

# Mining Truck

## T 284

**Nominal Payload**

Up to 375 tonnes/413 tons

**Gross Vehicle Weight (GVW)**

Up to 612 tonnes/674 tons

**Engine Power**

3,000 kW/4,023 HP



# LIEBHERR



## Productivity

Working Harder and Faster



## Efficiency

Moving More for Less

### Nominal Payload

Up to 375 tonnes / 413 tons

### Gross Vehicle Weight (GVW)

Up to 612 tonnes / 674 tons

### Engine Power

3,000 kW / 4,023 HP





## Reliability

Ready to Work  
When You Need It



## Customer Service

World-Class Support,  
Everywhere, Every Day



## Safety

Protecting Your Most  
Important Assets



## Environment

Mining Responsibly





# Productivity



## Working Harder and Faster

Intelligent design allows the Liebherr range of haul trucks to move more tonnes per hour by maximizing payload and minimizing cycle times.

## Enhanced Performance

### Performance

The T 284 offers consistent performance by combining the efficient Litronic Plus AC drive system with a high power diesel engine, yielding higher speeds on grade. With the advanced hydraulic design and fast cycle times, the T 284 moves more material in less time.

### Drivability

Liebherr is committed to designing mining trucks that operators want to drive. The ergonomic T 284 cab and superior properties of the front suspension system fulfills this commitment, promoting driver efficiency with superior comfort, safety and handling.

### Flexibility

Meet productivity targets while minimizing fuel consumption, with the flexible, application-specific engine recommendations by Liebherr. Select from multiple engine options with power ratings up to 3,000 kW (4,023 HP) to make the most of any mine.

## Optimal Truck Shovel Match

By hauling more per cycle, the T 284 allows customers to maximize the return on their investment and to meet production targets with fewer trucks, or in less time. This ultra-class truck is capable of hauling up to 375 tonnes / 413 tons, and is well-matched with a variety of hydraulic excavators, wheel loaders, and rope shovels. Pairing the T 284 with either the R 996 B or the R 9800 hydraulic excavator offers a highly compatible and productive combination.

Mining Excavator	R 996 B	R 9800
Number of passes Standard & Optional Payload	6-7	5-6

\* for 1.8 t/m<sup>3</sup> material density



### Lightweight Design

- Liebherr's low EVW (Empty Vehicle Weight) is achieved by combining an electric drive system and lightweight frame
- Maximize productivity by hauling up to 375 tonnes / 413 tons payload with a lighter truck

### High Speed on Grade

- High horsepower engine for enhanced performance and productivity
- The Litronic Plus Drive system utilizes maximum available engine power to deliver smooth acceleration and consistent speed on grade resulting in less load spillage
- Maximize speed on grade with stepless torque curve

### High Horsepower Engine

- MTU 20V4000 C22 Tier 1 – 2,720 kW / 3,648 HP
- MTU 20V4000 C23L Tier 2 engine option – 3,000 kW / 4,023 HP
- MTU 16V4000 C65 engine option – 2,400 kW / 3,219 HP



**Efficiency**



## **Moving More for Less**

Efficiency is a key ingredient for a successful mining operation. Liebherr mining equipment enables customers to enjoy unrivaled performance while reducing cost per tonne.

## Reducing Cost Per Tonne

### Hydraulic System Innovation

Variable displacement pumps and smart hydraulic systems within the T 284 minimize machine parasitic losses, providing maximum power to ground while lowering fuel consumption when power is not required.

### Optimal Energy Transformation

Fewer electrical losses translate into higher rim pull forces for faster cycle times and increased fuel economy.

### Intelligent Power Usage

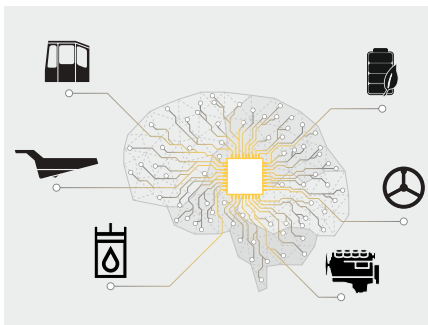
Engine power usage is optimized by running auxiliary components such as pumps, fans and motors only when needed. Fuel is conserved when the engine is idling and more power is available to accelerate and climb grades when required.

## Easy Component Access

Reduce maintenance time with ground-level service points and strategically located sight glasses. Easy access for servicing means less time spent in the workshop and more time spent in operation.

## Long-Lasting Components

Liebherr components are designed and built to perform for extended periods of time, which is why the T 284 mining truck runs longer between component overhauls, saving time and money.



### Litronic Plus AC Drive System

- Designed, developed, and built by Liebherr
- Maximized electrical power conversion into mechanical torque
- Increased acceleration and minimized energy consumption

### Efficient Power Train

- Engage auxiliary components on-demand for reduction in power consumption
- Fewer electrical parasitic losses during propel translates into higher rim pull forces for faster cycle times and increased fuel economy
- Vertically integrated components offer optimum system and fuel efficiency with maximum performance

### Excellent Serviceability

- Easy access to check wear components
- Ground-level central service station
- Ground-accessible hydraulic filters and manifolds
- Sight glasses on major components



# Reliability



## Ready to Work When You Need It

Liebherr draws upon a wealth of experience while incorporating new technologies into products to provide customers with high quality equipment and services.



# Quality: the Liebherr Value

## Component Integration

Liebherr's solid reputation as a quality Original Equipment Manufacturer (OEM) stems from consistent development and production of high-quality strategic mining components. The robust T 284's mining-optimized components are developed, manufactured, and controlled by Liebherr, ensuring top performance and reliability for the entire machine.

## Advanced Engineering

Liebherr's structural design process includes various techniques and cutting-edge software tools to ensure that the T 284 will perform reliably, even under the most demanding conditions:

- Multi-body Dynamic Simulations
- 3D Modeling
- Finite Element Analysis (FEA)
- Structural Fatigue Life Prediction Software

## Special Environment Packages

Liebherr offers an array of specific solutions for customers working in extreme environments. These packages guarantee that the T 284 will be fit for any working conditions.

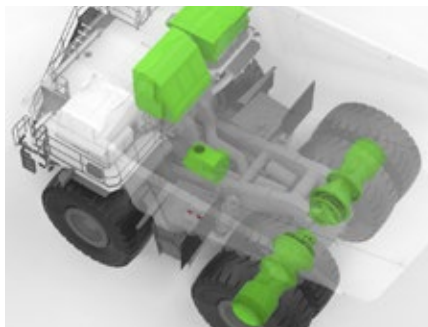
## Live Monitoring and Diagnostics

Liebherr Mining Data portal monitors, records, and downloads vital truck health and performance data. This advanced system allows detailed analysis of such insights, along with predictive maintenance strategies to minimize unscheduled downtime.

This data is readily available to fleet dispatch or monitoring systems through a dedicated portal, allowing customers the flexibility to choose systems which support their unique requirements for maintenance, operations, and business processes.

## Strict Quality Management

Liebherr monitors quality at every stage of production, beginning with machine design and simulations, to ensure that each product meets the highest standards. Based on the expertise of certified internal auditors and a highly qualified workforce, all manufacturing process steps meet the most comprehensive control, monitoring, and traceability requirements. Liebherr Mining Equipment Newport News Co. is ISO 9001:2015 certified.



## Structurally Built to Last

- Durable, lightweight frame with class leading payload capability
- Designed according to international weld fatigue guidelines
- Fabricated according to American Welding Society standards
- Strategically located cast components and hollow box rails with fully welded internal stiffeners

## Solid State AC Drive System

- Liquid-cooled for reduced footprint and maintaining optimum component temperatures
- Maximum reliability and reduced maintenance requirements with IGBT frequency converters and electronic switching
- Complete drive system designed and manufactured by Liebherr for use in the most demanding mining environments

## Liebherr Legacy

- Continuously improving our product lines, the legacy of the T 284 is backed by years of experience originating from the proven T 282, T 282 B, and T 282 C
- Product safety, reliability and availability are our primary concerns with each iteration



# Customer Service



## World-Class Support, Everywhere, Every Day

As a global mining solutions provider, Liebherr is more than a mining equipment manufacturer. Ensuring a permanent dialogue with each machine owner, Liebherr provides tailored assistance to customer specific project and site requirements.

## Customer Support

### International Service Organization

Liebherr Service Support has always been an important focus for the company. Complete service during all operating phases from machinery installation to problem solving, spare parts inventory, and technical service. Our service team is close to our customers, delivering the best specific maintenance solution to reduce both equipment downtime and repair costs.

### Complete Training Programs

The Liebherr Mining Training System provides blended training sessions for operator and maintenance staff to encourage productive, cost-effective and safe mining operation. The Liebherr Mining Training System employs online learning programs, factory and on-site sessions, and simulator training.



## Remanufacturing

### Reduced Costs and Investments

Over the course of a mining machine's lifetime, major components must be replaced to ensure continued safety, productivity and reliability. The Liebherr Mining Remanufacturing Program offers an OEM alternative to purchasing brand new replacement components. Enabling customers to achieve lowest possible equipment life-cycle costs without compromising quality, performance or reliability.

### Local Availability

With an international service network and component facilities worldwide, component repair services and exchange components are available to customers regardless of their location.



## Genuine Parts

### Performance

Using genuine Liebherr components ensures the best interaction within your machine, encouraging optimal performance and most effective machine operation. For all major components, Liebherr relies on its Liebherr Maintenance Management System to follow and monitor service life while predicting maintenance activities.

### Partnership

Liebherr regularly reviews requirements for parts and components for individual machines, based on operating hours, consumption and planned maintenance, resulting in minimized downtime for customers. With access to the global stock via all Liebherr Mining warehouses, you will improve productivity by having the part you need, when you need it.



### Extended Component Life

- Liebherr designed Service Exchange Units enable customers to minimize the total life-cycle cost of owning and operating a Liebherr mining truck or excavator
- Maintains optimal productivity and reliability
- All exchange components are built to OEM standards, offering as-new warranties

### Advanced Training Capabilities

- The Liebherr Mining Training System provides operators and field service technicians with world-class training
- Simulator-based operator training
- Basic and advanced service technician training
- Hands-on troubleshooting training

### Service Excellence Program

- Highest standards of service, personnel and processes with continuous learning based on vast know-how of Liebherr's global organization
- Applied to Customer Support, Parts and Repair & Reman Program
- Defined by an international team from factories and affiliates
- Regular certification of status, progress and improvements



# Safety



## Protecting Your Most Important Assets

Liebherr designs and builds safety into every piece of mining equipment, and is committed to providing a safe and healthy working environment for the operator and service personnel.

# Safe Work Environment for Everyone

## Operator Safety

The ergonomic design of the T 284 cab creates a safe, comfortable, and productive environment for operators. The cab provides maximum visibility utilizing tinted safety glass windows and is certified for roll-over and falling-object protection. The integrated HVAC system provides comfort in all temperature extremes. All Liebherr trucks offer at least two safety routes from the cab to the ground.

## Stability and Control

The innovative advanced Traction Control System improves steering and truck stability, and extends tire life even in the most challenging conditions.

## Operational Safety

A safe working environment is critical for every mine site, which is why the T 284 offers the following:

- Payload overload warnings
- Anti roll-back feature, active in forward and reverse
- Certified steering and braking accumulators
- High visibility LED running and service lights
- Engine shutdown switches in cab and at ground level

## Service Personnel Safety

Liebherr mining trucks are equipped with ladders and platforms allowing easy engine access. The low working heights of maintenance areas provide safe and efficient service access.

- Access to the engine and alternator from both sides of the chassis
- Ground level filling points for fuel, hydraulic oil, grease, and coolant
- Ground level accessible hydraulic filters and battery isolation box
- Isolation capabilities included as standard; battery isolation, engine start lockout, and propulsion lockout switches to allow for all types of maintenance activities
- Dual access into axle box
- Anchor points for safety harnesses
- Centralized access to all cab electrical connections from the superstructure floor



## Safety in Maintenance

- Increased safety with sturdy hand rails, engine bay access ladders, and certified anchor points for safety harness connections when working at heights
- Standard safety equipment includes hoist, propulsion, and starting system lockouts, along with double pole battery isolation

## Advanced Traction Control System

- Four-corner speed sensing capability
- Torque automatically adjusted to the rear wheels to maximize traction when cornering, accelerating from a standstill, or traveling down wet or icy roads
- Designed and developed exclusively for Liebherr mining trucks, enabling operators to consistently maintain steering control and truck stability

## Safety in Operation

- Maximum visibility in enhanced ergonomic cab for operator and passenger
- Multiple safety routes from cab to ground
- Roll-Over Protective Structures (ROPS) and Falling-Object Protective Structures (FOPS) offer additional safety measures



# Environment



## Mining Responsibly

In order to minimize environmental impact, Liebherr designs and builds mining equipment with the smallest possible environmental footprint.

# Minimized Impact on the Environment

## Low Emissions

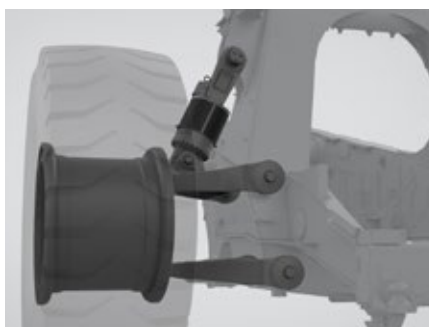
Liebherr partners with leading providers of high-speed diesel engines, incorporating Tier 4 Final certified engine technology, to provide customers with a choice of efficient and reliable engine solutions. Tier 4 solutions are designed to reduce emissions and satisfy local requirements established by the EPA for all new mining and construction equipment. This practical consideration is an example of Liebherr's commitment to customer satisfaction, environmental sustainability, and continuous improvement.

## Fuel Efficiency

Liebherr's Litronic Plus drive system paired with the latest engine technology provides excellent fuel economy, significantly reducing the carbon footprint of the entire operation.

## Sound Solutions

Reduce truck noise emissions drastically with factory-engineered Sound Attenuation packages featuring a low-speed fan, enclosed engine bay, and custom mufflers. This ultra quiet option gives customers the flexibility to run operations day or night, without disturbing nearby residential areas.



# Environmentally Sustainable Mining

## Component Exchange

The Liebherr Exchange Program extends component life-cycles, reduces waste by overhauling components using original core parts, and contributes to environmental sustainability through material and energy savings.

## Environmental Awareness

Liebherr is committed to the protection of the environment and takes necessary steps to meet various regulatory requirements in the manufacturing process to restrict the use of hazardous substances. This includes the use of alternative coatings and plating that reduce the overall impact on the environment.

## Highly Efficient Electrical Power Train

- Significantly reduces hydrocarbon and filter usage throughout the equipment maintenance life-cycle
- Reduces fuel consumption per tonne moved
- Requires less service time and reduces the costs of waste handling and disposal

## Double A-Arm Front Suspensions

- Keep optimal ground contact of the tire within the whole suspension stroke
- Reduce tire wear with optimized camber and toe angle
- Improve operator ride quality and reduce whole body vibration exposure

## Sustainable Manufacturing Process

- Liebherr focuses on sustainable development practices
- Systematic risk analyses conducted for new materials qualification
- Promote recovery-waste management to keep non-recyclables to a minimum

# Technical Data



## Engine

<b>Standard</b>	
<b>Model</b>	MTU 20V4000 C22
<b>Type</b>	Vee configuration, 4-cycle, water-cooled
<b>Aspiration</b>	single-stage: turbo after cooled
<b>Air cleaner</b>	2 x dry-type, double element, pre-cleaner, automatic dust ejector, electronic restriction monitor
<b>Lubrication system (method)</b>	pressurized system by internal pump
<b>Lubrication system (filtration)</b>	centrifugal oil filtration
<b>Tier rating</b>	available in fuel-optimized (FO) modes
<b>Engine speed</b>	1,800 rpm
<b>Gross power – SAE J1995</b>	2,720 kW/3,648 HP
<b>Number of cylinders</b>	20
<b>Bore</b>	165 mm/6.5"
<b>Stroke</b>	210 mm/8.3"
<b>Displacement</b>	90 l/5,490 in <sup>3</sup>
<b>Starting</b>	electric

<b>Option A</b>	
<b>Model</b>	MTU 20V4000 C23L
<b>Type</b>	Vee configuration, 4-cycle, water-cooled
<b>Aspiration</b>	single-stage: turbo after cooled
<b>Air cleaner</b>	2 x dry-type, double element, pre-cleaner, automatic dust ejector, electronic restriction monitor
<b>Lubrication system (method)</b>	pressurized system by internal pump
<b>Lubrication system (filtration)</b>	centrifugal oil filtration
<b>Tier rating</b>	Tier 2
<b>Engine speed</b>	1,800 rpm
<b>Gross power – SAE J1995</b>	3,000 kW/4,023 HP
<b>Number of cylinders</b>	20
<b>Bore</b>	170 mm/6.7"
<b>Stroke</b>	210 mm/8.3"
<b>Displacement</b>	95.4 l/5,822 in <sup>3</sup>
<b>Starting</b>	electric

<b>Option B</b>	
<b>Model</b>	MTU 16V4000 C65
<b>Type</b>	Vee configuration, 4-cycle, water-cooled
<b>Aspiration</b>	two-stage turbocharged and after cooled
<b>Air cleaner</b>	2 x dry type, double element, pre-cleaner, automatic dust ejector, electronic restriction monitor
<b>Lubrication system (method)</b>	pressurized system by internal pump
<b>Lubrication system (filtration)</b>	centrifugal oil filtration
<b>Tier rating</b>	Tier 4
<b>Engine speed</b>	1,800 rpm
<b>Gross power – SAE J1995</b>	2,400 kW/3,218 HP
<b>Number of cylinders</b>	16
<b>Bore</b>	170 mm/6.7"
<b>Stroke</b>	190 mm/7.5"
<b>Displacement</b>	76.3 l/4,656 in <sup>3</sup>
<b>Starting</b>	electric

Consult factory for other engine options



## Electric Drive System

<b>Control system</b>	Liebherr Litronic Plus AC drive system with IGBT technology
<b>Control box</b>	liquid cooled power components, pressurized cabinet
<b>Traction control</b>	Litronic Plus traction control system, computer controlled in propel and dynamic braking, forward and reverse, all wheel speed sensing and reverse
<b>Main alternator</b>	AC brushless, direct drive, forced air cooling
<b>Wheel motors</b>	Litronic Plus AC induction motors, forced air cooling
<b>Gear ratio</b>	43.7:1
<b>Max. travel speed</b>	55 km/h/34.2 mph
<b>Cooling system</b>	variable speed AC motor with twin impeller radial cooling fans
<b>System voltage level</b>	1,600 V AC/2,000 V DC
<b>Final drive type</b>	planetary



## Braking Systems

Electric dynamic braking, forced air over quiet stainless steel grid resistors with dry disc service and secondary braking system.	
<b>Electric dynamic braking capacity</b>	4,500 kW/6,035 HP
<b>Dynamic braking type</b>	electric
<b>Dynamic braking speed control</b>	operator adjustable, automatically limits truck speed on downhill grade when set
<b>Service brake type – front</b>	inboard single disc, 5 x calipers per disc, wheel speed
<b>Service brake type – rear</b>	dual discs per side, single caliper per disc, armature speed
<b>Parking brake type</b>	spring applied, pressure released, single caliper per each rear disc
<b>Adjustable speed limits</b>	configurable speed limits for empty and loaded, adjustable for site requirements
<b>Brakes standards</b>	ISO 3450:1996
<b>Filtration cleanliness level</b>	15/13/11 per ISO 4406:2017



## Steering

Ackermann center point lever system, full hydraulic power steering with accumulator safety backup. Isolated from dump hydraulic system. Two double-acting hydraulic cylinders.	
<b>Filtration cleanliness level</b>	15/13/11 per ISO 4406:2017
<b>Steering standards</b>	ISO 5010:2007
<b>Turning radius – tire centerline</b>	17.2 m/56'5" (ISO 7457)
<b>Vehicle clearance radius</b>	19.95 m/65'5" (ISO 5010)
<b>Steering angle, left or right</b>	+/- 18 degrees





## Dump System

Two double-stage, double-acting hoist cylinders with inter-stage and end cushioning in both directions. Electronic joystick with integrated engine high-idle switch and full modulating control in both extend and retract.

<b>Dump angle</b>	49° (45° with optional kick-out switch)
<b>Dump cycle time</b>	51 secs
<b>Body raise time – high idle</b>	33 sec.
<b>Body power down – high idle</b>	17 sec.
<b>Remote dump</b>	standard – quick disconnects for external power dumping accessible from ground level
<b>Filtration cleanliness level</b>	15/13/11 per ISO 4406:2017



## Suspension System

<b>System</b>	
Front	double A-arm with inclined king pin pivot, spindle, and nitrogen over oil suspensions with integral damping
Rear	three bar linkage comprised of triangular upper link plus two bottom drag links and nitrogen over oil suspensions with integral damping
<b>Rear axle oscillation</b>	9 degrees



## Tires/Rims

<b>Tires</b>	59/80 R63
<b>Rims</b>	44" x 63" bolt on rims



## Frame

Closed box structure with multiple torque tube crossmembers, internal stiffeners and integrated front bumper. Steel castings are used in high stress areas.

<b>Welding</b>	frame girders welded inside and out with ultrasonic inspection aligned with AWS D1.1
----------------	--



## Cab

Deluxe cab with integrated ROPS, FOPS, and double wall design for optimum insulation. Fully adjustable air suspension operator seat with double lumbar support and full-size second seat for training requirements. Operator comfort controls include a tilt steering wheel, heater, defroster and standard AC. Real-time vital truck information is easily displayed to the operator and also recorded for download.

<b>Standards compliance</b>	ISO 3449:2005 (Level II), ISO 3471:2008
<b>HVAC capacity</b>	8.4 kW



## Weights

<b>Nominal payload</b>	
Standard	363 t/400 ton
Optional <sup>1)</sup>	375 t/413 ton
<b>Gross vehicle weight (GVW)</b>	
Standard	600 t/661 ton
Optional <sup>1)</sup>	612 t/674 ton
<b>Empty vehicle weight (EVW)</b>	237 t/261 ton
<b>Chassis weight<sup>2)</sup></b>	198 t/218 ton
<b>Body</b>	39 t/43 ton
<b>Front axle weight distribution</b>	
Empty (%)	50 %
Loaded (%)	33 %
<b>Rear axle weight distribution</b>	
Empty (%)	50 %
Loaded (%)	67 %

<sup>1)</sup> Subject to tire capacity, LMD installation and customer application approval

<sup>2)</sup> Standard truck (less options), tires and rims, 100% fluids (fuel tanks, hydraulic tank, gears, suspensions, crankcase, coolant, grease and charged accumulators)



## Fluid Capacities

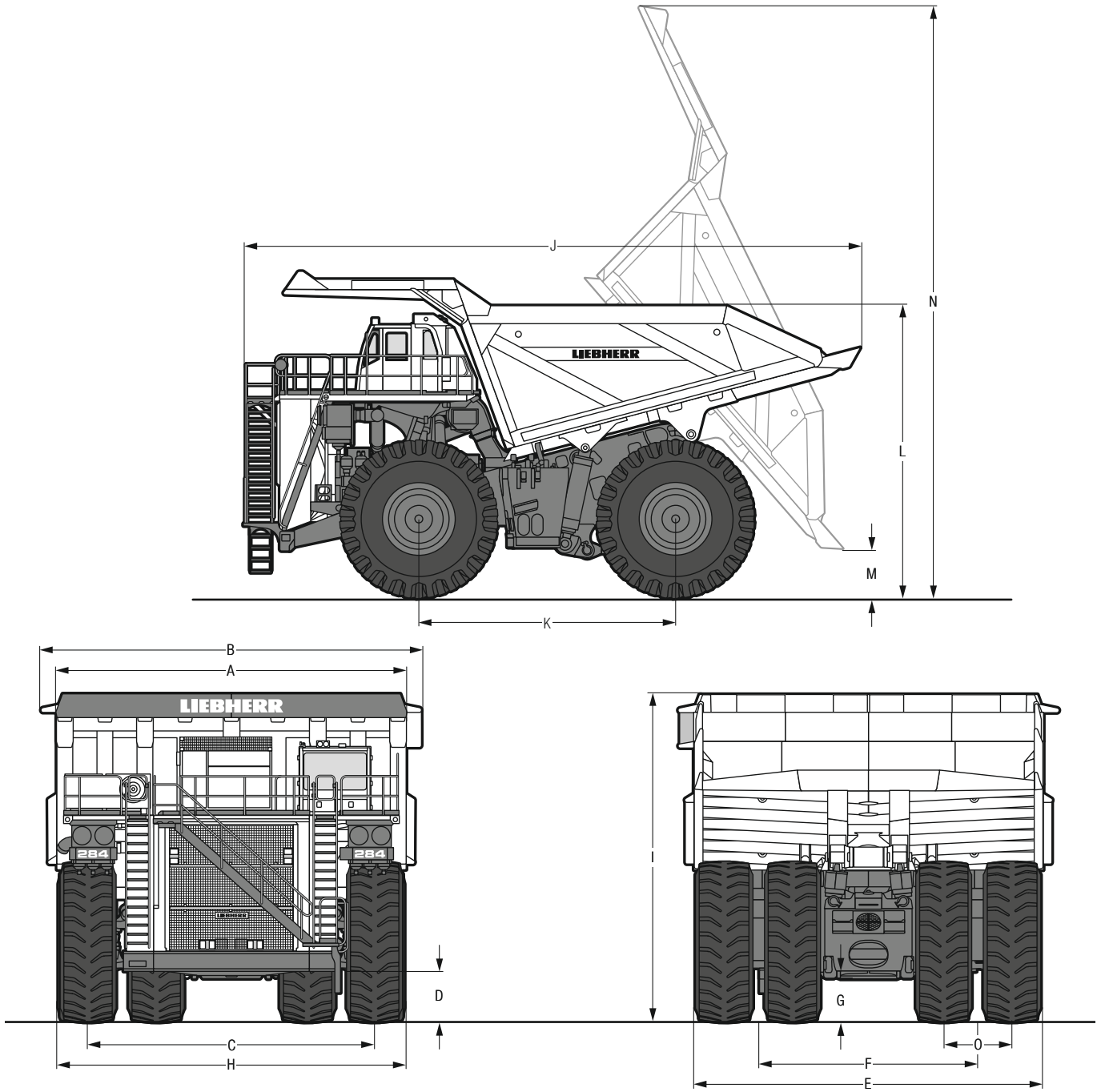
<b>Fuel tank</b>	5,351 l/1,414 gal
<b>Brake/Steering tank (steering, brake system tank)</b>	
Tank	924 l/244 gal
System	1,060 l/280 gal
<b>Hoist hydraulic tank (hoist, hoist oil cooling)</b>	
Tank	1,302 l/344 gal
System	1,514 l/400 gal
<b>Cooling system</b>	
Standard engine	870 l/230 gal
Option A engine	1,060 l/280 gal
Option B engine	721 l/191 gal
<b>Engine oil/crankcase</b>	
Standard engine	390 l/103 gal
Option A engine	335 l/88 gal
Option B engine	295 l/78 gal
<b>Final drives</b>	2 x 280 l/74 gal
<b>Front wheels</b>	2 x 60 l/16 gal
<b>Grease tank</b>	55 kg/120 lb
<b>Pump drive box</b>	8.5 l/2.2 gal



## Body

Body sizes are custom designed to fit customer requirements and specific applications. Please contact factory for options.

# Dimensions

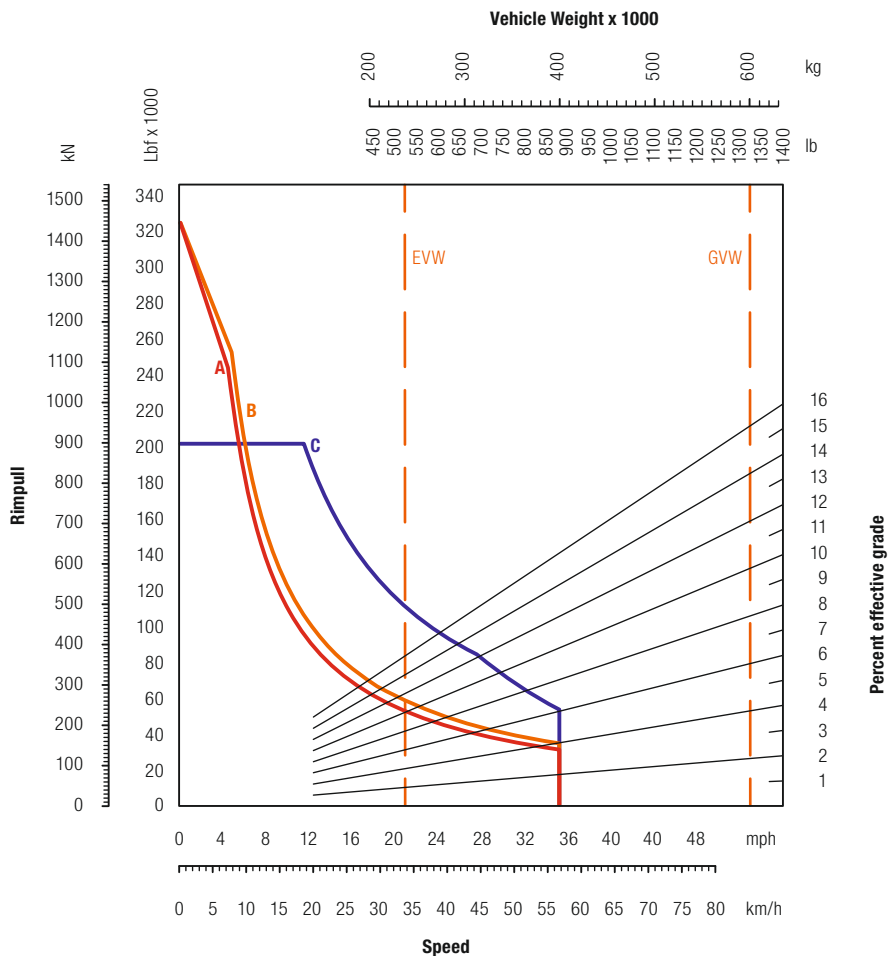


	mm/ft in
<b>A</b> Overall canopy width*	8,891/29' 2"
<b>B</b> Overall truck width (operating width)*	9,679/31' 8"
<b>C</b> Front track width	7,290/24'
<b>D</b> Bumper to ground clearance	1,240/ 4'
<b>E</b> Overall rear dual tire width	8,715/28' 7"
<b>F</b> Rear track width	3,909/12'10"
<b>G</b> Rear axle clearance	1,057/ 3' 6"
<b>H</b> Overall front tire width	8,715/28' 7"

	mm/ft in
<b>I</b> Front canopy height*	8,294/27'2"
<b>J</b> Overall truck length*	15,690/51'5"
<b>K</b> Wheelbase	6,553/21'5"
<b>L</b> Loading height*	7,425/24'4"
<b>M</b> Dump clearance*	1,249/ 4'1"
<b>N</b> Overall height – body raised*	15,050/49'4"
<b>O</b> Dual spacing	1,420/ 4' 7"

\* dump body specific

# Performance Curves



## Performance Chart Parameters

<b>Gross power</b>	2,720 kW / 3,648 HP (A) 3,000 kW / 4,000 HP (B)
<b>Net power</b>	2,574 kW / 3,452 HP (A) 2,852 kW / 3,825 HP (B)
<b>Tire size</b>	59/80 R63
<b>Gear ratio</b>	43.7 to 1
<b>Reference curves</b>	A: Propulsion 2,720 kW / 3,648 HP B: Propulsion 3,000 kW / 4,023 HP C: Dynamic Braking (Retard)

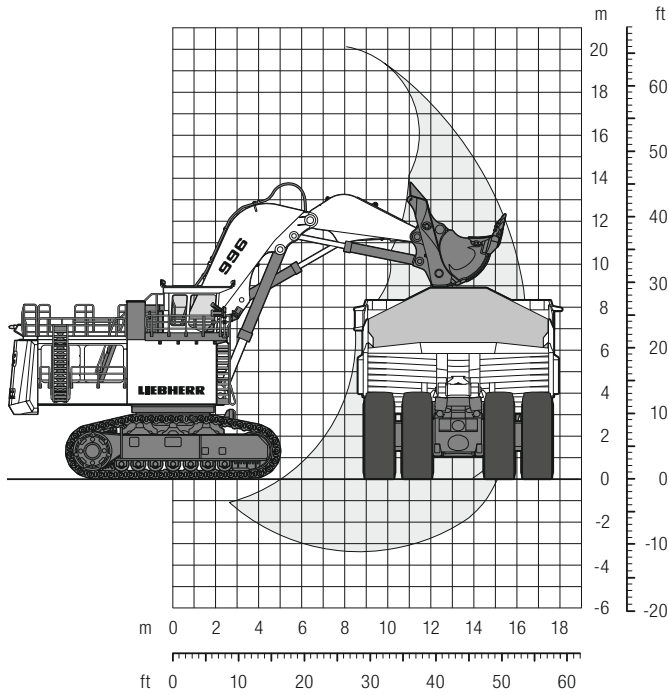
Note: The propulsion curve is calculated using net horsepower, therefore site specific and climatic variables will have an effect on the parasitic loss estimations.

## Truck Match

Liebherr excavator and configuration	R 996 B BH	R 996 B FS	R 9800 BH	R 9800 FS
<b>Standard bucket*</b>	m <sup>3</sup> 36 yd <sup>3</sup> 47.1	34 44.5	47.5 62.1	42 54.9
<b>Number of passes</b>	Standard / Optional 6	7	5	6

\* for 1.8 t/m<sup>3</sup> material density

# Loading Charts

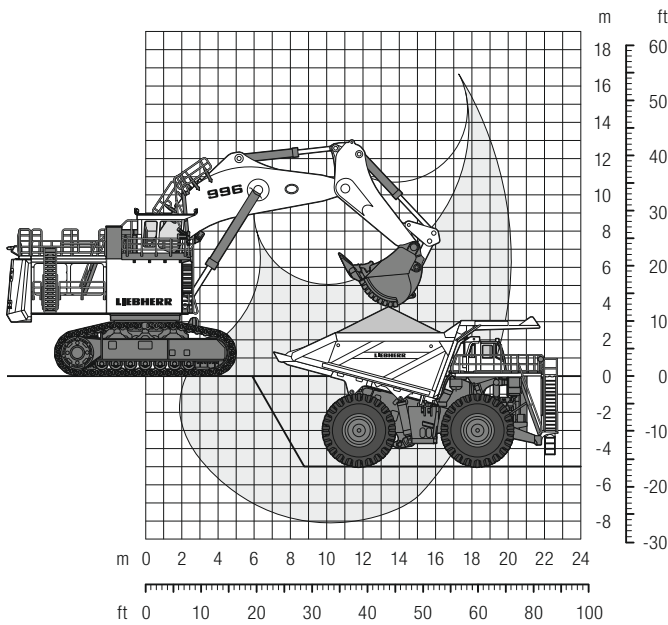


## T 284 Mining Truck

loaded by the Liebherr R 996 B hydraulic excavator in face shovel configuration

Maximum dump height	12.9 m/42'3"
Truck loading height	7.4 m/24'4"
Passes to fill	6 passes

(given 1.8 t/m<sup>3</sup> material density)

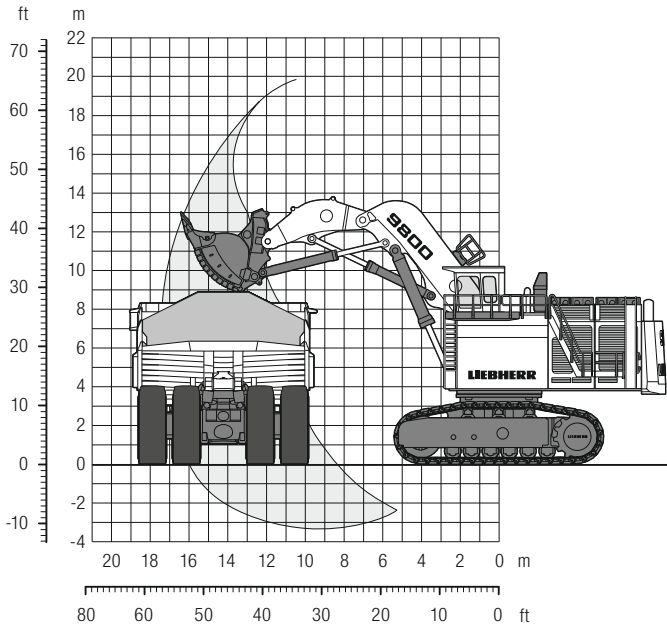


## T 284 Mining Truck

loaded by the Liebherr R 996 B hydraulic excavator in backhoe configuration

Maximum dump height	10.7 m/34'11"
Truck loading height	7.4 m/24' 4"
Passes to fill	6 passes

(given 1.8 t/m<sup>3</sup> material density)

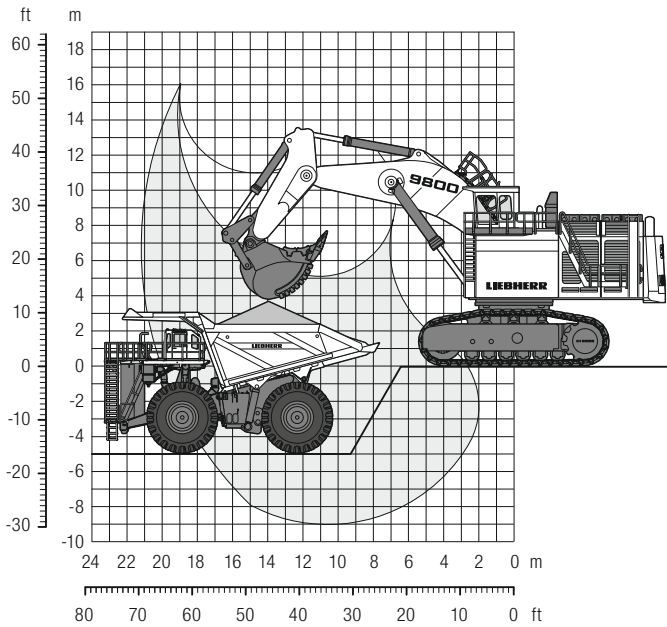


### T 284 Mining Truck

loaded by the Liebherr R 9800 hydraulic excavator in face shovel configuration

Maximum dump height	12.4 m/40'7"
Truck loading height	7.4 m/24'4"
Passes to fill	5 passes

(given 1.8 t/m<sup>3</sup> material density)



### T 284 Mining Truck

loaded by the Liebherr R 9800 hydraulic excavator in backhoe configuration

Maximum dump height	10.9 m/35'9"
Truck loading height	7.4 m/24'4"
Passes to fill	5 passes

(given 1.8 t/m<sup>3</sup> material density)

# Standard Equipment

## General

Access – 45° diagonal stair (drivers side access) with two side ladders w/flexible step
Accumulators – certified – steering (1 x 174 l/46 gal), front brakes (1 x 27 l/7 gal and 1 x 4 l/1 gal), rear brakes (1 x 7.6 l/2 gal and 1 x 4 l/1 gal), brake and steering unloader (1 x 7.6 l/2 gal)
Axle box – dual entry service access and rear air exhaust
Catwalk – right and left side of engine
Centralized service station – ground level, driver side, with fuel gauge and pressureless fast fill system
Color – white/grey
Fall protection – multiple personnel harness anchor points
Fluid sampling – multi-sampling ports close to component
Grease system – automatic lubrication system
Hydraulic filters – high pressure and return line brake, steering and hoist w/electronic monitoring
LED payload display – 2 x superstructure mounted
Liebherr Mining Data (LMD)
Mud flaps – front and rear of hydraulic and fuel tanks and battery control box
Oil coolers – 1 x hoist system, 2 x final drive, 1 x fuel
Park brake – spring applied pressure release
Recovery system – auxiliary connectors for brake, steering and hoist “buddy system”
Reverse alarm (2)
Rims – bolt on, 6 x single gutter
Rock ejectors – bar type
Service access ladders – right and left engine bay ladders w/cable steps
Shut off valves – brake and steering and hoist w/electronic monitoring
Sight gauges – brake, steering, hoist and radiator tanks and front wheel hub
Towing points – front and rear, labeled

## Engine

Air cleaner dust ejectors – automatic
Air cleaners – two units with 2 elements per unit with electronic restriction monitoring in cab
Engine “roll over” protection switch
Exhaust – side-mounted mufflers with insulated exhaust pipes
Fan clutch – variable speed, temperature controlled
Fuel/water separator
Multi-point exhaust temperature monitoring system (ETMS)
Oil centrifuge filter
Prelube – pre-start engine oil pressurization to reduce dry engine turnover
Primary and secondary fuel filters
Radiator – L&M (Mesabi) flexible core, with center-mounted level gauge on front face of surge tank
Roll out power module – radiator, engine and main alternator mounted on roll out sub frame
Turbo thermal protection
Starter – electric

## 24 V Electrical

Batteries – 6 x 12 Volt, (3 banks of 2), 1,425 CCA each at –18 °C (0 °F), 1,755 CCA at 0 °C (32 °F)
Battery box lockouts – ground level, battery (2 pole), propel and starter (single pole)
Electrical system – 24 VDC with circuit breaker protection
Engine stops – in-cab and ground level

## AC Drive System and Controls

Anti roll-back – in forward and reverse
Brakes – dynamic braking w/automatic hydraulic brake blending and hydraulic service brakes
Gear assembly – Liebherr gears and wheel motors
Gear ratio – 43.7:1
Grid box – resistor grid control system and variable AC grid box blower motor
Litronic Plus control cabinet – IGBT technology, liquid cooled, pressurized, filtered air inlet, ground fault warning and detection
Traction control system with four-wheel speed sensing

## Lighting

Access lights – 3 ladder, 1 superstructure
Brake warning lights (cab mounted external) – forward facing dynamic brake and service brake (LED)
Headlights – 4 x high beam, 4 x low beam (LED)
Reverse lights – 2 x axle box, 1 x driver’s side superstructure (LED)
Service lights – 4 x engine bay, 2 x axle box (LED)
Truck lights – marker/clearance, tail, brake, dynamic brake and turn indicators (LED)

## Operator Environment

Climate control – combined heater and air conditioner w/multiple air ducts and filtered air
Cup holder – 2 center console mounted
Diagnostics interface – CANopen, Ethernet
Display screen – dimmable color touch screen w/operator information and warning
Dual overhead LED dome lights that illuminate when the door is opened
Integrated ROPS (ISO 3471:2008) and FOPS (ISO 3449:2005, Level II)
Mirrors – drivers side (flat), offside (convex) and access ladder (convex)
Power outlets – 12 VDC and 115 VAC
Power windows – driver and passenger
Pressurized cab – with fan on
Radio ready – wiring, speakers and DIN fitting
Seat belt – high visibility orange, 3 point, 2 inch wide
Seats – fully adjustable driver and passenger heated seats with air suspension
Speedometer – km/h / mph
Steering wheel – tilting and telescopic with horn and wiper control
Storage shelves and storage compartment located behind seats
Sun visors – 2 windshield sun visors and 1 driver’s door pull down blind
Windows – tempered and tinted glass 6.3 mm
Windshield – laminated safety glass and tinted 9.5 mm
Wipers – two speed electric and intermittent with self park and dual wiper arms

# Optional Equipment

## General

- Access stair – powered retractable stair to main diagonal stairway
- Adjustable access ladders – engine bay
- Automatic fire suppression system
- Color – Liebherr yellow/grey
- Dump body options – liners, tailgates, rock deflectors, raise limit – 45° kick out switch
- Multiple language decals
- Rear view camera
- Undercarriage protection – front belly pan, fuel tank skid plates and hydraulic tank

## Operator's Cab

- Centered dashboard gauge panel in metric or imperial

## Engine

- EPA Tier 2 and Tier 4f certifications
- Optional fuel tank 6,397 l/1,690 gal
- Quick fuel connector

## Specific Solutions

- Arctic package – diesel type engine heater, automatic control, heated mirrors, heated dump body exhaust, diesel fuel heater
- Gear ratio – 37.33:1 and 53.33:1
- High altitude package
- Sound attenuation package
- Trolley capable

## Lighting

- Berm cornering lights (LED) – forward facing, superstructure mounted (DS and ODS)
- Fog lights (LED) – 4 x bumper mounted
- Grill illumination light (LED)
- Hill cresting lights (LED) – 2 x top grill mounted
- Overspeed light – externally mounted blue light on the top of cab
- Park brake on/truck in neutral warning light (LED) – externally mounted on top of cab
- Reverse light (LED) – off driver's side superstructure
- Truck ID light (blue LED) – diagonal staircase mounted

Standard and optional equipment are subject to change at manufacturer's discretion. Please contact your local representative for further information.

# The Liebherr Group of Companies



## Diverse Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's quality products and services hold a high reputation in many industries. 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 superior quality, Liebherr products offer customers the highest benefits in practical applications.

## State-of-the-art Technology

Liebherr attributes great importance to the product areas of core technology and components, in order to achieve its consistent, top-quality products. Important modules and components are developed and manufactured in-house, for instance, the entire drive and control technology for the construction equipment and mining trucks.

## Worldwide and Family-Owned

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 more than 46,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

[www.liebherr.us](http://www.liebherr.us)