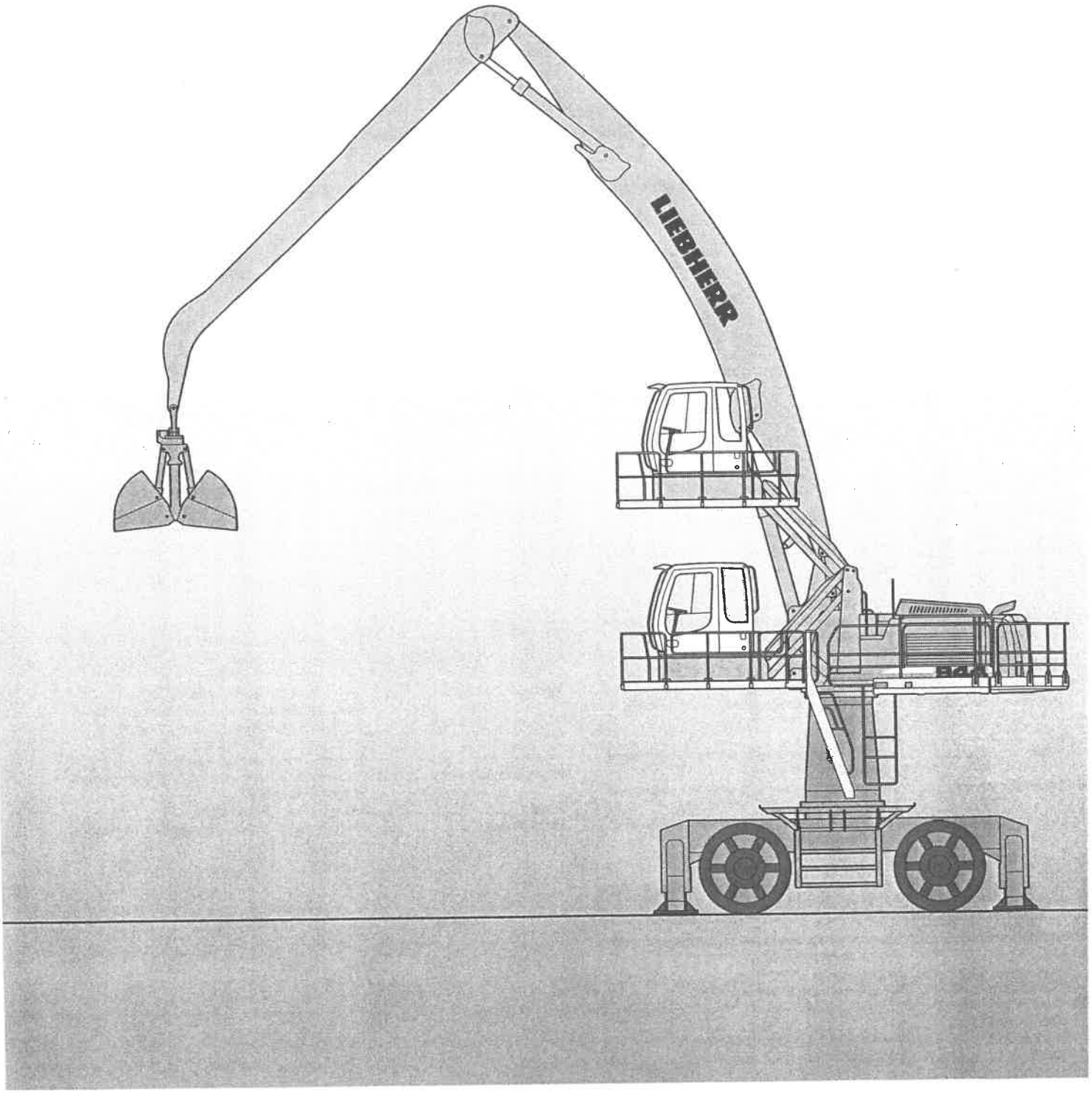
Machine for Industrial Applications A 944 C HD

Litronic High Rise

Operating Weight: 62,550 – 66,550 kg
Engine Output: 190 kW / 258 HP



LIEBHERR

Technical Data

Engine

Rating per ISO 9249	190 kW (258 HP) at 1800 RPM
Model	Liebherr D 936 L according to level IIIA/Tier 3
Type	6 cylinder in-line
Bore/Stroke	122/150 mm
Displacement	10,5 l
Engine operation	4-stroke diesel unit pump system 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	660 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 170 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	two Liebherr variable flow, swash plate pumps
Max. flow	2 x 303 l/min.
Max. pressure	350 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	205 l/min.
Max. pressure	380 bar
Hydraulic tank	460 l
Hydraulic system	740 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Hydraulic oil cooler	compact cooler, consisting of a water cooler, sandwiched with hydraulic oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan
MODE selection	adjustment of machine performance and the hydraulics via a mode selector to match application
ECO	for especially economical and environmentally friendly operation
POWER	for maximum digging power and heavy duty jobs
LIFT	for lifting
FINE	for precision work and lifting through very sensitive movements
RPM adjustment	stepless adjustment of engine output via the rpm at each selected mode
Tool Control (Option)	ten preadjustable pump flows and pressures for add on tools

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 pedal
Additional functions	via foot pedals or joystick push buttons

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	0–8,0 RPM stepless
Swing torque	125 kNm
Holding brake	wet multi-disc (spring applied, pressure released), pedal controlled positioning brake

Operator's Cab

Cab	resiliently mounted, sound insulated, tinted windows, front window stores overhead, door with sliding window
Operator's seat	fully adjustable, shockabsorbing suspension, adjustable to operator's weight and size, 6-way adjustable Liebherr seat
Joysticks	integrated into adjustable consoles
Monitoring	menu driven query of current operating conditions via the LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and saving machine data, for example, engine overheating, low engine oil pressure or low hydraulic oil level
Air conditioning	standard air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission	
ISO 6396	L_{pA} (inside cab) = 75 dB(A)
2000/14/EC	L_{WA} (surround noise) = 105 dB(A)

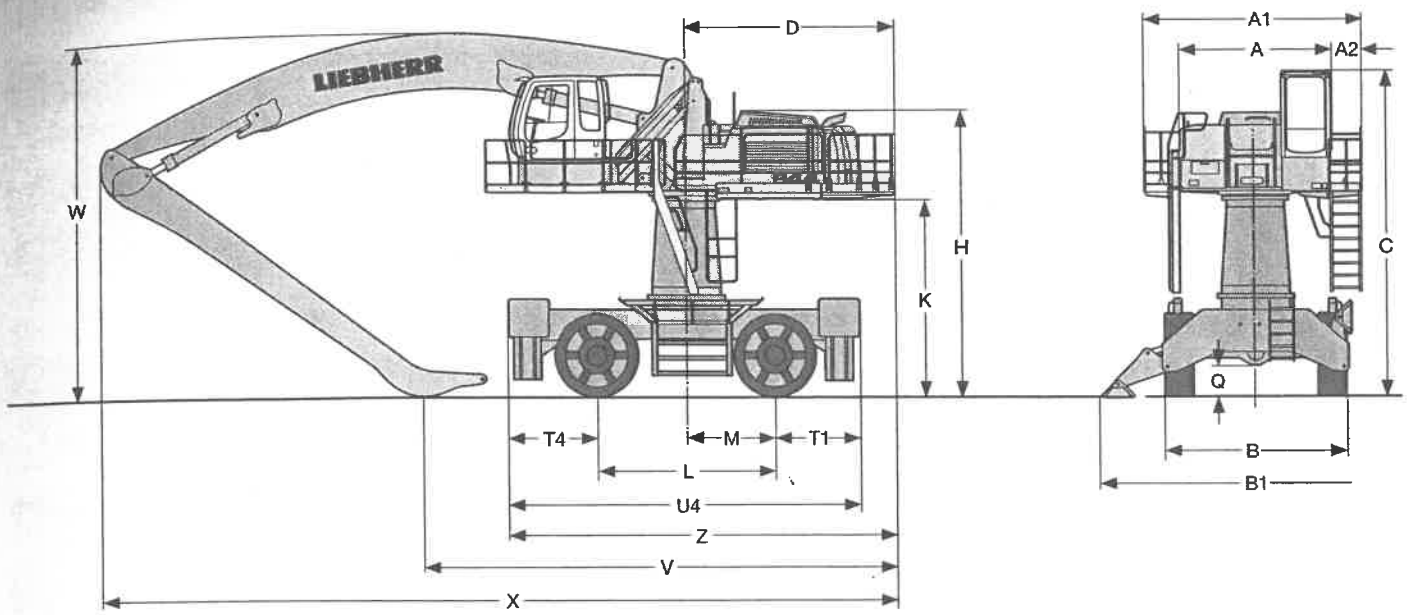
Undercarriage

Drive	axial piston motor with brake valves
Travel speed	0–10,0 km/h
Axles	90 t excavator axles; oscillating steering axle with hydraulic lock (in any position)
Brakes	wet, maintenance-free multi disc brakes, hydraulically actuated travel and parking brake
Stabilization	4-point outriggers with suspended rocker arm supports

Attachment

Type	High-strength steel plates at highly-stressed points for the toughest requirements. Complex and stable mountings of attachment and cylinders. Unrivalled strength, even at high loads
Hydraulic cylinders	Liebherr cylinders with special seal system. Shock absorption
Pivots	sealed, low maintenance
Lubrication	Liebherr semi-automatic central lubrication system

Dimensions



	mm
A	3060
A1	4440
A2	660
B	3800
C	6380
D	4255
E	4585
H	5645
K	3980
L	3600
M	1800
Q	540
T1	1700
T4	1775
U4	7075
Z	7790

E = Tail radius

Tires Ø 1660 mm, width 600 mm

Industrial-Type Gooseneck Boom 9,50 m and Industrial Stick	m	8,80	9,50
V	mm	–	–
W	mm	7500	7800
X	mm	14200	14300

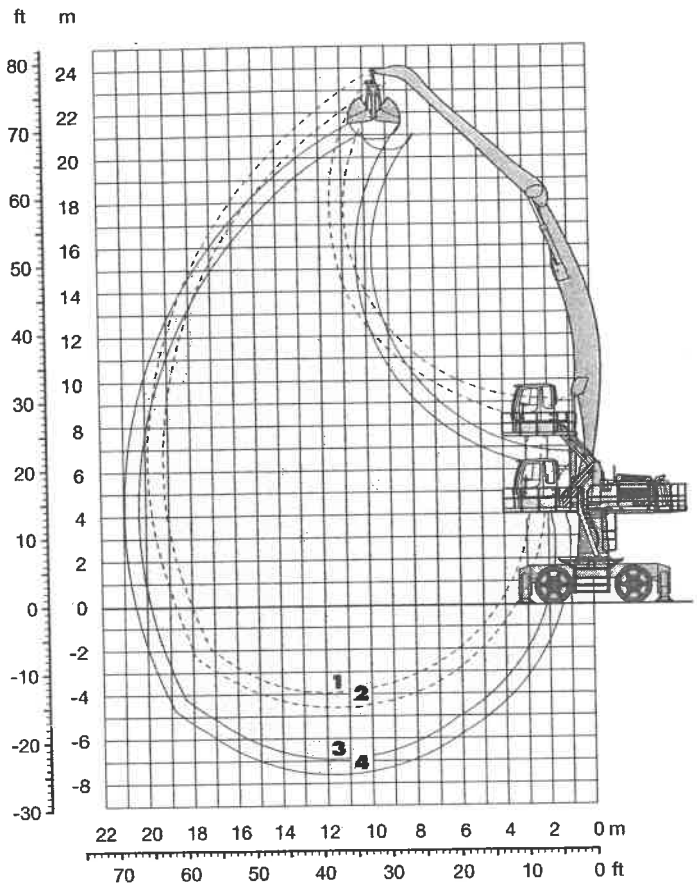
Industrial-Type Straight Boom 10,50 m and Industrial Stick	m	8,80	9,50
V	mm	8900	–
W	mm	5900	5900
X	mm	15350	15300

Industrial-Type Gooseneck Boom 11,50 m and Industrial Stick	m	8,80	9,50
V	mm	9600	8780
W	mm	7400	7400
X	mm	16250	16200

Dimensions are with attachment over steering axle

Industrial Attachment

with Industrial-Type Gooseneck Boom 11,50 m



Attachment Envelope

Industrial-type gooseneck boom pinned in rear bearing of boom foot bracket

1 with industrial stick 8,80 m
2 with industrial stick 9,50 m
3 with industrial stick 8,80 m and clamshell model 20 B
4 with industrial stick 9,50 m and clamshell model 20 B

Operating Weight

Operating weight includes basic machine and industrial attachment with:

	Weight
Industrial-type gooseneck boom 11,50 m Industrial stick 8,80 m Clamshell model 20 B/1,30 m³ Shells for loose material Turret 2,00 m Adapter 1,00 m Yellow Cab	62850 kg
Industrial-type gooseneck boom 11,50 m Industrial stick 9,50 m Clamshell model 20 B/1,30 m³ Shells for loose material Turret 2,00 m Adapter 1,00 m Yellow Cab	63350 kg

Lift Capacities

with Industrial-Type Gooseneck Boom 11,50 m

Industrial Stick 8,80 m

m	Undercarriage	3,0 m		4,5 m		6,0 m		7,5 m		9,0 m		10,5 m		12,0 m		13,5 m		15,0 m		16,5 m		18,0 m		19,5 m		m
22,5	Stabilizers raised																							6,4*	6,4*	9,80
	4 pt. outriggers down																							6,4*	6,4*	
21,0	Stabilizers raised											6,8*	6,8*											5,8*	5,8*	11,99
	4 pt. outriggers down											6,8*	6,8*											5,8*	5,8*	
19,5	Stabilizers raised													6,2*	6,2*	5,3	5,7*							5,2	5,5*	13,67
	4 pt. outriggers down													6,2*	6,2*	5,7*	5,7*							5,5*	5,5*	
18,0	Stabilizers raised													6,1*	6,1*	5,4	5,8*	4,2	5,3*					4,2	5,3*	15,00
	4 pt. outriggers down													6,1*	6,1*	5,8*	5,8*	5,3*	5,3*					5,3*	5,3*	
16,5	Stabilizers raised													6,1*	6,1*	5,5	5,8*	4,8	5,5					3,6	4,7	16,09
	4 pt. outriggers down													6,1*	6,1*	5,8*	5,8*	5,5*	5,5*					5,1*	5,1*	
15,0	Stabilizers raised											6,6*	6,6*	6,2*	6,2*	5,4	5,8*	4,3	5,5	3,4	4,5			3,1	4,2	16,97
	4 pt. outriggers down											6,6*	6,6*	6,2*	6,2*	5,8*	5,8*	5,5*	5,5*	5,3*	5,3*			5,1*	5,1*	
13,5	Stabilizers raised											6,8*	6,8*	6,3*	6,3*	5,2	5,9*	4,2	5,4	3,3	4,4			2,8	3,8	17,68
	4 pt. outriggers down											6,8*	6,8*	6,3*	6,3*	5,9*	5,9*	5,6*	5,6*	5,3*	5,3*			5,0*	5,0*	
12,0	Stabilizers raised									7,9*	7,9*	7,2*	7,2*	6,3	6,6*	5,0	6,1*	4,1	5,3	3,3	4,3	2,6	3,6	2,5	3,4	18,23
	4 pt. outriggers down									7,9*	7,9*	7,2*	7,2*	6,6*	6,6*	6,1*	6,1*	5,7*	5,7*	5,4*	5,4*	5,1*	5,1*	5,1*	5,1*	
10,5	Stabilizers raised							9,7*	9,7*	8,5*	8,5*	7,6	7,6*	6,9*	6,9*	4,8	6,2	3,9	5,1	3,1	4,2	2,5	3,5	2,3	3,2	18,65
	4 pt. outriggers down							9,7*	9,7*	8,5*	8,5*	7,6*	7,6*	6,9*	6,9*	6,3*	6,3*	5,9*	5,9*	5,5*	5,5*	5,2*	5,2*	5,1*	5,1*	
9,0	Stabilizers raised			17,2*	17,2*	13,2*	13,2*	10,8*	10,8*	9,0	9,2*	7,0	8,0*	5,6	7,2	4,5	5,9	3,7	4,9	3,0	4,1	2,4	3,4	2,1	3,0	18,94
	4 pt. outriggers down			17,2*	17,2*	13,2*	13,2*	10,8*	10,8*	9,2*	9,2*	8,0*	8,0*	7,2*	7,2*	6,5*	6,5*	6,0*	6,0*	5,6*	5,6*	5,2*	5,2*	5,0*	5,0*	
7,5	Stabilizers raised	3,0*	3,0*	20,8*	20,8*	14,4	15,0*	10,5	11,9*	8,1	9,9*	6,4	8,3	5,1	6,7	4,2	5,6	3,4	4,6	2,8	3,9	2,3	3,3	2,0	2,9	19,10
	4 pt. outriggers down	3,0*	3,0*	20,8*	20,8*	15,0*	15,0*	11,9*	11,9*	9,9*	9,9*	8,5*	8,5*	7,5*	7,5*	6,8*	6,8*	6,2*	6,2*	5,7*	5,7*	5,3*	5,3*	5,0*	5,0*	
6,0	Stabilizers raised	0,4*	0,4*	5,9*	5,9*	12,2	16,6	9,2	12,3	7,2	9,6	5,8	7,7	4,7	6,3	3,9	5,2	3,2	4,4	2,6	3,7	2,2	3,1	1,9	2,8	19,15
	4 pt. outriggers down	0,4*	0,4*	5,9*	5,9*	16,7*	16,7*	12,9*	12,9*	10,6*	10,6*	9,0*	9,0*	7,9*	7,9*	7,0*	7,0*	6,4*	6,4*	5,8*	5,8*	5,4*	5,4*	5,1*	5,1*	
4,5	Stabilizers raised	1,4*	1,4*	4,4*	4,4*	10,2*	10,2*	8,1	11,1	6,5	8,8	5,2	7,1	4,3	5,9	3,6	4,9	3,0	4,2	2,5	3,6	2,1	3,0	1,8	2,7	19,06
	4 pt. outriggers down	1,4*	1,4*	4,4*	4,4*	10,2*	10,2*	13,8*	13,8*	11,2*	11,2*	9,4*	9,4*	8,2*	8,2*	7,3*	7,3*	6,5*	6,5*	5,9*	5,9*	5,4*	5,4*	5,1*	5,1*	
3,0	Stabilizers raised	2,6*	2,6*	4,7*	4,7*	8,4*	8,4*	7,3	10,3	5,8	8,1	4,8	6,7	4,0	5,5	3,3	4,7	2,8	4,0	2,4	3,4	2,0	2,9	1,8	2,7	18,88
	4 pt. outriggers down	2,6*	2,6*	4,7*	4,7*	8,4*	8,4*	14,3*	14,3*	11,6*	11,6*	9,8*	9,8*	8,4*	8,4*	7,4*	7,4*	6,6*	6,6*	6,0*	6,0*	5,4*	5,4*	5,1*	5,1*	
1,5	Stabilizers raised			5,3*	5,3*	8,2*	8,2*	6,8	9,7	5,4	7,7	4,4	6,3	3,7	5,3	3,1	4,5	2,6	3,8	2,2	3,3	1,9	2,9	1,8	2,7	18,56
	4 pt. outriggers down			5,3*	5,3*	8,2*	8,2*	13,7*	13,7*	11,9*	11,9*	10,0*	10,0*	8,6*	8,6*	7,5*	7,5*	6,7*	6,7*	6,0*	6,0*	5,4*	5,4*	5,2*	5,2*	
0	Stabilizers raised			6,2*	6,2*	8,6*	8,6*	6,5	9,4	5,1	7,4	4,2	6,0	3,5	5,1	3,0	4,3	2,5	3,7	2,2	3,2	1,9	2,8	1,9	2,8	18,11
	4 pt. outriggers down			6,2*	6,2*	8,6*	8,6*	12,9*	12,9*	11,9*	11,9*	10,0*	10,0*	8,6*	8,6*	7,6*	7,6*	6,7*	6,7*	5,9*	5,9*	5,2*	5,2*	5,2*	5,2*	
-1,5	Stabilizers raised					8,7	9,1*	6,4	9,3	5,0	7,2	4,1	5,9	3,4	4,9	2,9	4,2	2,4	3,6	2,1	3,2					2,0	2,9	17,52
	4 pt. outriggers down					9,1*	9,1*	12,9*	12,9*	11,7*	11,7*	9,9*	9,9*	8,5*	8,5*	7,5*	7,5*	6,6*	6,6*	5,8*	5,8*					5,2*	5,2*	
-3,0	Stabilizers raised							6,4	9,3	4,9	7,2	4,0	5,8	3,3	4,9	2,8	4,2	2,4	3,6							2,2	3,3	16,09
	4 pt. outriggers down							13,4*	13,4*	11,2*	11,2*	9,6*	9,6*	8,3*	8,3*	7,2*	7,2*	6,3*	6,3*							5,6*	5,6*	
-4,5	Stabilizers raised																									
	4 pt. outriggers down																									

Industrial Stick 9,50 m

m	Undercarriage	3,0 m		4,5 m		6,0 m		7,5 m		9,0 m		10,5 m		12,0 m		13,5 m		15,0 m		16,5 m		18,0 m		19,5 m		m
22,5	Stabilizers raised											6,3*	6,3*													11,1
	4 pt. outriggers down											6,3*	6,3*													
21,0	Stabilizers raised													5,9*	5,9*											13,0
	4 pt. outriggers down													5,9*	5,9*											
19,5	Stabilizers raised													5,7*	5,7*	5,4	5,5*									14,6
	4 pt. outriggers down													5,7*	5,7*	5,5*	5,5*									
18,0	Stabilizers raised													5,7*	5,7*	5,4*	5,4*	4,3	5,1*							15,8
	4 pt. outriggers down													5,7*	5,7*	5,4*	5,4*	5,1*	5,1*							
16,5	Stabilizers raised													5,6*	5,6*	5,3*	5,3*	4,3	5,1*	3,4	4,4					16,9
	4 pt. outriggers down													5,6*	5,6*	5,3*	5,3*	5,1*	5,1*	4,9*	4,9*					
15,0	Stabilizers raised													5,7*	5,7*	5,4*	5,4*	4,3	5,1*	3,4	4,4					17,7
	4 pt. outriggers down													5,7*	5,7*	5,4*	5,4*	5,1*	5,1*	4,9*	4,9*					
13,5	Stabilizers raised													5,9*	5,9*	5,3	5,5*	4,2	5,2*	3,3	4,4	2,6	3,5			18,4
	4 pt. outriggers down													5,9*	5,9*	5,5*	5,5*	5,2*	5,2*	4,9*	4,9*	4,7*	4,7*			
12,0	Stabilizers raised											6,6*	6,6*	6,1*	6,1*	5,0	5,6*	4,0	5,2	3,2	4,3	2,5	3,5			18,9
	4 pt. outriggers down											6,6*	6,6*	6,1*	6,1*	5,6*	5,6*	5,3*	5,3*	5,0*	5,0*	4,7*	4,7*			
10,5	Stabilizers raised									7,8*	7,8*	7,0*	7,0*	6,4*	6,4*	5,8*	5,8*	5,4*	5,4*	5,1*	5,1*	4,6*	4,8*			19,2
	4 pt. outriggers down									7,8*	7,8*	7,0*	7,0*	6,4*	6,4*	5,8*	5,8*	5,4*	5,4*	5,1*	5,1*	4,6*	4,8*			
9,0	Stabilizers raised							9,9*	9,9*	8,5*	8,5*	7,1	7,5*	5,6	6,7*	4,5	5,8	3,6	4,8	2,9	3,9	2,3	3,3	1,8	2,7	19,6
	4 pt. outriggers down							9,9*	9,9*	8,5*	8,5*	7,5*	7,5*	6,7*	6,7*	6,1*	6,1*	5,6*	5,6*	5,2*	5,2*	4,8*	4,8*	4,8*	4,8*	
7,5	Stabilizers raised	15,1*	15,1*	18,7*	18,7*	13,8*	13,8*	10,9	11,0*	8,2	9,2*	6,4	7,9*	5,1	6,7	4,1	5,5	3,3	4,5	2,7	3,8	2,2	3,1	1,7	2,6	19,1
	4 pt. outriggers down	15,1*	15,1*	18,7*	18,7*	13,8*	13,8*	11,0*	11,0*	9,2*	9,2*	7,9*	7,9*	7,0*	7,0*	6,3*	6,3*	5,8*	5,8*	5,3*	5,3*	4,9*	4,9*	4,6*	4,6*	
6,0	Stabilizers raised	2,0*	2,0*	9,3*	9,3*	12,7	15,5*	9,4	12,0*	7,3	9,7	5,8	7,7	4,6	6,2	3,8	5,1	3,1	4,3	2,5	3,6	2,0	3,0	1,6	2,5	19,1
	4 pt. outriggers down	2,0*	2,0*	9,3*	9,3*	15,5*	15,5*	12,0*	12,0*	9,9*	9,9*	8,4*	8,4*	7,4*	7,4*	6,6*	6,6*	5,9*	5,9*	5,4*	5,4*	5,0*	5,0*	4,6*	4,6*	
4,5	Stabilizers raised	1,8*	1,8*	5,3*	5,3*	10,7	12,8*	8,2	11,2	6,4	8,8	5,1	7,0	4,2	5,8	3,4	4,8	2,8	4,0	2,3	3,4	1,9	2,8	1,5	2,4	19,2
	4 pt. outriggers down	1,8*	1,8*	5,3*	5,3*	12,8*	12,8*	12,9*	12,9*	10,5*	10,5*	8,9*	8,9*	7,7*	7,7*	6,8*	6,8*	6,1*	6,1*	5,5*	5,5*	5,1*	5,1*	4,6*	4,6*	
3,0	Stabilizers raised	2,6*	2,6*	4,9*	4,9*	9,2*	9,2*	7,2	10,1	5,7	8,0	4,6	6,5	3,8	5,4	3,1	4,5	2,6	3,8	2,1	3,2	1,8	2,7	1,5	2,3	19,2
	4 pt. outriggers down	2,6*	2,6*	4,9*	4,9*	9,2*	9,2*	13,5*	13,5*	11,0*	11,0*	9,2*	9,2*	7,9*	7,9*	7,0*	7,0*	6,2*	6,2*	5,6*	5,6*	5,1*	5,1*	4,6*	4,6*	
1,5	Stabilizers raised	3,5*	3,5*	5,3*	5,3*	8,4*	8,4*	6,5	9,4	5,1	7,4	4,2	6,1	3,5	5,0	2,9	4,2	2,4	3,6	2,0	3,1	1,7	2,6			19,2
	4 pt. outriggers down	3,5*	3,5*	5,3*	5,3*	8,4*	8,4*	13,9*	13,9*	11,3*	11,3*	9,5*	9,5*	8,1*	8,1*	7,1*	7,1*	6,3*	6,3*	5,7*	5,7*	5,1*	5,1*			
0	Stabilizers raised			5,9*	5,9*	8,1	8,4*	6,1	9,0	4,8	7,0	3,9	5,7	3,2	4,8	2,7	4,0	2,3	3,4	1,9	3,0	1,6	2,6			18,4
	4 pt. outriggers down			5,9*	5,9*	8,4*	8,4*	13,2*	13,2*	11,4*	11,4*	9,6*	9,6*	8,2*	8,2*	7,2*	7,2*	6,3*	6,3*	5,6*	5,6*	5,0*	5,0*			
-1,5	Stabilizers raised			6,6*	6,6*	8,0	8,8*	5,8	8,8	4,6	6,8	3,7	5,5	3,0	4,6	2,6	3,9	2,2	3,3	1,8	2,9	1,6	2,5			18,1
	4 pt. outriggers down			6,6*	6,6*	8,8*	8,8*	12,8*	12,8*	11,3*	11,3*	9,5*	9,5*	8,2*	8,2*	7,1*	7,1*	6,3*	6,3*	5,5*	5,5*	4,8*	4,8*			
-3,0	Stabilizers raised					8,0	9,4*	5,8	8,7	4,5	6,7	3,6	5,4	3,0	4,5	2,5	3,8	2,1	3,3	1,8	2,9					17,1
	4 pt. outriggers down					9,4*	9,4*	13,0*	13,0*	10,9*	10,9*	9,3*	9,3*	8,0*	8,0*	6,9*	6,9*	6,0*	6,0*	5,3*	5,3*					
-4,5	Stabilizers raised									4,5	6,8	3,6	5,4	3,0	4,5	2,5	3,8									14,1
	4 pt. outriggers down									10,3*	10,3*	8,8*	8,8*	7,6*	7,6*	6,5*	6,5*									

↕ Height — Can be slewed through 360° — In longitudinal position of undercarriage — Max. reach — * Limited by hydr. capac

The lift capacities on the stick end without attachment are stated in metric tons (t) and are valid on a firm, level supporting surface with blocked oscillating axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/– 15°) are specified over the steering axle with the stabilisers raised and over the rigid axle with the stabilisers down. Indicated loads comply with the ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity.
In accordance with the harmonised EU Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe rupture protection devices on the hoist cylinders and an overload warning device.