

Liebherr Special Machines for the **Quarrying Industry**



LIEBHERR

Liebherr Special Machines for the Quarrying Industry





Liebherr has decades of experience in the development and production of class-leading machines for the quarry industry, including crawler and mining excavators, wheel loaders, crawler dozers and dump trucks. With innovative design and major components all produced by Liebherr, all machines can be deployed with great efficiency and performance in the most challenging and difficult environments in the quarrying world. Quarry machines from Liebherr perform all tasks perfectly, and every component has been designed for purpose. They feed breakers, sifting systems and trucks and transport the surface mine material. Liebherr machines work with immense power, and advanced technology reduces down fuel consumption – the perfect machines for economical use in the quarrying industry.

Large Hydraulic Excavator

Wheel Loaders

Crawler Dozers

Articulated Dump Trucks



Large Hydraulic Excavators



Performance

Liebherr's large hydraulic excavators follow our principle of maximising machine performance by improving the efficiency of all of the individual parts. Each machine is designed for optimum serviceability and minimum downtimes. An ultra-modern engine management system maintains perfect performance, under the toughest of working conditions.

Economy

For Liebherr, protection of the environment is one of our guiding principles and the most important challenge for the present and future. Environmentally-configured power regulation of the hydraulic system and engine performance optimises the fuel efficiency of the machine to match the application. The automatic idling system reduces engine speed when the machine is stationary, and if less power is required, "eco mode" can be selected on the control panel to reduce the engine load, further improving the fuel efficiency and reducing CO₂ emissions.

Reliability

As an original equipment manufacturer, Liebherr has a leading a healthy reputation in the development and production of high quality major components. All large hydraulic excavators from Liebherr feature robust and reliable components that have been optimised for the unique conditions of mining and are designed and manufactured by Liebherr to ensure reliability, high performance and longevity. Liebherr excavator customers can expect lasting performance throughout the whole service life of the machine.

Comfort

Liebherr large hydraulic excavators provide the driver with ideal conditions for fatigue-free and effective working. All of the excavators upwards feature large and spacious cabs that are conveniently equipped and comply with the latest ergonomic conventions. This maintains the driver's concentration and safety over many hours. Cab windows with impact-resistant reinforced glass enable safe working and an optimal view over the working space and surrounding area. For easy of access during maintenance, Liebherr large hydraulic excavators feature safe and comfortable catwalks as well as an innovative layout of the components and service points on the uppercarriage.

Maintainability

The Liebherr excavators offer perfect safety for the operator and maintenance team. As it is serviced from just one side, the machine offers trouble-free access to the main service points for fast and safe maintenance in the field. The cab has been designed with further reinforcement for the safety of the driver.

Overview of Large Hydraulic Excavators With Backhoe Attachment

Stick and Bucket Cylinders

- With increased diameter in connection with adapted kinematics
- Higher breakout and digging forces

Stick With Internal Protection

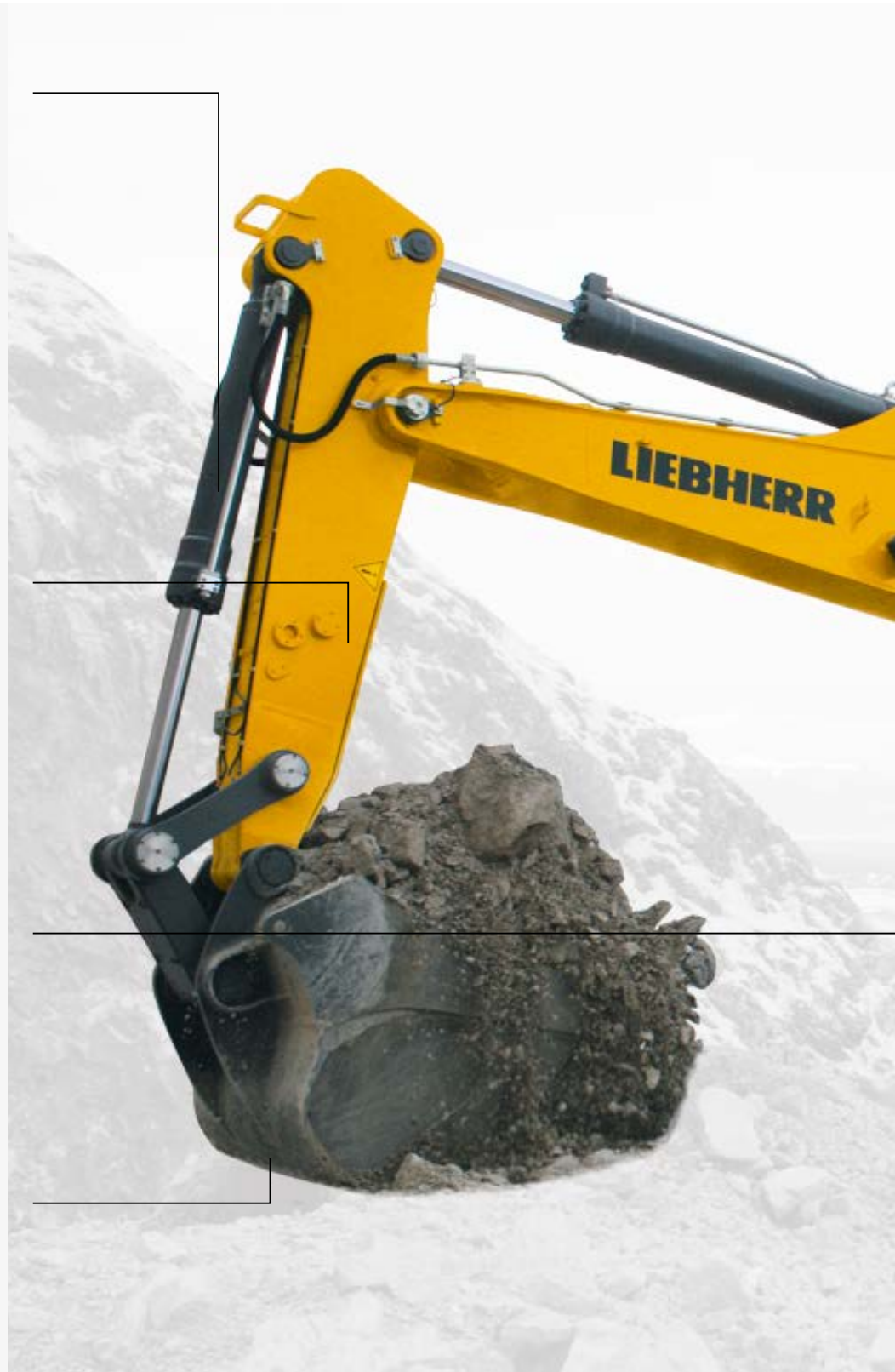
- For a longer service life
- Protection from bulky material in the bucket

Cab on Hydraulic Mountings

- For optimal vibration insulation

Standard HD Bucket

- For increased service life
- Others types available





Standard Reinforced Glass Window

- At front and in roof

Standard Automatic air Conditioning

- With 13 diffusers

Standard Counterweight

- For greater stability and performance

Angled Track Pads

- For better maneuverability on difficult terrain

Overview of Large Hydraulic Excavators With Face Shovel Attachment

Built for Mining

- Liebherr tooth system
- Liebherr customized wear package
- Automatic central greasing system for all lubrication points
- Automatic closing of the bucket
- Ram guard for the lift cylinder (optional)
- Cover protection for front swing gear (optional)

Sturdy Structure

- Heavy duty undercarriage
- Additional full length chain guide (optional)
- "Heavy duty" fatigue-resistant undercarriage
- Rock protection for track wheels (optional)





Efficient Work

- Electronic control
- Rear and side view cameras
- Semi-automatic swing brake
- Operator Comfort Kit (optional)
- Various optional protective equipment (optional)

Liebherr Vertical Integration

- Diesel engine USA/EPA Tier 2
- Hydraulic pumps and motors
- Splitter box
- Electronic and control technology
- Hydraulic cylinders
- Swivel bearing
- Swing and travel drives

First Class Service

- Single side service access
- Wide catwalk and railings
- Hydraulically operated 45° access ladder (optional)
- Quick-release coupling for filling from ground level (optional)
- Fuel filling system with Multiflo Hydrau-Flo (optional)

Examples of Use



Technical Data

R 950 SME Litronic

Operating weight BH	approx. 45 t
Bucket capacity*	to 3.0 m ³
Operating weight FS	-
Shovel capacity*	-
Engine power	220 kW/299 HP
Emission standard	Stage IV/Tier 4f

R 956 Litronic

Operating weight BH	approx. 54 t
Bucket capacity*	to 3.3 m ³
Operating weight FS	approx. 57 t
Shovel capacity*	to 3.1 m ³
Engine power	240 kW/326 HP
Emission standard	Stage IV/Tier 4f

R 960 SME Litronic

Operating weight BH	approx. 60 t
Bucket capacity*	to 3.7 m ³
Operating weight FS	approx. 62 t
Shovel capacity*	to 3.5 m ³
Engine power	250 kW/340 HP
Emission standard	Stage IV/Tier 4f

R 966 Litronic

Operating weight BH	67 to 70 t
Bucket capacity*	to 4.5 m ³
Operating weight FS	approx. 69 t
Shovel capacity*	to 4.0 m ³
Engine power	320 kW/435 HP
Emission standard	Stage IIIB/Tier 4i

R 970 SME Litronic

Operating weight BH	78 t
Bucket capacity*	to 5.0 m ³
Operating weight FS	approx. 78 t
Shovel capacity*	to 4.5 m ³
Engine power	330 kW/449 HP
Emission standard	Stage IIIB/Tier 4i

R 976 Litronic

Operating weight BH	86 to 91 t
Bucket capacity*	to 6.6 m ³
Operating weight FS	approx. 92 t
Shovel capacity*	to 5.1 m ³
Engine power	400 kW/544 HP
Emission standard	Stage IIIB/Tier 4i

R 980 SME Litronic

Operating weight BH	96 t
Bucket capacity*	to 6.2 m ³
Operating weight FS	approx. 100 t
Shovel capacity*	to 6.0 m ³
Engine power	420 kW/571 HP
Emission standard	Stage IIIB/Tier 4i

R 9100

Operating weight BH	108.5 t
Bucket capacity*	7.0 m ³
Operating weight FS	112.5 t
Shovel capacity*	7.0 m ³
Engine power	565 kW/757 HP
Emission standard	Stage II/Tier 2

R 9150

Operating weight BH	128 t
Bucket capacity*	8.3 m ³
Operating weight FS	130 t
Shovel capacity*	8.3 m ³
Engine power	565 kW/757 HP
Emission standard	Stage II/Tier 2

* HD backhoe and face shovel bucket at 1,8t/m³

Wheel Loaders



Performance

The powerful Liebherr L 550 XPower® – L 586 XPower® wheel loaders excel with their high handling capacity in quarrying operations. XPower® offers the greatest level of efficiency and maximum output in all areas, regardless of short and long distances or flat ground and even inclines. This increases productivity in all work cycles and improves profit for the customer.

Economy

The Liebherr XPower® driveline with Liebherr Power Efficiency (LPE) achieves a reduction in fuel consumption of up to 30%. In addition there is minimal tyre wear and hardly any brake wear. At maximum handling capacity and efficiency, this reduces operating costs significantly, further increasing profitability.

Reliability

Liebherr wheel loaders provide maximum performance even under the toughest and most challenging conditions in surface mines. The components of the Liebherr XPower® driveline are extremely rugged and low-wear. XPower® ensures a long machine life and reliability in use.

Comfort

The modern ergonomic cab design provides the operator with maximum comfort enabling him to concentrate on accurate operation without fatigue, which once again means more safety and productivity. The Liebherr control lever, which is built into the operator's seat as standard, allows precise and sensitive control of the machine. The generous glass surfaces and the design of the engine hood which has been optimised for viewing provide excellent all-round visibility. This ensures maximum safety for people, the machine and the load.

Maintainability

The most important points for daily maintenance can be seen at a glance in the access area of Liebherr wheel loaders. Quick and safe control saves time and money.

Wheel Loaders L 550 XPower® – L 586 XPower® Overview

Maximum Operator Comfort for Greater Productivity

- Automatic central lubrication system (L 550 – L 580 optional / L 586 as standard)
- Premiumdisplay (Touchscreen)
- Joystick steering or 2-in-1 steering (optional)
- 3 way continuously adjustable steering column
- Ride control
- Steering stabilisation

Ruggedness and Quality for Durable Machines

- Tilt cylinder protection (optional)
- Special buckets in HD or rock version (optional)
- Lamp carrier in steel design (optional)
- Guard for headlights (optional)
- Fuel tank steel version
- Special tyres for quarrying industry (optional)
- Tyre protection chains (optional)

Highest Level of Performance

- Powerful and efficient Liebherr XPower® driveline
- Automatic self-locking differentials in both axles





Productive and Safe Working

- Soundproof ROPS/FOPS cab
- Safety roof over cab (optional)
- Additional working lights, rear (optional)
- Safe, non-slip ladder access to cabin
- Anti-slip step with door locking
- Access assistance to facilitate cleaning windscreen
- Folding windscreen guard for increased safety and easy access for cleaning (optional)

Short Service Times for Greater Productivity

- Important maintenance points visible in access area
- Radiator easy to maintain
- Reversible fan drive (optional)
- Air pre-cleaner TOP AIR (optional)

Ruggedness and Quality for Durable Machines

- Crash protection, rear (optional)
- Widening for fender and rear mudguard (optional)

Productive and Safe Working

- Anti-slip steps and sturdy handrails
- Rear space monitoring camera via Liebherr display
- Headlights halogen (double design on engine hood)

Technical Data

L 550 XPower®

Tipping load	12,000 – 12,200 kg
Bucket capacity	3.2 – 3.6 m ³
Operating weight	17,700 – 17,800 kg
Engine output	140 kW/191 HP
Emission standard	Stage IV/Tier 4f

L 556 XPower®

Tipping load	13,500 – 13,700 kg
Bucket capacity	3.6 – 4.0 m ³
Operating weight	18,400 – 18,500 kg
Engine output	165 kW/224 HP
Emission standard	Stage IV/Tier 4f

L 566 XPower®

Tipping load	15,650 – 15,900 kg
Bucket capacity	4.2 – 4.7 m ³
Operating weight	23,900 – 24,000 kg
Engine output	200 kW/272 HP
Emission standard	Stage IV/Tier 4f

L 576 XPower®

Tipping load	17,400 – 17,600 kg
Bucket capacity	4.7 – 5.2 m ³
Operating weight	25,700 – 25,800 kg
Engine output	215 kW/292 HP
Emission standard	Stage IV/Tier 4f

L 580 XPower®

Tipping load	18,700 – 19,500 kg
Bucket capacity	5.2 – 5.7 m ³
Operating weight	27,650 - 28,800 kg
Engine output	230 kW/313 HP
Emission standard	Stage IV/Tier 4f

L 586 XPower®

Tipping load	21,250 – 22,500 kg
Bucket capacity	5.5 – 6.5 m ³
Operating weight	32,600 – 33,700 kg
Engine output	260 kW/354 HP
Emission standard	Stage IV/Tier 4f

Examples of Use



Crawler Dozers



Power and innovative technology: These are the trademarks of the Liebherr crawler tractors. Whether in tough ripping operations or for pushing heavy material, the PR 756 and PR 764 impress in every scenario by outstanding performance and economy.

Performance

To mechanically dig and break out hard rock, high penetration and pushing forces are required. The Liebherr crawler tractors PR 756 and PR 764 offer the ideal performance capacities with their 40 and 50 tonnes operating weights in conjunction with the innovative hydrostatic drive concept. Transmission of the engine power via both tracks is constant through a positive connection without slip, which means that the material is worked loose evenly and efficiently pushed away.

Economy

The latest generation Liebherr diesel engines combine high performance with frugal operation. Thanks to the consistently low engine speed, fuel is saved and a high service life of the components is achieved. Additional clear economical advantages speak in favour of Liebherr: As with all Liebherr equipment, the PR 756 and PR 764 models also benefit from being user-friendly. This reduces maintenance costs and downtime.

Reliability

Tough and sturdy: Liebherr crawler tractors are designed for long operational life time with careful attention to construction and material quality. All parts that are subject to particularly heavy loads are made designed from the strongest materials available, whilst sensitive areas are optimally protected. All of these factors make Liebherr crawler tractors reliable machines with the highest level of availability.

Comfort

Liebherr crawler tractors offer operators a generously proportioned workspace, designed with the latest ergonomic aspects in mind. The spacious and comfortable cabin enables an optimal overview of the working area and the work equipment. With the intuitive single joystick control, the machine can be controlled accurately and safely at all times.

Maintainability

Thanks to their minimal maintenance requirements, Liebherr crawler tractors make a reliable contribution to your economic success. A dense service network means short distances, efficient systems and fast response times for the user.

Overview of Crawler Dozers

Cab With Integrated ROPS/FOPS protection

- Best all around view for the operator
- Higher safety and productivity

Separate Hydraulic Oil Cooler

- Reliable cooling performance even in the hottest ambient temperatures
- Reduced fuel consumption due to demand-controlled fan

HD-Ripper

- Excellent ripping performance in hard underground conditions
- Robust design for longevity

Bogie Suspension (optional)

- Smoother operation
- Optimal traction





LED-Lighting (optional)

- Guarantees best illumination of the working area
- Better working performance even in the dark/bad light conditions

Hydrostatically Driven Cooling Fan

- Fast engine warm-up and reliable cooling in each situation
- Laminar air flow facilitates a long radiator-life

Different Types of Blades With HD-Cutting Edge

- High flexibility for all kind of material
- High productivity

HD-Tilt Cylinder Cover and Wear-Plates on Push Arm and Blade (all optional)

- Best possible protection against large rocks
- Extended lifetime of wear-exposed components

HD-Track Pads

- Highly wear-resistant in hard applications
- Longer uptime

Examples of Use and Technical Data



	PR 756 Litronic	PR 764 Litronic
Operating weight*	38,300 kg	50,400 kg
Blade capacity semi U-blade	8.9 m ³	13.6 m ³
Blade capacity U-blade		17.0 m ³
Ground clearance	635 mm	695 mm
Max. ripping depth of ripper	1,203 mm	1,300 mm
Max. penetration force of ripper	123.9 kN	166.9 kN
Max. pryout force of ripper	208.8 kN	291.5 kN
Track shoe width	560 mm - 711 mm	610 mm - 760 mm
Engine output	250 kW/340 HP	310 kW/422 HP
Emission standard	Stage IV/Tier 4f	Stage IIIA/Tier 3
	* Semi U-blade, 560 mm track shoes, single-shank ripper	* Semi U-blade, 610 mm track shoes, single-shank ripper



Articulated Dump Trucks



Performance

The TA 230 Litronic is designed for maximum work output in the harshest of environments. The large dump body supported by the sturdy drive train is a guarantee for efficient quarrying. Even in tough stone breaking operations, the articulated dump truck impresses by very good driving properties and, thanks to the innovative retarder performance, is always safely in motion.

Economy

With a maximum payload capacity of 30,000 kg, the TA 230 Litronic can transport more weight with the greatest efficiency. Fast turnaround times are achieved by the intelligent drive concept, and the simple transportability increases the flexibility of the machine, thereby improving capacity utilisation.

Reliability

Liebherr offers its customers pioneering solutions for maximum reliability and equipment availability. Installed in the TA 230 Litronic are tried and tested Liebherr components, such as diesel engine, hydraulic cylinders, rotating assembly and the Liebherr's own electronics. This equips the machine for tough quarrying operations and provides assurance of absolute operational safety.

Comfort

The modern cab layout offers the driver all of the conveniences for efficient and productive work. With plenty of space, very good visibility and optimum seating comfort, the cab impresses in terms of ergonomics and functionality.

Service friendliness

Electronically tilting driver cab and engine cover enable convenient and safe access to all service points and simplify the necessary maintenance measures. Minimum time requirement for daily checks, good access and long service intervals reduce downtime and improve the productivity of the machine. The time-tested Liebherr range of services and service personnel trained at the actual production plant ensures you get the best possible support service for your operation.

Overview of Articulated Dump Trucks

Fatigue-Free and Safe Working

- Ergonomic cockpit in spacious ROPS/FOPS cab
- Large, one-piece windscreen for best visibility
- Rear window protection grille
- Telescopic and horizontally adjustable steering column
- Operator's seat height-adjustable and adjustable to the operator's weight
- Electrically adjustable and heated exterior rear-view mirrors
- On-board computer with multifunctional display

Simple, Comfortable and Quick Maintenance

- Electrically tilting operator's cab and engine cover
- Bearings easily accessible

Powerful, Intelligent Technology

- Powerful Liebherr 6-cylinder diesel engine
- Automatic power shift transmission with eight forward and four reverse gears
- Excellent acceleration and deceleration
- Maximum traction even on demanding inclines
- Agility and manoeuvrability, even in reserve, for speeds of up to 16 km/h
- Good off-road features due to adequate axle compensation and ground clearance





Highest Efficiency at Maximum Performance

- Large dump body volume (19 m³) and load capacity (30 t)
- Vehicle width below 3.00 m
- Powerful engine for fast transport times and high transport capacity
- Superb fuel efficiency
- Dump body heating for excellent emptying properties

Trusted Liebherr Quality

- Liebherr Hydraulic oils for all temperature ranges
- Liebherr components from own production, such as hydraulic cylinders, rotating assembly and onboard electronics

Maximum Driving and Working Comfort

- Hydro-pneumatic front axle suspension for fatigue-minimised work
- Heavy duty axles with self-locking differentials
- Wet, oil-cooled, maintenance-free multi-disc brakes
- Rear area monitoring with camera

Examples of Use and Technical Data



TA 230 Litronic

Empty vehicle weight (EVW)	approx. 24.4 t
Payload	30.0 t
Loading volume	19.0 m ³
Engine output	270 kW/367 HP
Emission standard	Stage IIIB/Tier 4i



Maintainability



High Service Quality

Efficient and Easy Maintenance

During the design of Liebherr machines for the quarrying industry, the entire product life cycle is considered. This leads to intelligent location of the component installation positions, which enables outstanding service-friendliness. As a result, time and money are saved.

Safe and Unimpeded Service Access

The maintenance points feature safe, simple, fast and clean access. Furthermore, they have non-slip steps and sturdy handrails for the highest level of safety.

Short and Effectively Scheduled Service Times for Greater Productivity

The outstanding service accessibility of Liebherr machines enables quick removal and installation of Liebherr original parts. Effective scheduling and execution of service work is supported by intelligent software such as LiDAT and Liebherr-P@rts24.

Cost Effective Thanks to Liebherr Service Quality

- Liebherr original parts and lubricants ensure that Liebherr machines remain operationally effective for years on end.
- With the Reman programme, Liebherr offers economical solutions for machines of any age

Perfect Service for Optimum Machine Availability

- Fast and effective support from competent service partners
- Spare parts service with 24 hour availability

Strong Service Partner

Reliable Partnership with High Performing Service

With every Liebherr machine, the customer chooses a durable, first class product along with a healthy, long-term partnership. For optimum service and fast spare parts supply there is a service network covering the world in combination with an ultramodern central warehouse. This guarantees short distances and fast support when service is needed. Also around the clock if necessary.

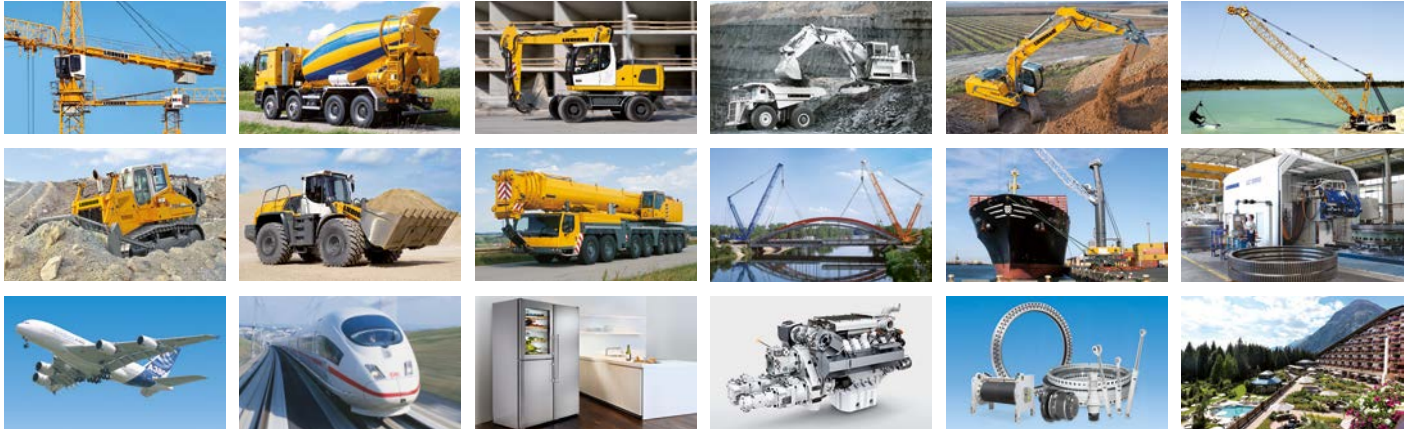
Competent Liebherr Service Offers Highest Level of Reliability

Comprehensive expertise guarantees first class execution of all service and maintenance measures. This makes a decisive contribution to the availability and profitability of the machine. Staff at Liebherr service partners receive regular further training. They have in-depth knowledge for fast and reliable servicing, and they can draw on the expertise of the manufacturing plants at any time.

Service Agreements for Individual Comfort and Safety

- Professional advice from Liebherr service partners ensures the right choice of service agreement
- Individual service agreements tailored to the desired scope and duration make efficient servicing possible
- Service measures carried out professionally ensure optimum machine availability.

The Liebherr Group of Companies



Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 41,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

www.liebherr.com

Liebherr-Hydraulikbagger GmbH
 Liebherrstraße 12
 D-88457 Kirchdorf/Iller
 ☎ +49 7354 80-0
 Fax +49 7354 80-72 94
 E-Mail: info.lhb@liebherr.com

Liebherr-Werk Bischofshofen GmbH
 Postfach 49, A-5500 Bischofshofen
 ☎ +43 50809 11-0,
 Fax +43 50809 11385
www.liebherr.com, E-Mail: info.lbh@liebherr.com
www.facebook.com/LiebherrConstruction

Liebherr-Werk Telfs GmbH
 Hans Liebherr-Straße 35
 A-6410 Telfs
 ☎ +43 50809 6-100
 Fax +43 50809 6-77 72
 E-Mail: lwt.marketing@liebherr.com

Liebherr-France SAS
 2, avenue Joseph Rey
 F-68005 Colmar Cedex
 ☎ +33 389 21 30 30
 Fax +33 389 21 37 93
 E-Mail: info.lfr@liebherr.com

Liebherr-Mining Equipment Colmar SAS
 49 rue Frédéric Hartmann,
 FR-68025 Colmar Cedex
 ☎ +33 369 49 20 00
 Fax +33 369 49 23 18
 E-Mail: info.lec@liebherr.com