

Crawler Excavator

R 966
Litronic®

Engine:
320 kW / 435 HP

Stage IIIA / Tier 3

Operating weight:

Backhoe: 68,550 – 73,100 kg

Shovel: 69,950 – 70,650 kg

Bucket Capacity:

Backhoe: 3.50 – 5.50 m³

Shovel: 3.50 – 5.00 m³



LIEBHERR

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Performance

Power, versatility
and productivity



Economy

Profitability – efficiency and reduced operating costs

Reliability

World-renowned robustness

Comfort

Spacious cab, ergonomic and high-visibility

Easy maintenance

Simple and safe service check points



Performance



**Power, versatility
and productivity**

High performance for maximum productivity

The R 966 crawler excavator is characterised by its maximum productivity. Whether it be in earthmoving or quarry applications, this 70 tonne class excavator has an optimised hydraulic system matched together with intelligent operating modes. This ensures the capability for operating on large construction sites and quarries.

Reliable working capacity

The Liebherr V8 engine on the R 966 is very productive thanks to its high torque even at low speeds. The digging and breakout forces of 308 kN and 354 kN respectively ensure fast and efficient working cycles. Equipped with a Liebherr bucket and tooth system it guarantees easy penetration into material for easy extraction. The R 966 stability and smooth movements of the machine ensure comfortable and fast loading of dump trucks.

Optimisation of hydraulic system for constant power

With an independent 3rd pump dedicated for swing the R 966 has optimal power. This provides maximum torque while swinging and the remaining two pumps still have full power for excavating and loading.

The versatility of the wide range of attachments

Thanks to the wide variety of attachments with optimised kinematics, the R 966 impresses with its versatility in all applications.

Liebherr Engine

- Compliant with Stage IIIA/Tier 3 emission standard
- Designed specifically for construction applications
- Liebherr Common-Rail injection system for optimised output
- Automatic fuel-saving idling system

Choice of work mode

- E Mode – Economy: for economical and ecologically-friendly operation. Minor restriction of power without affecting the load lifting and excavating capacities
- P Mode – Power: for high excavation capacities and difficult applications. Pump flow and power are not limited
- S Mode – Sensitivity: for precision jobs and loading of materials
- P+ Mode – Full Power: especially designed for increased power; only recommended for extreme applications

Floating Boom Function

- Increased hydraulic flow for the other cylinders (stick and/or bucket for example)
- More power available, making it easier to extract materials and reduce working cycle times
- Increased service life when a hydraulic hammer is used



Economy



**Profitability – efficiency and
reduced operating costs**

Low operating costs

Thanks to its high technology and innovation, the Liebherr France Company increases the performance of its machines while reducing their fuel consumption. Examples of this are the new diesel engine, automatic idling, electronic engine speed sensing control, Regeneration Plus function and the hydrostatic cooling system (fans operate only when necessary). Consequently, the reduced fuel consumption means less pollution.

LIDAT fleet and machine fleet management tool

To improve your machine management, Liebherr has developed its own data transmission system using the GPRS network. This system allows you to instantly know the position of your excavator via a web interface. Thanks to data transmission, the LIDAT system developed and manufactured by Liebherr keeps you informed about fuel consumption, number of service hours or machine faults, just to name a few. LIDAT allows you to be proactive and more responsive: organizing and maintaining your fleet for increased productivity.

An excellent after-sales service

The after-sales services can be customized to suit and respond to your specific needs. Several programs, such as ReMan, ReBuilt and Repair provide the perfect, economical solution, always including the manufacturer's quality and guarantee. A team of technicians, specialized to intervene on your machines, has all the latest-generation diagnostic tools, for a reduced down time of the machine. By following your chosen maintenance program, you will also obtain a higher resale price.

Liebherr tools

- Wide range of tools suitable for every type of application
- Tools designed for maximum productivity and durability
- Shape of buckets designed to assist the filling and stability of bulky materials during the transport stages
- Hydraulic quick coupler system



Liebherr genuine parts

- 98 % availability from central warehouse
- Overnight service*
- Online documentation system
- Reliable supply for years to come, even after series production has stopped



Original lubricants

- Everything from one source, from genuine parts to original lubricants
- Competent advice on parts and lubricants
- Lubrication schedule creation

* Availability depends on product and country



Reliability



**World-renowned
robustness**

A durable and proven design

In demanding applications Liebherr represents the benchmark for the robustness of its machines and the quality of the Liebherr components. Several casted parts are used for the design of the machine and are a testimony to the expertise and know-how of the manufacturer. With the large-sized attachments the R 966 crawler excavator is ideal for tough applications.

A proven production process and advanced technology

Liebherr development process integrates advanced digital tools in the fields of finite element computation, fatigue calculation and other simulation software. The results are then validated on special test benches prior to carrying out endurance tests on the entire machine in extreme conditions.

High-performance and durable undercarriage

Liebherr offers a large and unique range of welded or bolted undercarriages. The chamfered track pads have optimal manoeuvrability and are more resistant to wear on rocky terrain. The Liebherr travel drive is more powerful and better protected. The supporting rollers with double bearings guarantee improved load distribution and thus better durability over time.

Specific solutions tailored to customer requirements

In the case a customer has a special requests to address a specific application the customized solutions are designed and manufactured by Liebherr. This ensures successful integration and optimal performance of the excavator for the customer. As a sign of reliability Liebherr provides a manufacturer's warranty for the entire excavator including specific components as well as the electronics.

Dependable design

- Designed with casted bell-housings
- Features two separate pins
- Maximum strength even at high forces
- Long term advantages due to optimal stress-flow design

Undercarriage

- Robust design for greater resistance and a better distribution of forces
- Easy and safe transport thanks to integrated securing hooks
- Three different types of undercarriage, welded or bolted

Key components developed by Liebherr

- Perfect harmonization of the machine elements, designed specifically for earthmoving and quarry applications
- Combustion engine, hydraulic pumps, swing mechanism, cylinders and electronic components are designed and manufactured by Liebherr
- Purpose built options such as special attachment lengths
- Specific tools and custom protection can be added at the factory



Comfort



**Spacious cab, ergonomic
and high-visibility**

A spacious and ergonomic work station

The cab offers a generous space for maximum comfort. Equipped, among other things, with a pneumatic seat with heater as standard (optional with airconditioning), controls connected to the seat and high-performance automatic air-conditioning, the cab creates a pleasant working environment. All the controls are precisely laid out in an intuitive manner for greater responsiveness and concentration while working. The cab is mounted on viscoelastic studs for significantly lower vibration.

Fully automatic air-conditioning

The automatic air-conditioning with touchscreen controls has several ventilation outlets for optimum ambient air in the cab.

High resolution color touchscreen

The color touchscreen is a true human-machine interface for controlling several comfort functions, such as the radio, and more operational functions, such as work modes, tool types and even the backup camera.

A spacious and comfortable cab

The cab of the R 966 is the most spacious cab in 70 tonne machine class. It offers unrivalled comfort for higher operator productivity during long working hours. With the highest level of protection on the market the impact-resistant windows offer maximum safety.



Control screen

- 7" color touchscreen
- Several setting, control and surveillance options
- Robust and reliable design (Ingress Protection Rating IP65)
- Compatible high resolution video for displaying the rear camera image

Increased visibility

- Rear camera integrated in the counterweight as standard and camera for side area monitoring, for rear visibility and heightened operating safety
- Optimized design of the whole uppercarriage providing the operator with an improved field of vision
- Secure emergency exit through the rear window

New options

- Lighting in engine compartment
- LED headlights with adjustable current value
- 360° camera
- Follow me home (headlight cutoff delay)
- Windshield wiper on bottom part

Easy maintenance



**Simple and safe
service check points**

Ergonomic access and time-saving

For maximum safety during servicing different types of platforms are available with a large central platform in particular for access to engine and hydraulic system components. The two-piece engine hood facilitates easier opening and closing. Fluid level monitoring, such as the engine oil level or urea tank level can be carried out quickly and easily from the touchscreen in the cab. The automatic lubrication system reduces precious servicing time while guaranteeing optimal lubrication of the excavator.

Less maintenance for more productivity

The frequency of the service intervals is optimised to guarantee that each part is functioning optimally and that the maintenance tasks are only performed as necessary. Whether it is the interval for changing the hydraulic oil, which can be up to 6,000 hours with periodic oil analysis, or 3,000 hours without monitoring, or the interval for changing the engine oil, every 500 hours, everything has been taken into account to reduce the frequency of interventions and thus limit the machine's downtime and lower costs.

Expert advice and service provisions

Liebherr offers an expert advice service. Qualified personnel will help you make the appropriate decisions to meet your needs: sales arguments based on the terrain, service agreements, advantageous repair alternatives, original parts management, and remote data transfer for fleet management.

LiDAT data transfer system

- Complete fleet management, all from one source
- Optimized economical performance of the machine park thanks to detailed view of the distribution of operating states and times
- Reports on capacity commitment and the use of the machine park can be called up daily via the Web portal
- Precise location of the machine
- Regional delimitation and fixed downtimes increase safety and reliability



Central lubrication system

- The fully-automatic central lubrication system, fitted as standard, allows for rapid maintenance: It saves time-consuming individual lubricating and downtime
- All the lubrication points on the superstructure of the undercarriage and the attachment hydraulics are supplied, with the exception of the connecting plate
- Engine oil level visible on display



Liebherr warranties and remanufacturing

- Significant warranties for the complete excavator and key components
- Optimal planning of all servicing activities
- Liebherr remanufacturing programme for processing worn components, conforming to the highest industrial standards



Long live progress with the R 966

Equipment

- Cast steel components
- Greater resistance to stresses
- Longer service life
- Safety check valves for stick and boom cylinders with integrated regeneration for less fuel consumption

Tools

- Different levels of protection to suit the different areas of application
- New Liebherr Z-type tooth system





Operator's cab

- Comfortable and ergonomic design
- 7" high definition colour touch screen
- Wider for more comfort
- Impact resistant windows at the front and in the roof as standard
- Optional FOPS and FGPS protective guards

Accessibility

- Maintenance platform in the engine compartment
- Broad, anti-slip side catwalks (right and left) as standard

Undercarriage

- Robust structure thanks to the more rigid profile
- Molded two-tooth sprocket for a longer service life
- Two types of undercarriage available: an HD fixed-track gauge and LC-V variable-track gauge

Long live progress with the R 966 Shovel

Equipment

- Cast steel parts
- Parallel kinematics for powerful and regular digging
- Bucket cylinders positioned under the equipment for better protection against the elements
- Safety valves on boom cylinder for pipe burst protection

Buckets

- The front shovel is the perfect shape for digging deep into the material and for a high filling rate
- Several levels of protection for the front shovel, depending on requirements
- Type I: non-abrasive materials, such as limestone without flint
- Type II: Shot material, or easily breakable rock (classification 3 to 4 according to DIN 18300)
- Type III: Highly abrasive materials, such as rocks with a high silica content, sandstone, granite, etc.
- Different design of blades: straight blade (loading) semi-delta (compacted materials) delta (direct excavation)





Operator's cab

- Comfortable and ergonomic design
- 7" high-resolution colour touch screen
- Wider for more comfort
- Impact resistant windows at the front and in the roof as standard
- Optional FOPS and FGPS protection guards
- Operator's cab with a fixed riser for a full view over the work area

Technical Data

Engine

Rating per ISO 9249	320 kW (435 HP) at 1,800 RPM
Torque	2,750 Nm at 1,100 RPM
Model	Liebherr D9508
Type	8 cylinder V engine
Bore / Stroke	128 / 157 mm
Displacement	16.16 l
Engine operation	4-stroke diesel Common-Rail
Exhaust gas treatment	emission standard stage IIIA/Tier 3
Cooling system	water-cooled and integrated motor oil cooler, after-cooled and fuel cooled
Air cleaner	dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	1,140 l
Electrical system	
Voltage	24 V
Batteries	2 x 180 Ah / 12 V
Starter	24 V / 7.8 kW
Alternator	three-phase current 28 V / 140 A
Engine idling	sensor controlled
Motor management	connection to the integrated excavator system controlling via CAN-BUS to the economical utilisation of the service that is available

Hydraulic Controls

Power distribution	via control valves in single block with integrated safety valves
Flow summation	to boom and stick
Closed-loop circuit	for uppercarriage swing drive
Servo circuit	electro-hydraulic control
Attachment and swing	proportional via joystick levers
Travel	– with proportionally functioning foot pedals or adjusted with plugable levers – speed pre-selection
Additional functions	via foot pedals or joystick toggle switch

Hydraulic System

Hydraulic pump	two Liebherr variable flow, swashplate pumps
for attachment and travel drive	
Max. flow	2 x 410 l/min.
Max. pressure	350 bar
for swing drive	reversible, variable flow, swashplate pump, closed-loop circuit
Max. flow	245 l/min.
Max. pressure	370 bar
Pump regulation	electro-hydraulic with electronic engine speed sensing regulation, pressure compensation, flow compensation, high flow
Hydraulic tank	435 l
Hydraulic system	920 l
Hydraulic oil filter	2 full flow filters in return line with integrated fine filter area (5 µm)
Cooling system	cooler for water cooler, after-cooler and transmission pump oil and cooler for fuel, oil and condenser of air-conditioning with hydrostatically controlled fan drives
MODE selection	adjustment of engine and hydraulic performance via a mode pre-selector to match application, e.g. for especially economical and environmentally friendly operation or for maximum digging performance and heavy-duty jobs
RPM adjustment	stepless adjustment of engine output via RPM at each selected mode
Tool Control	10 preadjustable pump flows and pressures for add-on tools

Swing Drive

Drive	Liebherr swashplate motor with integrated brake valve
Transmission	Liebherr compact planetary reduction gear
Swing ring	Liebherr, sealed race ball bearing swing ring, internal teeth
Swing speed	0 – 5.6 RPM stepless
Swing torque	233 kNm
Holding brake	wet multi-disc (spring applied, pressure released)



Operator's Cab

Cab	work headlights integrated in the ceiling, a door with a sliding window (can be opened on both sides), large stowing and depositing possibilities, shock-absorbing suspension, sounddamping insulating, tinted laminated safety glass, separate window shades for the sunroof window and windscreen, cigarette lighter and 12 V plug, storage bins, lunchbox, cup holder
Operator's seat	Liebherr-Comfort seat, airsprung with automatic weight adjustment, vertical and longitudinal seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination, seat heating as standard
Control system	arm consoles, swinging with the seat
Operation and displays	large high resolution colour display with selfexplanatory operation via touchscreen, video, versatile adjusting, control and monitoring facilities, e.g. climate control, implement and tool parameters
Air-conditioning	standard automatic air-conditioning fully controlled on the display, ambient air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu. Ambient air and fresh air filters can be easily replaced and are accessible from outside and standing on the ground. Heating-cooling unit, designed for extreme outside temperatures, sensors for solar radiation, inside and outside temperatures



Undercarriage

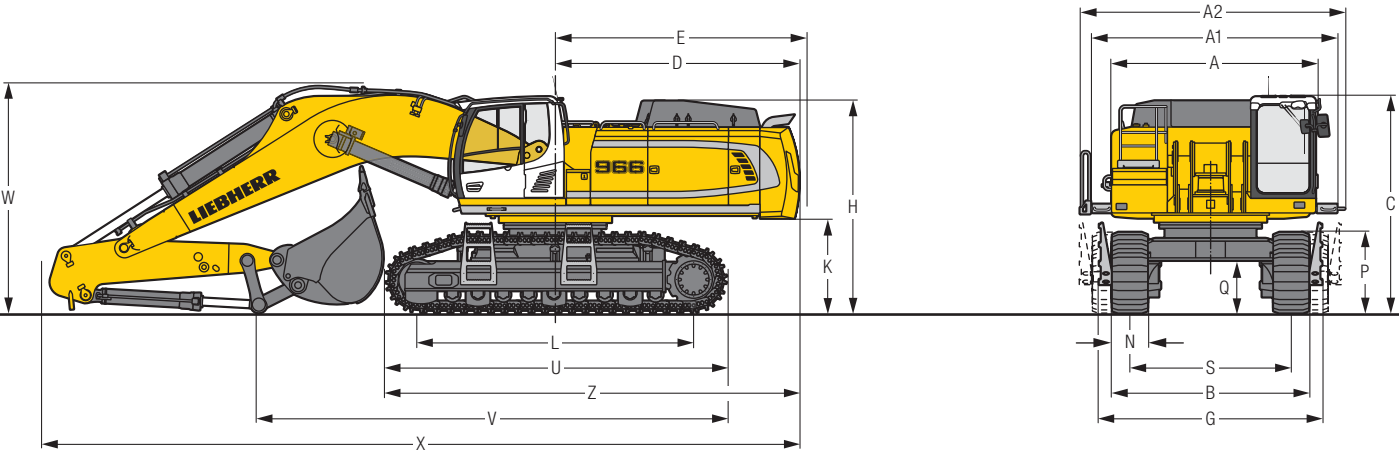
Versions	
HD	gauge 3,300 mm
LC-V	gauge 3,390 mm
Drive	Liebherr swashplate motors with integrated brake valves on both sides
Transmission	Liebherr compact planetary reduction gear
Travel speed	low range – 3.0 km/h high range – 4.1 km/h
Net drawbar pull on crawler	478 kN
Track components	D8K, maintenance-free
Track rollers / Carrier rollers	HD: 9/2 LC-V: 9/3
Tracks	sealed and greased
Track pads	double grouser
Holding brake	wet multi-disc (spring applied, pressure released)
Brake valves	outside the travel motor
Lashing eyes	integrated



Attachment

Type	combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with special seal-system, shock protection
Bearings	sealed, low maintenance
Lubrication	automatic central lubrication system (except link and tilt geometry)
Hydraulic connections	pipes and hoses equipped with SAE split-flange connections
Bucket	standard equipped with Liebherr tooth system

Dimensions



	HD	mm		
A		3,515		
A1		4,160		
A2		4,495		
C		3,530/3,725*		
D		4,135		
E		4,270		
H		3,450		
K		1,445		
L		4,575		
P		1,315		
Q		610		
S		3,300		
U		5,695		
N		500	600	750
B		3,920	3,920	4,050
G		4,330	4,330	4,330
Z		6,985		

* with FOPS top guard

** work position

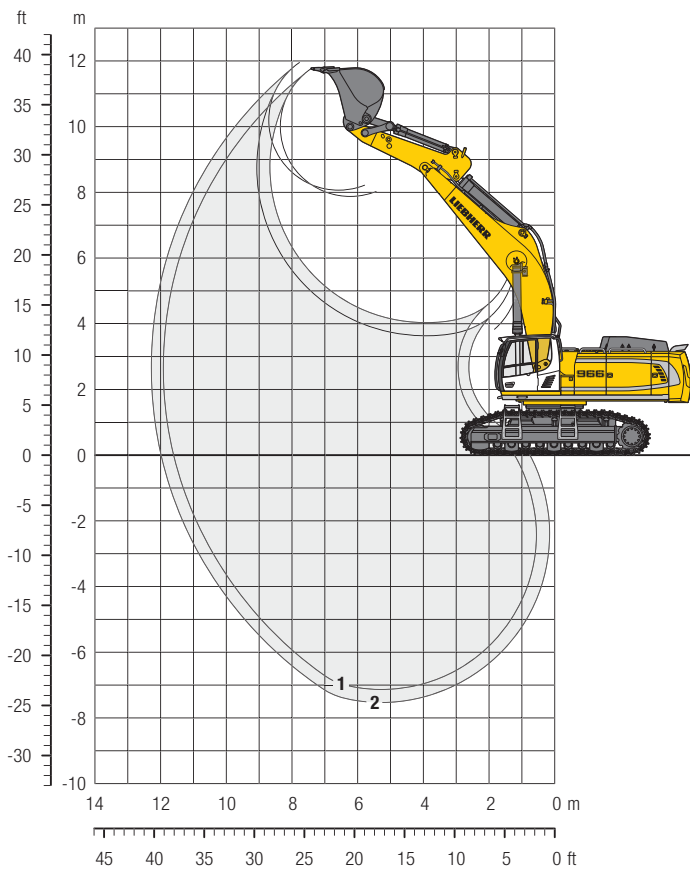
	LC-V	mm		
A		3,515		
A1		4,160		
A2		4,495		
C		3,680/3,875*		
D		4,135		
E		4,270		
H		3,600		
K		1,595		
L		4,690		
P		1,380		
Q		890		
S		2,730/3,390**		
U		5,775		
N		500	600	750
B		3,360/4,020**	3,360/4,020**	3,480/4,140**
G		3,780/4,440**	3,780/4,440**	3,780/4,440**
Z		7,025		

HD-Undercarriage		
	Stick length m	Mono boom 7.00 m mm
V	2.60	8,000
	3.00	6,150
W	2.60	3,900
	3.00	4,000
X	2.60	12,850
	3.00	12,750

LC-V-Undercarriage		
	Stick length m	Mono boom 7.00 m mm
V	2.60	7,950
	3.00	7,600
W	2.60	3,900
	3.00	4,000
X	2.60	12,850
	3.00	12,750

Backhoe Bucket

with Mono Boom 7.00 m and Counterweight 11.0 t



Digging Envelope

		1	2
Stick length	m	2.60	3.00
Max. digging depth	m	7.15	7.55
Max. reach at ground level	m	11.60	11.95
Max. dumping height	m	7.85	8.05
Max. teeth height	m	11.75	11.95

Digging Forces

		1	2
Digging force ISO	kN	308	282
	t	31.4	28.7
Breakout force ISO	kN	354	354
	t	36.1	36.1

Operating Weight and Ground Pressure

The operating weight includes the basic machine with counterweight 11.0 t, mono boom 7.00 m, stick 2.60 m and HD bucket 4.00 m³ (4,600 kg).

Undercarriage		HD			LC-V		
Pad width	mm	500	600	750	500	600	750
Weight	kg	68,550	69,250	70,250	71,300	72,000	73,100
Ground pressure	kg/cm ²	1.38	1.16	0.94	1.41	1.18	0.96

Optional: counterweight 14.5 t

(counterweight 14.5 t increases the operating weight by 3,500 kg and ground pressure by 0.07 kg/cm²)

Buckets Machine stability per ISO 10567* (75% of tipping capacity)

				HD-Undercarriage		LC-V-Undercarriage	
	Cutting width mm	Capacity ISO 7451 m ³	Weight kg	Stick length (m)		Stick length (m)	
				2.60	3.00	2.60	3.00
STD ¹⁾	2,150	4.00	3,600	▲	▲	▲	▲
	2,150	4.50	3,900	■	▲	▲	▲
	2,300	5.00	4,000	▲	■	■	■
	2,550	5.50	4,300	■	—	▲	—
HD ²⁾	2,150	3.50	4,450	▲	▲	▲	▲
	2,150	4.00	4,600	▲	■	▲	■
	2,150	4.50	4,750	■	■	▲	■
	2,300	5.00	5,100	■	—	▲	—
HDV ³⁾	2,150	3.50	5,000	▲	▲	▲	▲
	2,150	4.00	5,200	■	▲	▲	▲
	2,150	4.50	5,450	▲	—	■	—

* Indicated loads are based on ISO 10567, at maximum reach, and may be swung 360° on firm and even ground

¹⁾ Standard bucket with teeth Z 70

²⁾ HD bucket with teeth Z 90

³⁾ HDV bucket with teeth Z 90



Other buckets available upon request

Max. material weight ▲ = ≤ 2.0 t/m³, ■ = ≤ 1.8 t/m³, ▲ = ≤ 1.65 t/m³, ■ = ≤ 1.5 t/m³, — = not authorised



Lift Capacities

with Mono Boom 7.00 m and Counterweight 11.0 t

Stick 2.60 m

↓  m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		 m		m
9.0	HD											10.1*	10.1*	7.2
	LC-V											10.0*	10.0*	
7.5	HD							14.8*	14.8*			9.4*	9.4*	8.3
	LC-V							14.9*	14.9*			9.4*	9.4*	
6.0	HD			23.2*	23.2*	18.1*	18.1*	15.6*	15.6*	11.8*	11.8*	9.2*	9.2*	9.1
	LC-V			23.9*	23.9*	18.4*	18.4*	15.7*	15.7*	13.2*	13.2*	9.2*	9.2*	
4.5	HD					20.9*	20.9*	16.5	16.9*	12.5	14.8*	9.3*	9.3*	9.6
	LC-V					21.2*	21.2*	17.1*	17.1*	13.4	14.9*	9.3*	9.3*	
3.0	HD					21.5	23.5*	15.7	18.3*	12.1	15.4*	9.7*	9.7*	9.8
	LC-V					23.1	23.7*	16.9	18.4*	13.0	15.5*	9.7*	9.7*	
1.5	HD					20.6	24.8*	15.1	19.2*	11.8	15.9*	10.4*	10.4*	9.7
	LC-V					22.3	24.9*	16.3	19.3*	12.7	15.9*	10.5*	10.5*	
0	HD			21.8*	21.8*	20.2	24.9*	14.8	19.5*	11.6	15.9*	10.9	11.7*	9.4
	LC-V			23.6*	23.6*	22.0	24.8*	16.0	19.5*	12.6	15.8*	11.8*	11.8*	
-1.5	HD	23.2*	23.2*	29.9*	29.9*	20.3	23.7*	14.8	18.8*			11.9	13.8*	8.9
	LC-V	25.0*	25.0*	29.6*	29.6*	22.1	23.5*	16.0	18.6*			13.0	14.1*	
-3.0	HD	31.0*	31.0*	26.4*	26.4*	20.6	21.2*	15.1	16.6*			13.9	14.9*	8.0
	LC-V	30.5*	30.5*	25.9*	25.9*	20.8*	20.8*	16.2*	16.2*			14.9*	14.9*	
-4.5	HD			20.4*	20.4*	16.1*	16.1*					13.9*	13.9*	6.6
	LC-V			19.5*	19.5*	15.3*	15.3*					13.6*	13.6*	

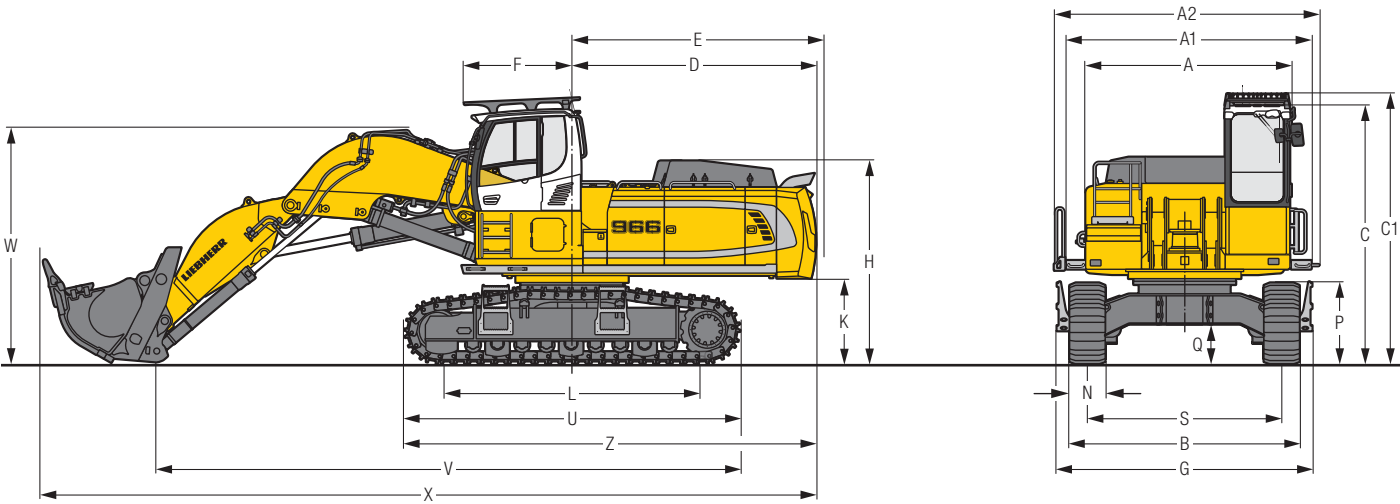
Stick 3.00 m

↓  m	Under-carriage	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		 m		m
9.0	HD							10.5*	10.5*			8.3*	8.3*	7.7
	LC-V							12.1*	12.1*			8.2*	8.2*	
7.5	HD							14.0*	14.0*			7.8*	7.8*	8.8
	LC-V							14.1*	14.1*			7.8*	7.8*	
6.0	HD					17.1*	17.1*	14.9*	14.9*	12.9	13.7*	7.6*	7.6*	9.5
	LC-V					17.4*	17.4*	15.0*	15.0*	13.7*	13.7*	7.6*	7.6*	
4.5	HD			28.2*	28.2*	19.9*	19.9*	16.3*	16.3*	12.5	14.3*	7.7*	7.7*	10.0
	LC-V			29.0*	29.0*	20.2*	20.2*	16.4*	16.4*	13.5	14.4*	7.7*	7.7*	
3.0	HD					21.7	22.7*	15.8	17.7*	12.1	15.0*	8.0*	8.0*	10.1
	LC-V					23.0*	23.0*	17.0	17.9*	13.0	15.1*	8.1*	8.1*	
1.5	HD					20.7	24.5*	15.1	18.9*	11.7	15.6*	8.6*	8.6*	10.1
	LC-V					22.4	24.6*	16.3	19.0*	12.7	15.7*	8.7*	8.7*	
0	HD			24.0*	24.0*	20.2	24.9*	14.7	19.4*	11.5	15.8*	9.6*	9.6*	9.8
	LC-V			25.1*	25.1*	22.0	24.8*	16.0	19.4*	12.5	15.8*	9.7*	9.7*	
-1.5	HD	22.4*	22.4*	31.3*	31.3*	20.1	24.1*	14.6	18.9*	11.5	15.1*	11.0	11.2*	9.3
	LC-V	23.7*	23.7*	31.0*	31.0*	21.9	23.9*	15.9	18.8*	12.5	15.0*	11.4*	11.4*	
-3.0	HD	34.9*	34.9*	27.9*	27.9*	20.4	21.9*	14.8	17.2*			12.7	14.2*	8.4
	LC-V	34.6*	34.6*	27.5*	27.5*	21.6*	21.6*	16.1	17.0*			14.1	14.4*	
-4.5	HD	27.7*	27.7*	22.5*	22.5*	17.7*	17.7*					13.8*	13.8*	7.2
	LC-V			21.7*	21.7*	17.1*	17.1*					13.7*	13.7*	

↓  Height  Can be slewed through 360°  In longitudinal position of undercarriage  Max. reach * Limited by hydr. capacity

The load values are quoted in tons (t) at stick end (without bucket), and may be swung 360° on firm and even ground. Adjacent values are valid for the undercarriage when in the longitudinal position. Capacities are valid for 600 mm wide track pads. Indicated loads are based on ISO 10567 standard and do not exceed 75 % of tipping or 87 % of hydraulic capacity (indicated via *). Without bucket cylinder, link and lever the lift capacities will increase by 1,150 kg. Lifting capacity of the excavator is limited by machine stability and hydraulic capacity. According to European Standard, EN 474-5: In the European Union excavators have to be equipped with an overload warning device, a load diagram and automatic safety check valves on hoist cylinders and stick cylinder(s), when they are used for lifting operations which require the use of lifting accessories.

Dimensions Front Shovel

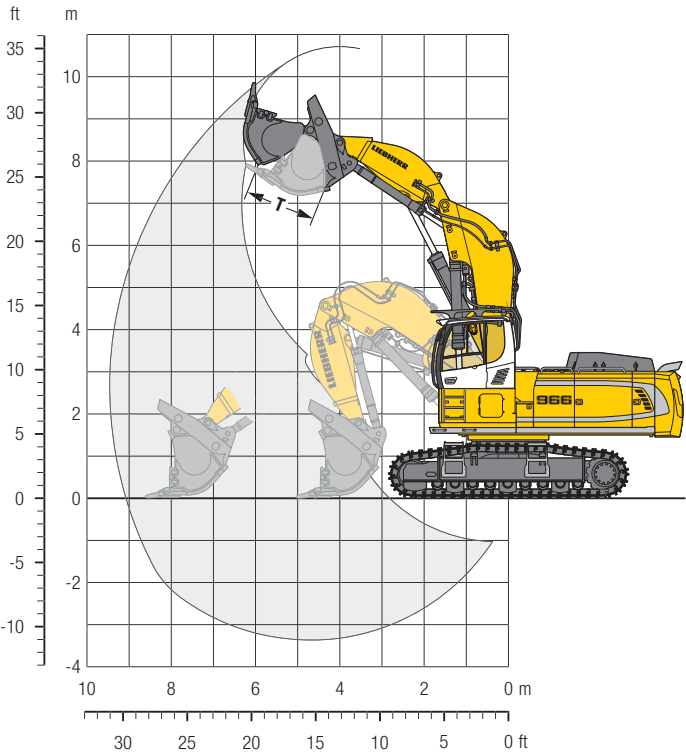


	HD	mm
A		3,515
A1		4,160
A2		4,495
C		4,330
C1		4,525
D		4,135
E		4,270
F		1,835
H		3,450
K		1,445
L		4,575

* transport position

	HD	mm
P		1,315
Q		610
S		3,300
U		5,695
N	500 600 750	
B	3,920 3,920 4,050	
G	4,330* 4,330* 4,330*	
Z		6,985
V		9,900
W		4,000
X		13,200

Front Shovel



Digging Envelope

Max. reach at ground level	9.10 m
Max. dumping height	7.15 m
Max. crowd length	3.60 m
Bucket opening width T	1,650 mm
Max. crowd force	500 kN/51.0 t
Max. crowd force at ground level	410 kN/41.8 t
Max. breakout force	370 kN/37.7 t

Operating Weight and Ground Pressure

The operating weight includes the basic machine with cab elevation 800 mm, shovel attachment and front shovel 4.00 m³ (7,000 kg), level II.

Undercarriage		HD	
Pad width	mm	500	600
Weight	kg	69,950	70,650
Ground pressure	kg/cm²	1.41	1.18

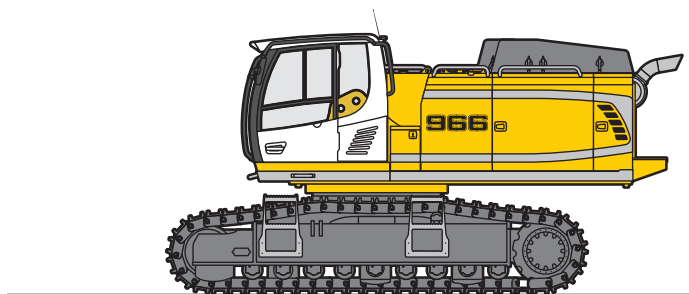
Front Shovels

				HD-Undercarriage
Cutting width	Capacity ISO 7451	Weight	Wear kit level	Shovel Attachment
mm	m³	kg		
2,350	3.50	6,600	II	▲
2,350	3.50	7,350	III	▲
2,600	4.00	6,500	I	▲
2,600	4.00	7,000	II	■
2,600	4.00	7,900	III	▲
2,600	4.50	6,700	I	▲
2,600	4.50	7,200	II	▲
2,600	4.50	7,800	III	■
2,600	5.00	6,800	I	■

Level I: For non-abrasive materials, such as limestone without flint inclusion, shot material or easily breakable rock, i.e., deteriorated rock, soft limestone, shale, etc.
Level II: For pre-blasted heavy rock, or deteriorated, cracked material (classification 3 to 4, according to DIN 18300)
Level III: For highly-abrasive materials such as rock with a high silica content, sandstone etc.

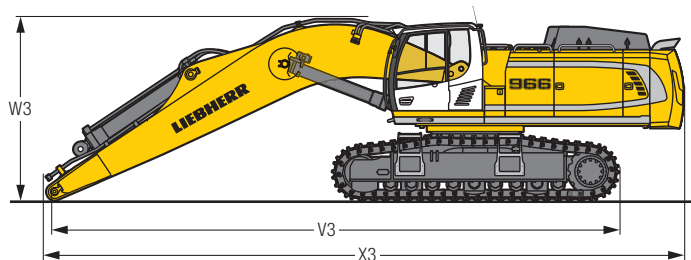
Max. material weight ▲ = ≤ 2.0 t/m³, ■ = ≤ 1.8 t/m³, ▲ = ≤ 1.65 t/m³, ■ = ≤ 1.5 t/m³

Dimensions and Weights



Basic Machine

Track pads	mm	500	600	750
Weight with HD-undercarriage	kg	40,750	41,450	42,400
Weight with LC-V-undercarriage	kg	43,450	44,150	45,250



Machine without Stick

		HD	LC-V
V3 Mono boom 7.00 m	mm	9,950	9,900
W3 Mono boom 7.00 m	mm	3,400	3,550
X3 Mono boom 7.00 m	mm	11,450	11,450



Cab Elevation

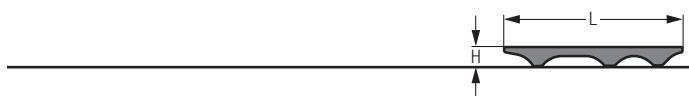
800 mm

L Length	mm	1,890
H Height	mm	930
Width	mm	1,370
Weight	kg	600



Counterweight

		Std	heavy
L Length	mm	770	770
H Height	mm	1,550	1,550
Width	mm	3,360	3,360
Weight	kg	11,000	14,500



Upper Protection Screen

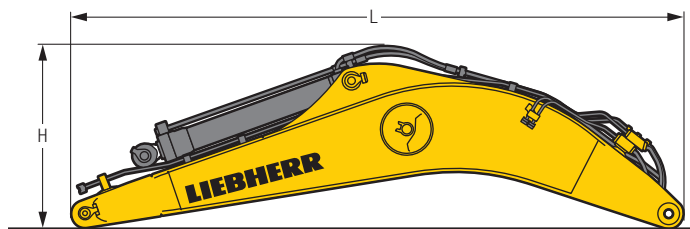
L Length	mm	1,960
H Height	mm	190
Width	mm	1,110
Weight	kg	75



Hoist Cylinders (two)

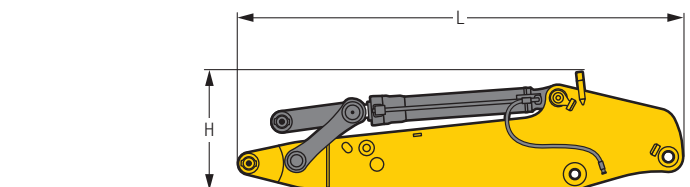
L Length	mm	2,650
H Height	mm	490
Width	mm	360
Weight	kg	2 x 750

Dimensions and Weights



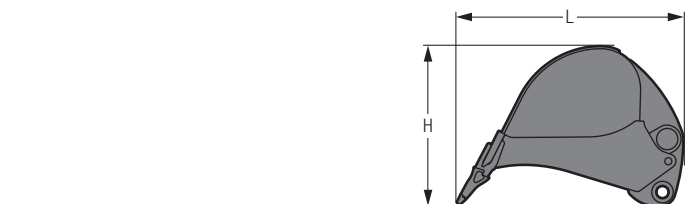
Mono Boom with Stick Cylinder

Stick length	m	7.00
L Length	mm	7,350
H Height	mm	2,200
Width	mm	1,450
Weight	kg	7,200



Stick with Bucket Cylinder

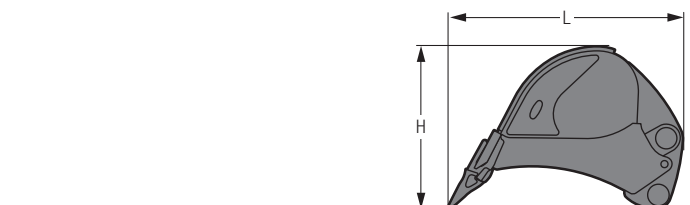
Stick length	m	2.60	3.00
L Length	mm	3,950	4,250
H Height	mm	1,250	1,250
Width	mm	950	950
Weight	kg	3,500	3,650



Backhoe Buckets

Std

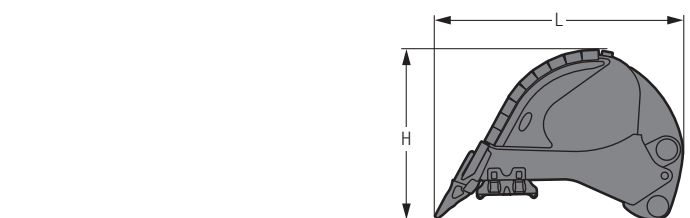
Cutting width	mm	2,150	2,150	2,300	2,550
Capacity	m³	4.00	4.50	5.00	5.50
L Length	mm	2,400	2,600	2,600	2,600
H Height	mm	1,700	1,700	1,700	1,750
Width	mm	2,200	2,200	2,350	2,600
Weight	kg	3,600	3,900	4,000	4,300



Backhoe Buckets

HD

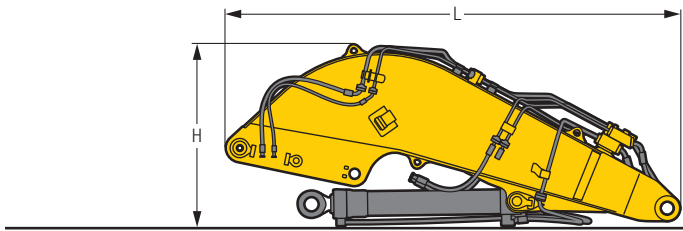
Cutting width	mm	2,150	2,150	2,150	2,300
Capacity	m³	3.50	4.00	4.50	5.00
L Length	mm	2,350	2,450	2,550	2,550
H Height	mm	1,650	1,700	1,750	1,750
Width	mm	2,200	2,200	2,200	2,350
Weight	kg	4,450	4,600	4,750	5,100



Backhoe Buckets

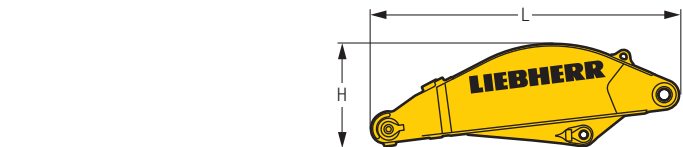
HDV

Cutting width	mm	2,150	2,150	2,150
Capacity	m³	3.50	4.00	4.50
L Length	mm	2,350	2,450	2,550
H Height	mm	1,650	1,700	1,750
Width	mm	2,200	2,200	2,200
Weight	kg	5,000	5,200	5,450



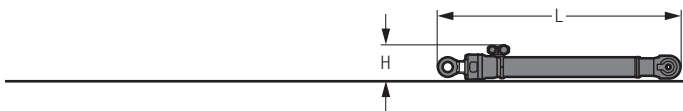
Shovel Boom

L Length	mm	4,750
H Height	mm	1,950
Width	mm	1,900
Weight without crowd cylinder	kg	5,050
Weight crowd cylinder	kg	650



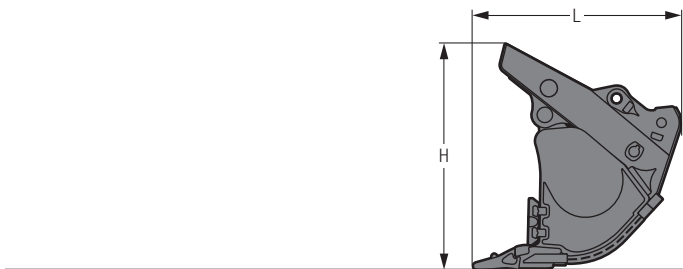
Shovel Stick

L Length	mm	3,250
H Height	mm	1,100
Width	mm	1,500
Weight	kg	2,500



Shovel Bucket Cylinders (two)

L Length	mm	2,550
H Height	mm	350
Width	mm	500
Weight	kg	2 x 400



Front Shovels

Cutting width	mm	2,350	2,600	2,600	2,600
Capacity	m³	3.50	4.00	4.50	5.00
L Length	mm	2,200	2,200	2,200	2,300
H Height	mm	2,400	2,400	2,400	2,500
Width	mm	2,400	2,650	2,650	2,650
Weight					
Level I	kg	–	6,500	6,700	6,800
Level II	kg	6,600	7,000	7,200	–
Level III	kg	7,350	7,900	7,800	–

Standard Equipment

Undercarriage

Chain guide 3 pieces
Lashing eyelets
Track rollers, lifetime-lubricated
Tracks, sealed and greased

Uppercarriage

Engine hood with two-part gas spring opening
Extended tool kit
Fuel tank cap lockable with padlock
Handrails
Non slip surfaces
Sound insulation
Storage space, lockable
Swing brake lock, maintenance-free
Walkway, both-sided

Hydraulic System

Filter with integrated fine filter area
Liebherr hydraulic oil
Pressure storage for controlled lowering of equipment with engine turned off
Pressure test ports for hydraulic
Shut-off valve between hydraulic tank and pumps
Work mode selector

Engine

Common-Rail injection system
Conform with stage IIIA/ Tier 3 emission standard
Dry-type air cleaner with pre-cleaner, main and safety elements
Engine cold starting aid
Engine idling, automatic, sensor-controlled
Fuel filter and water separator
Intercooler
Turbo charger

Operator's Cab

7" colour multifunction display with touchscreen
Air conditioning, automatic
Cigarette lighter and ashtray
Coat hook
Cup holder
Fuel consumption indicator on touchscreen
Headlights on cab, front, halogen, 2 pieces
Hydraulic suspension
Impact-resistant front window and roof window
Interior light
LiDAT Plus (Liebherr data transfer system) *
Mechanical hour meters, readable from outside the cab
Operator seat Comfort with longitudinal and vertical damping
Preparation for radio installation
Rain hood over front window opening
Rear view monitoring camera
Rear window emergency exit
Roll-down sun blinds (front and roof windows)
Rubber floor mat
Seat belt
Sliding windows in cab door
Storage bin
Storage space
Tinted windows
Wiper / washer

Attachment

Headlights on boom, halogen, 2 pieces
Liebherr central lubrication system, fully-automatic (except connecting link for bucket kinematics)
ReGeneration plus
Safety check valves for hoist cylinders
Safety check valves for stick cylinder

Non-exhaustive list, please contact us for further information.

* optionally extendable after one year

Options

Undercarriage

Chain guide 4 pieces
Chain guide full length
Protection plate for wrecking ball operation
Reinforced cover and base plate for undercarriage centre section
Travel drive protection
Travel gear support, reinforced

Uppercarriage

Cab elevation
Counterweight 14.5 t
Engine compartment lighting
Headlights with protection
Rock protection (swing gear and lubrication pipes)
Tank refilling pump fuel
Walkway, wide version with guard rail

Hydraulic System

Bypass filter for hydraulic oil
Liebherr hydraulic oil, adapted for extreme climate conditions
Preheating for hydraulic oil (240 V)

Engine

Automatic engine shut-down after idling
Preheating for fuel, coolant and engine oil (240 V)

Operator's Cab

Acoustic travel alarm deactivatable
Additional headlights cab, front and/or rear, halogen or LED, 2 pieces
Amber beacon on cabin
Auxiliary heater (programmable)
Bottom windscreen wiper
Camera for side area monitoring
Cool box (12 V)
Electronic immobilizer
Emergency stop button in cab
Falling objects protection structure FOPS
Fire extinguisher
Footrest
Front guard protection structure FGPS swivelable
Headlights on cab, front, LED, 2 pieces
Liebherr proportional control (mini-joysticks 2 axis)
Operator seat Premium with integrated ventilation
Radio Comfort
Roof window wiper
Sun visor

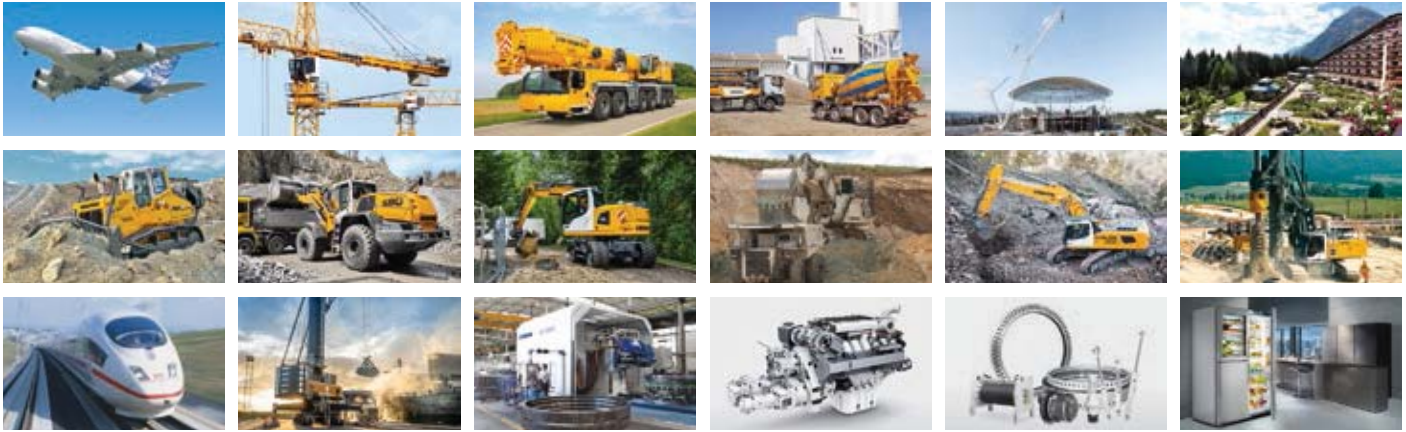
Attachment

Bottom protection for stick
Headlights on boom, LED, 2 pieces
High pressure circuit
Medium pressure circuit
Liebherr automatic lubrication system for connecting link
Liebherr bucket range
Liebherr quick coupler, hydraulic or mechanical
Liebherr tooth system
Overload warning device
Protection for piston rod, bucket cylinder
Protection for piston rod, crowd cylinder
Protection for piston rods, hoist cylinder
Security for hoist cylinders

Non-exhaustive list, please contact us for further information.

Options and/or special attachments, supplied by vendors other than Liebherr, are only to be installed with the knowledge and approval of Liebherr in order to retain warranty.

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

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