

Wheel loaders for cost-effective tunnelling operations

L 550 - L 576

Xpower®

Xpower®

Generation

6

Tipping load

12,200 – 17,900 kg

Engine

Stage IV/Tier 4f

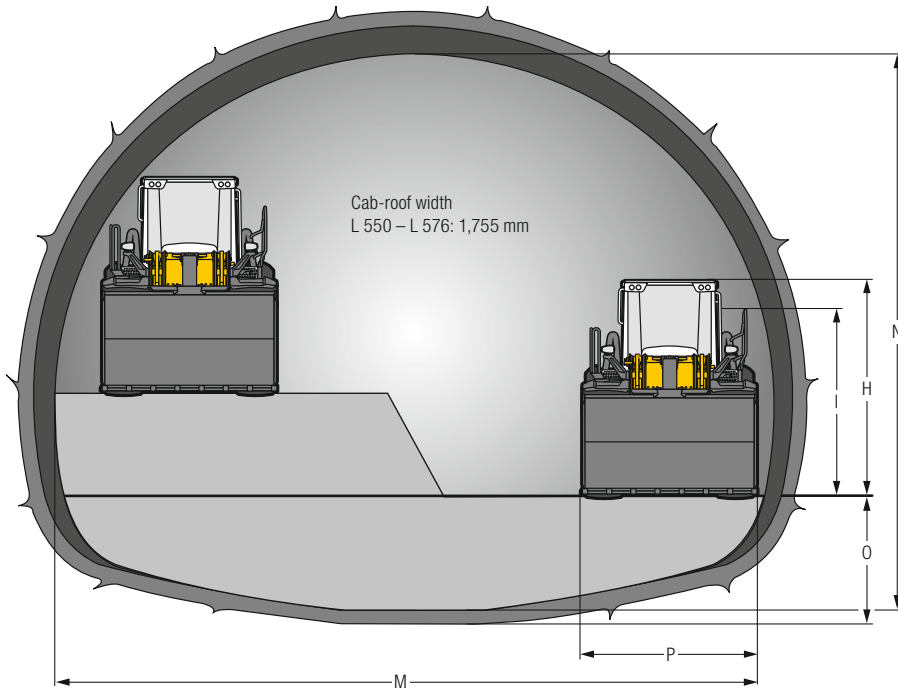
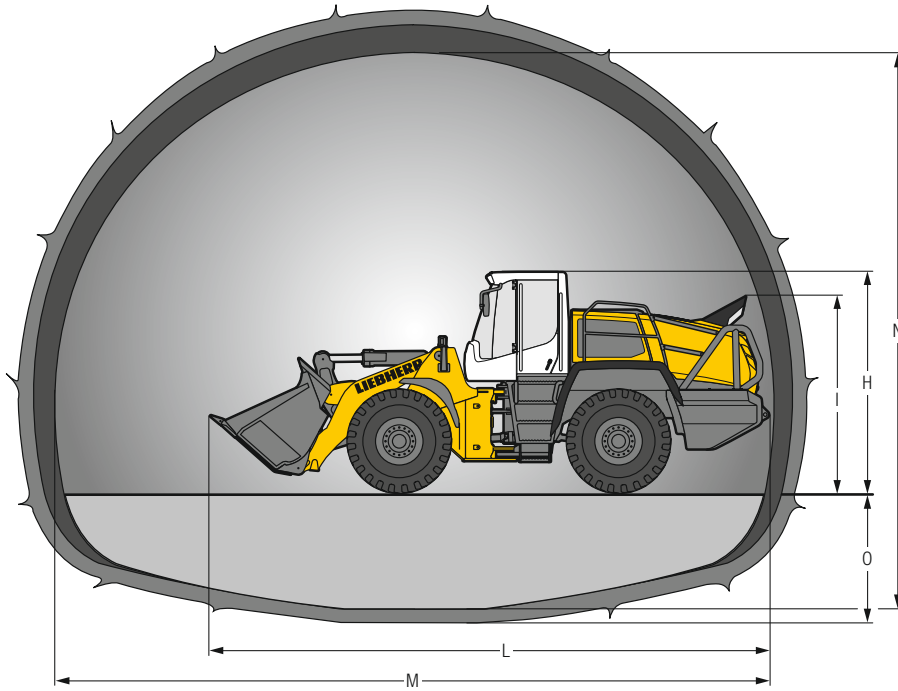
Stage V/Tier 4f



LIEBHERR

2-Lane Motorway Tunnel

L 550 – L 576



		L 550	L 556	L 566	L 576
H	mm	3,370	3,370	3,590	3,590
I	mm	3,020	3,020	3,200	3,200
L	mm	8,500	8,600	9,280	9,560
M	mm	12,300	12,300	12,300	12,300
N	mm	9,450	9,450	9,450	9,450
O	mm	2,100	2,100	2,100	2,100
P	mm	2,700	2,700	3,000	3,000

The stated values are with HD-bucket.

Technical Data



Engine

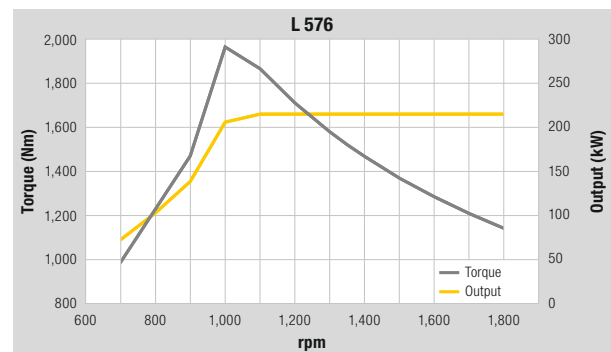
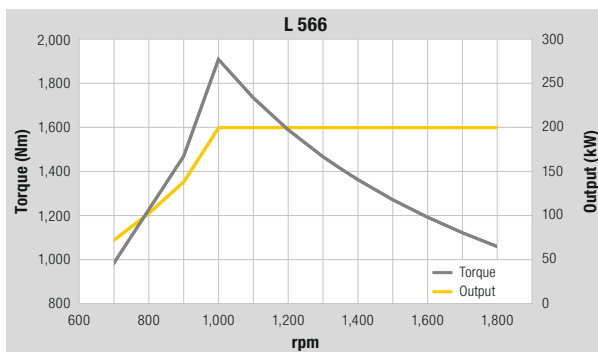
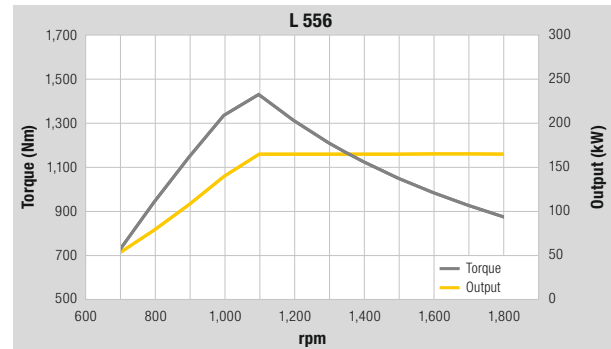
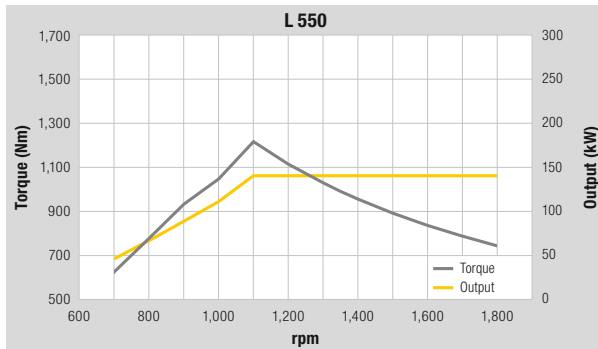
	L 550	L 556	L 566	L 576
Diesel engine	D934 A7	D944 A7	D936 A7	D936 A7
Design	Stage V: Water-cooled in-series engine with charge-air cooling, exhaust gas treatment through Liebherr-SCR technology, closed diesel particle filter system as standard Stage IV: Water-cooled in-series engine with charge-air cooling, exhaust after-treatment through Liebherr-SCR technology			
Cylinder inline	4	4	6	6
Fuel injection process	Electronic Common Rail high-pressure injection			
Max. gross output to ISO 3046 and SAE J1995	kW/HP 143/194 at RPM 1,100-1,800	168/228 1,100-1,800	203/276 1,000-1,800	218/296 1,100-1,800
Max. net output to ISO 9249 and SAE J1349	kW/HP 140/190 at RPM 1,100-1,800	165/224 1,100-1,800	200/272 1,000-1,800	215/292 1,100-1,800
Rated output to ISO 14396	kW/HP 140/190 at RPM 1,800	165/224 1,800	200/272 1,800	215/292 1,800
Max. net torque to ISO 9249 and SAE J1349	Nm 1,215 at RPM 1,100	1,430 1,100	1,910 1,000	1,965 1,000
Displacement	Liter 7.014	7.964	10.52	10.52
Bore/Stroke	mm 122/150	130/150	122/150	122/150
Air cleaner system	Dry type filter with main and safety element, pre-cleaner, service indicator on the Liebherr display			
Electrical system				
Operating voltage	V 24	24	24	24
Battery	Ah 2 x 140	2 x 140	2 x 180	2 x 180
Alternator	V/A 28/140	28/140	28/180	28/180
Starter	V/kW 24/7.8	24/7.8	24/7.8	24/7.8

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 split 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 pivot, with 13° oscillating angle to each side			
Height of obstacles which can be driven over	mm 460	442	492	473
	with all four wheels remaining in contact with the ground			
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)			

Brakes

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, L 576)
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 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	234	290	290
Max. pressure				
Z-bar linkage	bar 330	360	350	380

Attachment

	L 550	L 556	L 566	L 576
Geometry variants	Powerful Z-bar linkage with tilt cylinder and cast steel cross-tube			
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 windscreens 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 new improved cooling output as standard, electrically heated rear window, all filters are easy to access and replaceable

Sound Level

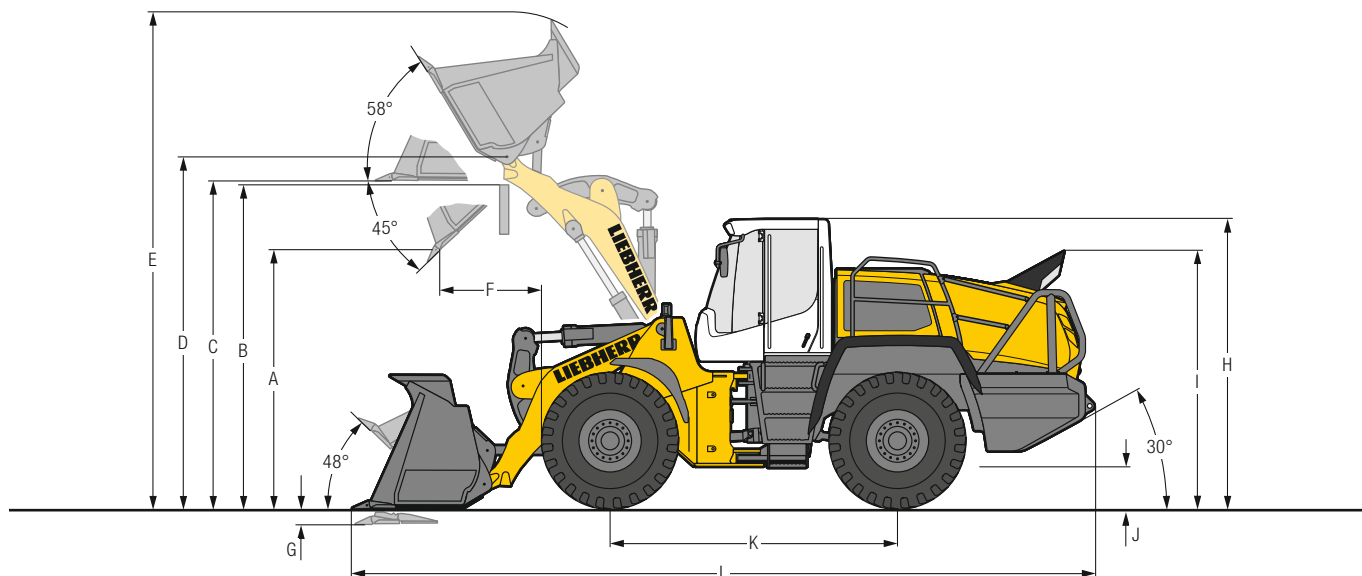
	L 550	L 556	L 566	L 576
Sound pressure level to ISO 6396				
L _{PA} (inside cab)	dB(A) 68	68	68	68
Sound power level to 2000/14/EC				
L _{WA} (surround noise)	dB(A) 104	104	105	105

Capacities

	L 550	L 556	L 566	L 576
Fuel tank	l 280	280	365	365
Engine oil (inclusive filter change)	l 26	26	42	42
DEF tank	l 67.5	67.5	67.5	67.5
Pump distribution gearbox	l 1.2	1.2	1.2	1.2
XPower® gearbox	l 53	53	55	55
Coolant	l 67	67	73	73
Front axle	l 35	42	42	58
Rear axle	l 35	35	42	42
Hydraulic tank	l 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 556		L 566		L 576		
	ZK	ZK	ZK	ZK	ZK	ZK	ZK	ZK	
Geometry									
Cutting tools	T+BOCE	ROB	T+BOCE	ROB	T+BOCE	ROB	T+BOCE	ROB	
Lift arm length	mm	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	
Specific material density	t/m ³	1.8	1.8	1.8	2.0	1.8	1.8	1.8	
Bucket width	mm	2,700	2,850	2,700	2,850	3,000	3,230	3,230	
A Dumping height at max. lift height and 45° discharge	mm	2,880	2,785	2,810	2,785	3,205	3,080	3,355	
B Dump-over height	mm	3,500	3,500	3,500	3,500	3,900	3,900	4,100	
C Max. height of bucket bottom	mm	3,645	3,645	3,645	3,645	4,050	4,050	4,270	
D Max. height of bucket pivot point	mm	3,915	3,915	3,915	3,915	4,360	4,360	4,580	
E Max. operating height	mm	5,585	5,500	5,695	5,500	6,120	5,950	6,440	
F Reach at max., lift height and 45° discharge	mm	1,095	1,195	1,170	1,195	1,190	1,320	1,135	
G Digging depth	mm	85	85	85	85	100	100	100	
H Height above operator's cab	mm	3,370	3,370	3,370	3,370	3,590	3,590	3,590	
I Height above exhaust	mm	3,020	3,020	3,020	3,020	3,200	3,200	3,200	
J Ground clearance	mm	490	490	490	490	535	535	540	
K Wheelbase	mm	3,395	3,395	3,395	3,395	3,560	3,560	3,630	
L Overall length	mm	8,500	8,550	8,600	8,650	9,280	9,460	9,560	
Turning circle radius over outside bucket edge	mm	6,600	6,680	6,630	6,680	7,380	7,450	7,540	
Breakout force (SAE)	kN	140	130	150	140	200	180	200	
Tipping load, straight *	kg	14,500	14,100	16,200	15,800	18,500	17,900	20,500	
Tipping load, fully articulated *	kg	12,600	12,200	14,000	13,700	16,200	15,600	17,300	
Operating weight *	kg	18,900	19,200	19,700	19,900	25,300	25,700	26,900	
Tyre size		23.5R25 L5				26.5R25 L5			

* 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

ROB = 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/m ³	%			t/m ³	%			t/m ³	%
Gravel	moist	1.9	105	Earth	dry	1.3	115	Glass waste	broken	1.4	100
	dry	1.6	105		wet excavated	1.6	110		solid	1.0	100
	crushed stone	1.5	100	Topsoil		1.1	110	Compost	dry	0.8	105
Sand	dry	1.5	105	Basalt		1.95	100		wet	1.0	110
	wet	1.9	110	Granite		1.8	95	Wood chips/Saw dust		0.5	110
Gravel and Sand	dry	1.7	105	Sandstone		1.6	100	Paper	shredded/loose	0.6	110
	wet	2.0	100	Slate		1.75	100		recovered paper/cardboard	1.0	110
Sand/Clay		1.6	110	Bauxite		1.4	100	Coal	heavy material density	1.2	110
Clay	natural	1.6	110	Limestone		1.6	100		light material density	0.9	110
	dry	1.4	110	Gypsum	broken	1.8	100	Waste	domestic waste	0.5	100
Clay/Gravel	dry	1.4	110	Coke		0.5	110		bulky waste	1.0	100
	wet	1.6	100	Slag	broken	1.8	100				

Tyres



Tyre Types

	Size and tread code		Change of operating weight kg	Width over tyres mm	Change in vertical dimensions* mm	Use
L 550 XPower®/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.

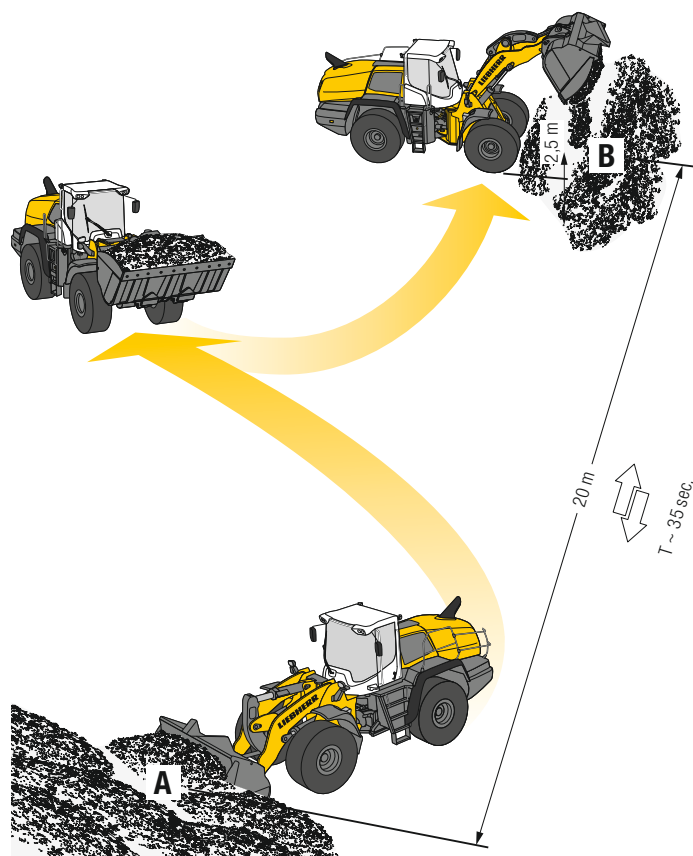
Bucket capacity.

The bucket volume is determined from the pay load.

$$\text{Pay load} = \frac{\text{Tipping load, articulated}}{2}$$

$$\text{Bucket capacity} = \frac{\text{Pay load (t)}}{\text{Specific bulk weight of material (t/m}^3\text{)}}$$

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:

$$\frac{400}{\text{Number of loading cycles}} = \text{Consumption per hour}$$

Values for the Liebherr wheel loaders

	Numbers of working cycles	Litres / 100 tons	Litres / hour	Ø Litres / 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!
www.encyplus.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 LED	•	•	•	•
Travel light with additional headlights LED	+	+	+	+
Ride control	•	•	•	•
Parking brake	•	•	•	•
Fire extinguisher 6 kg	•	•	•	•
Fluff trap for radiator	+	+	+	+
Speed limiter 20 km/h as a factory preset	+	+	+	+
Speed limiter 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	•	•	•	•
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 biodegradable 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)	+	+	+	+
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 calibrated)	+	+	+	+
Towing hitch	•	•	•	•
Additional handrails left	•	•	•	•
Additional handrails right	+	+	+	+

 Equipment	L 550	L 556	L 566	L 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
L 566
L 576

	L 550	L 556	L 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" – 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 (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
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	L 550	L 556	L 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 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 filtering device	+	+	+	+
Wide angle mirror	+	+	+	+
Cigarette lighter	•	•	•	•
2-in-1 steering – changeable	+	+	+	+



Safety

L 550
L 556
L 566
L 576

	L 550	L 556	L 566	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

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.

www.liebherr.com

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