

Machine for Industrial Applications

R 984 C

Litronic[®] High Rise

Operating Weight: 209,900 – 222,300 kg
Engine Output: 504 kW / 685 HP



LIEBHERR

Technical Data



Engine

Rating per ISO 9249	504 kW (685 HP) at 1800 RPM
Model	Cummins-QSK-19 C 750 according to level IIIA/Tier 3
Type	6 cylinder in-line engine
Bore/Stroke	159/159 mm
Displacement	18,9 l
Engine operation	4-stroke diesel direct injection turbo-charged reduced emissions
Cooling	water-cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements, automatic dust discharge
Fuel tank	1585 l
Standard	sensor controlled engine idling
Electrical system	
Voltage	24 V
Batteries	2 x 144 Ah/12 V
Starter	24 V/9,0 kW
Alternator	three phase current 24 V/100 A



Hydraulic System

Hydraulic pump for attachment and travel drive	3 Liebherr variable flow, swash plate pumps
Max. flow	3 x 472 l/min.
Max. pressure	350 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, automatic oil flow optimizer
Hydraulic pump for swing drive	reversible, variable flow, swash plate pump, closed-loop circuit
Max. flow	403 l/min.
Max. pressure	340 bar
Hydraulic tank	880 l
Hydraulic system	1760 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, aftercooler cores and air conditioning, hydrostatically driven van
MODE selection	adjustment of machine performance and the hydraulics via a mode selector to match application
LIFT	for lifting
FINE	for precision work and lifting with sensitive movements
ECO	for economical operation
POWER	for maximum digging power and heavy duty jobs
RPM adjustment	stepless adjustment of engine output via rpm at each selected mode
Additional menu	4 adjustable oil flows, for optional accessories



Hydraulic Controls

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



Swing Drive

Drive by	Liebherr swash plate motor
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed single race ball bearing swing ring, internal teeth
Swing speed	0 – 5,2 RPM stepless
Swing torque	390 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
Option	pedal controlled positioning brake



Uppercarriage

Design	torque resistant modular design upper frame
Attachment mounting	parallel length girders
Catwalks	on both sides, possibility to get across on each side, descend on undercarriage in every upper carriage position possible



Operator's Cab

Cab	profiles and deep drawn technology, resiliently mounted, sound insulated, tinted windows. Front window armored glass, door with sliding window
Operator's seat	shock absorbing suspension, adjustable to operator's weight, 6-way adjustable seat with mountable head rest
Joysticks	integrated into adjustable seat consoles
Monitoring	menu driven query of current operating conditions via the LCD display. Automatic monitoring, display, warning (acoustical and optical signal) and saving machine malfunction data, for example, engine overheating, low engine oil pressure or low hydraulic oil level
Heating system	standard automatic air conditioning, combined cooler/heater, additional dust filter in fresh air/recirculated
Noise emission ISO 6396	L _{pA} (inside cab) = 74 dB(A)



Undercarriage

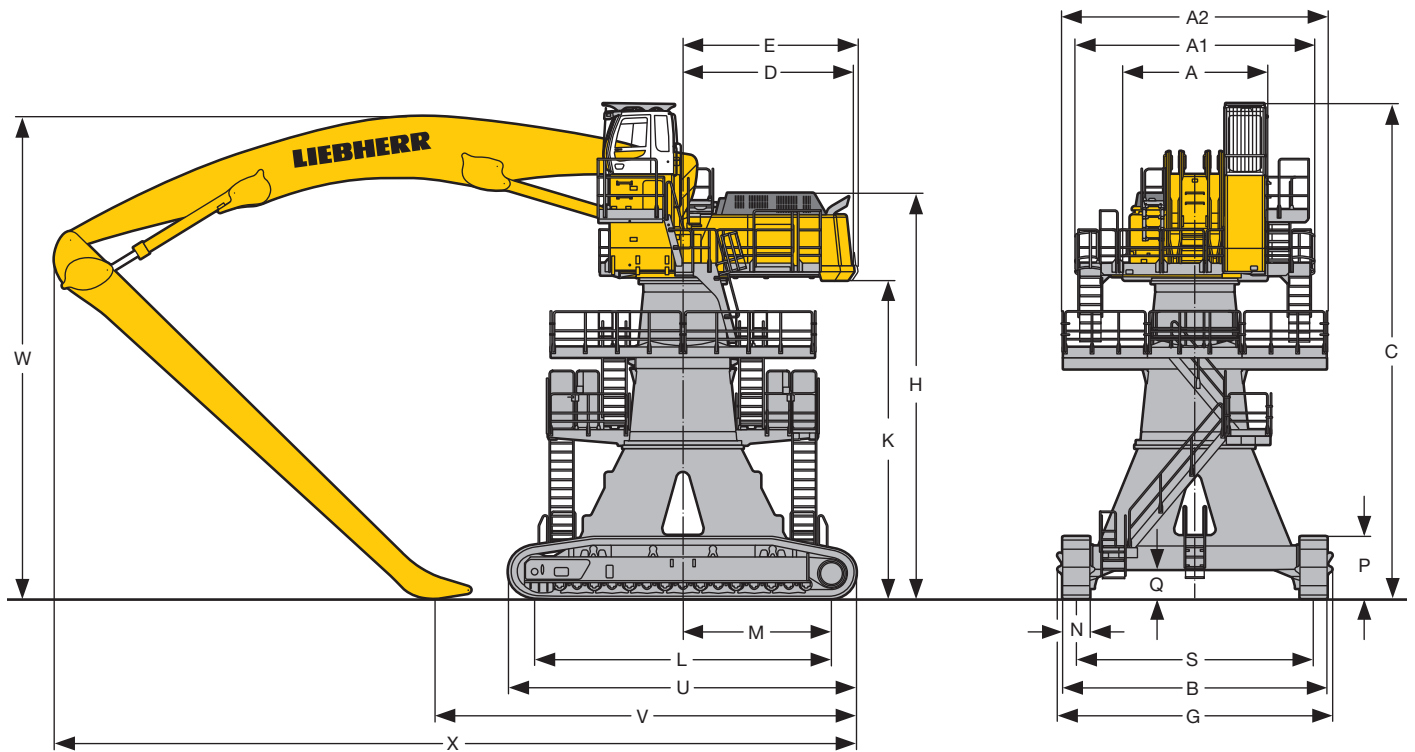
Version HD	heavy duty
Drive	Liebherr swash plate motor
Transmission	Liebherr planetary reduction gears
Travel speed	0 – 2,3 km/h
Drawbar pull max.	735 kN
Track components	track pitch 280 mm, maintenance-free
Track rollers/Carrier rollers	15/4
Track pads	flat track pads
Digging locks	wet multi-discs (spring applied, pressure released)
Brake valves	integrated in main valve block



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 absorbed
Pivots	sealed, low maintenance
Lubrication	automatic lubrication system Lincoln "Centromatic" for attachment and swing ring

Dimensions



	mm
A	4080
A1	6575
A2	7305
B	7250
C	13560
D	4680
E	4795
G	7520
H	11105
K	8715
L	8130
M	4065
N	750
P	1710
Q	790
S	6500
U	9530

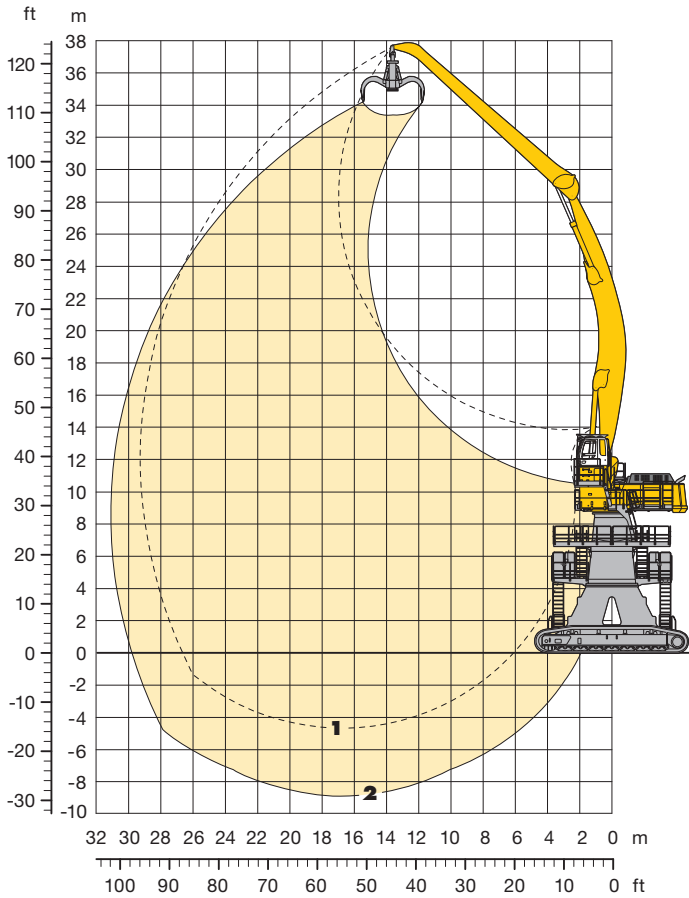
E = Tail radius

Industrial-Type Gooseneck Boom 16,50 m and Industrial Stick 14,50 m		mm
V		11700
W		13500
X		22500

Industrial-Type Gooseneck Boom 14,50 m and Industrial Stick 12,50 m		mm
V		12000
W		13500
X		20500

Industrial Attachment

with Industrial-Type Gooseneck Boom 16,50 m



Attachment Envelope

Kinematic variant 3D

- 1 with industrial stick 14,50 m
- 2 with industrial stick 14,50 m and grapple model 75 B

Operating Weight and Ground Pressure

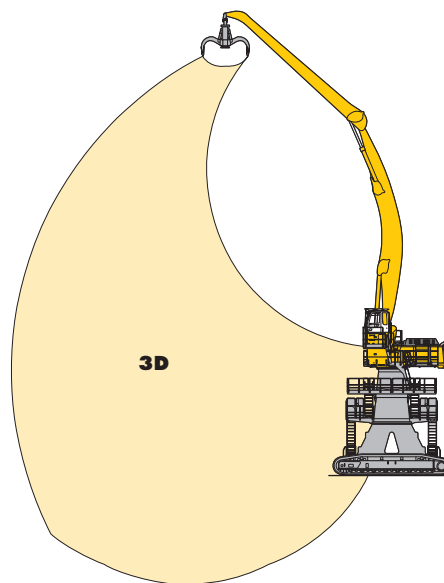
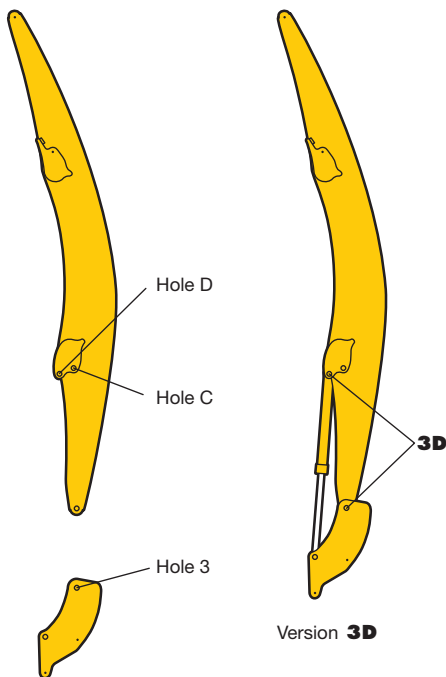
The operating weight includes basic machine with rigid cab elevation and ballast weight 22 t, industrial-type gooseneck boom 16,50 m, industrial stick 14,50 m and grapple model 75 B semi-closed tines 3,00 m³.

Undercarriage		HR
Pad width	mm	750
Weight	kg	210700
Ground pressure		on request

VarioLiftPlus

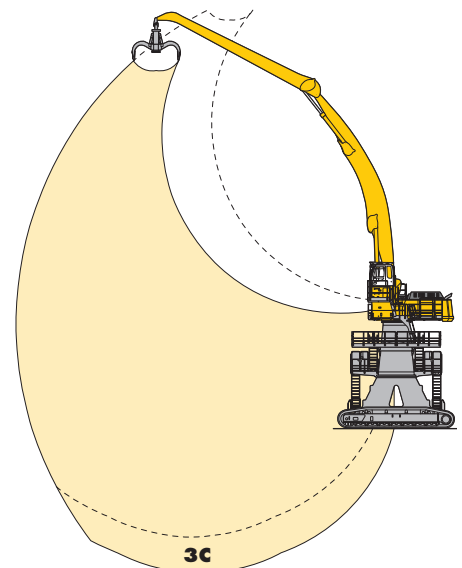
VarioLiftPlus: Variable boom mounting positions for optimized lift capacities

with a **different** working range



Kinematic Variant 3D:

Increased lift capacities below ground level and when working at large outreach

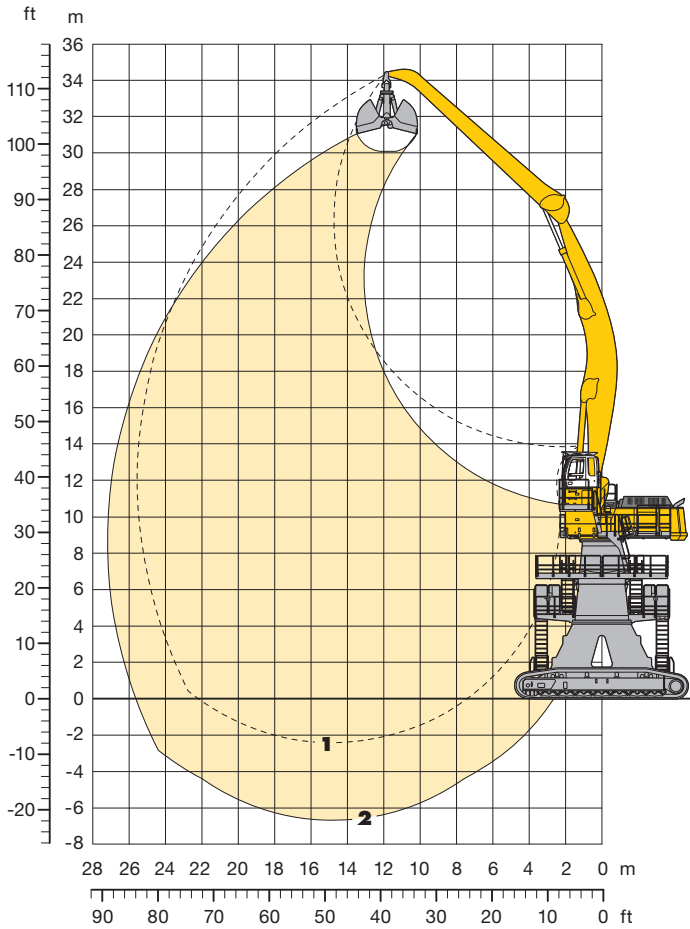


Kinematic Variant 3C:

Altered range curve with additional reach depth, e.g. for unloading from ships

Industrial Attachment

with Industrial-Type Gooseneck Boom 14,50 m



Attachment Envelope

Kinematic variant 3D

- 1 with industrial stick 12,50 m
- 2 with industrial stick 12,50 m and clamshell model 35

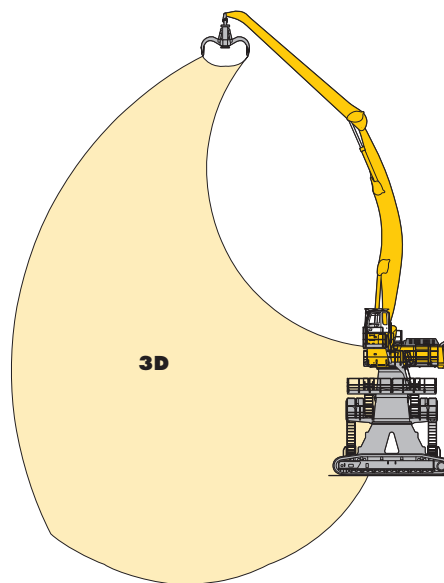
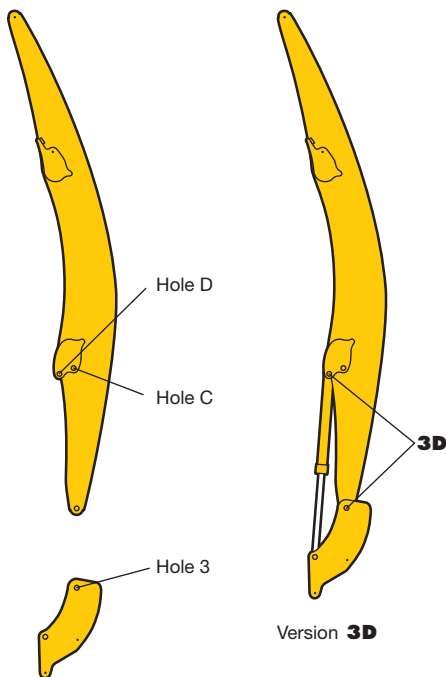
Operating Weight and Ground Pressure

The operating weight includes basic machine with rigid cab elevation and ballast weight 22 t, industrial-type gooseneck boom 14,50 m, industrial stick 12,50 m and clamshell model 35/5,70 m³.

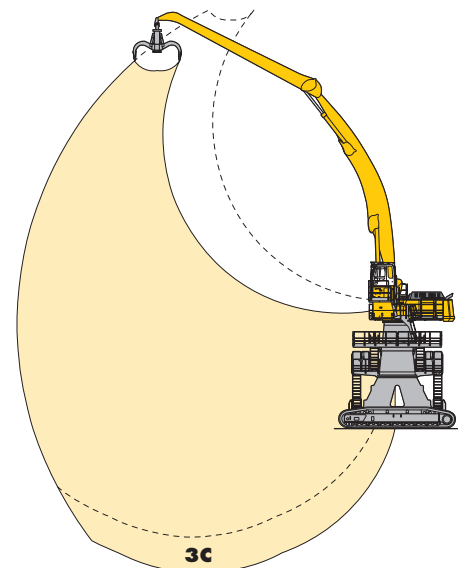
Undercarriage	HR	
Pad width	mm	750
Weight	kg	209900
Ground pressure	on request	

VarioLiftPlus

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

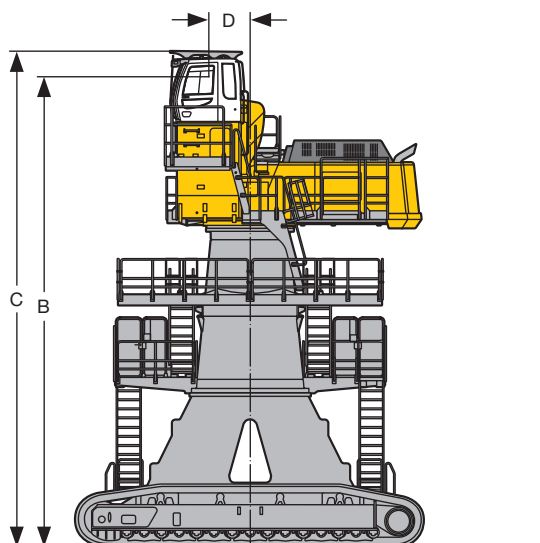


Kinematic Variant 3D:
Increased lift capacities below ground level and when working at large outreach



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

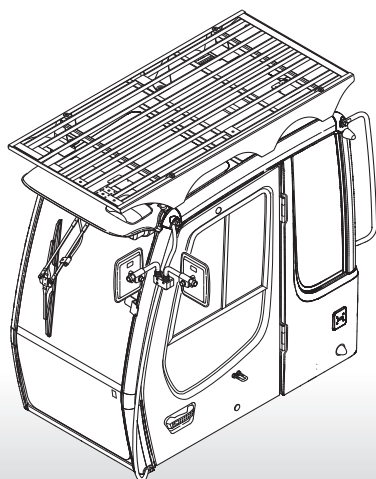
Choice of Cab Elevation and Cab Protection



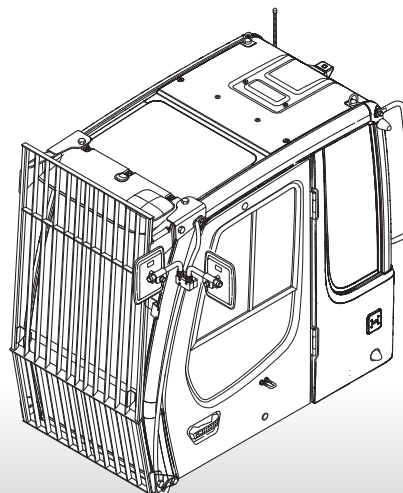
Rigid Cab Elevation

B	12860 mm
C	13560 mm
D	1135 mm

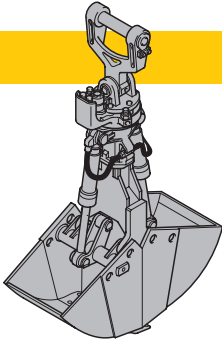
Upper Cab Guard



Front Cab Guard



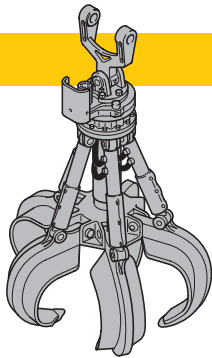
Variety of Tools



Shells for Loose Material

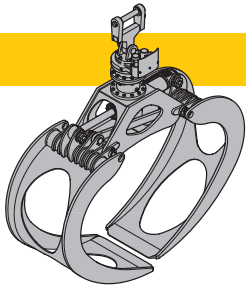
Shells for loose material with cutting edge (without teeth)

Clamshell Model 25 B							
Cutting width of shells	mm	1700	1700	2000	1800	2000	2200
Capacity	m ³	2,30	2,80	3,00	3,50	4,00	4,50
Weight	kg	3200	3250	3550	3300	3550	3750
Clamshell Model 35							
Cutting width of shells	mm	1800	2000	1900	2200		
Capacity	m ³	3,00	3,50	4,90	5,70		
Weight	kg	4200	4750	6200	6200		



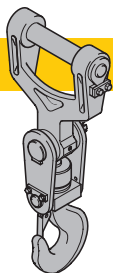
Multiple Tine Grapples

			open tines			semi-closed tines			closed tines		
Grapple Model 75 B (5 tines)	Capacity	m ³	2,00	2,50	3,00	2,00	2,50	3,00	2,00	2,50	3,00
	Weight	kg	3400	3550	3700	4100	4250	4400	4500	4650	4800
Grapple Model 85 (5 tines)	Capacity	m ³	–	–	–	3,10	3,50	4,00	–	–	4,00
	Weight	kg	–	–	–	5500	5700	5800	–	–	6700



Wood Grapples

		GM 25 BH	GMH 50
Size	m ²	1,70	2,80
Width	mm	1000	1000
Span width of grapple, inside	mm	2975	3735
Span width of grapple, outside	mm	3300	4290
Height of grapple, open	mm	3085	2225
Height of grapple, closed	mm	3815	2680
Total weight	kg	3350	2400



Crane Hook with Suspension

Max. load	t	32
Weight	kg	180

Equipment



Undercarriage

Drain pipe for used liquids	•
Different track pad versions	+
Straight track guiders per length girders	•
Digging locks	•
Integrated travel drive	•
Guard plates for additional tanks below	+
Customized colors	+
Generator for service crane	+
Front and rear view camera	•
Additional fuel tanks 6000 liter with tank-filling system	+
Access control	•



Uppercarriage

Electric fuel tank filler pump	+
Travel warning system	+
Maintenance-free swing brake lock	•
Handrails, non slip surfaces	•
Main switch for electric circuit	•
Engine hood with lift help	•
Pedal controlled positioning swing brake	+
Sound insulation	•
Electric service crane	+
Customized colors	+
Maintenance-free HD-batteries	•
Lockable tool box	•
Tool kit	•
Additional flood lights on walkways	•



Hydraulics

Hydraulic tank shut-off valve	•
Pressure compensation	•
Pressure test ports	•
Pressure storage for controlled lowering of attachments with engine turned off	•
Filter with integrated fine filter area (5 µm)	•
Electronic pump regulation	•
Flow compensation	•
Stepless work mode selector	•
Filter for secondary circuit	+
Bio degradable hydraulic oil	+
Additional hydraulic circuits	+



Engine

Turbo charger	•
Direct injection	•
Preparation for cold start aid	•
Fuel pre-heater	+
After-cooled	•
Sensor controlled engine idling	•
Air filter with automatic dust ejector	•
Air filter with pre-cleaner, main and safety element	•
Protective grid in front of cooler intake	+



Operator's Cab

Storage tray	•
Displays for engine operating condition	•
Mechanical hour meters, readable from outside the cab	•
Removable handle for travel pedals	•
6-way adjustable seat	•
Airpressure operator seat	+
Seat and consoles independently adjustable	•
Extinguisher	+
Front window with washer-wiper	+
Removable customized foot mat	•
Dome light	•
Rigid cab elevation	•
Cab heater with defroster	•
Coat hook	•
Air conditioning	•
Digital instrumentation	•
Electric cool box	+
Bullet proof roof window (fixed installation – can not be opened)	•
Bullet proof front window (fixed installation – can not be opened)	•
Stereo radio	+
Radio installation prep-kit	+
Warning beacon	+
Door with sliding window	•
Cab guard	+
Tinted side windows	•
Customized colors	+
Sun shade	+
Sun roller blind	•
Auxiliary heating	+
Digital instruments for oil temp. engine RPM and oil pressure	•
Electronic drive away lock	+
Washer and wiper	•
Cigar lighter and ashtray	•
Additional flood lights	+



Attachment

Flood lights, 4 on boom and 2 on stick	•
Hydr. lines for clam operation inside the stick	•
Industrial stick with quick change tool adapter	+
Sealed pivots	•
Liebherr attachment tools	+
Automatic lubrication system Lincoln "Centromatic" for attachment and swing ring	•
Safety check valves on hoist cylinder + ReGeneration System	•
Safety check valves on stick cylinder + ReGeneration	•
Hose quick connection	•
Customized colors	+
Overload warning device	+
Cylinders with shock absorber	•

• = Standard, + = 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.