Mining Excavator

R 9200

Operating Weight
Backhoe Configuration
205 tonnes / 225 tons

Face Shovel Configuration
210 tonnes / 231 tons

Engine Power
810 kW / 1,086 HP

Standard Bucket
Backhoe Configuration
12.5 m³ / 16.4 yd³
22.5 tonnes / 25.0 tons

Face Shovel Configuration
12.5 m³ / 16.4 yd³
22.5 tonnes / 25.0 tons
**Productivity**  
Working Harder and Faster

<table>
<thead>
<tr>
<th>Specification</th>
<th>Backhoe Configuration</th>
<th>Face Shovel Configuration</th>
</tr>
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</tbody>
</table>

**Efficiency**  
Moving More for Less

**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
The R 9200 is the optimal loading tool to pair with 100 t and 140 t off-highway trucks. The R 9200 is a world-class loading tool to meet mining customer’s expectations with leading-edge technology. R 9200 delivers this in three ways: high productivity, exceptional reliability, and true 200 t class performance.
Fast and Precise Movement

**Proven Mining Engine**
The R 9200 is powered by a single Cummins QSK38 diesel engine which is US EPA Tier 2 or US EPA Tier 4f / EU Stage V compliant. Renowned for its reliability, the engine delivers durable and superior performance contributing to achieve production goals. Liebherr’s deliberate choice of the proven Cummins engine is due to the efficient proactive service on-site and continued collaboration with Cummins.

**Easy Machine Control**
The R 9200 is designed with user friendly controls featuring an advanced electronic piloting system, which promotes an intuitive and versatile control resulting in increased productivity.

**Fast Cycle Time**
Like all other Liebherr mining excavators, the R 9200 uses a closed-loop swing circuit. The main hydraulic circuit comprises a combination of four independent main valves fed by four working pumps, providing unrivaled flexibility of attachment control and force distribution, while allowing full oil flow integration for fast movement and lowest cycle times.

Cab Optimized for Performance

Accessibility, comfort and safety define the standard of the new Liebherr cab for the R 9200. A panoramic view combined with cameras system allow the operator to have in any case the control of the working environment. The seat, joy-sticks and pedals are designed and located to increase the result of the operator while reducing fatigue.

**Highest Digging and Breakout Force**
As a result of the highest digging and breakout forces in its class, the R 9200 provides fast and efficient filling of the bucket, even in extreme digging conditions.

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**Single Driveline Concept**
- Cummins QSK38 US EPA Tier 2 or US EPA Tier 4f / EU Stage V compliant
- Automatic idling system and engine shutdown
- Fuel pre-filter with water separator
- Max. altitude without deration: 3,600 m
- Fuel consumption optimized setting (optional)

**Exclusive EVO Bucket Solution**
- Liebherr patented EVO design to maximize the loading capacity
- Optimized Liebherr GET and wear package according to customer application
- Ensures optimal penetration efficiency
- Single GET hammerless locking system for safe and easy maintenance
- Fully patented GET system design for optimal penetration/lifetime
- 4 tooth profiles available for various range of applications

**Ergonomic Cab Design**
- Elevated and armored cab installation
- User-friendly piloting station
- Screen located for convenient operator viewing
- Passenger seat for trainer, mechanical engineer or geologist
- Additional protection offered
The R 9200 follows the Liebherr philosophy of maximizing performance by improving the efficiency of all individual subsystems. The advanced regulation system allows a well-balanced energy consumption reducing operating costs per ton. In addition, all components work in optimal performance range that contributes to extend their life for the highest machine availability.
Closed Loop Swing Circuit
The R 9200 is the only 200 t class mining excavator using a closed loop swing circuit. The kinematic energy can be saved when the swing motion is used during deceleration, to drive the main and auxiliary pumps, reducing fuel consumption and allowing faster boom lift motion.

Litronic Plus
The Liebherr-patented Litronic Plus system consists of an intelligent power management system specially developed to optimize electrical, mechanical and hydraulic power distribution. This system encourages fuel efficiency and energy savings while ensuring peak subsystem performance according to immediate working requirements.

Independent Cooling System
Oil and water cooling fans are independent and electronically managed. The on-demand cooling control enables to maximize available power for the working process. This technology contributes to maintain sustainable temperature of all the hydraulic components extending their life.

Advanced Machine Monitoring
- 10.5 inch LCD color 8-key screen
- On-board diagnostics data for service staff
- Permanent rear and side vision
- Information interface to operator (engine, steering, attachment, hydraulic, etc.)

Top-Class Components Access
The R 9200 was developed to facilitate the maintenance of the components of the machine. For example, the hydraulic valve blocks are located on the uppercarriage and easily accessible from the service platform, and numerous filters are centrally located to allow faster access. With a wide area of maintenance around the engine and the pumps, the R 9200 offers a great environment to the service staff to reduce at the minimum the service time of the machine.

Extended Components Lifetime
The hydraulic oil filtration systems remove fluid contaminants to offer the highest rate of hydraulic components durability. To maintain oil quality and extended oil lifetime, all return hydraulic oil flow goes through a fine filtration system (15/5 μm) and oil tank is sized to considerably extend the time between service intervals.

Central Service Station
- Fuel, engine oil, grease system, hydraulic oil, etc.
- Manually actuated service flap
- Fitted with Wiggins couplings
- Banlaw available as option
- Non-pressurised refueling system in option

High Performance Less Losses
- Pressure less boom down function
- High pressure hydraulic circuits
- Newest energy optimized attachment controls
- High diameter hydraulic lines
- Fuel efficiency
With over 50 years of innovative thinking, engineering and manufacturing excellence, Liebherr sets the industry standard for advanced equipment design and technology tools to provide the most up-to-date product responding to the requirements of the mining customers.
Structure Made Exclusively for Mining
Liebherr mining excavators are conceptualised, designed and dedicated to the mining industry. The engineering department uses specific 3D solution in order to meet possible requirements, such as Finite Element and Fatigue Life Analysis. In combination, the manufacturing department uses advanced welding techniques to strategically reinforce the structure. The synergy of our skills allows to obtain maximal machine availability.

Reinforced Undercarriage Structure
Specifically designed for extreme mining conditions, the rugged R 9200 undercarriage represents the basis for the stability of the machine. Using specific anti-collision track chain guide and heavy duty track rollers, the chains are maintained in the perfect alignment in any condition. The access to the travel motors and brakes has been designed to provide maximum protection to the components, while providing easy and fast service access.

Liebherr Components Integration
As an OEM, Liebherr has built a solid reputation for development and production of high quality strategic mining components. The R 9200 integrates robust and reliable mining components that are developed, manufactured and controlled by Liebherr, ensuring reliability and high performance for the entire machine.

Suit Customer Requirements
Liebherr sales engineer support during the decision-making stage guarantees that the customised product choice perfectly matches customer requirements. To ensure customer satisfaction, the Liebherr products are available in a range of specific configurations. For example, to upgrade the machine for the cold climate environment, to adapt the undercarriage for an specific application or to increase safety and comfort of the operator. With more than 150 engineers dedicated to develop mining excavators, Liebherr offers tailored-made solution to meet the clients requirements.

Simplified Design
All through the R 9200 meets all the entire market requirements concerning life cycle cost and productivity, all system and design solutions have been simplified to the straight minimum. This increases reliability and facilitates significantly maintenance and troubleshooting. The result is less downtime and reliable availability.
Customer Service

World-Class Support, Everywhere, Every Day

By partnering with our customers, Liebherr implements tailored solutions from technical support, spare parts and logistics solutions to global maintenance for all types of equipment, all over the world.
Customer Support

International Service Organization
The 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.

R 9200

Remanufacturing

Reduced Costs and Investment
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 customers an OEM alternative to purchasing brand new replacement components. Enabling customers to achieve lowest possible equipment lifecycle costs without compromising quality, performance or reliability.

Fast Availability
With an international service network and component facilities world-wide, 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 down time 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.

Troubleshoot Advisor Platform
• Unique maintenance system to help you identify problems
• Easy and friendly-user interface
• Compatible with mobile, tablet or laptop
• Regular updating of the database
• Procedures described by specialist with images and videos

The Liebherr-Mining Remanufacturing Program
• Liebherr certified quality
• As-new warranty
• OEM expertise
• Reduced costs and investment
• Fast availability

MyLiebherr Customer Portal
• Easy access parts online
• Available any time anywhere
• User friendly interface
• Online ordering
• Save time and money
The Liebherr R 9200 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 9200 allows quick and safe maintenance. The R 9200 cab provides numerous features for operator safety.
Safety-First Cab Design
Operator safety is one of the main concerns in designing and developing the new R 9200. A panoramic view, low noise level, strong structure and safety glass are elements that ensure compliance with international safety standards. In addition, Liebherr provides supplementary options allowing the cab to be adapted to your specific safety standards.

Secure Maintenance
All components are designed to allow effortless inspection and replacement. Numerous service lights are strategically located in service areas to maintain suitable maintenance conditions, day or night. Emergency stops have been strategically placed in the cab, engine compartment and at ground level. The R 9200 eliminates hazards to ensure a safe environment for the service staff during maintenance.

Protection Against Fire Ignition
The engine compartment has a bulkhead wall to separates the engine from the hydraulic pumps. This reduces the risk of hydraulic oil entering the engine compartment. The turbochargers and exhaust systems are heat shielded, and all hydraulic hoses are made from a highly resistant material to prevent the risk of fires.

Automatic Fire Suppression System
The R 9200 can be equipped with a fully integrated fire suppression, employing a dual agent solution to prevent and protect the machine. The fire suppression system has both automatic and manual release capabilities, emergency stop devices are strategically located on the machine to be easily accessible in any case by the operator.

Improved Accessibility
• 45° stairway
• All walkways with slip-resistant surfaces
• Emergency ladder available near the cab
• Wide open service access
• 10 service/access LED headlights

Efficient Machine Protection

Working Environment Control
• Rear and side camera system
• LCD color screen display
• 12 long-range working LED lights

Commitment to Employees Safety
• Safe and protected access to the components
• Major components centralized to be easily accessible
• Maintenance fluids reachable at ground level
• E-stops located for the operator and maintenance staff
Mining Responsibly

Liebherr considers the conservation and preservation of the environment as a major challenge for the present and future. Liebherr are considerate of environmental issues in designing, manufacturing and managing machine structures, providing solutions that allow customers to balance performance with environmental consciousness.
Minimized Impact on Life

**Optimized Energy Consumption, Fewer Emissions**
The intelligent energy management system coordinates optimal interaction between the hydraulic system and engine output with the goal of maximum performance with minimum fuel consumption. “Eco-Mode”, the machine is set up to reduce engine load, improve significantly fuel consumption and optimize emissions.

**Controlled Emission Rejection**
The R 9200 is powered by a high horsepower diesel engine which complies with the US EPA Tier 2 or US EPA Tier 4f / EU Stage V compliant emission limits. This power drive makes the R 9200 cost effective without compromising productivity and also reduces impact on the environment.

Certified Environment Management Systems
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 material, pollution control, water conservation, energy and environmental campaigns.

**Extended Components and Fluids Lifetime**
Liebherr is constantly working on ways to extend component life. Through the Remanufacturing 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.

**The Liebherr-Mining Remanufacturing Program**
- Reduced environmental impact
- Second life for your components
- Alternative to purchase brand-new replacement components
- Liebherr certified workshops

**Eco-Mode**
The Eco-Mode can be manually selected by the operator when maximal power is not required according to job need for:
- An improved fuel efficiency
- Less load on the engine
- Less noise pollution
- Less dioxide carbon emissions

**Sustainable Manufacturing Process**
- Promoted recovery-waste management
- Controlled non-recyclable waste elimination
- Eco-friendly material selection (95% of material used on machine is recyclable)
- European certifications

*REACH is the European Community Regulation on chemicals and their safe use (EC 1907/2006) It deals with the Registration, Evaluation, Authorization and Restriction of Chemical Substances.
**Technical Data**

### Engine

<table>
<thead>
<tr>
<th>Rating per SAE J1995</th>
<th>810 kW (1,086 HP) at 1,800 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Cummins QSX38 (US EPA Tier 2, US EPA Tier 4f/EU Stage V compliant or fuel consumption optimized setting)</td>
</tr>
<tr>
<td>Bore/Stroke</td>
<td>159/159 mm / 6.26/6.26 in</td>
</tr>
<tr>
<td>Displacement</td>
<td>37.8 l / 2,307 in³</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>4,500 l / 1,189 gal</td>
</tr>
<tr>
<td>Electrical system</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>24 V, 25 V additional</td>
</tr>
<tr>
<td>Batteries</td>
<td>4 x 180 Ah / 12 V</td>
</tr>
<tr>
<td>Alternator</td>
<td>24 V / 260 Amp</td>
</tr>
<tr>
<td>Engine idling</td>
<td>Automatic engine idling</td>
</tr>
<tr>
<td>Automatic engine</td>
<td>Engine self-controlled shut off 3 min.</td>
</tr>
<tr>
<td>Water cooler</td>
<td>Cooler with temperature controlled fans driven via hydraulic piston motor</td>
</tr>
</tbody>
</table>

### Swing Drive

| Hydraulic motor      | 2 Liebherr axial piston motors |
| Swing gear           | 2 Liebherr planetary reduction gears |
| Swing ring           | Liebherr, sealed triple roller swing ring, internal teeth |
| Swing speed          | 0 – 5.0 rpm |
| Swing-holding brake  | Hydraulically actuated, maintenance-free, multi-disc brakes integrated in each swing gear |

### Hydraulic System

| Hydraulic pump       | for attachment, 4 variable flow axial piston pumps |
| Max. flow            | 4 x 512 l/min, 4 x 135 gpm |
| Max. pressure        | 350 bar / 5,076 psi |
| for swing drive      | 1 reversible swashplate pump, closed-loop circuit |
| Max. flow            | 1 x 640 l/min, 1 x 169 gpm |
| Max. pressure        | 350 bar / 5,076 psi |
| Pump management      | Electronically controlled pressure, flow and power management with oil flow optimisation |
| Hydraulic tank capacity | 1,800 l / 475 gal |
| Hydraulic system capacity | 3,400 l / 900 gal |
| Hydraulic oil filter | 1 high pressure safety filter after each high pressure pump + extra-fine filtration of entire return flow with integrated by-pass filtration (15/5 μm) + dedicated leak-oil filtration |
| Hydraulic oil cooler | Cooler with temperature controlled fans driven via hydraulic piston motor |

### Electric Motor (optional)

| 1 electric motor     | 850 kW / 1,139 HP |
| Power output         | 3-phase AC squirrel cage motor |
| Type                 | 6,000 V, other voltage on request |
| Voltage              | 50 Hz (or 60 Hz) |
| Frequency            | 1,500 rpm or 1,800 rpm |
| Motor cooling        | Integrated air-to-air heat exchanger |
| Starting method      | Inrush current limited to 2.2 full load current |

### 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, 4 independent circuits |
| Flow summation       | Attachment and travel drive |
| Control functions    |                                      |
| Attachment and swing | Proportional via joystick levers |
| Travel               | Proportional via foot pedals |

### Electric System

| Electric isolation   | Easy accessible battery isolations |
| Working lights       | High brightness LED lights: |
|                      | ~ 4 on cabin |
|                      | ~ 2 on working attachment with grid protection |
|                      | ~ 3 on RHS of uppercarriage |
|                      | ~ 3 on LHS of uppercarriage |
|                      | Other: |
|                      | ~ LED service lights with timer 20 min. |
| 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 |
### Uppercarriage

**Design**
- Torque 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**
- Hydraulically operated 45° access stair, full controlled descent, in case of emergency stop additional emergency ladder fitted near the cab.

### Operator’s Cab

**Design**
- Resiliently mounted, sound insulated, large windows for all around visibility, integrated falling object protection FOPS (ISO 10262).

**Operator’s seat**
- Suspended pneumatic seat, body-contoured with shock absorber, adjustable to operator’s weight, seat heating, additional “retractable passenger/trainer seat”.

**Cabin windows**
- Tinted armored glass for front window and right-hand side windows, all other windows in tinted safety glass, windshield-washer system 30 l / 8 gal watertank, sun louvers on all windows in heavy duty design optional and front guard optional.

**Heating system/Air conditioning**
- Heavy duty, fully automatic, high output air conditioner and heater unit, contains fluorinated greenhouse gases HFC 134a with a Global Warming Potential (GWP) of 1430, the AC circuit contains 3.6 kg / 7.9 lb of HFC-134 representing an equivalent of 5.1 tonnes / 5.6 tons of CO₂, the 2nd AC circuit (optional) contains 2.2 kg / 4.8 lb of HFC-134 representing an equivalent of 3.1 tonnes / 3.4 tons of CO₂.

### Central Lubrication System

**Type**
- Single-line lubrication system, for the entire attachment/swing ring bearing and teeth.

**Grease pumps**
- Hydraulic grease pump for the attachment/swing ring bearing, electric grease pump for the swing ring teeth.

**Capacity**
- 200 l / 53 gal bulk container for attachment/swing ring bearing, separated 15 l / 4.0 gal bulk container for swing ring teeth.

**Refill**
- Via the service flap for both containers, fill line with grease filters.

**Monitoring**
- Via a specific Liebherr control module with data memory.

### Service Flap

**Design**
- Manually actuated service flap, easily accessible from ground level to allow:
  - Fuel fast refill
  - Engine oil quick change
  - Attachment/swing ring bearing grease barrel refilling via grease filter
  - 2 x swing gear oil refill
  - 2 x swing gear oil draining
  - Splitterbox oil change
  - Other coupler type on request.

### Undercarriage

**Design**
- 3-piece undercarriage, box-type structures for center piece and side frames, stress relieved.

**Hydraulic motor**
- 1 axial piston motor per side frame.

**Travel gear**
- Liebherr planetary reduction gear.

**Travel speed**
- 0 – 2.8 km/h / 0 – 1.7 mph.

**Parking brake**
- Hydraulically actuated, maintenance-free, multi-disc brakes for each travel motor.

**Track components**
- B 11, maintenance-free, forged double grouser pad.

**Track rollers/Carrier rollers**
- 8/2 per side frame.

**Track tensioner**
- Hydraulic and grease tensioner.

**Transport**
- Undercarriage side frames are removable.

### Attachment

**Design**
- Box-type structure with large steel castings in all high-stress areas.

**Stick**
- Wear protection underneath lower beam plate.

**Hydraulic cylinder**
- Liebherr design, electronically controlled end-cushioning.

**Hydraulic connections**
- Pipes and hoses equipped with SAE split-flange connections.

**Pivots bucket-to-stick**
- 0-ring sealed and completely enclosed.

**Pivots bucket-to-link**
- Liebherr parallel face shovel attachment geometry, electronic controlled end-cushioning.

**Kinematics**
- Liebherr parallel face shovel attachment geometry, electronic controlled end-cushioning.

**Noise level (ISO 6396)**
- Diesel: LₚA (inside cab) = 71 dB(A)
Backhoe Attachment
with Mono Boom 8.50 m / 27'9"

Backhoe Buckets
For materials class according to VOB, Section C, DIN 18300
Typical operation according to VOB Section C, DIN 18300

<table>
<thead>
<tr>
<th>Capacity ISO 7451</th>
<th>m³</th>
<th>GP</th>
<th>15.50</th>
<th>14.00</th>
<th>12.50</th>
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<th>12.50</th>
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<tbody>
<tr>
<td>yd³</td>
<td></td>
<td>GP</td>
<td>20.3</td>
<td>18.3</td>
<td>16.4</td>
<td>18.3</td>
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Suitable for material up to a specific weight of

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<tr>
<th>Weight</th>
<th>t/m²</th>
<th>lb/yd²</th>
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<tbody>
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<td>&lt; 5</td>
<td>1.45</td>
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Cutting width

<table>
<thead>
<tr>
<th>Width</th>
<th>mm</th>
<th>ft in</th>
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<tbody>
<tr>
<td>GP</td>
<td>3,100</td>
<td>10'2&quot;</td>
</tr>
<tr>
<td>GP</td>
<td>2,900</td>
<td>9'6&quot;</td>
</tr>
<tr>
<td>GP</td>
<td>2,800</td>
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<tr>
<td>GP</td>
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Weight

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<td>GP</td>
<td>11,600</td>
<td>25,574</td>
</tr>
</tbody>
</table>

GP: Loading bucket with Liebherr Z110 teeth
HD: Heavy-duty bucket with Liebherr Z120 teeth
XHD: Heavy-duty rock bucket with Liebherr Z120 teeth

Digging Envelope

<table>
<thead>
<tr>
<th>Stick length</th>
<th>m</th>
<th>ft in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. digging depth</td>
<td>m</td>
<td>ft in</td>
</tr>
<tr>
<td>Max. reach at ground level</td>
<td>m</td>
<td>ft in</td>
</tr>
<tr>
<td>Max. dumping height</td>
<td>m</td>
<td>ft in</td>
</tr>
<tr>
<td>Max. teeth height</td>
<td>m</td>
<td>ft in</td>
</tr>
</tbody>
</table>

Forces

<table>
<thead>
<tr>
<th>Max. digging force (ISO 6015)</th>
<th>kN</th>
<th>lbf</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>650</td>
<td>146,126</td>
</tr>
<tr>
<td>HD</td>
<td>146,126</td>
<td></td>
</tr>
<tr>
<td>XHD</td>
<td>166,359</td>
<td></td>
</tr>
</tbody>
</table>

Operating Weight and Ground Pressure

The operating weight includes the basic machine with backhoe attachment and backhoe bucket 12.50 m / 16.35 yd³.

<table>
<thead>
<tr>
<th>Pad width</th>
<th>mm / ft in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>tonnes / tons</td>
</tr>
<tr>
<td>Ground pressure*</td>
<td>kg / cm² / psi</td>
</tr>
</tbody>
</table>

* according to ISO 16754
Face Shovel Attachment

with Shovel Boom 6.00 m / 19'7"

Digging Envelope

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>GP</th>
<th>HD</th>
<th>XHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stick length m</td>
<td>4.37</td>
<td>14'4&quot;</td>
<td></td>
</tr>
<tr>
<td>Max. reach at ground level m</td>
<td>12.60</td>
<td>41'4&quot;</td>
<td></td>
</tr>
<tr>
<td>Max. dumping height m</td>
<td>8.37</td>
<td>27'5&quot;</td>
<td></td>
</tr>
<tr>
<td>Max. crowd length m</td>
<td>4.18</td>
<td>13'8&quot;</td>
<td></td>
</tr>
<tr>
<td>Bucket opening width T m</td>
<td>2.17</td>
<td>7'1&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Forces

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>GP</th>
<th>HD</th>
<th>XHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. crowd force at ground level (ISO 6015) kN</td>
<td>868</td>
<td>195,134</td>
<td></td>
</tr>
<tr>
<td>Max. crowd force (ISO 6015) kN</td>
<td>904</td>
<td>207,723</td>
<td></td>
</tr>
<tr>
<td>Max. breakout force (ISO 6015) kN</td>
<td>750</td>
<td>168,606</td>
<td></td>
</tr>
</tbody>
</table>

Operating Weight and Ground Pressure

The operating weight includes the basic machine with shovel attachment and bucket 12.50 m³ / 16.35 yd³.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Pad width mm/ft in</th>
<th>Weight tonnes/tons</th>
<th>Ground pressure* kg/cm²/psi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>800/2'6&quot;</td>
<td>210/231</td>
<td>2.02/28.73</td>
</tr>
</tbody>
</table>

Face Shovel Buckets

For materials class according to VOB, Section C, DIN 18300

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>&lt; 5</th>
<th>&lt; 5</th>
<th>5 – 6</th>
<th>5 – 6</th>
<th>5 – 6</th>
<th>7 – 8</th>
<th>7 – 8</th>
<th>7 – 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity ISO 7546 m³</td>
<td>14.00</td>
<td>13.50</td>
<td>13.50</td>
<td>12.50</td>
<td>11.50</td>
<td>11.50</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18.3</td>
<td>17.7</td>
<td>17.7</td>
<td>16.4</td>
<td>16.4</td>
<td>16.4</td>
<td>15.0</td>
<td>13.1</td>
</tr>
<tr>
<td>Suitable for material up to a specific weight of t/m³</td>
<td>1.7</td>
<td>1.6</td>
<td>1.8</td>
<td>2.0</td>
<td>1.7</td>
<td>1.9</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
<td>3.050</td>
</tr>
<tr>
<td>Cutting width mm ft in</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
</tr>
<tr>
<td>Weight kg lb</td>
<td>17,600</td>
<td>17,000</td>
<td>18,400</td>
<td>17,500</td>
<td>17,000</td>
<td>18,750</td>
<td>18,150</td>
<td>17,500</td>
</tr>
<tr>
<td></td>
<td>38,801</td>
<td>37,479</td>
<td>40,565</td>
<td>38,581</td>
<td>37,479</td>
<td>41,337</td>
<td>40,014</td>
<td>38,581</td>
</tr>
</tbody>
</table>

GP: Loading bucket with Liebherr Z110 teeth
HD: Heavy-duty bucket with Liebherr Z120 teeth
XHD: Heavy-duty rock bucket with Liebherr Z120 teeth

* according to ISO 16754
## Optional Equipment

### Undercarriage
- Undercarriage bottom cover
- Rock protection for travel drive

### Uppercarriage
- Fast fueling system with Multiflo Hydrau-Flo®
- Wiggins/Banlaw counter plugs for fuel/lube trucks
- Rock protection for swing gear
- Steel grease lines on swing ring
- Semi-automatic swing brake with joystick control
- Swing ring scrapers
- External grease refill station (hydraulic-powered)
- Sewing ring with 90° installation arrangement
- Hydraulic connection with quick coupler for external grease refill station

### Attachment
- Piston rod guard for bucket cylinder (BH)
- Piston rod guard for hoist cylinder (BH/FS)

### Specific Solutions
- Arctic package (–20 °C/–4 °F, –35 °C/–31 °F, –50 °C/–58 °F)
- Sound attenuation package
- High altitude package
- Hydraulic arrangement for special application (hammer/shear/grapple)

### Safety
- Automatic fire suppression system

### Engine
- Fuel consumption optimized engine version

### Operator’s Cab
- Front protective grid
- Double A/C system
- External louvers on back and side cab windows
- Operator comfort package
- Sliding hatch window on door

### Hydraulic System
- Bio-degradable hydraulic oil
- Oil cooler inlet screens
- Fine filtration bypass (2 μm)
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 applications.

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 then, the family business has steadily grown to a group of more than 130 companies with nearly 44,000 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