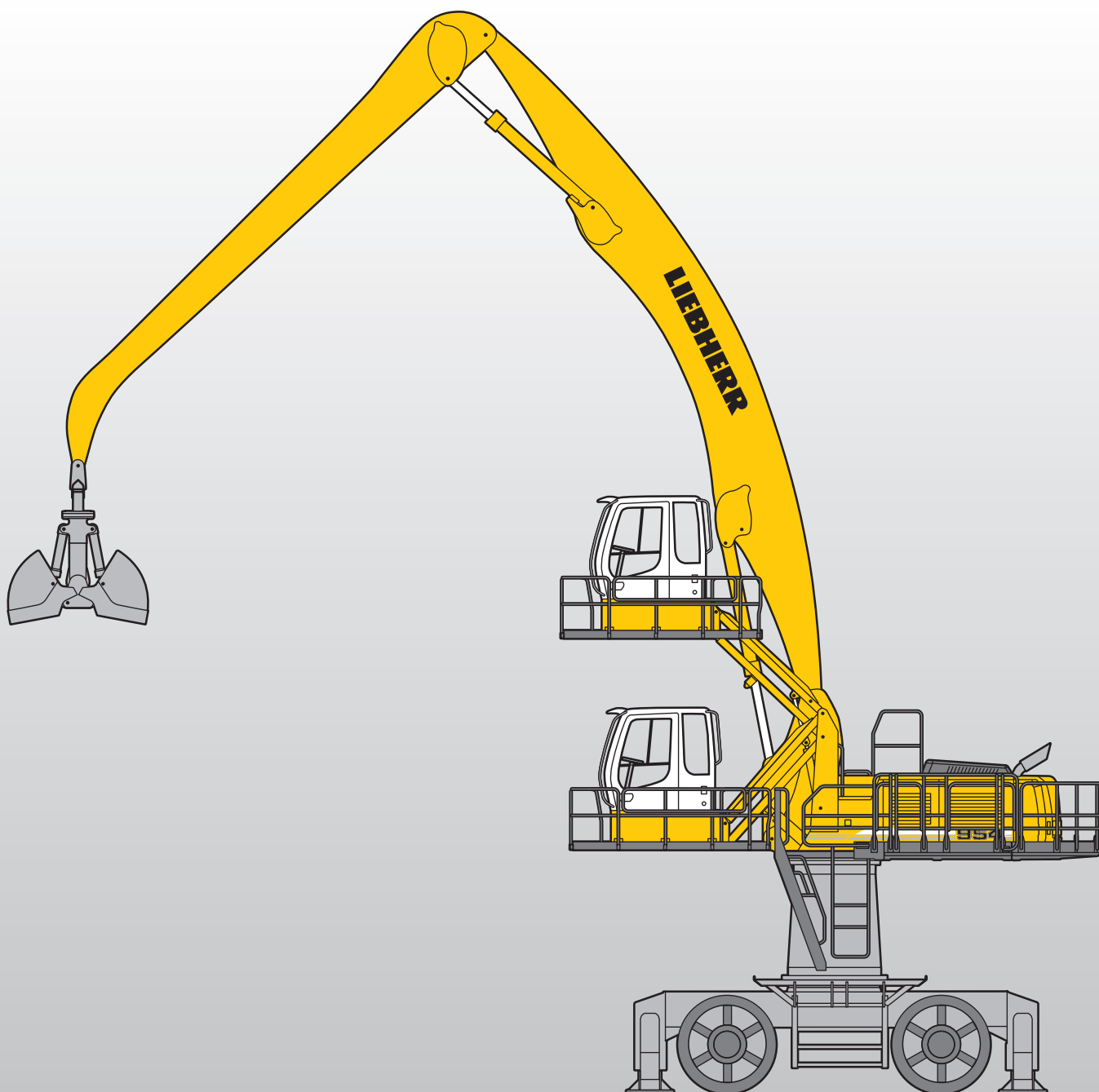


Machine for Industrial Applications **A 954 C HD**

Litronic® High Rise

Operating Weight: 83,220 – 90,920 kg
Engine Output: 240 kW / 326 HP



LIEBHERR

Technical Data



Engine

Rating per ISO 9249	240 kW (326 HP) at 1,800 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	700 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 170 Ah/12 V
Starter	24 V/6.t6 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 350 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	211 l/min.
Max. pressure	384 bar
Hydraulic tank	450 l
Hydraulic system	880 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Hydraulic oil cooler	cooler unit, consisting of radiator for engine coolant with after-cooler core, sandwiched with cooler for hydraulic fluid and fuel, with hydrostatically controlled fan drives
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 – 4.0 RPM stepless
Swing torque	154 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

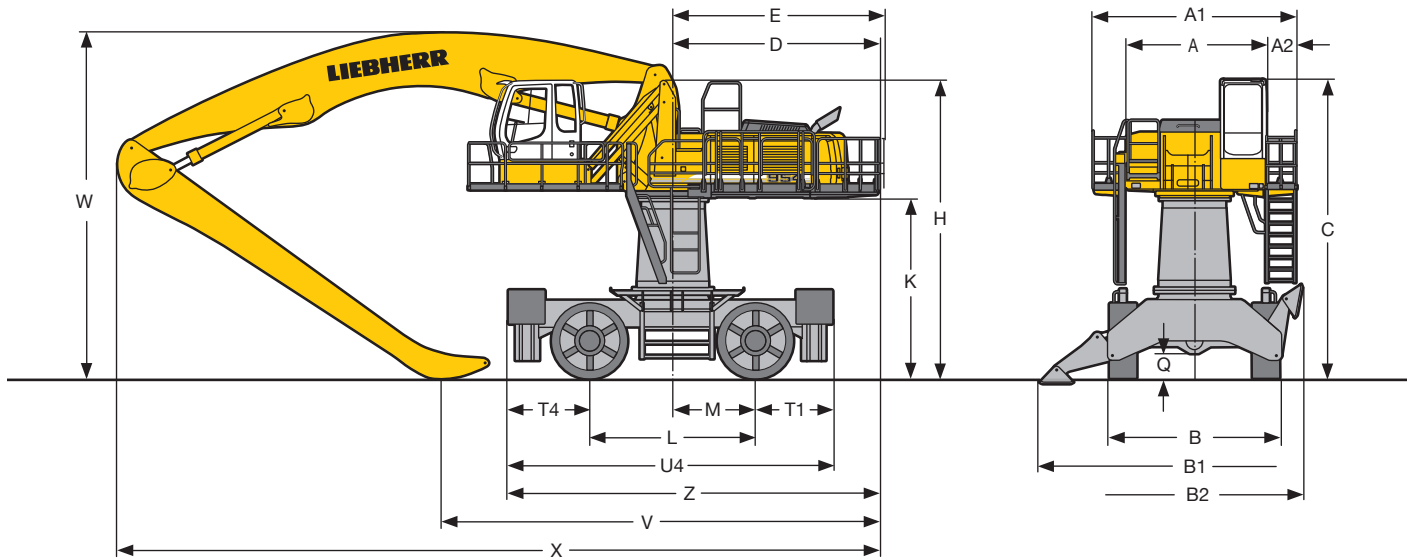
Drive	axial piston motor with brake valves
Travel speed	0 – 10.0 km/h
Axles	90 t excavator axles; oscillating steering axle with hydraulic lock (in any position)
Brakes	wet, maintenance-free multi disc brakes, hydraulically actuated travel and parking brake
Stabilization	4-point outriggers with suspended 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	3,060
A1	4,440
A2	660
A3	5,000
B	3,800
B1	6,750
B2	4,700
C	6,530
D	4,510
E	4,590
H with Yellow Cab	6,500
H with hydraulic double parallelogram	6,120
K	3,940
L	3,600
M	1,800
Q	540
T1	1,700
T4	1,775
U4	7,075
Z	8,045

Industrial-Type Straight Boom 11.50 m and Industrial Stick			
	m	9.00	10.00
V	mm	9,870	8,750
W	mm	6,000	6,000
X	mm	16,850	16,800

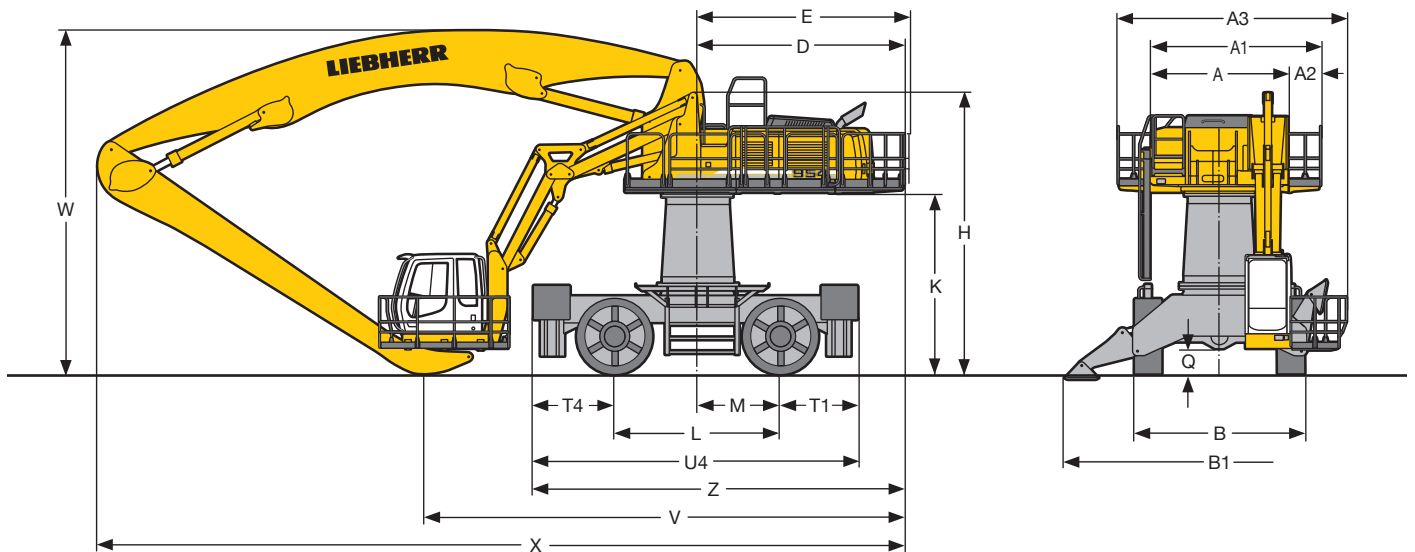
Industrial-Type Gooseneck Boom 12.50 m and Industrial Stick			
	m	9.00	10.00
V	mm	10,460	9,350
W	mm	7,600	7,600
X	mm	17,700	17,650

Industrial-Type Gooseneck Boom 11.50 m and Industrial Stick			
	m	9.00	10.00
V	mm	9,550	8,420
W	mm	7,650	7,650
X	mm	16,700	16,700

Dimensions are with attachment over steering axle

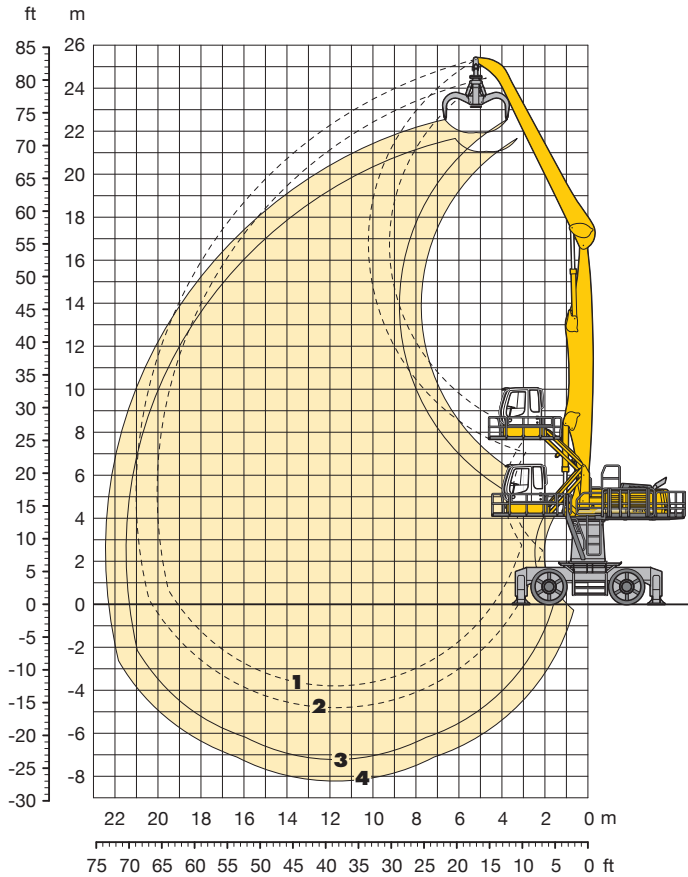
E = Tail radius

Tires Ø 1,660 mm, width 600 mm



Industrial Attachment

with Industrial-Type Straight Boom 11.50 m



Attachment Envelope

Kinematic variants 2A/3B

- 1** with industrial stick 9,00 m
- 2** with industrial stick 10,00 m
- 3** with industrial stick 9,00 m and grapple model 72 C
- 4** with industrial stick 10,00 m and grapple model 72 C

Operating Weight

Operating weight includes basic machine and industrial attachment with:

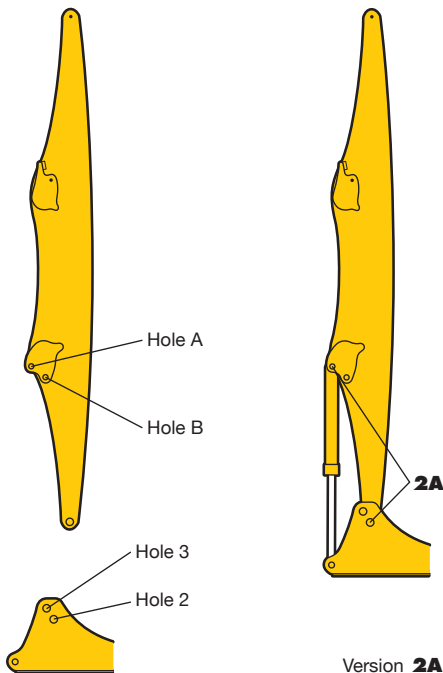
	Weight
Industrial-type straight boom 11.50 m	83,220 kg
Industrial stick 9.00 m	
Grapple model 72 C/1.40 m ³ with 5 semi-closed tines	
Turret 2.00 m	
Yellow Cab	
Industrial-type straight boom 11.50 m	83,620 kg
Industrial stick 10.00 m	
Grapple model 72 C/1.40 m ³ with 5 semi-closed tines	
Turret 2.00 m	
Yellow Cab	

VarioLiftPlus

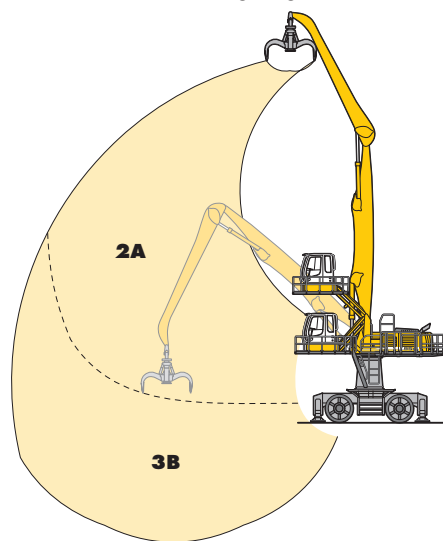
VarioLiftPlus: Variable boom mounting positions for optimized lift capacities

with **the same** working range

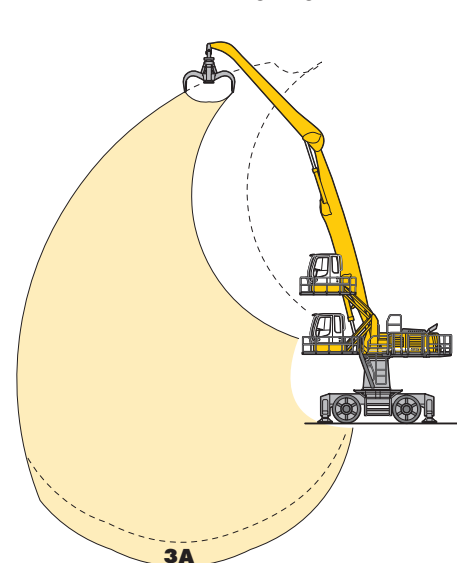
with a **different** working range



Version **2A**



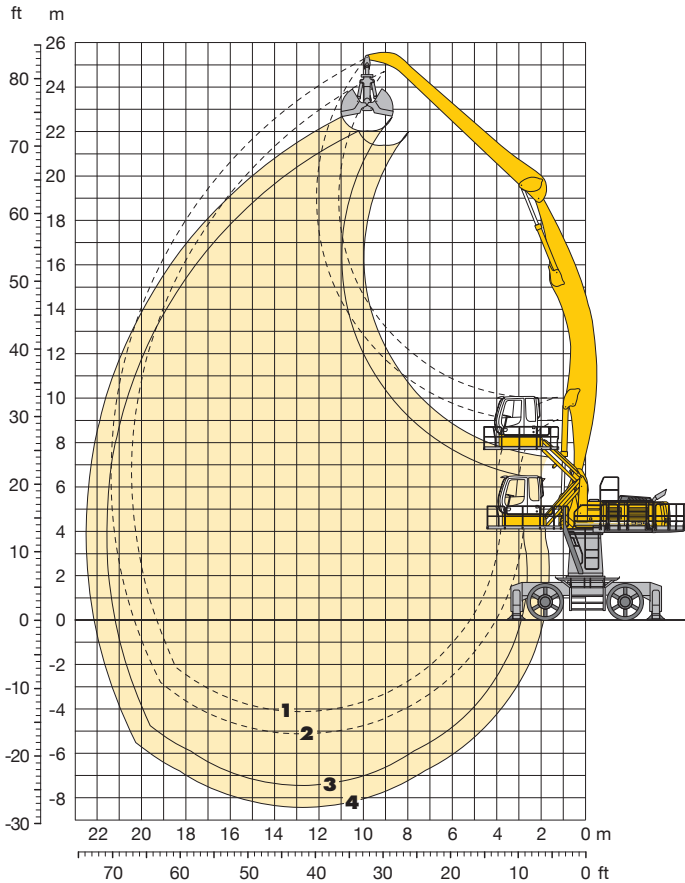
Kinematic Variant 2A: Increased lift capacities above ground level
Kinematic Variant 3B: Increased lift capacities below ground level and when working at large outreach



Kinematic Variant 3A: Altered range curve with additional reach depth, e.g. for unloading from ships

Industrial Attachment

with Industrial-Type Gooseneck Boom 12.50 m



Attachment Envelope

Kinematic variant 3D

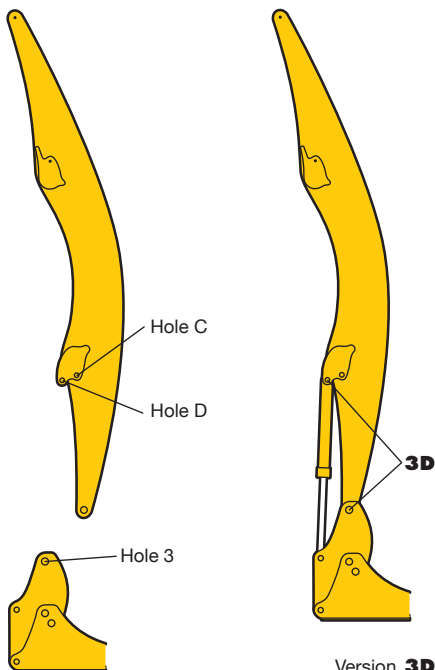
- 1** with industrial stick 9,00 m
- 2** with industrial stick 10,00 m
- 3** with industrial stick 9,00 m and grapple model 72 C
- 4** with industrial stick 10,00 m and grapple model 72 C

Operating Weight

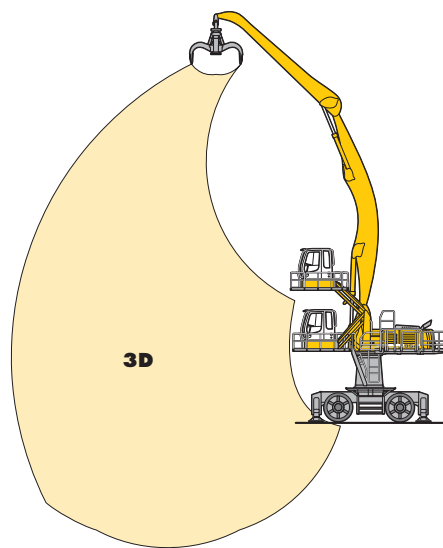
Operating weight includes basic machine and industrial attachment with:

	Weight
Industrial-type gooseneck boom 12.50 m	88,020 kg
Industrial stick 9.00 m	
Grapple model 72 C/1.40 m ³ with 5 semi-closed tines	
Turret 2.00 m	
Adapter 1.20 m	
Yellow Cab	88,420 kg
Industrial-type gooseneck boom 12.50 m	
Industrial stick 10.00 m	
Grapple model 72 C/1.40 m ³ with 5 semi-closed tines	
Turret 2.00 m	
Adapter 1.20 m	
Yellow Cab	

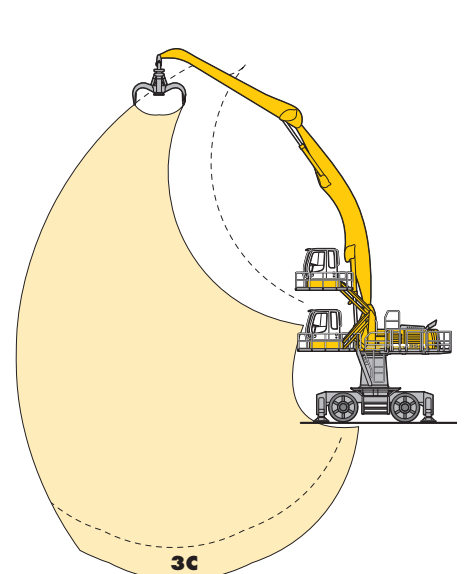
VarioLiftPlus



VarioLiftPlus: Variable boom mounting positions for optimized lift capacities with a **different** working range



Kinematic Variant 3D: Increased lift capacities below ground level and when working at large outreach




Kinematic Variant 3C: Altered range curve with additional reach depth, e.g. for unloading from ships


Lift Capacities

with Industrial-Type Gooseneck Boom 12.50 m (Kinematic Variant 3D)

Industrial Stick 9.00 m

↑ m	Undercarriage	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	21.0 m		m		
25.5	4 pt. outriggers down																
24.0	4 pt. outriggers down													8.4*	8.4*	10.41	
22.5	4 pt. outriggers down						8.9*	8.9*	8.2*	8.2*				7.6*	7.6*	12.65	
21.0	4 pt. outriggers down							8.0*	8.0*	7.5*	7.5*			7.2*	7.2*	14.38	
19.5	4 pt. outriggers down							7.9*	7.9*	7.4*	7.4*			6.8*	6.8*	15.77	
18.0	4 pt. outriggers down							7.9*	7.9*	7.3*	7.3*	6.9*	6.9*	6.6*	6.6*	16.91	
16.5	4 pt. outriggers down							7.9*	7.9*	7.4*	7.4*	6.9*	6.9*	6.5*	6.5*	17.85	
15.0	4 pt. outriggers down					8.9*	8.9*	8.1*	8.1*	7.5*	7.5*	7.0*	7.0*	6.5*	6.5*	18.62	
13.5	4 pt. outriggers down					9.2*	9.2*	8.3*	8.3*	7.7*	7.7*	7.1*	7.1*	6.6*	6.6*	19.23	
12.0	4 pt. outriggers down				10.9*	10.9*	9.7*	9.7*	8.7*	8.7*	7.9*	7.9*	7.2*	7.2*	6.7*	6.7*	19.71
10.5	4 pt. outriggers down													6.0*	6.0*	20.07	
9.0	4 pt. outriggers down	24.1*	24.1*	19.3*	19.3*	15.1*	15.1*	12.5*	12.5*	10.7*	10.7*	9.4*	9.4*	8.4*	8.4*	20.31	
7.5	4 pt. outriggers down	3.4*	3.4*	15.0*	15.0*	16.4*	16.4*	13.4*	13.4*	11.3*	11.3*	9.8*	9.8*	8.7*	8.7*	20.43	
6.0	4 pt. outriggers down	2.0*	2.0*	7.3*	7.3*	17.5*	17.5*	14.1*	14.1*	11.8*	11.8*	10.2*	10.2*	9.0*	9.0*	20.44	
4.5	4 pt. outriggers down	2.4*	2.4*	5.8*	5.8*	12.1*	12.1*	14.7*	14.7*	12.3*	12.3*	10.6*	10.6*	9.3*	9.3*	20.34	
3.0	4 pt. outriggers down	3.3*	3.3*	5.9*	5.9*	10.2*	10.2*	15.1*	15.1*	12.6*	12.6*	10.8*	10.8*	9.5*	9.5*	20.12	
1.5	4 pt. outriggers down	4.3*	4.3*	6.4*	6.4*	9.8*	9.8*	15.2*	15.2*	12.8*	12.8*	10.9*	10.9*	9.6*	9.6*	19.78	
0	4 pt. outriggers down			7.1*	7.1*	10.0*	10.0*	15.1*	15.1*	12.7*	12.7*	11.0*	11.0*	9.6*	9.6*	19.32	
- 1.5	4 pt. outriggers down					10.5*	10.5*	14.8*	14.8*	12.5*	12.5*	10.8*	10.8*	9.4*	9.4*	18.73	
- 3.0	4 pt. outriggers down							14.1*	14.1*	12.1*	12.1*	10.5*	10.5*	9.1*	9.1*	17.10	
- 4.5	4 pt. outriggers down																

Industrial Stick 10.00 m

↑ m	Undercarriage	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	21.0 m		m		
25.5	4 pt. outriggers down																
24.0	4 pt. outriggers down						7.2*	7.2*						7.0*	7.0*	12.16	
22.5	4 pt. outriggers down						7.6*	7.6*	7.1*	7.1*				6.5*	6.5*	14.11	
21.0	4 pt. outriggers down						7.4*	7.4*	6.9*	6.9*	6.6*	6.6*		6.1*	6.1*	15.68	
19.5	4 pt. outriggers down								6.8*	6.8*	6.4*	6.4*	6.1*	6.1*		16.96	
18.0	4 pt. outriggers down								6.8*	6.8*	6.4*	6.4*	6.1*	6.1*	5.8*	5.8*	18.02
16.5	4 pt. outriggers down							7.4*	7.4*	6.9*	6.9*	6.4*	6.4*	6.1*	6.1*	18.91	
15.0	4 pt. outriggers down							7.5*	7.5*	7.0*	7.0*	6.5*	6.5*	6.1*	6.1*	19.63	
13.5	4 pt. outriggers down					8.6*	8.6*	7.8*	7.8*	7.1*	7.1*	6.6*	6.6*	6.2*	6.2*	20.22	
12.0	4 pt. outriggers down					9.0*	9.0*	8.1*	8.1*	7.4*	7.4*	6.8*	6.8*	6.3*	6.3*	20.67	
10.5	4 pt. outriggers down				12.7*	12.7*	10.8*	10.8*	9.5*	9.5*	8.4*	8.4*	7.6*	7.6*	7.0*	7.0*	21.01
9.0	4 pt. outriggers down	23.6*	23.6*	17.5*	17.5*	13.9*	13.9*	11.6*	11.6*	10.0*	10.0*	8.8*	8.8*	7.9*	7.9*	21.24	
7.5	4 pt. outriggers down	10.7*	10.7*	19.6*	19.6*	15.2*	15.2*	12.5*	12.5*	10.6*	10.6*	9.3*	9.3*	8.2*	8.2*	21.36	
6.0	4 pt. outriggers down	3.9*	3.9*	11.7*	11.7*	16.4*	16.4*	13.3*	13.3*	11.2*	11.2*	9.7*	9.7*	8.5*	8.5*	21.37	
4.5	4 pt. outriggers down	3.3*	3.3*	7.4*	7.4*	16.3*	16.3*	13.9*	13.9*	11.6*	11.6*	10.0*	10.0*	8.8*	8.8*	21.27	
3.0	4 pt. outriggers down	3.6*	3.6*	6.5*	6.5*	11.8*	11.8*	14.4*	14.4*	12.0*	12.0*	10.3*	10.3*	9.0*	9.0*	21.06	
1.5	4 pt. outriggers down	4.3*	4.3*	6.5*	6.5*	10.4*	10.4*	14.7*	14.7*	12.3*	12.3*	10.5*	10.5*	9.2*	9.2*	20.74	
0	4 pt. outriggers down	5.0*	5.0*	6.9*	6.9*	10.1*	10.1*	14.8*	14.8*	12.4*	12.4*	10.6*	10.6*	9.2*	9.2*	20.30	
- 1.5	4 pt. outriggers down			7.4*	7.4*	10.2*	10.2*	14.6*	14.6*	12.3*	12.3*	10.5*	10.5*	9.2*	9.2*	19.74	
- 3.0	4 pt. outriggers down					10.6*	10.6*	14.2*	14.2*	12.0*	12.0*	10.3*	10.3*	9.0*	9.0*	18.92	
- 4.5	4 pt. outriggers down							11.5*	11.5*	9.9*	9.9*	8.6*	8.6*	7.5*	7.5*	16.21	

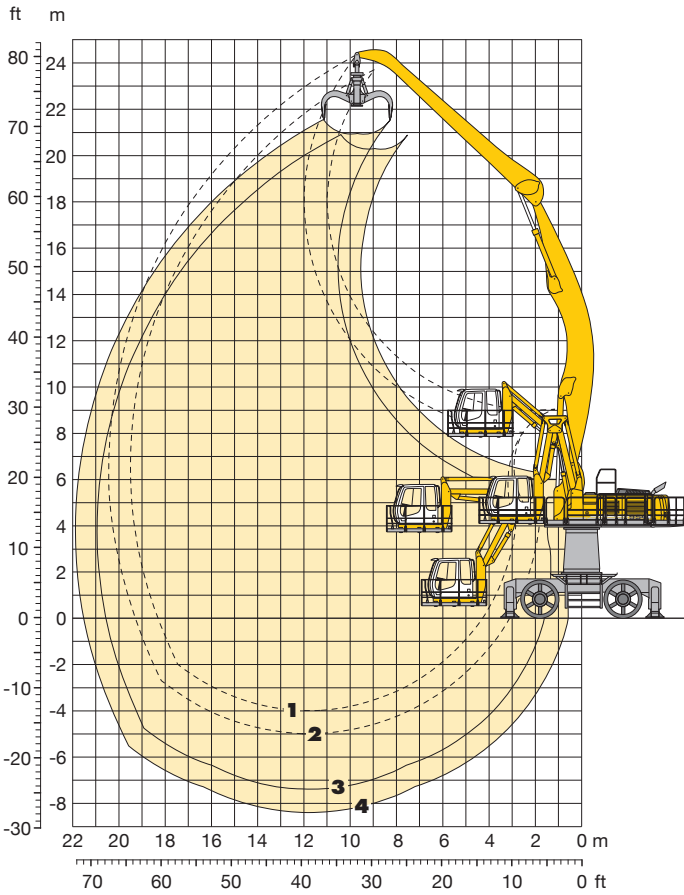
 Height
  Can be slewed through 360°
  In longitudinal position of undercarriage
  Max. reach
 * Limited by hydr. capacity

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.

Industrial Attachment

with Industrial-Type Gooseneck Boom 11.50 m



Attachment Envelope

Kinematic variant 3D

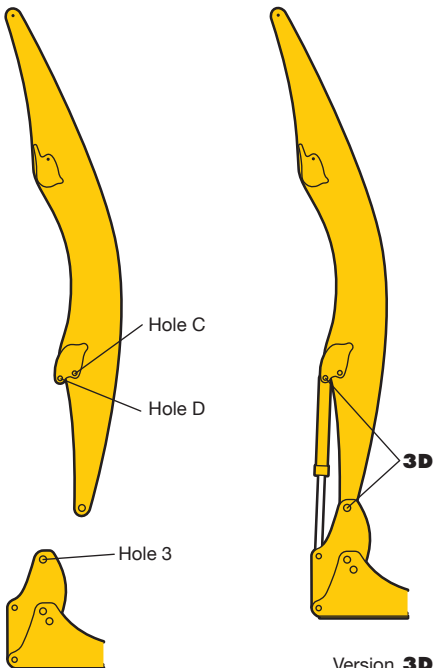
- 1** with industrial stick 9,00 m
- 2** with industrial stick 10,00 m
- 3** with industrial stick 9,00 m and clamshell model 22 B
- 4** with industrial stick 10,00 m and clamshell model 22 B

Operating Weight

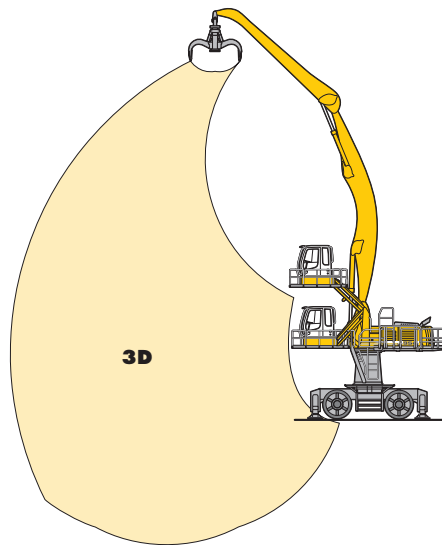
Operating weight includes basic machine and industrial attachment with:

	Weight
Industrial-type gooseneck boom 11.50 m	90,520 kg
Industrial stick 9.00 m	
Clamshell model 22 B/2.50 m ³	
Shells for loose material	
Turret 2.00 m	90,920 kg
Adapter 1.20 m	
Hydraulic double parallelogram	
Industrial-type gooseneck boom 11.50 m	
Industrial stick 10.00 m	
Clamshell model 22 B/2.50 m ³	
Shells for loose material	
Turret 2.00 m	90,920 kg
Adapter 1.20 m	
Hydraulic double parallelogram	
Hydraulic double parallelogram	

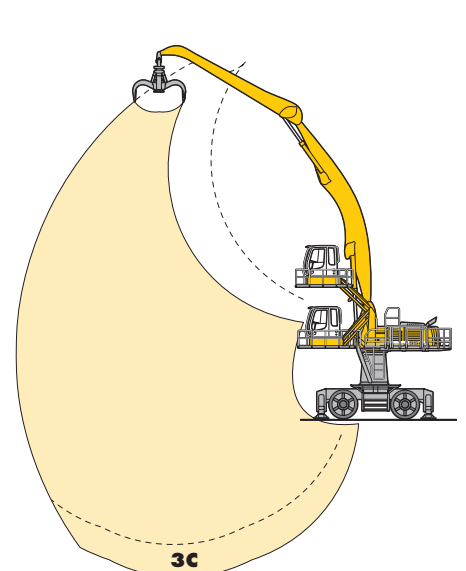
VarioLiftPlus



VarioLiftPlus: Variable boom mounting positions for optimized lift capacities with a **different** working range

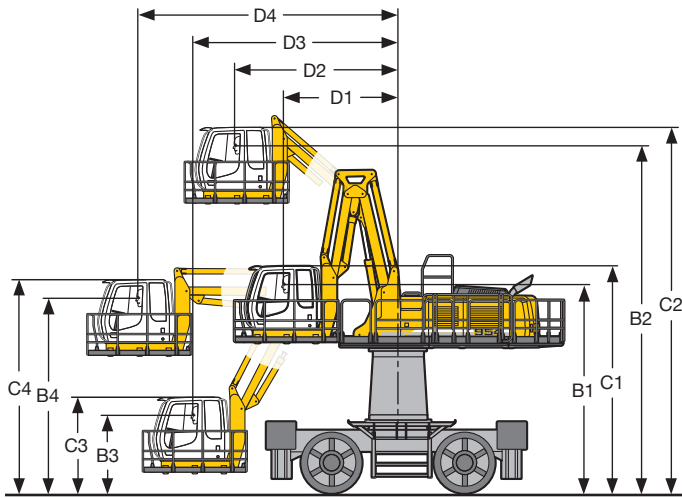


Kinematic Variant 3D: Increased lift capacities below ground level and when working at large outreach



Kinematic Variant 3C: Altered range curve with additional reach depth, e.g. for unloading from ships

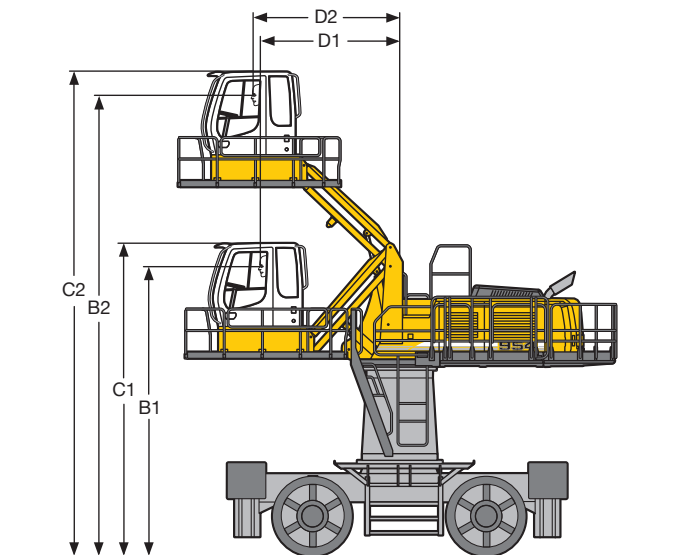
Choice of Cab Elevation and Cab Protection



Hydraulic Cab Elevation with Double Parallelogram

B1	5,655 mm
B2	9,415 mm
B3	2,100 mm
B4	5,310 mm
C1	6,150 mm
C2	9,915 mm
C3	2,600 mm
C4	5,810 mm
D1	3,070 mm
D2	4,415 mm
D3	5,555 mm
D4	7,055 mm

The parallelogram cab raiser allows the operator to choose his field of view between dimensions B1 and B2.

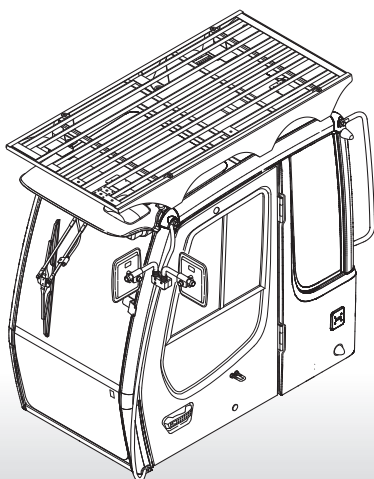


Hydraulic Cab Elevation Parallelogram + Intermediate Piece 0.5 m

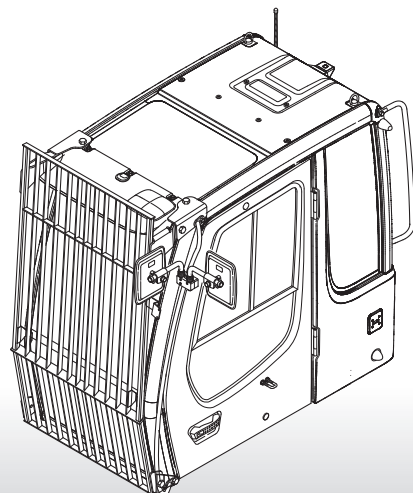
B1	6,035 mm
B2	9,605 mm
C1	6,530 mm
C2	10,100 mm
D1	2,890 mm
D2	3,040 mm

The parallelogram cab raiser allows the operator to choose his field of view between dimensions B1 and B2.

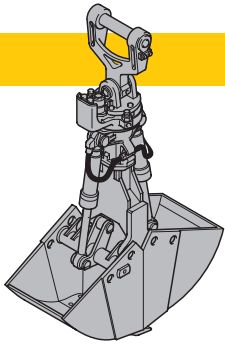
Grille above



Grilles in front



Variety of Tools

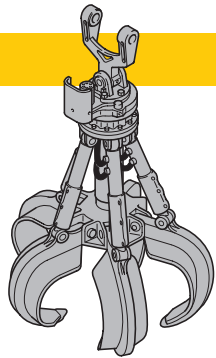


Shells for Loose Material

Clamshell Model 22

Shells for loose material with cutting edge (without teeth)

Cutting width of shells	mm	1,500	1,500	2,000
Capacity	m ³	1.85	2.20	2.50
For loose material, specific weight up to	t/m ³	1.5	1.2	1.0
Total weight	kg	2,300	2,400	2,550



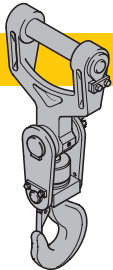
Multiple Tine Grapples

open tines

semi-closed tines

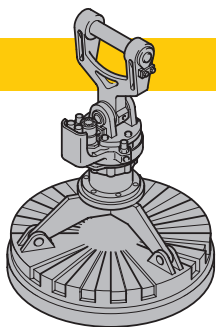
closed tines

Grapple Model 72 C (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	1,970	2,000	2,005	2,290	2,325	2,385	2,590	2,675	2,705
Grapple Model 72 C (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	2,370	2,410	2,420	2,750	2,815	2,885	2,865	2,945	2,990



Crane Hook with Suspension

Max. load	t	25
Height with suspension	mm	1,200
Total weight	kg	410



Magnet Devices/Lifting Magnets

Generator	kW	20	20
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Electromagnets with Suspension

Power	kW	12.5	17.5
Dia of magnet	mm	1,550	1,700
Height with suspension	mm	1,100	1,550
Weight	kg	2,550	3,300

Equipment



Undercarriage

Two circuit travel brake with accumulator	•
Travel motor protection	-
Outrigger cylinder rod guards	+
Creeper speed electrically switchable from cab	•
New tires	•
Service free parking brake	•
Independent outrigger control	•
Choice of tires	+
Auto check valve directly on each stabilizer cylinder	•
Proportional power steering	•
Customized colors	+
Two lockable storage boxes	•
Two-speed power shift transmission	-



Uppercarriage

Electric fuel tank filler pump	+
Maintenance-free swing brake lock	•
Handrails, Non slip surfaces	•
Main switch for electric circuit	•
Maintenance-free HD-batteries	•
Engine hood with lift help	•
Pedal controlled positioning swing brake	•
Reverse travel warning system	+
Rear area monitoring (country-dependent Standard or Option)	•/+
Sound insulation	•
Customized colors	+
Pin lock upper/lower	-
Extended tool kit	-
Lockable tool box	•
Tool kit	•



Hydraulics

Hydraulic tank shut-off valve	•
Extra hydr. control for hydr. swivel	+
Pressure compensation	•
Hook up for pressure checks	•
Pressure storage for controlled lowering of attachments with engine turned off	•
Filter with partial micro filtration (5 µm)	•
Electronic pump regulation	•
Stepless mode system (ECO)	•
Flow compensation	•
Four mixed modes, can also be adjusted	•
Full flow micro filtration	+
Bio degradable hydraulic oil	+
Tool Control	+
Additional hydraulic circuits	+



Engine

Turbo charger	•
After-cooled	•
Sensor controlled engine idling	•
Unit pump system	•
Air filter with pre-cleaner main- and safety element	•



Operator's Cab

Storage tray	•
Displays for engine operating condition	•
Mechanical hour meters, readable from outside the cab	•
Roof hatch	•
All-round adjustable roof vent	-
6-way adjustable seat	-
Airpressure operator seat with heating and head-rest	•
Seat and consoles independently adjustable	•
Extinguisher	+
Removable customized foot mat	•
Dome light	•
Hydraulic cab elevation	+
Rigid cab elevation	+
Cab heater with defroster	•
Cloth hook	•
Air conditioning	•
Electric cool box	+
Steering wheel adjustable	•
Bullet proof window (fixed installation – can not be opened)	+
Stereo radio	+
Preparation for radio installation	+
Rain hood over front window opening	•
Beacon	+
All tinted windows	•
Door with sliding window	•
Optical warning if outriggers are not fully retracted	+
Auxiliary heating	+
Sun shade	+
Sun roller blind	•
Electronic drive away lock	+
Wiper/washer	•
Cigarette lighter and ashtray	•
Additional flood lights	+



Attachment

Flood lights	•
Hydr. lines for clam operation in sticks	•
Industrial-type gooseneck sticks with remote hydraulic pin puller	+
Sealed pivots	•
Safety lift hook	+
Liebherr line of clams	+
Liebherr semi-automatic central lubrication system	•
Liebherr fully-automatic central lubrication system	+
Likufix	+
Safety check valves on hoist cylinder	•
Safety check valves on stick cylinder	•
Hose quick connection	•
Hydraulic or manual quick change tool adapter	+
Customized colors	+
Special buckets and other tools	+
Overload warning device	+
Two way valves for bucket/clam use	+
Locking of connections for clam operation	+
Cylinders with shock absorber	•

• = Standard, + = Option, - = not available

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.

