

Timber handling

LIEBHERR

Material handling



Liebherr specialized machines for timber handling

Liebherr offers a broad portfolio of powerful, efficient machines for timber handling operations. Typically, these specialized machines handle operations including loading and unloading trucks, sorting logs and transporting logs. The variety of machine and equipment types, powerful engine and quality control system, present the Liebherr timber handling machines as the ideal product range for the industry. Each of the product versions, all possess fast, agile and precise handling movements. Liebherr internally manufactures all key components including; the diesel engine, hydraulic system and the steel structure. The concept of manufacturing the components internally guarantees an extensive service life for the machine under

demanding operating conditions. Liebherr also provides protective gear for the headlights and mudguards produced from hot-dip galvanized steel to ensure the machine remains in top operating conditions. Liebherr also focuses on the efficiency of these specialized machines, continuously optimises the interplay of the drive components and in addition to state-of-the-art diesel engines also offers electric material handlers.

- Material handling machines
- Log loaders
- Wheel loaders





Material handling machines



Performance

The main activities of timber handling companies include; sorting, stacking, transporting, loading and unloading timber. These tasks typically require a machine with exceptional driving performance, high load capacity and fast working cycles. The Liebherr timber handling machines exceed these expectations with a high-powered, low fuel consuming diesel engine, and an enclosed slewing mechanism circuit; which all provide swift rotary movements and high torque power. The machine is also enhanced through the integration of its hydraulics and electronic components, which provide powerful, precise machine control.

Economy

The existing generation of Liebherr material handlers possess a powerful efficiency through their internally manufactured engine technology that is highly compatible with controlled hydraulic systems. Liebherr's expertly designed engine technology, combined with the drive components generate high fuel efficiency. In addition to diesel-powered machines there are a number of electric drive material handlers in the range which guarantee extremely low operating costs. They are very environmentally friendly, completely emission-free and therefore independent of statutory exhaust emission standards. For conventional machines Liebherr-Power Efficiency (LPE), enables the machine to operate with low fuel consumption. LPE combined with the innovative Liebherr energy recovery system, a standard feature on the LH 40 range and above, also assists in lowering fuel consumption and accelerating the work cycles. These various machine components ensure the customer benefits from lowered fuel costs, while retaining efficient work operations.

Reliability

The durable composition of Liebherr material handlers ensure smooth operations with a reliable service life. A variety of protective gears are offered to ensure the machine is prepared for tough applications. The protective gears for headlights, travel drive, and mudguards are created from hot-dip galvanized steel to ensure the maximum durability. The machine's internally manufactured; diesel engine, hydraulics, electronic components, slew ring, swivel drive and steel structure are consistently tested and redeveloped to ensure the highest quality. The reliability of these machine components promote a durable, extensive service life for the machine and customer.

Comfort

The operator cab provides the necessary space and comfort to promote work productivity of the operator. Visibility is provided by the large, impact resistant glass panels surrounding the cab and through the rear and side monitoring systems. Thanks to the low sound emissions and the lack of vibrations, the electric handling machines are particularly quiet and increase the working comfort significantly. The Comfort driver's seat, touchscreen display and central lubrication system for the machine tools ensure the operator maintains control and efficiency during work applications. The customer ultimately benefits from this comfortable cab, since the operator will retain concentration on important tasks, and initiate productive job operations.

Maintainability

The Liebherr material handlers are designed with a service concept to facilitate easier machine maintenance. The service points are easily accessible, since they are featured in close proximity with wide opening panel doors. This service concept lowers customer's maintenance time and costs.

Log loaders overview

Equipment

- High load capacities and extensive reach due to optimized kinematic properties and robust construction for greater handling performance
- Clever 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
- Tailor-made Liebherr wood grapple for greater handling performance due to optimum penetration effect and good clamping properties



Cab

- Slewing gear brake comfort for faster and safer work
- Less strain on the operator and reduced environmental pollution due to lower noise emissions
- Simple and safe access due to new, space-saving access system with integrated steps and 10° inclination
- Standard proportional control with 4-way mini joystick provides greater precision, high precision control and functions



Uppercarriage

- Greater energy efficiency due to the latest engine technology with intelligent machine control
- Optimal engine output and greater pump flow for fast work cycles, convincing dynamics and maximum handling performance
- Reversible fan and large-meshed cooler as a reliable, sealed unit for high machine availability
- Optimized servicing concept and cleverly designed maintenance access points guarantees minimum machine downtime

Undercarriage

- Optimized hydraulics with closed slewing mechanism circuit for greater energy efficiency and faster work cycles
- Maximum acceleration and higher drawbar pull due to a new travel motor for greater travelling performance
- Mudguards for greater safety due to max. splash protection for cab accesses and standing areas
- Standard four wheel steering setting for high agility and manoeuvrability combined with very good driving stability and improved directional stability

Technical data

		LH 26 Timber Litronic	LH 35 Timber Litronic	LH 50 Timber Litronic	LH 60 Timber Litronic
Variants		M	M	M	M
Reach	ft in	36'1"	36'1"	36'1"	39'4"
Operating weight*	lb	approx. 51,800–57,300	approx. 61,700–66,600	approx. 84,000–88,000	approx. 93,900–100,300
Engine output	kW / HP	125 / 168	150 / 201	170 / 228	200 / 268
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant)
Wood grab capacity	yd³	0.96–1.55	1.20–2.27	1.91–3.83	1.91–4,31

M = Mobile

* without attachment



Examples of use



Material handling machines overview

Equipment

- High load capacities and extensive reach due to optimized kinematic properties and robust construction for greater handling performance
- Energy recovery cylinder filled with nitrogen for maximum efficiency through less fuel consumption at more handling capacity from machine class LH 40 Industry
- 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 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





Uppercarriage

- Greater energy efficiency due to the latest engine technology with intelligent machine control
- Optimal engine output and greater pump flow for fast work cycles, convincing dynamics and maximum handling performance
- Reversible fan and large-meshed cooler as a reliable, sealed unit for high machine availability
- Optimized servicing concept and cleverly designed maintenance access points guarantees minimum machine downtime

Undercarriage

- Optimized hydraulics with closed slewing mechanism circuit for greater energy efficiency and faster work cycles from machine class LH 30 upwards
- 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

Technical data

		LH 22 Industry Litronic	LH 26 Industry Litronic
Variants		M / C	M
Reach	ft in	36'1"	42'8"
Operating weight*	lb	approx. 42,300–48,900	approx. 53,400–61,500
Engine output	kW / HP	105 / 143	115 (90 ¹⁾ / 157
System performance	kW	–	105 ¹⁾
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	0.60–1.55	0.96–1.55

		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
System performance	kW	–	–
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant)
Wood grab capacity	yd ²	1.20–2.27	1.20–2.27

		LH 40 Industry Litronic	LH 40 Port Litronic
Variants		M / C	M / C
Reach	ft in	52'6"	59'1"
Operating weight*	lb	approx. 80,200–90,200	approx. 90,600–110,900
Engine output	kW / HP	155 (145 ¹⁾ / 211	155 (145 ¹⁾ / 211
System performance	kW	237 / 227 ¹⁾	233 / 223 ¹⁾
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant) / electric	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	1.20–2.27	1.20–2.27

		LH 50 Industry Litronic	LH 50 Port Litronic
Variants		M / M High Rise / C High Rise	M High Rise / C High Rise
Reach	ft in	59'1"	62'4"
Operating weight*	lb	approx. 88,200–121,000	approx. 101,400–123,500
Engine output	kW / HP	155 / 208	155 / 211
System performance	kW	269	233
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant)	V / Tier 4 Final / IIIA (compliant)
Wood grab capacity	yd ²	1.20–4.31	1.20–4.31

M = Mobile
C = Crawler

* without attachment
¹⁾ only with electric

		LH 60 Industry Litronic	LH 60 Port Litronic
Variants		M / M High Rise / C / C High Rise	M / M High Rise / C / C High Rise
Reach	ft in	65'7"	75'6"
Operating weight*	lb	approx. 114,600–175,900	approx. 132,100–179,200
Engine output	kW / HP	190 (180 ¹⁾ / 255	190 (180 ¹⁾ / 255
System performance	kW	334 / 324 ¹⁾	322 / 312 ¹⁾
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant) / electric	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	1.91–4.31	1.91–4.31

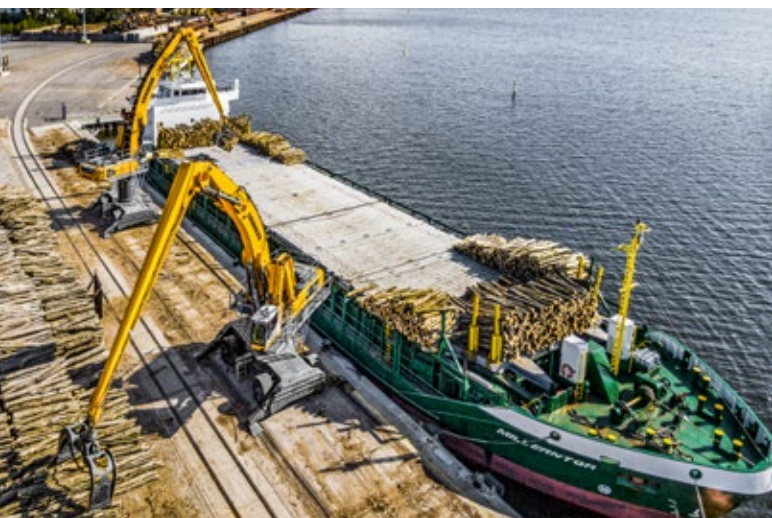
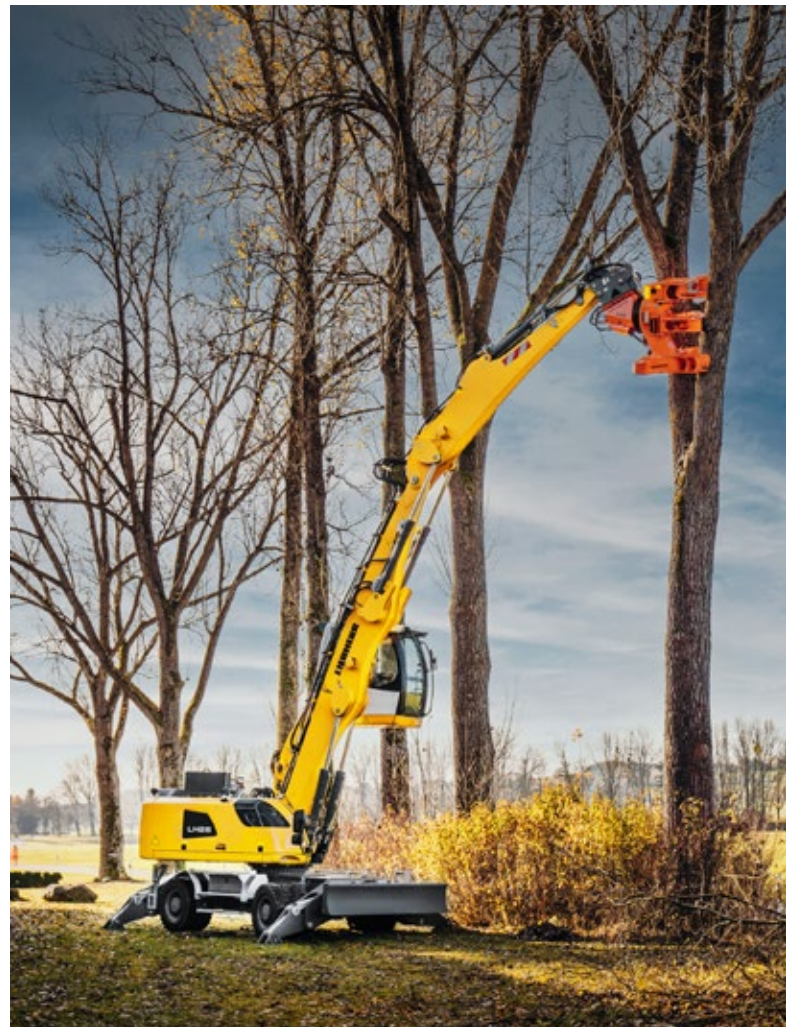
		LH 80 Industry Litronic	LH 80 Port Litronic
Variants		M / M High Rise / C / C High Rise / C Gantry	M / M High Rise / C / C High Rise / C Gantry
Reach	ft in	72'2"	82'
Operating weight*	lb	approx. 146,600–265,700	approx. 166,900–274,900
Engine output	kW / HP	230 (220 ¹⁾ / 308	230 (220 ¹⁾ / 308
System performance	kW	437 / 427 ¹⁾	418 / 408 ¹⁾
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant) / electric	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	1.91–4.31	1.91–4.31

		LH 110 Industry Litronic	LH 110 Port Litronic
Variants		M / M High Rise / C / C High Rise / C Gantry	M / M High Rise / C / C High Rise / C Gantry
Reach	ft in	78'9"	88'7"
Operating weight*	lb	approx. 209,400–304,200	approx. 220,500–308,600
Engine output	kW / HP	300 / 402	300 / 402
System performance	kW	492	478
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant) / electric	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	1.91–4.31	1.91–4.31

		LH 150 Industry Litronic	LH 150 Port Litronic
Variants		M / M High Rise / M Gantry / C / C High Rise / C Gantry	M / M High Rise / M Gantry / C / C High Rise / C Gantry
Reach	ft in	91'10"	98'5"
Operating weight*	lb	approx. 286,600–407,900	approx. 286,600–407,900
Engine output	kW / HP	400 / 536	400 / 536
System performance	kW	661	614
Emission stage	Stage	V / Tier 4 Final / IIIA (compliant) / electric	V / Tier 4 Final / IIIA (compliant) / electric
Wood grab capacity	yd ²	1.91–4.31	1.91–4.31

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 timber work. 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. The LogHandler XPower with the specially designed lift arms enables high manipulation heights and extensive reaches. These wheel loaders have the ability to move large timber logs or work with timber chippings and smaller logs by feeding the materials to debarking or sorting machines. The machine's versatility can ensure the customer operations are completed with high efficiency and productivity.

Economy

The innovative drive concepts of Liebherr wheel loaders reduce 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, enabling them to place high reliance on the machine.

Comfort

The modern, ergonomic cab design provides the maximum comfort level for 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 the easily accessible service points to lower 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 *
- Liebherr control lever with mini joystick *
- Joystick steering *
- Operator's cab without steering wheel / steering column – joystick steering only *
- Liebherr weighing system with "Truck Payload Assist" *
- Ride control
- Stroke limit damping *

Highest level of performance

- Industrial lift arm or Z-bar linkage (L 550 – L 566 and L 580 *)
- High lift arms *
- Solidlink quick coupler *
- Programmable automatic bucket return
- Programmable automatic lift and lowering arm position
- Comprehensive range of special equipment for timber handling *
- Electronic tractive force regulation

Robustness and quality for durable machines

- Tilt cylinder protection *
- Lamp carrier in steel design *
- Guard for headlights *
- Integral tire pressure monitoring system *
- Special tires for timber handling *

*optionally available





Productive and safe working

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

Short service times for greater productivity

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

Productive and safe working

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

Robustness and quality for durable machines

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

Wheel loader L 580 LogHandler XPower overview

Robustness and quality for a durable machine

- Grab can be rotated 360° and swivelled forwards and backwards
- Grapple with hydraulic stop damper horizontally to the driving direction
- Hoist cylinder protection
- Lamp carrier in steel design with additional lights and guard *
- Log pusher hydraulically adjusted with additional deflector plates *
- Integral tire pressure monitoring system *
- Special tires for timber handling *

Highest level of performance

- Robust and visually optimized special kinematic for timber handling allows higher stacking and greater ranges
- Various grapple versions and sizes with modular blade *
- Powerful and efficient Liebherr-XPower driveline
- Electronic tractive force regulation
- Maximisation of the gripper cross-sections
- Optimized filling behaviour for grippers

Maximum operator comfort for greater productivity

- Automatic central lubrication system
- Liebherr control lever, electro-hydraulically controlled, adjustable using Liebherr display
- Joystick steering *
- Operator's cab without steering wheel / steering column – Joystick steering only *
- Stop and stroke limit damping
- Ride control

* optionally available





Productive and safe working

- Soundproof ROPS / FOPS cab
- Windscreen guard mounted on lift arm
- Grapple monitoring with camera on display *
- Headlights LED inside the arm
- Headlights LED on the arm (double design inside and outside; single design on front carriage) *
- Additional headlights at rear of cabin roof *
- Liebherr key with remote control incl. Coming Home / Leaving Home function *

Short service times for greater productivity

- Radiator easy to maintain
- Particle protection for radiator *
- Large-mesh radiator *
- Reversible fan drive
- Air pre-cleaner *
- Turbocharger insulation *
- Dust protection for alternator *

Productive and safe working

- Grapple monitoring *
- Anti-slip steps and sturdy handrails
- Rear space monitoring camera via Liebherr display
- Active personnel detection at the rear incl. brake assistant *
- Reversing obstruction detector *
- Back-up alarm audible
- Back-up alarm visual *
- LogHandler special ballast (no water filling of tires required)

Robustness and quality for a durable machine

- Crash protection, rear *
- Ramming guard with guard *
- Widening for mudguard *

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
Wood grab capacity	yd ²	1.55	2.15	2.15
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	18,300–27,560	20,505–30,315	26,675–35,055
Bucket capacity	yd ³	3.4–12.4	3.7–13.1	4.6–15.7
Wood grab capacity	yd ²	2.15–2.85	2.85	3.7
Operating weight	lb	40,895–45,415	43,210–47,620	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
Wood grab capacity	yd ²	4.2
Operating weight	lb	60,960–66,360
Engine output	kW / HP	233 / 312
Emission stage	Stage	Tier 4 Final

		L 580 LogHandler XPower
Max. payload	kg	19,400–19,850
Wood grab capacity	m ³	4.0–4.8
Operating weight	kg	82,455–82,785
Engine output	kW / HP	253 / 339
Emission stage	Stage	Tier 4 Final

Examples of use



Strong partner – strong service

Our services tailored to your everyday challenges



Saving time – for experts who face the challenges themselves

Hand in hand to the optimum solution. Would you like to maintain and service your machines yourself? Order the spare part you need quickly and flexibly, regardless of time and place, and be safe in the knowledge that you have selected the right part?

With the documentation available online and the spare parts store in MyLiebherr, you can access all the information you need with just a few clicks. Take advantage of the sophisticated logistics for fast delivery of the required items, naturally in original quality. So you can work efficiently. If you ever get stuck, our experts are just a phone call away.

Transparency – so number crunchers always have an eye on availability, costs and much more

Modular maintenance packages and Reman components to suit your company and budget. Figures and their informative value are your specialty. You always want to keep an eye on ongoing investments and ideally be able to calculate and plan in advance what the costs and how available they are?

With Liebherr's CarePacks, you know in advance and in modular form what costs you will incur so that your machine can continue to deliver full performance tomorrow. We also have a clever and economical solution for older machines with our Reman program.



Further information, services and contact persons can be found at

Reliability and support – for decision-makers and anyone looking ahead

It's not just short-term success that counts for you, you want to be successful in the long term. Success for you is not just your turnover, but also satisfied customers and a contribution to the successful conservation of resources?

Our dense service network offers consistency and predictability, now and in the future.

If necessary, our experts are available for you around the clock. With original parts and our service experts, we enable you to maintain the value of your machines. Our Reman program and lubricant product range offer you the opportunity to be economically successful while conserving resources.

Some of our services for you in detail:



Strong partner

It feels good to have a strong partner at your side. Thanks to our dense service network, our service experts are close to you. It's important to us that you have a personal contact person, because if the worst comes to the worst, it's good to know who can provide reliable help and advice.



Reman program

The same performance and quality as a new part, with simultaneous cost savings – that's what the replacement parts we offer you in our Reman program stand for. A large number of components are available on a daily basis. An ideal solution, especially for older machines, and at the same time you help to conserve resources by reusing parts.



Lubricants

Our portfolio of lubricants includes a series of products which enable you to actively help protect resources, including oils with longer change intervals or which are not harmful to the environment. One side-effect of these products is that they can also protect your wallet.



CarePacks

Our modular CarePacks can provide you with tailored packages of services at a fixed charge. That leaves you to concentrate on your work.

Liebherr Connect

The networking of man, machine and environment

Networking in the digital world of Liebherr

Thanks to intelligent machine networking, Liebherr Connect enables access to digital services and comprehensive machine and process data. When using fleet and asset management systems, Liebherr Connect forms an essential basis for any type of component or machine condition monitoring. The solution also enables efficient data exchange and opens up a wide range of possibilities for further developing the machines and adapting them to individual customer requirements.

Liebherr Connect ensures that the machine is connected to the digital world via cloud applications – in almost all of the Group's product segments: earthmoving machines, material handling machines, mining, tower cranes, mobile and crawler cranes, maritime cranes and components. To help customers and partners throughout the entire life of an application, the Group provides the assurance to use all the benefits of modern technology with Liebherr Connect. This, in turn, allows users to optimise their work processes.



Further information on Liebherr Connect
and digital solutions can be found here:



MyLiebherr Portal

MyLiebherr is the portal for construction machines, mining machines, mobile and crawler cranes, maritime cranes, material handling technology, gear technology and automation systems or components.

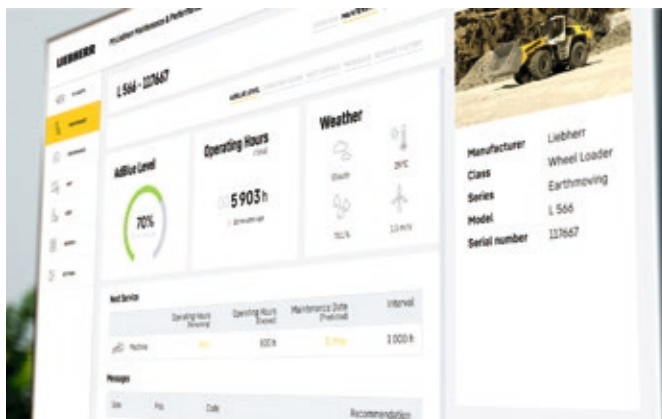
One portal, all services

The customer portal offers comprehensive services, digital services and software solutions for efficient machine utilisation. Once registered, machines can be stored and managed, suitable spare parts can be ordered and licences can be purchased. In addition, a wide range of digital services are available for efficient machine utilisation. The range is constantly being revised and updated.



MyLiebherr Performance

Always be well informed about the performance of your machines and attachments. MyLiebherr Performance is available for earthmoving and material handling machines in MyLiebherr. It enables plant managers in particular to recognise inefficient machine use, save fuel and reduce idle times. In combination with our extensive knowledge as a machine manufacturer, this solution can be used to reduce operating costs by means of optimisation suggestions to make machine deployment more efficient.



MyLiebherr Maintenance

Stay up-to-date about the condition of your machines and attachments. MyLiebherr Maintenance is available for earthmoving and material handling machines in MyLiebherr. This service enables workshop managers to operate their fleet with maximum reliability. A particular advantage is that, in addition to proactive maintenance planning, specific recommendations for action are also provided. Customers benefit from the knowledge of an integrated technology group with expertise ranging from components to the entire machine. In short, MyLiebherr Maintenance helps to reduce or completely avoid unplanned machine downtime and reduce the time required for problem identification, assessment and resolution.

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-run company which today comprises more than 150 companies on all continents with over 50,000 employees. The holding company of the Group is Liebherr-International AG in Bulle (Switzerland), whose shareholders 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 program

Not only is Liebherr one of the biggest construction machine manufacturers in the world, it also provides high-quality, user-oriented products and services in a wide range of other areas. The product program includes the segments earthmoving machinery, 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, refrigerators and freezers, components and hotels.

Customized solutions and maximum customer value

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.