

MINING LOADER L140B

BATTERY Powered

LHD 1,3 t 0,7m³



SAFETY



POWER



COMFORT



OPERATING
LIFE

A NEW ERA FOR UNDERGROUND

 **Aramine**
NEVER STOP MINING

MINING LOADER L140B

BATTERY Powered



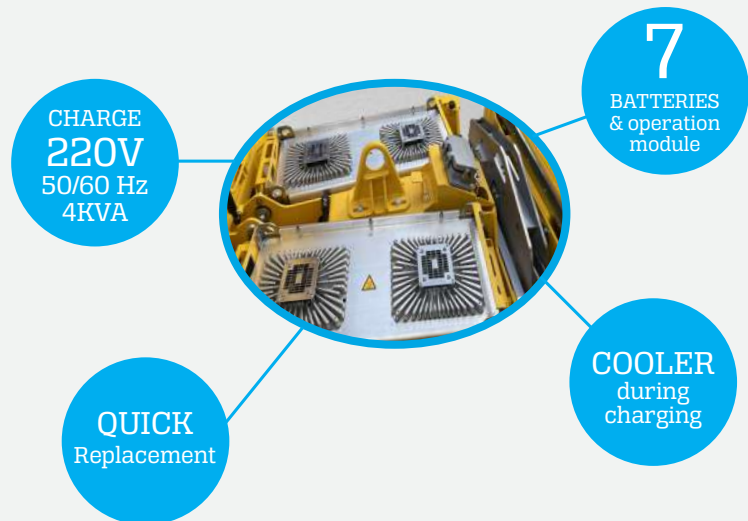
PROVEN AND RELIABLE HIGH TECHNOLOGY

The L140B, especially thought for narrow vein mines, is designed with the best components from recognized brands. The machine doesn't need maintenance; without hydrostatics, with a simplified electrical transmission and a low heating, it has a longer lifetime.



BATTERY PACK «PLUG AND LOAD»

Each machine has two robust battery packs, in waterproof stainless steel boxes, with charging cooler and integrated charger.

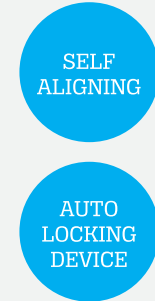


OPTIONAL QUICK BATTERY REPLACEMENT SYSTEM

Unlimited operation of machine by changing energy module

EXCLUSIVE SYSTEM !

Additional energy module, for full shift, full day or full time autonomy. Changing battery is now faster than filling fuel tank with the Aramine V Optional energy module replacement bench with crane.



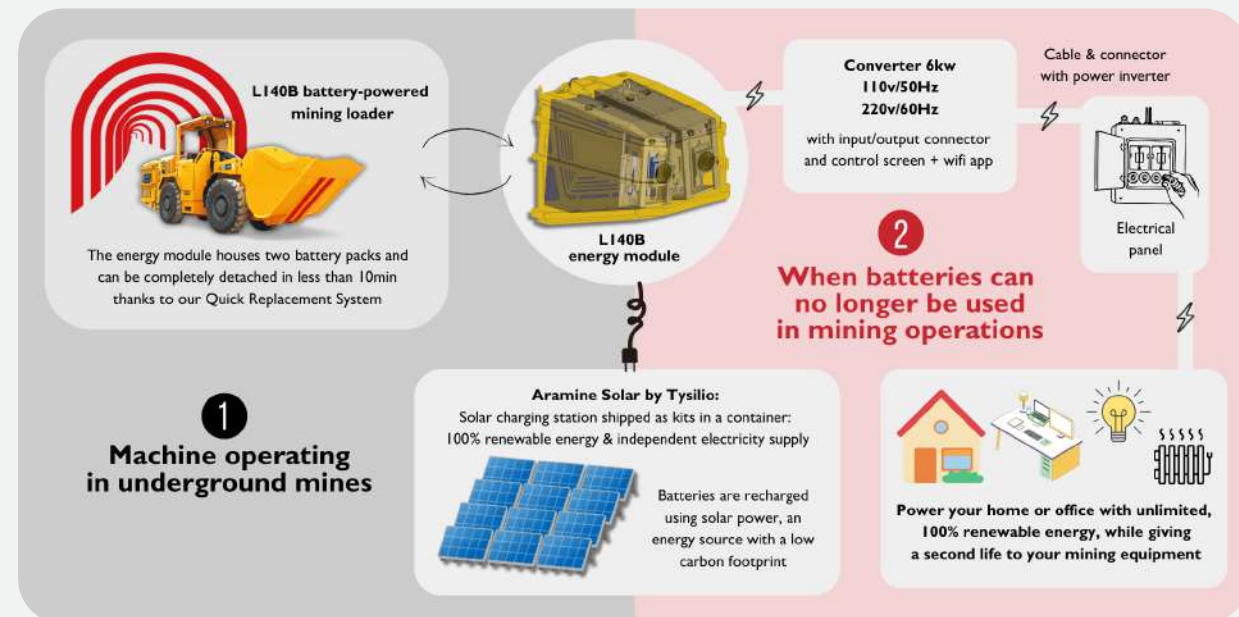
LOW CARBON FOOTPRINT

Opting for a battery-powered machine is an important step towards reducing the carbon impact of your mining operations.

But you can go even further:

- by choosing the Aramine Solar option: a solar station shipped as kits in a container: 100% renewable energy and independent electricity supply.
- by giving the battery pack a second life: once it is no longer powerful enough to operate in your mine, opt for our converter, which gives you a new source of energy to light or heat your home or office.

For every machine acquired, receive a CO2 emissions reduction certificate, which calculates all the carbon emissions avoided by opting for our battery-powered machine rather than its diesel equivalent.



MINING LOADER L140B

BATTERY Powered

HIGH TECH



- + Integrated microSD to collect all data and analyze the machine functions
- + Adapt easily the machine to your mine conditions with our engineers

BATTERIES



24 or 42 kWh
LiFe PO4



INTEGRATED CHARGER

OPERATING LIFE
3-5H*
in constant use

CHARGING TIME
4H
in 220V

*3-4 hours with 24 kWh batteries
4-5 hours with 42 kWh batteries

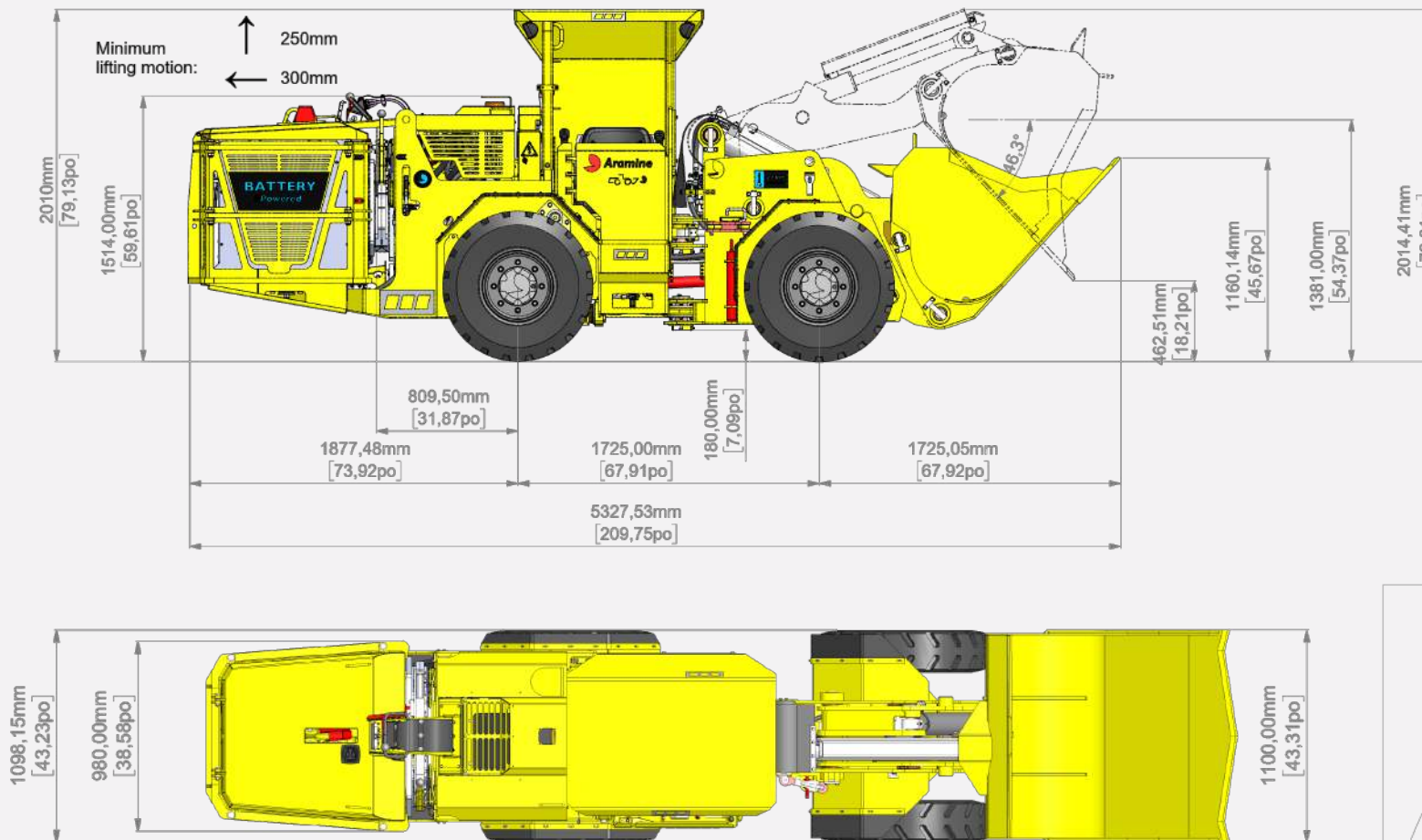
LOADING POWER



TRACTIVE EFFORT
3,2t

INSTANT REACTIVITY

60%
OF ITS MAX TORQUE



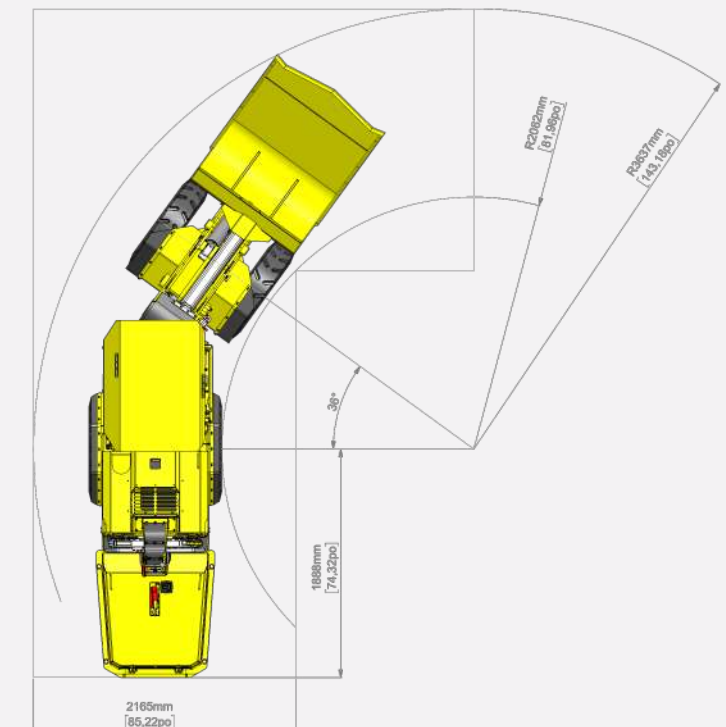
COMFORT AND ENVIRONMENT



EMISSION
0%
CO₂

LOW NOISE

- + Flexibility of use
- + Ergonomic operator compartment with integrated and adjustable armrests
- + Progressive acceleration and braking
- + Oscillation with prestressed shock absorbers



SAFETY



MULTIDISC BRAKES
SAHR*

AUTOMATIC BRAKING

START UP CHECKING

LOW TEMPERATURE BATTERY

- + Automatic stop of the batteries in case of failure
- + Extremely stable narrow machine
- + Very safe operator compartments, with automatic locking of controls

*Spring applied hydraulic release

RELIABILITY



PROVEN COMPONENTS

UNDERGROUND USE

ALTITUDE
≥4000m

TEMPERATURE
<35 TO 40°

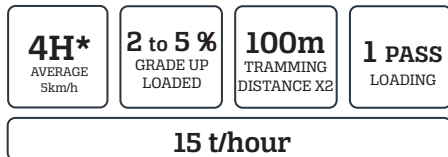
SPECIFICATIONS

CAPACITIES

Tramming capacity	1 300 kg		
Static tipping Load	30 kN		
Breakout force, tilt (SAE)	30 kN		
Breakout force, lift (SAE)	35 kN		
Tractive Effort	32 kN		
Empty weight	4 700 kg		
Empty weight distribution	Front 1 100 kg / Rear 3 600 kg		
Loaded weight distribution	Front 3 100 kg / Rear 2 900 kg		
Standard bucket volume	0,7 m ³		
Density (t/m ³)	1,6	1,9	2,2
Volume (m ³)*	0,8	0,7	0,6
Width (mm)	1 100	1 100	1 100

* Heaped SAE

PRODUCTIVITY WITH A 42 kWh ENERGY MODULE



* 3 to 5 hours depending on operator & Application

SPEED

Vehicle Speed loaded	0 to 7 km/h	
Boom speed	Raising 4,1s / Lowering 2,6 s	
Bucket speed	Roll back 3,6 s / Dumping 5,6 s	

ELECTRIC MOTOR

2 x Leroy Somer 25kW motors
1 for Tramming & 1 for hydraulic
Same motors for easy maintenance & less inventory
Liquid cooled motors for stability in high temp environment.

TRANSMISSION

The LI40B miniLoader was designed to remove the hydrostatic transmission and related systems. This has been achieved by the new design of an electrical directional controller. Electric asynchronous motor 25kW mounted on rear axle through belt type reducer and spring applied hydraulic release brake. Auto battery recharge while decelerating & breaking cycle.

FRONT AND REAR AXLES

Front & Rear axles, Aramine A5086 Series
Front: Rigid axle with wheel end planetary and Nospin differential lock type
Rear: Oscillating mounted axle with wheel end planetary and standard differential
Mounted on rear axle

BRAKES

Service : Electrical brake control with additional enclosed multi disc brake (Spring Applied Hydraulic Release) for service brake & immobilisation.
Manual actuation by operator and automatic actuation in case of hydraulic or electric energy loss.

OSCILLATION

Rear axle mounted on oscillation frame with 12° articulation (6 degrees in each side)

TIRES

Deep Lug tire for Mining application MICHELIN, 7.5R15 Xmine D2
Mounted on demountable rims

ENERGY - BEV

Battery type : LiFe P04
2 energy modules available :

STANDARD - 24 kWh Cylindric LFP batteries
OPTIONAL - 42 kWh Prismatic LFP batteries

	24 kWh	42 kWh
Autonomy	3-4 hours	4-5 hours
Replacement	Less than 15 minutes (QRS)	
Battery recharge	5 hours	3,5 hours
Power required for recharge	2x16amp	2x32amp

Each energy module includes:

- Interchangeability and full compatibility
- Dual battery packs and BMS
- Battery packs sealed in stainless steel case
- On board battery charger and cable
- Lifting hook for easy manutention and hot swap

BATTERIES REPLACEMENT & RECHARGE

Aramine's smart QRS allows hot-swapping of energy modules in less than 15 minutes. The energy module is charged via two 220V/16 amp sockets (or 32 amps for 42 kWh) while the machine is running on another energy module.

ELECTRIC SYSTEM

Sealed electrical system with replaceables harness
2 batteries 12 V 17Ah for wake up with self charge
Accessories : 24V
2 Front & 2 Rear LED lights
4,3' Display for diagnostic & function

HYDRAULIC SYSTEM

Suction strainer 100 microns
Return & Suction filter 10µ with replacable element
Fluid ISO VG32
Gear type pump powered by an electric motor
Electronic Pilot Steering & Bucket Controls

Hydraulic Cylinders, double acting type :

- One (1) for stab with bucket stab link
- One (1) for Hoist
- One (1) for Steering

HYDRAULIC TANK

Hydraulic 50 L (Welded to frame)

OPERATOR'S COMPARTMENT

Side Seated Operator, for better visibility in both directions
Seat with suspension, and safety belt
Ergonomic built-in armrests ajustable with Joystick controls
Ergonomic control panel with 4,3' display for Diagnostic & Functions
ROPS/FOPS Certified bolted Canopy with Back Protection
Steering direction controlled by left joystick
Bucket controlled by right joystick
Forward/Reverse/Neutral control buttons on left joystick
Right foot pedal for tramming speed control
Safety door with large opening in narrow clearance

STANDARD EQUIPMENTS

Certified ROPS/FOPS Canopy over operator
Operator compartment safety door
Ergonomic and comfortable operator's compartment for enjoyable operation
Dash Board with 4,3' display for system control and machine diagnostic
Intuitive and ergonomic controls from joystick buttons for : Direction, Lights, Horn, and any option
Can-bus type electrical system for easy diagnostics and programmation
Electronic Pilot Operated joystick for Steering and Bucket Controls
Electronic pedal for speed control & electric brakes
Left foot pedal for service brake in case of emergency
LED type lights
Direct Electric Drive Transmission
Removable battery packs (2) in a sealed and solid stainless steel frame integrating; batteries, electronic control monitor and charger
LiFe PO4 battery, proven stability & reliability in toughest environment
High level of safety integrated in all systems and designs
All hoods are assisted by Gaz spring cylinder and locking device
Safe and easy Central hinge locking device
Safe and easy Boom raised locking device
BackUp Audio/Visual Alarm
Manual centralized lube system
Replaceable inserts to central hinge, bucket and boom articulations
Dump Cylinder Protection
Complementary Service & Park Spring Applied Multi-disc brake
Michelin 7,5 R15 X Mine D2 tires

OPTIONS

Automatic lube system
Extinguisher
Fire Suppression system ANSUL
Radio Remote Control system
Emergency Power Steering (electro-hydraulic)
Bucket with high abrasive blades reinforcement
EOD Ejector Blade Bucket
Smart QRS battery hot swap system
Battery Replacement Bench
Adjustable canopy
Michelin 8,25 R15 X Mine D2 tires
Solar charging station shipped as kits in a container:
100% renewable energy and independent electricity supply
Multi energy supply kit: a second life for your batteries by powering your office, your home...

PERFORMANCES

PRODUCTIVITY FOR 42 kWh CHARGE**

Capacity hauled (1st chart) and Operational time (2nd chart)

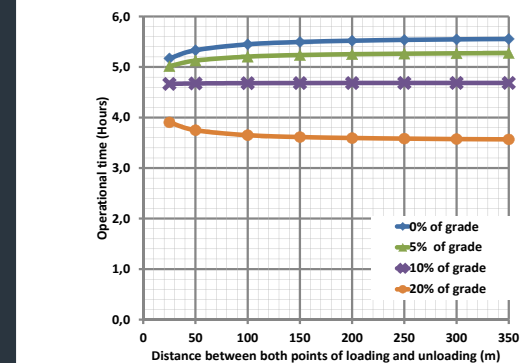
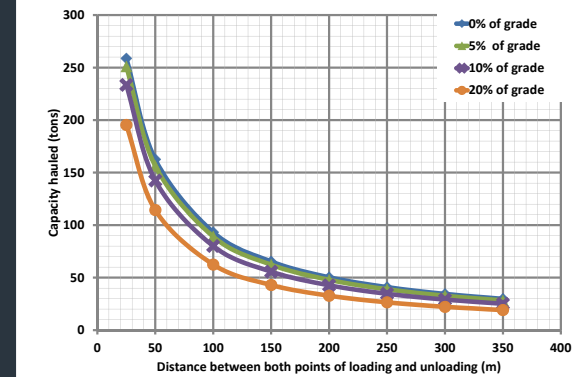
BATTERY DISCHARGE : 100% (Equivalent at 95% DOD*)

Rolling resistance of tires : 3%

LOADED IN CLIMB UP and EMPTY IN DOWNHILL

The haulage Average speed : 3 km/h

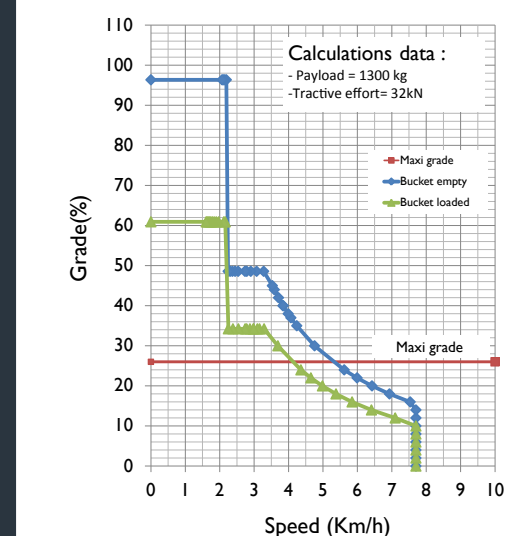
*Depth Of Discharge



** For each energy module fully charged

SPEED ON GRADE

Performance curve



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