## Wheel loaders for cost-effective tunnelling operations

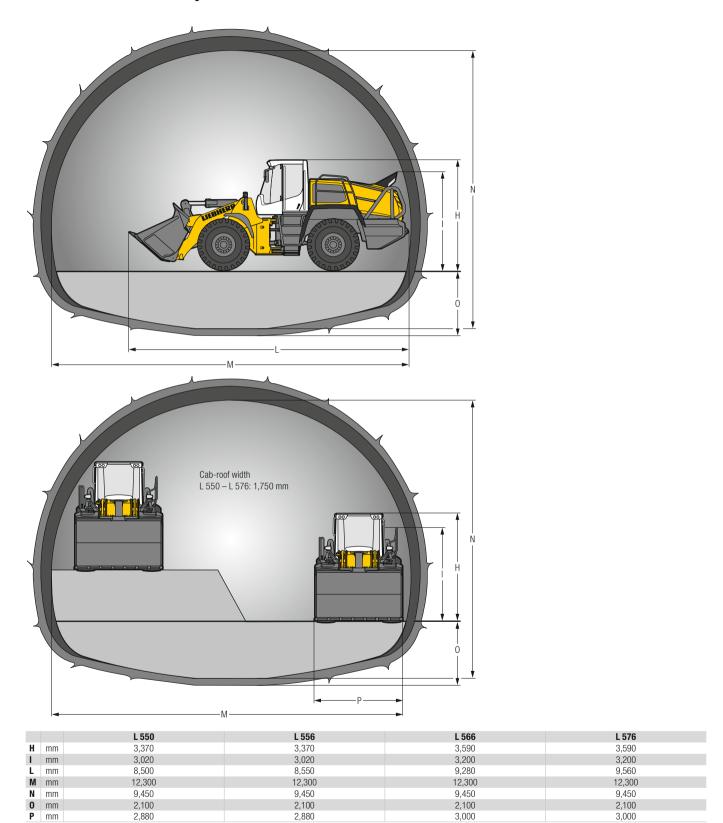
## L 550 - L 576

xpower®



## LIEBHERR

## 2-Lane Motorway Tunnel



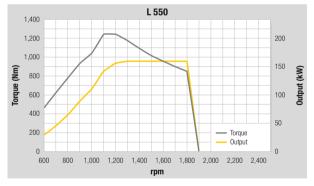
## **Technical Data**

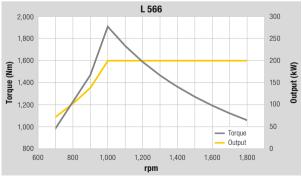
## Diesel engine

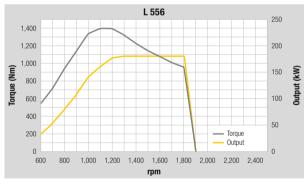
		L 550	L 556	L 566	L 576		
Diesel engine		D934 A7	D944 A7	D936 A7	D936 A7		
Design		Water-cooled in-series engine with charge-air					
		cooling					
Cylinder inline		4	4	6	6		
Fuel injection proce	SS	Electronic	Common R	ail high-pres	sure injection		
Output							
to 9249 /	kW/HP	160/218	180/245	200/272	215/292		
ECE-R.24	at RPM	1,800	1,800	1,800	1,800		
Rated output							
to ISO 14396 /							
ECE-R.120	kW/HP	163/222	183/249	203/276	218/296		
Nominal speed	at RPM	1,800	1,800	1,800	1,800		
Max. torque							
to ISO 14396 /	Nm	1,248	1,403	1,914	1,969		
ECE-R.120	at RPM	1,100	1,150	1,000	1,000		
Displacement	Liter	7.014	7.964	10.52	10.52		
Bore/Stroke	mm	122/150	130/150	122/150	122/150		
Stage IV - availab		n select markets					
Harmful emission va	alues	According to regulation ECE-R.96 Power Band Q					
Emission control		Liebherr-S	CR technological	ogy			
Fuel tank	litres	280	280	365	365		
Stage V							
Harmful emission va	alues		to regulatio				
Emission control		Liebherr-SCR technology and closed diesel					
	particle filter system						
Air cleaner syster	n				element, pre-		
		cleaner, se	rvice indicat	or on the Lie	bherr display		
<b>Electrical system</b>							
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	V/kW	24/7.8	24/7.8	24/7.8	24/7.8		

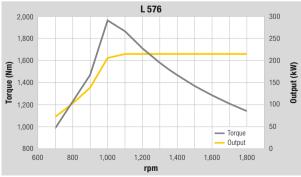


5111011110	
Continuous power spl	it XPower® driveline
Design	Continuous, fully-automatic XPower® driveline. No traction interruptions across the entire speed range. Hydrostatic power split with two axial piston units. Identical driving performance – forwards and in reverse
Filtration	Filter system for 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**

#### Axles

		L 550	L 556	L 566	L 576
Four-wheel drive					
Front axle		Fixed			
Rear axle		Centre pi side	ivot, with 13	° oscillating a	angle to each
Height of obstacles which	ch				
can be driven over				492 emaining in c	473 contact with
Differentials		Automati	c limited-slip	differentials	3
Reduction gear		Planetary	/ final drive i	n wheel hub:	S
Track width					L 550, L 556) L 566, L 576)



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

	•					
		L 550	L 556	L 566	L 576	
Design		"Load-sensing" swash plate type variable flow pump with output and flow control, and pressure				
			the control			
Cooling		Hydraulic oil cooling using thermostatically controlled fan and oil cooler				
Filtration		Return lii	ne filter in th	e hydraulic i	reservoir	
Control		Liebherr control lever, electro-hydraulically operated				
Lifting function		Lifting, neutral, lowering Automatic hoisting and lowering by Liebherr control lever, float position controlled by Liebherr control lever				
Tilt function		Tilt back, neutral, dump Automatic bucket return for tilting back and dumping controlled by Liebherr control lever				
Max. flow	I/min.		290	290	290	
Max. pressure						
Z-bar linkage	har	350	350	350	380	

## **/** Attachment

L 550	L 556	L 566	L 576	
		ge with tilt cy	linder and	cast
Sealed				
ZK	ZK	ZK	ZK	
s 5.4	5.4	6.1	6.1	
s 1.0	1.0	1.2	1.2	
s 2.9	2.9	3.2	3.2	
	Powerfusteel cro Sealed ZK s 5.4 s 1.0	Powerful Z-bar linka steel cross-tube Sealed  ZK ZK s 5.4 5.4 s 1.0 1.0	Powerful Z-bar linkage with tilt cy steel cross-tube Sealed  ZK ZK ZK S 5.4 6.1 8 1.0 1.2	Powerful Z-bar linkage with tilt cylinder and steel cross-tube           Sealed         ZK         ZK         ZK         ZK           s 5.4         5.4         6.1         6.1           s 1.0         1.0         1.2         1.2



#### 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/ FN 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. 3 way continuous adjustable steering column

Liebherr operator's seat

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 improved cooling output as standard, electrically heated rear window, all filters are easy to access and replaceable

Vibration emissions:

Hand-arm vibrations  $m/s^2 \le 2.5$ Whole-body vibrations  $m/s^2 \le 0.5$ 

#### §) s

#### Sound Level

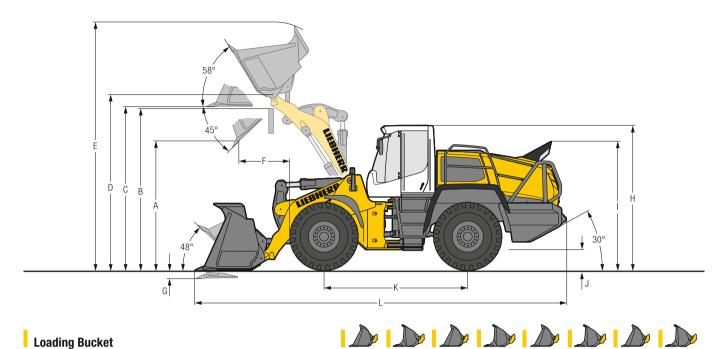
	L 550	L 556	L 566	L 576		
Sound pressure level to ISO 6396						
L <sub>pA</sub> (inside cab)	dB(A) 68	68	68	68		
Sound power level to 2000/14/EC						
Lwa (surround noise)	dB(A) 104	104	105	105		



	L 550	L 556	L 566	L 576
Fuel tank	I 280	280	365	365
DEF tank	I 67.5	67.5	67.5	67.5
Engine oil				
(inclusive filter change)	I 26	26	42	42
Pump distribution				
gearbox	I 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	I 175	180	190	190
Air conditioning				
system R134a	g 1,250	1,250	1,250	1,250

#### **Dimensions**

#### **Z-bar Linkage**



#### Loading Bucket

-	Louding Buokot	_							
			L 550		L 556		L 566	L	576
	Geometry	ZK	Zł	Z ZK	ZK	ZK	ZK	ZK	ZK
	Cutting tools	T+B00	CE RO	B T+B00	E ROB	T+B0CE	ROB	T+B0CE	ROB
	Lift arm length	<b>nm</b> 2,700	2,7	00 2,700	2,700	2,920	2,920	3,050	3,050
	Bucket capacity according to ISO 7546 **	m³ 3.4	3.	3.7	3.4	4.2	3.7	4.7	4.0
	Specific material density t/	<b>m³</b> 1.8	1.5	3 1.8	1.8	1.8	1.8	1.8	1.8
	Bucket width n	<b>1m</b> 2,880	2,8	30 2,880	2,880	3,000	3,230	3,000	3,230
Α	Dumping height at max. lift height and 45° discharge	<b>nm</b> 3,020	3,0	90 2,970	3,020	3,205	3,130	3,355	3,300
В	Dump-over height n	<b>1m</b> 3,700	3,7	00 3,700	3,700	3,900	3,900	4,100	4,100
C	Max. height of bucket bottom	<b>1m</b> 3,875	3,8	75 3,875	3,875	4,050	4,050	4,270	4,270
D	Max. height of bucket pivot point	<b>1m</b> 4,150	) 4,1	50 4,150	4,150	4,360	4,360	4,580	4,580
E	Max. operating height	<b>1m</b> 5,785	5,7	25 5,855	5,785	6,120	5,900	6,440	6,200
F	Reach at max., lift height and 45° discharge	<b>1,02</b> 5	5 99	0 1,075	1,025	1,190	1,270	1,135	1,190
G	Digging depth n	<b>nm</b> 80	80	80	80	100	100	100	100
Н	Height above operator's cab	<b>1m</b> 3,370	3,3	70 3,370	3,370	3,590	3,590	3,590	3,590
1	Height above exhaust	<b>1m</b> 3,020	3,0	20 3,020	3,020	3,200	3,200	3,200	3,200
J		<b>m</b> 490	49		490	535	535	540	540
K		<b>1m</b> 3,500	3,5	3,500		3,560	3,560	3,630	3,630
L	Overall length	<b>1m</b> 8,555	8,4	75 8,625		9,280	9,380	9,560	9,620
	Turning circle radius over tyres	<b>1m</b> 6,160	6,1			6,700	6,700	6,790	6,790
	J	<b>1m</b> 6,840			6,840	7,380	7,400	7,540	7,560
	Breakout force (SAE)	<b>kN</b> 165	16	0 175	170	200	185	200	185
	Tipping load, straight *	<b>kg</b> 14,75				18,500		20,500	20,100
	Tipping load, fully articulated *	<b>kg</b> 13,00	0 12,7	50 14,25	14,000			17,900	17,500
	Operating weight *	<b>kg</b> 19,50			20,780	25,300		26,900	27,300
	Tyre size			23.5R25 L5			20	),780	

\* 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

ZK = 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
<b>Gravel and Sand</b>	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	B	ng .			
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)

<sup>\*</sup> 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.

Tipping load, articulated Pay load =

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

#### Protecting the environment can also earn you money!



#### Always in fuel saving mode with the Liebherr fuel-saving calculator

100 % power output with up to 30 % less fuel consumption – the Liebherr fuel saving calculator shows how much fuel can be saved compared to similar machines. The online application is available free of charge and provides a quick and simple overview of fuel savings per year in euros. The calculation is based on average fuel consumption, operating hours per year and the current fuel price. The potential savings when operating a Liebherr wheel loader are impressive - see for yourself!

	Ø Litres/hour*
L 526: 2.1 m <sup>3</sup>	6.2
L 538: 2.6 m <sup>3</sup>	6.9
L 546: 2.8 m <sup>3</sup>	7.0
L 550: 3.4 m <sup>3</sup>	9.1
L 556: 3.7 m <sup>3</sup>	9.9
L 566: 4.2 m <sup>3</sup>	12.2
L 576: 4.7 m <sup>3</sup>	12.8
L 580: 5.2 m <sup>3</sup>	13.9
L 586: 6.0 m <sup>3</sup>	16.5

\* Wheel loader in operation with a customer-specific machine design. Averages data from LiDAT, calculated on 12.10.2021.



Find out right now how much fuel you can save!

www.efficiencyplus.liebherr.com

## Equipment

Basic Wheel Loader	L 550	L 556	L 566	L 576
Crash protection, rear	+	+	+	+
Automatic central lubrication system	+	+	+	+
Battery main switch (lockable)	•	•	•	•
Electronic tractive force regulation for difficult ground conditions	•	•	•	•
Travel light on front section LED	•	•	•	•
Travel light (with additional headlights) on front section 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 <sub>MAX</sub> adjustable key on the control unit	•	•	•	•
DEF tank	•	•	•	•
Turbocharger insulation	+	+	+	+
Pre-heat system for cold starting	•	•	•	•
Rear license panel light	+	+	+	+
Combined inching-braking system			•	
Fuel pre-filter	•	•	•	•
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				
Liebherr biodegredable hydraulic oil	+	+	+	+
Liebherr-SCR technology incl. diesel particle filter	•	•	•	•
Reversible fan drive	+	+	+	+
Automatic delayed engine stop	+	+	+	+
Widening for mudguard	+	+	+	+
Ramming guard	•	•	•	•
Headlights halogen (double design on engine hood)	+	+	+	+
Headlights LED (double design on engine hood)	•	•	•	•
Auxiliary heater (Additional heating with engine preheating)	+	+	+	+
Dust protection for alternator	+	+	+	+
Lockable doors and engine hood	•	•	•	•
Chassis protection rear	+	+	+	+
Chassis protection front	+	+	+	+
Air pre-cleaner TOP AIR	•	•	•	•
Toolbox with toolkit	•	•	•	•
Liebherr weighing system with "Truck Payload Assist"				
(cannot be certified as a regulated weights and measure device)	+	+	+	+
Towing hitch	•	•	•	•
Additional handrails left	•	•	•	•
Additional handrails right	+	+	+	+

	Equipment	L 550	L 556	7 266	L 576
_	Working hydraulics lockout	•	•	•	•
	Automatic bucket return programmable	•	•	•	•
	Pressure relief for hydraulic additional function	•	•	•	•
	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	+	+	+	+
	Pipe break protection	+	+	+	+
	Float position	•	•	•	•
	Visualisation of the equipment position	•	•	•	•
	1st electro-hydraulic, proportional additional function, adjustable delivery flow	+	+	+	+
	2nd electro-hydraulic, proportional additional function, adjustable delivery flow	+	+	+	+

	_			
Operator's Cab	L 550	L 556	T 566	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" – pneumatic suspension 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)	٠	٠	•	•
Liebherr control lever with mini-joystick for 1st and 2nd electro-				
hydraulic, proportional additional function moving with operator's seat	+	+	+	+
Liebherr control lever moving with operator's seat				
(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" (USB/AUX/BLUETOOTH/handsfree set)	+	+	+	+
Radio Liebherr "Standard" (USB/AUX)	+	+	+	+

Operator's Cab	L 550	L 556	T 566	L 576
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 rear, triple 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	L 556	7 29 T	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°	+	+	+	+

Further information can be found in the brochure "Assistance systems for wheel loaders" or you can find here:



• = Standard + = Option - = not available

Here you can download our wheel loader brochures:



# RG-BK LBH/PM-12274556-web-10.21\_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 140 companies with nearly 48,000 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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