

# Mining Excavator

# R 996 B

Operating Weight with Backhoe Attachment:

672.000 kg / 1,481,500 lb

Operating Weight with Shovel Attachment:

676.000 kg / 1,490,300 lb

Engine Output:

2.240 kW / 3,000 HP

Bucket Capacity @ 1,8 t/m<sup>3</sup> / 3,000 lb/yd<sup>3</sup>:

36,00 m<sup>3</sup> / 47.1 yd<sup>3</sup>

Shovel Capacity @ 1,8 t/m<sup>3</sup> / 3,000 lb/yd<sup>3</sup>:

34,00 m<sup>3</sup> / 44.5 yd<sup>3</sup>



# LIEBHERR



# R 996 B

Operating Weight with Backhoe Attachment:	672.000 kg / 1,481,500 lb
Operating Weight with Shovel Attachment:	676.000 kg / 1,490,300 lb
Engine Output:	2.240 kW / 3,000 HP
Bucket Capacity @ 1,8 t/m <sup>3</sup> / 3,000 lb/yd <sup>3</sup> :	36,00 m <sup>3</sup> / 47.1 yd <sup>3</sup>
Shovel Capacity @ 1,8 t/m <sup>3</sup> / 3,000 lb/yd <sup>3</sup> :	34,00 m <sup>3</sup> / 44.5 yd <sup>3</sup>





## **Productivity**

Liebherr Mining Equipment enables superior productivity by loading and hauling maximum tonnage in the shortest amount of time.

## **Efficiency**

Liebherr combines the proven capabilities of previous models with new features that improve operational efficiency.

## **Reliability**

To maximize equipment reliability, Liebherr combines manufacturing expertise with monitoring and diagnostic capabilities.

## **Customer Support**

Liebherr builds more than just mining equipment; Liebherr also builds customer partnerships.

## **Safety**

Mining demands an ever-vigilant focus on safety, and Liebherr strictly adheres to industry standards. Liebherr equipment is designed to diminish risk even under the most extreme mining conditions.

## **Environment**

Liebherr optimizes mining equipment for fuel economy, emission compliance, and extended service intervals.







#### New Backhoe Bucket Design

- Capacity of 36 m<sup>3</sup> / 47.1 yd<sup>3</sup> @1,8 t/m<sup>3</sup> or 3,000 lb/yd<sup>3</sup>
- Improved shape for wear reduction
- Integrated approach on machine and trucks target payloads
- Customized and site-specific wear package configuration







# Productivity



The R 996 B is built to outperform all competitors in the 600 t class mining market. As a perfect loader for 220 t class dump trucks and above, the R 996 B is the right match for the Liebherr T 264. Developed as the optimal loading tool for large scale mining operations, the R 996 B can achieve the most challenging targets.

## Engineered for Intense Mining

**Powerful Drive System** The R 996 B is equipped with two V16 Cummins engines specifically designed to withstand the most extreme environments. Set for minimum downtime and to boast a 36 m<sup>3</sup> / 47.1 yd<sup>3</sup> bucket, R 996 B's drive system allows to reach the highest uptime performance for maximum productivity.

**Optimized Cycle Times** Rather than using open hydraulic circuit, the R 996 B employs a closed-loop swing circuit to enable maximum swing torque while retaining the full oil flow for the working circuit. The independent swing circuit in combination with the powerful drive system leads to fast arm motion, which contributes to faster cycle times.

**Easy Machine Control** R 996 B's electronic machine control Litronic Plus contributes to fast loading cycles and easy control, even if multiple movements are required at the same time.

## High Digging and Lifting Capabilities

**High Digging Forces** Designed for the best mechanical force distribution, the production-tailored attachment delivers high digging and lifting forces. Integrating Liebherr-made cylinders and a wide range of buckets, the R 996 B's attachment ensures the highest forces, easy bucket penetration and high fill factor to perform even in the most demanding conditions.

**Power-Oriented Energy Management** The R 996 B's attachment is equipped with the pressureless boom down function to enable fast cylinder retraction without the need for pump energy. Intelligent energy management diverts the pump flow during boom lowering, allowing other cylinder motions to operate unimpeded.

### Compact Machine Design

Liebherr's excavator design is well-balanced and provides best machine stability enabling:

- High weight distribution towards the undercarriage
- Efficient utilization of the strong digging forces
- Favorable power to weight ratio of the uppercarriage and attachment
- Fast cycle times



### High Altitude Kit (Option)

Designed to offer maximum efficiency and productivity for operation in high altitude:

- Solution integrated in machine structure
- Adapted engine
- Pressurized hydraulic tank
- Can be combined with the Arctic Kit





#### Hydraulic System Efficiency

The R 996 B's hydraulic system is designed for an optimized hydraulic power management via the:

- Closed-loop swing circuit
- Pressureless boom down function
- Electronic hydraulic pumps management
- High pressure hydraulic oil filtration system
- Electro-hydraulic control system
- Optimized pipe and hose layout







# Efficiency

The R 996 B follows the Liebherr design philosophy of maximizing the machines performance by improving the efficiency of all individual subsystems. Engineered for optimum serviceability the machine is designed to ensure maximum uptime. The R 996 B's spacious cab creates a comfortable working environment ensuring peak operator performance, every shift.

## Optimized for Maximum Profitability

### Electro-Hydraulic System Efficiency

Liebherr hydraulic technology in combination with the precision of electronic control contributes to the R 996 B's energy optimization. The high-pressure hydraulic system and the optimized pipe and hose layout maximize usable power transmission. The hydraulic pumps are electronically managed to provide optimal pressure compensation and oil flow management. The hydraulic system is independently regulated over the engine circuit for the best operational efficiency.

### Cooling System Efficiency

Liebherr's large dimensioned cooling system reduces fan power consumption and ensures an ideal machine temperature. The hydrostatic fans operate always on the required level for optimal hydraulic oil cooling efficiency.

### Optimized Service Intervals

The R 996 B's high pressure hydraulic oil filtration systems remove contaminants from the fluid to offer the highest rate of hydraulic system efficiency. To maintain the oil quality, all return hydraulic oil flow goes through a 15/5 µm fine filtration system. To promote availability, the grease and fuel tanks are sized to considerably extend the time between service intervals.

## Modern Cab for Efficient Work

### Superior Operator Comfort

The large and spacious cab which equips the R 996 B offers ideal working conditions and optimal operator's comfort. Mounted on silent blocks, the cab design reduces vibrations and limit noise pollution to provide a quiet environment.

### Working Environment Total Control

The R 996 B's cab offers a panoramic view over the entire attachment and loading spot. Two outside cameras show areas that cannot be observed directly. Long-distance xenon working lights promote efficient loading.



### Fast Maintenance System

The service flap is hydraulically actuated and accessible from the ground level allowing for fast maintenance:

- Hydraulic oil refill
- Engine oil refill and drainage
- Splitterbox and swing gearbox oil exchange
- Attachment/swing ring bearing grease barrel refilling with filters
- Windshield washer water refilling
- Fast fuel refilling line



### Comfort-Oriented Cab Design

An array of features:

- Tinted laminated safety glass
- Armored front and attachment side windows
- Heavy duty sun louvers on windows
- Adjustable air suspended seat
- A/C with dust filter in fresh air / recirculated
- Pressurization to prevent dust penetration
- Trainer seat





#### Arctic Kit (Option)

Designed for maximum reliability in regions with temperatures of down to  $-50^{\circ}\text{C}$  /  $-58^{\circ}\text{F}$ :

- Integrated into machine structure
- Increases machine and component lifetime
- Optimum operator comfort even in harsh temperature conditions







# Reliability



More than 50 years of hydraulic excavator design and manufacturing experience is the basis for the R 996 B's outstanding reliability. The machine combines innovative technologies, design optimization and Liebherr components. Customers experience durable performance from the R 996 B throughout the machine's life.

## Quality: the Liebherr Trademark

### Liebherr Vertical Integration

As an OEM, Liebherr has built a solid reputation for its development and production of high quality strategic mining components. The R 996 B integrates robust and reliable mining optimized components that are developed, manufactured and controlled by Liebherr ensuring reliability and high performance for the entire machine.

### Machine Reliability Survey

Based on years of experience and the systematic measurement of key performance indicators of the machine behavior in the field, the Liebherr Mining Reliability Engineering Group is constantly seeking new ways to enhance reliability.

### Quality Management Continuous Improvement

Liebherr quality begins during machine design and simulations. Liebherr meets the highest standards for special selections of steels and casting materials. Based on the expertise of certified internal auditors and a highly qualified workforce, all manufacturing process steps are devised to provide the most comprehensive control, monitoring and traceability. Liebherr-Mining Equipment Colmar SAS is ISO 9001 certified.

## Long-lasting Job Performances

### Maximized Components Lifetime

The R 996 B is equipped with an automatic central lubrication system for the entire attachment and swing ring. All greasing points are suitably protected against external damages. This extends component life and ensures constant performance over the excavators' operational life.

### Rugged Undercarriage Structure

The R 996 B is mounted on a heavy duty 3-piece fatigue resistant undercarriage steel structure. This design provides better weight distribution of the superstructure and reduces ground bearing pressure. Designed and built for both shovel and backhoe configurations, the R 996 B provides the necessary stability and reliability.

### Liebherr Vertical Integration

Liebherr-made integrated parts are:

- Splitter box
- Electronic and control technology
- Hydraulic cylinders
- Large diameter bearing (swing ring)
- Swing and travel drives



### Strengthened Attachment Design

Backhoe or face shovel attachments are built to face all standard and specific applications:

- Use of advanced welding techniques
- Reinforced with strategically located castings in high stress areas
- Heat treatment to reduce residual stresses and increase fatigue life
- Designed for maximum structure life
- Use of cutting-edge engineering tools such as Finite Element Analysis and Fatigue Life Analysis





#### Liebherr Service Tools

Liebherr service tools for excavator-specific maintenance ensure safe working conditions even when handling large components.

- A wide range of tools
- OEM certified solution
- Designed for Liebherr mining excavators
- Cost-efficient maintenance
- Easy and fast component replacement
- High operational safety







# Customer Support



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 projects and site requirements.

## Proactive Service Supplying

### Liebherr Mining Network

With a truly global network composed of Liebherr affiliates and exclusive representatives, Liebherr's worldwide presence enables the highest level of service support irrespective of equipment location. Using advanced forecasting techniques and in-depth knowledge of regional populations, Liebherr service centers ensure that customers always have timely access to spare parts.

### Customized Service Support

Liebherr tailored support solutions integrate components exchange and management agreements, service and maintenance on site or maintenance management agreements. Liebherr's highly-trained service personnel ensures preventive and scheduled maintenance tasks and provides emergency service.

### Service Engineering Support

Machines and components reliability data are collected and monitored through the Liebherr maintenance management system. Liebherr's sales and service organization and product engineering groups provide fast and proactive support over the lifetime of the machine and promote mutual benefit for all involved.

## Customer Value Management

### Liebherr Mining Exchange Components

The Liebherr Mining Exchange Components program enables customers to minimize the total machine's Owning and Operating Cost while maintaining peak productivity and reliability. Through 15 Liebherr-certified component rebuild facilities worldwide, customers can take advantage of this program regardless of the equipment location or fleet size.

### Complete Training Programs

The Liebherr Mining Training System provides operator and maintenance staff blended training sessions that 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.

### Liebherr Mining Exchange Components

Exchange and repair programs for components are conducted by Liebherr-certified rebuild facilities using the latest OEM rebuild specifications and the complete range of genuine Liebherr parts to ensure:

- Value: significantly reduce total cost of ownership
- Quality: guaranteed as-new performance and reliability
- Availability: global network of components rebuild facilities



### From-Cradle-To-Grave Support

- Customer specific requirement study
- Collaborative solution development
- On-site machine assembly
- On-site machine settings
- Training program on / off site
- Machine performance monitoring
- Spare parts supply
- Parts remanufacturing facilities





#### Machine Access

Designed for safe access on the machine upperstructure via:

- A 45° powered ladder and catwalks with handrails and perforated steps
- Walkway with slip-resistant surfaces
- Emergency egress with handrails in front of the excavator







# Safety

The Liebherr R 996 B provides uncompromising safety for operators and maintenance crews. Equipped with the service flap accessible from the ground level and integrating wide open accesses, the R 996 B allows quick and safe maintenance. The R 996 B's cab provides numerous features for operator safety.

## Service-Friendly Machine Design

### Safe Service Access

The R 996 B is fitted with ergonomic access for fast and safe maintenance. The R 996 B's top structure is accessible via a powered 45° stairway with hand-rails. The robust service flap provides easy ground level access to the main service points.

### Easy Inspection and Components Replacement

All components have been located in areas that allow for effortless inspection and replacement. The R 996 B is equipped with robust hinged louvers for easy cleaning and maintenance. Numerous service lights are strategically located in the main service areas to sustain suitable maintenance conditions, day or night.

### Secure Maintenance

The R 996 B eliminates hazards ensuring a safe environment for the service staff during maintenance. Emergency stops are strategically located at ground level, in the cab, in hydraulic and engine compartments. The battery switches are manually operated to safely isolate the battery power. The attachment can safely be lowered to the ground even if the machine is off.

## Safety First Working Conditions

### Safety-First Cab Design

In addition to its ergonomic design, the R 996 B's cab provides maximum protection for the operator. The structure is composed of strong, low stress tubing and safety glass. The Falling Object Protection System (FOPS) and the armored front and attachment side windows enable to create a safe working environment for the operator.

### Powerpacks Provision of Security

Safety standards are achieved by heat insulation on turbochargers and on the exhaust system as well as by the use of heavy duty high resistant hydraulic hoses.



### Rear and Side Vision System

The machine ergonomically integrates a rear and side vision system composed of:

- One camera on counterweight
- One camera on right-hand side of uppercarriage
- One LCD color screen to display cameras view



### Machine Improved Visibility

The machine is easily visible even by night or in extremely dusty working environments thanks to:

- Ten long-range working xenon lights located on attachment, uppercarriage and counterweight
- Six additional long-range working xenon lights on the top of the cab, fuel tank's bottom part and hydraulic tank's bottom part (option)
- LED lights in option
- Travel alarm system with light and buzzer





#### Fuel Efficiency

The R 996 B provides numerous features contributing to fuel efficiency while optimizing productivity and cost performance:

- Pressureless boom down function
- Oversized cooling system with low fan power consumption
- Thermostatically regulated fan drive
- Closed-loop swing circuit
- Litronic Plus control system
- On-demand power regulation







# Environment



Liebherr considers the preservation of the environment as a major challenge for the present and future. Sustainability underpins Liebherr’s machines; from raw materials selection to manufacturing process employed. Liebherr provides solutions that allow customers to balance high performance with environmental consciousness.

## Minimized Impact on Life

### Optimized Fuel Consumption

Constant power regulation of the hydraulic system and engine output optimizes equipment fuel efficiency, depending on the application. Fan coolers speed is adjusted on-demand in order to optimize energy consumption. The automatic idling system reduces the engine speed when the machine is at rest.

### Noise Pollution Attenuation

Liebherr is able to provide machine-specific sound attenuation packages for operations in noise-restricted areas without any power loss. Developed with the latest noise measurement technologies, this approach is based on both removal of noise at the source as well as passive sound attenuation. The R 996 B is the ideal tool for operations close to residential areas.

## Sustainable Design and Manufacturing Process

### Extended Components and Fluids Lifetime

Liebherr is constantly working on ways to extend component life. Through the Exchange Components program, superior lubrication systems, and the reinforcement of parts under stress, Liebherr can reduce frequency of part replacement. The result minimizes environmental impact and lowers the overall cost of ownership.

### Product Life-Cycle Management

Subject to the stringent European Program for the regulation of the use of chemical substances in the manufacturing process REACH\*, Liebherr undertakes a global evaluation to minimize the impacts of hazardous materials.

\*REACH is the European Community Regulation on chemicals and their safe use (EC1907/2006) It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical Substances.

### Sound Attenuation Kit (Option)

Developed with the latest noise measurement technologies, this approach is based on both removal of noise at the source and passive sound attenuation:

- Noise-optimized fan regulation
- Larger and additional mufflers with tail pipe absorbers
- Additional high volume sound attenuation boxes
- Sound attenuation on louvers, doors and walls



### Sustainable Manufacturing Process

With an ever-present green focus, Liebherr contributes to the sustainable development:

- Systematic risk analysis for new materials qualification
- Promoted recovery waste management
- Controlled non-recyclable waste elimination
- Eco-friendly material selection (95% of material used on machine is recyclable)



# Technical Data



## Engine

2 Cummins diesel engines	
Rating per SAE J 1995	2 x 1.120 kW/2 x 1,500 HP at 1,800 rpm
Model	Cummins K 1800 E
Type	16 cylinder V-engine, water-cooled, direct injection, turbo-charged, after-cooler
Displacement	50,3 l/3,069 in <sup>3</sup>
Bore/Stroke	159/159 mm/6.26/6.26 in
Air cleaner	dry-type air cleaner with pre-cleaner, with automatic dust ejector, primary and safety elements
Fuel tank	13.000 l/3,440 gal
Electrical system	
Voltage	24 V
Batteries	8 x 170 Ah/12 V
Alternator	2 x 24 V/150 Amp
Engine idling	sensor controlled



## Hydraulic System

Hydraulic pumps for attachment and travel drive	8 variable flow axial piston pumps
Max. flow	8 x 840 l/min./8 x 222 gpm
Max. hydr. pressure	320 bar/4,640 psi
Hydraulic pumps for swing drive	4 reversible swash plate pumps, closed-loop circuit
Max. flow	4 x 413 l/min./4 x 109 gpm
Max. hydr. pressure	350 bar/5,076 psi
Pump management	electronically controlled pressure and flow management with oil flow optimisation
Hydraulic tank capacity	4.600 l/1,215 gal
Hydraulic system capacity	8.200 l/2,166 gal
Hydraulic oil filter	1 high pressure safety filter after each high pressure pump + fine filtration of entire return flow
Hydraulic oil cooler	2 separate coolers, 4 temperature controlled fans driven via hydraulic piston motors
Electronic engine speed sensing	over the entire engine RPM range
Lubrication	central lubrication system



## Electro-Hydraulic Controls

Servo circuit	independent, electric over hydraulic proportional controls of each function
Emergency control	via accumulator for all attachment functions with stopped engine
Power distribution	via monoblock control valves with integrated primary relief valves and flanged on secondary valves for travel
Flow summation	to attachment and travel drive
Control functions	
Attachment and swing	proportional via joystick levers
Travel	proportional via foot pedals or hand levers
Bottom dump bucket	proportional via foot pedals
Operation with one engine possible	



## Electric System

Electric isolation	easy accessible battery isolations
Working lights	Xenon lights: <ul style="list-style-type: none"> <li>- 4 on working attachment</li> <li>- 2 on RHS (top of the fuel tank)</li> <li>- 2 on LHS (top of the hydraulic tank)</li> <li>- 2 on counterweight</li> </ul> 6 additional Xenon lights: <ul style="list-style-type: none"> <li>- 2 on the top of the cab</li> <li>- 2 on the RHS (bottom part of the fuel tank)</li> <li>- 2 on the LHS (bottom part of the hydraulic tank)</li> </ul> LED lights in option
Emergency stop switches	at ground level, in hydraulic compartment, in engine compartment and in operator cab
Electrical wiring	heavy duty execution in IP 65 standard for operating conditions of - 50 °C to 100 °C/ - 58 °F to 212 °F



## Swing Drive

Hydraulic motor	4 Liebherr axial piston motors
Swing gear	4 Liebherr planetary reduction gears
Swing ring	Liebherr, sealed triple roller swing ring, internal teeth
Swing speed	0 - 3,5 rpm
Swing-holding brake	hydraulically released, maintenance-free, multi-disc brakes integrated in each swing gear



## Uppercarriage

Design	torsion resistant designed upper frame in box type construction for superior strength and durability
Attachment mounting	parallel longitudinal main girders in box-section construction
Machine access	45° access system with handrails on the cab side of the uppercarriage. Full controlled descent in case of emergency stop. Additional emergency ladder fitted near the cab



## Service Flap

Design	hydraulically actuated service flap, easily accessible from ground level to allow: <ul style="list-style-type: none"> <li>- fuel fast refill</li> <li>- hydraulic oil refill</li> <li>- engine oil quick change</li> <li>- splitterbox oil quick change</li> <li>- swing gearbox oil quick change</li> <li>- swing ring teeth grease barrel refilling via grease filter</li> <li>- attachment/swing ring bearing grease barrel refilling via grease filter</li> <li>- windshield washer water refilling</li> </ul>
Other coupler type on request	



# Technical Data



## Operator's Cab

Design	resiliently mounted, sound insulated, large windows for all-around visibility, integrated falling object protection FOPS
Operator's seat	suspended, body-contoured with shock absorber, adjustable to operator's weight
Cabin windows	20,5 mm/0.8 in tinted armored glass for front window and 18 mm/0.7 in for left hand side windows, all other windows in tinted safety glass, high pressure windshieldwasher-system with 75 l/20 gal watertank, sun louvers on all windows in heavy duty design
Heating system/ Air conditioning	heavy duty, fully automatic, high output air conditioner and heater unit
Cabin pressurization	ventilation unit with filters
Controls	joystick levers integrated into armrest of seat
Monitoring	via LCD-Display, data memory
Rear vision system	camera installation on counterweight and left-hand side of the uppercarriage displayed over an additional LCD-display
Automatic engine shut off	in case of low engine oil pressure or low coolant level
Destroking of main pumps	in case of engine overheating or low hydraulic oil level
Safety functions	additional gauges with constant display for: engine speed, hourmeter, engine oil pressure, coolant temperature and hydraulic oil temperature
Noise level (ISO 6396)	$L_{pA}$ (inside cab) = 78 dB(A) with oil/water fans at 100 % and AC fan at 65 %



## Undercarriage

Design	3-piece undercarriage, box type structures for center piece and side frames, stress relieved
Hydraulic motor	2 axial piston motors per side frame
Travel gear	Liebherr reduction gear
Travel speed	0 – 2,2 km/h / 0 – 1.4 mph
Parking brake	spring engaged, hydraulically released wet multi-disc brakes for each travel motor, maintenance-free
Track components	maintenance-free combined pad-link, heavy duty track shoes
Track rollers/ Carrier rollers	7/3 per side frame
Automatic track tensioner	pressurized hydraulic cylinder with accumulator, maintenance free
Transport	undercarriage side frames are removable



## Central Lubrication System

Type	Lincoln Centromatic lubrication system for the entire attachment/swing ring bearing and teeth
Grease pumps	2 Lincoln Powermaster pumps for attachment/swing ring bearing lubrication with switch over function 1 Lincoln Flowmaster pump for swing ring teeth lubrication
Capacity	600 l/158.5 gal bulk container for attachment/swing ring bearing, separated 80 l/21 gal container for swing ring teeth
Refill	via the service flap for both containers with grease filters

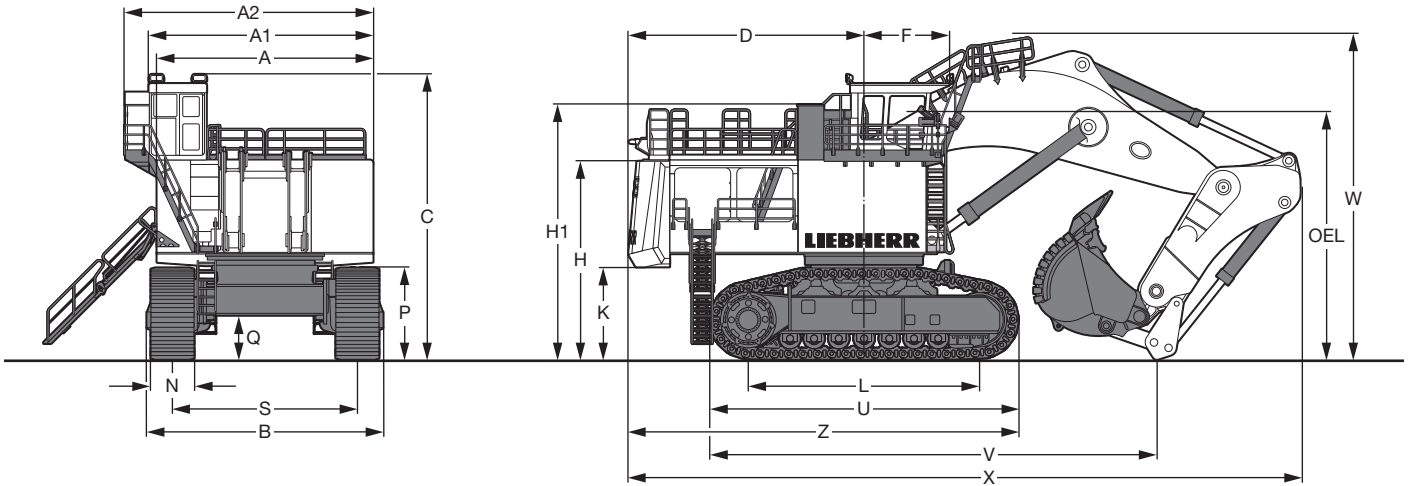


## Attachment

Design	box type structure with large steel castings in all high-stress areas
Pivots	sealed with double side centering with 1 single floating pin per side, all bearings with wear resistant, steel bushings, bolts hardened and chromium-plated
Hydraulic cylinders	Liebherr design, all cylinders located in well protected areas
Hydraulic connections	pipes and hoses equipped with SAE split flange connections
Kinematics	Liebherr parallel face shovel attachment geometry

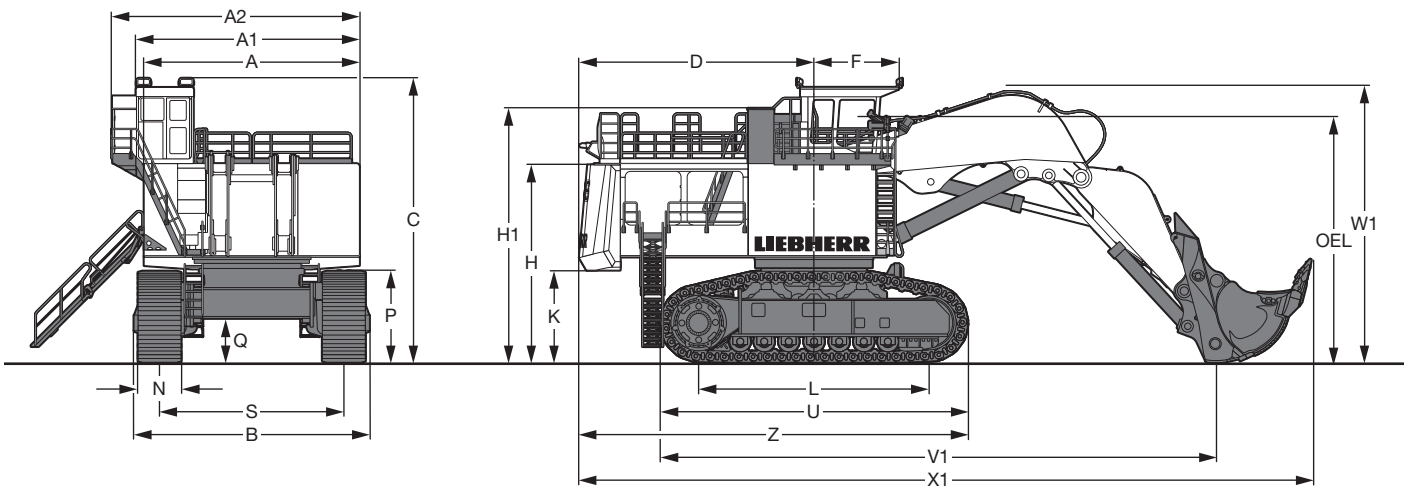


# Dimensions



	mm/ft in
A	7.000/22' 11"
A1	7.260/23' 9"
A2	8.080/26' 6"
B	7.908/25' 11"
C	9.260/30' 4"
D	7.635/25'
F	2.780/ 9' 1"
H	6.435/21' 1"
H1	8.280/27' 1"
K	3.005/ 9' 10"
L	7.500/24' 7"

	mm/ft in
N	1.400/ 4' 7"
P	2.985/ 9' 9"
Q	1.435/ 4' 8"
S	6.000/19' 8"
U	10.000/32' 9"
V	14.550/47' 8"
W	10.600/34' 9"
X	22.000/72' 1"
Z	12.635/41' 5"
OEL	Operator's Eye Level 7.850/25' 8"



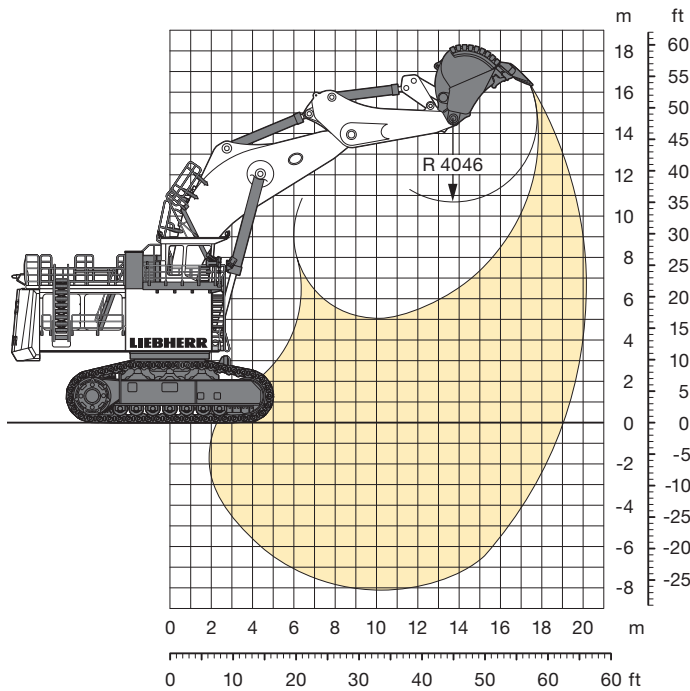
	mm/ft in
A	7.000/22' 11"
A1	7.260/23' 9"
A2	8.080/26' 6"
B	7.908/25' 11"
C	9.260/30' 4"
D	7.635/25'
F	2.780/ 9' 1"
H	6.435/21' 1"
H1	8.280/27' 1"
K	3.005/ 9' 10"
L	7.500/24' 7"

	mm/ft in
N	1.400/ 4' 7"
P	2.985/ 9' 9"
Q	1.435/ 4' 8"
S	6.000/19' 8"
U	10.000/32' 9"
V1	18.100/59' 4"
W1	9.050/29' 8"
X1	23.900/78' 4"
Z	12.635/41' 5"
OEL	Operator's Eye Level 7.850/25' 8"



# Backhoe Attachment

with Gooseneck Boom 11,00 m/36'1"



## Digging Envelope

Stick length	5,00 m/16' 4"
Max. reach at ground level	19,03 m/62' 5"
Max. teeth height	16,56 m/54' 3"
Max. dump height	10,67 m/34'11"
Max. digging depth	8,11 m/26' 7"
Max. digging force (ISO 6015)	1.535 kN/345,082 lbf
Max. breakout force (ISO 6015)	1.640 kN/368,687 lbf

## Operating Weight and Ground Pressure

The operating weight includes the basic machine with backhoe attachment and a 36,00 m<sup>3</sup>/47.1 yd<sup>3</sup> bucket.

Pad width	mm/ft in	1.400/4'7"
Weight	kg/lb	672.000/1,481,500
Ground pressure*	kg/cm <sup>2</sup> / psi	2,86/40.62

\* according to ISO 16754

## Buckets

For materials classe according to VOB, Section C, DIN 18300		5 – 6	5 – 6	5 – 6	7 – 8
Typical operation according to VOB, Section C, DIN 18300		HD	HD	HD	XHD
Capacity ISO 7451	m <sup>3</sup>	32,00	34,00	36,00	34,00
	yd <sup>3</sup>	41.9	44.5	47.1	44.5
Suitable for material up to a specific weight of	t/m <sup>3</sup>	2,0	1,9	1,8	1,8
	lb/yd <sup>3</sup>	3,373	3,204	3,035	3,035
Cutting width	mm	4.800	4.800	4.800	4.800
	ft in	15'8"	15'8"	15'8"	15'8"
Weight	kg	39.500	40.400	40.400	44.000
	lb	87,082	89,067	89,067	97,003

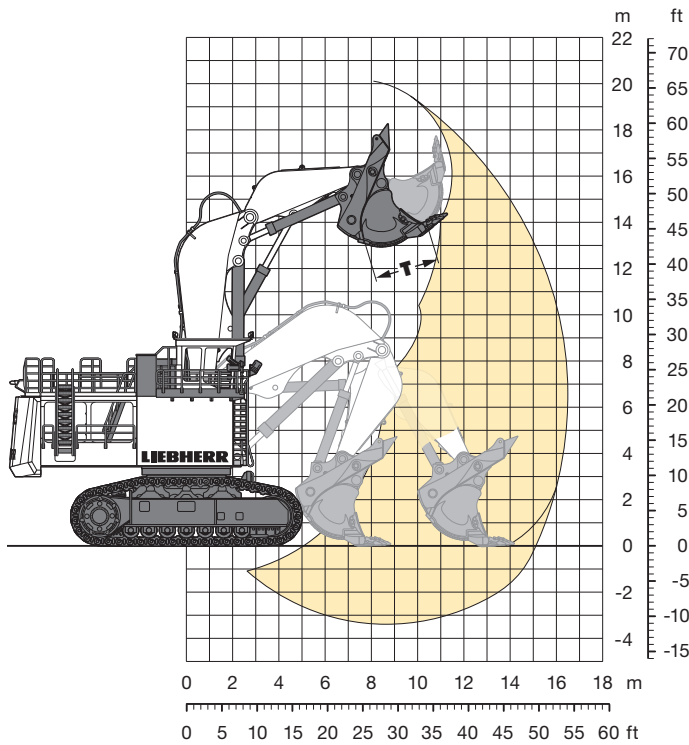
HD: Heavy-duty bucket with Esco S145 teeth

XHD: Heavy-duty rock bucket with Esco S145 teeth



# Shovel Attachment

with Shovel Boom 8,00 m/26'3"



## Digging Envelope

Stick length	5,00 m/16'4"
Max. reach at ground level	15,09 m/49'5"
Max. dump height	12,90 m/42'3"
Max. crowd length	5,38 m/17'7"
Bucket opening width T	2,80 m/ 9'2"
Crowd force at ground level (ISO 6015)	2.245 kN/504,696 lbf
Max. crowd force (ISO 6015)	2.330 kN/523,804 lbf
Max. breakout force (ISO 6015)	1.930 kN/433,881 lbf

## Operating Weight and Ground Pressure

The operating weight includes the basic machine with shovel attachment and a 34,00 m<sup>3</sup>/44.5 yd<sup>3</sup> bucket.

Pad width	mm/ft in	1.400/4'7"
Weight	kg/lb	676.000/1,490,300
Ground pressure*	kg/cm <sup>2</sup> / psi	2,88/40.87

\* according to ISO 16754

## Bottom Dump Buckets

For materials classe according to VOB, Section C, DIN 18300		5 – 6	5 – 6	5 – 6	7 – 8
Typical operation according to VOB, Section C, DIN 18300		HD	HD	HD	XHD
Capacity ISO 7546	m <sup>3</sup>	32,00	34,00	36,00	31,00
	yd <sup>3</sup>	41.9	44.5	47.1	40.6
Cutting width	mm	5.500	5.500	5.500	4.800
	ft in	18'	18'	18'	15'8"
Suitable for material up to a specific weight of	t/m <sup>3</sup>	1,9	1,8	1,65	1,9
	lb/yd <sup>3</sup>	3,204	3,035	2,782	3,204
Weight	kg	63.900	64.600	65.000	65.000
	lb	140,875	142,418	143,300	143,300
Wear kit level		II	II	II	III

HD: Heavy-duty bucket with Esco S145 teeth

XHD: Heavy-duty rock bucket with Esco S145 teeth

Level II: For preblasted heavy rock, or deteriorated, cracked material (classification 5 to 6, according to DIN 18300)

Level III: For highly-abrasive materials such as rock with a high silica content, sandstone etc.



# Optional Equipment



## Undercarriage

Different track pads width



## Uppercarriage

LED lights (with flood/access lights)  
Fast fueling system with Multiflo & Wiggins/Banlaw coupling  
(other brand name couplings possible)  
Rock protection for fuel tank  
Hydrostatic fan drive (until +40 °C)  
Customized paint – compl. machine



## Hydraulics

Bio-degradable hydraulic oils  
Oil cooler protection filter



## Engine

Cummins K2000E installation (high altitude)  
A/C compressor on engine  
Cummins Centry™ Kit  
Cummins Centinel™ Kit  
Cummins oil reserve system



## Operator's Cab

Front protective grid  
4-point seat belt  
Double A/C system  
Additional windscreen wipers for all windows



## Specific Solutions

Arctic kit –30 °C  
Arctic kit –40 °C  
Sound attenuation kit (until +40 °C)  
High altitude kit



## Safety

Automatic fire fighting system (FFS)  
Installation for 1 or 2 extra cameras

# 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 38,000 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](http://www.liebherr.com)