

Mining Excavator

R 9800

Operating Weight with Backhoe Attachment:	793 t / 1,748,266 lb
Operating Weight with Shovel Attachment:	804 t / 1,772,517 lb
Engine Output:	2 984 kW / 4 000 hp
Bucket Capacity:	38 - 42 m ³ / 49.7 - 54.9 yd ³
Shovel Capacity:	38 - 42 m ³ / 49.7 - 54.9 yd ³



LIEBHERR

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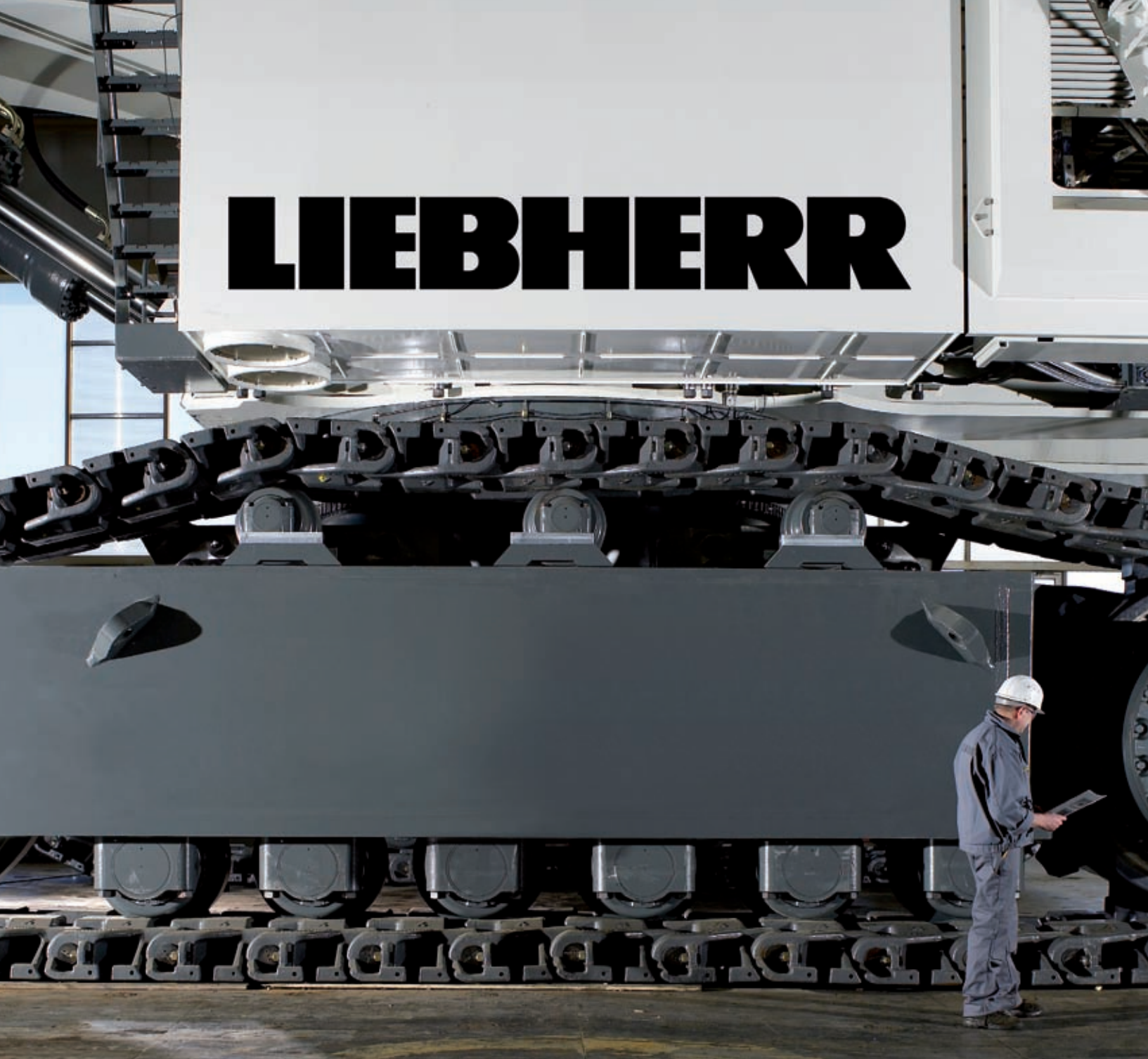
The New Benchmark.

The New Liebherr Ultra Large Hydraulic Excavator

Powered by two 1492 kW / 2000 hp diesel engines, the Liebherr R 9800 provides a large 42 m³ bucket capacity. Combined with fast cycle times and outstanding breakout and digging forces, the machine offers high loading performance and is a perfect match for 220, 290 and 360 t class trucks. The R 9800 is born to perform.



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Liebherr customized bucket

- Bucket capacity : 42 m³ @ 1.8 t/m³ / 3,000 lb/yd³
- Optimal Bucket design for best breakout and digging forces
- Optimal Bucket configuration to match material
- Integrated approach on machine capabilities, material properties and truck target payloads
- Customized and site-specific wear package configuration
- Perfect match for trucks with 220 t payload and above



Performance by Design

With over 50 years of proven experience and innovation in designing and manufacturing hydraulic excavators, Liebherr has developed the optimal loading tool for large scale mining operations: The R 9800.

Focused on Reliability, Efficiency and Maximum Working Hours

Liebherr has employed its decades of design and manufacturing experience and latest technologies to the overall reliability and productivity of the R 9800. This was done in order to fulfill today's requirements in mining and to achieve the maximum working hours per day. The overall performance of the machine is based on Liebherr's robust hydraulic and auxiliary systems, delivering maximum uptime. The R 9800 represents the latest proven technologies available on the market.

Comfortable, Ergonomic and Safe Working Environment

Liebherr's conception for its ultra large hydraulic excavator integrates the latest ergonomic and safety principles in order to create the best possible working environment for the operator and service crews. The spacious and super-silent cab, with its large front windshield, offers an excellent all-around view of the working area.

To reduce downtime, the R 9800's conception is focused on ergonomic, safe and comfortable serviceability, offering easy inspection access and short maintenance times. All service fluids can easily and quickly be exchanged or refilled through the service flap. Combined with extended service intervals of up to 1.000 SMU, Liebherr's R 9800 is the basis for maximum production hours.

Engine Options

- Two Cummins QSK 60 (2984 kW / 4000 hp @1800 rpm)
- Two MTU 12V4000 (2850 kW / 3820 hp @1800 rpm)
- TIER 2 setting (optional: fuel consumption optimized setting)



High machine efficiency

- Oversized cooling system for low fan power consumption
- Increased pipe and hose diameters for improved hydraulic efficiency
- Electronic and optimized attachment control for faster combined movements and optimized cycle time
- Backhoe and Shovel attachment designed to achieve ideal force distribution over the digging area and high production rates

Technical Data



Engine

2 Cummins diesel engine	
Rating per SAE J 1995	2 x 1492 kW/2 x 2000 hp at 1800 RPM
Model	QSK60 Tier 2
Type	16 cylinder V-engine
Displacement	60 l/3,661 in ³
Bore/Stroke	159/190 mm/6.26/7.48 in
or	
2 MTU diesel engine	
Rating per ISO 3046	2 x 1425kW / 2 x 1910hp at 1800 RPM
Model	12V4000 Tier 2
Type	12 cylinder V-engine
Displacement	57,2 liter/ 3,490 in ³
Bore /Stroke	170/210 mm / 6.69/8.26 in
Engine cooling system	fans driven via hydraulic piston motor
Air cleaner	dry-type air cleaner with pre-cleaner, with automatic dust ejector, primary and safety elements
Fuel tank	19690 l/5,202 gal
Fuel filtration	2 stage fuel filtration with water separator and electric priming pump
Electrical system	
Voltage	24 V
Batteries	8 x 170 Ah/12 V starting batterie 4 x 170 Ah/12 V service systems
Alternator	2 x 24 V/260 Amp (brushless)
Engine idling	sensor controlled
Electronic engine control system	engine speed sensing over the entire engine RPM range. Provides integration of engine with other machine systems



Hydraulic System

Hydraulic pumps	
for attachment and travel drive	10 variable flow axial piston pumps
Max. flow	10 x 750 l/min. / 10 x 198 gpm
Max. hydr. pressure	320 bar/4,641 psi
Hydraulic pump	
for swing drive	4 reversible swash plate pumps, closedloop circuit
Max. flow	4 x 535 l/min. / 4 x 141 gpm
Max. hydr. pressure	350 bar/5,076 psi
Pump regulation	electro-hydraulic pressure compensation flow compensation automatic oil flow optimizer
Hydraulic tank capacity	5800 l/1,532 gal
Hydraulic system capacity	10000 l/2,642 gal
Hydraulic oil filter	1 high pressure safety filter in each pump high pressure line + fine filtration of entire return flow
Hydraulic oil cooler	4 separate coolers, 4 temperature controlled fans driven via hydraulic piston



Hydraulic Controls

Servo circuit	independant, electronic over hydraulic proportional controls of each function
Emergency control	emergency lowering of the attachment to the ground
Power distribution	via monoblock control valves with integrated primary relief valves and flanged on secondary valves for travel and with integrated proportional and safety valves
Flow summation	to attachment and travel drive
Control functions	
Attachment and swing	electronic optimized control via proportional valves
Travel	electronic optimized control via proportional valves
Bottom dump bucket	electronic optimized control via proportional valves



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 – 3.6 rpm
Swing-Holding brake	hydraulically released, maintenance-free, external multi-disc brakes



Uppercarriage

Design	torque resistant designed upper frame in box type construction for superior strength and durability
Attachment mounting	parallel longitudinal main girders in boxsection construction
Catwalks	on the left side with a hydraulically driven access ladder, additional emergency ladder in front of the cab and in the pumps compartment



Service Flap

Design	hydraulically actuated service flap, easily accessible from ground level to allow: <ul style="list-style-type: none"> - 2 fuel fast refill - hydraulic oil refill - engine oil quick change - splitterbox oil quick change - swing gearbox oil quick change (4 x draining/4 x refill) - swing ring gearing grease barrel refilling via grease filter - attachment/swing ring bearing grease barrel refilling via grease filter - windshield washer water refilling - optional oil reserve system refilling
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Quick coupler upon 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 pneumatic seat, body-contoured with shock absorber, adjustable to operator's weight, additional "retractable passenger/trainer seat"
Cabin windows	20,5 mm/0.8 in tinted armored glass for front window and 15 mm/0.6 in for right 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, high output air conditioner and heater unit
Cabin pressurization	ventilation unit with filters
Controls	joystick levers integrated into armrest of seat, armrest adjustable to seat position
Monitoring	via color LCD-Display, data memory
Safety function	
Automatic engine shut off	engine self controlled power limitation and shut off
Destroking of main pumps	in case of low hydraulic oil level
Safety functions	additional gauges with constant display for: engine speed, hourmeter, voltmeter, safety mode for engine speed control and pump regulation



Undercarriage

Design	3-piece undercarriage, box type structures for center piece and side frames, stress relieved
Hydraulic motor	3 axial piston motors per side frame
Travel gear	Liebherr planetary reduction gear
Travel speed	0 – 1,8 km/h, optional 0 – 2,3 km/h/ 1,1 mph / 1,4 mph
Parking brake	spring engaged, hydraulically pressure released external wet multi-disc brakes for each travel motor, maintenance-free
Track components	maintenance-free dual pin cast link and pad combined
Track rollers/Carrier rollers	6/3
Automatic track tensioner	pressurized hydraulic cylinder with accumulator, maintenance free
Transport	undercarriage side frames are removable



Central Lubrication System

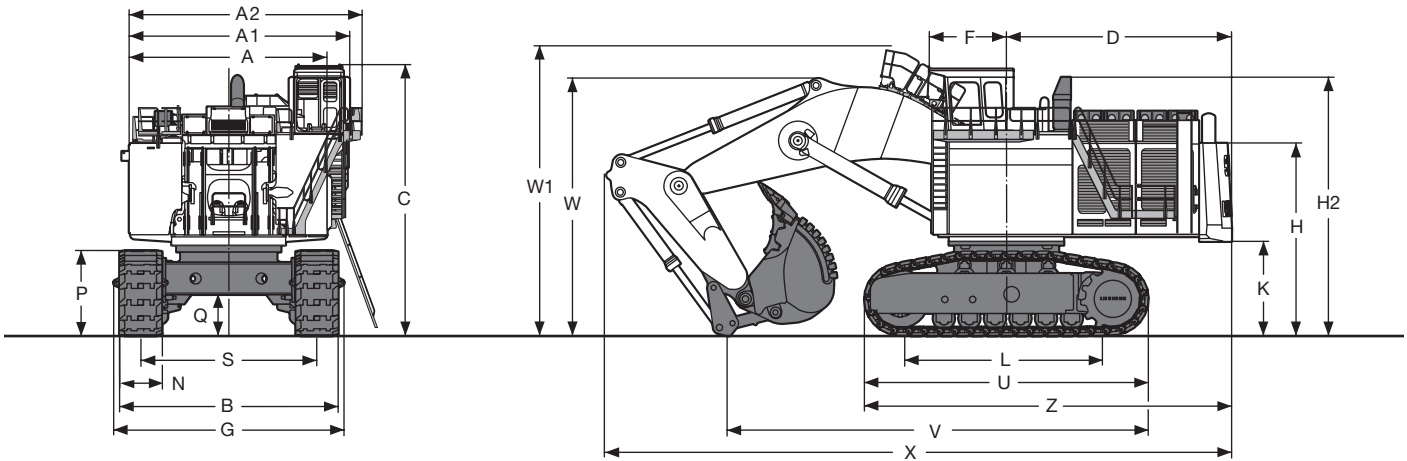
Type	Lincoln Centromatic lubrication system, for the entire attachment and swing ring
Grease pumps	Lincoln Powermaster pump plus separate Flowmaster pump for swing ring teeth
Capacity	600 l/158.5 gal bulk container for attachment and swing ring, separated 80 l/21 gal grease drum for swing ring teeth
Refill	via the service flap for both containers, fill line with grease filters



Attachment

Design	box-type structure with large steel castings in all high-stress areas
Stick	wear protection underneath lower beam plate
Pivots	two floating pins per pivot, sealed covers, all bearings with wear resistant steel bushings, bolts hardened and chromium-plated
Hydraulic cylinder	Liebherr design, electronically controlled end-cushioning
Hydraulic connections	pipes and hoses equipped with SAE connections
Pivots bucket-to-stick/ bucket-to-link	O-ring sealed and completely enclosed
Lubrication	connected to the centralized lubrication system, each lubrication point independently lubricated

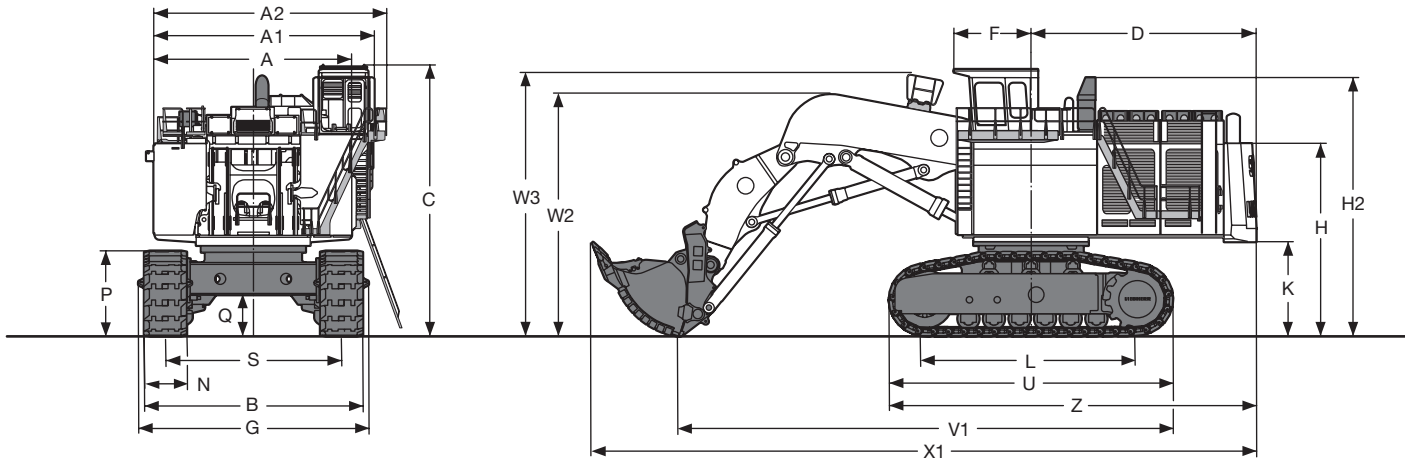
Dimensions



	mm/ft in
A	7550 mm/24'9"
A1	8408 mm/27'7"
A2	8880 mm/29'2"
C	10338 mm/33'11"
D	8600 mm/28'3"
F	2955 mm/ 9'8"
H	7347 mm/24'1"
H2	9638 mm/31'7"
K	3597 mm/11'10"
L	8100 mm/26'7"
P	3261 mm/10'8"

	mm/ft in
Q	1572 mm/ 5'2"
S	6700 mm/21'12"
U	10846 mm/35'7"
Z	14023 mm/46'0"
N	1630 mm/ 5'4"
B	8330 mm/27'4"
G	8778 mm/28'10"
V	16055 mm/52'8"
W	9834 mm/32'3"
W1	11063 mm/36'4"
X	23907 mm/78'5"

Dimensions

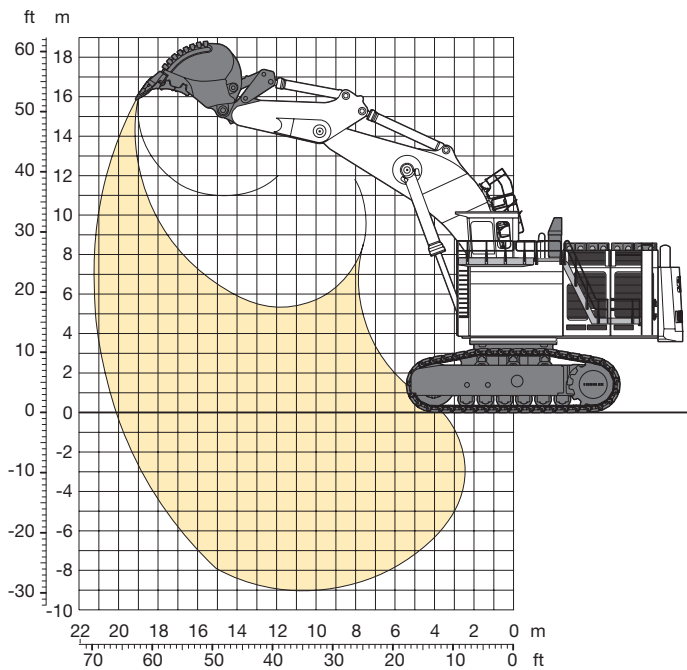


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U	10846 mm/35'7"
Z	14023 mm/46'0"
N	1630 mm/ 5'4"
B	8330 mm/27'4"
V1	18850 mm/61'10"
W2	9280 mm/30'5"
W3	10050 mm/32'12"
X1	25330 mm/83'1"

Backhoe Attachment

with Gooseneck Boom 11,75 m/38'7" and Stick 5,00 m/16'5"



Digging Envelope

Max. reach at ground level	20100 mm/66'11"
Max. teeth height	16200 mm/53'1"
Max. dump height	10900 mm/35'9"
Max. digging depth	9000 mm/29'5"
Max. digging force	1760 kN (179,4 t)/395,664 lbf (395,522 lb)
Max. breakout force	1920 kN (195,7 t)/431,633 lbf (431,479 lb)

Operating Weight and Ground Pressure

The operating weight includes the basic machine with backhoe attachment and a bucket.

Pad width	mm/in	1630/64"
Weight	kg/lb	793000/1,748,300
Ground pressure	kg/cm ² /psi	2,69/38.26

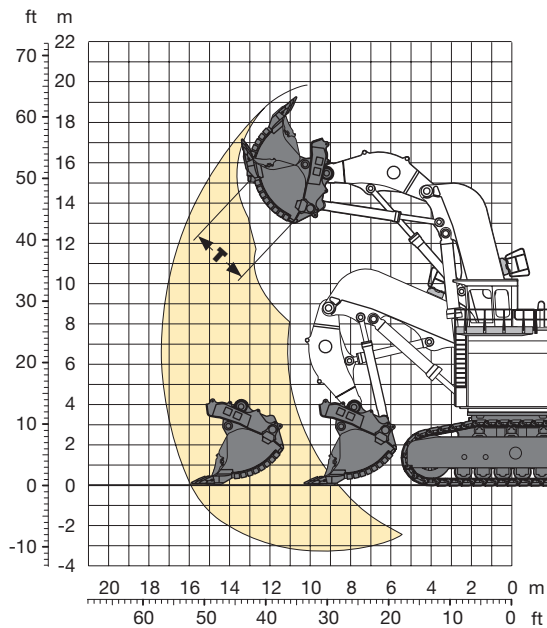
Bucket

Cutting width	mm/in	4800/189"	4800/189"
Capacity	m ³ /yd ³	38,00/49.7	42,00/54.9
Weight	kg/lb	44100/97,222	45120/99,471
Suitable for material up to a specific weight of	t/m ³ /lb/yd ³	2,00/3,371	1,80/3,034
Wear kit level		III	II

Additional buckets on request

Shovel Attachment

with Shovel Boom 8,55 m/28'1" and Stick 5,10 m/16'9"



Digging Envelope

Max. reach at ground level	15900 mm/52'1"
Max. dump height	13000 mm/42'6"
Max. crowd length	5600 mm/18'37"
Bucket opening width T	3000 mm/9'84"

Crowd force at ground level	2950 kN (300,7t)/663,187 lbf (662,960 lb)
Max. crowd force	3050 kN (310,91t)/685,668 lbf (685,433 lb)
Max. breakout force	2400 kN (244,65t)/539,542 lbf (539,357 lb)

Operating Weight and Ground Pressure

The operating weight includes the basic machine with shovel attachment and a bucket.

Pad width	mm/in	1630/64"
Weight	kg/lb	804000/1,772,520
Ground pressure	kg/cm ² /psi	2,72 / 38,70

Bottom Dump Bucket

Cutting width	mm/in	5600 /18'4"	5600/18'4"
Capacity	m ³ /yd ³	38,00	42,00
Weight	kg/lb	76000	770000
Suitable for material up to a specific weight of	t/m ³ /lb/yd ³	2,00	1,80
Wear kit level		III	II

Additional bottom dump buckets on request

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, too. 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 its 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 100 companies with over 30,000 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



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