
Specialized machines for waste management

Material handling machines, Electric material handling machines, Wheel loaders, Crawler dozers, Crawler loaders

LIEBHERR

Material handling machines



Liebherr specialized machines for waste management

Recycling is a rapidly developing industry. Recently, many waste disposal companies have advanced from being generalists to becoming highly specialized in recycling operations. This shift has created a new set of challenges for the machines utilized in the industry. Liebherr conquers these challenges by developing machines and equipment options for a variety of applications. Since Liebherr manufactures and engineers a variety of components internally, its machines possess efficient, consistent operating systems. During the development of these components, the future application of the machine is taken into account, so that the components and attachments are adequately prepared.

The material handlers and loaders have the ability to sort, separate and load all industry materials efficiently. The wide variety of applications they serve, establish the Liebherr waste management machines as the preferred product in the recycling and waste management industries.

- Material Handling Machines
- Electric Material Handling Machines
- Wheel Loaders
- Crawler Dozers
- Crawler Loaders





Material handling machines



Performance

Since the recycling industry is so diverse, the generation of Liebherr material handlers were developed for a wide range of industry tasks. Liebherr material handlers have the ability to load, move, pile, feed, or sort waste products of all kinds. The integration of maneuverability with the machine hydraulics allow for powerful, efficient, and precise movements during tasks.

Economy

The existing generation of material handling machines are powerful, while remaining efficient. The Group achieves this standard of efficiency by utilizing its own internal components which are highly compatible with the controlled hydraulics in the machine. Liebherr relies on state-of-the-art engine technology with intelligent machine controls that optimize the interplay of the drive components in terms of efficiency. Liebherr-Power Efficiency (LPE) enables machine operation in the area of lowest specific fuel use for less consumption and greater efficiency with maximum performance.

Reliability

Liebherr material handling machines ensure smooth waste handling operations through their durable design. In areas with high air or dust contamination, the machine's filters and coarse matrix radiators ensure the machine remains in top operating condition. The Engine hydraulic and electronic components, slew ring, swivel drive and steel structure are developed, tested and produced by Liebherr. In-house production of these high-quality components ensure long service life and maximum machine availability. The attention to quality provides superior reliability.

Comfort

The Liebherr operator cab provides space and comfort to make the best use of the machine's capability. Large glass panels, multiple cab elevation options and rear and side area monitoring enable optimum viewing of the working area and the zone around the machine at all times. In addition, the Comfort driver's seat, the intuitive touchscreen color display and the machine's central lubrication systems and its attachment, provide maximum comfort.

Maintainability

The service-based machine design guarantees short servicing times, minimizing maintenance costs and downtimes. All the maintenance points are easily accessible due to the large, wide-opening service doors. The enhanced service concept places the maintenance points close to each other and reduces their number to a minimum so service work can be completed quickly and efficiently.

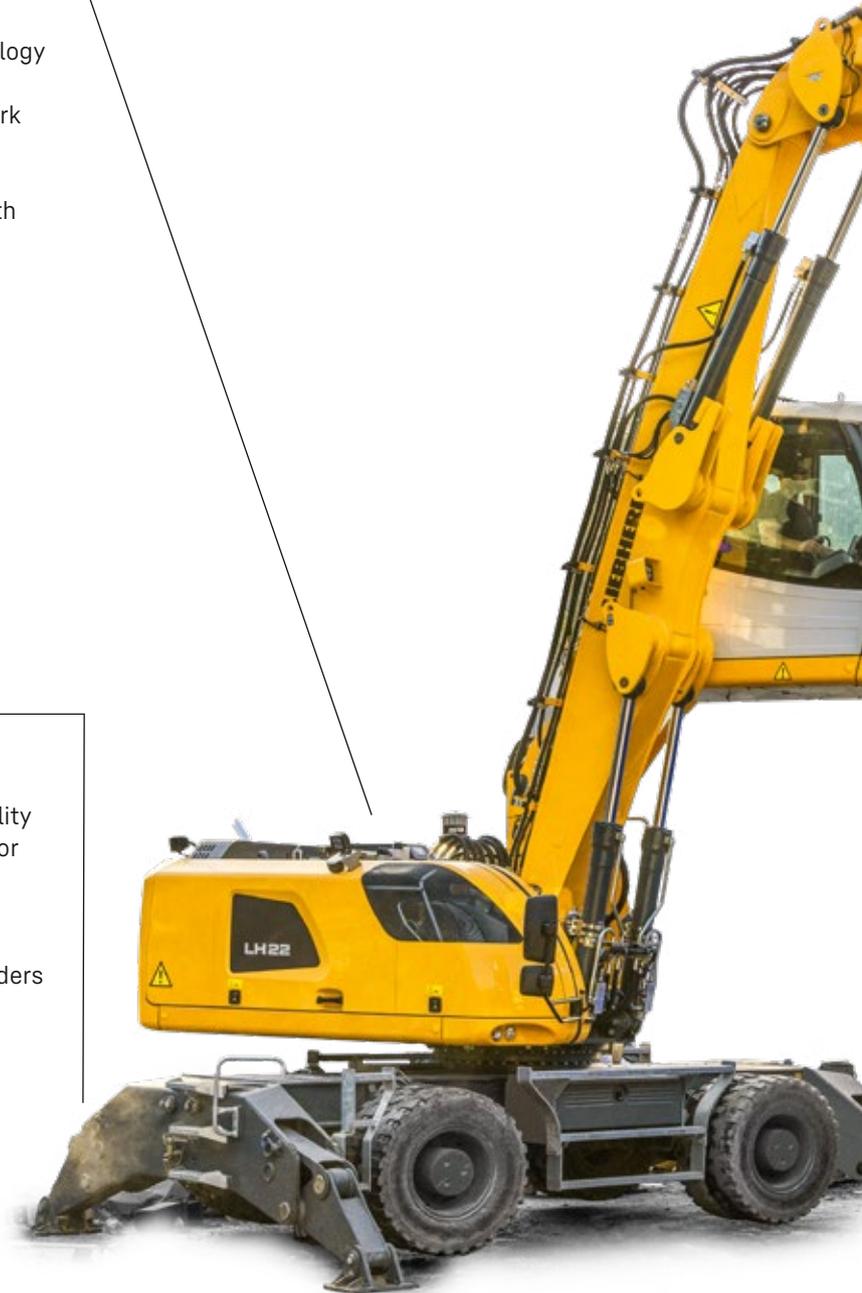
Material handling machines overview

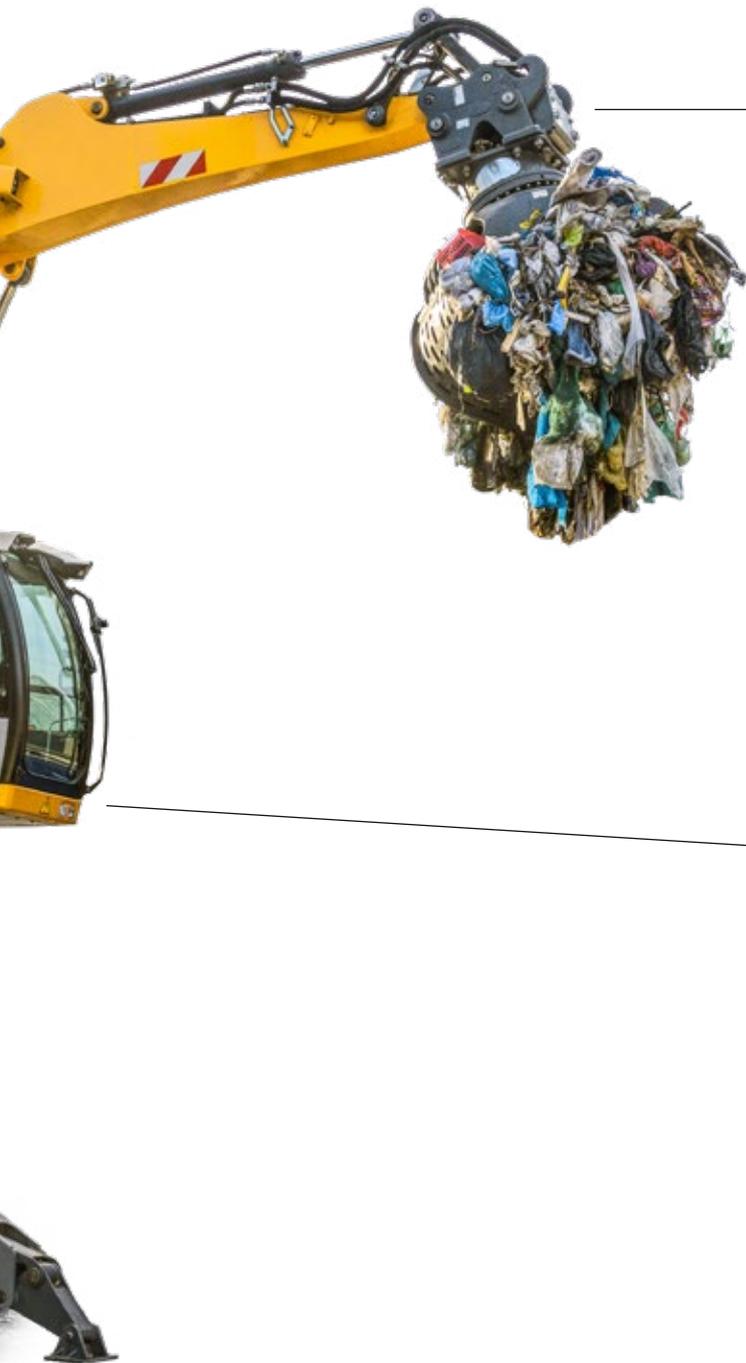
Uppercarriage

- Greater fuel efficiency due to the latest engine technology with intelligent machine control
- Optimal engine output and high pump flow for fast work cycles, convincing dynamics and maximum handling performance
- Recycling package with reversible fan, air pre-filter with dust trap and external air conditioning condenser to ensure high machine availability
- Optimized servicing concept and cleverly designed maintenance access points guarantees minimum machine downtime

Undercarriage

- Various undercarriage options available including one with a dozer blade to further increase machine versatility
- Central lubrication system manual or fully automatic for more productive working time
- Standard load holding valves fitted on all support cylinders for maximum stability in every application
- Less downtime due to maintenance free support cylinders





Equipment

- High load capacities and extensive reach due to optimized kinematic properties and robust construction for greater handling performance
- Ingenious routing of hydraulic hoses optimizes the oil flow and minimizes power losses for maximum energy efficiency
- Pipe fracture safety valves on hoist and stick cylinders and retract stick shut-off for maximum safety during every application
- Quick coupling systems and attachments made by Liebherr for maximum machine capacity utilization and greater handling performance

Cab

- Joystick steering without steering column to provide convenient operation, greater legroom and clear view of the working area
- Less strain on the operator, workers and reduced environmental pollution due to lower noise emissions
- Optimum visibility due to large glass surfaces and standard rear and side area monitoring with camera
- Standard proportional control with 4-way mini joystick provides greater precision, high precision control and functions

Technical data

		LH 18 Industry Litronic	LH 22 Industry Litronic
Variants		M	M / C
Reach	ft in	29'6"	36'1"
Operating weight*	lb	approx. 37,500 – 39,700	approx. 42,300 – 48,900
Engine output	kW / HP	105 / 141	105 / 141
Emission stage	Stage	Tier 4 Final	Tier 4 Final
Sorting grab capacity	yd ³	0.52 – 0.92	0.52 – 1.44
Multi-tine grab capacity	yd ³	0.52	0.52 – 0.78

		LH 24 Industry Litronic	LH 26 Industry Litronic
Variants		M	M
Reach	ft in	39'4"	42'8"
Operating weight*	lb	approx. 50,000 – 51,100	approx. 53,400 – 54,000
Engine output	kW / HP	110 / 148	115 / 154
Emission stage	Stage	Tier 4 Final	Tier 4 Final
Sorting grab capacity	yd ³	0.65 – 1.44	0.65 – 1.44
Multi-tine grab capacity	yd ³	0.52 – 0.78	0.52 – 0.78

		LH 30 Industry Litronic	LH 35 Industry Litronic
Variants		M / C	M
Reach	ft in	45'11"	49'3"
Operating weight*	lb	approx. 58,400 – 66,600	approx. 67,700 – 70,300
Engine output	kW / HP	140 / 188	140 / 188
Emission stage	Stage	Tier 4 Final	Tier 4 Final
Sorting grab capacity	yd ³	0.98 – 1.50	0.98 – 1.50
Multi-tine grab capacity	yd ³	0.52 – 0.78	0.52 – 0.78

M = Mobile

C = Crawler

* without attachment

Examples of use



Electric material handling machines



Performance

The electric-powered material handling range has been specially developed for the requirements of industrial material handling. A large spectrum of equipment and an uppercarriage optimized for extensive reach work makes it possible to cater for all waste and cargo handling procedures. The machine's performance, in terms of lift capacity, precision, and work pace are all maximized by the in-house components, electric motor power, and drivetrain output. The scope of this high performing equipment is enhanced considerably due to the tracked undercarriage.

Economy

Investing in an electric material handling concept pays dividends in the long term. Continually rising costs from conventional energies are a burden on operating costs and considerably reduce profit margins. Environmental factors and CO₂ emissions, in particular, are growing in importance with the choice of engines / motors and working methods. Liebherr's electric drive system offers an economically beneficial alternative and eco-friendly solution to conventional machines. Additionally, the material handling machine is always capable of work, since refuelling is no longer necessary. Requirements such as particulate filters, AdBlue, etc. are superfluous.

Reliability

With more than 30 years of experience in designing electric material handling equipment, Liebherr developed the existing models EP 934 C, EP 944 C and EP 954 C to comply with every demand from the market. The layout of the machines was redesigned due to the components of the electric drive system, which means the unit is more than just a conversion of a conventional vehicle with diesel drive system. All of the important components of the electric drive system have been integrated within the existing exterior dimensions of the uppercarriage. Liebherr electric material handling machines offer a high level of reliability so that they can consistently fulfil their key functions when deployed in industrial areas. The long service life of the hydraulic components is further enhanced by the low noise electric drive system. The drive concept, with one electric motor, ensures that the high voltage is limited to the range of the switch cabinet and drive system, the low voltage functions are capable of being enclosed in one terminal box.

Comfort

All electric material handling machines feature a modern driver's cab with a high level of comfort and comprehensive visibility to allow the operator to focus fully on their work and utilize the machine's maximum performance. The new electric material handling machines offer the same level of comfort as conventionally-driven material handling machines (layout of control elements, operator's seat, climate control, large glazed surfaces, etc.). The electric drive system provides greater cab comfort since it generates low noise levels and eliminates vibrations. For Liebherr, comfort also means easily accessible service and check points for all daily maintenance tasks on the machine in order to keep downtime to a minimum.

Maintainability

The large, wide-opening service hatch allows optimal service access. All service points can be accessed conveniently and safely resulting in short servicing times for more productivity.

Electric material handling machines overview

Large range of equipment

- Range of stationary excavators covering all requirements for scrap handling
- Special design upon consultation (here, live heel)

Large range of tools, including

- Multi-Tine grab
- Sorting grapple
- Quick-change system



Cab elevation

- Large range of fixed and hydraulically adjustable height adjustment devices
- Perfect view of the working area and surrounding area of machine

Spring base

- Absorption of dynamic loads for mounting the machine on rigid barrel
- Number of platforms based on size of machine
- Assembly kit for customer (for concrete, steel)



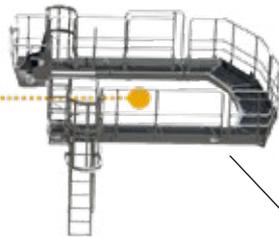


Electric motor

- Adaptable to harsh environment conditions
- Constant speed despite the load rating
- Integrated sensors for maximum availability

Integrated switchgear cabinet

- Adaptable to harsh environment conditions
- Overpressure system to prevent ingress of dust
- Fastenings with standard padlocks
- Robust and durable



Accessibility

- Safe and comfortable access to the cab
- Secured anti-slip ladders



Freestanding barrel

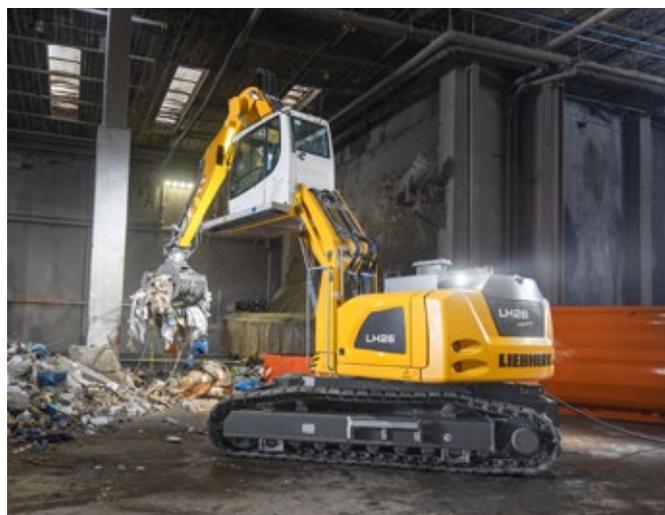
- Performance of machine based on a detachable support
- Reduced ground space
- Modular and upgradeable

Technical data

		EP 934 C Handling	EP 944 C Handling
Reach	ft in	42'8" – 65'7"	49'3" – 72'2"
Operating weight*	lp	86,200	114,42
Engine output	kW / HP	160 / 215	200 / 268
Capacity	yd³	1.05 – 1.44	1.44 – 2.22
		EP 954 C Handling	ER 934 C Handling
Reach	ft in	52'6" – 78'9"	39'4" – 52'6"
Operating weight*	lp	142,2	83,89
Engine output	kW / HP	250 / 335	160 / 215
Capacity	yd³	1.44 – 2.22	1.05 – 1.44
		ER 944 C Handling	ER 954 C Handling
Reach	ft in	49'3" – 59'1"	43'9" – 65'7"
Operating weight*	lp	114,75	166,23
Engine output	kW / HP	200 / 268	250 / 335
Capacity	yd³	1.44 – 2.22	1.44 – 2.22
		ER 934 C High Rise	ER 944 C High Rise
Reach	ft in	42'8" – 65'7"	49'3" – 72'2"
Operating weight*	lp	123,9	161,82
Engine output	kW / HP	160 / 215	200 / 268
Capacity	yd³	1.05 – 1.44	1.44 – 2.22
		ER 954 C High Rise	
Reach	ft in	52'6" – 78'9"	
Operating weight*	lp	211,2	
Engine output	kW / HP	250 / 335	
Capacity	yd³	1.44 – 2.22	
		LH 26 Industry Litronic	
Variants		M / C	
Reach	ft in	42'8"	
Operating weight*	lb	approx. 57,800 – 61,500	
Engine output	kW	90	
System performance	kW	105	
Sorting grab capacity	yd³	0.65 – 1.44	
Multi-tine grab capacity	yd³	0.52 – 0.78	

M = Mobile
C = Crawler
* without attachment

Examples of use



Wheel loaders



Performance

A wide range of products ensures the versatile and universal operation of Liebherr wheel loaders in the field of waste management. In addition to the different types of machines, you can choose between industrial and z-bar kinematics with the L 550 – L 566 XPower® wheel loaders and the L 580 XPower®. This means the right machine is always available for the specific operation such as loading and compacting bulk goods in high “walking floor” containers. This increases the utilization of the machine and increases productivity.

Economy

The innovative drive concepts of the Liebherr wheel loaders reduces fuel consumption by 30%. The drive concept also creates minimal tire and brake wear at the maximum handling capacity. This feature is highly beneficial in reducing the fuel and servicing costs for customers.

Reliability

Liebherr wheel loaders meet quality expectations in tough working conditions since many of its components were internally designed to work in synergy. Customers benefit from these expertly designed components, seeing that they can place high reliance on the machine.

Comfort

The modern, ergonomic cab design provides the maximum comfort level to operators, allowing productivity to become the main focus. The cab's control lever allows accurate control of the machine, ensuring safe and precise operations. A comprehensive level of visibility is presented to the operator through the large surrounding cab windows. These features provide safety, comfort and productivity during applications, which benefit the customer.

Maintainability

The Liebherr wheel loaders include easily accessible service points lowering maintenance costs and time for the customer.

Wheel loaders L 526 – L 580 XPower® overview

Maximum operator comfort for greater productivity

- Automatic central lubrication system (optional)
- Liebherr control lever with mini joystick (optional)
- Joystick steering or 2-in-1 steering (optional)
- Operator's cab without steering wheel / steering column – joystick steering only (optional)
- Liebherr weighing system with "Truck Payload Assist" (optional)
- Ride control
- Preparation for protective ventilation and dust filtration device (optional)
- Stroke limit damping (optional)

Highest level of performance

- Industrial lift arm or Z-bar linkage (L 550 – L 580 optional)
- High Lift arms (optional)
- LIKUFIX quick coupler (L 526 – L 546 optional)
- Programmable automatic bucket return
- Programmable automatic lift and lowering arm position
- Comprehensive range of special equipment for waste management (optional)
- Electronic tractive force regulation

Robustness and quality for durable machines

- Tilt cylinder protection (optional)
- Lamp carrier in steel design (L 526 – L 546 as standard / L 550 – L 580 optional)
- Guard for headlights (optional)
- Integral tire pressure monitoring system (optional)
- Special tires for waste management (optional)





Productive and safe working

- Soundproof ROPS / FOPS cab
- Windscreen guard (optional)
- Additional working lights, front / rear (optional)
- Adaptive working lighting (optional)
- Roof camera for front area monitoring (with Liebherr camera via Liebherr display) (optional)
- Skyview 360° (optional)
- Visualization of the equipment position
- Liebherr key with remote control incl. Coming Home / Leaving Home function (L 550 – L 580 optional)

Short service times for greater productivity

- Radiator easy to maintain
- Particle protection for radiator (optional)
- Large-mesh radiator (L 526 – L 546 as standard / L 550 – L 580 optional)
- Reversible fan drive
- Air pre-cleaner (optional)
- Turbocharger insulation (L 550 – L 580 optional)
- Dust protection for alternator (optional)

Productive and safe working

- Anti-slip steps and sturdy handrails
- Rear space monitoring camera via Liebherr display
- Active personnel detection at the rear (optional)
- Reversing obstruction detector (optional)
- Back-up alarm audible
- Back-up alarm visual (optional)

Robustness and quality for durable machines

- Crash protection, rear (optional)
- Crash protection, rear with guard (L 526 – L 546 optional)
- Ramming guard with guard (L 550 – L 580 optional)
- Chassis protection (optional)
- Widening for mudguard (optional)

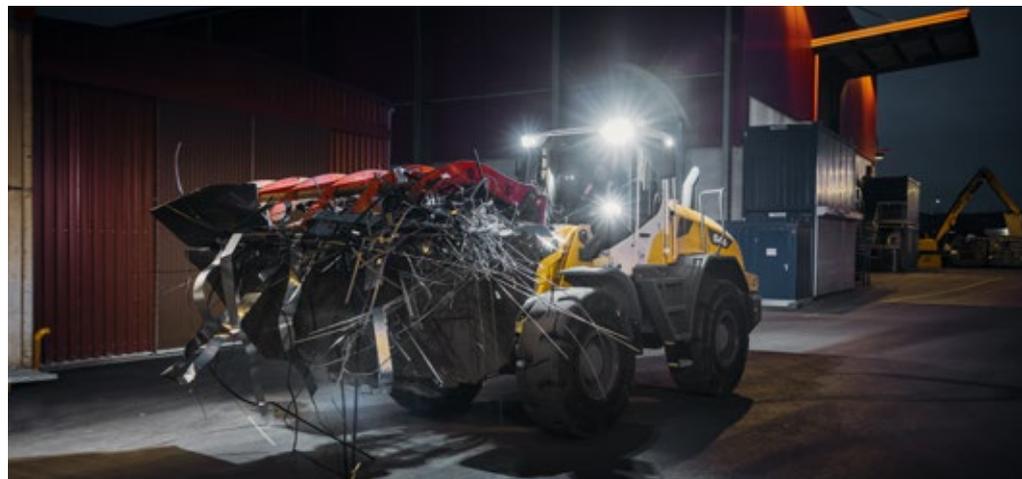
Technical data

		L 526	L 538	L 546
Tipping load	lb	11,090 – 19,245	13,715 – 21,275	15,720 – 24,275
Bucket capacity	yd ³	2.6 – 7.2	2.9 – 8.5	3.4 – 9.8
Operating weight	lb	29,035 – 32,560	32,010 – 35,385	33,975 – 37,410
Engine output	kW / HP	116 / 156	129 / 173	138 / 185
Emission stage	Stage	Tier 4 Final	Tier 4 Final	Tier 4 Final

		L 550 XPower®	L 556 XPower®	L 566 XPower®
Tipping load	lb	21,605 – 27,560	24,250 – 30,315	26,675 – 35,055
Bucket capacity	yd ³	4,1 – 11,8	4,4 – 13,1	4,6 – 15,7
Operating weight	lb	40,895 – 45,195	43,210 – 47,400	52,690 – 59,305
Engine output	kW / HP	163 / 219	183 / 246	203 / 272
Emission stage	Stage	Tier 4 Final	Tier 4 Final	Tier 4 Final

		L 580 XPower®
Tipping load	lb	32,630 – 42,990
Bucket capacity	yd ³	5.9 – 18.3
Operating weight	lb	60,960 – 66,360
Engine output	kW / HP	233 / 313
Emission stage	Stage	Tier 4 Final

Examples of use



Crawler dozers



Performance

Liebherr crawler dozers are ideal for pushing, shredding, mixing, stockpiling and distributing all waste fractions on the landfill. At the same time, they compact the waste or do the prepwork for the compactors so that they can be used even more efficiently. In addition, bulldozers are used in all excavation work, such as site preparation or leveling of surfaces. The grids are specially designed for use on landfills and increase the shield volume and thus the thrust without restricting the driver's view. A range of optional equipment is available to protect and extend the life of the undercarriage and other components.

Economy

Liebherr diesel engines offer performance and economic efficiency from the hydrostatic drive, which consumes a lower amount of fuel. The innovative cooling system enables the radiator to self-clean; this feature lowers maintenance and fuel costs for the customer.

Reliability

Liebherr crawler dozers feature a wide range of protective guards for landfill applications. These prevent damage to the machine caused by oversized items of solid waste and reduce the dust and dirt contamination. This prolongs the service life of the machines and prevents unnecessary downtimes.

Comfort

Liebherr crawler dozers offer operators a spacious and comfortable workspace. This cab provides a comprehensive view of the working area and equipment. The single lever control system, allows the machine to be controlled safely and precisely at all times.

Maintainability

Liebherr crawler dozers have minimal maintenance requirements, however; possess easily accessible service points when needed. This service feature lowers maintenance time and costs for customers.

Crawler dozers overview

Operational safety

- The hydraulic fans cool when required to save fuel
- A hydraulic oil thermometer monitors the oil temperature constantly
- The reversible fans automatically clear the radiator of deposits

Protection against contamination

- A pre-filter separates particles of dirt before they reach the air filter
- The external air supply provides the alternator with clean cooling air
- Seals at critical positions keep dust and dirt away from inside the machine

Application-specific equipment

- Waste grille extensions on the blade increase its capacity
- Counterweights provide optimum balance even with heavy duty front equipment
- Rear rippers enable work to be carried out away from the rubbish tip





Additional safety options

- Auxiliary headlights and rotating beacons
- Turbocharger cover
- Fire extinguishers

Damage protection

- Solid protective plates prevent damage to the containers and tanks
- Special covers protect the hydraulic cylinders
- Rear scraper plates (not shown) prevent waste material from being drawn into the chain and causing damage

Running gear components

- Base plates with trapezoidal holes and track drive segments with recesses prevent unwanted congestion of material in the running gear
- Protective rings on the final drive protect the double slide ring seal

Technical data

		PR 736 Litronic	PR 746 Litronic
Operating weight	lb	46,700 – 56,200	57,100 – 69,500
Blade capacity	yd ³	6.3	9.4
Engine output	kW / HP	160 / 217	190 / 258
Emission stage	Stage	Tier 4 Final	Tier 4 Final

		PR 756 Litronic	PR 766 Litronic
Operating weight	lb	78,000 – 94,800	35,800 – 119,500
Blade capacity	yd ³	15.4	22.8
Engine output	kW / HP	260 / 353	310 / 422
Emission stage	Stage	Tier 4 Final	Tier 4 Final

Examples of use



Crawler loaders



Performance

Whether its household or natural waste – Liebherr crawler loaders prove to be best all-around in the construction phase as well as in the operating and renovation phase. They can be used for the installation and pre-compaction of waste as well as for the application of surface layers, for material handling and for various auxiliary work. Crawler loaders with their high breaking forces are indispensable for sorting out bulky waste fractions or excavating loam or frozen soil. Their unmatched traction on unstable ground benefits them when pushing garbage, working on embankments or recovering trucks that have got caught.

Economy

Due to their versatile application possibilities, low maintenance requirements and low fuel consumption, Liebherr crawler loaders are suitable as universal machines for smaller landfills or are as an integral part of the vehicle fleet at larger landfills. The bucket shape and volume, as well as the grid and cutting tool can be precisely adapted to the general conditions of the quality of the waste and cover material at the landfill. As an option, the machine can also be equipped with a rear ripper. The demand-driven hydraulics and reduced engine speed in ECOmode further reduce fuel consumption.

Reliability

Liebherr has decades of experience in the development, design and manufacture of key components such as support frames, diesel engines, hydraulic cylinders, final drives and electrics. When used on landfills, extensive protective measures against dust, particles, deposits, alkalis or acids as well as bulky or falling material are added. Thanks to sophisticated technology and innovative detail solutions, Liebherr crawler loaders offer maximum availability and service life even under the toughest operating conditions.

Comfort

The pressurised cab with powerful air conditioning, effective sound insulation, air-suspended seat, hydraulic cab suspension and optional windshield protection offers ideal conditions for safe, relaxed and productive work. The intuitive, sensitive single lever control and unobstructed view of the work equipment allow the operator to concentrate fully on their work.

Maintainability

The long maintenance intervals and easily accessible service points of the Liebherr crawler loaders are of particular importance in intensive continuous operation at the landfill site, ensuring that they are ready for use at all times. For the user, a dense service network means short distances, optimum planning, high availability of spare parts and fast repairs. As part of the new Liebherr Reman range, components can be economically reconditioned to the highest industrial standards.

Crawler loaders overview

Safety

- Polycarbonate windscreen and protective grille made from impact resistant glass for increased safety of the operator, while maintaining clear view to the front
- Container protection made from solid steel provides protection of the hydraulic tank or AdBlue tank
- Hydraulic oil thermometer as gauge on touchscreen display

Durably designed equipment

- Heavy duty tilt cylinder guard protects against falling parts
- Lift cylinder line guard for best protection of hydraulic lines as well as greater reliability of components in exposed areas
- Attachment grille for bucket increases bucket capacity and makes it easier to shift bulky material





Maintenance concept

- Seal between basic unit and cab prevents the accumulation of dirt in cavities and niches as well as its penetration into the cab
- Fine grids on engine compartment doors reduce the penetration of small particles into the engine compartment
- Foldable and reversible fan for easy access to the radiator. Interval and duration of the reversible fan can be individually adjusted as needed
- The new air prefilter system cleans the intake air of dust and dirt particles, dust is discharged automatically from the main filter

Detailed drive protection solutions

- Track shoes with a dirt hole avoid deposits, which can accumulate between the bushings and track shoes. Particularly effective in combination with gutted turrass segments
- End drive protective ring as additional protection for the double mechanical seal
- Scraper plate on rear for better self-cleaning of chain running gear

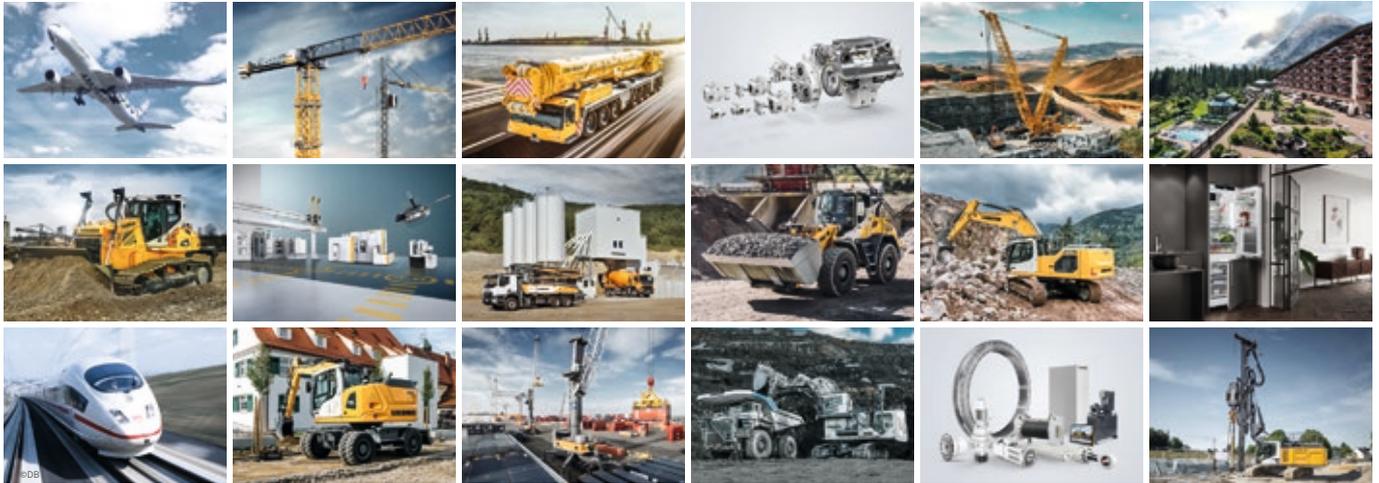
Technical data

		LR 626 Litronic	LR 636 Litronic
Operating weight	lb	36,500 – 19,400	47,800 – 50,800
Bucket capacity	yd ³	1.96 – 2.35	2.5 – 6.0
Engine output	kW / HP	110 / 150	135 / 184
Emission stage	Stage	Tier 4 Final	Tier 4 Final

Examples of use



The Liebherr Group



Global and independent: more than 70 years of success

Liebherr was founded in 1949. With the development of the world's first mobile tower crane, Hans Liebherr laid the foundations of a successful family business which today comprises more than 140 companies on all continent and employs nearly 50,000 people. The parent company of the Group is Liebherr-International AG in Bulle (Switzerland), whose associates are exclusively members of the Liebherr family.

Technology leadership and pioneering spirit

Liebherr regards itself as a pioneer. This spirit has enabled the company to make a decisive contribution to the technological history of many industries. Today, employees around the world still share the courage of the company founder to take new paths. They are all united by a passion for technology and fascinating products and the determination to perform outstanding work for their customers.

Widely diversified product portfolio

Not only is Liebherr one of the biggest construction equipment manufacturers in the world, it also provides high-quality, user-oriented products and services in a wide range of other areas. The product portfolio includes the segments earthmoving, material handling technology, deep foundation machines, mining, mobile and crawler cranes, tower cranes, concrete technology, maritime cranes, aerospace and transportation systems, gear technology and automation systems, refrigeration and freezing, components and hotels.

Customized solutions and maximum customer benefit

Liebherr solutions are characterized by maximum precision, outstanding implementation and exceptional longevity. Its mastery of key technologies enables the company to offer its customers customized solutions. For Liebherr, customer focus does not end with the product; it also encompasses a wide range of services that make a real difference.

www.liebherr.us

WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

WARNING

This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65warnings.ca.gov.