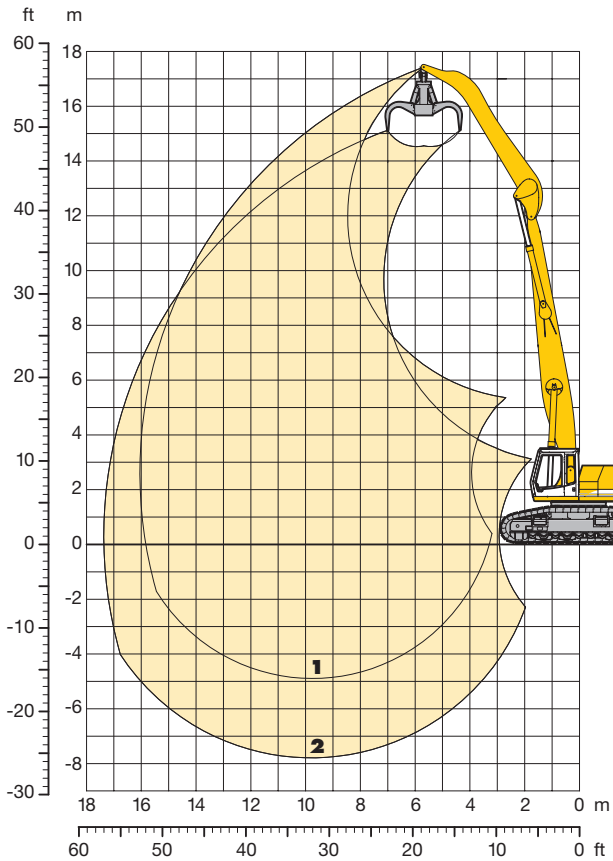
	EW	mm
N		600 750
B		4490 4550
G		4690 4690
Z		6900

Industrial Straight Boom 10,50 m and Industrial Stick 8,00 m

V		7650
W		4000
X		15000

Industrial Attachment

with Industrial-Type Straight Boom 9,50 m



Attachment Envelope

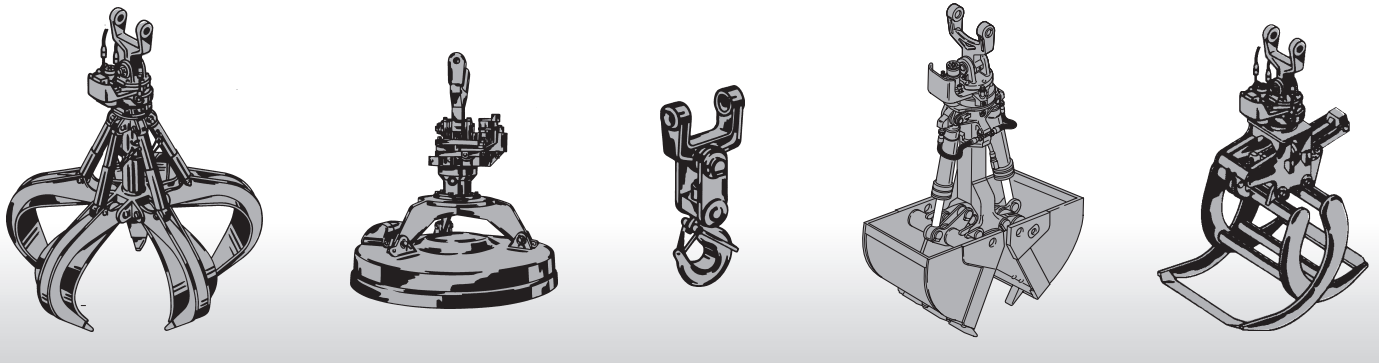
Industrial-type gooseneck boom pinned in upper hole of boom foot bearing

- 1 with industrial stick 6,70 m (clam suspension pivot)
- 2 with grapple model 72 B on industrial stick 6,70 m

Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight, industrial gooseneck boom 9,50 m, industrial stick 6,70 m and grapple model 72 B.

Undercarriage	HD-SL		EW	
	600	750	600	750
Pad width	mm		600	750
Weight	kg		67050	68150
Ground pressure	kg/cm ²		1,12	0,91
			1,13	0,92



Lift Capacities

at End of Stick with Counterweight 14,5 t

Industrial Stick 6,70 m

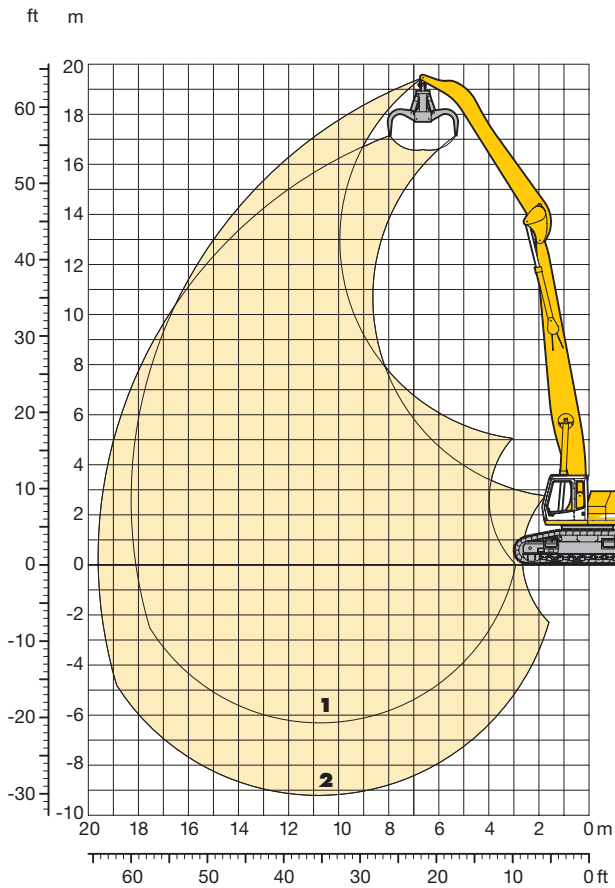
Height (m)	Under-carriage	Radius of load from centerline of machine (m)																				
		4,5	6,0	7,5	9,0	10,5	12,0	13,5	15,0	16,5	18,0											
18,0	HD-SL EW																					
16,5	HD-SL EW			10,3# (10,3#) 10,5# (10,5#)																		
15,0	HD-SL EW				11,3# (11,3#) 11,4# (11,4#)								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

The lift capacities are stated in metric tonnes (t) on the lifting gear's stick tip, and can be lifted 360° on firm, level supporting surface. Values quoted in brackets are valid for 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 #). Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.

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.

Industrial Attachment

with Industrial-Type Straight Boom 10,50 m



Attachment Envelope

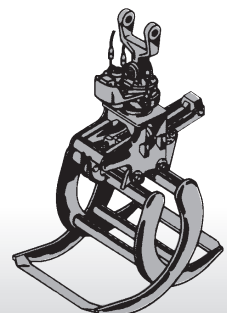
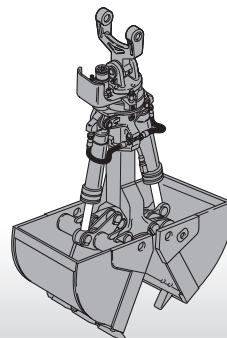
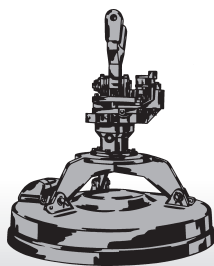
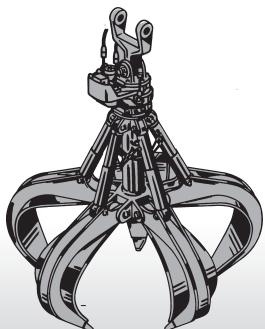
Industrial-type gooseneck boom pinned in upper hole of boom foot bearing

- 1** with industrial stick 8,00 m (grapple suspension pivot)
- 2** with grapple model 72 B on industrial stick 8,00 m

Operating Weight and Ground Pressure

Operating weight includes basic machine with heavy counterweight, industrial gooseneck boom 10,50 m, industrial stick 8,00 m and grapple model 72 B.

Undercarriage	EW	
Pad width	mm	600 750
Weight	kg	68150 69250
Ground pressure	kg/cm ²	1,14 0,92



Lift Capacities

at End of Stick with Counterweight 14,5 t

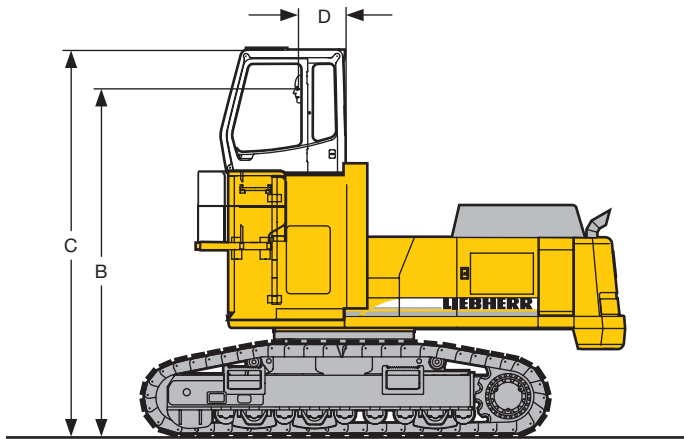
Industrial Stick 8,00 m

Height (m)	Under-carriage	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			
18,0	EW				9,1# (9,1#)									
16,5	EW					9,4# (9,4#)								
15,0	EW					11,4# (11,4#)	9,3# (9,3#)							
13,5	EW					11,6# (11,6#)	10,8# (10,8#)	8,7# (8,7#)						
12,0	EW					11,6# (11,6#)	10,8# (10,8#)	9,0 (10,0#)	7,3 (7,5#)					
10,5	EW					11,8# (11,8#)	10,8# (10,8#)	9,0 (10,1#)	7,3 (8,6)					
9,0	EW				13,4# (13,4#)	12,1# (12,1#)	10,9 (11,0#)	8,8 (10,2#)	7,2 (8,5)	6,0 (7,0)				
7,5	EW				14,0# (14,0#)	12,5# (12,5#)	10,6 (11,3#)	8,6 (10,0)	7,1 (8,3)	5,9 (7,0)				
6,0	EW		20,9# (20,9#)	17,3# (17,3#)	14,8# (14,8#)	12,6 (13,0#)	10,1 (11,6#)	8,3 (9,7)	6,9 (8,1)	5,8 (6,9)				
4,5	EW	31,3# (31,3#)	23,2# (23,2#)	18,6# (18,6#)	15,2 (15,6#)	12,0 (13,5#)	9,7 (11,4)	8,0 (9,4)	6,7 (7,9)	5,6 (6,7)	4,8 (5,7)			
3,0	EW	9,0# (9,0#)	25,3# (25,3#)	18,5 (19,8#)	14,2 (16,4#)	11,3 (13,3)	9,2 (10,9)	7,7 (9,1)	6,4 (7,7)	5,5 (6,6)	4,7 (5,7)			
1,5	EW	4,8# (4,8#)	14,5# (14,5#)	17,1 (20,6#)	13,2 (15,8)	10,6 (12,7)	8,8 (10,4)	7,3 (8,7)	6,2 (7,4)	5,3 (6,4)	4,6 (5,6)			
0	EW	4,7# (4,7#)	10,3# (10,3#)	16,0 (19,5)	12,5 (15,1)	10,1 (12,1)	8,4 (10,0)	7,1 (8,5)	6,0 (7,3)	5,2 (6,3)	4,6 (5,5)			
-1,5	EW	5,5# (5,5#)	9,6# (9,6#)	15,3 (18,4#)	12,0 (14,5)	9,7 (11,7)	8,1 (9,7)	6,9 (8,2)	5,9 (7,1)	5,1 (6,2)				
-3,0	EW	6,5# (6,5#)	9,9# (9,9#)	15,0 (16,7#)	11,6 (14,2)	9,4 (11,4)	7,9 (9,5)	6,7 (8,1)	5,8 (7,0)	5,1 (6,2)				
-4,5	EW		10,7# (10,7#)	14,9 (16,6#)	11,5 (14,0)	9,3 (11,3)	7,8 (9,4)	6,6 (8,0)	5,8 (7,0)					
-6,0	EW				11,5 (13,4#)	9,3 (11,3)	7,8 (9,4)							

The lift capacities are stated in metric tonnes (t) on the lifting gear's stick tip, and can be lifted 360° on firm, level supporting surface. Values quoted in brackets are valid for 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 #). Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.

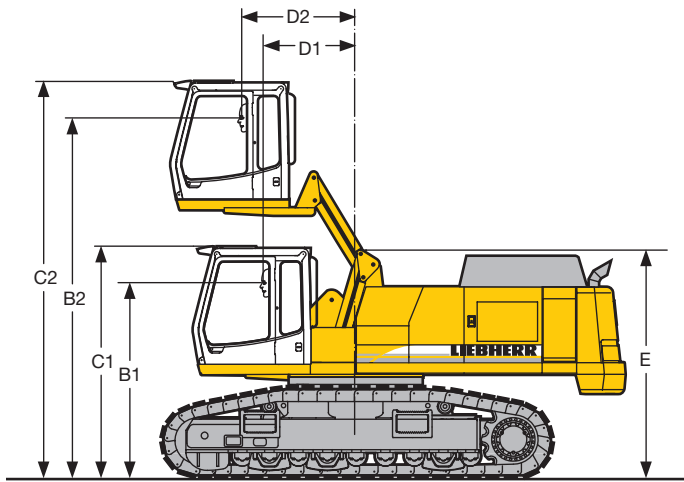
When lifting loads, the hydraulic excavator must be equipped with automatic check valve on its hoist cylinders and overload warning device according to European Standard, EN 474-5.

Choice of Cab Elevations and Cab Protections



Fixed Cab Elevation

Height	2000 mm
B	4880 mm
C	5420 mm
D	715 mm

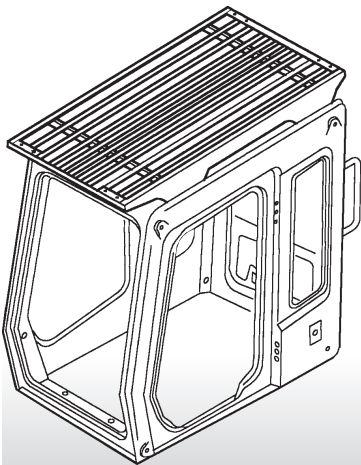


Hydr. Adjustable Cab Elevation (Parallelogram)

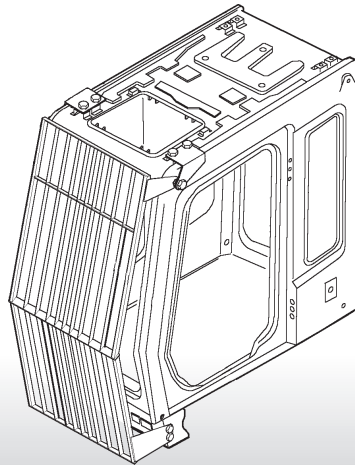
B1	2865 mm
B2	5265 mm
C1	3395 mm
C2	5795 mm
D1	1270 mm
D2	1630 mm
E	3340 mm

The parallelogram cab raiser allows the operator to choose his eye level between two positions. For a lower transport height, the shell of the cab can be removed. The overall height is then dimension E.

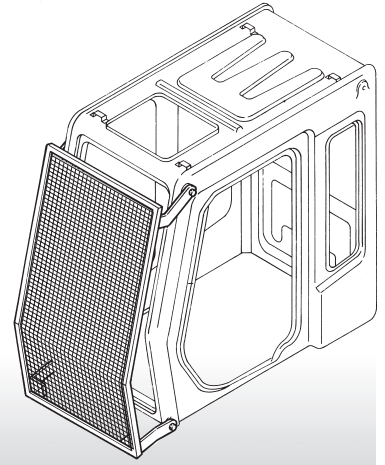
Upper Cab Guard



Front Cab Guard

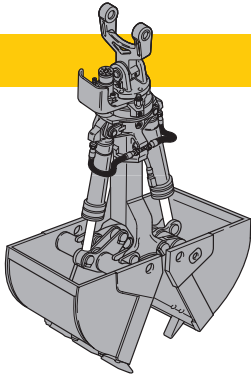


Front Window Screen



Note: Fits all cabs, front window can still be opened.

Variety of Tools

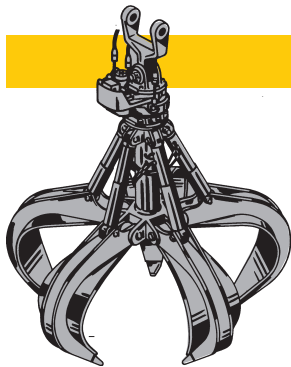


Shells for Loose Material

Clamshell Model 22 B

Shells for loose material with cutting edge (without teeth)

Cutting width	mm	1500	1500
Capacity	m ³	1,85	2,20
For loose material, specific weight up to	t/m ³	1,5	1,2
Weight	kg	2210	2260



Multiple Tine Grapples

open tines

semi-closed tines

closed tines

		open tines			semi-closed tines			closed tines			
Grapple Model 72 B (4 tines)	Capacity	m ³	1,20	1,40	1,60	1,20	1,40	1,60	1,20	1,40	1,60
	Weight	kg	1930	1945	1955	2140	2170	2190	2390	2450	2490
Grapple Model 72 B (5 tines)	Capacity	m ³	1,20	1,40	1,60	1,20	1,40	1,60	1,20	1,40	1,60
	Weight	kg	2380	2410	2430	2650	2690	2720	2970	3050	3100

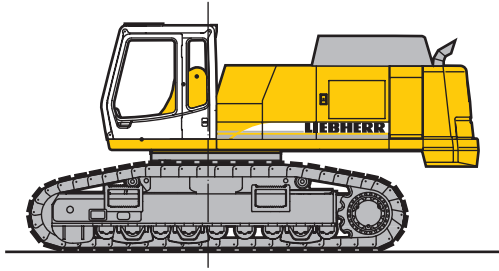


Crane Hook with Suspension

Max. load	t	12,5
Height with suspension	mm	1250
Weight	kg	265

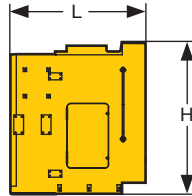
For further information see "Attachment-Information – Liebherr Hydraulic Clamshells and Grapples". To operate a magnet the installation of a generator is required; please contact your Liebherr dealer or the factory for further information.

Component Dimensions and Weights



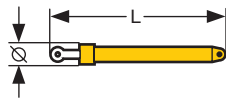
Basic Machine with Counterweight 14,5 t

Track pads	mm	600	750
Weight with HD-SL-undercarriage	kg	51700	52800
Weight with EW-undercarriage	kg	52300	53400



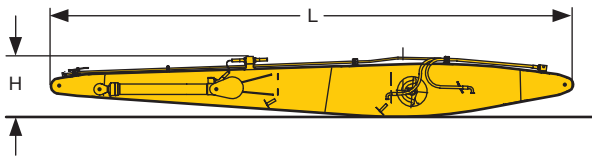
Cab Elevation

L Length	mm	1950
H Height	mm	2180
Width	mm	1050
Weight	kg	1200



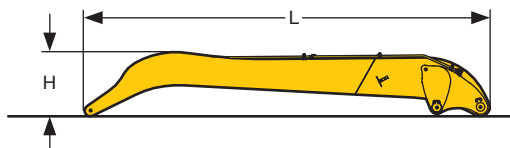
Hoist Cylinders (two)

L Length	mm	2650
Ø Diameter	mm	300
Weight	kg	2 x 675



Industrial Straight Boom

Stick length	m	9,50	10,50
L Length	mm	9800	10800
H Height	mm	1250	1250
Width	mm	1400	1400
Weight	kg	8280	8405



Industrial Stick

Length	m	6,70	8,00
L Length	mm	7000	8300
H Height	mm	1300	1300
Width	mm	1400	1400
Weight	kg	3000	3360

Equipment



Undercarriage

S O

Three track guide per track	•	
Integrated travel drive	•	
Digging locks	•	
Protection on idler end	•	
Tracks greased	•	
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	•	
Mechanical swing lock upper/lower	•	
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

Direct injection	•	
Turbo charger	•	
Dry-type air cleaner w/pre-cleaner, main and safety element	•	
Engine idling	•	
Air filter with automatic dust ejector	•	
Engine cold starting aid		•
Main switch for electric circuit		•
Fuel pre-heater		•



Operator's Cab

S O

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	•	
Coat hook	•	
Dome light	•	
Sun visor	•	
Inside rear mirrors	•	
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	•	
Heating-Air conditioning system	•	
Removable lower section of front window with support		•
AM/FM stereo radio w/cassette		•
Air power seat adjustment		•
Warning beacon		•
Additional flood lights		•
Fan		•
Armored glass		•



Attachment

S O

Cylinders with shock absorbers	•	
Sealed pivots	•	
Centralized lube points	•	
SAE split flanges on all high pressure lines	•	
Work light on boom	•	
Overload warning device		•
Customized colors		•
Liebherr line of clams and grapples		•
Quick disconnect hose couplers		•

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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