Wheel Loaders L 538 / L 556 / L 580

Tipping load, articulated: 9,500 kg - 18,000 kg

Stage II / Tier 2
Stage IIIA / Tier 3

Efficiency as standard

LIEBHERR

L 538

Tipping load, articulated:	9,500 kg
Bucket capacity:	2.5 m³
Operating weight:	12,800 kg
Engine output:	104 kW / 141 HP

L 556

Tipping load, articulated:	12,900 kg
Bucket capacity:	3.5 m³
Operating weight:	17,400 kg
Engine output:	140 kW / 191 HP

L 580

Tipping load, articulated:	18,000 kg
Bucket capacity:	5.0 m³
Operating weight:	24.720 kg
Engine output:	209 kW / 284 HP

Economy

With Liebherr wheel loaders it is simple to do more, moving larger volumes of material with less fuel compared with conventional wheel loaders. In fact, your production costs are greatly reduced with each bucket you load and, at the same time, lower fuel consumption means active protection of the environment.

Performance

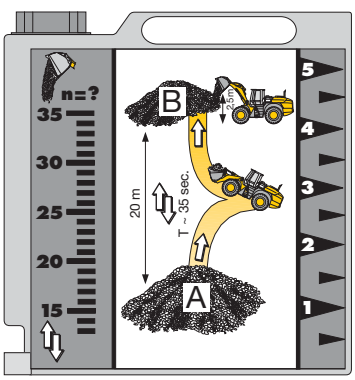
Liebherr wheel loaders are specially designed for your market to meet the highest requirements. The ideal positioning of the Liebherr driveline moves the center of gravity to the rear of the wheel loader - meaning increased stability and no lifting of the rear. This greatly increases the handling capacity per operating hour compared with conventional wheel loaders.

Reliability

All the materials used have passed long-term tests to ensure that they comply with Liebherr's high quality standards in even the toughest conditions. A sophisticated concept and proven quality mean that Liebherr wheel loaders are specially designed for your market to set the standard when it comes to reliability.

Comfort

The ultra-modern cabin design with advanced ergonomics, Liebherr driveline, optimal weight distribution and excellent maintenance access lead to unequalled overall comfort and simple service.



Lower fuel consumption

- A fuel saving of up to 5 litres per operating hour represents a cost saving of up to 25 %.
- The Liebherr standard test demonstrates the operating efficiency of Liebherr wheel loaders.

Economy

With Liebherr wheel loaders it is simple to do more, moving larger volumes of material with less fuel compared with conventional wheel loaders. In fact, your production costs are greatly reduced with each bucket you load and, at the same time, lower fuel consumption means active protection of the environment.

Low operating costs

Moving material at lower costs

When it comes to economy, conventional wheel loaders are no match for Liebherr machines, mainly due to the following factors:

- Low fuel consumption as a result of higher efficiency and a lower operating weight.
- Virtually no brake wear, thanks to the hydraulic braking action of the driveline. This means no brake repair costs resulting from wear and tear.
- Continuous traction control for reduced tyre wear. Depending on the working conditions, tyre wear can be up to 25 % lower than with conventional wheel loaders.
- Liebherr quality ensures high durability and reliability in even the toughest applications and therefore less downtime and more productivity.

Active environmental protection

Economical use of resources

Reduced fuel consumption means lower emissions, which leads to the active and economical use of resources.

Low noise emissions

The innovative driveline concept also cuts noise emissions considerably: Liebherr wheel loaders are significantly quieter in operation.

An all-purpose loader

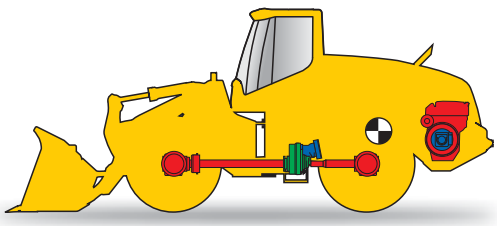
- The use of innovative Liebherr driveline and high quality hydraulic components mean increased stability, no lifting of the rear and faster work cycles - perfectly matched for your applications and thus increasing efficiency.

Reduced tyre wear

- The tractive force can be adjusted continuously. This prevents wheelspin and reduces tyre wear by up to 25 %.

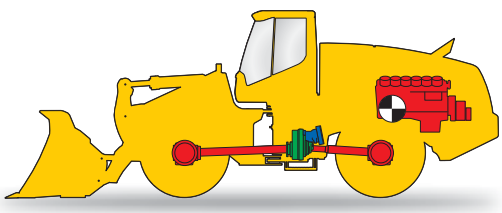
Reduced brake wear

- Even in the toughest working conditions, the Liebherr travel drive is always braked hydraulically. The mechanical service brake is used only as a secondary braking function, so the brakes are virtually wear-free.



Liebherr driveline L 538, L 556

- Optimum weight distribution due to transverse installation of the diesel engine.
- The diesel engine as well as the variable displacement pumps mounted on the engine act as counterweight, thus allowing higher tipping loads at low operating weight.
- Compact design improves visibility in all directions.



Performance

Liebherr wheel loaders are specially designed for your market to meet the highest requirements. The ideal positioning of the Liebherr driveline moves the center of gravity to the rear of the wheel loader - meaning increased stability and no lifting of the rear. This greatly increases the handling capacity per operating hour compared with conventional wheel loaders.

Higher performance

Higher productivity

The ideal positioning of the Liebherr driveline reduces the need to carry unnecessary counterweight on the machine compared with conventional wheel loaders - leading to reduced operating weight and increased productivity.

Ultra-modern Liebherr driveline

Innovative hydrostatic technology

Tractive force and speed are adapted to suit demand – automatically and without gear changes. Even the change from forward to reverse travel is controlled hydraulically, so that no mechanical reverse gear is required.

Powerful Hydraulics

Reduced input, higher output

The use of high quality hydraulic components combined with the innovative Liebherr driveline result in less need of engine power - leading to an easy filling of the bucket, faster work cycles and perfectly matched engine performance.

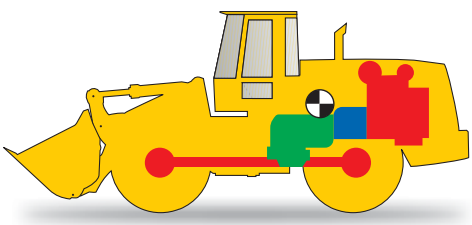
Flexibility puts them ahead

An all-purpose loader

Their compact design combined with the excellent dumping height allow the wheel loaders to manoeuvre quickly and efficiently when loading big trucks – an ideal basis for high handling capacity.

Liebherr driveline L 580

- Optimum weight distribution thanks to lengthways-installed diesel engine, output shaft is facing to the rear.
- The diesel engine as well as the variable displacement pumps mounted on the engine act as counterweight, thus allowing higher tipping loads at low operating weight.
- Compact design improves visibility in all directions.



Conventional travel gear

- Longitudinally mounted diesel engine moves the centre of gravity further forward.
- Additional counterweight is needed to maintain stability and to increase the tipping load.
- This leads to high operating weight and bad visibility.

Cooling system L 538, L 550

- The radiator is installed at the cleanest position of the wheel loader, between the diesel engine and the cabin. Cooling air is drawn in directly behind the cabin and blown out upwards at the rear. The fan speed is varied automatically by heat sensors that determine the amount of cooling needed.

Reliability

All the materials used have passed long-term tests to ensure that they comply with Liebherr's high quality standards in even the toughest conditions. A sophisticated concept and proven quality mean that Liebherr wheel loaders are specially designed for your market to set the standard when it comes to reliability.

Reliable Liebherr driveline

Fewer components

Liebherr's driveline includes a self-locking hydraulic brake, with the result that the additional wet brake discs are effectively wear-free. A reversing gear unit is not required, so less parts are affected by wear.

Components to Liebherr's quality standards

Engineered by Liebherr

Engineered by Liebherr means co-ordinated quality from the manufacture down to the smallest detail to ensure the highest possible performance and reliability for the market.

Keep on working - in the toughest conditions

Liebherr wheel loaders are built to keep on working and prevent costly downtime. No matter how tough the conditions are.

Controlled cooling

The intelligent answer

Wheel loaders usally work in dusty environments, so the Liebherr cooling system is located directly behind the cab, which is the cleanest area of the wheel loader. This greatly increases the service life and ensures the most reliable cooling. The cooling fan is driven independently from the diesel engine and produces only the cooling air output which is actually required. Heat sensors ensure reliable control. If overheating should occur, the wheel loader automatically shifts down to first travel speed range. The reduced power consumption protects the engine from overheating. At the same time, the fan speed is increased to maximum output, thus preventing the engine from overheating.

Cooling system L 580

- The cooling system is mounted between the diesel engine and the cab on the rear carriage, where it can draw in clean air. The speed of the fan is dependent on the cooling capacity, with thermosensors ensuring optimum fan speed.
- To improve visibility, the cooler package has been mounted lengthways, and the unit has been redesigned to make cleaning and maintenance even easier, achieving greatest possible convenience.

Liebherr quality

- Liebherr has many years of experience in the design, development and construction of wheel loaders. The high quality of steel structures, equipments and the use of components that are all matched together down to the smallest detail set the standard when it comes to reliability.


LIEBHERR
538


LIEBHERR


LIEBHERR
580

Comfort

The ultra-modern cabin design with advanced ergonomics, Liebherr driveline, optimal weight distribution and excellent maintenance access lead to unequalled overall comfort and simple service.

Top-class cabin design

Comfortable cabin - productive operator

The ultra modern cabin is especially designed for the operator's needs and ensures increased performance and productivity, as well as safe operation. ROPS and FOPS are standard on Liebherr wheel loaders.

Improved visibility

The advanced cab design, combined with the compact dimensions of the wheel loader, provide unequalled visibility in all directions.

Liebherr joystick

All working and travel functions are operated precisely and sensitively from a single control lever. This means accurate and safe handling, and the left hand always remains on the steering wheel. This increases the safety at the job site.

Liebherr driveline

Continuously variable acceleration

Liebherr's driveline enables the wheel loader to accelerate smoothly and continuously in all speed ranges, with no discernable gear shifts and no interruptions to tractive force.

Service accessibility

Easy maintenance

With the unique position of the diesel engine, Liebherr wheel loaders provide outstanding accessibility for maintenance. The positioning of the cooling system directly behind the cab results in less contamination, which in turn reduces maintenance and cleaning; a clear benefit which saves time and money.

L 538, L 556

All the points for daily maintenance can be reached from ground level by opening a single compartment hood. Cleaning of the cooling system is carried out while standing on the machine, anti-slip step surfaces and strong handrails in the access area ensure a high safety standard.

L 580

Most access points for daily maintenance can be reached from ground level, by opening a single engine compartment. Work on the cooler unit, diesel engine and pump distributor gear is carried out while standing on the machine. Great care has been taken to ensure maximum safety in these areas as well.

Service accessibility

- Due to the unique position of the diesel engine, Liebherr wheel loaders offer excellent service accessibility and thus increase efficiency for daily maintenance.
- The clever positioning of the cooling package, directly behind the cab, reduces maintenance and cleaning.

Liebherr joystick

- The Liebherr control lever is used to manage all travel and working movements of the wheel loader. This ensures the operator's left hand always remains on the steering wheel and therefore increases safety. The operator controls the following functions with his right hand:

- Raise and lower attachment
- Fill and dump the bucket
- Automatic bucket return to dig (optional)
- Change of travel direction with simultaneous travel start

Efficiency as standard

Operator's cab

- Increased performance and productivity
- Excellent all-round visibility
- Safe operation
- The operator's concentration is enhanced

- Ergonomic cab design
- High proportion of glass in the cab
- ROPS / FOPS as standard
- Control of working and travel functions with one single joystick

Lift arm / Equipment

- Faster working cycles
- Long lasting working equipment
- Flexibility in use

- High quality hydraulic components
- Strong steel structure
- Wide range of working equipment

Liebherr driveline

- Fuel saving of up to 25 %
- Maximum productivity: High tipping loads at comparable low operating weight
- Excellent manoeuvrability
- Tyre wear reduced by up to 25 %
- Practically no brake wear
- Safe machine operation even when driving over rough terrain and steep slopes

- Compact machine design due to the unique position of the drive components
- No need for additional counter weight due to the ideal weight distribution
- Continuous tractive force prevents wheelspin
- Wear free hydrostatic self-braking system

Cooling system

- Reliable cooling, no overheating even in hard applications and hot outside temperatures
- Increased service life
- Less service time due to less cleaning requirements
- The cooling system is driven independently from the diesel engine
- Heat sensors ensure reliable control
- The radiator is installed at the cleanest position of the wheel loader, directly behind the cab

Service accessibility

- Time savings in daily maintenance
- Extremely low downtime due to minimal maintenance requirements
- Daily maintenance points can be reached from the ground by opening a single hood
- Unique positioning of the cooling system, directly behind the cab

Technical Data

L 538

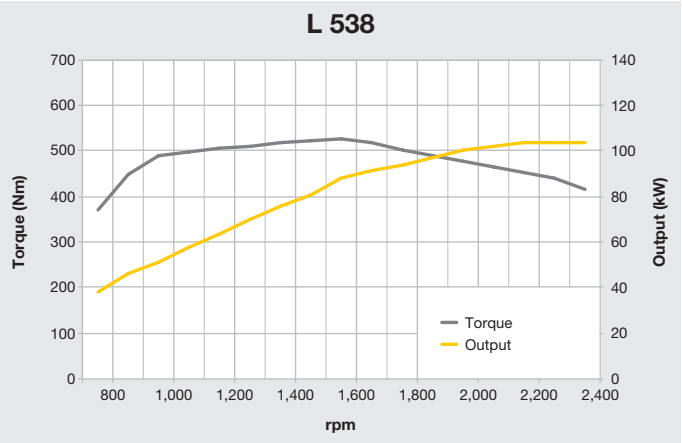
Engine

Diesel engine	4045HF286	
Design	water-cooled, turbo charged, intercooled	
Cylinders inline	4	
Fuel injection process	electronic Common Rail high-pressure injection	
Max. output according to DIN/ISO 3046	104 kW	at 2,400 RPM
Max. torque	525 Nm	at 1,500 RPM
Displacement	4.5 litres	
Bore/Stroke	106/127 mm	
Air cleaner system	Dry air filter with main and safety element, pre-cleaner, service indicator	

Electrical system

Operating voltage	24 V
Battery	2 x 135 Ah
Alternator	28 V/100 A
Starter motor	24 V/7 kW

The exhaust emissions are below the limits in Stage IIIA / Tier 3.



Travel Drive

Stepless hydrostatic travel drive

Design	Swash plate type variable flow pump and two variable axial piston motors in closed loop circuit and axle transfer case. Direction of travel is reversed by changing the flow-direction of the variable-displacement pump
Filtering system	Suction return line filter for closed circuit
Control	By travel and inching pedal. The inching pedal makes it possible to control the tractive and thrust forces steplessly at full engine speed. The Liebherr joystick is used to control forward and reverse travel
Travel speed range	
Speed range 1	0 – 4.0 km/h
Speed range A1-2	0 – 15.0 km/h
Speed range A1-3	0 – 40.0 km/h

The quoted speeds apply with the tyres that are standard equipment on the loader

Axles

Four-wheel drive

Front axle	Fixed
Rear axle	Centre pivot, with 10° oscillating angle to each side. 470 mm in height can be driven over (with all four wheels remain in contact with the ground)
Differentials	Automatic limited-slip differentials
Reduction gear	Planetary final drive in wheel hubs
Track width	1,900 mm with all types of tyres

Brakes

Wear-free service brake	Self-locking of the hydrostatic travel drive (acting on all four wheels) and additional pump-accumulator brake system with wet multi-disc brakes located in the differential housing (two seperate brake circuits)
Parking brake	Electro-hydraulically actuated spring-loaded disc brake system on the front axle

The braking system meets the requirements of the EC guidelines 71/320.

Tyres

Standard size	20.5R25 L3
Special tyres	By arrangement with the manufacturer

Steering

Design	“Load-sensing” swash plate type variable flow pump with pressure cut-off and flow control. Central pivot with two double-acting steering cylinders
Angle of articulation	40° (to each side)
Emergency steering	Electro-hydraulic emergency steering system, optional

Attachment Hydraulics

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-Joystick” with hydraulic servo control
Lift circuit	Lifting, neutral, lowering and float positions controlled by Liebherr joystick with detent
Tilt circuit	Tilt back, neutral, dump automatic bucket return to dig optional
Max. flow	223 l/min.
Max. pressure	350 bar

Attachment

Geometry	Powerful Z-bar linkage with tilt cylinder and steel cross-tube
Bearings	Sealed
Cycle time at nominal load	
Lifting	5.3 s
Dumping	1.6 s
Lowering (empty)	4.0 s

Operator’s Cab

Design	On elastic bearing on rear section, soundproof ROPS/FOPS cab. Operator’s door with 105° opening angle, ventilation opening on the right hand side, front windscreen made of compound safety glass, green tinted as standard, side windows made of single-pane safety glass, grey tinted, continuously adjustable steering column and joystick control as standard, heatable rear window ROPS roll over protection per EN/ISO 3471/EN 474-1 FOPS falling objects protection per EN/ISO 3449/ EN 474-1
Liebherr Operator’s seat	6 way adjustable seat with lap belt, vibration damping and suspension adjustable for the operator’s weight (mechanically sprung)
Cab heating and ventilation	Operator’s cab with 4-level air control, cooling water heating, mechanical controlled heating as standard, mechanical controlled air-condition as option

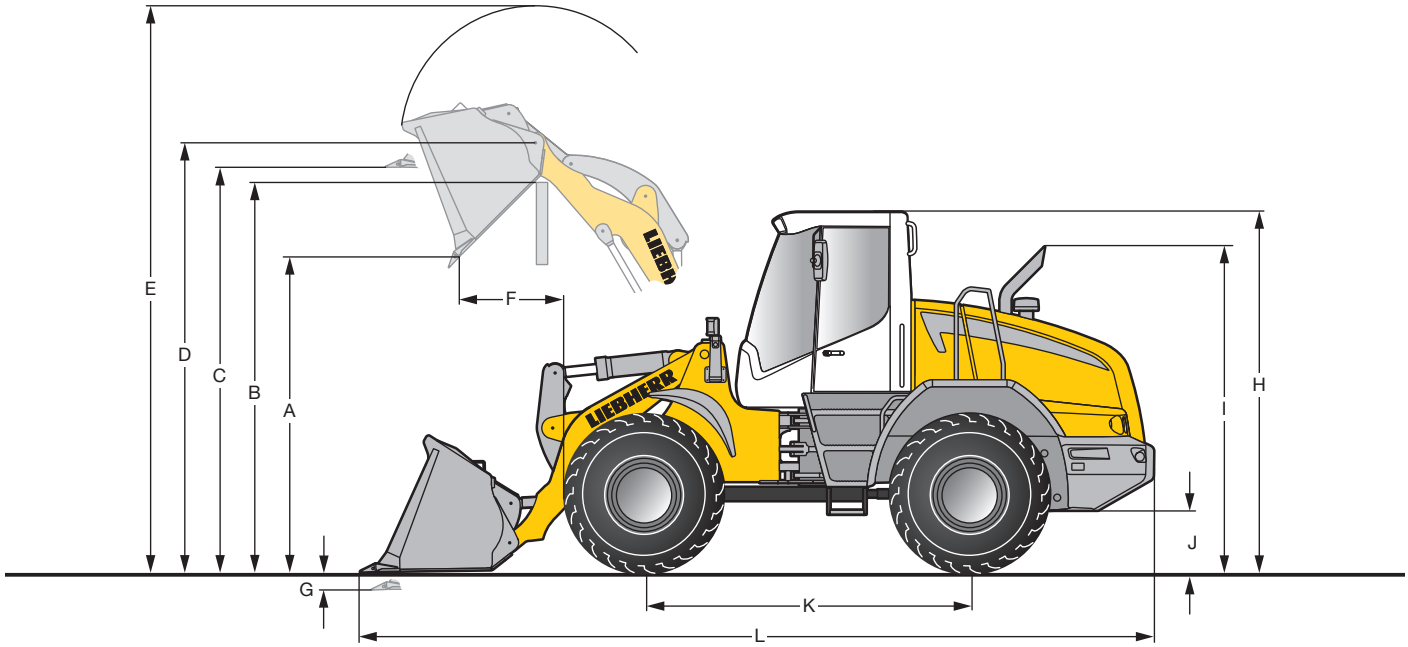
Noise Emission

Sound pressure, measured according to ISO 6396 (inside cab):	L_{pA} = 69 dB(A)
Sound power, measured according to ISO 6395 (emitted by wheel loader):	L_{WA} = 103 dB(A)

Capacities

Fuel tank	225 l
Engine oil (including filter change)	14.7 l
Transmission	3.8 l
Coolant	36 l
Front axle/wheel hubs	16.3 l / 2.6 l
Rear axle/wheel hubs	15 l /2.6 l
Hydraulic tank	90 l
Hydraulic system, total	170 l

Dimensions



Loading Bucket

	Cutting tool		T	T	T
	Lift arm length	mm	2,500	2,500	2,500
	Bucket capacity according to ISO 7546 **	m³	2.5	2.7	2.2
	Bucket width	mm	2,500	2,500	2,500
A	Dumping height at max. lift height and 45° discharge	mm	2,900	2,845	2,770
B	Dump-over height	mm	3,480	3,480	3,475
C	Max. height of bucket bottom	mm	3,680	3,680	3,680
D	Max. height of bucket pivot point	mm	3,930	3,930	3,930
E	Max. operating height	mm	5,170	5,260	5,230
F	Reach at max. lift height and 45° discharge	mm	960	1,005	1,015
G	Digging depth	mm	80	80	80
H	Height above cab	mm	3,250	3,250	3,250
I	Height above exhaust	mm	2,910	2,910	2,910
J	Ground clearance	mm	490	490	490
K	Wheelbase	mm	2,975	2,975	2,975
L	Overall length	mm	7,150	7,225	7,280
	Turning circle radius over outside bucket edge	mm	5,840	5,870	5,880
	Turning circle radius over tyres	mm	5,350	5,350	5,350
	Width over tyres	mm	2,470	2,470	2,470
	Breakout force (SAE)	kN	117	114	109
	Tipping load, straight *	kg	10,700	10,500	10,200
	Tipping load, articulated at 40° *	kg	9,500	9,300	9,000
	Operating weight *	kg	12,800	13,000	13,200
	Tyre sizes		20.5R25 L3	20.5R25 L3	20.5R25 L3

* The figures shown here are valid with tyres above, includes 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, articulated at 40° 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 – see page 24.

= Excavation bucket with back grading edge for direct mounting

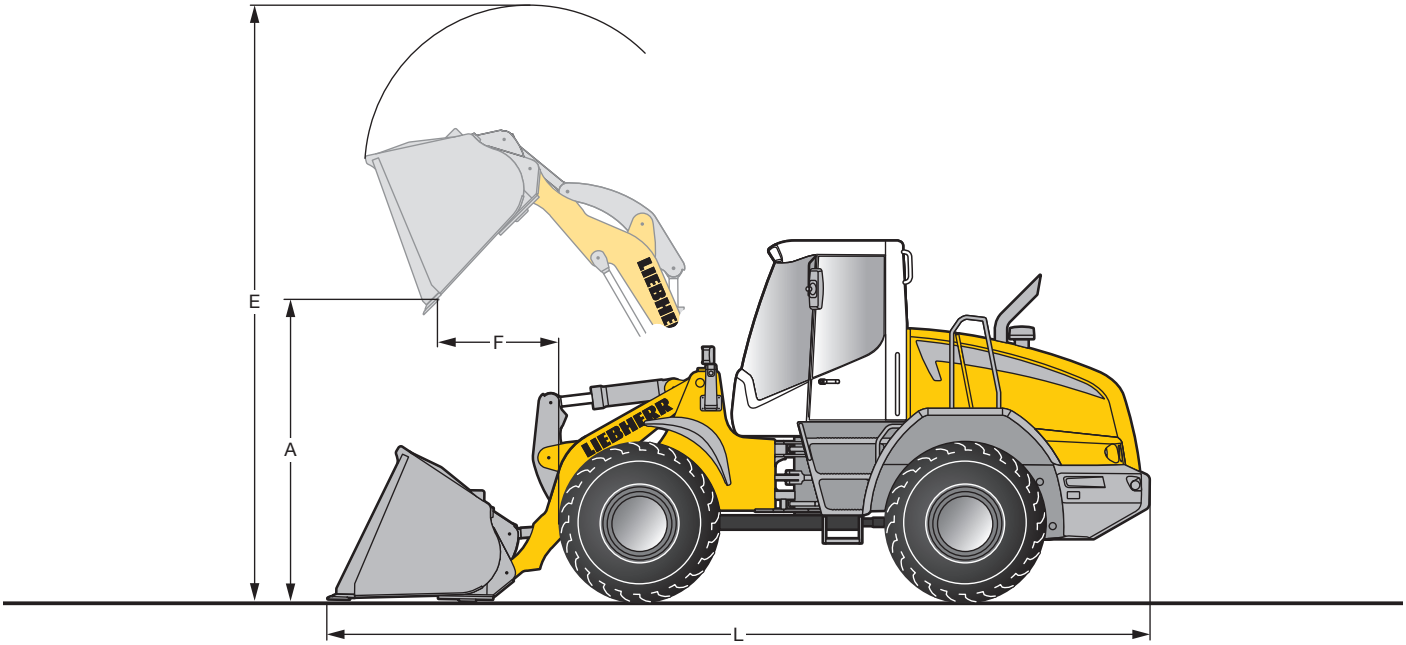
= Excavation bucket with back grading edge for quick-hitch

T = Welded-on tooth holder with add-on teeth

Attachment

Light Material Bucket

L 538



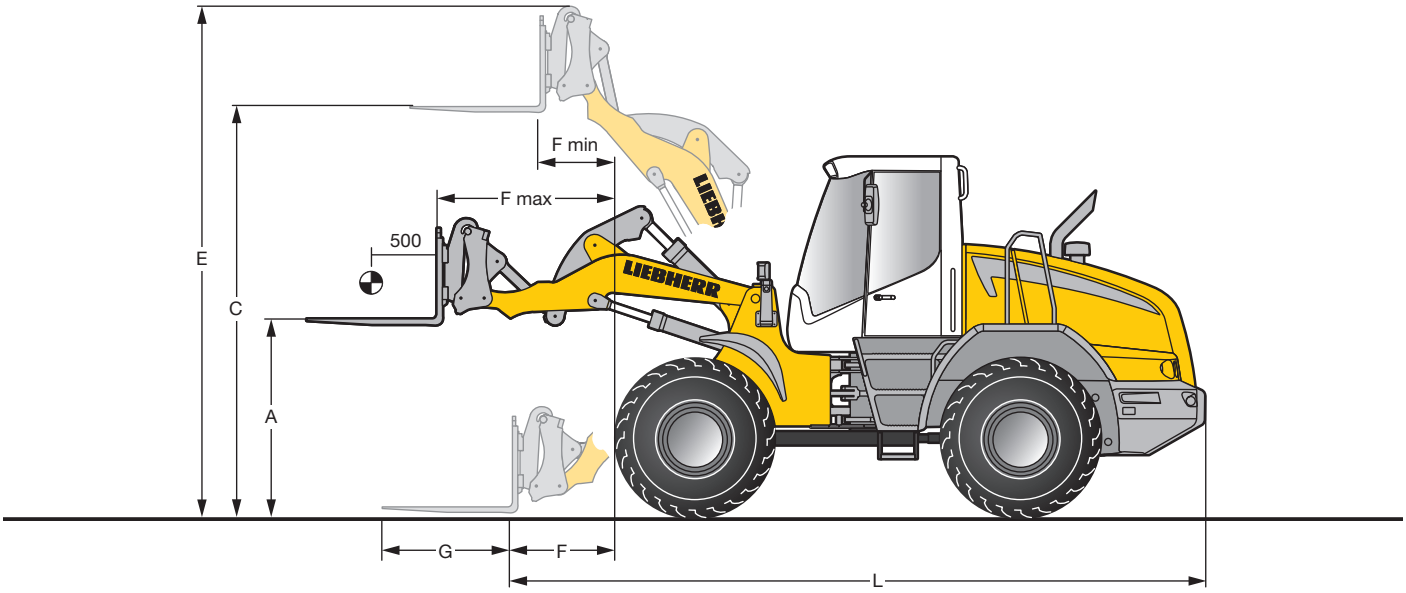
Light Material Bucket
with Bolt-On Cutting Edge

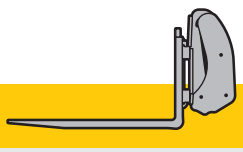
	Bucket capacity	m^3	3.5	4.0
	Bucket width	mm	2,700	2,700
A	Dumping height at max. lift height	mm	2,800	2,715
E	Max. operating height	mm	5,370	5,440
F	Reach at maximum lift height	mm	1,150	1,300
L	Overall length	mm	7,605	7,695
	Tipping load, straight *	kg	10,600	10,500
	Tipping load, articulated at 40° *	kg	9,400	9,300
	Operating weight *	kg	13,200	13,300
	Tyre sizes		20.5R25 L3	20.5R25 L4

* The figures shown here are valid with tyres above, includes 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, articulated at 40° according to ISO 14397-1)

Attachment

Fork Carrier and Fork





FEM III Fork Carrier and Fork with Quick Coupler

A	Lifting height at max. reach	mm	1,781
C	Max. lifting height	mm	3,738
E	Max. operating height	mm	4,662
F	Reach at loading position	mm	939
F max.	Max. reach	mm	1,635
F min.	Reach at max. lifting height	mm	694
G	Fork length	mm	1,200
L	Length – basic machine	mm	6,350
	Tipping load, straight *	kg	7,880
	Tipping load, articulated at 40° *	kg	6,940
	Recommended payload for uneven ground = 60 % of tipping load, articulated [1]	kg	3,825
	Recommended payload for smooth surfaces = 80 % of tipping load, articulated [1]	kg	5,000 [2]
	Operating weight *	kg	12,700
	Tyre sizes		20.5R25 L3

* The figures shown here are valid with tyres above, includes 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, articulated at 40° according to ISO 14397-1)

[1] According to EN 474-3

[2] Load capacity for the fork carrier and forks is limited to 5,000 kg

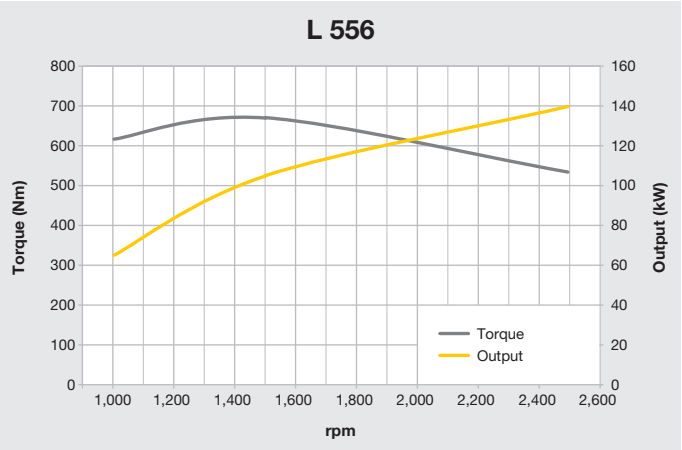
Technical Data

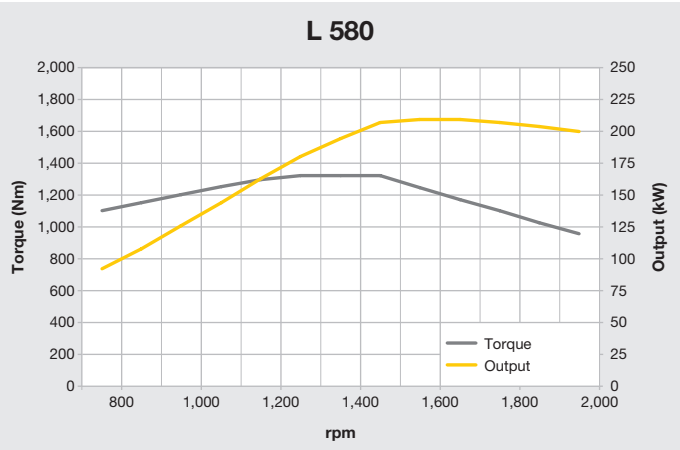
L 556 / L 580

Engine

	L 556	L 580
Diesel engine	BF6M2012C	Stage II: 6090HFL75 Stage IIIA: 6090HFL85
Design	water-cooled, turbo charged, intercooled	
Cylinders inline	6	6
Fuel injection process	Unit pump (PLD)	electronic Common Rail high-pressure injection
Max. output according to DIN/ISO 3046	kW 140	209
	at RPM 2,500	1,600
Max. torque	Nm 671	1,320
	at RPM 1,500	1,400
Displacement	litres 6.057	9.0
Bore/Stroke	mm 101/126	118.4/136
Air cleaner system	Dry air filter with main and safety element, pre-cleaner, service indicator	
Electrical system		
Operating voltage	V 24	24
Battery	Ah 2 x 150	2 x 180
Alternator	V/A 28/80	28/100
Starter motor	V/kW 24/4	24/7.8

L 556: available for exhaust emission limits of Stage II / Tier 2.
L 580: selectable between models for exhaust standards of Stage II / Tier 2 and Stage IIIA / Tier 3.





Technical Data

Travel Drive

Stepless hydrostatic travel drive

Design	Swash plate type variable flow pump and two variable axial piston motors in closed loop circuit and axle transfer case. Direction of travel is reversed by changing the flow-direction of the variable-displacement pump
Filtering system	Suction return line filter for closed circuit
Control	By travel and inching pedal. The inching pedal makes it possible to control the tractive and thrust forces steplessly at full engine speed. The Liebherr joystick is used to control forward and reverse travel

Travel speed range

L 556	Speed range 1	0 – 4.0 km/h
	Speed range A1-2	0 – 15.0 km/h
	Speed range A1-3	0 – 40.0 km/h
L 580	Speed range 1	0 – 10.0 km/h
	Speed range 2 and A2	0 – 20.0 km/h
	Speed range A3	0 – 40.0 km/h

The quoted speeds apply with the tyres that are standard equipment on the loader

Axles

Four-wheel drive

Front axle	Fixed	
Rear axle	Centre pivot	
	L 556	L 580
Oscillating angle to each side	10°	13°
Height of obstacles which can be driven over mm	500	490

(with all fourwheels remain in contact with the ground)

Differentials	Automatic limited-slip differentials
Reduction gear	Planetary final drive in wheel hubs
Track width	2,090 mm with all types of tyres (L 556) 2,230 mm with all types of tyres (L 580)

Brakes

Wear-free service brake	Self-locking of the hydrostatic travel drive (acting on all four wheels) and additional pump-accumulator brake system with wet multi-disc brakes located in the wheel hubs (two seperate brake circuits)
Parking brake	Electro-hydraulically actuated spring-loaded disc brake system on the transmission

The braking system meets the requirements of the EC guidelines 71/320.

Tyres

Standard size L 556	23.5R25 L3
Standard size L 580	26.5R25 L3
Special tyres	By arrangement with the manufacturer

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)
Emergency steering	Electro-hydraulic emergency steering system: L 556 as standard / L 580 optional

Attachment Hydraulics

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-Joystick” with hydraulic servo control
Lift circuit	Lifting, neutral, lowering and float positions controlled by Liebherr joystick with detent
Tilt circuit	Tilt back, neutral, dump automatic bucket return to dig optional

		L 556	L 580
Max. flow	l/min.	234	290
Max. pressure	bar	330	380

Attachment

Geometry	Powerful Z-bar linkage with tilt cylinder and cast steel cross-tube
Bearings	Sealed

Cycle time at nominal load	L 556	L 580
Lifting	5.5 s	5.5 s
Dumping	2.3 s	2.0 s
Lowering (empty)	2.7 s	3.5 s

Operator’s Cab

Design	On elastic bearing on rear section, soundproof ROPS/FOPS cab. Operator’s door with 110° (L 556) / 180° (L 580) opening angle, ventilation opening on the right hand side, front windscreen made of compound safety glass, green tinted as standard, side windows made of single-pane safety glass, grey tinted, continuously adjustable steering column and joystick control as standard, heatable rear window ROPS roll over protection per EN/ISO 3471/ EN 474-1 FOPS falling objects protection per EN/ISO 3449/ EN 474-1
Liebherr Operator’s seat	6 way adjustable seat with lap belt, vibration damping and suspension adjustable for the operator’s weight (mechanically sprung)
Cab heating and ventilation	Operator’s cab with 4-level air control, cooling water heating, mechanical controlled heating as standard, mechanical controlled air-condition as option

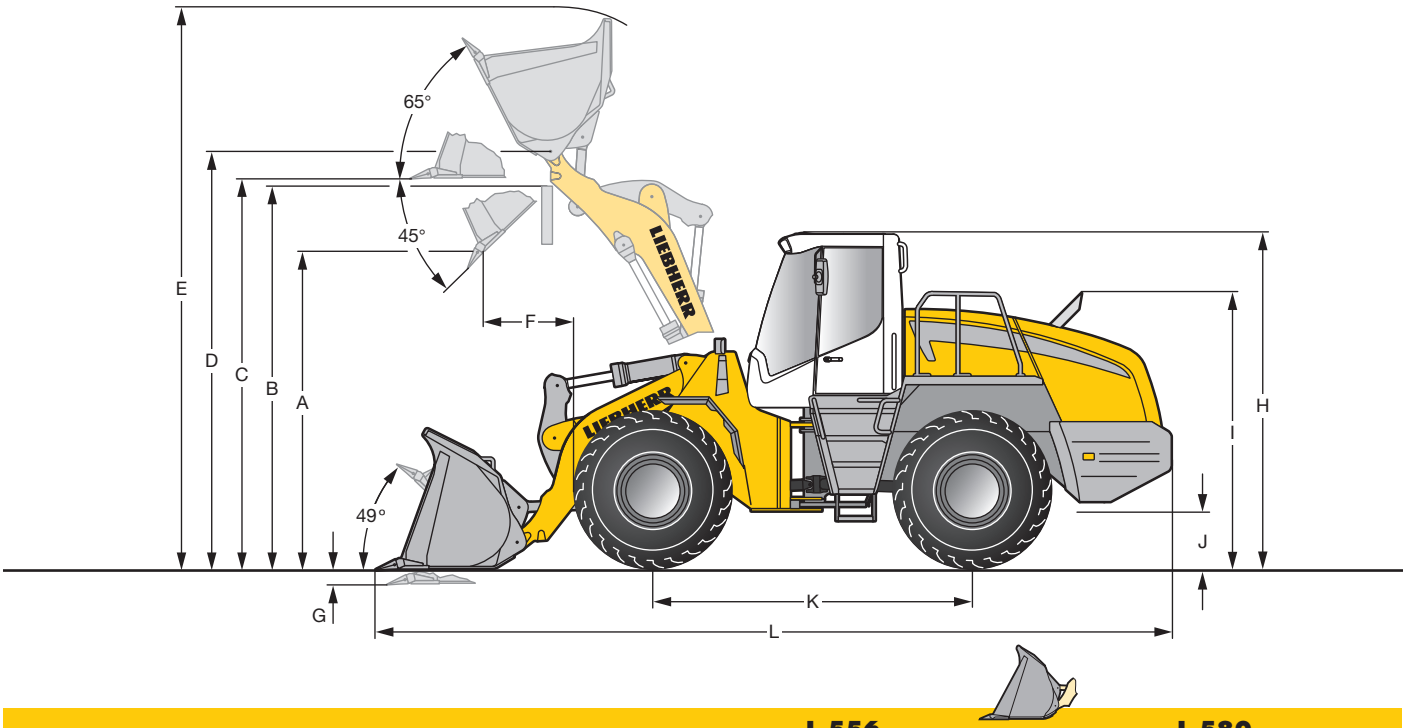
Noise Emission

		L 556	L 580
Sound pressure, measured according to ISO 6396 (inside cab):	L_{pA}	69 dB(A)	69 dB(A)
Sound power, measured according to ISO 6395 (emitted by wheel loader):	L_{WA}	105 dB(A)	106 dB(A)

Capacities

	L 556	L 580
Fuel tank	l 290	400
Engine oil (including filter change)	l 17.5	34
Pump distribution gearbox	l	2.5
Transmission	l 3.8	11.5
Coolant	l 26	42
Front axle/wheel hubs	l 22 / 11	42
Rear axle/wheel hubs	l 22 / 11	42
Hydraulic tank	l 135	135
Hydraulic system, total	l 240	230

Dimensions



Loading Bucket			L 556		L 580	
			STD	HL	STD	HL
	Cutting tool		T	T	T	T
	Lift arm length	mm	2,750	3,050	3,050	3,250
	Bucket capacity according to ISO 7546 **	m^3	3.5	3.0	5.0	4.5
	Bucket width	mm	2,900	2,900	3,300	3,000
A	Dumping height at max. lift height and 45° discharge	mm	3,200	3,700	3,320	3,530
B	Dump-over height	mm	3,810	4,230	4,100	4,300
C	Max. height of bucket bottom	mm	3,950	4,320	4,270	4,470
D	Max. height of bucket pivot point	mm	4,230	4,650	4,580	4,780
E	Max. operating height	mm	5,730	6,100	6,340	6,540
F	Reach at max. lift height and 45° discharge	mm	1,000	850	1,150	1,215
G	Digging depth	mm	60	80	100	140
H	Height above cab	mm	3,380	3,380	3,590	3,590
I	Height above exhaust	mm	2,800	2,800	3,000	3,000
J	Ground clearance	mm	500	500	535	535
K	Wheelbase	mm	3,280	3,280	3,900	3,900
L	Overall length	mm	8,365	8,670	9,645	9,915
	Turning circle radius over outside bucket edge	mm	6,560	6,790	7,910	7,895
	Turning circle radius over tyres	mm	5,853	5,850	7,150	7,150
	Width over tyres	mm	2,740	2,740	2,960	2,960
	Breakout force (SAE)	kN	130	125	190	190
	Tipping load, straight *	kg	14,620	12,880	20,780	18,990
	Tipping load, articulated at 37° *	kg	13,140	11,580	18,380	16,760
	Tipping load, articulated at 40° *	kg	12,900	11,380	18,000	16,400
	Operating weight *	kg	17,400	17,560	24,720	25,030
	Tyre sizes		23.5R25 L3		26.5R25 L3	

* The figures shown here are valid with tyres above, includes 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, articulated at 40° 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 – see page 24.

= Excavation bucket with back grading edge for direct mounting

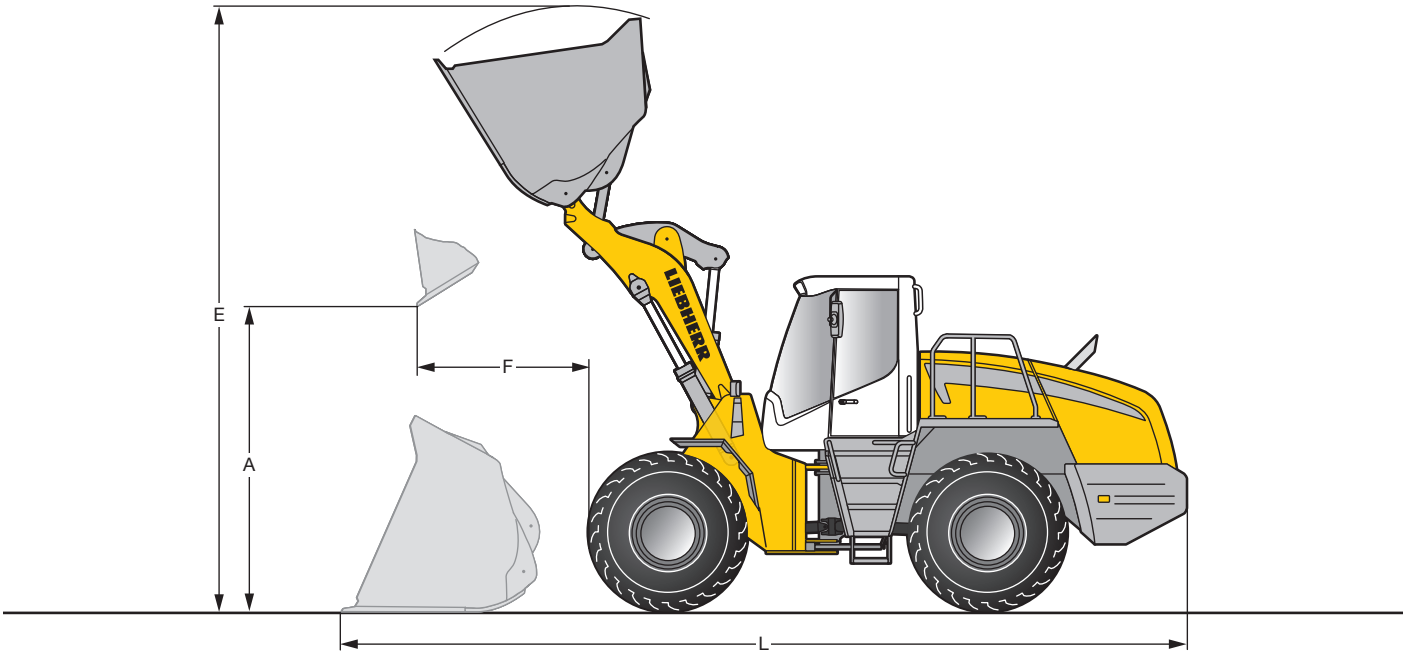
STD = Standard lift arm length

HL = High Lift

T = Welded-on tooth holder with add-on teeth

Attachment

Light Material Bucket



Light Material Bucket with Bolt-On Cutting Edge			L 556			L 580	
			STD	HL	HL	STD	STD
	Bucket capacity	m^3	4.5	3.5	4.5	6.5	8.0
	Bucket width	mm	2,900	2,900	2,900	3,200	3,500
A	Dumping height at max. lift height	mm	2,980	3,650	3,400	3,195	3,150
E	Max. operating height	mm	5,880	6,150	6,300	6,450	6,480
F	Reach at maximum lift height	mm	1,160	900	1,100	1,205	1,240
L	Overall length	mm	8,430	8,770	9,020	9,510	9,600
	Tipping load, straight*	kg	13,970	12,834	12,384	20,130	18,210
	Tipping load, articulated at 40° *	kg	12,330	11,324	10,926	17,390	15,970
	Operating weight*	kg	17,790	17,610	17,973	24,960	25,420
	Tyre sizes			23.5R25 L3		26.5R25 L3	

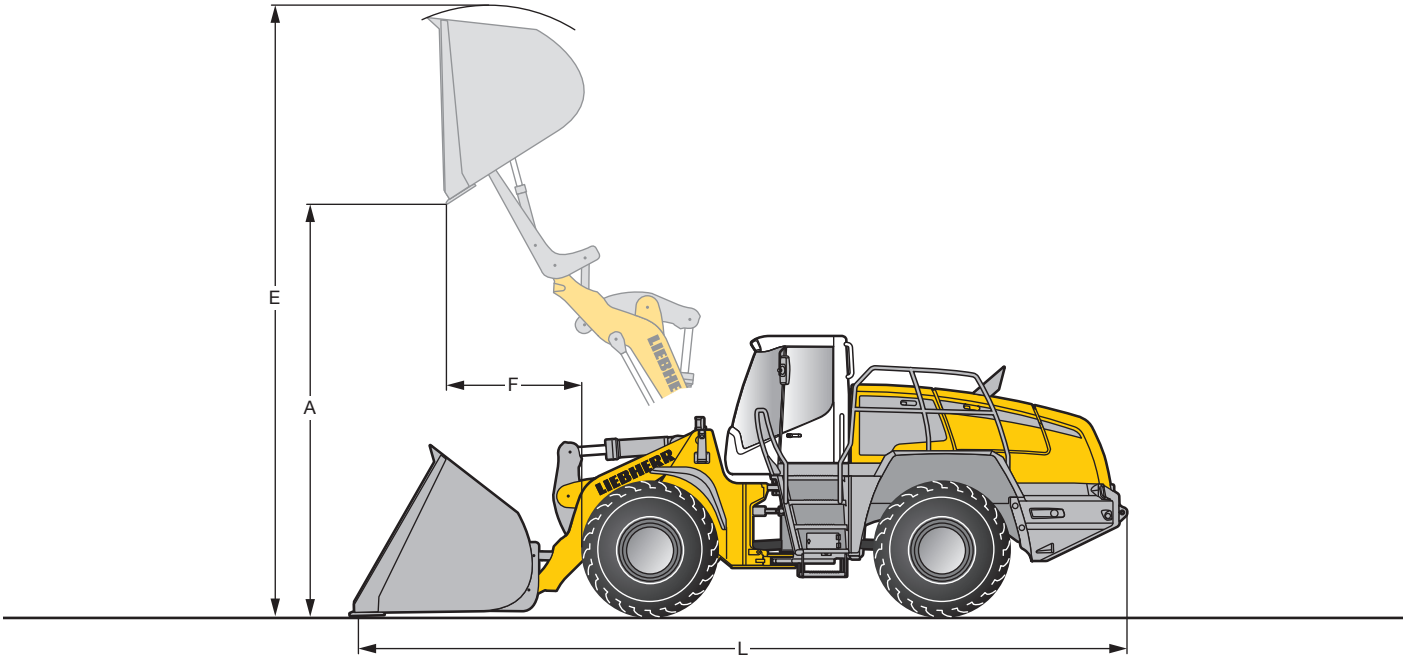
* The figures shown here are valid with tyres above, includes all lubricants, a full fuel tank, the ROPS/FOPS cab and the operator. Different tyres and optional equipment will change the operating weight and tipping load. (Tipping load, articulated at 40° according to ISO 14397-1)

STD = Standard lift arm length
HL = High Lift

Attachment

High-Dump Bucket

L 580



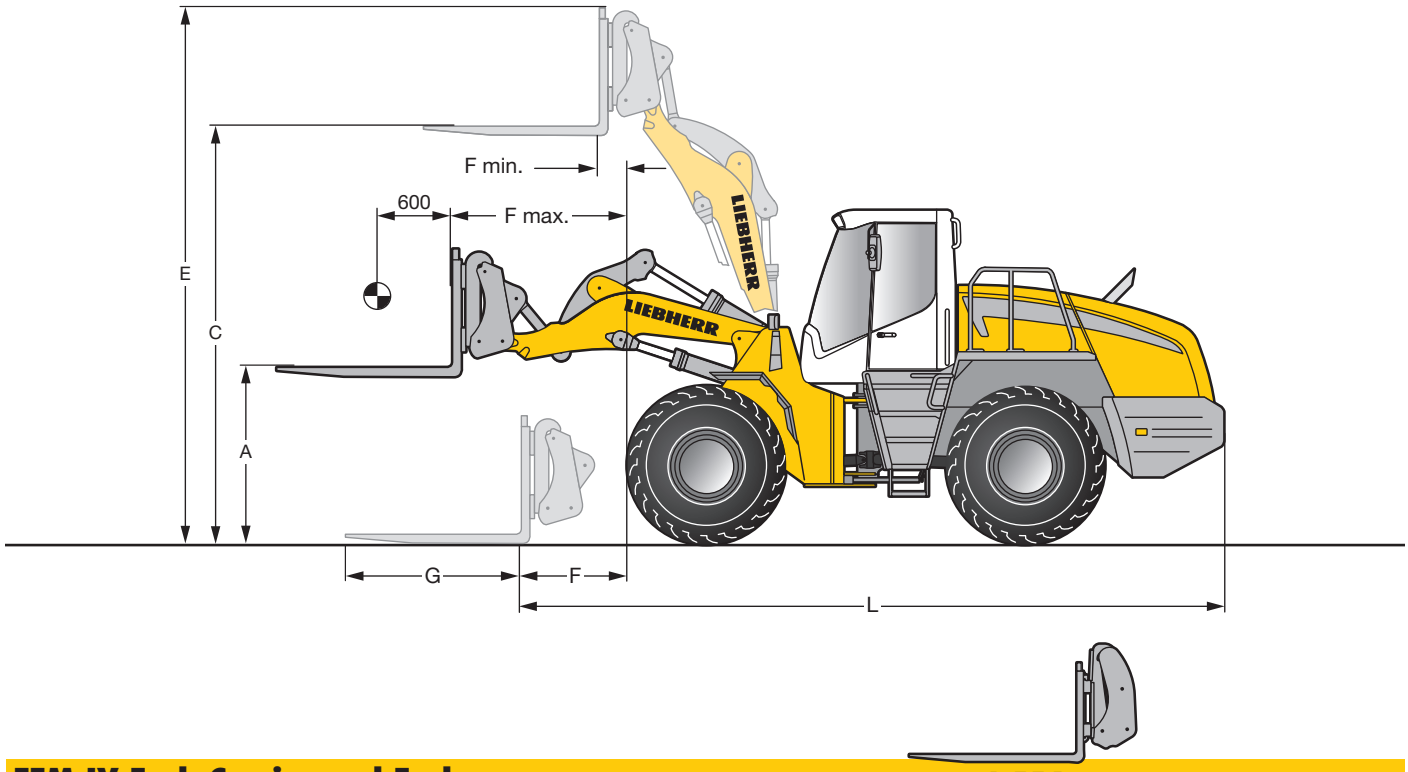
High-Dump Bucket with Bolt-On Cutting Edge			L 580 STD
	Bucket capacity	m^3	6.5
	Bucket width	mm	3,200
A	Dumping height at max. lift height	mm	5,050
E	Max. operating height	mm	7,450
F	Reach at maximum lift height	mm	1,430
L	Overall length	mm	9,980
	Tipping load, straight*	kg	18,150
	Tipping load, articulated at 40°*	kg	15,500
	Operating weight*	kg	26,180
	Tyre sizes		26.5R25 L3

* The figures shown here are valid with tyres above, includes 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, articulated at 40° according to ISO 14397-1)

STD = Standard lift arm length

Attachment

Fork Carrier and Fork



FEM IV Fork Carrier and Fork with Quick Coupler			L 556 STD
A	Lifting height at max. reach	mm	1,833
C	Max. lifting height	mm	4,010
E	Max. operating height	mm	4,995
F	Reach at loading position	mm	1,092
F max.	Max. reach	mm	1,728
F min.	Reach at max. lifting height	mm	682
G	Fork length	mm	1,500
L	Length – basic machine	mm	7,346
	Tipping load, straight *	kg	10,240
	Tipping load, articulated at 40° *	kg	9,030
	Recommended payload for uneven ground = 60 % of tipping load, articulated [1]	kg	5,418
	Recommended payload for smooth surfaces = 80 % of tipping load, articulated [1]	kg	6,500 [2]
	Operating weight *	kg	17,140
	Tyre sizes		23.5R25 L3

* The figures shown here are valid with tyres above, includes 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, articulated at 40° according to ISO 14397-1)

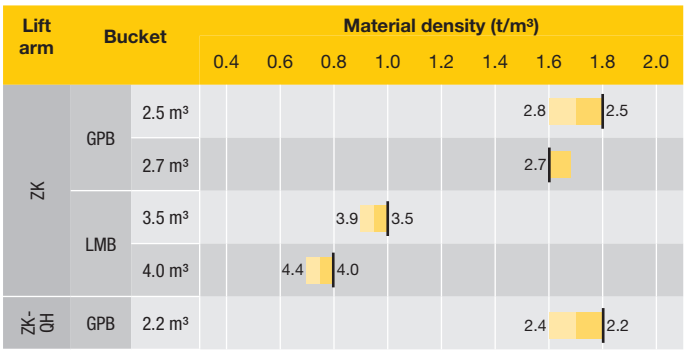
[1] According to EN 474-3

[2] Payload on forks is limited by tilt cylinder

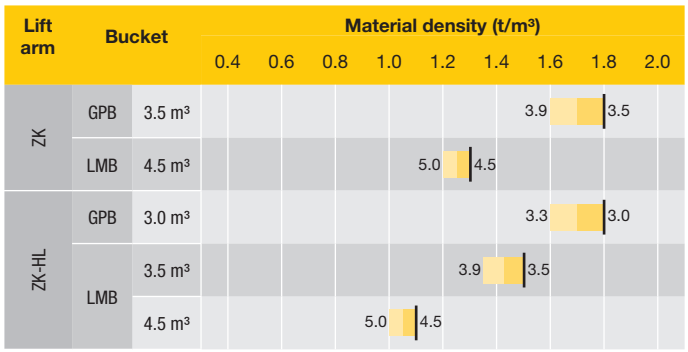
STD = Standard lift arm length

Bucket selection

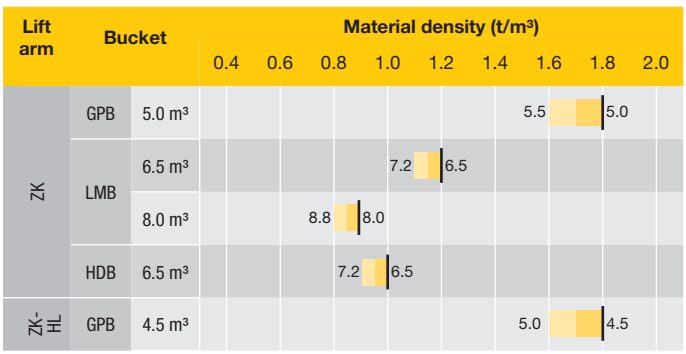
L 538



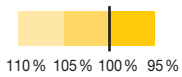
L 556



L 580



Bucket Filling Factor



Lift arm

ZK	Z-bar linkage, standard lift arm length
ZK-HL	Z-bar linkage, High Lift
ZK-QH	Z-bar linkage, including quick-hitch, standard lift arm length

Bucket

GPB	General purpose bucket (Excavation)
LMB	Light material bucket
HDB	High-dump bucket

Bulk Materials

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	0.8	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

Tipping Load

ISO 14397-1

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.

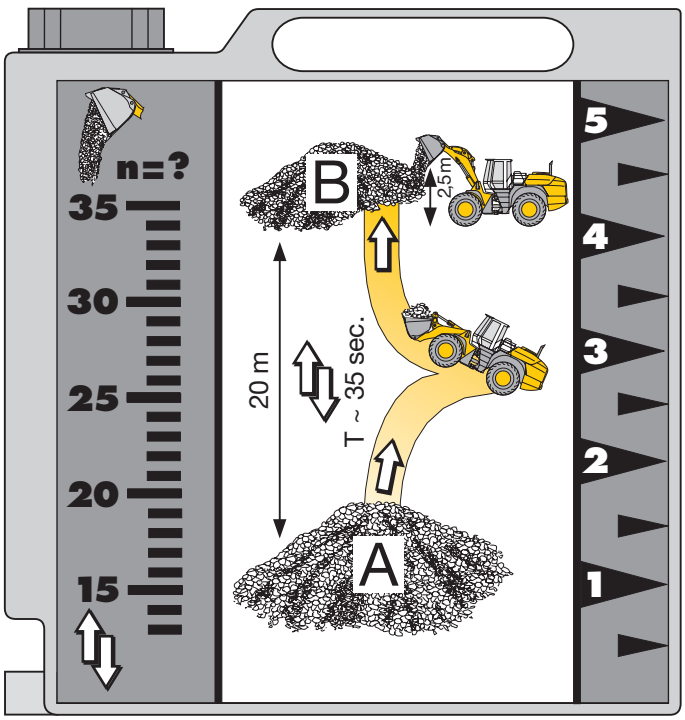
Bucket capacity.
The bucket volume is determined from the pay load.

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

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

Fuel Consumption

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
L 538: 2.5 m³	n = 36	2.9	11.1
L 556: 3.5 m³	n = 29	2.6	13.8
L 580: 5.0 m³	n = 21	2.9	19.1

Equipment

Basic Machine

	538	556	580
Automatic central lubrication system	+	+	+
Battery master switch	•	•	•
Automatic travel mode	•	•	•
Speed range selection	•	•	•
Ride control	+	+	+
Parking brake	•	•	•
Speed limiting Vmax	•	•	•
Pre-heat system for cold starting	•	•	•
Combined inching-braking system	•	•	•
Multi-disc limited slip differentials in both axles	•	•	•
Air cleaner system with pre-filter	•	•	•
Emergency steering system	+	•	+
Acoustic back-up alarm	•	•	•
Tail lights	•	•	•
Headlights and license plate illumination rear, single version (on tail flap) – halogen	+	+	+
Headlights front, single version (on front-chassis) – halogen	•	•	•
Lockable doors, service flap and engine hood	•	•	•
Ramming guard	+	+	+
Chock	+	+	+
Air pre-cleaner	+	+	+
Fuel pre-heating system	+	+	+
Hazard warning flashers	•	•	•
Toolbox with toolkit	•	•	•
Central lubrication lines for lift arm	+	+	•
Towing hitch	•	•	•

Operator's Cab

	538	556	580
Storage box	•	•	•
Armrest, adjustable	•	•	•
Exterior mirror, heatable	+	+	+
Exterior mirror, tiltable	•	•	•
Operator's seat – mechanically sprung	•	•	•
Operator's seat – air sprung	+	+	+
Operator's seat – air sprung with seat heating	+	+	+
Fire extinguisher 2 kg	+	+	+
Cup holder	•	•	•
Rear window heater	•	•	•
Heater	•	•	•
Horn	•	•	•
Floor mat	•	•	•
Clothes hook	•	•	•
Air conditioning system	•	•	•
Storage box with cooling function	+	+	+
Steering column, height-adjustable	+	+	+
Steering column, adjustable	•	•	•
Liebherr joystick control – adjustable	•	•	•
Radio	•	•	•
Provision for radio including loudspeaker	+	+	+
Interior rear-view mirror	•	•	•
Amber beacon	+	+	+
Soundproof ROPS/FOPS cab	•	•	•
Wash/wipe system for windscreen and rear window	•	•	•
Headlights rear, double version – halogen	+	+	+
Headlights rear, single version – halogen	•	•	•
Headlights front, double version – halogen	•	•	•
Windscreen guard	+	+	+
Sun visor front	•	•	•
Sunblind front / rear	+	+	+
Dust filter system	+	+	+
Plug 12 V	•	•	•
First aid kit	+	+	+
Wide angle mirror	+	+	+

Display unit

	538	556	580
Working hydraulics lockout	•	•	•
Battery charge	•	•	•
Timer for hours of operation	•	•	•
Indicator light/Hazard warning lights	•	•	•
Brake accumulator pressure	•	•	•
Rev. Counter	•	•	•
Speed range indicator	•	•	•
Travel speed	•	•	•
Travel direction	•	•	•
Parking brake	•	•	•
Gear level	•	•	•
Hydraulic oil temperature (overheating)	•	•	•
Fuel level	•	•	•
Coolant temperature	•	•	•
Engine oil pressure	•	•	•
Emergency steering system	+	•	+
Service codes	•	•	•
System and function settings	•	•	•
Time	•	•	•
Tractive force regulation	–	–	•

Warning symbols for

	538	556	580
Battery charge	•	•	•
Brake accumulator pressure	•	•	•
Emergency steering system	+	•	+
Air cleaner blockage	•	•	•
Engine oil pressure	•	•	•
Engine overheat	•	•	•

Audible Warnings for

	538	556	580
Quick coupler, opened	•	•	•
Coolant level	•	•	•
Charge air/fuel temperature too high	•	•	•
Steering system/braking system	•	•	•
Engine oil pressure	•	•	•
Service codes	•	•	•
Overheating of coolant, fuel, hydraulic oil or gearbox oil	•	•	•
Acoustic back-up alarm	•	•	•

Equipment

	538	556	580
Working hydraulics lockout	•	•	•
Automatic bucket return to dig – adjustable	•	•	•
Fork carrier and lift forks	+	+	–
High Lift arms	–	+	+
High-dump bucket	–	–	+
Hydraulic quick coupler	+	+	+
Hydraulic servo control of working hydraulics	•	•	•
Tilt cylinder protection	–	+	+
Loading buckets with and without teeth, or bolt-on cutting edge	+	+	+
Country-specific versions	+	+	+
Light material bucket	+	+	+
Float position	•	•	•
Z-bar linkage	•	•	•
3rd hydraulic control circuit	+	+	+
3rd and 4th hydraulic control circuits	–	+	–

• = Standard, + = Option, – = not available

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