
R 921 Litronic

LIEBHERR

Crawler excavator

Generation

5

Engine

112 kW / 152 HP
Stage V
Tier 4 Final

Operating weight

22,200–22,750 kg

Bucket capacity

0.60–1.50 m³



Experience the progress

① Safety

- Anti-slip coated access areas
- Full all-around visibility
- Rear and side surveillance cameras as an option
- Emergency exit through the rear window in all excavator configurations
- Laminated and tinted glass right window and windscreen
- Safety check valves for hoist and stick cylinders as an option

② 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

③ Maintenance

- Maintenance concept with components accessible from the ground
- Manual centralised lubrication of equipment and uppercarriage as standard
- Automatic centralised lubrication of equipment and uppercarriage as an option

④ Comfort

- Comfortable and spacious air-conditioned work area
- Intuitive high resolution 9" colour touchscreen
- Large glass areas
- Fully retractable front window
- LED lighting as standard



⑤ Engine

- Deutz engine with double certification EU Stage V and USA Tier 4 Final standards
- Low fuel consumption
- Large fuel tank for long range
- Steel engine hood and doors
- Hydrostatically driven fan
- Automatic idling and revving up

⑥ Undercarriage

- 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 maintenance and cleaning



Technical data



Engine

Rating per SAE J1995 / ISO 3046	112kW (152HP) at 1,800RPM
Torque	682Nm at 1,400RPM
Model	Deutz TCD 5.2 L4
Type	4 cylinder in-line
Bore	104mm
Stroke	132mm
Displacement	5.2l
Engine operation	4-stroke diesel Common-Rail injection system Turbo-charged and after-cooler Reduced emissions
Exhaust gas treatment	Stage V DOC + DPF + SCR Deutz Tier 4 Final
Cooling system	Water-cooled and oil cooler, after-cooled and fuel cooled
Air cleaner	Dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	575l
Urea tank	32l
Fuel cleaner	Pre-filter (7 µm) and fine filter (5 µm) for the fuel supply system
Electrical system	
Voltage	24V
Batteries	2 x 120Ah / 12V
Starter	24V / 4kW
Alternator	Three-phase current 28V / 120A
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 216l/min.
Max. pressure	350bar
Pump management	Electronic pump management via the integrated system controlling (CAN-BUS) synchronous to the control block
Hydraulic tank	103l
Hydraulic system	max. 300l
Filtration	1 full flow filter (10µm) 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	0-11.3RPM stepless
Swing torque	73.3kNm
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	74 dB(A) = L _{PA} (inside cab)
2000/14/EC	103 dB(A) = L _{WA} (surround noise)



Undercarriage

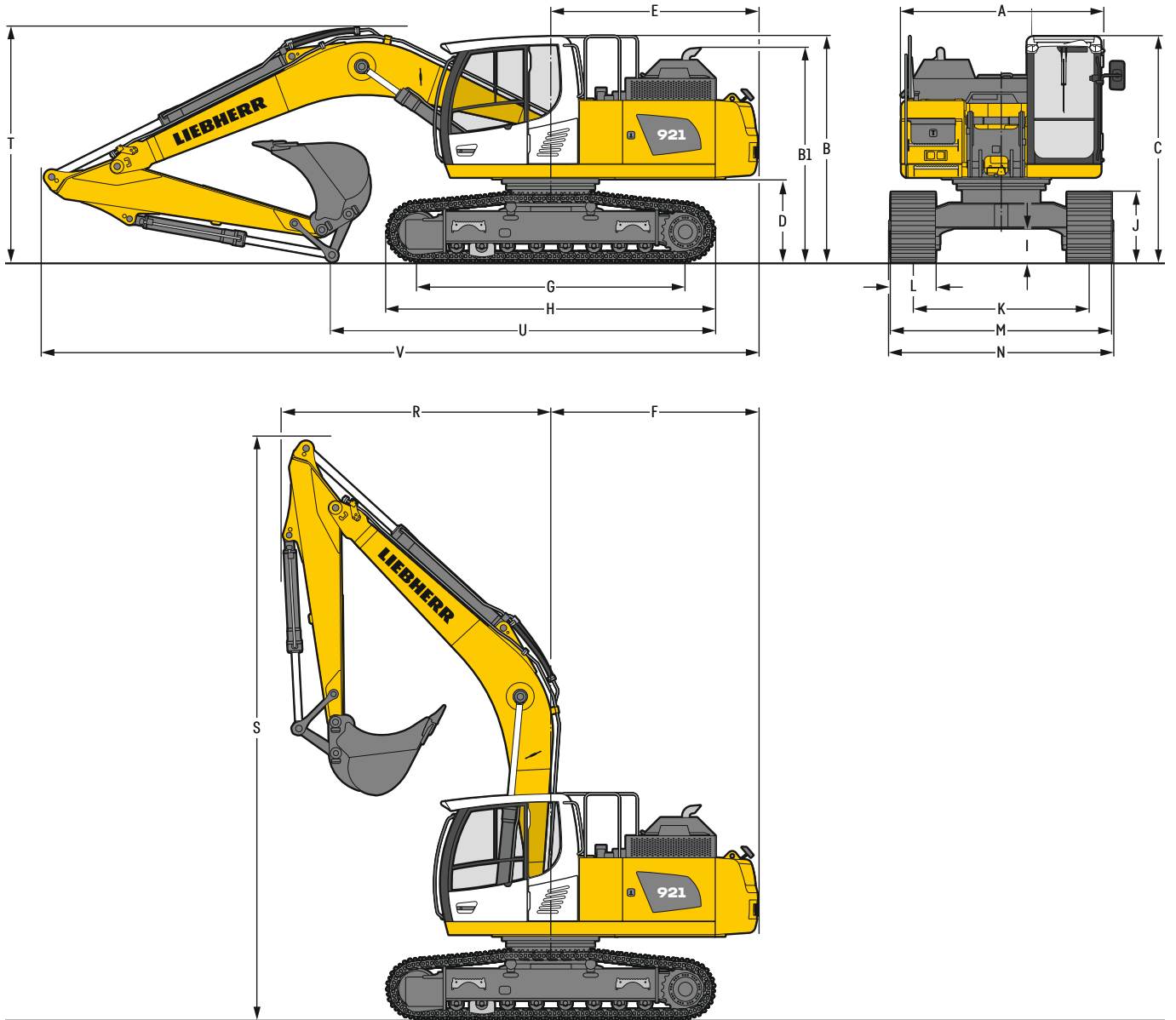
LC	Gauge 2,380 mm
Drive	Swashplate motor with brake valves on both sides
Transmission	Compact planetary reduction gear
Maximum travel speed	3 km/h low range 5 km/h high range
Net drawbar pull on crawler	228 kN
Track components	B60, maintenance-free
Track rollers / Carrier rollers	8 / 2
Tracks	Sealed 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



		LC	mm		
A	Uppercarriage width		2,700		
B	Uppercarriage height		3,080		
B1	Uppercarriage height (handrails folded)		2,900		
C	Cab height		3,060		
D	Counterweight ground clearance		1,115		
E	Rear-end length		2,800		
F	Tail swing radius		2,820		
G	Wheelbase		3,625		
H	Undercarriage length		4,440		
I	Undercarriage ground clearance		460		
J	Track height		945		
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	Mono boom 5.70 m		
		m	direct mounting		
			mm		
R	Front swing radius	2.90	3,650		
S	Height with boom up	2.90	7,950		
T	Boom height	2.90	3,200		
U	Length on ground	2.90	5,200		
V	Overall length	2.90	9,750		
	Bucket		1.15 m ³		

Transport dimensions

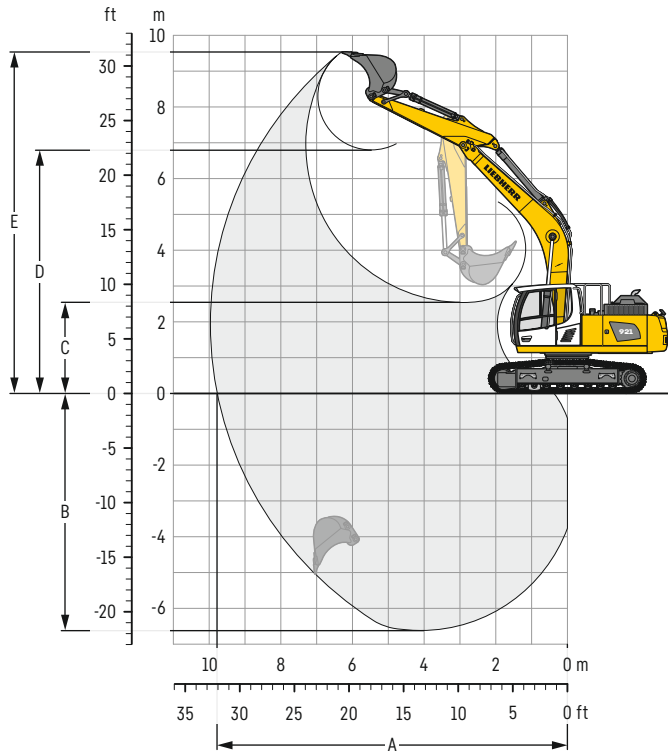
removable elements disassembled

		Mono boom 5.70 m		
		mm		
Pad width		600	700	800
Transport width		2,980	3,080	3,180

		Stick	mm	
		m		
Transport length		2.90	9,750	
Transport height		2.90	3,200	
Bucket			1.15 m ³	

Backhoe bucket

with mono boom 5.70 m



Digging envelope

without quick coupler	
Stick length	m 2.90
A Max. reach at ground level	m 9.78
B Max. digging depth	m 6.62
C Min. dumping height	m 2.54
D Max. dumping height	m 6.80
E Max. cutting height	m 9.53

Forces

without quick coupler	
Stick digging force (ISO 6015)	kN 113
Bucket digging force (ISO 6015)	kN 159
Stick digging force (SAE J1179)	kN 109
Bucket digging force (SAE J1179)	kN 139

Operating weight and ground pressure

The operating weight includes the basic machine with counterweight 3.5t, mono boom 5.70 m, stick 2.90 m and bucket 1.15m³ (780 kg).

Undercarriage	LC		
	600	700	800
Pad width	mm		
Weight	kg	22,200	22,500
Ground pressure	kg/cm ²	0.47	0.41

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

	Cutting width mm	Capacity ISO 7451 m ³	Weight ³⁾ kg	Weight ⁴⁾ kg	LC undercarriage (with track pads 600 mm)	
					Stick length (m)	
					without quick coupler 2.90	with quick coupler 2.90
STD ¹⁾	850	0.60	580	590	▲	▲
	1,050	0.80	660	670	▲	▲
	1,050	0.95	700	710	▲	▲
	1,250	1.15	780	790	▲	■
	1,250	1.25	890	920	■	▲
	1,400	1.50	950	980	△	△
HD ²⁾	850	0.60	640	650	▲	▲
	1,050	0.80	730	740	▲	▲
	1,050	0.95	790	800	▲	▲
	1,250	1.15	880	890	■	■
	1,250	1.25	1,010	1,040	▲	■
	1,400	1.50	1,090	1,120	△	△

* 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 SWA 48 (250 kg)

Other buckets available upon request

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

Lift capacities

with mono boom 5.70 m, counterweight 3.5 t and track pads 600 mm

Stick 2.90 m

Under-carriage m	3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		m
7.5					5.2*	5.2*			4.8	5.2*	6.3
6.0					5.1*	5.1*			3.6	4.9*	7.4
4.5			6.6*	6.6*	5.0	5.7*	3.5	5.3	3.1	4.7	8.1
3.0			7.2	8.6*	4.7	6.7*	3.4	5.2	2.8	4.3	8.4
LC											
1.5			6.6	10.4*	4.5	7.0	3.2	5.0	2.7	4.2	8.5
0	4.7*	4.7*	6.4	10.8	4.3	6.8	3.2	4.9	2.8	4.3	8.2
-1.5	9.4*	9.4*	6.3	10.7	4.2	6.7	3.1	4.9	3.0	4.7	7.7
-3.0	12.4	14.9*	6.4	10.5*	4.3	6.8			3.6	5.6	6.9
-4.5	11.7*	11.7*	6.6	8.4*					5.1	6.6*	5.4

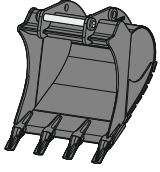
Height Can be slewed through 360° In longitudinal position of undercarriage Max. reach * Limited by hydr. capacity

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 290 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.

Attachments



Backhoe bucket TL 04

Mounting		direct mounting, SWA 48 mechanical, SWA 48 hydraulic					
Cutting width	mm	850	1,050	1,050	1,250	1,250	1,400
Capacity	m ³	0.60	0.80	0.95	1.15	1.25	1.50
Weight ¹⁾	kg	570	660	700	780	890	940

¹⁾ based on an attachment in a standard design with direct mounting

Serial equipment

Undercarriage

Lashing eyes
Sprocket with dirt ejector
Track and carrier rollers, sealed and lifetime-lubricated
Tracks, sealed and greased
Undercarriage LC, track gauge 2,380 mm

Uppercarriage

Anti-skid surfaces
Common-Rail injection system
Counterweight standard 3.5 t
DEF tank lockable access hatch
Engine oil level gauge
Exhaust gas after-treatment system – DOC + DPF + SCR
Fixed geometry turbocharger
Fuel fine filter
Fuel pre-filter and water separator
Fuel priming pump
Guardrails
Handrails
Hydraulic oil level, visible from ground level
Hydraulic pressure measuring ports
Intercooler
Liebherr Positive Control system with 2 independent circuits
Lockable service doors
Lockable storage and accessories compartment
Magnetic rod
Main switch, accessible from ground level
Main switch, manual, lockable
Positioning swing brake automatic
Power Pack EU Stage V + USA Tier 4 Final
Pressure accumulator for controlled lowering of equipment with engine turned off
Sound insulation
Stepless adjustable engine speed
Tool set including storage case
Uppercarriage bottom closure sheets
Windshield washer fluid tank

Cab

2" seat belt with retractor
9" colour touchscreen
Armrests adjustable in length, height and inclination
Automatic air-conditioning
Bottle holder
Cab door sliding windows
Cigarette lighter
Coat hook
DEF consumption on touchscreen
DEF electronic level gauge
Electric socket in cab (24 V)
Emergency hammer
Footrest
Fuel consumption on touchscreen
Fuel level on touchscreen
Interior lighting
Laminated right hand side window
Laminated roof window
Liebherr Connect Hard and Software, consider the Liebherr Connect-licence customer terms of a licence
Mechanical hour meter, visible from ground level
Mobile phone storage net
Movement priority setting between swing and boom
Power mode selector
Rain hood over front window opening
Rearview mirror on cab
Rear window emergency exit
Retractable laminated two-piece windscreen
Roll-down sun blinds for windscreen and roof window
ROPS
Rubber floor mat, fixed on floor and removable
Shortcut buttons on joystick configurable
Storage nets
Storage spaces in cab
Tinted windows
Visco-elastic damping
Windscreen washer
Windscreen wiper
Work mode selector

Equipment

Anti-drift system boom cylinders
Anti-drift system stick cylinder
Boom cylinders regeneration
Mono boom 5.70 m
Preparation for competitor quick coupler hydraulic
SAE split flanges on high pressure lines
Stick cylinder regeneration

Equipment standard / option

Undercarriage

B60 chains 600 mm triple grouser track pads 49 links	●
B60 chains 700 mm triple grouser track pads 49 links	+
B60 chains 800 mm triple grouser track pads 49 links	+
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	+

Uppercarriage

Air filter with automatic dust ejector	●
Air pre-filter with cyclonical dust trap	+
Automatic engine shutdown after idling (with timer)	+
Automatic engine shutdown after idling (without timer)	+
Centralised lubrication system (automatic)	+
Centralised lubrication system (manual)	●
Front right rearview mirror	+
Fuel anti-theft protection	+
Headlight on uppercarriage, front right, LED, 1 piece, protection included	● ¹⁾
Headlight on uppercarriage, front right, LED+, 1 piece, protection included	+ ¹⁾
Headlight on uppercarriage, lateral left, LED+, 1 piece	+ ¹⁾
Headlight on uppercarriage, lateral right, LED+, 1 piece	+ ¹⁾
Headlights on uppercarriage, rear, LED+, 2 pieces	+ ¹⁾
Hydraulic oil, Liebherr Hydraulic Basic 100 (0 to +55 °C)	+
Hydraulic oil, Liebherr Hydraulic HVI (-20 to +40 °C)	●
Hydraulic oil, Liebherr Hydraulic Plus Arctic, high performance oil (-40 to +30 °C)	+
Lockable fuel tank cap	●
Preheating fuel	+
Radiator fine mesh protection grid	+
Rearview mirror on counterweight	+
Rear view monitoring camera	●
Right hand side view monitoring camera	●
Tank refilling pump fuel	+
Uppercarriage grease and operating fluids Arctic (-40 to +30 °C), excluding hydraulic oil	+

Cab

Acoustic travel alarm deactivatable	+
Emergency stop in cab	+
FGPS front guard	+
FGPS front guard tiltable	+
Filter for hydraulic hammer return flow	+
Fleet Management Systems interface (FMS)	+
FOPS top guard	+
Handrests elevated for joysticks	+
Headlights on cab, front, LED, 2 pieces	● ¹⁾
Headlights on cab, front, LED+, 2 pieces	+ ¹⁾
High pressure circuit with Tool Control via mini-joystick	+
High pressure circuit with Tool Control via pedals	+
Lift chart	●
Medium pressure circuit via mini-joystick	+
Operator's seat Comfort	+
Operator's seat Standard	●
Overload warning system	●
Preparation for machine guidance system	+
Preparation for medium pressure circuit	+
Preparation for weighing system	+
Radio Comfort	+
Rotating beacon on cab, LED, 1 piece	+
Sun visor	+

Equipment

Centralised lubrication extended for connecting link	+
Grapple hydraulic lines (bucket cylinder inactive)	+
Headlight on boom, right, LED, 1 piece	● ¹⁾
Headlight on boom, right, LED+, 1 piece	+ ¹⁾
Lubrication hoses protection on stick end	+
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 2.90 m	+
Stick bottom protection	+

Packages

Luminosity control (LED+ headlights)	+ ¹⁾
Pack Standard LED	●
Pack Standard LED+	+
Pack Surround LED+	+

● = 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.

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The Liebherr Group



Global and independent: more than 75 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 range includes the product segments earthmoving, material handling, deep foundation, 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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