Technical data

Diesel engine

Rating	
per SAE J1349	141 HP (105 kW) at 1,800 rpm
per ISO 9249	143 HP (105 kW) at 1,800 rpm
Model	
Stage V / Tier 4 Final	D924 – FPT motor designed for Liebherr
Stage IIIA (compliant)	Cummins QSB4.5
Type	4 cylinder in-line
Bore / Stroke	4.1 / 5.2 in (FPT) 4.2 / 4.9 in (Cummins)
Displacement	274.61 in³
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 / 90 A (Cummins)
Stage V	
Harmful emissions values	According to regulation (EU) 2016/1628
Emission control	Liebherr-SCRT technology
Fuel tank	98 gal
Urea tank	12 gal
Stage IIIA (compliant)	
Harmful emissions values	In accordance with ECE-R.96 Power Band I
Fuel tank	98 gal
Tier 4 Final	
Harmful emissions values	In accordance with 40CFR1039 (EPA) / 13CCR (CARB)
Emission control	Liebherr-SCR technology
Fuel tank	98 gal
Urea tank	12 gal

Cooling system

Diesel engine	Water-cooled Compact cooling system consisting cooling unit for water, hydraulic oil and charge air with stepless 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 hydraulic pilot control and proportional joystick levers
Chassis mobile	Electro-proportional via foot pedal
Chassis crawler	With hydraulic proportionally functioning foot pedals or adjusted with plugable levers
Additional functions	Via switch or electro-proportional foot pedals
Proportional control	Proportionally acting transmitters on the joysticks for additional hydraulic functions

Hydraulic system

Hydraulic pump	
For equipment and travel drive	Liebherr axial piston variable displacement pump
Max. flow	79 gpm
Max. pressure	5,076 psi
Hydraulic pump regulation and control	Liebherr-Synchron-Comfort-system (LSC) with electronic engine speed sensing regulation, pressure and flow compensation, torque controlled swing drive priority
Hydraulic tank	41 gal
Hydraulic system	93 gal
Filtration	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 environmentally friendly operation or for maximum material handling and heavy-duty jobs
S (Sensitive)	Mode for precision work and lifting through very sensitive movements
E (Eco)	Mode for especially economical and environmentally friendly operation
P (Power)	Mode for high performance with low fuel consumption
P+ (Power-Plus)	Mode for highest performance and for very heavy duty applications, suitable for continuous operation
Engine speed and performance setting	Stepless alignment of engine output and hydraulic power via engine speed
Option	Tool Control: 20 pre-adjustable pump flows and pressures for add-on attachments

Swing drive

Drive	Liebherr axial piston motor with integrated brake valve and torque control
Swing ring	Liebherr, sealed race ball bearing swing ring, internal teeth
Swing speed	0–9.0 rpm stepless
Swing torque	39,091 lbf ft
Holding brake	Wet multi-disc (spring applied, pressure released)
Option	Slewing gear brake Comfort

Cab

Cab	TOPS safety cab structure (tip-over protection) with individual windscreens or featuring a slide-in subpart under the ceiling, work headlights integrated in the ceiling, a door with a sliding window (can be opened on both sides), large stowing and depositing possibilities, shock-absorbing suspension, sound damping insulating, tinted laminated safety glass, separate shades for the sunroof window and windscreen
Operator's seat Comfort	Air cushioned operator's seat with 3D-adjustable armrests, headrest, lap belt, seat heater, adjustable seat cushion inclination and length, lockable horizontal suspension, automatic weight adjustment, adjustable suspension stiffness, pneumatic lumbar vertebrae support and passive seat climatization with active coal
Operator's seat Premium (Option)	In addition to operator's seat comfort: active electronic weight adjustment (automatic readjustment), pneumatic low frequency suspension and active seat climatization with active coal and ventilator
Arm consoles	Joysticks with control consoles and swivel seat, folding left control console
Operation and displays	Large high-resolution operating unit, self-explanatory, color display with touchscreen, video-compatible, numerous setting, control and monitoring options, e.g. air conditioning control, fuel consumption, machine and attachment parameters
Air-conditioning	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 filters 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

Equipment

Type	High-strength steel plates at highly-stressed points for the toughest requirements. Complex and stable mountings of equipment and cylinders
Hydraulic cylinders	Liebherr cylinders with special sealing and guide system and, depending on cylinder type, shock absorption
Bearings	Sealed, low maintenance

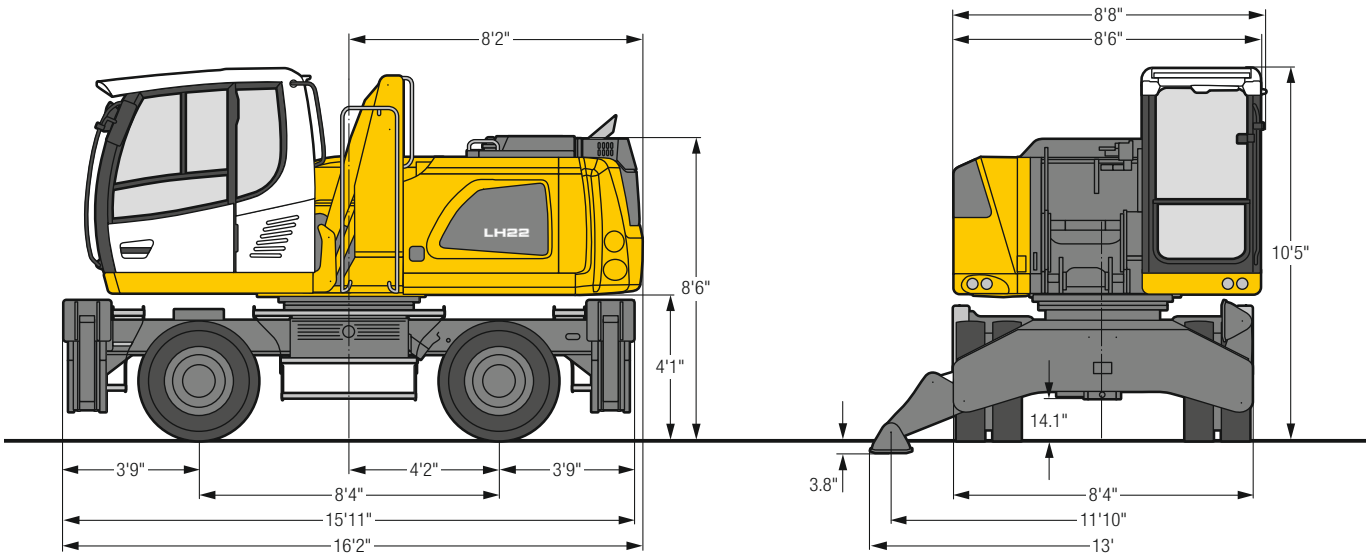
Undercarriage

Mobile	
Drive	Oversized two speed power shift transmission with additional creeper speed, Liebherr axial piston motor with functional brake valve on both sides
Travel speed Joystick steering	0–2.2 mph stepless (creeper speed + transmission stage 1) 0–4.3 mph stepless (transmission stage 1) 0–7.5 mph stepless (creeper speed + transmission stage 2) 0–7.5 mph stepless (transmission stage 2)
Travel speed Wheel steering (Option)	0– 2.2 mph stepless (creeper speed + transmission stage 1) 0– 4.3 mph stepless (transmission stage 1) 0– 8.1 mph stepless (creeper speed + transmission stage 2) 0–12.4 mph stepless (transmission stage 2)
Driving operation	Automotive driving using accelerator pedal, cruise control function: storage of variable accelerator pedal positions
Axles	70,548 lb drive axles; manual or automatic hydraulically controlled front axle oscillation lock
Service brake	Two circuit travel brake system with accumulator; wet and backlash-free disc brake
Holding brake	Wet multi-disc (spring applied, pressure released)
Stabilization	Stabilizing blade + 2 point outriggers 4 point outriggers
Option	Dozer blade, at the front, for 4 point outriggers
Crawler	
Version	LC
Drive	Liebherr compact planetary reduction gear with Liebherr axial piston motor per side of undercarriage
Travel speed	0–1.7 mph stepless (creeper speed) 0–2.9 mph stepless
Brake	Functional brake valves on both sides
Holding brake	Wet multi-disc (spring applied, pressure released)
Track pads	Triple grouser

Complete machine

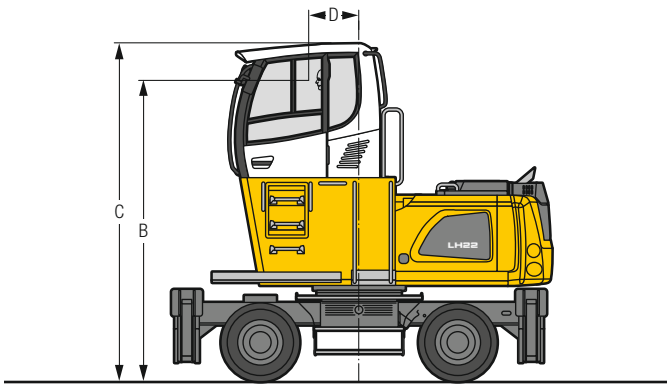
Lubrication	Liebherr central lubrication system for uppercarriage and equipment, automatically
Mobile (Option)	Liebherr central lubrication system for undercarriage, automatically
Steps system	Safe and durable access system with anti-slip steps; main components hot-galvanized
Noise emission	
ISO 6396 (Stage V)	70 dB(A) = L_{pA} (inside cab)
2000/14/EC (Stage V)	101 dB(A) = L_{WA} (surround noise)
ISO 6396 (Stage IIIA compliant)	70 dB(A) = L_{pA} (inside cab)
2000/14/EC (Stage IIIA compliant)	102 dB(A) = L_{WA} (surround noise)
ISO 6396 (Tier 4 Final)	70 dB(A) = L_{pA} (inside cab)
2000/14/EC (Tier 4 Final)	101 dB(A) = L_{WA} (surround noise)

LH 22 M – Dimensions



LH 22 M – Choice of cab elevation

Cab elevation LFC (rigid elevation)

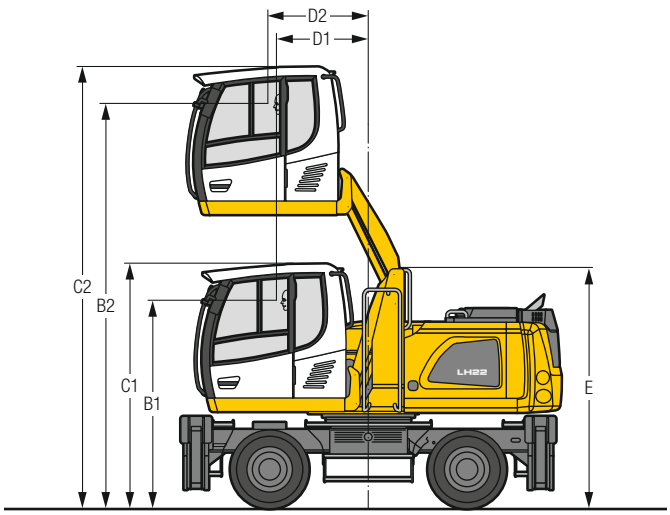


Increase type	LFC 120
Height	3'11"
B	12' 9"
C	14' 4"
D	2' 2"

A rigid cab elevation has a fixed eye level height. For a lower transport height, the shell of the cab can be removed and replaced by a transport device. The dimension C is in this machine design for all rigid cab elevations 11'4".

Tires 10.00-20

Cab elevation LHC (hydraulic elevation)



Increase type	LHC 255
B1	8'10"
B2	17' 2"
C1	10' 5"
C2	18' 9"
D1	3'11"
D2	4' 3"
E	10' 2"

The hydraulically adjustable cab allows the driver, that he can choose his field of view freely and at any time within the stroke.

Machine stabilities sorting grabs

LH 22 M – Max. material weight in lb/yd³

Grab	Shell type	Capacity	Mounting for direct mounting						Mounting for quick coupler SWA 48					
			4 pt. outriggers down			Blade + 2 pt. outriggers down			4 pt. outriggers down			Blade + 2 pt. outriggers down		
		yd³	GK9	GK10	VK8	GK9	GK10	VK8	GK9	GK10	VK8	GK9	GK10	VK8
SG 20B	perforated	0.52	5,394	3,371	2,528	3,708	1,686	2,528	4,214	2,191	1,348	2,528	506	1,348
SG 20B	perforated	0.65	4,214	2,528	1,854	2,865	1,180	1,854	3,203	1,517	843	1,854	–	843
SG 20B	perforated	0.78	3,371	1,854	1,348	2,191	843	1,348	2,528	1,180	506	1,348	–	506
SG 20B	perforated	0.92	2,697	1,517	1,011	1,686	506	1,011	2,023	843	–	1,180	–	–
SG 20B	closed	0.52	5,394	3,203	2,360	3,708	1,517	2,360	4,214	2,023	1,180	2,528	–	1,180
SG 20B	closed	0.65	4,045	2,360	1,686	2,697	1,011	1,686	3,203	1,517	843	1,854	–	843
SG 20B	closed	0.78	3,371	1,854	1,348	2,191	843	1,348	2,528	1,180	506	1,348	–	506
SG 20B	closed	0.92	2,697	1,517	1,011	1,686	506	1,011	2,023	843	–	1,011	–	–

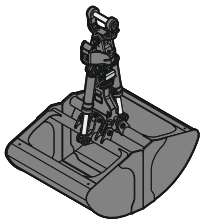
– = Load values at maximum outreach insufficient

LH 22 C – Max. material weight in lb/yd³

Grab	Shell type	Capacity	Mounting for direct mounting LC undercarriage			Mounting for quick coupler SWA 48 LC undercarriage		
		yd³	GK8	GK9	VK8	GK8	GK9	VK8
SG 20B	perforated	0.52	4,551	2,023	2,528	3,371	843	1,348
SG 20B	perforated	0.65	3,540	1,517	1,854	2,528	506	843
SG 20B	perforated	0.78	2,697	1,011	1,348	2,023	–	506
SG 20B	perforated	0.92	2,191	843	1,011	1,517	–	–
SG 20B	closed	0.52	4,551	2,023	2,360	3,371	843	1,180
SG 20B	closed	0.65	3,371	1,348	1,686	2,528	506	843
SG 20B	closed	0.78	2,697	1,011	1,348	2,023	–	506
SG 20B	closed	0.92	2,191	843	1,011	1,517	–	–

– = Load values at maximum outreach insufficient

Attachments



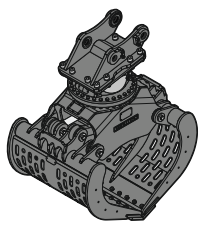
Grab for loose material

Shells for loose material with cutting edge (without teeth)

Grab model GMZ 26					
Width of shells	ft in	3'3"	4'1"	4'11"	5'9"
Capacity	yd³	1.57	1.96	2.35	2.75
Weight	lb	2,490	2,655	2,855	3,095

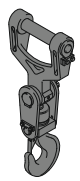
Multi-tine grab

		open	semi-closed	closed, heart-shaped
Grab model GMM 35-4 (4 tines)				
Capacity	yd³	0.78	0.78	0.78
Weight	lb	2,780	2,920	3,130
Grab model GM 55B (5 tines)				
Capacity	yd³	0.52	0.52	0.52
Weight	lb	2,195	2,470	3,030
Grab model GMM 35-5 (5 tines)				
Capacity	yd³	0.78	0.78	0.78
Weight	lb	3,195	3,340	3,440



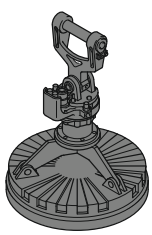
Sorting grab

		perforated				ribbed			closed			
Grab model SG 20B												
Width of shells	ft in	2'7"	3'3"	3'11"	4'7"				2'7"	3'3"	3'11"	4'7"
Capacity	yd³	0.52	0.65	0.78	0.92				0.52	0.65	0.78	0.92
Max. closing force	lbf	8,992	8,992	8,992	8,992				8,992	8,992	8,992	8,992
Weight incl. quick coupler mounting SWA 48	lb	2,095	2,195	2,295	2,390				2,125	2,225	2,315	2,415
Grab model SG 25B												
Width of shells	ft in	2'7"	3'3"	3'11"	4'7"	2'7"	3'3"	3'11"	2'7"	3'3"	3'11"	4'7"
Capacity	yd³	0.72	0.98	1.18	1.44	0.65	0.85	1.05	0.72	0.98	1.18	1.44
Max. closing force	lbf	13,489	13,489	13,489	13,489	13,489	13,489	13,489	13,489	13,489	13,489	13,489
Weight incl. quick coupler mounting SWA 48	lb	2,735	2,875	3,020	3,165	2,835	3,020	3,210	2,780	2,930	3,085	3,240



Load hook

Max. load	lb	27,560
Height with suspension	ft in	3'1"
Weight	lb	210



Magnet devices / lifting magnets

Generator	kW	10	10
Electromagnet with suspension			
Power	kW	5.5	8.8
Diameter of magnet	ft in	3'9"	4'1"
Weight	lb	2,480*	3,120*

* only magnet plate