R 924 Litronic

LIEBHERR

Crawler excavator

Generation
5

Operating weight
24,950 – 25,500 kg

Engine
125 kW / 170 HP
Stage IIIA / Tier 3

Bucket capacity
0.80 – 1.65 m³

Long live progress with the R 924

Safety

- Anti-slip coated access areas
- Full all-around visibility – optional rear and side surveillance cameras
- Emergency exit through the rear window in all excavator configurations
- Laminated and tinted glass right window and windscreen

Equipment

- High digging and penetration force
- Integrated regeneration system
- Fast combined movements
- Cast steel elements
- Better resistance to stress
- Longer life of parts due to grouping of lubrication points and reduced maintenance time

Frame

- Reliable and robust X-shaped chassis, easy to secure with integrated eyelets
- Special heat treatment for low sprocket wear
- Maintenance-free undercarriage and greased-for-life track rollers
- Easy to service

Comfort

- Comfortable and spacious air-conditioned work area
- Easy to use 9" high resolution colour touch screen
- Large glass area
- Fully retractable front window
- New LED lighting as standard

Engine

- Cummins EU Stage IIIA / EPA Tier 3 equivalent engine
- Low fuel consumption
- Large fuel tank for long range
- Steel engine hood and doors
- Hydrostatically driven fan on request
- Automatic idling and revving up

Maintenance

- Maintenance concept with components accessible from the ground
- Central lubrication of equipment – Automatic as an option

Technical data

Engine

Rating per SAE J1995 / ISO 3046	125 kW (170 HP) at 1.800 RPM
Model	Cummins QSB6.7
Type	6 cylinder in-line
Bore	107 mm
Stroke	124 mm
Displacement	6.7 l
Engine operation	4-stroke diesel Common-Rail, turbo
Exhaust gas treatment	Emission standard equivalent to EU Stage IIIA / EPA Tier 3
Cooling system	Water-cooled and integrated motor oil cooler, after-cooled and water-cooled
Air cleaner	Dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	580 l
Fuel cleaner	Pre-filter (7 µm) and fine filter (5 µm) for the fuel supply system
Electrical system	
Voltage	24 V
Batteries	2 x 135 Ah / 12 V
Starter	24 V / 7.8 kW
Alternator	Three-phase current 24 V / 70 A
Engine idling	Sensor controlled
Motor management	Connection to the integrated excavator system controlling via CAN-BUS to the economical utilisation of the service that is available

Hydraulic controls

The controlling is conducted via the integrated excavator system technology, input and output modules, communicated via the CAN-BUS with the electronic central unit	
Power distribution	Via control valves with integrated safety valves
Flow summation	To boom and stick
Servo circuit	
Equipment and swing	Proportional via joystick levers
Travel	– With proportionally functioning foot pedals and lever – Speed pre-selection or automatic adjustment
Additional functions	Proportional regulation via foot pedals or mini-joystick

Hydraulic system

Hydraulic system	Positive Control hydraulic system. Demand-based, double independent pump flows Features high system dynamics and sensitivity provided by integrated system controlling
Regeneration	Integrated into the main hydraulic block
Hydraulic pump	Variable double pump, in-line and swashplate
Max. flow	2 x 216 l/min.
Max. pressure	350 bar
Pump management	Electronic pump management via the integrated system controlling (CAN-BUS) synchronous to the control block
Hydraulic tank	100 l
Hydraulic system	max. 300 l
Filtration	1 full flow filter (10 µm) in return line
Cooling system	Compact radiator, comprising cooling unit for water, hydraulic oil, after-cooler and hydrostatically driven fan
MODE selection	Adjustment of engine and hydraulic performance via a 3-mode selector to match application, e.g. ECO mode for economical and environmentally friendly operation or POWER+ mode for maximum digging performance and heavy-duty jobs
RPM adjustment	Stepless adjustment of engine output via RPM at each selected mode
Tool Control	20 pre-adjustable pump flows and pressures for add-on attachments

Swing drive

Drive	Swashplate motor, shockless and antireaction
Transmission	Compact planetary reduction gear
Swing ring	Sealed race ball bearing swing ring, internal teeth
Swing speed	0–11.3 RPM stepless
Swing torque	73.3 kNm
Holding brake	Wet multi-disc (spring applied, pressure released)

Cab

Cab	ROPS (option) safety cab structure with windscreen, totally or partially retractable (only upper part), under cab roof, headlights integrated in the roof, a door with a sliding window (can be opened on both sides), large storing possibilities, shock-absorbing suspension, sound damping insulating, tinted laminated safety glass, separate window shades for the sunroof window and windscreen, 24 V plug, 12 V optional, bottle holder
Operator's seat	Liebherr-Standard seat, mechanically suspended with weight adjustment, vertical seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination (adjustable in length, height, and inclination)
Option	Liebherr-Comfort seat, airsprung with automatic weight adjustment, vertical and longitudinal seat damping including consoles and joysticks, with seat heating
Control system	Arm consoles, moving with the seat
Operation and displays	Large high-resolution colour display with intuitive operation via touchscreen, versatile adjusting, control and monitoring facilities, e.g. implement and attachment parameters
Air-conditioning	Standard automatic air-conditioning, ambient air function, fast de-icing and demisting at the press of a button, air vents can be operated using special buttons. Filter for recycling and fresh air filter can be replaced and are accessible from the inside. Heating-cooling unit, designed for extreme outside temperatures
Noise emission	
ISO 6396	80 dB(A) = L_{pA} (inside cab)
2000/14/EC	105 dB(A) = L_{WA} (surround noise)

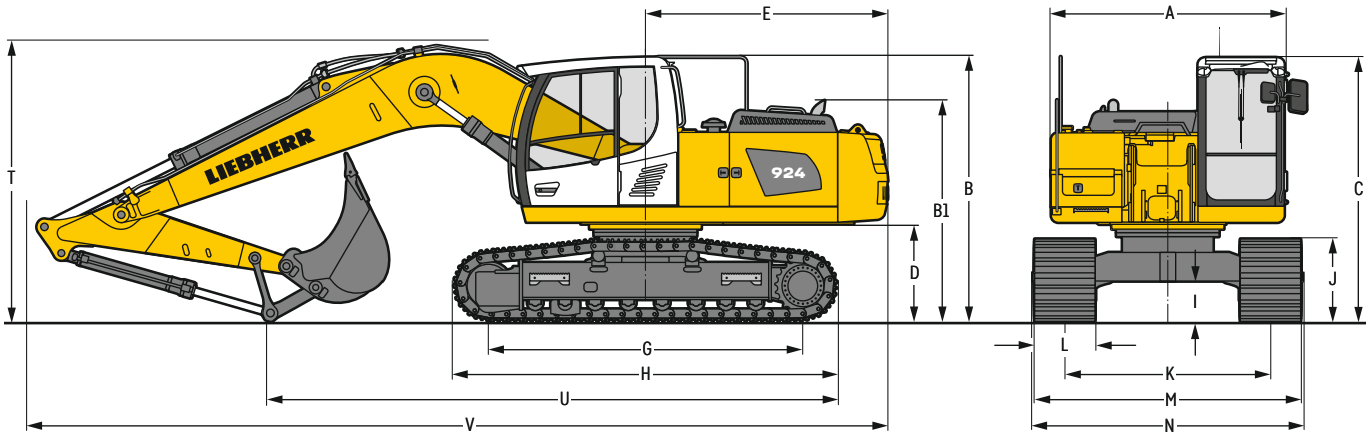
Undercarriage

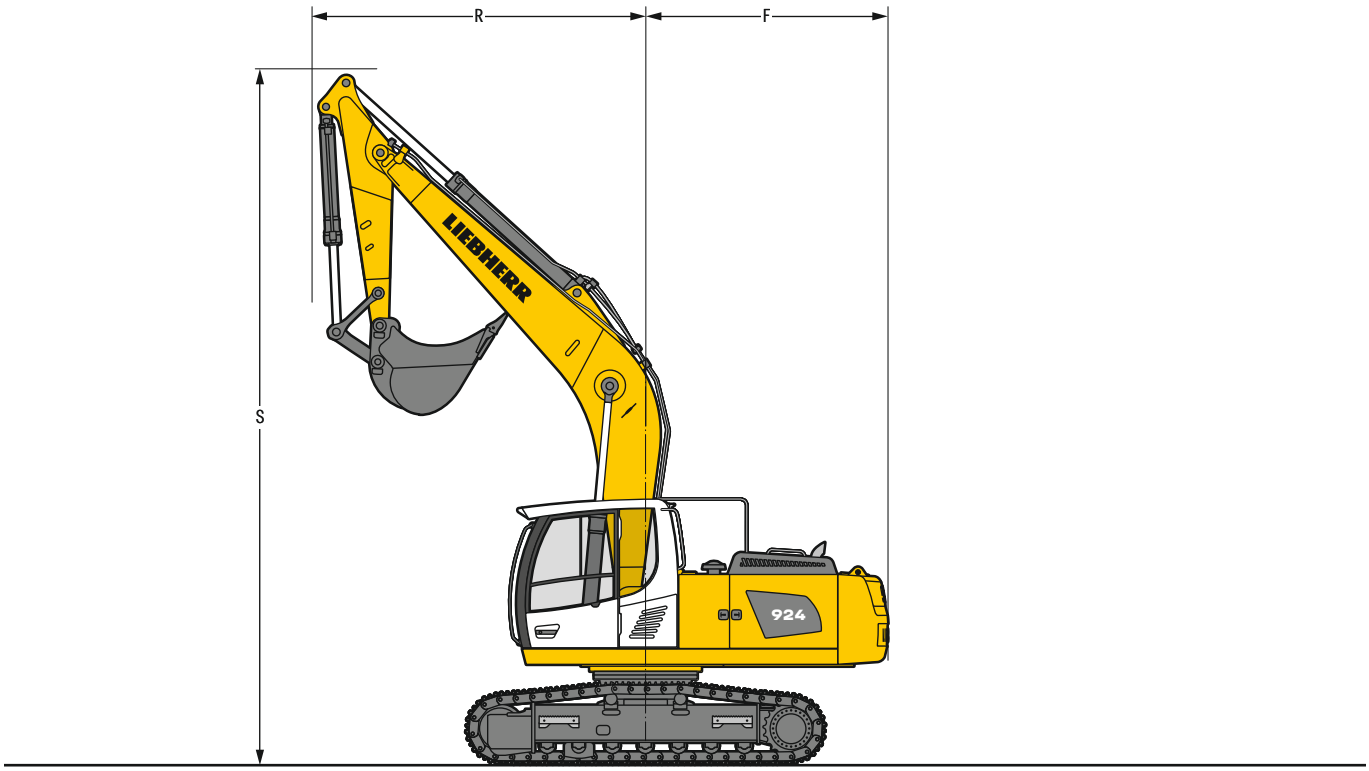
S	Gauge 2,380 mm
Drive	Liebherr swashplate motor with brake valves on both sides
Transmission	Liebherr compact planetary reduction gear
Maximum travel speed	3 km/h low range 5 km/h high range
Net drawbar pull on crawler	228 kN
Track components	B60, maintenance-free
Track rollers / Carrier rollers	8 / 2
Tracks	Sealed and greased
Track pads	Triple grouser
Holding brake	Wet multi-disc (spring applied, pressure released)
Brake valves	Integrated into travel motor
Lashing eyes	Integrated

Equipment

Type	Combination of resistant steel plates and cast steel components
Hydraulic cylinders	Cylinders with special seal-system and shock protection
Bearings	Sealed, low maintenance
Lubrication	Manual central lubrication system or optional automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	Pipes and hoses equipped with SAE split-flange connections

Dimensions





		S			mm
A	Uppercarriage width				2,700
B	Uppercarriage height				3,080
B1	Uppercarriage height (handrails folded)				2,560
C	Cab height				3,060
D	Counterweight ground clearance				1,125
E	Rear-end length				2,800
F	Tail swing radius				2,820
G	Wheelbase				3,640
H	Undercarriage length				4,440
I	Undercarriage ground clearance				465
J	Track height				960
K	Track gauge				2,380
L	Track pad width		600	700	800
M	Width over tracks		2,980	3,080	3,180
N	Width over steps		2,920	3,120[1)]	3,120[1)]

[1)] width with removable steps

		Stick length m	**Mono boom 5.90 m** direct mounting **mm**
R	Front swing radius		3,850
S	Height with boom up		8,050
T	Boom height	2.00	3,250
		2.50	3,300
		3.00	3,300
U	Length on ground	2.00	6,600
		2.50	6,050
		3.00	5,400
V	Overall length		9,950
	Bucket		1.25 m^3

Transport dimensions

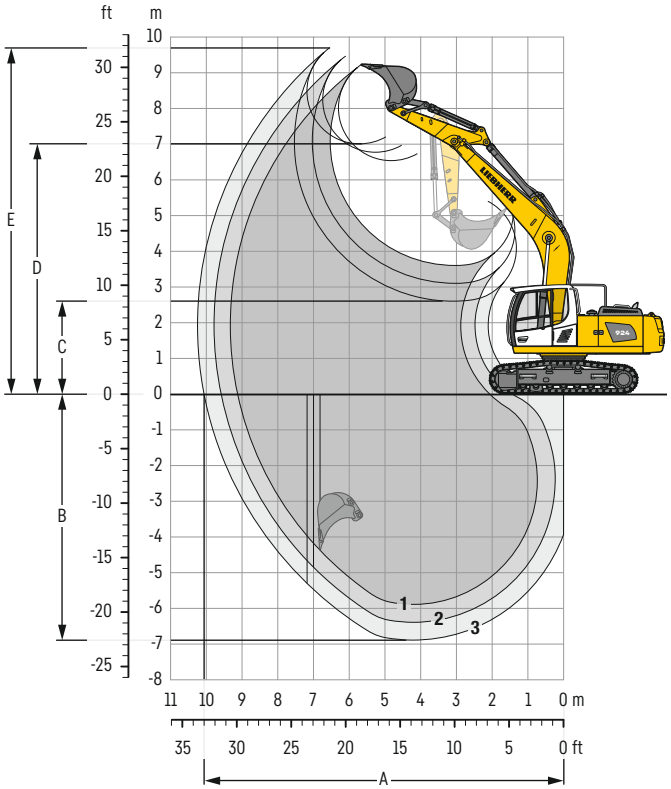
removable elements disassembled

	Mono boom 5.90 m		
		mm	
Pad width	600	700	800
Transport width	2,980	3,120	3,180

	Stick m	
		mm
Transport length		9,950
Transport height	2.00	3,250
	2.50	3,300
	3.00	3,300
Bucket		1.25 m^3

Backhoe bucket

with mono boom 5.90 m



Digging envelope

without quick coupler		1	2	3
Stick length	m	2.00	2.50	3.00
A Max. reach at ground level	m	9.13	9.59	10.06
B Max. digging depth	m	5.89	6.39	6.89
C Min. dumping height	m	3.60	3.10	2.60
D Max. dumping height	m	6.54	6.77	7.01
E Max. cutting height	m	9.22	9.46	9.69

Forces

without quick coupler		1	2	3
Stick digging force (ISO 6015)	kN	157	135	119
Bucket digging force (ISO 6015)	kN	173	173	173
Stick digging force (SAE J1179)	kN	149	129	114
Bucket digging force (SAE J1179)	kN	151	151	151

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 5.4 t, mono boom 5.90 m, stick 3.00 m and bucket 1.25 m³ (890 kg).

Undercarriage		S		
Pad width	mm	600	700	800
Weight	kg	24,950	25,250	25,500
Ground pressure	kg/cm²	0.53	0.46	0.41

Buckets Machine stability per ISO 10567* (75 % of tipping capacity)

	Cutting width	Capacity ISO 7451	Weight[3]	Weight[4]	S undercarriage (with track pads 600 mm) Stick length (m)					
					without quick coupler			with quick coupler		
	mm	m³	kg	kg	2.00	2.50	3.00	2.00	2.50	3.00
STD[1]	1,050	0.80	660	670	▲	▲	▲	▲	▲	▲
	1,250	1.00	760	770	▲	▲	▲	▲	▲	▲
	1,250	1.15	780	790	▲	▲	▲	▲	▲	▲
	1,250	1.25	890	920	▲	▲	▲	▲	▲	▲
	1,400	1.35	860	870	▲	▲	▲	▲	▲	■
	1,400	1.50	950	980	▲	▲	■	▲	▲	■
	1,500	1.65	1,020	1,030	▲	■	■	▲	■	■
HD[2]	1,050	0.80	730	740	▲	▲	▲	▲	▲	▲
	1,250	1.00	840	850	▲	▲	▲	▲	▲	▲
	1,250	1.15	880	890	▲	▲	▲	▲	▲	▲
	1,250	1.25	1,010	1,040	▲	▲	▲	▲	▲	▲
	1,400	1.35	970	980	▲	▲	▲	▲	▲	■
	1,400	1.50	1,090	1,120	▲	■	▲	▲	■	▲
	1,500	1.65	1,160	1,170	■	▲	■	■	▲	△

* Indicated loads are based on ISO 10567, at maximum reach, and may be swung 360° on firm and even ground
[1] Standard bucket with teeth Z 40
[2] HD bucket with teeth Z 40
[3] Bucket for direct mounting
[4] Bucket for mounting to quick coupler
Other buckets available upon request

Max. material weight ▲ = ≤ 2.0 t/m³, ■ = ≤ 1.8 t/m³, ▲ = ≤ 1.65 t/m³, ■ = ≤ 1.5 t/m³, △ = ≤ 1.2 t/m³

Lift capacities

with mono boom 5.90 m, counterweight 5.4 t and track pads 600 mm

Stick 2.00 m

Undercarriage / m	3.0 m		4.5 m		6.0 m		7.5 m				m
7.5									6.7*	6.7*	**5.4**
6.0					6.0	6.5*			5.1	6.5*	**6.7**
4.5			8.8*	8.8*	5.9	7.1*			4.3	6.2	**7.4**
3.0			8.2	11.0*	5.6	8.0*	4.1	6.0	3.9	5.7	**7.8**
S 1.5			7.9	10.9*	5.4	8.1	4.0	5.9	3.8	5.5	**7.8**
0			7.8	12.5*	5.3	8.0	4.0	5.9	3.9	5.7	**7.6**
−1.5	9.3*	9.3*	7.8	11.9*	5.2	8.0			4.3	6.4	**7.1**
−3.0	13.8*	13.8*	8.0	10.5*	5.4	7.8*			5.3	7.6*	**6.1**
−4.5											

Stick 2.50 m

Undercarriage / m	3.0 m		4.5 m		6.0 m		7.5 m				m
7.5					6.0*	6.0*			6.0	6.0*	**6.1**
6.0					6.0*	6.0*			4.5	6.0*	**7.2**
4.5	11.6*	11.6*	7.9*	7.9*	5.9	6.6*	4.2	6.1*	3.9	5.7	**7.9**
3.0			8.4	10.1*	5.6	7.6*	4.1	6.0	3.6	5.2	**8.2**
S 1.5			7.9	11.8*	5.4	8.1	4.0	5.9	3.5	5.1	**8.3**
0			7.7	12.4*	5.2	8.0	3.9	5.8	3.5	5.2	**8.1**
−1.5	9.3*	9.3*	7.7	12.1*	5.2	7.9	3.9	5.8	3.8	5.7	**7.6**
−3.0	15.1	15.2*	7.8	11.1*	5.2	8.0			4.6	6.9	**6.7**
−4.5	11.7*	11.7*	8.1	8.6*					6.7	7.2*	**5.2**

Stick 3.00 m

Undercarriage / m	3.0 m		4.5 m		6.0 m		7.5 m				m
7.5									5.2	5.2*	**6.7**
6.0					5.4*	5.4*	4.3	5.4*	4.1	4.9*	**7.7**
4.5					5.9	6.1*	4.2	5.6*	3.5	4.9*	**8.4**
3.0			8.5	9.3*	5.6	7.1*	4.1	6.0	3.3	4.8	**8.7**
S 1.5			7.9	11.2*	5.3	8.1*	3.9	5.8	3.2	4.7	**8.8**
0	4.1*	4.1*	7.6	12.2*	5.1	7.9	3.8	5.7	3.2	4.8	**8.6**
−1.5	8.9*	8.9*	7.6	12.2*	5.1	7.8	3.8	5.7	3.5	5.2	**8.1**
−3.0	14.8	15.0*	7.6	11.5*	5.1	7.9			4.0	6.1	**7.2**
−4.5	13.3*	13.3*	7.8	9.6*					5.4	7.0*	**5.9**

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

The load values are quoted in tons (t) at stick end (without bucket), and may be swung 360° on firm and even ground. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600 mm wide track pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via *). Without bucket cylinder, link and lever the lift capacities will increase by 320 kg. Lifting capacity of the excavator is limited by machine stability and hydraulic capacity.
According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device, a load diagram and automatic safety check valves on hoist cylinders and stick cylinder(s), when they are used for lifting operations which require the use of lifting accessories.
Determine maximum load lift from load lift chart displayed in the operator's cab or from load lift chart detailed in the operator's manual supplied with the machine.

Serial equipment

Undercarriage

- Lashing eyes
- Sprocket with dirt ejector
- Track and carrier rollers, sealed and lifetime-lubricated
- Tracks, sealed and greased

Uppercarriage

- Anti-skid surfaces
- Automatic swing brake lock
- Engine hood with gas spring opening
- Filters accessible from ground level
- Handrails
- Hydraulic oil level, visible from ground level
- Lockable service doors
- Lockable storage and accessories compartment
- Main switch, manual, lockable
- Protection grid on radiator fan
- Sound insulation
- Tool set including storage case

Hydraulic system

- Hydraulic pressure measuring ports
- Liebherr Positive Control system with 2 independent circuits
- Magnetic rod
- Pressure accumulator for controlled lowering of equipment with engine turned off

Engine

- Air filter with automatic dust ejector
- Automatic engine idling / speed increase, controlled via joystick movement
- Common-Rail injection system
- Engine oil dipstick
- Fixed geometry turbocharger
- Fuel fine filter
- Fuel pre-filter and water separator
- Fuel priming pump
- Intercooler
- Power Pack equivalent to EU Stage IIIA / EPA Tier 3
- Stepless adjustable engine speed

Cab

- 2" seat belt with retractor
- 9" multifunction colour touchscreen
- Air conditioning, automatic, tri-zone
- Armrests adjustable in length, height and inclination
- Bottle holder
- Cab air filters housing, accessible from ground level
- Cab door sliding windows
- Cigarette lighter
- Coat hook
- Electric socket in cabin (24 V)
- Emergency hammer
- Footrest
- Fuel consumption on touchscreen
- Fuel level on touchscreen
- Interior lighting
- Laminated right hand side window
- Laminated roof window
- LiDAT Plus (Liebherr data transfer system)*
- Mechanical hour meter, visible from ground level
- Mobile phone storage net
- Movement priority between swing and boom, adjustable via touchscreen
- Radio Comfort
- Rain hood over front window opening
- Rearview mirror
- Rear window emergency exit
- Retractable laminated two-piece windscreen
- Roll-down sun blinds for windscreen and roof window
- Rubber floor mat, fixed on floor and removable
- Shortkey buttons on joystick configurable
- Storage nets
- Storage spaces
- Tinted windows
- Visco-elastic damping
- Windscreen wiper and washer
- Work mode selector

Equipment

- Anti-drift system boom cylinders
- Anti-drift system stick cylinder
- Boom cylinders regeneration
- Pivot points made of cast steel
- SAE split flanges on high pressure lines
- Stick cylinder regeneration

* optionally extendable after one year

Equipment standard / option

Undercarriage

Chain guide 1 piece	●
Chain guide 2 pieces	+
Chain guide 3 pieces	+
Cover and base plate for undercarriage centre section	●
Reinforced cover and base plate for undercarriage centre section	+
Steps	●
Steps wide	+
Track pads triple grouser 600 mm	●
Track pads triple grouser 700 / 800 mm	+
Undercarriage S	●

Uppercarriage

Air pre-filter with cyclonical dust trap	+
Centralised lubrication system (automatic)	+
Centralised lubrication system (manual)	●
Counterweight standard 5.4 t	●
Front right rearview mirror	●
Fuel anti-theft protection	+
Headlight on uppercarriage, lateral right, LED+, 1 piece	+[1]
Headlight on uppercarriage, lateral left, LED+, 1 piece	+[1]
Headlights on uppercarriage, rear, LED+, 2 pieces	+[1]
Lockable fuel tank cap	●
Lockable fuel tank cap with padlock	+
Pre-heating system for fuel	+
Rearview mirror on counterweight	●
Tank refilling pump fuel	+
Uppercarriage bottom closure sheets	●

Hydraulic system

Filter for hydraulic hammer return flow	+
High pressure circuit with Tool Control (20 attachment adjustments on display)	+
Liebherr hydraulic oil	●
Liebherr hydraulic oil, adapted for extreme climate conditions	+
Medium pressure circuit	+
Preparation for medium pressure circuit	+

Cab

Acoustic travel alarm deactivatable	+
FGPS front guard	+
FGPS front guard tiltable	+
FOPS top guard	+
Handrests elevated for joysticks	+
Headlights on cab, front, LED, 2 pieces	●[1]
Headlights on cab, front, LED+, 2 pieces	+[1]
Luminosity control (LED+ headlights)	+[1]
Mini-joystick proportional	+
Operator seat Comfort	+
Operator seat Standard	●
Overload warning system	+
Rear view monitoring camera	+
Right hand side view monitoring camera	+
ROPS safety cab structure (ISO 12117-2)	+
Rotating beacon on cabin, LED, 1 piece	+
Sun visor	+

Equipment

Boom bottom protection	+
Headlight on boom, right, LED, 1 piece	●[1]
Headlight on boom, right, LED+, 1 piece	+[1]
Mono boom 5.90 m	●
Pipe fracture safety valve for stick cylinder	+
Pipe fracture safety valves for boom cylinders	+
Quick coupler SWA 48 hydraulic	+
Quick coupler SWA 48 mechanical	+
Stick 2.00 m	+
Stick 2.50 m	+
Stick 3.00 m	+
Stick bottom protection	+

● = Standard, + = Option

[1] Equipment not individually available, but only as predefined packages

Non-exhaustive list, please contact us for further information.

Options and / or special equipment, supplied by vendors other than Liebherr, are only to be installed with the knowledge and approval of Liebherr in order to retain warranty.

The Liebherr Group

Global and independent: more than 70 years of success
Liebherr was founded in 1949 when, with the development of the world's first mobile tower crane, Hans Liebherr laid the foundations for a family-run company which now has more than 50,000 employees and comprises over 150 companies across every continent. The holding company of the Group is Liebherr-International AG in Bulle, Switzerland, whose shareholders are exclusively members of the Liebherr family.

Technology leadership and pioneering spirit
Liebherr is a pioneer and its forward-looking approach has seen it make important contributions to technology history over a wide variety of industries. Employees throughout the world continue to share the courage of the company founder, sharing a passion to produce innovative products and a determination to provide world-leading equipment and machinery.

Diversified product programme
Liebherr is one of the world's biggest construction machine manufacturers and provides high-quality, user-oriented products and services. Its product programme includes earthmoving machinery, material handling technology, deep foundation machines, mining, mobile and crawler cranes, tower cranes, concrete technology, maritime cranes, aerospace and transportation systems, gear technology and automation systems, refrigerators and freezers, components and hotels.

Customised solutions and maximum customer value
Liebherr solutions are characterised by precision, implementation and longevity. The company is committed to technological excellence and to providing customers with solutions that match their needs exactly. For Liebherr, customer focus does not end with delivery of a product but continues through a comprehensive range of back-up and support services.

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