



Winch machine

RL 44 LITRONIC®

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Winch machine

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ABOUT US

For nearly 40 years, Maats has been one of the leading suppliers of pipeline construction equipment and services to the pipeline industry and has a large fleet of equipment available for rental and for sale. Maats supply a wide variety of specialised construction machinery such as pipelayers, welding tractors, bending machines and related equipment for new pipeline construction as well as for pipeline maintenance and repairs.

Maats is global representative for the sale of new Liebherr pipelayers. Maats and Liebherr developed a range of pipelayers with lifting capacities up to 98 metric tons.

Maats produces an extensive range of both internal and external bending machines. These bending machines are considered to be the strongest and highest quality currently available.

RELIABILITY

MAATS & LIEBHERR QUALITY

Maats and Liebherr machines have been developed to meet requirements at construction sites around the world and designed throughout for a long service life. Whether at low temperatures in Siberia or in hot desert regions, the rugged and time-tested construction of Liebherr machines provides maximum reliability and availability.



STATE-OF-THE-ART COOLING SYSTEM

The cooling air is drawn in from clean regions, reducing contamination from dust particles. A reversible fan for cleaning the radiator automatically in environments with a high dust level in the air is available as an option.

HYDROSTATIC FAN DRIVE

The hydrostatically powered fan regulates the cooling capacity to meet requirements. This allows the engine to reach the optimal operating temperature faster.

LOW - TEMPERATURE OPERATION (OPTION)

Liebherr and Maats machines can be fitted with a variety of features to permit operation at low temperatures, such as preheating of the engine, battery preheating, auxiliary cab heater, electrically heated fuel water separator or insulated windows.

RUGGED AND WELL-THOUGHT- OUT DESIGN

The main frame is constructed using a proven box design. This results in a torsionally rigid frame that perfectly absorbs all applied forces. Components subjected to high loads are manufactured from cast steel.

The wear-resistant, braided PVC-fibre cable sleeving with a Teflon core provides maximum protection against mechanical damage. Damage and moisture uptake is also prevented.

LOW GROUND PRESSURE

All Maats and Liebherr machines are equipped with very wide track shoes and an extra long undercarriage, which results in a very low ground pressure.



**TIME-TESTED
AND PROVEN
TECHNOLOGY AS
WELL AS HIGH MATERIAL
AND MANUFACTURING
QUALITY ENSURE
MAXIMUM RELIABILITY
EVEN UNDER THE
HARSHEST CONDITIONS.**

SAFETY

Safety is always a priority at Maats and Liebherr. Accordingly, all winch machines have a well thought out safety concept. Important details such as the ROPS cab, the automatic parking brake and the extremely precise hydraulics make Maats and Liebherr pipelayers among the safest in the industry.

CAB WITH INTEGRATED ROPS PROTECTION

Maats and Liebherr machine cabs come with integrated roll-over protection as a standard feature. This provides convenient and good visibility in the working area.

FREE-FALL FUNCTION

If the operator must lower the load quickly, in case of emergency, it is possible to switch the winch to free-fall.

LOGICAL JOYSTICK CONTROL

All primary machine movements can be initiated intuitively and without reaching for another operating lever. This always allows the operator to focus his attention on the load being moved. Safety on the construction site is increased considerably as a result.

PRECISION WHEN TRAVELLING ON SLOPES

Maats and Liebherr machines always move with no loss of traction. This prevents the machine's rolling away unintentionally, especially when travelling on slopes. When the machine is no longer moving, an automatically activated parking brake provides additional safety. Thanks to the hydrostatic system, the operator can control braking simply by eliminating any joystick deflection.



**SAFETY IS PRIORITY
AT LIEBHERR AND
MAATS, WHICH
IS WHY ALL PIPELAYERS
ARE BASED ON A WELL-
THOUGHT-OUT SAFETY
CONCEPT THAT SETS
STANDARDS IN PIPELINE
CONSTRUCTION.**

BASE MACHINE



ENGINE

Liebherr diesel engine
D 936 L A6
L A6 Emission regulations according to 97/68/
EC, 2004/26/EC Stage IIIA and EPA/CARB Tier 3

Rating (ISO 9249)	175 kW/238 HP
Rating (SAE J1349)	175 kW/235 HP
Rated speed	1,800 1/min
Displacement	10.5 l / 641 in³
Design	6 cylinder in-line-engine (wet-sleeve) water-cooled, turbocharged, intercooled
Injection system	Direct fuel injection, pump-line-nozzle system, electronic control
Lubrication	Force-feed lubrication, engine lubrication in an inclined position up to 45°
Operating voltage	24 V
Alternator 80 A	80 A
Starter	7.8 kW / 11HP
Batteries	2 x 170 Ah/12 V
Air cleaner	Dry-type air cleaner with safety element, aspirated pre-cleaner, service gauge in cab
Cooling system	Combi radiator, comprising a radiator for water and charge air, hydrostatic fan drive



TRAVEL DRIVE, CONTROL

Transmission system	Infinitely variable hydrostatic travel drive, independent drive for each frame
Travel speed*	Continuously variable
Speed range 1 (reverse)	0 - 4.0 km/h / 2.5 mph (4.8 km/h / 2.9 mph)
Speed range 2 (reverse)	0 - 6.5 km/h / 4.0 mph (7.8 km/h / 4.8 mph)
Speed range 3 (reverse)	0 - 10.5 km/h / 6.5 mph (10.5 km/h / 6.5 mph)
	* Pre-adjusted, all speed ranges can be customized on the travel joystick (memory function)
Drawbar pull	300 kN at 1.7 km/h / 1.1 mph
Electronic control	Electronic engine speed sensing control (load sensing feature) automatically adjusts travel speed and drawbar pull to match changing load conditions
Steering	Hydrostatic
Service brake	Wear-free, hydrostatic (dynamic braking)
Automatic park brake	Wear-free, wet multiple-disc brakes, automatically applied with neutral joystick position
Cooling system	Hydraulic oil Separate hydraulic oil cooler Cooler integrated in combi radiator Hydraulic oil cooler hydrostatically driven and thermostatically controlled
Filter system	Micro cartridge filters in replenishing pressure circuit
Final drive	Heavy-duty combination spur gear with planetary final drives, double sealed with electronic seal-integrity indicator
Control	Single-lever for all travel and steering motions, as well as for counter rotation



OPERATOR'S CAB

Cab	Resiliently mounted cab with positive pressure ventilation, can be tilted with hand pump 40° to the rear. With ROPS Rollover Protective Structure (ISO 3471).
Operator's seat	Comfort seat, adjustable to operator's weight
Monitoring	Combined analogue / LC display, automatic monitoring, display of abnormal operating conditions



UNDERCARRIAGE

Design	Track frame, rigid
Mount	Elastic components at a separate pivot
Chains	Lubricated, single-bar grouser shoes, track chain tension via grease tensioner and hydraulic cylinders.
Links, each side	43
Track rollers/carrier rollers	8/2 each side
Sprocket segments	5 each side
Track shoes	914 mm / 36" 711 mm / 28"



HYDRAULIC SYSTEM

System	Load Sensing proportional pump flow control
Pump type	Swash plate, variable displacement piston pump
Pump flow max.	283 l/min / 62.3 gpm
Pressure limitation	280 bar / 4,060 PSI
Control valve	3 segments, expandable to 4
Filter system	Return filter with magnetic rod in the hydraulic tank
Control	Single joystick for hoist winch and free fall device in case of danger. Further single joystick for counterweight.



HYDRAULIC WINCH

Hoist winch	Variable flow hydraulic pump
Safety brake	Spring-loaded disk brake holds the load safely in any position
Drum diameter	254 mm/10"
Drum length	279 mm/10.98"
Flange diameter	610 mm/24"
Cable diameter Cable	20 mm/0.8"
length	65 m/71.08 yd
Hook speed (up,down)	0-30.2 m/min, 0-99 ft/min
Security	Free fall device

Number of wire layers on drum	Pulling force on 1x shaved steel cable
1	9.700 kg / 21,384 lb
2	8.000 kg / 17,634 lb
3	7.900 kg / 17,417 lb
4	7.300 kg / 16,094 lb
5	6.600 kg / 14,551 lb
6	6.200 kg / 13,669 lb
7	5.600 kg / 12,346 lb
8	5.200 kg / 11,464 lb
9	4.900 kg / 10,803 lb

Usable pulling force will depend on position of the winch machine and pulled object

BASE MACHINE



NOISE EMISSION

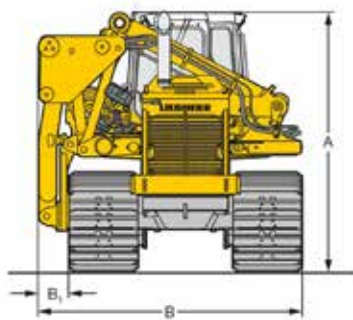
Operator sound exposure (ISO 6396:208)	$L_{pA} = 78$ dB(A) (emission at the operator's position)
Exterior sound pressure (2000/14/EC)	$L_{wA} = 108$ dB(A) (emission at the operator's position)



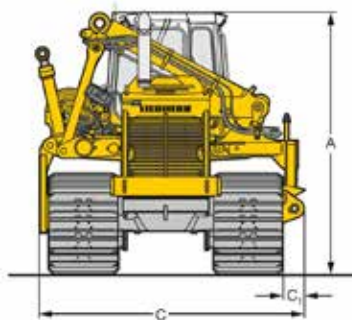
REFILL CAPACITIES

Fuel tank	400 l/88 gall
Cooling system	55 l/12.1 gall
Engine oil with oil filters	43 l/9.5 gall
Splitter box	3.1 l/0.7 gall
Hydraulic tank	126 l/27.7 gall
Final drive, left	21 l/4.6 gall
Final drive, right	14 l/3.1 gall

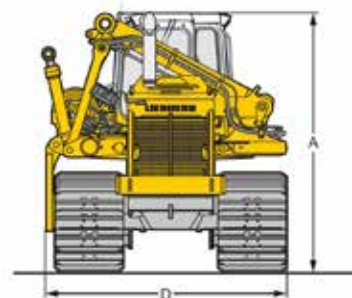




Pos. 1



Pos. 2



Pos. 3



TRANSPORT DIMENSIONS, DISPLAYED POSITION

A	Total height	mm/ft-in	3,467/11'4"
B	Overall width	mm/ft-in	3,283/10'9"
B ₁	Width (from console to left track)	mm/ft-in	395 / 1'4"
Weight (Pos. 1)		kg/lb	27,898/61,504
C	Overall width	mm/ft-in	3,189/10'6"
C ₁	Width (from console to right track)	mm/in	192 / 7.56"
Weight (Pos. 2)		kg/lb	26,555/58,544
D	Overall width	mm/ft-in	2,997/9'10"
Weight (Pos. 3)		kg/lb	26,084/57,505





BASE MACHINE

Tow switch	•
Towing hitch rear	•
Towing lug front	•
Battery compartment, lockable	•
Belly pans, heavy-duty	•
Radiator, wide-meshed	•
Radiator guard, heavy-duty	•
Radiator guard, hinged	•
Liebherr diesel engine	•
Fan, hydraulically driven	•
Fan guard	•
Engine cover, perforated	•
Engine doors, perforated	•
Engine doors, hinged, lockable	•
Fuel water separator	•
Air filter dry-type, dual step	•
Pre-cleaner with automatic dust ejector	•
Toolkit	•
Arctic kit, for -40° C	+
Refueling pump, electric	+
GOST/EAC features and certification	+
LiDAT Plus, data transmission system	+
Lugs for crane lifting	+
Special paint	+
Fuel water separator with electric heater	+



TRAVEL DRIVE

Parking brake, automatic	•
Function control, automatic	•
Control, single joystick	•
Load limit control, electronic	•
Electronic control	•
Travel control 3-speed ranges	•
Hydrostatic travel drive	•
Oil cooler	•
Final drive with planetary gear	•
Safety lever	•
Emergency stop	•
Inching brake pedal	+



UNDERCARRIAGE

Track frame, closed	•
Sprocket segments, bolted	•
Master link, two-piece	•
Tracks oil lubricated	•
Track frame, rigid	•
Pivot shaft, separate	•
Track guide center part	+
Track guard	+



ELECTRICAL SYSTEM

Starter motor	•
Working lights, front, 2 units	•
Working lights, rear, 2 units	•
Working lights, side 2 units	•
Working lights, winch, 2 units	•
Batteries, cold start, 2 units	•
Battery main switch, mechanical	•
On-board system 24 V	•
Alternator 80 A	•
Back-up alarm	•
Horn	•
Beacon	+
Start Lock, Electronic	+
Additional lights, rear	+



OPERATOR'S CAB

Storage compartment front	•
Armrest 3D adjustable	•
Pressurized cab	•
Operator's seat, 6-way adjustable	•
Dome light	•
Coat hook	•
ROPS	•
Rear mirror, inside	•
Safety glass, tinted	•
Windshield wiper left door and left window	•
Windshield wipers front, rear	•
Dormer window	•
Sun visor front	•
Socket 12 V	•
Warm water heating	•
Operator's seat, air-suspended	+
Fire extinguisher in cabin	+
Air conditioning	+
FM radio	+
Radio installation kit	+
Windshield wiper dormer window	+
Extension, seat back	+



CONTROL AND WARNING LIGHTS

Control travel speed range (digital)	•
Control engine coolant temperature (analogue)	•
Fuel gauge (analogue)	•
Hour meter (analogue)	•
Warning lights battery charging	•
Warning lights diesel engine	•
Warning lights electronic travel control system	•
Warning lights travel drive seal, each side	•
Warning lights travel brake	•
Warning lights pump replenishing pressure	•
Warning lights oil return filter	•
Warning lights air filter	•
Warning lights heater diesel engine	•
Main warning light	•
Warning hydraulic oil temperature	+
Overload warning system	+



HYDRAULIC SYSTEM

Hydraulic control counterweight	•
Hydraulic control winch and boom	•
Variable flow pump, load sensing	•
Oil filter with strainer in hydraulic tank	•
Free fall device	•
Hydraulic servo control	•
Control valve for 1 circuit	+
Hydraulic tank oil level control	+



• = standard
+ = option

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



MAATS PIPELINE PROFESSIONALS

Maats manufactures, sells and rents out high quality equipment for the construction of pipelines with all common diameters from 6 up to 60 inches. With branch offices in Indonesia (PT. Maats), partnerships in Algeria (Maats Afrique) and Turkey (Maats Insaat) and a close cooperation with the global network of Liebherr companies, Maats' presence is truly global.

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**STRENGTH,
PERFORMANCE
& RELIABILITY
UNDER ALL
CIRCUMSTANCES.
READY FOR
FUTURE CHALLENGES**