

Telescopic Handler

TL 435-13
Litronic®

Max. lift height: 13.0 m
Max. lift capacity: 3.5 t
Engine output: 84 kW / 114 HP



LIEBHERR

Technical data



Engine

Liebherr diesel engine	D 504 Ti Emission regulations according to 97/68/EC, 2004/26/EC stage IIIA and EPA/CARB Tier 3
Net power (ISO 3046)	84 kW / 114 HP
Max. torque	430 Nm at 1,500 rpm
Displacement	4.5 l / 275 in ³
Design	Four cylinder in-line engine, water-cooled, turbocharger, air-to-air aftercooler
Fuel injection	Electronic direct injection
Air filter	Dry air filter with safety cartridge
Cooling	Hydrostatically powered fan, thermostatically controlled
Operating voltage	12 V
Batteries	12 V / 170 Ah
Lighting dynamo	12 V / 75 A
Starter	4.2 kW



Travel drive / control

Design	Stepless hydrostatic travel drive with swash-plate variable displacement pump and Liebherr hydro motor in a closed circuit, forward and reverse travel achieved by changing the flow-direction of the variable displacement pump
Filtering	Pressure filter for closed circuit
Control	Via electronic accelerator and combined brake-inch pedal, constant adjustment of tractive force at maximum diesel engine speed. Changes of direction can be selected using multifunction joystick
Precise-control function	Two speed levels (50%, 100 %) effective on travel drive or implement hydraulics
Travel speed	Stepless variable 0 – 25 km/h / 15.5 mph 0 – 20 km/h / 12.4 mph (optional)



Noise emission

Operator sound exposure (ISO 6396:1992)	$L_{pA} = 78$ dB(A) (emission at the operator's position)
Exterior sound pressure (2000/14/EG)	$L_{WA} = 103$ dB(A) (emission in the environment)



Axles

Drive	All-wheel drive
Front axles	Steering knuckle control, fitted to swing with a 5° oscillation on either side, stabilised by means of levelling cylinder
Rear axles	Steering knuckle control, fitted to swing with a 9° oscillation on either side
Differential	Automatic 45% limited-slip differential in the front axle
Transmission	Planetary gear in the wheel hubs



Brakes

Service brake	Deceleration effective on all four wheels by hydrostatic travel drive, hydraulically operated wet multiple-disk brakes in the front axle (internal)
Emergency brake	Internal hydraulic spring-loaded brakes



Operator's cab

Cab	Flexible mounting, pressurised by ventilation, split driver's doors with lockable upper part, integrated ROPS/FOPS structure, tinted safety glass at front and roof. Windscreen-wiper system for front and rear, adjustable steering column (to swivel and telescope)
Driver's seat	Cushioned driver's seat, adjustable four ways, with seat belt. Adjustable to suit weight of the driver
Ventilation	Pressure ventilation with fresh-air intake and filtering, 3-speed fan, 6 exit nozzles
Heating	Warm-water heating, defroster for front and rear windscreens



Tyres

Standard tyre equipment	405/70-24
Design	Tubeless tyres on one-piece rims
Special tyre equipment	As specified by manufacturer



Steering

Design	Hydraulic steering of front and rear axles
Types of steering	Front-axle steering (for driving on roads), all-wheel steering, crab steering



Implement hydraulics

Hydraulic system	Supply according to loads (load-sensing axial piston pump)
Max. flow rate	120 l/min / 26.4 Imp. gpm
Max. operating pressure	300 bar / 4,350 PSI
LUDV control	Load-independent flow distribution for precise translation of simultaneous joystick movements into the appropriate operative movements, independent of external forces exerted on individual hydraulic components
Filtering	Return oil filter
Control	Single-lever control via Liebherr multifunction lever (joystick), electronically controlled
Relief valves	Load-control valves on lifting, tilt and telescopic cylinders; pilot-controlled pressure valves on cylinders for stabilisers, and frame levelling
Main telescope functions	Lifting, bucket crowd and telescoping proportionally controlled using multifunction joystick
Auxiliary implement hydraulics	80 l/min / 17.6 Imp.gpm, joystick-controlled



Service Capacities

Fuel tank	130 l	28.6 Imp.gal
Cooling system	20 l	4.4 Imp.gal
Engine oil (incl. filter change)	11 l	2.4 Imp.gal
Hydraulic tank	95 l	20.9 Imp.gal
Total hydraulics	190 l	41.8 Imp.gal
Differential gears, each	6.7 l	1.5 Imp.gal
Front axle hub, each	0.75 l	0.2 Imp.gal
Rear axle hub, each	0.75 l	0.2 Imp.gal

Technical data



Performance data

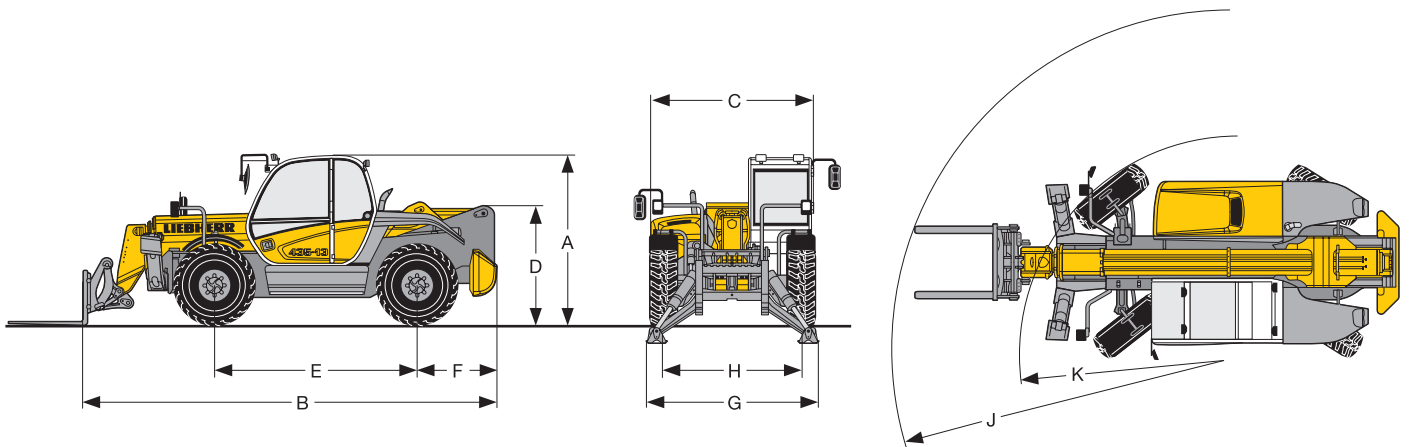
Operating weight with standard forks, without operator	9,840 kg / 21,693 lbs
Max. lift capacity	3,500 kg / 7,716 lbs
Max. lift height	13,035 mm / 42'9" ft
Max. forward reach	9,019 mm / 29'7" ft
Max. boom side-shift (optional) at max. forward reach	530 mm / 1'9" ft



Cycle times

Cycle time at nominal load	435-13
Raising boom	13.5 s
Extending	16.6 s
Retracting	11.2 s
Bucket crowd	3.7 s

Dimensions

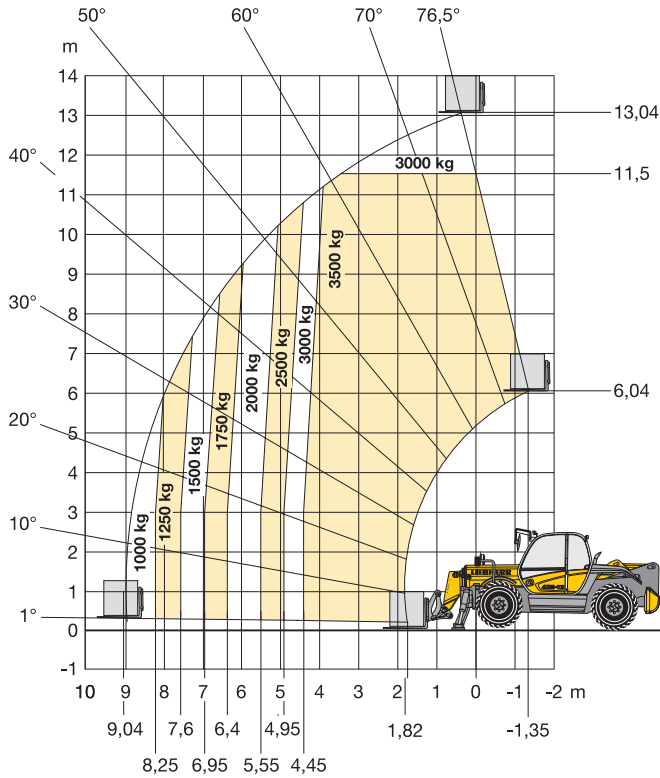


Dimensions

A Overall height (without rotating beacon)	mm	2,395
	ft-in	7'10"
B Overall length to front carriage	mm	6,190
	ft-in	20'4"
C Overall width over standard tyres	mm	2,400
	ft-in	7'10"
D Height at rear	mm	1,685
	ft-in	5'6"
E Wheelbase	mm	2,950
	ft-in	9'8"
F Rear overhang	mm	1,210
	ft-in	4'
G Width over stabilisers	mm	2,500
	ft-in	8'2"
H Track gauge	mm	1,985
	ft-in	6'6"
J Outside turning radius over forks	mm	5,400
	ft-in	17'9"
K Outside turning radius over tyres	mm	3,720
	ft-in	12'2"
Ground clearance	mm	400
	ft-in	1'4"

Load charts (acc. to EN 1459, appendix B)

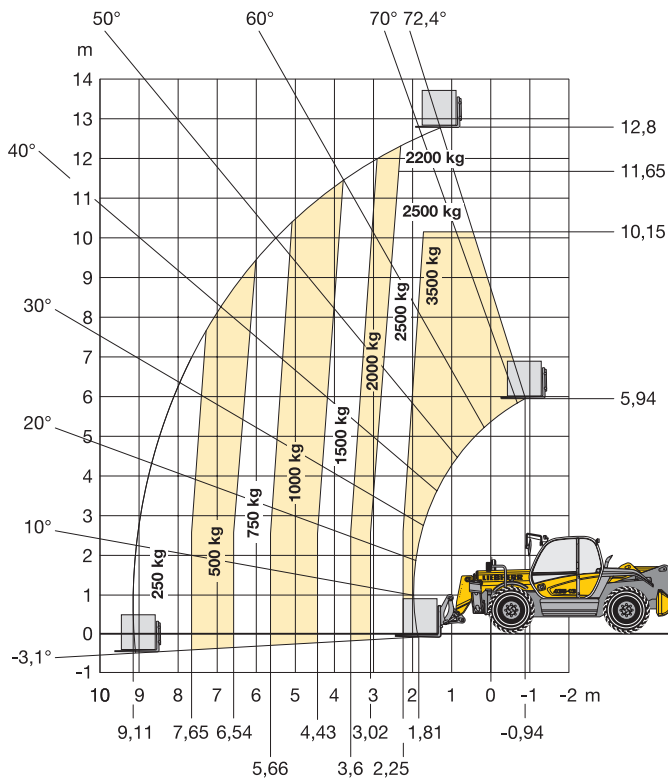
TL 435-13 - on stabilisers



Equipment

Carriage with forks	Carriage FEMIII incl. forks 100 x 50 x 1100 Form B
Tyres	MITAS MPT 04 - 405/70 - 24

TL 435-13 - on tyres



Equipment

Carriage with forks	Carriage FEMIII incl. forks 100 x 50 x 1100 Form B
Tyres	MITAS MPT 04 - 405/70 - 24

Equipment



Basic machine

	s	o
Towing hitch		•
Diesel particulate filter		•
Front stabilisers, hydraulic	•	
Rear-axle oscillation lock		•
Hydrostatic fan-drive system	•	
Crankcase ventilation with leak-oil return	•	
3 steering modes	•	
Liebherr 84 kW turbo diesel engine	•	
Waste kit, comprising seal engine compartment and for main frame		•
Frame levelling system	•	
Reversible fan		•
45% limited-slip differential in front axle	•	
Special paint		•
Road-use registration		•
3 stage synchronised boom	•	
Wheel chocks	•	
Cylinder support		•



Travel drive

	s	o
Automatic parking brake		•
20 km/h / 12.4 mph limit		•
3 modes of response for travel drive	•	
Precise-control function		•
Hydrostatic travel drive, stepless	•	
Combined inch-brake pedal	•	
Cruise control		•



Implement hydraulics

	s	o
Deactivation of implement hydraulics	•	
Autogas function		•
Automatic bucket repositioning		•
Electronic end-position damping of boom functions	•	
Boom suspension		•
Precise control function	•	
Load-sensing variable displacement pump	•	
LUDV - Load independent flow distribution	•	
Memory function for implement hydraulic circuit		•
Float position		•
Boom side-shift		•
Reduced boom speed near tipping	•	
Auxiliary implement hydraulic circuit 1	•	
Auxiliary implement hydraulic circuit 2		•



Instruments

	s	o
Response mode for travel drive	•	
Hour meter	•	
Electronic overload warning system	•	
Travel speed	•	
Driving direction	•	
Precise-control function	•	
Full beam	•	
Access platform mode	•	
Fuel level	•	
Engine coolant temperature	•	
Steering mode	•	
Memory function for implement hydraulic circuit		•
Inclination indication	•	
Clock	•	
Preheat system - Diesel engine	•	
Auxiliary implement hydraulic circuit 1	•	
Auxiliary implement hydraulic circuit 2		•



Control and warning lights

	s	o
Battery charging	•	
Indicator system	•	
Diesel engine failure	•	
rpm limitation	•	
Electronic control	•	
Parking brake	•	
Synchrony of boom stages	•	
Lifting capacity exceeded	•	
Hydraulic filter contamination indication	•	
Air filter	•	
Engine-oil pressure	•	
Emergency service	•	
Replenishing pressure closed circuit	•	
Road usage	•	
Reversible fan control		•
Overload warning system	•	



Attachments

	s	o
Access platform according to EN 280		•
Jib with hook		•
Bale clamp		•
Container hook		•
Carriage with fix forks		•
Carriage with floating forks		•
Hydraulic quick hitch		•
Crane hook		•
General purpose bucket with and without teeth and/or cutting edge		•
Light material bucket		•
Mechanical quick hitch	•	
Multi-purpose bucket		•
Bucket with hydraulic grapple		•
Side dump bucket		•
Winch		•



Electrical systems

	s	o
Working light on boom		•
Working light, rear		•
Working lights, front		•
Emergency stop button	•	
Rotating beacon		•
12 V power socket	•	
Overload warning system cut-off	•	
Harzard warning lights	•	



Operator's cab

	s	o
Pocket in driver's door	•	
Adjustable armrests	•	
Ashtray	•	
Heated wing mirror		•
Hinged wing mirror	•	
Mat	•	
Document pocket	•	
Pressurised ventilation	•	
Mechanically cushioned driver's seat	•	
Pneumatically cushioned driver's seat,		•
Travel-direction control switch integrated into joystick	•	
Precise control function for travel or power hydraulics	•	
Fire extinguisher		•
Bottle holder	•	
Split driver's door	•	
Hinged rear window	•	
Horn	•	
Interior light	•	
Interior mirror		•
Intermittent windscreen-wiper system, front	•	
Coat hook	•	
Air conditioning		•
Two way adjustable steering column	•	
Liebherr multifunction joystick	•	
Emergency exit	•	
Radio		•
Radio installation prepared	•	
ROPS/FOPS cab, sound absorbed	•	
Back up alarm		•
Windscreen-wiper system, rear	•	
Wiper, roof		•
Protective ventilation system		•
Screen guard for cab front windscreen	•	
Seat belt	•	
Tinted safety glass	•	
Roll-down sun visor for windscreen and roof panel		•
Warm-water heating	•	

S = Standard, O = Optional

Subject to alterations.

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

Other add-on equipment available on request.

The Liebherr Group of Companies

Wide product range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields, too. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional customer benefit

Every product line provides a complete range of models in many different versions. With both its technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a Group of 100 companies with over 26,000 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



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