Wheel loaders for cost-effective tunnelling operations

L 550 - L 576

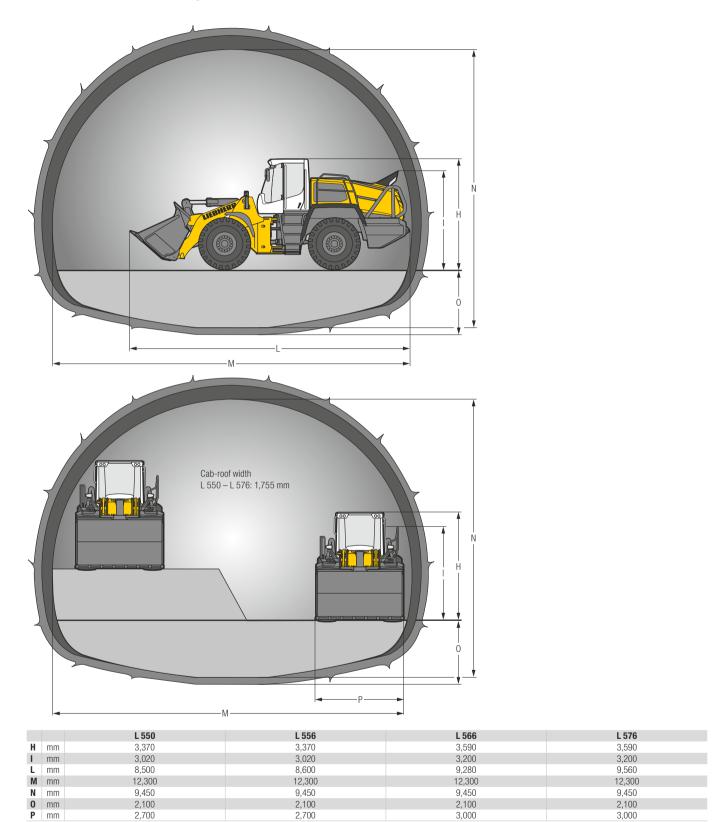
mpower®

xpower®



LIEBHERR

2-Lane Motorway Tunnel

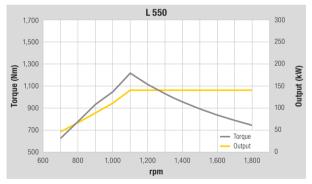


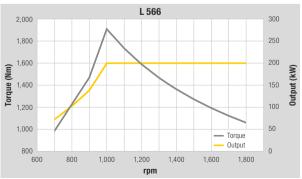
Technical Data

Engine

		L 550	L 556	L 566	L 576
Diesel engine		D934 A7	D944 A7	D936 A7	D936 A7
Design		Stage V:			
		Water-coole	ed in-series	engine with o	charge-air
		cooling, exh	naust gas tre	atment throu	ugh
		Liebherr-SC	CR technolog	gy, closed die	esel particle
			as standar	b	
		Stage IV:			
				engine with o	
				eatment throu	ugh
			R technolog	IY	
Cylinder inline		4	4	6	6
Fuel injection proce	SS	Electronic C	Common Ra	il high-press	ure injectio
Max. gross output					
to ISO 3046		143/194	168/228	203/276	218/296
and SAE J1995	at RPM	1,100-1,800	1,100-1,800	1,000-1,800	1,100-1,80
Max. net output					
to ISO 9249		140/190	165/224	200/272	215/292
and SAE J1349	at RPM	1,100-1,800	1,100-1,800	1,000-1,800	1,100-1,80
Rated output			105/004	000/070	0.15 (0.00
to ISO 14396		140/190	165/224	200/272	215/292
	at RPM	1,800	1,800	1,800	1,800
Max. net torque	N.I	1.015	1 100	1.010	1.005
to ISO 9249		1,215	1,430	1,910	1,965
and SAE J1349	at RPM	7.014	1,100 7.964	1,000	1,000
Displacement Bore/Stroke		122/150	130/150	122/150	122/150
Air cleaner syster	11			and safety e r on the Lieb	
Electrical system		ciearier, ser	vice il idicalo	on the clea	nien displa
Operating voltage		24	24	24	24
Battery		2 x 140	2 x 140	2 x 180	2 x 180
Alternator		28/140	28/140	28/180	28/180
Starter		24/7.8	24/7.8	24/7.8	24/7.8
he availability of mod					

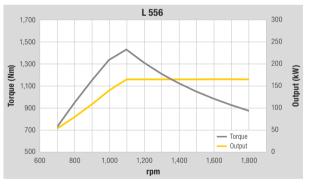
The availability of models with stage V/Tier 4f or stage IV/Tier 4f emission standards is subject to emission regulations in the respective countries.

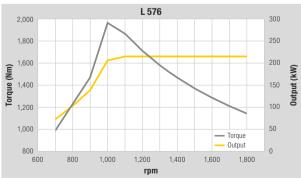




Driveline

Continuous power spli	it XPower® driveline
Design	Continuous, fully-automatic XPower® driveline. No traction interruptions across the entire speed range. Hydrostatic power split with two axial piston units. Identical driving performance forwards and in reverse
Filtration	Filter system for driveline, depend on working hydraulics
Control	Driveline is controlled from travel pedal for tractive force and speed setting with integrated inch function. The Liebherr control lever is used to control forward and reverse travel
Travel speed range	0 – 40 km/h forward and reverse, fully-automatic Speed restriction available upon request. Speeds quoted apply with the tyres indicated as standard on loader model.





Technical Data

I→ Axles

		L 550	L 556	L 566	L 576	
Four-wheel drive						
Front axle		Fixed				
Rear axle		Centre p side	ivot, with 13	° oscillating a	angle to each	
Height of obstacles wh	nich					
can be driven over	mm	460	442	492	473	
		with all fo	our wheels re	emaining in d	contact with	
		the groun	nd	_		
Differentials		Automatic limited-slip differentials				
Reduction gear		Planetary final drive in wheel hubs				
Track width		2,003 mm with all types of tyres (L 550, L 556)				
		2,230 mm with all types of tyres (L 566, L 576				



iii Diakes	
Wear-free service brake	Self-locking of the XPower® driveline (acting on all four wheels) and additional pump-accumulator brake system with wet multi-disc brakes (two separate brake circuits)
Parking brake	Electro-hydraulically actuated spring-loaded disc brake system on the transmission

The braking system meets the requirements of the ISO 3450.

Steering

Design	"Load-sensing" swash plate type variable flow pump with pressure cut-off and flow control. Central pivot with two double-acting, damped steering cylinders
Angle of articulation	40° to each side (L 550, L 556) 38° to each side (L 566, L576)
Emergency steering	Electro-hydraulic emergency steering system

Attachment Hydraulics

Attacinine	iit i iyu	aunc	,3				
		L 550	L 556	L 566	L 576		
Design		"Load-sensing" swash plate type variable flow pump with output and flow control, and pressure cut-off in the control block					
Cooling		Hydraulic oil cooling using thermostatically controlled fan and oil cooler					
Filtration		Return line filter in the hydraulic reservoir					
Control		Liebherr control lever, electro-hydraulically operated					
Lift circuit		Lifting, neutral, lowering Automatic hoisting and lowering by Liebherr control lever, float position controlled by Liebherr control lever					
Tilt circuit		Tilt back, neutral, dump Automatic bucket return for tilting back and dumping controlled by Liebherr control lever					
Max. flow	l/min.		234	290	290		
Max. pressure							
Z-bar linkage	bar	330	360	350	380		



	L 550	L 556	L 566	L 576	
Geometry variants		ul Z-bar linka oss-tube	age with tilt cy	linder and o	cast
Bearings	Sealed				
Cycle time at nominal					
load	ZK	ZK	ZK	ZK	
Lifting	s 5.4	5.4	6.1	6.1	
Dumping	s 1.0	1.0	1.2	1.2	
Lowering (empty)	s 2.9	2.9	3.2	3.2	



Operator's Cab

Design

Hydraulically mounted, noise-proof special cab with lamp carrier and a/c-box in metal with ROPS roll over protection per EN ISO 3471/ EN 474-1

FOPS falling objects protection per EN ISO 3449/ EN 474-1, Cat. II

Operator's door with sliding side window, sliding side window on right, front windscreen made of armoured glass (tripleglazed flat composite safety glass to EN 1063 BR4 and EN 356 P6B), side panels with single-pane safety glass ESG, heated rear window ESG, all windows are tinted.

Liebherr operator's seat

3 way continuous adjustable steering column 6 way adjustable, vibration-damped operator's seat "Comfort" with seat, depth and incline adjustment as standard (air-cushioned with seat heating adjustable to operator's weight), Liebherr control lever mounted into the operator's seat as standard

Cab heating and ventilation

4-zone air conditioning with new improved cooling output as standard, electrically heated rear window, all filters are easy to access and replaceable

Sound Level

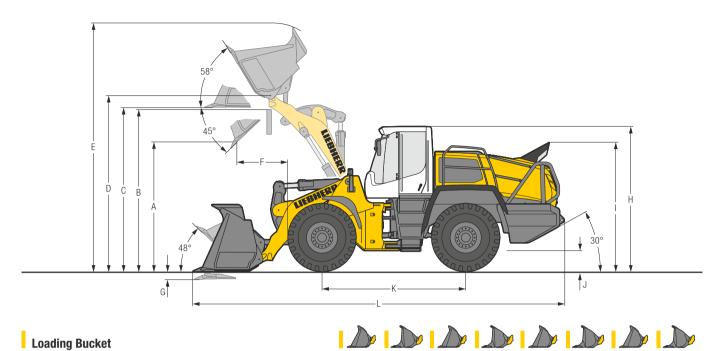
	L 550	L 556	L 566	L 576
Sound pressure level to ISO 6396	el			
L _{pA} (inside cab)	dB(A) 68	68	68	68
Sound power level to 2000/14/EC				
L _{WA} (surround noise)	dB(A) 104	104	105	105

Capacities

	L 550	L 556	L 566	L 576
Fuel tank	I 280	280	365	365
Engine oil				
(inclusive filter change)	I 26	26	42	42
DEF tank	I 67.5	67.5	67.5	67.5
Pump distribution				
gearbox	l 1.2	1.2	1.2	1.2
XPower® gearbox	I 53	53	55	55
Coolant	I 67	67	73	73
Front axle	I 35	42	42	58
Rear axle	I 35	35	42	42
Hydraulic tank	I 105	105	105	105
Hydraulic system, total	l 175	175	190	190
Air conditioning				
system R134a	g 1,250	1,250	1,250	1,250

Dimensions

Z-bar Linkage



Loading Bucket

	L	550	L t	556	L 5	66	L 5	76
Geometry	ZK	ZK	ZK	ZK	ZK	ZK	ZK	ZK
Cutting tools	T+B0CE	ROB	T+B0CE	ROB	T+B0CE	ROB	T+B0CE	ROB
Lift arm length mm	2,600	2,600	2,600	2,600	2,920	2,920	3,050	3,050
Bucket capacity according to ISO 7546 ** m ³	3.2	3.0	3.6	3.0	4.2	4.0	4.7	4.5
Specific material density t/m³	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8
Bucket width mm	2,700	2,850	2,700	2,850	3,000	3,230	3,000	3,230
Dumping height at max. lift height and 45° discharge mm	2,880	2,785	2,810	2,785	3,205	3,080	3,355	3,250
Dump-over height mm	3,500	3,500	3,500	3,500	3,900	3,900	4,100	4,100
Max. height of bucket bottom mm	3,645	3,645	3,645	3,645	4,050	4,050	4,270	4,270
Max. height of bucket pivot point mm	3,915	3,915	3,915	3,915	4,360	4,360	4,580	4,580
Max. operating height mm	5,585	5,500	5,695	5,500	6,120	5,950	6,440	6,250
Reach at max., lift height and 45° discharge mm	1,095	1,195	1,170	1,195	1,190	1,320	1,135	1,240
Digging depth mm	85	85	85	85	100	100	100	100
Height above operator's cab mm	3,370	3,370	3,370	3,370	3,590	3,590	3,590	3,590
Height above exhaust mm	3,020	3,020	3,020	3,020	3,200	3,200	3,200	3,200
Ground clearance mm	490	490	490	490	535	535	540	540
Wheelbase mm	3,395	3,395	3,395	3,395	3,560	3,560	3,630	3,630
Overall length mm	8,500	8,550	8,600	8,650	9,280	9,460	9,560	9,700
Turning circle radius over outside bucket edge mm	6,600	6,680	6,630	6,680	7,380	7,450	7,540	7,620
Breakout force (SAE) kN	140	130	150	140	200	180	200	180
Tipping load, straight * kg	14,500	14,100	16,200	15,800	18,500	17,900	20,500	19,900
Tipping load, fully articulated * kg	12,600	12,200	14,000	13,700	16,200	15,600	17,900	17,300
Operating weight * kg	18,900	19,200	19,700	19,900	25,300	25,700	26,900	27,400
Tyre size		23.5	R25 L5			26.5	R25 L5	
	Geometry Cutting tools Lift arm length Bucket capacity according to ISO 7546 ** Specific material density Bucket width Dumping height at max. lift height and 45° discharge Dump-over height Max. height of bucket bottom Max. height of bucket pivot point Max. operating height Reach at max., lift height and 45° discharge mm Digging depth Height above operator's cab Height above exhaust Ground clearance Mheelbase Overall length Turning circle radius over outside bucket edge Breakout force (SAE) Tipping load, straight * Tipping load, fully articulated * kg Operating weight *	Cutting tools	Cutting tools	Country ZK ZK ZK ZK ZK ZK ZK Z	Country Cutting tools T+BOCE ROB T+BOCE ROB RO	L550 L556 L56 L5	L550	L550

^{*} The figures shown include the above tyres, all lubricants, a full fuel tank, the ROPS/FOPS cab and the operator. Different tyres and optional equipment will change the operating weight and tipping load. (Tipping load, fully articulated according to ISO 14397-1)

** Actual bucket capacity may be approx. 10 % larger than the calculation according to ISO 7546 standard. The degree to which the bucket can be filled depends on the material.

= HD-bucket with teeth and bolt-on cutting edge with straight base for direct mounting

= Rock bucket with oblique base for direct mounting

= Z-bar linkage

T+BOCE = Welded-on tooth holder with add-on teeth and bolt-on cutting edge

= Rock bucket with delta cutting edge, welded-on tooth holder with add-on teeth and bolted intermediate sections

Bucket Selection

Bulk Material Densities and Bucket Filling Factors

		t/m³	%
Gravel	moist	1.9	105
	dry	1.6	105
	crushed stone	1.5	100
Sand	dry	1.5	105
	wet	1.9	110
Gravel and Sand	dry	1.7	105
	wet	2.0	100
Sand/Clay		1.6	110
Clay	natural	1.6	110
	dry	1.4	110
Clay/Gravel	dry	1.4	110
	wet	1.6	100

		t/m³	%
Earth	dry	1.3	115
	wet excavated	1.6	110
Topsoil		1.1	110
Basalt		1.95	100
Granite		1.8	95
Sandstone		1.6	100
Slate		1.75	100
Bauxite		1.4	100
Limestone		1.6	100
Gypsum	broken	1.8	100
Coke		0.5	110
Slag	broken	1.8	100

		t/m³	%
Glass waste	broken	1.4	100
	solid	1.0	100
Compost	dry	8.0	105
	wet	1.0	110
Wood chips/Saw	dust	0.5	110
Paper	shredded/loose	0.6	110
	recovered paper/cardboard	1.0	110
Coal	heavy material density	1.2	110
	light material density	0.9	110
Waste	domestic waste	0.5	100
	bulky waste	1.0	100

Tyres



	Size and tread code)	Change of operating weight kg	Width over tyres mm	Change in vertical dimensions* mm	Use
L 550 XPow	er®/L 556 XPower	®				
Michelin	23.5R25 XLD D2A	L5	0	2.670	0	Stone, Mining spoil (firm ground conditions)
Bridgestone	23.5R25 VSDT	L5	238	2.670	29	Stone, Mining spoil (firm ground conditions)
Goodyear	23.5R25 RT-5D	L5	208	2.660	29	Stone, Mining spoil (firm ground conditions)
L 566 XPower®/L 576 XPower®						
Michelin	26.5R25 XLD D2A	L5	0	2.970	0	Stone, Mining spoil (firm ground conditions)
Bridgestone	26.5R25 VSDT	L5	342	2.970	12	Stone, Mining spoil (firm ground conditions)
Goodyear	26.5R25 RT-5D	L5	312	2.990	25	Stone, Mining spoil (firm ground conditions)

^{*} The stated values are theoretical and may deviate in practice.

Before operating the vehicle with tyre foam filling or tyre protection chains, please discuss this with the Liebherr-Werk Bischofshofen GmbH.

Tipping Load



What is tipping load?

Load at centre of gravity of working equipment, so that the wheel loader just begins to tip over the front axle.

This is the most unfavourable static-load position for the wheel loader. Lifting arms horizontal, wheel loader fully articulated at centre pivot.

Pay load.

The pay load must not exceed 50 % of the tipping load when articulated.

This is equivalent to a static stability-margin factor of 2.0.

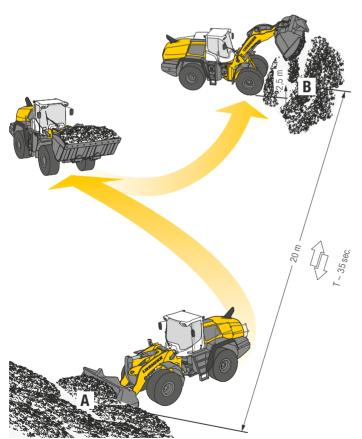
Bucket capacity.

The bucket volume is determined from the pay load.

Pay load = Tipping load, articulated 2

Bucket capacity = Pay load (t)
Specific bulk weight of material (t/m³)

Environmental Protection Can Help You Earn Money!



The Liebherr Standard Consumption Test – easy to reproduce and practical.

The Liebherr Standard Consumption Test determines the number of loading cycles that can be carried out with 5 litres of diesel. The material is taken from pile A and carried over a distance of 20 metres to point B. The time needed for each working cycle should be 35 seconds. Discharge at point B should take place from a height of 2.5 m. The working cycles continue until the 5 litres of diesel in the external measuring tank have been used up. The loader's fuel consumption per operating hour is calculated as follows:

400		Concumption	
	=	Consumption	
Number of loading cycles		per hour	

Values for the Liebherr wheel loaders										
	Numbers of	Litres /	Litres /	Ø Litres /						
	working cycles	100 tons	hour	hour*						
L 526: 2.1 m ³	n = 48	2.8	8.3	6.1						
L 538: 2.6 m ³	n = 40	2.7	10.0	6.8						
L 546: 2.8 m ³	n = 38	2.6	10.5	7.0						
L 550: 3.2 m ³	n = 32	2.7	12.5	9.0						
L 556: 3.6 m ³	n = 29	2.7	13.8	9.9						
L 566: 4.2 m ³	n = 22	3.0	18.2	12.0						
L 576: 4.7 m ³	n = 21	2.8	19.1	12.6						
L 580: 5.2 m ³	n = 20	2.7	20.0	13.7						
L 586: 6.0 m ³	n = 15	3.1	26.7	16.4						

* Wheel loader in practical customer applications with individual machine configurations. Average data from LiDAT from 03.12.2019.



Experience just how much fuel you can save!

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Equipment

Basic Wheel Loader	L 550	L 556	T 566	1 576
Crash protection, rear	+	+	+	+
Automatic central lubrication system	+	+	+	+
Battery main switch (lockable)	•	•	•	•
Electronic tractive force regulation for difficult ground conditions	•	•	•	•
Travel light LED	•	•	•	•
Travel light with additional headlights LED	+	+	+	+
Ride control	•	•	•	•
Parking brake	•	•	•	•
Fire extinguisher 6 kg	•	•	•	•
Fluff trap for radiator	+	+	+	+
Speed limitor 20 km/h as a factory preset	+	+	+	+
Speed limitor V _{max} adjustable key on the control unit	•	•	•	•
DEF tank	•	•	•	•
Pre-heat system for cold starting	•	•	•	•
Rear license panel light	+	+	+	+
Combined inching-braking system	•	•	•	•
Fuel pre-filter	•	•	•	٠
Fuel pre-filter with pre-heating	+	+	+	+
Large-mesh radiator	+	+	+	+
Cooling water pre-heating 230 V	+	+	+	+
Multi-disc limited slip differentials in both axles	•	•	•	•
Lamp carrier in steel design with guard	+	+	+	+
Lamp carrier in steel design with additional lights and guard	•	•	•	٠
Liebherr biodegredable hydraulic oil	+	+	+	+
Liebherr-SCR technology incl. diesel particle filter	•	•	•	•
Reversible fan drive	+	+	+	+
Automatic delayed engine stop	+	+	+	+
Widening for mudguard	+	+	+	+
Ramming guard	•	•	•	٠
Headlights halogen (double design on engine hood)	+	+	+	+
Headlights LED (double design on engine hood)	•	•	•	•
Auxiliary heater (Additional heating with engine preheating)	+	+	+	+
Lockable doors and engine hood	•	•	•	•
Chassis protection rear	+	+	+	+
Chassis protection front	+	+	+	+
Air pre-cleaner TOP AIR	•	•	•	•
Toolbox with toolkit	•	•	•	٠
Liebherr weighing system with "Truck Payload Assist"				
(cannot be calibrated)	+	+	+	+
Towing hitch	•	•	•	•
Additional handrails left	•	•	•	•
Additional handrails right	+	+	+	4

Equipment	L 550	T 226	T 266	J 576
Working hydraulics lockout	•	•	•	•
Automatic bucket return programmable	•	•	•	•
Stroke limit damping	+	+	+	+
Automatic hoisting lowering programmable	•	•	•	•
Lift arm Z-bar linkage	•	•	•	•
Hydraulic quick hitch	+	+	+	+
Adjustable tipping speed	•	•	•	•
Tilt cylinder protection	•	•	•	•
Loading buckets incl. a range of cutting tools	+	+	+	+
Load holding valves	+	+	+	+
Float position	•	•	•	•
Visualisation of the equipment position	•	•	•	•
3rd electro-hydraulic, proportional control circuit,				
adjustable delivery flow	+	+	+	+
4th electro-hydraulic, proportional control circuit,				
adjustable delivery flow	+	+	+	+

Operator's Cab	L 550	L 556	7 29e	L 576
Adapter plate for additional fastening on the multi-function rail	+	+	+	+
Adaptive working lighting	+	+	+	+
Access assistance to facilitate cleaning windscreen	•	•	•	•
Exterior mirror, electrical adjustable, with heating	+	+	+	+
Exterior mirror, tiltable and adjustable	•	•	•	•
Operating hour meter (integrated in display unit)	•	•	•	•
Operating hour meter (mechanic)	+	+	+	+
Electronical theft protection with code	+	+	+	+
Electronical theft protection with key				
with/without driver identification	+	+	+	+
Storage box left	•	•	•	•
Operator's cab without steering wheel/steering column				
(not available as street legal) - joystick steering only	_	_	+	+
Operator seat "Comfort" – air sprung with seat heating	•	•	•	•
Operator seat "Premium" – active air-suspension with seat				
air-condition, seat heating and headrest	+	+	+	+
Particle filter F7	•	•	•	•
Fire extinguisher in cab 2 kg	+	+	+	+
Rear window heated electrically	•	•	•	•
Audible horn control integrated into Liebherr control lever	+	+	+	+
Interior mirror right	•	•	•	•
Interior mirror left and right	+	+	+	+
Integral tyre pressure monitoring system	+	+	+	+
Joystick steering	+	+	+	+
Floor mat	•	•	•	•
Clothes hooks (2 pieces)		•	•	•
Air conditioning system	•	•	•	•
Automatic air conditioning system	+	+	+	+
Cool box	+	+	+	+
3 way continuously adjustable steering column				
(height-adjustable, tilting, folding)				
Steering stabilisation	•	•	•	•
LiDAT total use 1 year (for free)	•	•	•	•
Liebherr control lever with mini-joystick for 3rd and 4th electro-	_	_		
hydraulic proportional control circuit moving with operator's seat	+	+	+	_
Liebherr control lever moving with operator's seat	т	т	т	т
(incl. kick down, travel direction)				
Liebherr multi-lever control system moving with operator's seat	·	•	•	_
(incl. kick down, travel direction)				
Liebherr key with remote control incl. Coming Home/	+	+	+	+
,				
Leaving Home function	+	+	+	+
Premiumdisplay (Touchscreen), with height adjustment and				
tilting function	•	•	•	
Preparation for radio installation	+	+	+	+
Radio Liebherr "Comfort" (SD/USB/AUX/BLUETOOTH/handsfree set)	+	+	+	+
Radio Liebherr "Standard" (SD/USB/AUX)	+	+	+	+

Operator's Cab	L 550	T 226	7 200 T	7 2 1 P
Amber beacon swiveling/fixed	+	+	+	+
Soundproof ROPS/FOPS special cab incl. armoured glass	•	•	•	•
Soundproof ROPS/FOPS cab	+	+	+	+
Bucket return with button integrated into Liebherr control lever	+	+	+	+
Wipe and wash system	•	•	•	•
Windscreen wiper single-sweep function with button	+	+	+	+
Headlights rear, single design, halogen/LED	+	+	+	+
Headlights rear, double design, LED	•	•	•	•
Headlights front, double design, halogen	+	+	+	+
Headlights front, double design, LED	•	•	•	•
Sliding window left/right	•	•	•	•
Slipcover for operator seat	+	+	+	+
Operator's cab safety roof	+	+	+	+
Windscreen guard	+	+	+	+
Sunblind rear	+	+	+	+
Sunblind front	•	•	•	•
Power socket 12 V	•	•	•	•
Power socket USB	•	•	•	•
First aid kit	+	+	+	+
Preparation for protective ventilation and dust filtrating device	+	+	+	+
Wide angle mirror	+	+	+	+
Cigarette lighter	•	•	•	•
2-in-1 steering – changeable	+	+	+	+

Safety	L 550	T 226	7 29e	L 576
Active personnel detection at the rear	+	+	+	+
Roof camera for front area monitoring				
(with Liebherr camera via Liebherr display)	+	+	+	+
Country-specific versions	+	+	+	+
Emergency steering system	•	•	•	•
Reversing obstruction detector	+	+	+	+
Back-up alarm acoustic	•	•	•	•
Back-up alarm visual	+	+	+	+
Rear space monitoring with camera (with Liebherr camera via Liebherr display)	•	•	•	•
Skyview 360°	+	+	+	+

^{• =} Standard + = Option - = not available

RG-BK-OT LBH/PM-12249015-web-12.19_enGB All illustrations and data may differ from standard equipment. Subject to change without notice.

The Liebherr Group of Companies



Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical applications.

State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since then, the family business has steadily grown to a group of more than 130 companies with more than 46,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

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