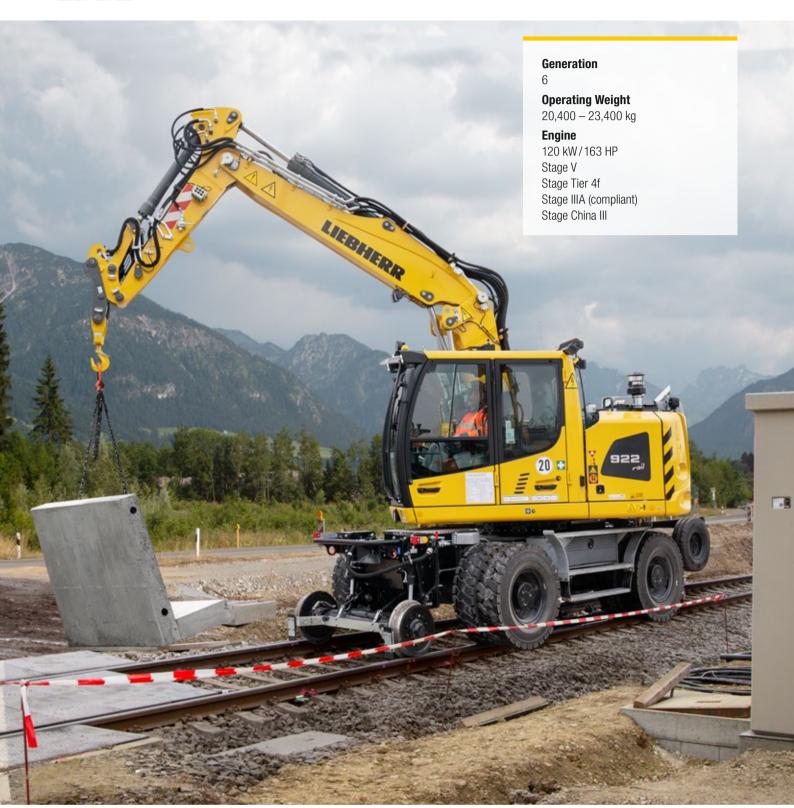
# Railroad Excavator

# **A 922 Rail**

Litronic®



# LIEBHERR

# **Performance**

Compact, Flexible – Perfect Combination for Maximum Performance

# **Economy**

A Sound Investment – Optimum Economy and Environmentally Friendly

# **Operating Weight**

20,400 - 23,400 kg

# Engine

120 kW/163 HP Stage V Stage Tier 4f Stage IIIA (compliant) Stage China III



# Reliability

Competence, Consistency, Innovation – Proven Experience

# Comfort

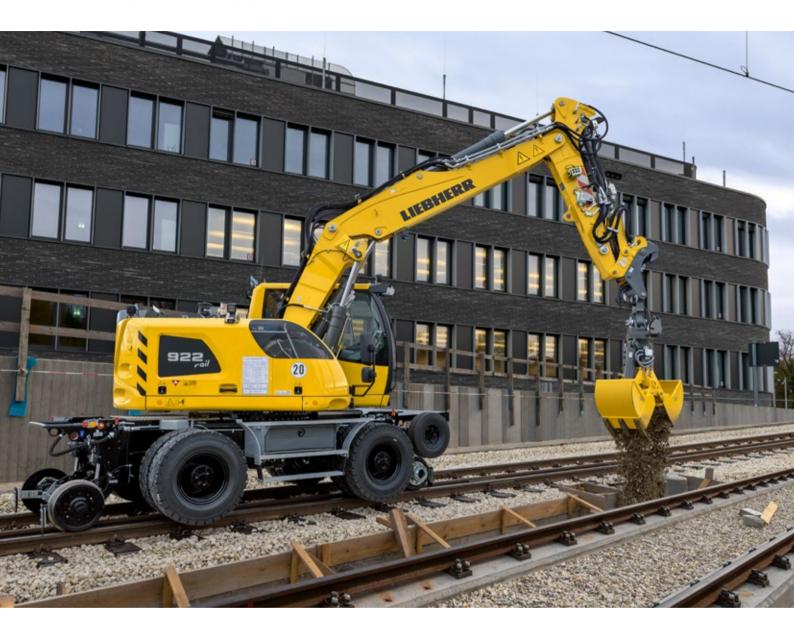
Ergonomic Excellence — Superior Cabin Design for Operator Comfort and Wellbeing

# Maintainability

Service Every Step of the Way – Simple, Fast and Reliable



# **Performance**



# **Compact, Flexible – Perfect Combination for Maximum Performance**

Decades of experience, consistent development work and striving to deliver maximum efficiency and performance have resulted in the A 922 Rail. The new generation continues the successful concept of its predecessor with new ideas and improvements. The basis is provided by the powerful construction machinery engine with its high torque which drives Liebherr's powerful, flexible variable-displacement pumps. This means consistently high power is available in every situation.

# Maximum Performance

### **Maximum Performance**

A sophisticated machine concept is essential to deliver optimal performance in payloads, stability and flexibility. The new A 922 Rail generation delivers continued, familiar, intelligent superstructure design with a separate boom cylinder mounting and a solid rail chassis to ensure reliable stability and maximum load capacity for track operations. In addition to standard ballasting, a revised heavy ballast weight with a reduced rear swivel radius of 2,000 mm is now also available. The maximum payloads can also be increased by a Power Lift mode and an optional 4-point support.

### Liebherr Undercarriage

The A 922 Rail is available with a range of undercarriage versions with different gauges, rail wheels and suspension systems enabling it to be used on tracks anywhere in the world. An independent variable-displacement pump for the rail chassis delivers outstanding traction and reliable drive power at all times. The permanent level regulation of the rail chassis enables the machine to travel smoothly on rails.

# Precise Work

### **Powerful Hydraulic Concept**

The design concept of the A 922 Rail Litronic was developed to deliver maximum performance and flexibility. The new 120 kW/163 HP construction machinery engine and the perfectly coordinated hydraulic system enables the machine to achieve even higher working speeds with the familiar fluid equipment movements. To achieve greater performance when using attachments, the flow volume of the time-tested double variable-displacement pump (with independent regulating circuits) has been increased to 2 x 220 l/min. Furthermore, the capacity can also be used as the sum of both hydraulic circuits (for example for pile-driving) as in the past. A second high pressure circuit means that three hydraulic functions can be controlled directly on special attachments (for example on tamping devices).

### **Working with Precision**

Many years of experience in the development and production of hydraulic excavators and systems allow us to harmonize the components perfectly. As a result, Liebherr hydraulic excavators feature rapid, fluid movements combined with high precision.







### **Constant Power**

- Powerful and robust construction machinery motor for continuous use at full load
- 4.5 I long-stroke engine for high torque and fuel-efficient work at low speeds
- Efficient turbo loader with intercooling high output at low fuel consumption

### **Improved Rail Chassis**

- Large rail wheels reduce wear and increase the machine's stability
- Easily interchangeable rail wheels make the machine suitable for a wide range of uses

### **Time-Tested Travel Drive**

- Time-tested travel drive with high traction for high travel speeds on the level and on gradients
- Drive power through direct contact between the rubber tyres and the rail delivers massive traction for towing trailers/wagons
- Newly developed drive shaft protection

# **Economy**



# A Sound Investment – Optimum Economy and Environmentally Friendly

Liebherr rail machines combine high productivity and flexibility with economy in factory-standard configurations. The A 922 Rail Litronic is specifically designed to be compatible with a variety of versatile attachments. The machine can work independently and flexibly even on inaccessible sections of track. On request, the efficiency of each wheeled excavator can be further boosted with a Liebherr quick coupling system, resulting in more return from each machine operator hour.

# Maximum Efficiency

### Available All Over the World

The new A 922 Rail Litronic railroad excavator delivers higher performance data with its new engine coupled with lower fuel consumption and can be supplied with an appropriate exhaust system to meet various national emissions regulations. In the future, this means that the machine will be available in countries with both high and low level regulations. To meet emissions stage V, Liebherr uses a newly developed SCRT system, consisting of an SCR catalytic converter system and a standard particulate filter.

### **Engine Idling**

The standard automatic idling function reduces the engine speed to idle as soon as the operator takes his hand from the joystick so that no hydraulic function is activated. Proximity sensors in the joystick levers restore the original engine speed as soon as the operator's hand is moved towards the lever again. This ensures that the set engine speed is available immediately. The result is a combination of fuel saving and reduced noise level.

# Increased Productivity

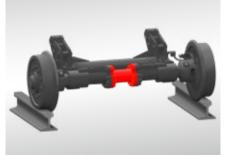
### **Liebherr Attachments and LIKUFIX**

To boost the productivity of its construction machines, Liebherr offers a broad range of attachments for different fields of application. Furthermore, the hydraulic excavators can also be equipped with the Liebherr LIKUFIX hydraulic quick coupling system. The combination of a hydraulic Liebherr quick coupling system with the LIKUFIX coupling block permits fast safe changing of mechanical and hydraulic attachments from the operator's cabin. This boosts productivity on average by 30%. The construction process is accelerated, and orders are completed faster. That enables more turnover to be achieved per machine.

### **Efficient Management**

LiDAT, Liebherr's own data transmission and positioning system, facilitates efficient management, monitoring and control of the entire fleet in terms of machinery data recording, data analysis, fleet management and service. All of the important machinery data can be viewed at any time in a web browser. LiDAT provides you comprehensive work deployment documentation, greater availability thanks to shorter downtimes, faster support from the manufacturer, quicker detection of strain/overload and subsequently a longer service life of the machine as well as greater planning efficiency.





### **Adjustable Gauge Axle**

- Can be adjusted to various gauges (narrow, standard and wide gauge)
- Simple adjustment of gauge
- Suitable for worldwide use



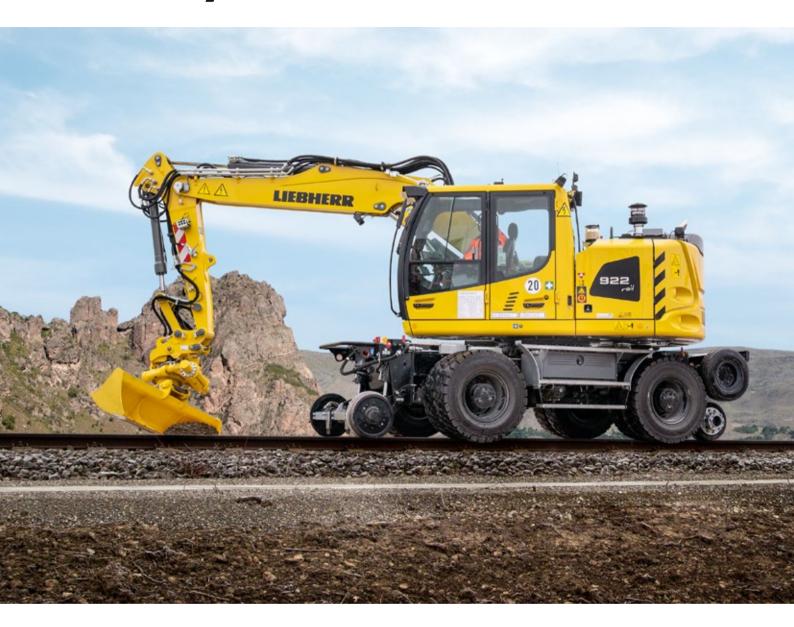
# Liebherr Quick Coupling System LIKUFIX

- Faster and safer changing of mechanical and hydraulic attachments from the cab
- Extended applications and control due to signal contact strip between the attachment and the hydraulic excavator
- Optical and acoustic check of the correct closure of the locking mechanism on the attachment to the quick coupler unit using two proximity sensors

### **Wagon Braking System**

- Availability of various wagon braking systems for safe railway operation
- Can be configured flexibly depending on wagon type (hydraulic/pneumatic/single or dual circuit)

# Reliability



# **Competence, Consistency, Innovation – Proven Experience**

Reliability contributes to safety and safety influences the success of a project. Liebherr stands for safety with reliable railroad machines used on rail, in rough terrain or on the road. Our comprehensive security functionality pays off.

# More Safety

### **Quality and Competence**

Liebherr has been developing and manufacturing hydraulic excavators since 1954 and has built railroad excavators since 1967. Our product experience, our understanding of technical design and feedback from customers, sales and service personnel formed the basis for our construction of pioneering ideas and have been part of our successful recipe throughout the company history. Key components such as electronic parts, the slewing ring, slewing drive and hydraulic cylinders are developed and manufactured in-house. Our great production depth guarantees maximum quality and ensures that the components are perfectly coordinated with each other.

### **Robust Construction**

All the steel components are designed and manufactured by Liebherr. High strength steel sheets designed to withstand the harshest requirements guarantee high torsion resistance and excellent absorption of forces to ensure a long service life.

# High Machine Availability

### Safety

Besides the performance and efficiency of a railroad excavator, the safety of the operator and the machine must always be paramount. Numerous equipment features such as the standard pipe fracture safety valves on the lifting and stick cylinders, electronic lift limitation, electronic swivel limitation, load moment limitation according to EN 15746-2, laminated safety glass smash-resistant, rollover protection structure (ROPS) and an emergency exit through the rear window provide maximum safety in all operations.

### **Light and Durable**

Various LED lights illuminate the working area to deliver excellent visibility and a high level of safety for both man and machine. Our LED lights not only look good, but also deliver excellent luminosity and an extremely long service life. To comply with the appropriate standards in the various destination countries, the machine can be fitted with additional railway-specific lighting at the factory.



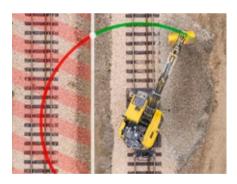
### QPDM – Quality and Process Data Management

- QPDM allows production data to be logged, documented and evaluated
- Automation of documentation and test specifications
- Ability to handle large quantities and maintain uniform high quality



### **Rail Wheel Brakes**

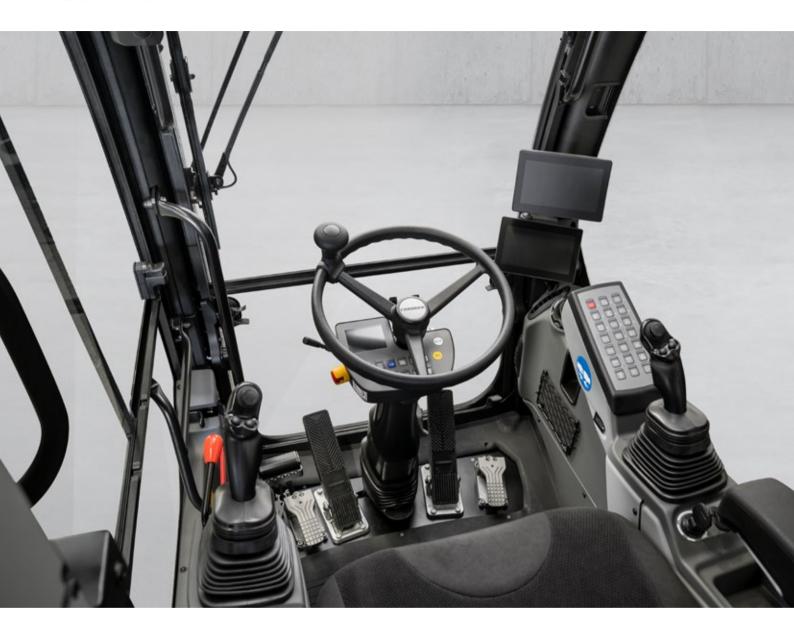
- Standard integral brakes in the rail wheels reduce the braking distance in every situation to enhance safety on the tracks
- The brakes are also effective when the machine is raised



# Safety Systems Straight from the Manufacturer

- The basic machine, rail undercarriage and safety systems all come from a single source
- The safety concept includes technologies such as load torque limitation, lift limitation in height, swivel limitation and the virtual wall
- Specially developed for use on rails

# **Comfort**



# **Ergonomic Excellence – Superior Cabin Design** for Operator Comfort and Wellbeing

The modern interior design of the large Liebherr double cab with standard roll-over protection system (ROPS) provides conditions to work in comfort, which enhances concentration and productivity. Thanks to the double seat layout, the cab supports two-man operation required in many countries in which another person monitors the rear and can press a horn or emergency stop switch in an emergency situation. Access to the cab is made easy for both seats by entry lighting. Clarity, ergonomics and safety are the properties we strive for when creating the control concept. That means we avoid time-consuming re-familiarisation phases and allow the operator to work efficiently in the machine straight away.

# First-Class Cab

### **Automatic Air Conditioning**

The automatic air conditioning offers intuitive operation. Temperature, blower settings and the various air nozzles in the head, chest and foot areas are set using the touch screen on the indicating unit. The defrost/defog one button function clears fogged up windows in the shortest possible time. The filter for the cab air can be changed easily and conveniently from the outside.

### **Operator Seats**

The Standard, Comfort and Premium operator's seat versions deliver maximum comfort. Even the standard operator seat offers an extensive range of features such as air suspension, seat heating, headrest, lumbar support and many more. Luxuries which we believe every construction machine should provide.

### **Low Noise Levels**

The use of viscoelastic mounts, good insulation and lownoise diesel engines minimises noise emissions and vibrations. The noise levels are just 70 dB(A) in the operator's cab and 101 dB(A) outside.

# Comfortable Operation

### Radio with Hands-free Device

The optional Liebherr radio is MP3-compatible, has a USB connection and can be used as interface for the integral hands-free kit. If the machine operator connects his smartphone to the radio using Bluetooth, the touchscreen can be used to control phone calls. This means that all media, including the radio, MP3 or phone calls, are controlled using a central unit which provides greater clarity, simplicity and comfort.

### **Excellent All Around Vision**

The familiar large windows combined with the standard rear and side cameras deliver excellent visibility of the working and slewing areas. This visibility enhances the operator's safety and ensures that the machine can be handled safely at all times.



### Joystick with **Proportional Control**

- Good functionality with streamlined. ergonomic design
- 4 way mini joystick enables versatile control possibilities without having to encompass, for example, steering, outriggers or attachments
- Two buttons and a rocker switch also increase the number of functions



### **Easy Access**

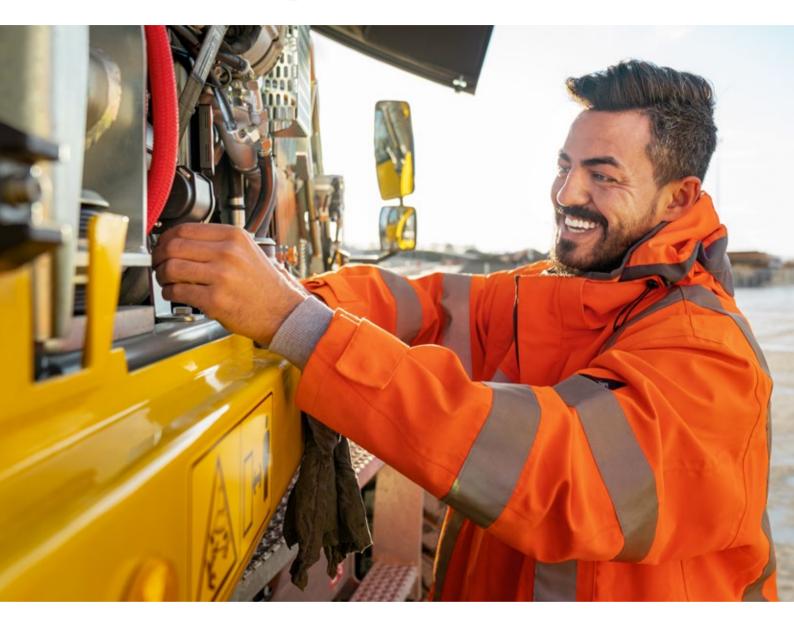
- Convenient, safe entry and exit into and out of the cab thanks to greater width provided by the folding arm console
- · Three standard steps with non-slip galvanised plates to enhance safety
- LED entry lighting can be controlled from outside



### Intuitive Operation

- Display of the machine data and camera image on two 7-inch displays with touch screen and direct access via menu bar
- 20 user-programmable memory slots for attachments, which can be used for quickly and easily setting the oil pressure and oil flow at the push of a button when changing attachments
- Quick access keys can be programmed by the machine operator for frequently used menu items

# Maintainability



# Service Every Step of the Way – **Simple, Fast and Reliable**

Liebherr railroad excavators are not only powerful, robust, precise and efficient, they also have an impressive service-oriented design. Maintenance is performed quickly, simply and safe. This reduces maintenance costs and keeps machine downtimes to a minimum.

# Simplified Maintenance Concept

### Service-based Machine Design

The service-based machine design guarantees short servicing times, thus minimising maintenance costs due to less downtime. All the maintenance points are easily accessible from the ground and easy to reach due to the large, wide-opening service doors. With the new generation, the accessibility to important components is even further improved. Air, oil and fuel filters, the main battery switch, the lubricating nipple for the oscillating axle and the pilot valves for emergency actuation are much easier to access. This means that service work can be completed even more quickly and efficiently.

### **Hydraulic Oils with Added Value**

Liebherr hydraulic oils achieve a service life of 6,000 operating hours plus. Instead of having defined change intervals, the results of the oil analysis (every 1,000 operating hours or after one year) determine when the oil needs to be changed. The unique Liebherr Hydraulic Plus oil can even achieve a service life of 8,000 operating hours and more at the same time as reducing fuel consumption by up to 5%.

# Your Competent Service Partner

### Remanufacturing

The Liebherr remanufacturing program offers cost-effective reconditioning of components to the highest quality standards. Various reconditioning levels are available including replacement components and general overhaul or repair. The customer receives components with original part quality at a reduced cost.

### **Competent Advice and Service**

Competent advice is a given at Liebherr. Experienced specialists provide advice for your specific requirements; application-oriented sales support, service agreements, cost effective repair alternatives, original parts management, as well as remote data transmission for machine planning and fleet management.



### Lubricating **During Work**

- Fully automatic central lubrication system for the equipment and slewing ring
- Can be optionally expanded to the connecting link and quick coupler
- The grease tank of the central lubrication system is located behind the left service door
- Works without interrupting work for higher productivity



### Maintenance without Draining Oil

- Standard shut-off valve for disconnecting the oil tank from the hydraulic system
- For simple maintenance work on the hydraulic components without draining the hydraulic oil
- Reduced maintenance time for higher machine availability



# **Rapid Spare Parts Service**

- 24-hour delivery: Spare parts service is available for our dealers around the clock
- Electronic spare parts catalogue: Fast and reliable selection and ordering via the Liebherr online portal
- With online tracking, the current processing status of your order can be viewed at any time

# Railroad Excavator A 922 Rail Litronic **Overview**

### **Superbly Designed Equipment** for Maximum Reliability

- · Second high pressure circuit
- Safety features such as load torque limitation, lift limitation in height, swivel limitation and the virtual wall
- Liebherr hydraulic cylinders
- Pipe fracture guards for hoisting, adjustment and stick cylinders
- · Optimised bucket stick for application under electrical overhead lines
- Liebherr quick coupling systems (optional)
- · Wide selection of Liebherr attachments (optional)
- Tool Control for attachments

### **Sophisticated Maintenance Concept for Maximum Productivity**

- Fully automatic central lubrication system for uppercarriage and equipment
- Large, wide-opening service doors
- · Central maintenance points accessible from the ground
- · Shut-off device for hydraulic oil
- · Liebherr hydraulic oil, biologically degradable (optional)
- Cab air filter can be replaced quickly and conveniently from outside
- Two lockable storage boxes
- Interchangeable rail wheels





### **Ergonomic Operator's Work Station for Maximum Comfort**

- Double cab with passenger seat
- Operator's seat Comfort or Premium (optional)
- · Automatic air-conditioning system
- Two 7" high resolution colour display with touchscreen operation
- Operator profile, personalised
- · Resonant arm console and ergonomic joysticks
- Proportional control with 4-way mini-joystick
- Large windows
- Windshield wiper with interval switching and washer, roof window and rear window
- Convenient radio operation with hands-free device
- LED headlights
- Rear and side camera monitoring
- · Lighting for cabin access

### **Intelligent Technology for Maxi**mum Performance and Economy

- Diesel engine with up to date emissions stage V, Tier 4 final, Stage IIIA (compliant) and China III
- Dual-circuit load-sensing-control
- Liebherr-Power-Efficiency (LPE)
- MODE selection (Sensitive, ECO, Power, Power-Plus)
- · Sensor-controlled automatic idling system
- · Double variable-displacement pump (with independent regulating circuits)
- Different gauges and rail wheels possible
- Independent variable-displacement pump for the rail undercarriage
- Improved rear ballast (heavy) with 2,000 mm rear swivel radius (optional)

# **Technical Data**

Diesel Engine	<b>!</b>		
Rating per ISO 9249	120 kW (163 HP) at 1,900 RPM		
Model	,		
Stage V/Tier 4f	D924 - FPT motor designed for Liebherr		
Stage IIIA (compliant)/ China III	Cummins QSB4.5		
Туре	4 cylinder in-line		
Bore/Stroke	104/132 mm (FPT)		
	107/124 mm (Cummins)		
Displacement	4.5		
Engine operation	4-stroke diesel		
	Common-Rail		
	turbo-charged and after-cooled		
	reduced emissions		
Air cleaner	dry-type air cleaner with pre-cleaner, primary		
	and safety elements		
Engine idling	sensor controlled		
Electrical system			
Voltage	24 V		
Batteries	2 x 135 Ah/12 V		
Alternator	three-phase current 28 V/140 A (FPT)		
	three-phase current 28 V/110 A (Cummins)		
Stage V			
Harmful emissions values	according to regulation (EU) 2016/1628		
Emission control	Liebherr-SCRT technology		
Fuel tank	250 l		
Urea tank	46 I		
Stage Tier 4f			
Harmful emissions values	in accordance with EPA/CARB-40CFR stage Tier 4f		
Emission control	Liebherr-SCR technology		
Fuel tank	250 I		
Urea tank	46		
Stage IIIA (compliant)			
Harmful emissions values	in accordance with ECE-R.96 Power Band I		
Fuel tank	250		
Stage China III			
Harmful emissions values	in accordance with GB 20891-2014 stage III		
Fuel tank	250 l		

# ⇒ Cooling System

• •	
Diesel engine	water-cooled
	compact cooling system consisting cooling unit
	for water, hydraulic oil and charge air with step-
	less thermostatically controlled fan, fans for
	radiator cleaning can be completely folded away

# Hydraulic Controls

Power distribution	via control valves with integrated safety valves, simultaneous and independent actuation of chassis, swing drive and equipment		
Servo circuit			
Equipment and swing	with electro-proportional joystick levers		
Chassis	electro-proportional via foot pedal, dedicated control and display unit for rail undercarriage operation		
Additional functions	via switch or electro-proportional foot pedals		
Proportional control	proportionally acting transmitters on the joy-		

# Hydraulic System

— Hydradiio Cycloiii				
Hydraulic pump				
for equipment	2 Liebherr axial piston variable displacement			
and travel drive	pumps (double construction)			
Max. flow	2 x 220 l/min.			
Max. pressure	350 bar/PowerLift 375 bar			
Hydraulic pump	Liebherr-Synchron-Comfort-system (LSC) with			
regulation and control	electronic engine speed sensing regulation,			
	pressure and flow compensation, torque con-			
	trolled swing drive priority			
Hydraulic tank	130			
Hydraulic system	max. 300 l			
Hydraulic oil filter	1 main return filter with integrated partial micro			
	filtration (5 µm)			
MODE selection	adjustment of engine and hydraulic performance			
	via a mode pre-selector to match application,			
	e.g. for especially economical and environmen-			
	tally friendly operation or for maximum digging			
	performance and heavy-duty jobs			
S (Sensitive)	mode for precision work and lifting through very			
	sensitive movements			
E (Eco)	mode for especially economical and environ-			
	mentally friendly operation			
P (Power)	mode for high performance with low fuel con-			
	sumption			
P+ (Power-Plus)	mode for highest performance and for very			
	heavy duty applications, suitable for continuous			
	operation			
Engine speed and	stepless alignment of engine output and			
performance setting	hydraulic power via engine speed			
	Tool Control: 20 preadjustable pump flows and			
	pressures for add-on attachments			

# Swing Drive

Drive	Liebherr axial piston motor with integrated
	brake valve and torque control, Liebherr plane- tary reduction gear
Swing ring	Liebherr, sealed race ball bearing swing ring,
	internal teeth
Swing speed	0 – 9.0 RPM stepless
Swing torque	54 kNm
Holding brake	wet multi-disc (spring applied, pressure released)
	pedal controlled positioning swing brake

# Operator's Cab

Operator s ca	
Double cabin	ROPS safety cab structure (roll-over protection system for complete operator's cab), shockabsorbing suspension, sound damping insulating, electrically unlockable door, two-piece retractable front windscreen, tinted laminated safety glass, separate window shades for the sunroof window and windscreen, roof window and front windscreen wipers, work headlights integrated in the ceiling, ambient lighting for night operations in addition to interior lighting, access lighting outside, operator's door with a sliding window (can be opened on both sides), large stowing and depositing possibilities, 12 V/24 V electrical connections
Operator's seat Standard	air cushioned operator's seat with 3D-adjust- able armrests, headrest, lap belt, seat heater, manual weight adjustment, adjustable seat cushion inclination and length and mechanical lumbar vertebrae support
Operator's seat Comfort (Option)	in addition to operator's seat standard: lockable horizontal suspension, automatic weight adjust- ment, adjustable suspension stiffness, pneu- matic lumbar vertebrae support and passive seat climatisation with active coal
Operator's seat Premium (Option)	in addition to operator's seat comfort: active electronic weight adjustment (automatic re- adjustment), pneumatic low frequency suspen- sion and active seat climatisation with active coal and ventilator
Two-man operation	ergonomical co-operator's seat with lap belt as well as signal horn and emergency stop
Control system	joysticks with control consoles and swivel seat, folding left control console
Operation and displays	large high-resolution operating unit with touch- screen control, self-explanatory, numerous setting, control and monitoring options, e.g. air conditioning control, fuel consumption, machine and attachment parameters as well as safety functions such as load display, load torque limitation, lift and swivel limitation or virtual wall, separate display for rear view and side view monitoring, dedicated control and display unit for rail undercarriage operation with emergency stop function
Air-conditioning	complete air-conditioning for operator and co-operator, automatic air-conditioning, recirculated air function, fast de-icing and demisting at the press of a button, air vents can be operated via a menu; recirculated air and fresh air fillers can be easily replaced and are accessible from the outside; heating-cooling unit, designed for extreme outside temperatures, sensors for solar radiation, inside and outside temperatures
Refrigerant	R134a
Global warming potential	1,430
Quantity at 25 °C	1,300 g
CO <sub>2</sub> equivalent	1.859 t
Vibration emission* Hand/arm vibrations	< 2.5 m/s <sup>2</sup>
Whole-body vibrations	< 0.5 m/s <sup>2</sup>
Measuring inaccuracy	according with standard EN 12096:1997

# ●<del>=</del>● Undercarriage

	-
Drive	oversized two speed power shift transmission with additional creeper speed, Liebherr axial piston motor with functional brake valve on both sides
Pulling force	117 kN
Travel speed	<ul> <li>0 - 3.5 km/h stepless (creeper speed off-road)</li> <li>0 - 7.0 km/h stepless (off-road)</li> </ul>
	0 – 13.0 km/h stepless (creeper speed on-road) 0 – 20.0 km/h stepless (road travel)
	0 - max. 25.0 or 30.0 km/h Speeder (Option)
Driving operation	automotive driving using accelerator pedal, cruise control function: storage of variable accelerator pedal positions, both off-road, on-road and on-rail
Axles	manual or automatic hydraulically controlled front axle oscillation lock
Option	axle with wheel head width 2,100 mm and differential lock 100%
Service brake	two circuit travel brake system with accumulator road axle wet and backlash-free disc brake; rail wheels with drum brake
Holding brake	wet multi-disc (spring applied, pressure released)
Wagon braking system	1 circuit compressed air brake for railway wagon
Option	2 circuit compressed air brake for trailer
Rail guide	standard gauge 1,435 mm
Option	width gauge, narrow gauge type friction drive
Stabilization	without outriggers

# Equipment

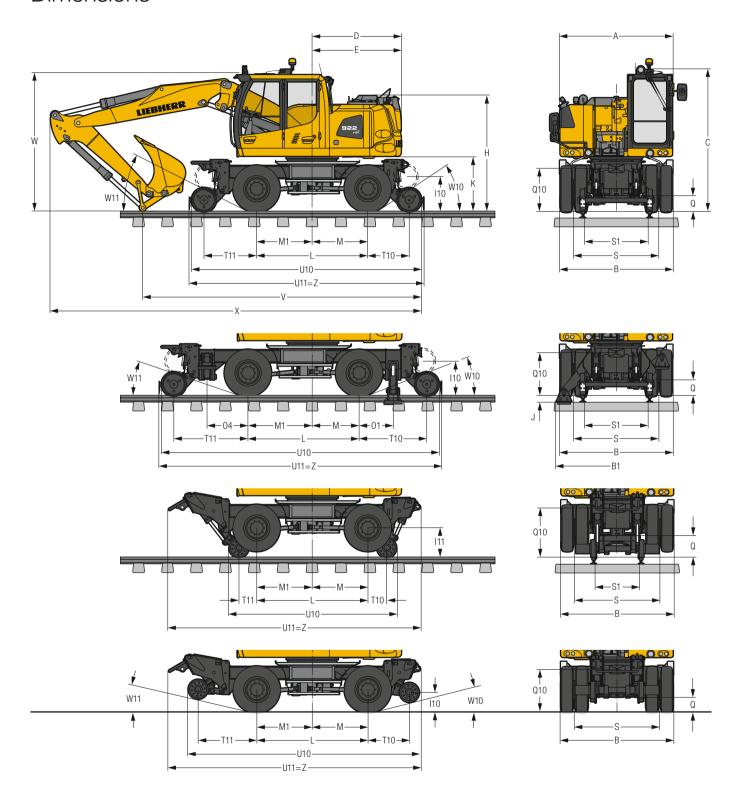
Туре	high-strength steel plates at highlystressed points for the toughest requirements. Complex and stable mountings of equipment and cylin- ders
Hydraulic cylinders	Liebherr cylinders with special sealing and guide system and, depending on cylinder type, shock absorption
Bearings	sealed, low maintenance

# Complete Machine

Lubrication	Liebherr central lubrication system for upper- carriage and equipment, automatically	
Noise emission		
ISO 6396	$L_{pA}$ (inside cab) = 70 dB(A)	
2000/14/EC	L <sub>WA</sub> (surround noise) = 101 dB(A)	

 $<sup>^{\</sup>star}$  for risk assessment according to 2002/44/EC see ISO/TR 25398:2006

# Dimensions

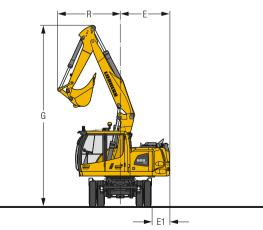


	without outriggers	Rear + front	Narrow gauge	Narrow gauge
	(Asym./Sym. Rail)	outriggers	(Asym./Sym. Rail)	(Asym./Sym. Rail)
			rail	road
	mm	mm	mm	mm
Α	2,525	2,525	2,525	2,525
В	2,550	2,550	2,550	2,550
B1	_	2,700	_	_
C*	3,185	3,185	3,335	3,185
D	2,000	2,000	2,000	2,000
E	2,000	2,000	2,000	2,000
Н	2,600	2,600	2,745	2,600
I10	780	780	-	440
I11	_	_	655	_
J	_	145	-	_
K	1,235	1,235	1,380	1,235
L	2,500	2,500	2,500	2,500
M	1,050/1,250**	1,050	1,050/1,250**	1,050/1,250**
M1	1,450/1,250**	1,450	1,450/1,250**	1,450/1,250**
01	_	770	_	_
04	-	920	-	_
Q	190	190	135	345
Q10	965	965	1,115	965
S	1,912	1,912	1,912	1,912
S1	1,435	1,435	1,000	_
T10	930	1,525	430	935
T11	1,180	1,675	400	1,320
U10	5,185	6,270	3,780	5,200
U11	5,315	6,395	5,670	5,670
W10	33.8°	20.7°	_	15.2°
W11	26.5°	18.8°	-	13.7°
Z	5,315	6,395	5,670	5,670

* 1	vithout sianal	liaht DB	and ambe	r beacon: ca	an be rem	oved for transport
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	Stick	Two-piece boom 5.05 m without outriggers without outriggers Rear + front			
		(Asymetric Rail)	(Symetric Rail)	outriggers	
	m	mm	mm	mm	
V	1.85	6,300	6,500	7,450*	
	2.05	6,050	6,250	7,200*	
	2.25	6,550*	6,100	7,050*	
W	1.85	3,000	3,000	3,000*	
	2.05	3,050	3,050	3,050*	
	2.25	3,100*	3,100	3,100*	
X	1.85	8,300	8,500	9,450*	
	2.05	8,150	8,350	9,300*	
	2.25	8,150*	8,350	9,350*	

	Stick	Offset two-piece boom	5.00 m	
	m	without outriggers (Asymetric Rail) mm	without outriggers (Symetric Rail) mm	Rear + front outriggers mm
٧	1.85	6,750	6,950	7,350
	2.05	6,350	6,550	7,500*
	2.25	6,650*	6,150	7,150*
W	1.85	3,150	3,150	3,150
	2.05	3,150	3,150	3,150*
	2.25	3,150*	3,150	3,150*
X	1.85	8,300	8,500	8,900
	2.05	8,150	8,350	9,300*
	2.25	8,800*	8,350	9,300*



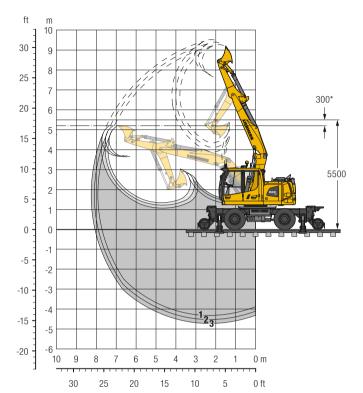
Boom	Stick	G	R	E	E1
	m	mm	mm	mm	mm
Two-piece boom 5.05 m	1.85	7,380	2,560	2,000	739
Two-piece boom 5.05 m	2.05	7,380	2,560	2,000	739
Two-piece boom 5.05 m	2.25	7,380	2,570	2,000	739

<sup>\*\*</sup> Symetric Rail
E = Tail radius
Tyres 10.00-20

Dimensions are with attachment over steering axle

\* Attachment over digging axle for shorter transport dimensions

# Ditch Cleaning Bucket with Two-Piece Boom 5.05 m



# **Digging Envelope**

	1	2	3
Stick length m	1.85	2.05	2.25
Max. digging depth m	4.35	4.55	4.75
Max. reach at ground level m	7.70	7.90	8.05
Max. dumping height m	7.65	7.75	7.85
Max. dumping height under overhead wires m	3.64	3.66	3.67
Max. teeth height m	9.25	9.40	9.50
Min. equipment radius m	2.56	2.56	2.57

### **Digging Forces**

	1	2	3
Max. digging force (ISO 6015) kN	110.6	102.2	95.2
t	11.3	10.4	9.7
Max. breakout force (ISO 6015) kN	101.3	101.3	101.3
t	10.3	10.3	10.3

Max. breakout force with ripper bucket

134.6 kN (13.7 t)

# **Operating Weight**

The operating weight includes the basic machine with 8 tyres plus intermediate rings, two-piece boom 5.05 m, stick 2.25 m and ditch cleaning bucket 2,000 mm/0.65 m<sup>3</sup>.

Undercarriage versions	Weight (kg)
A 922 Rail Litronic without outriggers (Asymetric Rail)	20,400
A 922 Rail Litronic without outriggers (Symetric Rail)	20,400
A 922 Rail Litronic with rear + front outriggers	22,100

# Ditch Cleaning Buckets Machine stability per ISO 10567\* (75% of tipping capacity)

ŧ				W	ithout c	utrigge	rs					Rear + front outriggers					Narrow gauge 1,000 mm						
š	<b>∼</b> =			on rail		(	on tyres	3	on rail		on tyres		down		on rail			on tyres		S			
ng	city 451	Ħ																					
Ę	Capa ISO 7	eig																					
3	ვ დ	≥	Stick	k length	ı (m)	Stic	k lengtl	ı (m)	Stic	k lengtl	ı (m)	Stic	k lengtl	h (m)	Stic	k lengtl	n (m)	Stic	k lengtl	ı (m)	Stic	k lengtl	ı (m)
mm	m³	kg	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25
1,6001)	0.80	445			Δ													-	_	_			
2,0001)	0.65	388																Δ	Δ	Δ			
1,6002)	0.80	766	Δ	Δ	-				Δ	Δ	Δ							-	-	-			
2,0002)	0.70	811	Δ	Δ	Δ						Δ							_	_	_			

<sup>\*</sup> Indicated loads are based on ISO 10567 and do not exceed 75% of tipping or 87% of hydraulic capacity, max. stick length without quick coupler, lifted 360° on firm with blocked oscillating axle

Max. material weight  $\blacksquare = \le 1.8 \text{ t/m}^3$ ,  $\blacksquare = \le 1.5 \text{ t/m}^3$ ,  $\triangle = \le 1.2 \text{ t/m}^3$ , - = not authorised

<sup>\*</sup> Safety distance to overhead wires

<sup>1)</sup> comparable with SAE (heaped)

<sup>2)</sup> with 2 x 50° rotator

# Lift Capacities with Two-Piece Boom 5.05 m (without Outriggers)

Sti	ck 1.85 m										St	ick 2.05
t≪		3.0	) m	4.5	m	6.0						
₩ W	Undercarriage	5	<u>L</u>	5	占	5	<u>L</u>	5	<u>L</u>	m	+ ฃ m	Undercar
7.5	on rail	6.9	8.5*					4.3	5.9*	4.0	7.5	on rail
7.5	on tyres	8.5*	8.5*					5.8	5.9*	4.0	7.5	on tyres
6.0	on rail	6.9	7.6*	3.8	6.9*			2.5	4.5*	5.6	6.0	on rail
0.0	on tyres	7.6*	7.6*	5.0	6.9*			3.4	4.5*	3.0	0.0	on tyres
4.5	on rail	6.7	10.3*	3.8	7.4*	2.3	6.1*	1.9	4.0*	6.5	4.5	on rail
4.3	on tyres	9.0	10.3*	5.0	7.4*	3.1	4.7	2.6	4.0*	0.0	4.5	on tyres
3.0	on rail	6.4	10.2*	3.8	8.4*	2.3	6.4*	1.7	3.8*	7.0	3.0	on rail
3.0	on tyres	8.7	10.2*	5.0	7.3	3.1	4.7	2.3	3.6	7.0	3.0	on tyres
1.5	on rail	6.4	12.4*	3.6	8.9*	2.2	6.6*	1.6	3.9*	7.1	1.5	on rail
1.5	on tyres	8.7	12.4*	4.9	7.3	3.0	4.6	2.2	3.5	7.1	1.5	on tyres
0	on rail	5.9	14.0*	3.4	9.0*	2.1	6.6*	1.7	4.2*	6.9	0	on rail
U	on tyres	8.3	13.9	4.6	7.3	2.9	4.5	2.3	3.6	0.9		on tyres
-1.5	on rail	5.7	14.4*	3.2	9.2*	2.0	5.2*	1.9	4.3*	6.3	-1.5	on rail
-1.5	on tyres	8.1	14.4	4.4	7.0	2.8	4.4	2.6	4.1	0.3	-1.5	on tyres
-3.0	on rail	5.5	11.9*	3.1	5.7*			3.0	5.6*	4.5	-3.0	on rail
-3.0	on tyres	7.9	11.9*	4.3	5.7*			4.2	5.6*	4.0	-3.0	on tyres

Sti	ck 2.05 m									
		3.0	) m	4.5	m	6.0 m				
m T A	Undercarriage		<u>L</u>	<b></b> -∰	j.	<b>⊶</b> 5	<u>L</u>	∰	d.	m
7.5	on rail on tyres							3.9 4.8*	4.8* 4.8*	4.3
6.0	on rail on tyres			3.8 5.1	6.7* 6.7*			2.4 3.2	3.9* 3.9*	5.8
4.5	on rail on tyres	6.7 9.0	9.9* 9.9*	3.8 5.1	7.3* 7.3*	2.3 3.2	6.0* 4.8	1.9 2.6	3.5* 3.5*	6.7
3.0	on rail on tyres	6.4 8.7	10.6* 10.6*	3.8 5.0	8.3* 7.3	2.3 3.1	6.3* 4.8	1.6 2.3	3.4* 3.4*	7.1
1.5	on rail on tyres	6.4 8.7	12.4* 12.4*		8.9* 7.3	2.3 3.1	6.6* 4.7	1.5 2.2	3.5* 3.4	7.2
0	on rail on tyres	5.9 8.3	14.0* 13.9	3.4 4.7	9.0* 7.4	2.1 2.9	6.6* 4.5	1.6 2.2	3.8* 3.5	7.0
-1.5	on rail on tyres	5.7 8.1	14.3* 14.3	3.2 4.4	9.2* 7.1	2.0 2.8	5.8* 4.4	1.8 2.5	4.4* 3.9	6.5
-3.0	on rail on tyres	5.6 7.9	12.8* 12.8*	3.1 4.3	6.6* 6.6*			2.7 3.7	5.0* 5.0*	5.0

### Stick 2.25 m

*		3.0	m	4.5	m	6.0	m			
m ↑A	Undercarriage				<u>L</u>	<del></del> 5	<u>L</u>	<del>-4</del>	<u>L</u>	m
7.5	on rail			3.7	4.8*			3.5	4.1*	4.6
7.5	on tyres			4.8*	4.8*			4.1*	4.1*	4.0
6.0	on rail			3.9	6.4*	2.3	3.9*	2.3	3.4*	6.0
0.0	on tyres			5.1	6.4*	3.1	3.9*	3.1	3.4*	0.0
4.5	on rail	6.7	8.6*	3.8	7.0*	2.4	5.9*	1.8	3.1*	6.9
4.5	on tyres	8.6*	8.6*	5.1	7.0*	3.2	4.8	2.4	3.1*	0.9
	on rail	6.4	10.9*	3.7	8.1*	2.4	6.2*	1.6	3.1*	7.0
3.0	on tyres	8.7	10.9*	5.0	7.3	3.2	4.8	2.2	3.1*	7.3
1.5	on rail	6.3	12.4*	3.7	8.8*	2.3	6.5*	1.5	3.2*	7.4
1.5	on tyres	8.6	12.4*	4.9	7.3	3.1	4.7	2.1	3.2*	7.4
•	on rail	6.0	13.8*	3.4	8.9*	2.1	6.6*	1.5	3.5*	7.0
0	on tyres	8.4	13.8	4.7	7.4	2.9	4.6	2.1	3.3	7.2
4.5	on rail	5.7	14.2*	3.2	9.2*	2.0	6.1*	1.7	4.1*	. 7
-1.5	on tyres	8.1	14.1	4.4	7.1	2.8	4.4	2.4	3.8	6.7
-3.0	on rail	5.5	13.5*	3.0	7.4*			2.4	4.5*	5.3
-3.0	on tyres	7.9	13.5*	4.2	6.9			3.3	4.5*	5.3

Height 🗝 Can be slewed through 360° 🗓 In longitudinal position of undercarriage 🖊 🕮 Max. reach \*Limited by hydr. capacity

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20% in case of a 100 mm cant and 40% in case of a 200 mm cant.

# Lift Capacities with Two-Piece Boom 5.05 m (without Outriggers, Heavy Counterweight)

Stick 1.85 m												
* A		3.0	m	4.5	4.5 m		m					
m ↑ All	Undercarriage	5	L L	<u>⊶-5</u>	d L	<b></b> ∰	<u>L</u>	<b>5</b>	d L	m		
7.5	on rail	7.3	8.5*					4.6	5.9*	4.0		
7.5	on tyres	8.5*	8.5*					5.9*	5.9*	4.0		
6.0	on rail	7.4	7.6*	4.0	6.9*			2.7	4.5*	5.6		
0.0	on tyres	7.6*	7.6*	5.3	6.9*			3.6	4.5*	5.0		
4.5	on rail	7.1	10.3*	4.1	7.4*	2.5	6.1*	2.1	4.0*	6.5		
4.5	on tyres	9.5	10.3*	5.3	7.4*	3.3	5.0	2.8	4.0*	0.0		
3.0	on rail	6.9	10.2*	4.0	8.4*	2.5	6.4*	1.8	3.8*	7.0		
3.0	on tyres	9.2	10.2*	5.3	7.7	3.3	5.0	2.5	3.8*	7.0		
1.5	on rail	6.8	12.4*	3.9	8.9*	2.4	6.6*	1.8	3.9*	71		
1.5	on tyres	9.1	12.4*	5.2	7.6	3.2	4.9	2.4	3.7	7.1		
0	on rail	6.3	14.0*	3.7	9.0*	2.3	6.6*	1.8	4.2*	6.9		
U	on tyres	8.8	14.0*	5.0	7.8	3.1	4.8	2.5	3.9	0.9		
4.5	on rail	6.1	14.4*	3.4	9.2*	2.2	5.2*	2.1	4.3*	6.2		
-1.5	on tyres	8.6	14.4*	4.7	7.5	3.0	4.7	2.8	4.3*	6.3		
	on rail	6.0	11.9*	3.3	5.7*			3.3	5.6*			
-3.0	on tyres	8.5	11.9*	4.6	5.7*			4.5	5.6*	4.5		

Sti	ck 2.05 m									
		3.0	) m	4.5	m	6.0	m		7	
m † A	Undercarriage	∰	j.	<del>-4</del>	<u>L</u>	<u>⊶</u> 5_	<u>L</u>	- <del>-</del> 5	d'	m
7.5	on rail							4.2	4.8*	4.3
7.3	on tyres							4.8*	4.8*	4.3
6.0	on rail			4.1	6.7*			2.6	3.9*	5.8
0.0	on tyres			5.4	6.7*			3.5	3.9*	0.0
4.5	on rail	7.1	9.9*	4.1	7.3*	2.5	6.0*	2.0	3.5*	6.7
4.5	on tyres	9.5	9.9*	5.3	7.3*	3.4	5.1	2.7	3.5*	0.7
3.0	on rail	6.9	10.6*	4.0	8.3*	2.5	6.3*	1.8	3.4*	7.1
3.0	on tyres	9.2	10.6*	5.3	7.7	3.4	5.1	2.4	3.4*	7.1
1.5	on rail	6.8	12.4*	3.9	8.9*	2.4	6.6*	1.7	3.5*	7.0
1.5	on tyres	9.1	12.4*	5.2	7.6	3.3	5.0	2.3	3.5*	7.2
0	on rail	6.4	14.0*	3.7	9.0*	2.3	6.6*	1.8	3.8*	7.0
U	on tyres	8.9	14.0*	5.0	7.8	3.1	4.8	2.4	3.7	7.0
-1.5	on rail	6.1	14.3*	3.5	9.2*	2.2	5.8*	2.0	4.4*	۰.
-1.5	on tyres	8.6	14.3*	4.7	7.5	3.0	4.7	2.7	4.2	6.5
2.0	on rail	6.0	12.8*	3.3	6.6*			2.9	5.0*	- 0
-3.0	on tyres	8.5	12.8*	4.6	6.6*			4.0	5.0*	5.0

### Stick 2.25 m

A.		3.0	) m	4.5		6.0 m				
m ↑ All	Undercarriage		<u>L</u>	5	e <mark>b</mark>	<del></del>	Ŀ		<u>L</u>	m
7.5	on rail			3.9	4.8*			3.8	4.1*	4.6
7.3	on tyres			4.8*	4.8*			4.1*	4.1*	4.0
6.0	on rail			4.1	6.4*	2.5	3.9*	2.4	3.4*	6.0
0.0	on tyres			5.4	6.4*	3.3	3.9*	3.3	3.4*	0.0
4.5	on rail	7.2	8.6*	4.1	7.0*	2.6	5.9*	1.9	3.1*	6.9
4.3	on tyres	8.6*	8.6*	5.3	7.0*	3.4	5.1	2.6	3.1*	0.9
3.0	on rail	6.9	10.9*	4.0	8.1*	2.6	6.2*	1.7	3.1*	7.3
3.0	on tyres	9.2	10.9*	5.3	7.7	3.4	5.1	2.3	3.1*	1.3
1.5	on rail	6.8	12.4*	4.0	8.8*	2.5	6.5*	1.6	3.2*	7.4
1.0	on tyres	9.1	12.4*	5.2	7.6	3.3	5.0	2.2	3.2*	7.4
0	on rail	6.4	13.8*	3.7	8.9*	2.3	6.6*	1.7	3.5*	7.2
U	on tyres	8.9	13.8*	5.0	7.7	3.2	4.8	2.3	3.5*	1.2
-1.5	on rail	6.1	14.2*	3.5	9.2*	2.2	6.1*	1.9	4.1*	6.7
-1.5	on tyres	8.6	14.2*	4.8	7.5	3.0	4.7	2.6	4.0	0.7
-3.0	on rail	6.0	13.5*	3.3	7.4*			2.6	4.5*	5.3
-3.0	on tyres	8.5	13.5*	4.6	7.3			3.6	4.5*	0.0

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

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20% in case of a 100 mm cant and 40% in case of a 200 mm cant.

# Lift Capacities with Two-Piece Boom 5.05 m (Rear + Front Outriggers)

A		3.0	m	4.5	m	6.0	m	- T		
m	Undercarriage	5	<u>L</u>	<del>-4</del>	<u>L</u>	<u>4</u> j	<u>L</u>	· <u>5</u>	d d	m
7.5	on rail on tyres Rear + front outriggers down	7.3 8.5* 8.5*	8.5* 8.5* 8.5*					4.6 5.9* 5.9*	5.9* 5.9* 5.9*	4.0
6.0	on rail on tyres Rear + front outriggers down	7.3 7.6* 7.6*	7.6* 7.6* 7.6*	4.0 5.4 6.7	6.9* 6.9* 6.9*			2.7 3.7 4.5*	4.5* 4.5* 4.5*	5.6
4.5	on rail on tyres Rear + front outriggers down	7.1 9.6 10.3*	10.3* 10.3* 10.3*	4.1 5.4 6.6	7.4* 7.4* 7.4*	2.5 3.4 4.3	6.1* 5.1 6.1*	2.1 2.9 3.7	4.0* 4.0* 4.0*	6.5
3.0	on rail on tyres Rear + front outriggers down	6.9 9.3 10.2*	10.2* 10.2* 10.2*	4.0 5.3 6.5	8.4* 7.8 8.4*	2.5 3.4 4.2	6.4* 5.1 6.4*	1.8 2.6 3.3	3.8* 3.8* 3.8*	7.0
1.5	on rail on tyres Rear + front outriggers down	9.2	12.4* 12.4* 12.4*	3.9 5.3 6.6	8.9* 7.8 8.9*	2.4 3.3 4.2	6.6* 5.0 6.6*	1.8 2.5 3.1	3.9* 3.8 3.9*	7.1
0	on rail on tyres Rear + front outriggers down	6.3 8.9 11.9	14.0* 14.0* 14.0*	3.7 5.0 6.4	9.0* 7.9 9.0*	2.3 3.2 4.0	6.6* 4.9 6.6*	1.8 2.5 3.3	4.2* 3.9 4.2*	6.9
-1.5	on rail on tyres Rear + front outriggers down	8.7	14.4* 14.4* 14.4*	3.4 4.8 6.1	9.2* 7.6 9.2*	2.2 3.1 3.9	5.2* 4.8 5.2*	2.1 2.9 3.7	4.3* 4.3* 4.3*	6.3
-3.0	on rail on tyres Rear + front outriggers down	6.0 8.6 11.6	11.9* 11.9* 11.9*	3.3 4.7 5.7*	5.7* 5.7* 5.7*			3.3 4.6 5.6*	5.6* 5.6* 5.6*	4.5

Stick 2.05 m										
<b>+</b>		3.0	) m	4.5	m	6.0	m			
m ↑ Æ	Undercarriage	<u>5</u>	<u>L</u>	<u>5</u>	d.	<u>⊶</u> 5	d.	5	d.	m
7.5	on rail on tyres Rear + front outriggers down							4.2 4.8* 4.8*	4.8* 4.8* 4.8*	4.3
6.0	on rail on tyres Rear + front outriggers down			4.1 5.5 6.7*	6.7* 6.7* 6.7*			2.6 3.5 3.9*	3.9* 3.9* 3.9*	5.8
4.5	on rail on tyres Rear + front outriggers down	7.1 9.6 9.9*	9.9* 9.9* 9.9*	4.1 5.4 6.7	7.3* 7.3* 7.3*	2.5 3.4 4.3	6.0* 5.2 6.0*	2.0 2.8 3.5*	3.5* 3.5* 3.5*	6.7
3.0	on rail on tyres Rear + front outriggers down	6.9 9.3 10.6*	10.6* 10.6* 10.6*	4.0 5.3 6.6	8.3* 7.8 8.3*	2.5 3.4 4.3	6.3* 5.1 6.3*	1.8 2.5 3.2	3.4* 3.4* 3.4*	7.1
1.5	on rail on tyres Rear + front outriggers down	6.8 9.2 11.7	12.4* 12.4* 12.4*	3.9 5.3 6.5	8.9* 7.7 8.9*	2.4 3.3 4.2	6.6* 5.1 6.6*	1.7 2.4 3.0	3.5* 3.5* 3.5*	7.2
0	on rail on tyres Rear + front outriggers down	6.4 9.0 11.9	14.0* 14.0* 14.0*	3.7 5.0 6.4	9.0* 7.9 9.0*	2.3 3.2 4.1	6.6* 4.9 6.6*	1.8 2.5 3.2	3.8* 3.8 3.8*	7.0
-1.5	on rail on tyres Rear + front outriggers down	6.1 8.7 11.7	14.3* 14.3* 14.3*	3.5 4.8 6.2	9.2* 7.6 9.2*	2.2 3.1 4.0	5.8* 4.8 5.8*	2.0 2.8 3.5	4.4* 4.3 4.4*	6.5
-3.0	on rail on tyres Rear + front outriggers down	6.0 8.6 11.6	12.8* 12.8* 12.8*	3.3 4.6 6.0	6.6* 6.6* 6.6*			2.9 4.0 5.0*	5.0* 5.0* 5.0*	5.0

### Stick 2.25 m

•		3.0 m 4.5 m		6.0 m						
m †.Æ	Undercarriage				<u>L</u>	<del></del>	<u>L</u>	5	<u>L</u>	m
7.5	on rail on tyres Rear + front outriggers down			3.9 4.8* 4.8*	4.8* 4.8* 4.8*			3.8 4.1* 4.1*	4.1* 4.1* 4.1*	4.6
6.0	on rail on tyres Rear + front outriggers down			4.1 5.5 6.4*	6.4* 6.4* 6.4*	2.5 3.4 3.9*	3.9* 3.9* 3.9*	2.4 3.3 3.4*	3.4* 3.4* 3.4*	6.0
4.5	on rail on tyres Rear + front outriggers down	7.2 8.6* 8.6*	8.6* 8.6* 8.6*	4.1 5.4 6.7	7.0* 7.0* 7.0*	2.6 3.5 4.3	5.9* 5.2 5.9*	1.9 2.7 3.1*	3.1* 3.1* 3.1*	6.9
3.0	on rail on tyres Rear + front outriggers down	6.9 9.3 10.9*	10.9* 10.9* 10.9*	4.0 5.3 6.5	8.1* 7.8 8.1*	2.6 3.4 4.3	6.2* 5.2 6.2*	1.7 2.4 3.0	3.1* 3.1* 3.1*	7.3
1.5	on rail on tyres Rear + front outriggers down	6.8 9.2 11.7	12.4* 12.4* 12.4*	4.0 5.3 6.5	8.8* 7.7 8.8*	2.5 3.4 4.2	6.5* 5.1 6.5*	1.6 2.3 2.9	3.2* 3.2* 3.2*	7.4
0	on rail on tyres Rear + front outriggers down	6.4 9.0 11.8	13.8* 13.8* 13.8*	3.7 5.1 6.5	8.9* 7.8 8.9*	2.3 3.2 4.1	6.6* 4.9 6.6*	1.7 2.4 3.0	3.5* 3.5* 3.5*	7.2
-1.5	on rail on tyres Rear + front outriggers down	6.1 8.7 11.7	14.2* 14.2* 14.2*	3.5 4.8 6.2	9.2* 7.6 9.2*	2.2 3.1 4.0	6.1* 4.8 6.1*	1.9 2.6 3.4	4.1* 4.1* 4.1*	6.7
-3.0	on rail on tyres Rear + front outriggers down	6.0 8.6 11.5	13.5* 13.5* 13.5*	3.3 4.6 6.0	7.4* 7.4* 7.4*			2.6 3.6 4.5*	4.5* 4.5* 4.5*	5.3

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

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/-15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20 % in case of a 100 mm cant and 40 % in case of a 200 mm cant.

# Lift Capacities

# with Two-Piece Boom 5.05 m (Rear + Front Outriggers, Heavy Counterweight)

Sti	ick 1.85 m									Stick 2.05 m											
. 1	2	3.0	) m	4.5	m	6.0	m		<u> </u>		• 1		3.0	) m	4.5	m	6.0	m			<u> </u>
m 1 ♣	Undercarriage	<b>5</b>	<u>L</u>		<u>L</u>	5	<u>L</u>	<u>-</u>	L	m	m Î.♣	Undercarriage	<b></b> 5	L <sub>2</sub>	<b>⊶</b> 5	L	<u>⊶</u> 5_	L.	·	L	r
7.5	on rail on tyres Rear + front outriggers down	7.8 8.5* 8.5*	8.5* 8.5* 8.5*					4.9 5.9* 5.9*	5.9* 5.9* 5.9*	4.0	7.5	on rail on tyres Rear + front outriggers down							4.5 4.8* 4.8*	4.8* 4.8* 4.8*	
6.0	on rail on tyres Rear + front outriggers down	7.6* 7.6* 7.6*	7.6* 7.6* 7.6*	4.3 5.7 6.9*	6.9* 6.9* 6.9*			2.9 3.9 4.5*	4.5* 4.5* 4.5*	5.6	6.0	on rail on tyres Rear + front outriggers down			4.4 5.8 6.7*	6.7* 6.7* 6.7*			2.8 3.7 3.9*	3.9* 3.9* 3.9*	5
4.5	on rail on tyres Rear + front outriggers down	7.5 10.0 10.3*	10.3* 10.3* 10.3*	4.4 5.7 7.0	7.4* 7.4* 7.4*	2.7 3.6 4.5	6.1* 5.4 6.1*	2.3 3.1 3.9	4.0* 4.0* 4.0*	6.5	4.5	on rail on tyres Rear + front outriggers down	7.6 9.9* 9.9*		4.4 5.7 7.0	7.3* 7.3* 7.3*	2.7 3.6 4.6	6.0* 5.5 6.0*	2.2 3.0 3.5*	3.5* 3.5* 3.5*	6
3.0	on rail on tyres Rear + front outriggers down	7.3 9.7 10.2*	10.2* 10.2* 10.2*	4.3 5.6 6.9	8.4* 8.1 8.4*	2.7 3.6 4.5	6.4* 5.4 6.4*	2.0 2.7 3.5	3.8* 3.8* 3.8*	7.0	3.0	on rail on tyres Rear + front outriggers down	7.3 9.8 10.6*	10.6* 10.6* 10.6*	4.3 5.6 6.9	8.3* 8.1 8.3*	2.7 3.6 4.5	6.3* 5.4 6.3*	1.9 2.7 3.4	3.4* 3.4* 3.4*	7
1.5	on rail on tyres Rear + front outriggers down	7.3 9.7 12.3	12.4* 12.4* 12.4*	4.2 5.6 6.9	8.9* 8.1 8.9*	2.6 3.5 4.4	6.6* 5.3 6.6*	1.9 2.6 3.4	3.9* 3.9* 3.9*	7.1	1.5	on rail on tyres Rear + front outriggers down	7.3 9.7 12.3	12.4* 12.4* 12.4*	4.2 5.6 6.8	8.9* 8.1 8.9*	2.6 3.5 4.5	6.6* 5.3 6.6*	1.9 2.6 3.2	3.5* 3.5* 3.5*	
0	on rail on tyres Rear + front outriggers down	6.8 9.5 12.5	14.0* 14.0* 14.0*	4.0 5.3 6.8	9.0* 8.3 9.0*	2.5 3.4 4.3	6.6* 5.2 6.6*	2.0 2.7 3.5	4.2* 4.2 4.2*	6.9	0	on rail on tyres Rear + front outriggers down	6.8 9.6 12.4	14.0* 14.0* 14.0*	4.0 5.4 6.8	9.0* 8.2 9.0*	2.5 3.4 4.3	6.6* 5.2 6.6*	1.9 2.6 3.4	3.8* 3.8* 3.8*	7
-1.5	on rail on tyres Rear + front outriggers down	6.6 9.3 12.4	14.4* 14.4* 14.4*	3.7 5.1 6.5	9.2* 8.0 9.2*	2.4 3.3 4.2	5.2* 5.1 5.2*	2.3 3.1 3.9	4.3* 4.3* 4.3*	6.3	-1.5	on rail on tyres Rear + front outriggers down	6.6 9.3 12.4	14.3* 14.3* 14.3*	3.7 5.1 6.5	9.2* 8.1 9.2*	2.4 3.3 4.2	5.8* 5.1 5.8*	2.2 3.0 3.8	4.4* 4.4* 4.4*	6
-3.0	on rail		11.9* 11.9* 11.9*	3.6 5.0 5.7*	5.7* 5.7* 5.7*			3.6 4.9 5.6*	5.6* 5.6* 5.6*	4.5	-3.0	on rail	6.4 9.1 12.2	12.8* 12.8* 12.8*	3.6 5.0 6.4	6.6* 6.6* 6.6*			3.1 4.3 5.0*	5.0* 5.0* 5.0*	5

		3.0	) m	4.5	m	6.0	m		7	
m	Undercarriage	<u>5</u>	j.	<b></b> ∰	<u>L</u>	<b></b> ∰	d d	- <del>-</del> 5	<u>L</u>	m
7.5	on rail on tyres Rear + front outriggers down							4.5 4.8* 4.8*	4.8* 4.8* 4.8*	4.3
6.0	on rail on tyres Rear + front outriggers down			4.4 5.8 6.7*	6.7* 6.7* 6.7*			2.8 3.7 3.9*	3.9* 3.9* 3.9*	5.8
4.5	on rail on tyres Rear + front outriggers down	7.6 9.9* 9.9*	9.9* 9.9* 9.9*	4.4 5.7 7.0	7.3* 7.3* 7.3*	2.7 3.6 4.6	6.0* 5.5 6.0*	2.2 3.0 3.5*	3.5* 3.5* 3.5*	6.
3.0	on rail on tyres Rear + front outriggers down	7.3 9.8 10.6*	10.6* 10.6* 10.6*	4.3 5.6 6.9	8.3* 8.1 8.3*	2.7 3.6 4.5	6.3* 5.4 6.3*	1.9 2.7 3.4	3.4* 3.4* 3.4*	7.1
1.5	on rail on tyres Rear + front outriggers down	7.3 9.7 12.3	12.4* 12.4* 12.4*	4.2 5.6 6.8	8.9* 8.1 8.9*	2.6 3.5 4.5	6.6* 5.3 6.6*	1.9 2.6 3.2	3.5* 3.5* 3.5*	7.2
0	on rail on tyres Rear + front outriggers down	6.8 9.6 12.4	14.0* 14.0* 14.0*	4.0 5.4 6.8	9.0* 8.2 9.0*	2.5 3.4 4.3	6.6* 5.2 6.6*	1.9 2.6 3.4	3.8* 3.8* 3.8*	7.0
-1.5	on rail on tyres Rear + front outriggers down	6.6 9.3 12.4	14.3* 14.3* 14.3*	3.7 5.1 6.5	9.2* 8.1 9.2*	2.4 3.3 4.2	5.8* 5.1 5.8*	2.2 3.0 3.8	4.4* 4.4* 4.4*	6.
-3.0	on rail on tyres	6.4 9.1	12.8* 12.8*	3.6 5.0	6.6* 6.6*			3.1 4.3	5.0* 5.0*	5.0

### Stick 2.25 m

*		3.0 m		4.5	m	6.0	m			
m ↑A	Undercarriage				<u>L</u>	<del>5</del>	<u>L</u>	5	<u>L</u>	m
7.5	on rail on tyres Rear + front outriggers down			4.2 4.8* 4.8*	4.8* 4.8* 4.8*			4.1 4.1* 4.1*	4.1* 4.1* 4.1*	4.6
6.0	on rail on tyres Rear + front outriggers down			4.4 5.8 6.4*	6.4* 6.4* 6.4*	2.7 3.6 3.9*	3.9* 3.9* 3.9*		3.4* 3.4* 3.4*	6.0
4.5	on rail on tyres Rear + front outriggers down	7.6 8.6* 8.6*	8.6* 8.6* 8.6*	4.4 5.7 7.0	7.0* 7.0* 7.0*	2.8 3.7 4.6	5.9* 5.5 5.9*	2.1 2.9 3.1*	3.1* 3.1* 3.1*	6.9
3.0	on rail on tyres Rear + front outriggers down	7.3 9.8 10.9*	10.9* 10.9* 10.9*	4.3 5.6 6.8	8.1* 8.1* 8.1*	2.7 3.7 4.6	6.2* 5.4 6.2*	1.9 2.6 3.1*	3.1* 3.1* 3.1*	7.3
1.5	on rail on tyres Rear + front outriggers down	7.2 9.7 12.2	12.4* 12.4* 12.4*	4.2 5.6 6.8	8.8* 8.1 8.8*	2.7 3.6 4.5	6.5* 5.4 6.5*	1.8 2.5 3.1	3.2* 3.2* 3.2*	7.4
0	on rail on tyres Rear + front outriggers down	6.8 9.6 12.4	13.8* 13.8* 13.8*	4.0 5.4 6.8	8.9* 8.1 8.9*	2.5 3.4 4.3	6.6* 5.2 6.6*	1.8 2.5 3.2	3.5* 3.5* 3.5*	7.2
-1.5	on rail on tyres Rear + front outriggers down	6.6 9.3 12.4	14.2* 14.2* 14.2*	3.8 5.1 6.6	9.2* 8.1 9.2*	2.4 3.3 4.2	6.1* 5.1 6.1*	2.0 2.8 3.6	4.1* 4.1* 4.1*	6.7
-3.0	on rail on tyres Rear + front outriggers down	6.4 9.1 12.2	13.5* 13.5* 13.5*	3.6 4.9 6.4	7.4* 7.4* 7.4*			2.8 3.9 4.5*	4.5* 4.5* 4.5*	5.3

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

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/-15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20% in case of a 100 mm cant and 40% in case of a 200 mm cant.

# Lift Capacities

# with Two-Piece Boom 5.05 m (Heavy Counterweight), Narrow Gauge 1,000 mm

Sti	ck 1.85 m									
A		3.0	m	4.5	m	6.0	m			
m	Undercarriage	5	<u>L</u>	<del></del>	<u>L</u>	<del></del>	<u>L</u>	- <del>-</del>	<u>L</u>	m
7.5	on rail	5.4	8.4*					3.1	5.6*	4.2
7.5	on tyres	8.5*	8.5*					5.9*	5.9*	7.2
6.0	on rail	5.4	7.6*	3.0	6.9*			1.9	4.4*	5.7
0.0	on tyres	7.6*	7.6*	5.3	6.9*			3.6	4.5*	J.,
4.5	on rail	5.1	10.1*	3.0	7.5*	1.8	5.6	1.5	4.0*	6.6
4.5	on tyres	9.5	10.3*	5.3	7.4*	3.3	5.0	2.8	4.0*	0.0
3.0	on rail	4.9	10.3*	3.0	8.4	1.8	5.6	1.3	3.8*	7.0
3.0	on tyres	9.2	10.2*	5.3	7.7	3.3	5.0	2.5	3.8*	7.0
4-	on rail	4.9	12.6*	2.8	8.4	1.7	5.5	1.2	3.9*	٠.
1.5	on tyres	9.1	12.4*	5.2	7.6	3.2	4.9	2.4	3.7	7.1
•	on rail	4.4	14.1*	2.6	8.5	1.6	5.4	1.2	4.2*	
0	on tyres	8.8	14.0*	5.0	7.8	3.1	4.8	2.5	3.9	6.8
4.5	on rail	4.3	14.4*	2.4	8.3	1.5	4.9*	1.5	4.2*	٠.
-1.5	on tyres	8.6	14.4*	4.7	7.5	3.0	4.7	2.8	4.3*	6.2
	on rail	4.2	11.0*					2.6	6.1*	
-3.0	on tyres	8.5	11.9*	4.6	5.7*			4.5	5.6*	4.2

Stick 2.05 m										
* 2		3.0	) m	4.5	m	6.0	m		-	
m † A	Undercarriage	<u>⊶‡</u>	<u>L</u>	<u>⊶</u> ‡	L	<del></del>	<u>L</u>	5	L	m
7.5	on rail on tyres							2.9 4.8*	4.7* 4.8*	4.5
6.0	on rail on tyres	5.4	6.9*	3.1 5.4	6.7* 6.7*			1.8 3.5	3.8* 3.9*	5.9
4.5	on rail on tyres	5.2 9.5	10.2* 9.9*	3.0 5.3	7.3* 7.3*	1.8 3.4	5.7 5.1	1.4 2.7	3.5* 3.5*	6.8
3.0	on rail on tyres	5.0 9.2	10.8* 10.6*	3.0 5.3	8.4* 7.7	1.8 3.4	5.7 5.1	1.2 2.4	3.4* 3.4*	7.2
1.5	on rail on tyres	4.9 9.1	12.6* 12.4*		8.4 7.6	1.7 3.3	5.6 5.0	1.2	3.5* 3.5*	7.2
0	on rail on tyres	4.5 8.9	14.1* 14.0*		8.5 7.8	1.6 3.1	5.4 4.8	1.2 2.4	3.9* 3.7	7.0
-1.5	on rail on tyres	4.3 8.6	14.4* 14.3*	2.4 4.7	8.4 7.5	1.5 3.0	5.3 4.7	1.4	4.3* 4.2	6.4
-3.0	on rail on tyres	4.1 8.5	12.1* 12.8*	2.3 4.6	6.0* 6.6*			2.2 4.0	5.4* 5.0*	4.7

### Stick 2.25 m

<b>*</b>		3.0 m		4.5 m		6.0 m				
m ↑A	Undercarriage		e de la companya de l		e <mark>b</mark>	<del></del>	d L	<u></u> 5	<u>L</u>	m
7.5	on rail			2.9	5.6*			2.6	4.0*	4.8
7.5	on tyres			4.8*	4.8*			4.1*	4.1*	4.0
6.0	on rail			3.1	6.5*	1.8	4.7*	1.7	3.3*	6.2
0.0	on tyres			5.4	6.4*	3.3	3.9*	3.3	3.4*	0.2
4.5	on rail	5.2	9.8*	3.0	7.1*	1.9	5.7	1.3	3.1*	6.9
4.5	on tyres	8.6*	8.6*	5.3	7.0*	3.4	5.1	2.6	3.1*	0.9
	on rail	4.9	11.1*	3.0	8.2*	1.9	5.6	1.2	3.1*	7.0
3.0	on tyres	9.2	10.9*	5.3	7.7	3.4	5.1	2.3	3.1*	7.3
1.5	on rail	4.9	12.5*	2.9	8.3	1.8	5.6	1.1	3.2*	7.4
1.5	on tyres	9.1	12.4*	5.2	7.6	3.3	5.0	2.2	3.2*	7.4
0	on rail	4.5	13.9*	2.7	8.4	1.6	5.4	1.1	3.5*	7.0
U	on tyres	8.9	13.8*	5.0	7.7	3.2	4.8	2.3	3.5*	7.2
-1.5	on rail	4.3	14.3*	2.5	8.4	1.5	5.3	1.3	4.1*	c c
-1.5	on tyres	8.6	14.2*	4.8	7.5	3.0	4.7	2.6	4.0	6.6
-3.0	on rail	4.1	13.0*	2.3	6.8*			1.9	4.8*	5.1
-3.0	on tyres	8.5	13.5*	4.6	7.3			3.6	4.5*	J. I

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

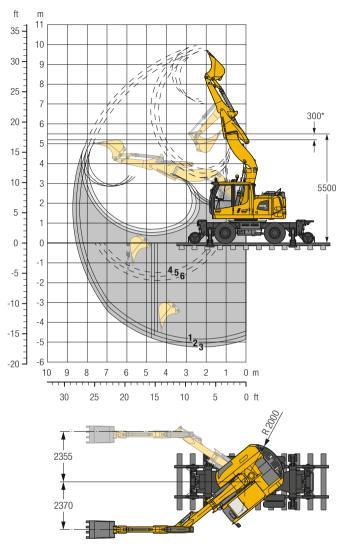
The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

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# Backhoe Bucket

### with Offset Two-Piece Boom 5.00 m



# **Digging Envelope**

			1	2	3
Stick length		m	1.85	2.05	2.25
Max. digging depth		m	4.85	5.05	5.25
Max. reach at ground level		m	8.20	8.40	8.55
Max. dumping height		m	7.05	7.15	7.25
Max. dumping height under ov	verhead wires	m	2.85	2.85	2.85
Max. teeth height		m	9.70	9.80	9.95
Min. equipment radius		m	2.58	2.57	2.56
1 with stick 1.85 m	4 with stick 1.85 m				
2 with stick 2.05 m	5 with stick 2.05 m				
3 with stick 2.25 m	6 with stick 2.25 m				
with set straight boom	at max. equipment o		:		

# **Digging Forces**

	1	2	3
Max. digging force (ISO 6015) kN	110.6	102.2	95.2
t	11.3	10.4	9.7
Max. breakout force (ISO 6015) kN	101.3	101.3	101.3
t	10.3	10.3	10.3
Max. breakout force with ripper bucket	1	34,6 kN	(13,7 t)

# **Operating Weight**

The operating weight includes the basic machine with 8 tyres plus intermediate rings, offset two-piece boom 5.00 m, stick 2.25 m and bucket 850 mm/0.60 m<sup>3</sup>.

Undercarriage versions	Weight (kg)
A 922 Rail Litronic without outriggers (Asymetric Rail)	21,100
A 922 Rail Litconic without outriggers (Symetric Rail)	21,100
A 922 Rail Liteonic with rear + front outriggers	22.800

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

£					without o	utriggers						Rear +	- front out	riggers			
Cutting width	Capacity ISO 74511)	Weight	Sti	on rail ck length	(m)	Sti	on tyres ck length	(m)	Sti	on rail ck length	(m)	Sti	on tyres	(m)	Sti	down ck length	(m)
mm	m³	kg	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25
400	0.24	310															
650	0.45	348															
850	0.60	401															
1,050	0.80	480	Δ	Δ	_	•				Δ	Δ						
1,250	0.95	525	-	-	-				Δ	Δ	-						

Indicated loads are based on ISO 10567 and do not exceed 75% of tipping or 87% of hydraulic capacity, max. stick length without quick coupler, lifted 360° on firm with blocked oscillating axle 1) comparable with SAE (heaped)

Max. material weight  $\blacksquare = \le 1.8 \text{ t/m}^3$ ,  $\blacksquare = \le 1.5 \text{ t/m}^3$ ,  $\triangle = \le 1.2 \text{ t/m}^3$ , - = not authorised

<sup>\*</sup> Safety distance to overhead wires

# Lift Capacities with Offset Two-Piece Boom 5.00 m (without Outriggers)

Sti	ck 1.85 m									
		3.0	) m	4.5	m	6.0	m	No.		
m	Undercarriage	5	<u>L</u>	<del></del>	<u>L</u>	<del></del>	<u>L</u>	<b>⊶</b> 5	<u>L</u>	m
7.5	on rail	6.9	8.3*					4.3	5.4*	3.9
7.3	on tyres	8.3*	8.3*					5.4*	5.4*	3.3
6.0	on rail	6.9	7.8*	3.7	6.6*			2.4	4.1*	5.6
0.0	on tyres	7.8*	7.8*	5.0	6.6*			3.3	4.1*	5.0
4.5	on rail	6.6	9.9*	3.7	7.1*	2.1	5.9*	1.8	3.7*	e i
4.5	on tyres	8.9	9.9*	5.0	7.1*	2.9	4.6	2.5	3.7*	6.
3.0	on rail	6.3	9.9*	3.7	8.0*	2.1	6.1*	1.5	3.6*	6.9
3.0	on tyres	8.5	9.9*	4.9	7.2	2.9	4.6	2.2	3.5	0.3
4.5	on rail	6.2	12.1*	3.5	8.5*	2.0	6.3*	1.4	3.6*	٠,
1.5	on tyres	8.5	12.1*	4.8	7.1	2.9	4.5	2.1	3.3	7.0
•	on rail	5.7	13.6*	3.3	8.6*	1.9	6.4*	1.4	3.9*	
0	on tyres	8.1	13.5	4.5	7.3	2.7	4.3	2.1	3.5	6.8
1 5	on rail	5.4	14.0*	3.0	8.9*	1.8	5.0*	1.7	4.2*	6.2
-1.5	on tyres	7.8	14.0*	4.2	6.9	2.6	4.2	2.4	4.0	0.2
	on rail	5.3	11.5*	2.8	5.3*			2.8	5.3*	4.
-3.0	on tyres	7.6	11.5*	4.0	5.3*			4.0	5.3*	4.5

Sti	ck 2.05 m									
		3.0	) m	4.5	m	6.0	m		- 1	
m T.A.	Undercarriage	<b>⊶</b>	j.	<del>-4</del>	<u>L</u>	<u>⊶5</u>	<u>L</u>	⊶ <u>⊅</u>	<u>L</u>	m
7.5	on rail on tyres							3.9 4.5*	4.5* 4.5*	4.2
6.0	on rail			3.8	6.4*			2.3	3.6*	5.8
6.0	on tyres			5.0	6.4*			3.1	3.6*	5.6
4.5	on rail	6.6	9.5*	3.8	7.0*	2.2	5.8*	1.7	3.2*	6.7
4.5	on tyres	9.0	9.5*	5.0	7.0*	3.0	4.7	2.4	3.2*	0.7
3.0	on rail	6.3	10.4*	3.7	7.9*	2.2	6.1*	1.5	3.2*	7.1
0.0	on tyres	8.6	10.4*	4.9	7.2	3.0	4.7	2.1	3.2*	<i>.</i>
1.5	on rail	6.2	12.1*	3.6	8.5*	2.1	6.3*	1.4	3.3*	7.2
1.5	on tyres	8.5	12.1*	4.9	7.1	2.9	4.6	2.0	3.2	1.2
0	on rail	5.8	13.5*	3.3	8.6*	1.9	6.4*	1.4	3.6*	7.0
	on tyres	8.2	13.4	4.6	7.3	2.7	4.4	2.1	3.3	7.0
-1.5	on rail	5.5	13.9*	3.0	8.9*	1.8	5.5*	1.6	4.2*	6.4
-1.5	on tyres	7.9	13.9	4.2	6.9	2.6	4.2	2.3	3.8	0.4
-3.0	on rail	5.3	12.4*	2.8	6.3*			2.4	4.7*	5.0
-3.0	on tyres	7.6	12.4*	4.0	6.3*			3.5	4.7*	3.0

### Stick 2.25 m

*		3.0	) m	4.5	m	6.0	m			
m ↑A	Undercarriage		e de la companya de l		e <mark>b</mark>	<del></del> 5	<u>L</u>	<u></u> 5	<u>L</u>	m
7.5	on rail			3.5	4.0*			3.5	3.8*	4.5
7.5	on tyres			4.0*	4.0*			3.8*	3.8*	4.5
6.0	on rail			3.8	6.2*	2.1	3.1*	2.1	3.1*	6.0
0.0	on tyres			5.1	6.2*	3.0	3.1*	3.0	3.1*	0.0
4.5	on rail	6.7	8.9*	3.8	6.8*	2.2	5.6*	1.6	2.9*	6.8
4.5	on tyres	8.9*	8.9*	5.0	6.8*	3.1	4.7	2.3	2.9*	0.0
	on rail	6.3	10.7*	3.7	7.7*	2.2	6.0*	1.4	2.9*	7.0
3.0	on tyres	8.6	10.7*	4.9	7.2	3.1	4.7	2.0	2.9*	7.3
1.5	on rail	6.2	12.1*	3.6	8.4*	2.1	6.2*	1.3	3.0*	7.4
1.5	on tyres	8.4	12.1*	4.9	7.1	3.0	4.6	1.9	3.0*	7.4
•	on rail	5.8	13.4*	3.3	8.6*	2.0	6.3*	1.3	3.2*	7.0
0	on tyres	8.2	13.3	4.6	7.3	2.8	4.4	2.0	3.2	7.2
4.5	on rail	5.4	13.8*	3.0	8.9*	1.8	5.8*	1.5	3.8*	
-1.5	on tyres	7.9	13.8	4.3	6.9	2.6	4.2	2.2	3.6	6.6
-3.0	on rail	5.2	13.1*	2.8	7.0*			2.3	4.5*	5.0
-3.0	on tyres	7.6	13.1*	4.0	6.7			3.3	4.5*	0.0

Max. reach \* Limited by hydr. capacity 

 \$\forall \text{Height}\$
 •• Can be slewed through 360°
 \$\frac{1}{2}\$ In longitudinal position of undercarriage

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20 % in case of a 100 mm cant and 40 % in case of a 200 mm cant.

# Lift Capacities with Offset Two-Piece Boom 5.00 m (without Outriggers, Heavy Counterweight)

Sti	ck 1.85 m									
		3.0	m	4.5	m	6.0	m			
m	Undercarriage	<b>⊶</b>		\$	d d	<del></del>	ď	5	<u>L</u>	r
7.5	on rail	7.3	8.3*					4.6	5.4*	3
7.5	on tyres	8.3*	8.3*					5.4*	5.4*	J
6.0	on rail	7.4	7.8*	4.0	6.6*			2.6	4.1*	5
0.0	on tyres	7.8*	7.8*	5.3	6.6*			3.5	4.1*	J
4.5	on rail	7.0	9.9*	4.0	7.1*	2.3	5.9*	1.9	3.7*	6
4.5	on tyres	9.3	9.9*	5.3	7.1*	3.2	4.9	2.7	3.7*	0
3.0	on rail	6.7	9.9*	4.0	8.0*	2.3	6.1*	1.7	3.6*	6
3.0	on tyres	9.0	9.9*	5.2	7.5	3.2	4.9	2.4	3.6*	U
1.5	on rail	6.7	12.1*	3.8	8.5*	2.2	6.3*	1.6	3.6*	7
1.0	on tyres	8.9	12.1*	5.1	7.5	3.1	4.8	2.2	3.6	'
0	on rail	6.1	13.6*	3.6	8.6*	2.1	6.4*	1.6	3.9*	6
U	on tyres	8.7	13.6*	4.8	7.7	2.9	4.6	2.3	3.7	0
1.5	on rail	5.9	14.0*	3.2	8.9*	2.0	5.0*	1.9	4.2*	6
1.0	on tyres	8.4	14.0*	4.5	7.3	2.8	4.5	2.7	4.2*	0
3.0	on rail	5.7	11.5*	3.1	5.3*			3.1	5.3*	4
3.0	on tyres	8.2	11.5*	4.4	5.3*			4.3	5.3*	4

Sti	ck 2.05 m									
		3.0	) m	4.5	m	6.0	m		-	
m 1 A	Undercarriage		j.	<b></b> ∰	j.	<b>⊶</b> 5	<u>L</u>	- <del>-</del>	<u>L</u>	m
7.5	on rail on tyres							4.2 4.5*	4.5* 4.5*	4.2
6.0	on rail on tyres			4.0 5.3	6.4* 6.4*			2.5 3.4	3.6* 3.6*	5.8
4.5	on rail on tyres	7.1 9.4	9.5* 9.5*	4.0 5.3	7.0* 7.0*	2.4 3.2	5.8* 5.0	1.9 2.6	3.2* 3.2*	6.7
3.0	on rail on tyres	6.8 9.0	10.4* 10.4*	4.0 5.2	7.9* 7.5	2.4 3.2	6.1* 5.0	1.6 2.3	3.2* 3.2*	7.1
1.5	on rail on tyres	6.7 8.9	12.1* 12.1*		8.5* 7.5	2.3 3.1	6.3* 4.8	1.5 2.2	3.3* 3.3*	7.2
0	on rail on tyres	6.2 8.7	13.5* 13.5*		8.6* 7.7	2.1 3.0	6.4* 4.7	1.6 2.2	3.6* 3.6*	7.0
-1.5	on rail on tyres	5.9 8.4	13.9* 13.9*	3.3 4.5	8.9* 7.3	2.0	5.5* 4.5	1.8 2.5	4.2* 4.1	6.4
-3.0	on rail on tyres	5.7 8.2	12.4* 12.4*	3.1 4.3	6.3* 6.3*			2.7 3.8	4.7* 4.7*	5.0

### Stick 2.25 m

		3.0	) m	4.5	m	6.0	m			
m 1 A	Undercarriage		<u>L</u>		<u>L</u>	<del></del>	<u>.</u>	- <del>-</del>	d d	m
7.5	on rail			3.8	4.0*			3.8	3.8*	4.5
7.5	on tyres			4.0*	4.0*			3.8*	3.8*	4.5
6.0	on rail			4.1	6.2*	2.3	3.1*	2.3	3.1*	6.0
0.0	on tyres			5.4	6.2*	3.1*	3.1*	3.1*	3.1*	0.0
4.5	on rail	7.1	8.9*	4.0	6.8*	2.4	5.6*	1.8	2.9*	6.8
4.5	on tyres	8.9*	8.9*	5.3	6.8*	3.3	5.0	2.5	2.9*	0.0
3.0	on rail	6.8	10.7*	3.9	7.7*	2.4	6.0*	1.5	2.9*	7.3
3.0	on tyres	9.0	10.7*	5.2	7.5	3.3	5.0	2.2	2.9*	1.3
1.5	on rail	6.6	12.1*	3.9	8.4*	2.3	6.2*	1.5	3.0*	7.4
1.5	on tyres	8.9	12.1*	5.2	7.4	3.2	4.9	2.1	3.0*	7.4
0	on rail	6.2	13.4*	3.6	8.6*	2.2	6.3*	1.5	3.2*	7.2
U	on tyres	8.8	13.4*	4.9	7.6	3.0	4.7	2.1	3.2*	1.2
-1.5	on rail	5.9	13.8*	3.3	8.9*	2.0	5.8*	1.7	3.8*	6.6
-1.5	on tyres	8.4	13.8*	4.6	7.4	2.8	4.5	2.4	3.8*	0.0
-3.0	on rail	5.7	13.1*	3.1	7.0*			2.5	4.5*	5.0
-3.0	on tyres	8.2	13.1*	4.3	7.0*			3.6	4.5*	3.0

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

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20 % in case of a 100 mm cant and 40 % in case of a 200 mm cant.

# Lift Capacities with Offset Two-Piece Boom 5.00 m (Rear + Front Outriggers)

		3.0	) m	4.5	m	6.0	m			
n	Undercarriage		<u>L</u>		<u>L</u>	<del></del>	<u>L</u>	- <del>-</del>	d d	m
'.5	on rail on tyres Rear + front outriggers down	7.3 8.3* 8.3*	8.3* 8.3* 8.3*					4.6 5.4* 5.4*	5.4* 5.4* 5.4*	3.9
6.0	on rail on tyres Rear + front outriggers down	7.4 7.8* 7.8*	7.8* 7.8* 7.8*	3.9 5.3 6.6*	6.6* 6.6* 6.6*			2.6 3.6 4.1*	4.1* 4.1* 4.1*	5.6
4.5	on rail on tyres Rear + front outriggers down	7.0 9.4 9.9*	9.9* 9.9* 9.9*	4.0 5.3 6.5	7.1* 7.1* 7.1*	2.3 3.2 4.1	5.9* 5.0 5.9*	1.9 2.7 3.5	3.7* 3.7* 3.7*	6.5
3.0	on rail on tyres Rear + front outriggers down	6.7 9.1 9.9*	9.9* 9.9* 9.9*	3.9 5.2 6.4	8.0* 7.6 8.0*	2.3 3.2 4.1	6.1* 5.0 6.1*	1.7 2.4 3.1	3.6* 3.6* 3.6*	6.9
1.5	on rail on tyres Rear + front outriggers down	6.7 9.0 11.4	12.1* 12.1* 12.1*	3.8 5.2 6.4	8.5* 7.6 8.5*	2.2 3.1 4.0	6.3* 4.9 6.3*	1.6 2.3 3.0	3.6* 3.6 3.6*	7.0
)	on rail on tyres Rear + front outriggers down	6.1 8.8 11.7	13.6* 13.6* 13.6*	3.5 4.9 6.3	8.6* 7.8 8.6*	2.1 3.0 3.9	6.4* 4.7 6.4*	1.6 2.4 3.1	3.9* 3.8 3.9*	6.8
1.5	on rail on tyres Rear + front outriggers down	5.9 8.5 11.5	14.0* 14.0* 14.0*	3.2 4.6 6.0	8.9* 7.4 8.9*	2.0 2.9 3.7	5.0* 4.6 5.0*	1.9 2.7 3.5	4.2* 4.2* 4.2*	6.2
3.0	on rail on tyres Rear + front outriggers down	5.7 8.3 11.3	11.5* 11.5* 11.5*	3.1 4.4 5.3*	5.3* 5.3* 5.3*			3.1 4.4 5.3*	5.3* 5.3* 5.3*	4.5

A		3.0	) m	4.5	m	6.0	m			
T m	Undercarriage	<u></u>	<u>L</u>	<b>⊶</b> ‡	<mark>j</mark>	<u>⊶4</u>	<u>L</u>	·	Ŀ	m
7.5	on rail on tyres Rear + front outriggers down							4.2 4.5* 4.5*	4.5* 4.5* 4.5*	4.2
6.0	on rail on tyres Rear + front outriggers down			4.0 5.4 6.4*	6.4* 6.4* 6.4*			2.5 3.4 3.6*	3.6* 3.6* 3.6*	5.8
4.5	on rail on tyres Rear + front outriggers down	7.1 9.5 9.5*	9.5* 9.5* 9.5*	4.0 5.3 6.6	7.0* 7.0* 7.0*	2.4 3.3 4.2	5.8* 5.1 5.8*	1.9 2.6 3.2*	3.2* 3.2* 3.2*	6.7
3.0	on rail on tyres Rear + front outriggers down	6.8 9.1 10.4*	10.4* 10.4* 10.4*	3.9 5.2 6.4	7.9* 7.6 7.9*	2.4 3.3 4.2	6.1* 5.0 6.1*	1.6 2.3 3.0	3.2* 3.2* 3.2*	7.1
1.5	on rail on tyres Rear + front outriggers down	6.7 9.0 11.4	12.1* 12.1* 12.1*	3.9 5.2 6.4	8.5* 7.6 8.5*	2.3 3.2 4.1	6.3* 4.9 6.3*	1.5 2.2 2.9	3.3* 3.3* 3.3*	7.5
0	on rail on tyres Rear + front outriggers down	6.2 8.9 11.7	13.5* 13.5* 13.5*	3.6 4.9 6.4	8.6* 7.8 8.6*	2.1 3.0 3.9	6.4* 4.8 6.4*	1.6 2.3 3.0	3.6* 3.6* 3.6*	7.0
1.5	on rail on tyres Rear + front outriggers down	5.9 8.5 11.5	13.9* 13.9* 13.9*	3.3 4.6 6.0	8.9* 7.5 8.9*	2.0 2.9 3.8	5.5* 4.6 5.5*	1.8 2.6 3.4	4.2* 4.1 4.2*	6.4
3.0	on rail	5.7 8.3 11.3	12.4* 12.4* 12.4*	3.1 4.4 5.8	6.3* 6.3* 6.3*			2.7 3.8 4.7*	4.7* 4.7* 4.7*	5.

### Stick 2.25 m

•		3.0	m	4.5	m	6.0	m			
m ↑ A	Undercarriage		<u>L</u>	3	d d	3	<u>L</u>	5	d d	m
7.5	on rail on tyres Rear + front outriggers down			3.8 4.0* 4.0*	4.0* 4.0* 4.0*			3.8 3.8* 3.8*	3.8* 3.8* 3.8*	4.5
6.0	on rail on tyres Rear + front outriggers down			4.1 5.4 6.2*	6.2* 6.2* 6.2*	2.3 3.1* 3.1*	3.1* 3.1* 3.1*	3.1*	3.1* 3.1* 3.1*	6.0
4.5	on rail on tyres Rear + front outriggers down	7.1 8.9* 8.9*	8.9* 8.9* 8.9*	4.0 5.3 6.6	6.8* 6.8* 6.8*	2.4 3.3 4.2	5.6* 5.1 5.6*	1.8 2.5 2.9*	2.9* 2.9* 2.9*	6.8
3.0	on rail on tyres Rear + front outriggers down	6.8 9.1 10.7*	10.7* 10.7* 10.7*	3.9 5.2 6.4	7.7* 7.6 7.7*	2.4 3.3 4.2	6.0* 5.1 6.0*	1.5 2.2 2.9*	2.9* 2.9* 2.9*	7.3
1.5	on rail on tyres Rear + front outriggers down	6.6 9.0 11.4	12.1* 12.1* 12.1*	3.9 5.2* 6.4	8.4* 7.5 8.4*	2.3 3.2 4.1	6.2* 5.0 6.2*	1.4 2.1 2.8	3.0* 3.0* 3.0*	7.4
0	on rail on tyres Rear + front outriggers down	6.2 8.9 11.6	13.4* 13.4* 13.4*	3.6 5.0 6.4	8.6* 7.7 8.6*	2.1 3.0 3.9	6.3* 4.8 6.3*	1.5 2.2 2.9	3.2* 3.2* 3.2*	7.2
-1.5	on rail on tyres Rear + front outriggers down	5.9 8.5 11.5	13.8* 13.8* 13.8*	3.3 4.6 6.0	8.9* 7.5 8.9*	2.0 2.9 3.8	5.8* 4.6 5.8*	1.7 2.4 3.2	3.8* 3.8* 3.8*	6.6
-3.0	on rail on tyres Rear + front outriggers down	5.7 8.3 11.3	13.1* 13.1* 13.1*	3.1 4.4 5.8	7.0* 7.0* 7.0*			2.5 3.6 4.5*	4.5* 4.5* 4.5*	5.0

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

The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/-15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20% in case of a 100 mm cant and 40% in case of a 200 mm cant.

# Lift Capacities

### with Offset Two-Piece Boom 5.00 m (Rear + Front Outriggers, Heavy Counterweight)

### Stick 1.85 m 3.0 m 4.5 m -5 Undercarriage m 7.8 8.3\* 4.9 5.4\* on rail 7.5 on tyres 8.3\* 8.3 5.4\* 5.4\* **3.9** 5.4\* 5.4\* Rear + front outriggers down 8.3\* 8.3\* 7.8\* 4.2 6.6 2.8 4.1\* 7.8\* 4.1\* 5.6 6.0 7.8\* 7.8\* 6.6 3.8 on tyres 5.6 4.1\* Rear + front outriggers down 7 8\* 7.8\* 6.6\* 6.63 4 1\* 3.7\* 5.9\* 2.1 on rail 7.5 9.9 4.3 7.1 9.9 9.9\* 7.1\* 5.3 2.9 3.7\* **6.5** on tyres Rear + front outriggers down 9.9\* 3.7\* 9.9\* 6.8 7.1 4.4 5.9\* 3.7\* 7.2 9.9 4.2 8.03 2.5 1.8 3.63 on rail 6.1 3.0 on tyres 95 9.9\* 5.5 79 34 5.3 2.6 3.6\* **6.9** Rear + front outriggers down 9.9\* 9.9\* 6.7 8.03 44 6.1 3.3 3.6\* on rail 7.1 12.1\* 4.1 8.5\* 2.4 1.7 3.6\* 9.5 12.1\* 7.9 3.3 5.2 3.6\* **7.0** 1.5 on tyres 5.5 2.5 3.2 Rear + front outriggers down | 11.9 | 12.1\* 6.7 8.5 6.3\* 3.6\* 4.3 on rail 6.6 | 13.6\* 3.8 8.6\* 2.3 6.4\* 1.8 3.9\* on tyres 9.3 13.6\* 5.2 8.1 3.2 5.0 2.5 3.9\* **6.8** Rear + front outriggers down 12.2 | 13.6\* 3.3 3.9\* 6.7 8.6\* 6.3 14.0\* 3.5 8.9\* 2.2 5.0\* 2.0 4.2\* on rail 4.2\* **6.2** 91 140\* 49 7.8 2.9 -1.5 on tyres 3.1 49 Rear + front outriggers down 12.2 14.0\* 6.3 8.9\* 4.0 3.8 4.2\* 6.1 11.5\* 3.4 5.3 3.4 5.3\* on rail 8.8 11.5\* 5.3\* **4.5** -3.0 4.7 5.3\* 4.7 on tyres Rear + front outriggers down | 11.5\* | 11.5\* | 5.3\* | 5.3\* 5.3\* 5.3\*

Sti	ck 2.05 m									
•		3.0	) m	4.5	m	6.0	m		7	
m T.A.	Undercarriage	<del></del>	j.	<del></del>	d.	<b>⊶</b> 5	d.	- <del>-</del> 5	ď	m
7.5	on rail on tyres Rear + front outriggers down							4.4 4.5* 4.5*	4.5* 4.5* 4.5*	4.2
6.0	on rail on tyres Rear + front outriggers down			4.3 5.7 6.4*	6.4* 6.4* 6.4*			2.7 3.6* 3.6*	3.6* 3.6* 3.6*	5.8
4.5	on rail on tyres Rear + front outriggers down	7.5 9.5* 9.5*	9.5* 9.5* 9.5*	4.3 5.6 6.9	7.0* 7.0* 7.0*	2.6 3.5 4.4	5.8* 5.3 5.8*	2.0 2.8 3.2*	3.2* 3.2* 3.2*	6.7
3.0	on rail on tyres Rear + front outriggers down	7.2 9.5 10.4*	10.4* 10.4* 10.4*	4.2 5.5 6.7	7.9* 7.9* 7.9*	2.6 3.5 4.4	6.1* 5.3 6.1*	2.5	3.2* 3.2* 3.2*	7.1
1.5	on rail on tyres Rear + front outriggers down	7.1 9.5 11.9	12.1* 12.1* 12.1*	4.1 5.5 6.7	8.5* 7.9 8.5*	2.5 3.4 4.3	6.3* 5.2 6.3*	1.7 2.4 3.1	3.3* 3.3* 3.3*	7.2
0	on rail on tyres Rear + front outriggers down	6.6 9.4 12.1	13.5* 13.5* 13.5*	3.9 5.3 6.7	8.6* 8.0 8.6*	2.3 3.2 4.2	6.4* 5.0 6.4*	1.7 2.5 3.2	3.6* 3.6* 3.6*	7.0
-1.5	on rail on tyres Rear + front outriggers down	6.3 9.1 12.2	13.9* 13.9* 13.9*	3.5 4.9 6.4	8.9* 7.9 8.9*	2.2 3.1 4.0	5.5* 4.9 5.5*	2.0 2.8 3.6	4.2* 4.2* 4.2*	6.4
-3.0	on rail on tyres Rear + front outriggers down	6.1 8.8 12.0	12.4* 12.4* 12.4*	3.4 4.7 6.2	6.3* 6.3* 6.3*			2.9 4.1 4.7*	4.7* 4.7* 4.7*	5.0

# Stick 2.25 m

*		3.0	m	4.5	m	6.0	m			
m ↑ A	Undercarriage		<u>L</u>	3	<mark>L</mark>	3	<mark>j</mark>	- <del>4</del>	<u>L</u>	m
7.5	on rail on tyres Rear + front outriggers down			4.0* 4.0* 4.0*	4.0* 4.0* 4.0*			3.8* 3.8* 3.8*	3.8* 3.8* 3.8*	4.5
6.0	on rail on tyres Rear + front outriggers down			4.4 5.7 6.2*	6.2* 6.2* 6.2*	2.5 3.1* 3.1*	3.1* 3.1* 3.1*		3.1* 3.1* 3.1*	6.0
4.5	on rail on tyres Rear + front outriggers down	7.6 8.9* 8.9*	8.9* 8.9* 8.9*	4.3 5.6 6.8*	6.8* 6.8* 6.8*	2.6 3.6 4.5	5.6* 5.4 5.6*	2.0 2.7 2.9*	2.9* 2.9* 2.9*	6.8
3.0	on rail on tyres Rear + front outriggers down	7.2 9.5 10.7*	10.7* 10.7* 10.7*	4.2 5.5 6.7	7.7* 7.7* 7.7*	2.6 3.5 4.5	6.0* 5.3 6.0*	1.7 2.4 2.9*	2.9* 2.9* 2.9*	7.3
1.5	on rail on tyres Rear + front outriggers down	7.1 9.4 11.8	12.1* 12.1* 12.1*	4.2 5.5 6.7	8.4* 7.8 8.4*	2.5 3.4 4.4	6.2* 5.2 6.2*	1.6 2.3 3.0*	3.0* 3.0* 3.0*	7.4
0	on rail on tyres Rear + front outriggers down	6.7 9.4 12.1	13.4* 13.4* 13.4*	3.9 5.3 6.7	8.6* 8.0 8.6*	2.3 3.3 4.2	6.3* 5.1 6.3*	1.6 2.4 3.1	3.2* 3.2* 3.2*	7.2
-1.5	on rail on tyres Rear + front outriggers down	6.3 9.1 12.2	13.8* 13.8* 13.8*	3.6 5.0 6.4	8.9* 7.9 8.9*	2.2 3.1 4.0	5.8* 4.9 5.8*	1.8 2.6 3.4	3.8* 3.8* 3.8*	6.6
-3.0	on rail on tyres Rear + front outriggers down	6.1 8.8 11.9	13.1* 13.1* 13.1*	3.3 4.7 6.1	7.0* 7.0* 7.0*			2.7 3.9 4.5*	4.5* 4.5* 4.5*	5.0

Max. reach \* Limited by hydr. capacity The lift capacities are stated in metric tonnes (t) with PowerLift of 375 bar at the stick end without attachment. This applies to a firm flat substrate with a closed steering axle. These capacities can be slewed through 360° with the undercarriage in the transverse position. Capacities in the longitudinal position of the undercarriage (+/- 15°) are specified over the steering axle with the stabilizers raised and over the rigid axle with the stabilizers down. The values apply when the adjusting cylinder is in the optimal position. Indicated loads based on the ISO 10567 standard and do not exceed 75% of tipping or 87% of hydraulic capacity, or are limited by the permissible load of the load lift hook.

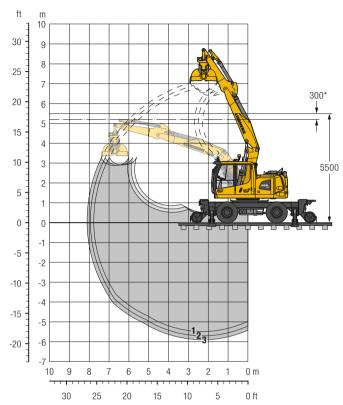
In accordance with the harmonised European Standard EN 474-5, hydraulic excavators used for lifting operations must be equipped with pipe fracture safety valves, an overload warning device, a load lift hook and a lift capacity chart.

Please note that the stability will be reduced by approx. 20% in case of a 100 mm cant and 40% in case of a 200 mm cant.

 ‡
 Height
 ➡
 Can be slewed through 360°
 ☐ In longitudinal position of undercarriage

# Clamshell Grab

### with Two-Piece Boom 5.05 m



# **Digging Envelope**

		1	2	3
Stick length	m	1.85	2.05	2.25
Max. digging depth	m	5.50	5.70	5.90
Max. reach at ground level	m	7.75	7.95	8.10
Max. dumping height	m	6.40	6.55	6.65
Max, dumping height under overhead wires	m	2.90	2.90	2.85

# **Operating Weight**

The operating weight includes the basic machine with 8 tyres plus intermediate rings, two-piece boom 5.05 m, stick 2.25 m and clamshell grab GM 7C/0.35 m<sup>3</sup>.

Undercarriage versions	Weight (kg)
A 922 Rail Litconic without outriggers (Asymetric Rail)	20,900
A 922 Rail Litconic without outriggers (Symetric Rail)	20,900
A 922 Rail Litconid with rear + front outriggers	22,600

# Clamshell Grab GM 7C Machine stability per ISO 10567\* (75% of tipping capacity)

<u>s</u>				without outriggers					Rear + front outriggers								
she	₹			on rail			on tyres			on rail			on tyres			down	
를 다	ac	Weight															
Width of clamshells	Сар	Wei	Stick length (m)		Stick length (m)		Sti	Stick length (m)		Stick length (m)		Stick length (m)		Stick length (m)			
mm	m³	kg	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25	1.85	2.05	2.25
3001)	0.10	685															
5002)	0.19	780															
6002)	0.25	830															
7002)	0.30	865															
8002)	0.30	890															
1,0002)	0.38	965															
6003)	0.35	905															
8003)	0.48	985				-					•						
1,0003)	0.70	1,115	_	-	-				Δ	Δ	-						

<sup>\*</sup> Indicated loads are based on ISO 10567 and do not exceed 75% of tipping or 87% of hydraulic capacity, max. stick length without quick coupler, lifted 360° on firm with blocked oscillating axle

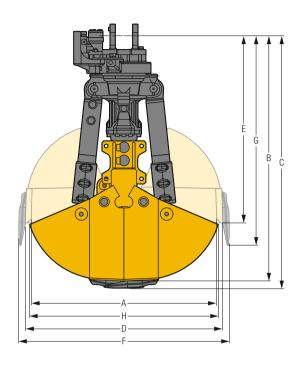
3) Clamshell bucket

Max. material weight  $\blacksquare$  =  $\leq$  1.8 t/m³,  $\blacksquare$  =  $\leq$  1.5 t/m³,  $\triangle$  =  $\leq$  1.2 t/m³, - = not authorised

<sup>\*</sup> Safety distance to overhead wires

<sup>1)</sup> Track construction bucket
2) Combination bucket

# Clamshell Grab GM 7C



# Scope of Delivery

	mm	weigiit kg
Suspension		
suiteable for quick change stick and standard pins		
Swing angle 45°	265	85
Swing angle 90°	370	90
for quick coupler SWA 33	645	165
Clamshell grab mechanism and clamshell carrier – upper part		
GM 7C		285
GM 7C-HD		310

# Optional

Weight kg
45
75
80

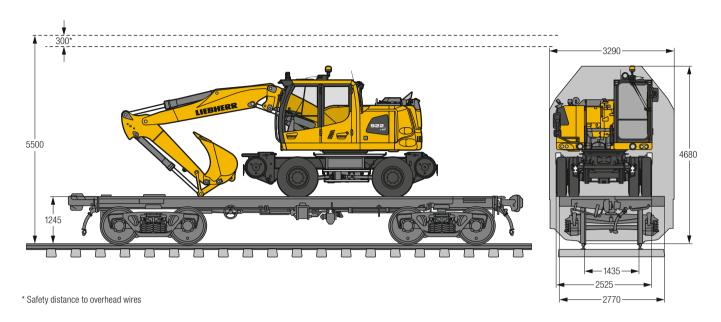
# Dimensions/Weights

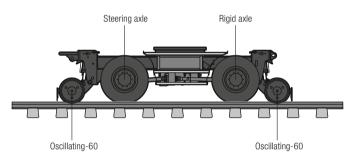
Capacity	Shell	Number		Shell closed				Shell open			Weight
	width	of	Α	В	C	D	E	F	G	Н	without
		teeth	Width	Height	Height with teeth	Width	Height	Width with teeth	Height with teeth	Opening width	suspension
m <sup>3</sup>	mm	Piece	mm	mm	mm	mm	mm	mm	mm	mm	kg
Track constru	ction bucket (tv	vo-piece clams	hell carrier)								
0.10	300	3	1,143	1,492	1,534	1,200	1,139	1,284	1,275	1,128	595
Combination b	ucket (two-pie	ce clamshell ca	rrier)								
0.19	500	5	1,189	1,542	1,585	1,298	1,140	1,386	1,258	1,225	690
0.25	600	5	1,189	1,542	1,585	1,298	1,140	1,386	1,258	1,225	740
0.30	700	7	1,189	1,542	1,585	1,298	1,140	1,386	1,258	1,225	775
0.30	800	7	1,189	1,542	1,585	1,298	1,140	1,386	1,258	1,225	800
0.38	1.000	9	1,189	1,542	1,585	1,298	1,140	1,386	1,258	1,225	875
Clamshell buc	ket (two-piece	clamshell carri	er)								
0.35	600	5	1,439	1,677	1,723	1,568	1,140	1,657	1,262	1,495	815
0.48	800	7	1,439	1,677	1,723	1,568	1,140	1,657	1,262	1,495	895
0.70	1,000	7	1,439	1,677	1,723	1,568	1,140	1,657	1,262	1,495	1,025

# Technical Data

Lift capacity	Grab op	en/close	Grab to	Torque	
max.	Pressure	Flow	Pressure	Flow	1 motor
	max.	max.	max.	max.	200 cm <sup>3</sup>
10 t	36 MPa	200 l/min.	15 MPa	30 l/min.	1.38 kNm

# Dimensions for Transport/Choice of Bogie Systems



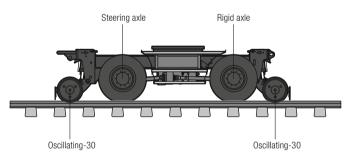


# Variant A

steering axle end oscillating-60 rigid axle end oscillating-60

Area of application

for rail track unevenness

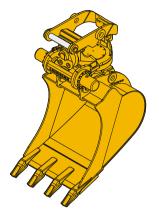


### **Variant B**

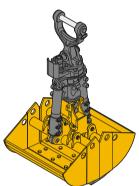
steering axle end oscillating-30 rigid axle end oscillating-30 **Area of application** 

for heavy loads/rear + front outriggers

# Attachments

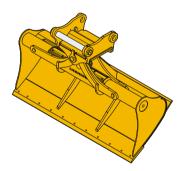


THE ROLATOR	
Technical data	Slewing angle of 2 x 50° 360° rotation
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	The tilt rotaror with its 360° rotatability, its patented tilt mechanism and a tilting angle of up to 50° offers a maximum of flexibility, specifically for channel digging. Its robust design makes it suitable for heavy operations.



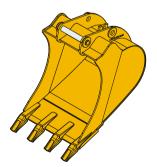
# Clamshell Grab

Width of clamshells 300 – 1,000 mm
Capacity 0.10 – 0.48 m <sup>3</sup>
Opening length 1,200 – 1,580 mm
Quick change stick/SWA 33/SWA 48/LIKUFIX
It's possible to individually fit special track shells or grab shells with only one clam mechanism. The grab shells and teeth are standardly in HD-version, moreover the reinforced cutting sheets ensure a high stability.



# Ditch Cleaning Bucket

•	
Technical data	Cutting width 1,600 and 2,000 mm
	Capacity (SAE) 0.70 – 1.00 m <sup>3</sup>
	Slewing angle of 2 x 50°
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	With the ditch cleaning bucket Liebherr offers a specific attachment for railroader applica-
	tions. The cutting edge persists paralelly to the rotation axis, so that it's also possible to
	drive around obstacles without any difficulty. This attachment makes racking, arranging
	and profiling an easy task. The cylinders are inside and therefore optimally protected.



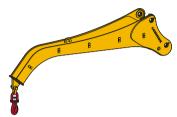
# Backhoe Bucket

Technical data	Cutting width 400 – 1,250 mm Capacity 0.24 – 0.95 m³ Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	Liebherr offers a suitable backhoe bucket for nearly every application. A broad programm in approved Liebherr quality and the appropriate quick hitch adapters provide a maximum of productivity.



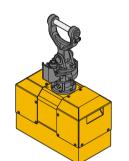


Luau Liit iluuk	
Technical data	Lifting capacity up to 8 t
	Mechanical 360° rotating
	High-strength special type
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	Due to its low operating weight the Liebherr load hook allows the lifting of heavy loads.
	With this 360° rotatable attachment it's possible to exactly deposit loads.



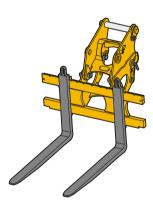
# Load-Lifting Stick

Loud Linding Otlok	
Technical data	Length 2,500 mm
	Integrated load hook 2.5 t
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	With the load-lifting stick an outreach of up to 10.0 m can be achieved. The load-lifting stick enables to work on the side rail track and to lift of long loads without any difficulty.



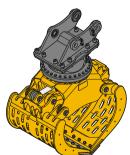
# Hydro Magnet

- Hyuro magnet	
Technical data	Hydro magnet II 5 kW
	Lifting capacity up to 5 t
	Swing drive 330°
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	The hydro magnet is particulary suitable for picking up small iron parts for applications in
	the area of rebuilding and deconstruction.



# Pallet Fork

Max. width pallet fork 1,245 mm
Pallet forks length 1,200 mm
Lifting capacity up to 2,5 t (ISO 2328)
Quick change stick/SWA 33/SWA 48/LIKUFIX
Particularly well suited for transportation of pallets and pallet cages. Fast and secure setting of desired deployment height and width.



# Sorting Grab

Our ting arab	
Technical data	Width of clamshells 800 – 1,400 mm
	Capacity 0.40 – 1.10 m <sup>3</sup>
	Opening length 1,200 – 1,970 mm
	Quick change stick/SWA 33/SWA 48/LIKUFIX
Description	Sensitive working on sorting activities. Different tine shapes for individual applications
	available. High closing force combined with lightweight construction.

# Equipment

# ●**=**● Undercarriage

-	Onuci carriage	
	Dual-circuit braking system with rail wheel brake, hydraulically	•
	Support frame, lockable (front and rear)	+
	Add-on-axle	+
	Bumper (front and rear)	+
	Trailer coupling Rockinger, semi-automatic	•
	Lighting system white/red incl. power socket*	+
	Earthing cable with ball-headed pin	x
	Fire extinguisher 6 kg	X
	Grab suspension bracket	+
	Drag shoe, 2 pieces	•
	Coupling bar	x
	Load holding valve on each stabilization cylinder	•
	Line protection for rail guide cylinders	+
	Parking brake, maintenance-free	•
	Outrigger with individual control	+
	Rear + front outriggers	+
	Tyre inflation hose with pressure gauge at wagon braking system	+
	Tyres, variants	+
	Rail undercarriage friction wheel, gauge 1,000 mm	
	(not available in combination with rear + front outriggers)	+
	Rail undercarriage convertible (position and pressure control)	+
	Rail guide axles, oscillating 30 on the steering and rigid axle side	•
	Rail guide axles, oscillating 60 on the steering and rigid axle side	+
	Rail sweeper, swivelling Narrow excavator axles with wheel head width of 2,100 mm	+
	Rail quide, gauge 1,435 mm	+
	Rail guide, gauge 1,435 mm	+
	Protection for oscillating axle cylinders	+
	Proportional servo-steering with emergency function	-
	Speeder*	+
	Storage compartment left – lockable	-
	Storage compartment right – lockable	
	Power socket 24 V / 10 A (front / rear)	+
	Lashing eyelets for transport	-
	Wagon braking system (pneumatic, 1 circuit)	•
	Wagon braking system (pneumatic, 2 circuits)	+
	Tool equipment, extended	+
	Tool oquipmoni, ontonuou	-

# Hydraulic System

Shut-off valve between hydraulic tank and pump(s)	•
Pressure test fittings	•
Electronic pump regulation	•
High pressure circuit, continuous operation	•
Hydraulic oil filter with integrated microfilter	•
Liebherr hydraulic oil from −20 °C to +40 °C	•
Liebherr hydraulic oil, biologically degradable	+
Liebherr hydraulic oil, specially for warm or cold regions	+
Bypass filter	+
Emergency actuation, electric	X
Switchover clamshell operation and tipping cylinder	•
Switchover high pressure circuit 1 and tipping cylinder	+
Switchover high pressure circuit 1 and two-piece boom	+
Preparation Liebherr hydro-magnet	+

# Diesel Engine

Fuel anti-theft device	+
Sensor controlled engine idling	•
Liebherr particle filter (Stage V)	•
Air pre-filter with dust discharge	+
Preheating hydraulic oil	+
Preheating fuel	+
Preheating engine oil	+

# Work Space Limitation

Electronic lift limitation	x
Load torque limitation (RCL)	х
Load torque warning (RCI)	+
Swivel limitation	х
Virtual wall	+

# Uppercarriage

Uppercarriage rear light, 2 pieces, LED	+
Uppercarriage right side light, 1 piece, LED	•
Counterweight (tail swing radius 2,000 mm)	•
Counterweight (tail swing radius 2,000 mm), heavy	+
Refuelling system with filling pump	+
External starting aid (battery connectors)	+
Handrails, non slip surfaces	•
Main battery switch for electrical system	•
Engine hood with gas spring	•
Uppercarriage doors, lockable	•
Amber beacon, at uppercarriage, LED double flash	+
Signal light DB, halogen	x
Signal light DB, LED	+

# Operator's Cab

Storage compartment	•
Activation of the lighting (compliant with the Road Traffic Licensing authority)	
for tramway operations	+
Cab lights rear, 2 pieces, LED	•
Cab lights front, 2 pieces, LED (under rain cover)	•
Exterior mirror, electrical adjustable, with heating	+
Control elements for signal-horn and emergency brake at co-driver's seat	•
Lighting for cabin access	+
Mechanical hour meters, readable from outside the cab	•
Roof window made from impact-resistant laminated safety glass	•
Data logger	x
Two seater cab	•
Circular bubble level	+
Pressure indication of rail axles on the display	•
Driver identification code	+
Driver profile, personalised	•
Operator's seat Standard	•
Operator's seat Comfort	+
Operator's seat Premium	+
Driving alarm (acoustic signal is emitted during travel, can be switched ON/OFF)	+
Fire extinguisher 2 kg	+
Windscreen retractable (including upper part)	•
Intermittent windscreen wiper with wiper washer	•
Footrest	+
Speed indication on the rail-display	•
Cruise control*	•
Rubber floor mat, removable	•
Dome light	•
Licence plate holder with light*	+
Coat hook	•
Automatic air conditioning	•
Fuel consumption indicator	•
Electric cooler	+
Steering wheel lock	•
Steering column adjustable	•
LiDAT, vehicle fleet management*/**	•
Emergency exit rear window	•
Positioning swing brake	+
Proportional control	•
Radio Comfort, control via display with handsfree set	+
Preparation for radio installation	•
Rain cover over front window opening	•
ROPS cab	•
Back-up alarm (acoustic signal is emitted traveling backward, can not be switched off)	+
Amber beacon, on cabin, LED double flash	+
Windshield wiper with interval switching and washer, roof window	•
Windshield wiper with interval switching and washer, rear window	•
Driver door with sliding window	•
Slipcover for operator seat	+
Right side window and windshield made from laminated safety glass	•
Safety components DB (safety flag, signal horn, warning triangle, warning light,	
first-aid box)	x
Sun blind	•
Auxiliary heating, adjustable (week time switch)	+
Power socket 12 V	•
Left control console, folding	•
Electronic immobilizer	+
Cigarette lighter/power socket 24 V	•



Alternative connection medium pressure circuit on right side of stick Boom lights, 2 pieces, LED Stick lights, 2 pieces, LED Grab lines for stick with tipping kinematic High pressure circuit 1 incl. unpressurised return line and Tool Control High pressure circuit 2 incl. lines Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom Load lug on stick	+ + + + + +
Stick lights, 2 pieces, LED Grab lines for stick with tipping kinematic High pressure circuit 1 incl. unpressurised return line and Tool Control High pressure circuit 2 incl. lines Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom	+ + + + + +
Grab lines for stick with tipping kinematic High pressure circuit 1 incl. unpressurised return line and Tool Control High pressure circuit 2 incl. lines Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom	+ + + +
High pressure circuit 1 incl. unpressurised return line and Tool Control High pressure circuit 2 incl. lines Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom	+ + +
High pressure circuit 2 incl. lines Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom	+ + + +
Free rotating load lift hook Load holding valve bucket cylinder Load lug on boom	+ + + +
Load holding valve bucket cylinder Load lug on boom	+
Load lug on boom	+
Load lug on atial	
	+
Leak oil line, additional for attachments	+
Liebherr ditch cleaning bucket	+
Liebherr quick coupler, hydraulic or mechanical	+
Liebherr tilt bucket	+
Liebherr tilt rotator	+
Liebherr sorting grab	+
Liebherr backhoe bucket	+
Liebherr tooth system	+
Liebherr clamshell grab	+
Stick prepared for quick coupler stick	•
Medium pressure circuit incl. lines	•
PowerLift	•
Pipe fracture safety valves hoist cylinders	•
Pipe fracture safety valve stick cylinder	•
Hose quick coupling at grab lines	•
	+
	+
1 0 7	+
, ,	+
	+
'	+
	+
	•
, ,	+
0 0 1	+
	•
	+
Cylinders with end damping	•
	Hose protection for LIKUFIX  Quick coupling system LIKUFIX SWA 33  Quick coupling system LIKUFIX SWA 48  Signal contacts for LIKUFIX, 14-pin  Signal contacts for LIKUFIX, 14-pin, with control unit for second SWA  Special buckets and other attachments  Power socket on stick, commutable (2 circuits)  Tool Control, 20 attachment adjustments selectable over the display  Tool Management, automatic attachment recognition (in combination with LIKUFIX)  Latching for connecting link in grab operation  Two-piece boom  Offset two-piece boom  Cylinders with end damping

# Complete Machine

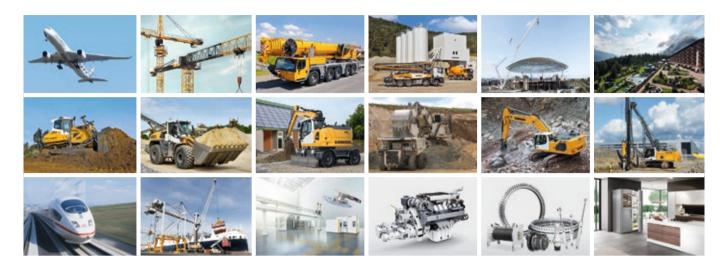
Lubrication	
Lubrication undercarriage, manually – decentralised (grease points)	•
Lubrication undercarriage steering axle, manually – centralised (one grease point)	+
Central lubrication system for uppercarriage and equipment, automatically	
(without quick coupler and connecting link)	•
Central lubrication system, extension for quick coupler	+
Central lubrication system, extension for connecting link	+
Special coating	
DB-coating	x
Special coating undercarriage, uppercarriage, equipment	+
Monitoring	
Rear view monitoring with camera	•
Side view monitoring with camera	•
Machine guidance system	
Preparation	+

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

<sup>• =</sup> Standard, + = Option,  $\mathbf{x}$  = Required for acceptance by the German RR (DB) \* = country-dependent, \*\* = optionally extendable after one year

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

www.liebherr.com