
R 930 Litronic

LIEBHERR

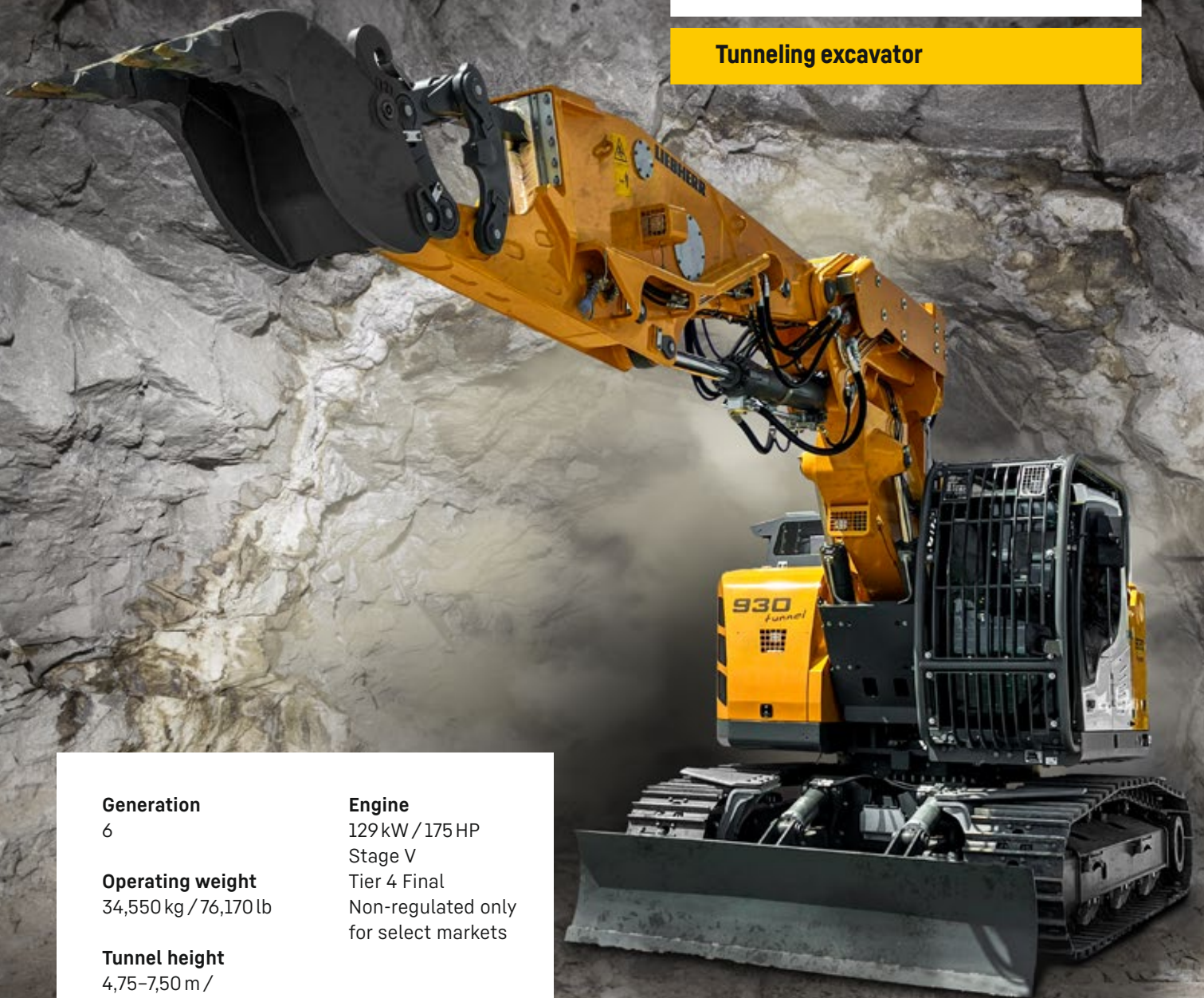
Tunneling excavator

Generation
6

Operating weight
34,550 kg / 76,170 lb

Tunnel height
4,75–7,50 m /
15'7"–24'7"

Engine
129 kW / 175 HP
Stage V
Tier 4 Final
Non-regulated only
for select markets



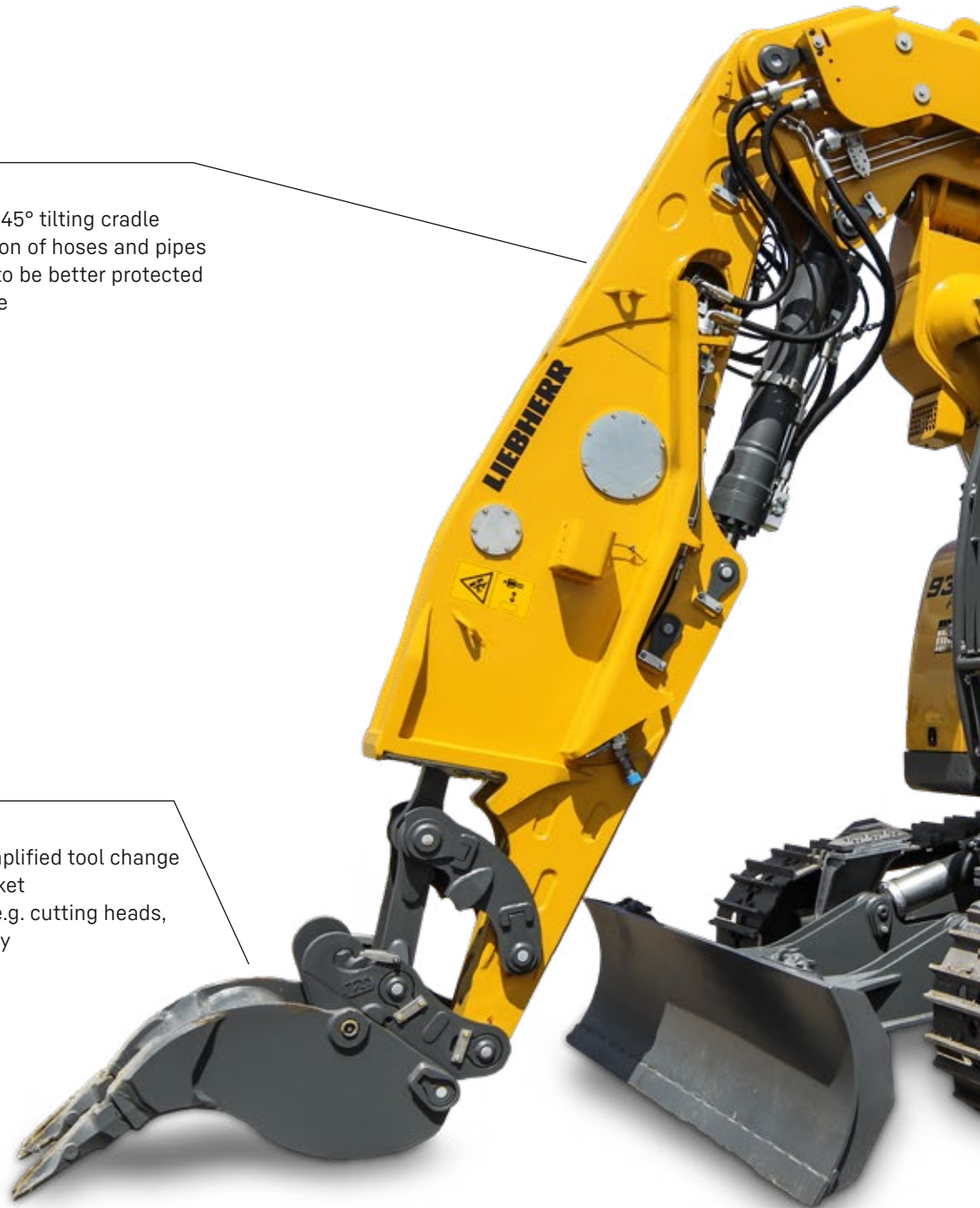
The R 930 Tunnel excavator

Equipment

- Special tunnel boom with 2 x 45° tilting cradle
- Optimal position and protection of hoses and pipes
- Special position of cylinders to be better protected
- 2 equipment lengths available

Tool

- Liebherr quick coupler for simplified tool change
- Liebherr 2- or 3-tine rock bucket
- Different tools can be used (e.g. cutting heads, hammer) for greater versatility





Operator's cab

- Comfortable and ergonomic cab
- Synthetic leather seat with headrest for easy cleaning
- Integral protection of ROPS, FOPS and FGPS
- Electronic components with protection
- Safety guaranteed with rear and lateral surveillance cameras

Tunneling specificities

- Special short tail uppercarriage
- Travel alarm
- Working LED headlights with protections
- Steel bodies for greater robustness

Undercarriage

- Dozer blade with cylinder protection
- 4 deflector blades
- Travel drive protection
- 3 track guides at each track frame

Technical data



Engine

Rating	
per SAE J1349	173 HP (129 kW) at 1,900 rpm
per ISO 9249	175 HP (129 kW) at 1,900 rpm
Torque	682 Nm at 1,400 rpm / 503 lbf ft at 1,400 rpm
Model	Liebherr D924 A7-05
Type	4 cylinder in-line
Bore	104 mm / 4.1 in
Stroke	132 mm / 5.2 in
Displacement	4.5 l / 275 in³
Engine operation	4-stroke diesel Common-Rail Turbo-charged and after-cooler
Exhaust gas treatment	DOC + SCR Filter (Stage V) or DOC + FAP (option) + SCR (Tier 4 Final) or without EGR (non-regulated only for select markets) Passive regeneration by thermo management
Cooling system	Water-cooled and integrated motor oil cooler
Air cleaner	Dry-type air cleaner with pre-cleaner, primary and safety elements
Fuel tank	331 l / 87 gal
Urea tank	45 l / 12 gal
Electrical system	
Voltage	24 V
Batteries	2 x 135 Ah / 12 V
Alternator	Three-phase current 28 V / 140 A
Engine idling	Sensor controlled



Hydraulic controls

Power distribution	Via control valves with integrated safety valves, simultaneous and independent actuation of undercarriage, swing drive and equipment
Servo circuit	
Equipment and swing	Proportional via joystick levers
Travel	- Proportional control via foot pedals or removable levers - Speed pre-selection
Additional functions	Proportional regulation via foot pedals or mini-joystick



Hydraulic system

Hydraulic system	Positive Control hydraulic system. Demand-based, double independent pump flows Features high system dynamics and sensitivity provided by integrated system controlling
Hydraulic pump	
For equipment and travel drive	Liebherr, variable displacement, swashplate double pump
Max. flow	2 x 223 l/min. / 2 x 59 gpm
Max. pressure	350 bar / 5,076 psi
Pump management	Electronic pump management via the integrated system controlling (CAN-BUS) synchronous to the control block. Open circuit for the rotation
Hydraulic tank	153 l / 40 gal
Hydraulic system	max. 360 l / max. 95 gal
Filtration	1 main return filter with integrated partial micro filtration (10 µm / 1,250 mesh)
Cooling system	Compact cooler, consisting of a water cooler, with hydraulic oil cooler, gearbox oil cooler, fuel cooler and after-cooler cores and hydrostatically driven fan
MODE selection	Adjustment of engine and hydraulic performance via a mode pre-selector to match application, e.g. for especially economical and environmentally friendly operation or for maximum digging performance and heavy-duty jobs
Engine speed and performance setting	Stepless adjustment of engine output and hydraulic power via engine speed
Tool Control	20 pre-adjustable pump flows and pressures for add-on attachments

Swing drive

Drive	Liebherr swashplate motor, shockless and antireaction
Transmission	Liebherr compact planetary reduction gears
Swing ring	Liebherr, sealed race ball bearing swing ring, internal teeth
Swing speed	0-12.5 rpm stepless
Swing torque	85 kNm / 62,693 lbf ft
Holding brake	Wet multi-disc (spring applied, pressure released)

Cab

Cab	According to guidelines for tunnel application FOPS, ROPS, FGPS plus Polycarbonate windows on equipment side and rear
Operator's seat	Seat with synthetic leather seat cover, airsprung with automatic weight adjustment, vertical and horizontal seat damping including consoles and joysticks. Seat and armrests adjustable separately and in combination
Arm consoles	Oscillating consoles with seat, tiltable console left
Operation and displays	Large high-resolution color display with intuitive operation via touchscreen, video, versatile adjusting, control and monitoring facilities, e.g. implement and attachment parameters
Noise emission	
ISO 6396	69 dB(A) = L_{pA} (inside cab)
2000/14/EC	103 dB(A) = L_{WA} (surround noise)

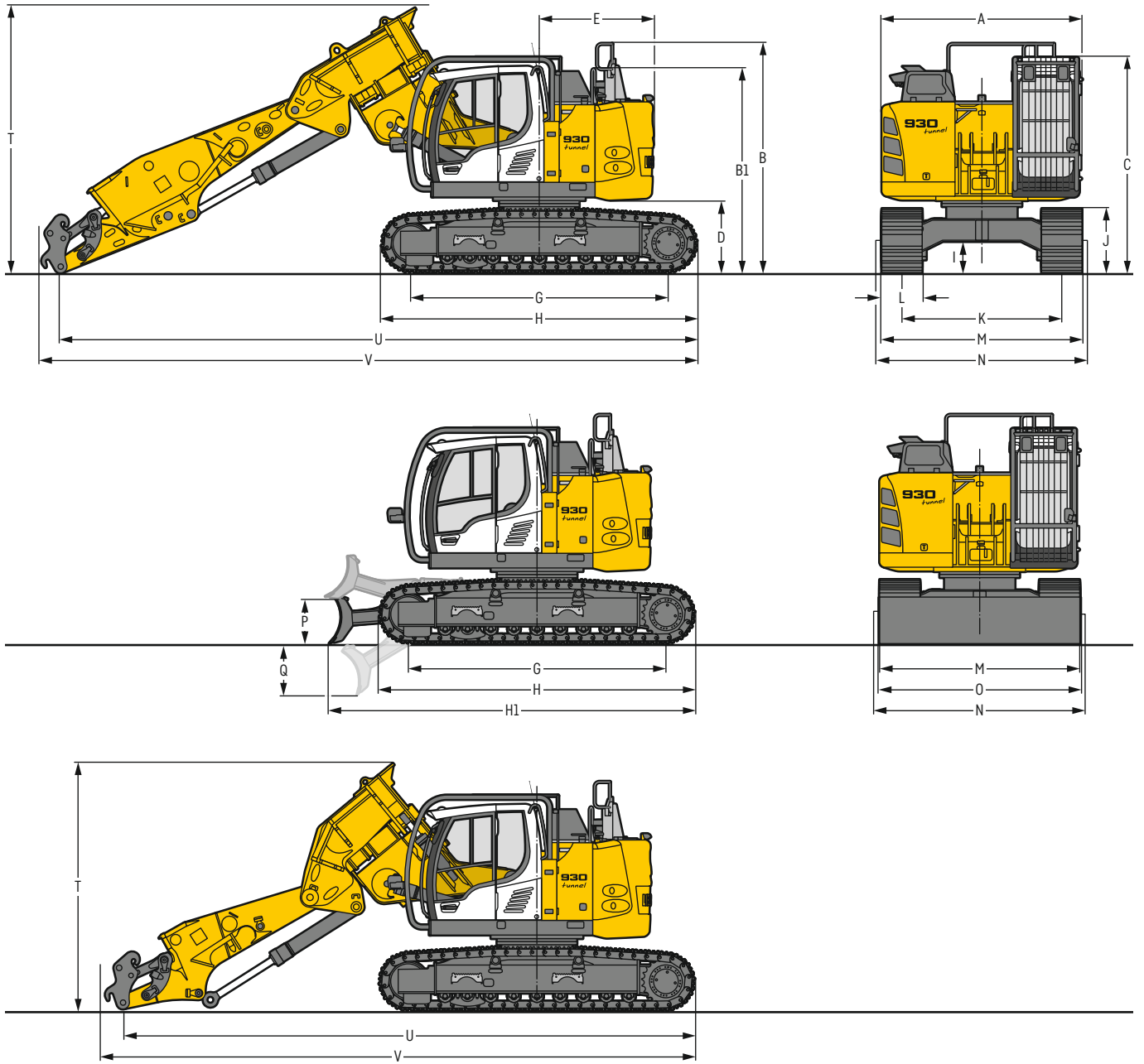
Undercarriage

LC	Gauge 2,390 mm / 7'10"
Drive	Liebherr swashplate motor with brake valves on both sides
Transmission	Liebherr compact planetary reduction gear
Maximum travel speed	3.2 km/h / 2.0 mph low range 5.1 km/h / 3.2 mph high range
Drawbar pull on crawler	236 kN / 53,055 lbf
Track components	D6C, maintenance-free
Track rollers / Carrier rollers	9 / 2
Tracks	Sealed and greased
Track pads	Double grouser
Holding brake	Wet multi-disc (spring applied, pressure released)
Brake valves	Integrated into travel motor
Lashing eyes	Integrated

Equipment

Type	Combination of resistant steel plates and cast steel components
Hydraulic cylinders	Liebherr cylinders with seal and guidance systems
Bearings	Sealed, low maintenance
Lubrication	Fully automatic Liebherr central lubrication system (except bucket tilt linkage)
Hydraulic connections	Pipes and hoses equipped with SAE split-flange connections
Basic boom	3.00 m / 9'10" or 3.30 m / 10'10" with 2 x 45° tilting bear
Stick	3.20 m / 10'6" or 4.20 m / 13'9" with integrated bucket tilt cylinder
Bucket	HD ripper bucket with cutting width 700 mm / 2'4"

Dimensions



		LC				mm/ft in	
A	Uppercarriage width					2,980 / 9' 9"	
B	Uppercarriage height					3,425 / 11' 3"	
B1	Uppercarriage height (handrails folded)					3,000 / 9' 10"	
C	Cab height					3,330 / 10' 11"	
D	Counterweight ground clearance					1,075 / 3' 6"	
E	Rear-end length					1,700 / 5' 7"	
G	Wheelbase					3,838 / 12' 7"	
H	Undercarriage length					4,700 / 15' 5"	
H1	Undercarriage length with blade					5,440 / 17' 10"	
I	Undercarriage ground clearance					465 / 1' 6"	
J	Track height					955 / 3' 2"	
K	Track gauge					2,380 / 7' 10"	
L	Track pad width	600 / 24"	700 / 28"	750 / 30"	800 / 31"	900 / 35"	
M	Width over tracks	2,980 / 9' 9"	3,080 / 10' 1"	3,130 / 10' 3"	3,180 / 10' 5"	3,280 / 10' 9"	
N	Width over steps	2,920 / 9' 7"	2,920 / 9' 7"	3,120 ¹⁾ / 10' 3" ¹⁾	3,220 ¹⁾ / 10' 7" ¹⁾	3,220 ¹⁾ / 10' 7" ¹⁾	
O	Blade width					3,000 / 9' 10"	3,100 / 10' 2"
P	Max. blade height					675 / 2' 3"	
Q	Max. blade depth					750 / 2' 6"	

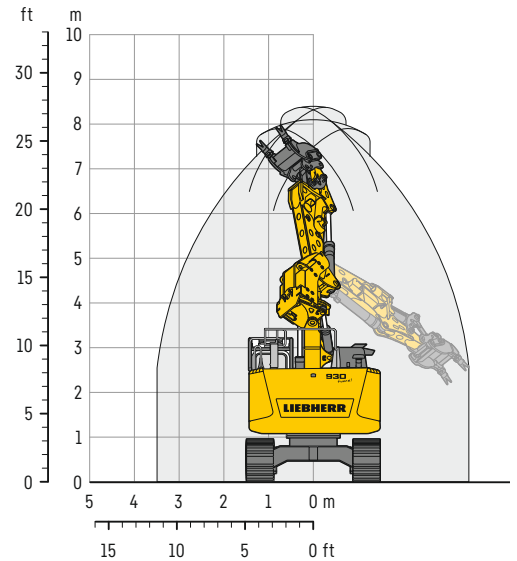
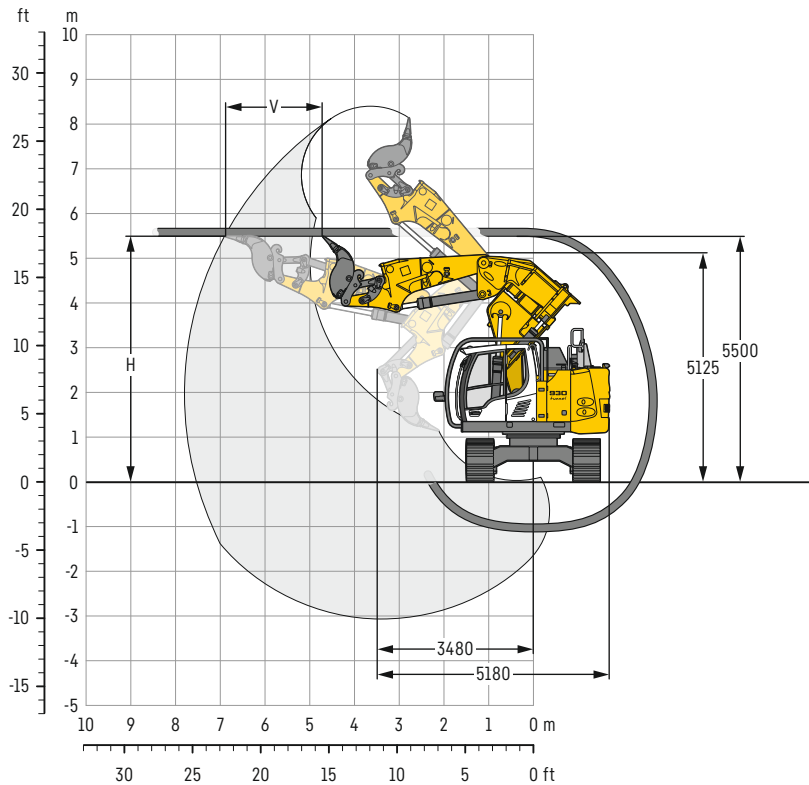
¹⁾ width with removable steps

		Boom 3.00 m / 9' 10" with 2 x 45° tilting bear and stick 3.20 m / 10' 6" with quick coupler mm / ft in	Boom 3.30 m / 10' 10" with 2 x 45° tilting bear and stick 4.20 m / 13' 9" with quick coupler mm / ft in
T	Boom height	3,900 / 3,700 ¹⁾ / 12' 10" / 12' 2" ¹⁾	3,990 / 13' 1"
U	Length on ground	8,350 / 8,500 ¹⁾ / 27' 5" / 27' 11" ¹⁾	9,500 / 31' 2"
V	Overall length	8,700 / 8,850 ¹⁾ / 28' 7" / 29" ¹⁾	9,800 / 32' 2"
	Bucket	0.16 m ³ / 0.21 yd ³	0.16 m ³ / 0.21 yd ³

¹⁾ cylinder removed

Tunneling excavator

with boom 3.00 m / 9'10", 2 x 45° tilting bear and stick 3.20 m / 10'6"



Digging envelope

Basic boom bolted in position II of upper carriage

Tunnel height H	Advance V
m / ft in	m / ft in
4.75 / 15'7"	1.11 / 3'8"
5.00 / 16'5"	2.35 / 7'9"
5.50 / 18'1"	2.17 / 7'1"
6.00 / 19'8"	2.04 / 6'8"

Operating weight and ground pressure

The operating weight includes the basic machine with boom 3.00 m / 9'10", 2 x 45° tilting bear, stick 3.20 m / 10'6", quick coupler SWA 48 and bucket 0.16 m³ / 0.21 yd³ (680 kg / 1,500 lb).

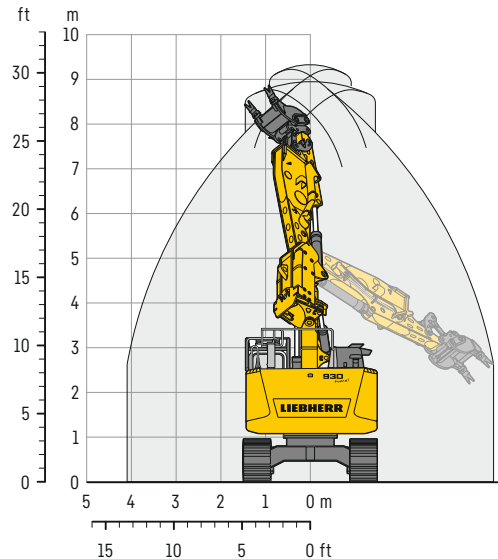
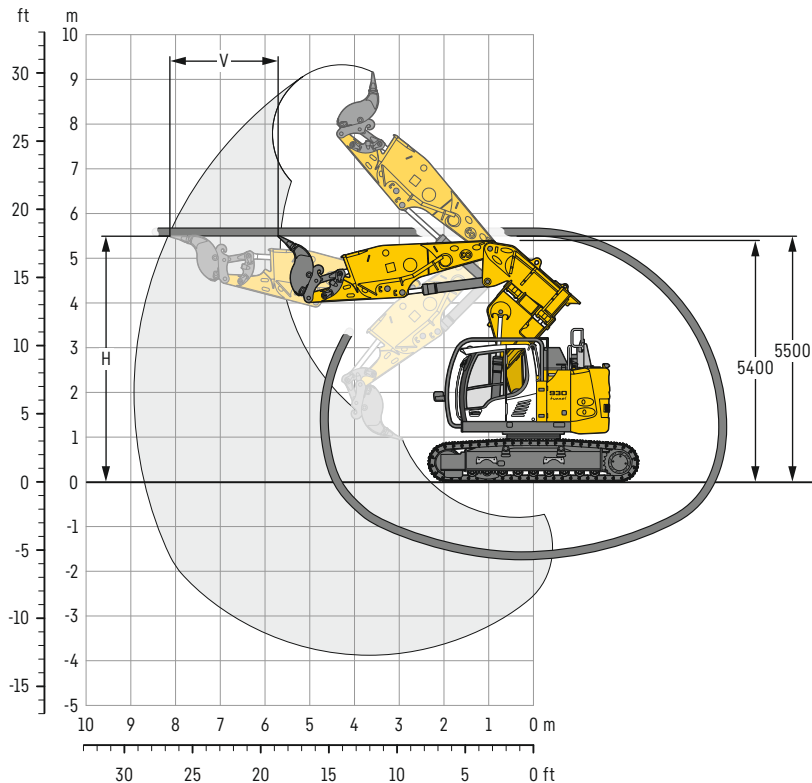
Undercarriage	with blade	
Pad width	mm / in	500 / 20" 600 / 24"
Weight	kg / lb	33,700 / 74,300 34,050 / 75,070
Ground pressure	kg/cm ² / psi	0.82 / 11.7 0.69 / 9.8

Forces

without quick coupler		
Stick digging force (ISO 6015)	kN / lbf	155 / 34,845
Bucket digging force (ISO 6015)	kN / lbf	190 / 42,714
Stick digging force (SAE J1179)	kN / lbf	138 / 31,024
Bucket digging force (SAE J1179)	kN / lbf	145 / 32,597

Tunneling excavator

with boom 3.30 m / 10'10", 2 x 45° tilting bear and stick 4,20 m / 13'9"



Digging envelope

Basic boom bolted in position II of upper carriage

Tunnel height H	Advance V
m / ft in	m / ft in
5.50 / 18'1"	2.41 / 7'11"
6.00 / 19'8"	2.25 / 7' 5"
6.50 / 21'4"	2.09 / 6'10"
7.00 / 23'	1.94 / 6' 4"
7.50 / 24'7"	1.78 / 5'10"

Operating weight and ground pressure

The operating weight includes the basic machine with boom 3.30 m / 10'10", 2 x 45° tilting bear, stick 4.20 m / 13'9", quick coupler SWA 48 and bucket 0.16 m³ / 0.21 yd³ (680 kg / 1,500 lb).

Undercarriage	with blade	
Pad width	mm / in	500 / 20" 600 / 24"
Weight	kg / lb	34,200 / 75,400 34,550 / 76,170
Ground pressure	kg/cm ² / psi	0.83 / 11.8 0.70 / 10.0

Forces

without quick coupler			
Stick digging force (ISO 6015)	kN / lbf	123 / 27,652	
Bucket digging force (ISO 6015)	kN / lbf	189 / 42,489	
Stick digging force (SAE J1179)	kN / lbf	112 / 25,179	
Bucket digging force (SAE J1179)	kN / lbf	144 / 32,373	

Serial equipment

Undercarriage

- 3 track guide at each track frame
- 4 deflectors
- Accessory for emergency towing
- Chain kit, reinforced (D6C)
- Dozer blade 3,000 mm / 9'10" with cylinder protection
- Idler protection
- Lashing eyes
- Sprocket with dirt ejector
- Track pads double grouser 600 mm / 24"
- Track rollers, lifetime-lubricated
- Tracks, sealed and greased
- Travel gear protection
- Two-stage travel motors

Uppercarriage

- Anti-skid surfaces
- Automatic swing brake lock
- Centralized lubrication system (automatic)
- Engine coolant level, visible from the cab
- Filters accessible from ground level
- Handrails
- Headlights LED front and on counterweight, protections included
- Hydraulic oil level, visible from ground level
- Lockable fuel tank cap
- Lockable service doors
- Main switch, manual, lockable
- Protection grid on radiator fan
- Sound insulation
- Steel engine hood with gas spring opening and mechanical locking
- Swing drive gearbox oil level, visible from the cab
- Swing-out radiators
- Windshield washer fluid tank

Hydraulic system

- Filter with integrated fine filters
- Hydraulic pressure measuring ports
- Hydraulic tank shut-off valve
- Liebherr Positive Control system with 2 independent circuits
- Magnetic rod
- Pressure accumulator for controlled lowering of equipment with engine turned off

Engine

- Air filter with automatic dust ejector
- Automatic engine idling / speed increase, controlled via joystick sensors
- Common-Rail injection system
- Exhaust gas after-treatment system - SCR
- Fixed geometry turbocharger
- Fuel fine filter
- Fuel pre-filter and water separator
- Fuel priming pump
- Intercooler
- Stepless adjustable engine speed

Cab

- 9" multifunction color touchscreen
- Air conditioning, automatic, tri-zone, controlled via display
- Armrests adjustable in length, height and inclination
- Bottle holder
- Cab air filters housing, accessible from ground level
- Cab door sliding windows
- Cigarette lighter
- Closed cab for tunnel application
- Coat hook
- DEF consumption on touchscreen
- DEF level on touchscreen
- Electric socket in cabin (12V)
- Electric socket in cabin (24V)
- Emergency hammer
- Engine oil level on touchscreen
- Fuel consumption on touchscreen
- Fuel level on touchscreen
- Hydraulic oil level on touchscreen
- Impact resistant roof window
- Interior lighting
- Laminated right hand side window
- LiDAT Plus (Liebherr data transfer system)*
- Mechanical hour meter, visible from ground level
- Movement priority between swing and boom, adjustable via touchscreen
- Movement priority for stick-in, adjustable via touchscreen
- Operator seat with synthetic leather seat cover and adjustable headrest
- Rain hood over front window opening
- Rearview mirror
- Rear view monitoring camera
- Rear window emergency exit
- Roll-down sun blinds for windscreen and roof window
- Rubber floor mat, fixed on floor and removable
- Safety cab structure according to guidelines ROPS, FOPS, FGPS
- Shortcut button on joystick configurable
- Storage nets
- Storage spaces
- Tilttable console left
- Tinted windows
- Visco-elastic damping
- Windscreen wiper and washer
- Working lights (front, rear)
- Work mode selector

Equipment

- High pressure circuit for additional attachments
- Hoist cylinder control stop
- Lifting eye on boom to lift the complete excavator
- Protection for hoist cylinder
- ReGeneration plus
- Stick sealed
- Working lights LED on boom and stick

* optionally extendable after one year

Options

Undercarriage

Special painting
Track pads double grouser 500 mm / 20"

Uppercarriage

Automatic fire fighter system FOGMAKER
Headlight LED+ (front) and additional LED (engine compartment)
Reversible fan drive
Special painting
Tank refilling pump fuel (electrical)

Hydraulic system

Bypass filter for hydraulic oil
Filter for high pressure circuit
Liebherr hydraulic oil
Liebherr hydraulic oil, adapted for extreme climate conditions
Liebherr hydraulic oil, biodegradable

Engine

Automatic engine shutdown after idling
Engine shut-down with overrun
Lighting for engine compartment

Cab

Working lights LED+ (front) and additional LED (rear)

Equipment

Hose quick couplings for attachments
Liebherr bucket range
Medium pressure circuit for attachment rotation
Quick coupler SWA 48
Special painting
Working lights LED+ on boom and stick

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

The Liebherr Group



Global and independent: more than 70 years of success

Liebherr was founded in 1949. With the development of the world's first mobile tower crane, Hans Liebherr laid the foundations of a successful family business which today comprises more than 140 companies on all continent and employs nearly 51,000 people. The parent company of the Group is Liebherr-International AG in Bulle (Switzerland), whose associates are exclusively members of the Liebherr family.

Technology leadership and pioneering spirit

Liebherr regards itself as a pioneer. This spirit has enabled the company to make a decisive contribution to the technological history of many industries. Today, employees around the world still share the courage of the company founder to take new paths. They are all united by a passion for technology and fascinating products and the determination to perform outstanding work for their customers.

Widely diversified product portfolio

Not only is Liebherr one of the biggest construction equipment manufacturers in the world, it also provides high-quality, user-oriented products and services in a wide range of other areas. The product portfolio includes the segments earthmoving, material handling technology, deep foundation machines, mining, mobile and crawler cranes, tower cranes, concrete technology, maritime cranes, aerospace and transportation systems, gear technology and automation systems, refrigeration and freezing, components and hotels.

Customized solutions and maximum customer benefit

Liebherr solutions are characterized by maximum precision, outstanding implementation and exceptional longevity. Its mastery of key technologies enables the company to offer its customers customized solutions. For Liebherr, customer focus does not end with the product; it also encompasses a wide range of services that make a real difference.

www.liebherr.us

WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

WARNING

This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65warnings.ca.gov.

Liebherr USA, Co.

Construction Equipment Division • 4800 Chestnut Avenue • Newport News, VA 23607, USA • Phone +1 (757) 240 4250
construction.usa@liebherr.com • www.liebherr.us • www.facebook.com/LiebherrConstruction