

# MINING LOADER L140B

BATTERY Powered

LHD 1,3 t 0,7m<sup>3</sup>



SAFETY



POWER



COMFORT



OPERATING  
LIFE

## A NEW ERA FOR UNDERGROUND

 **Aramine**  
NEVER STOP MINING

# MINING LOADER L140B

BATTERY Powered



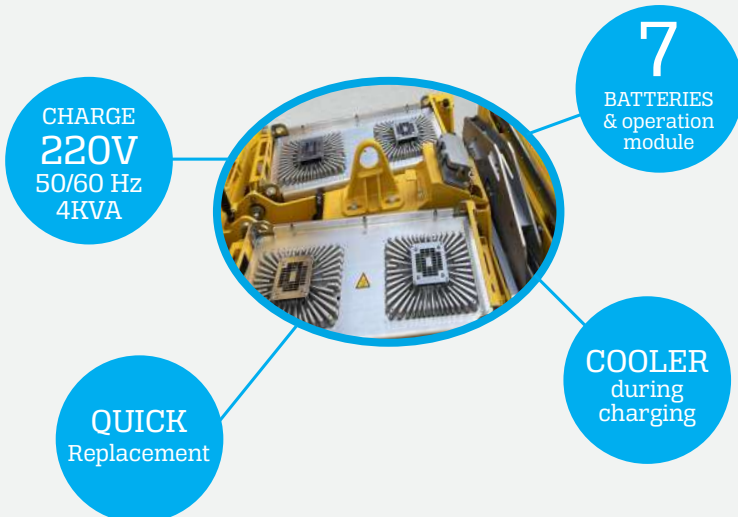
## PROVEN AND RELIABLE HIGH TECHNOLOGY

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.

SELF ALIGNING

AUTO LOCKING DEVICE



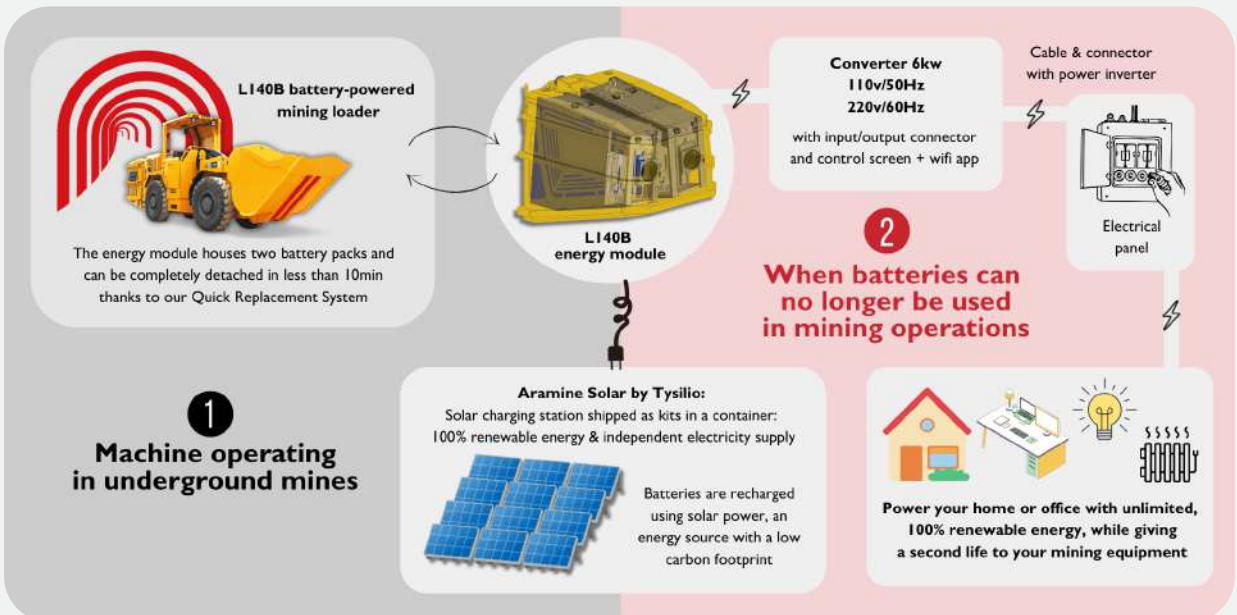
## LOW CARBON FOOTPRINT

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

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## BATTERIES



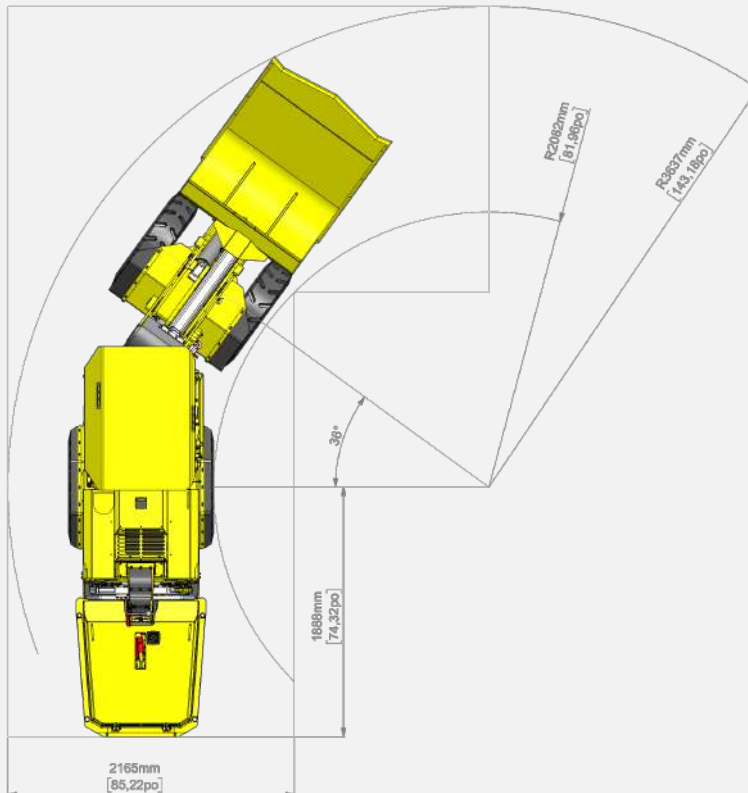
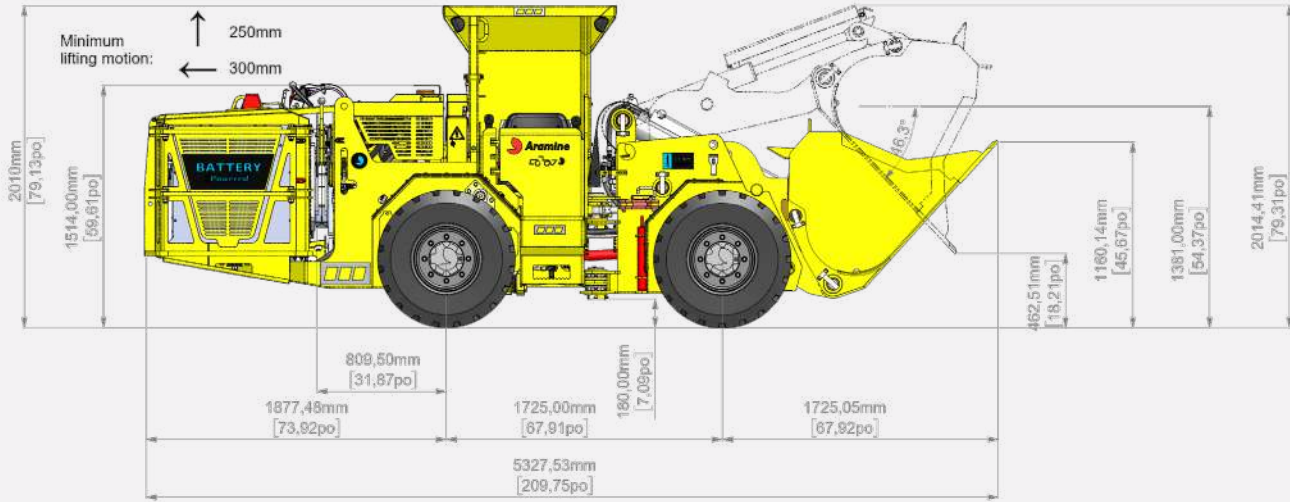
24 or 42  
kWh  
LiFe P04

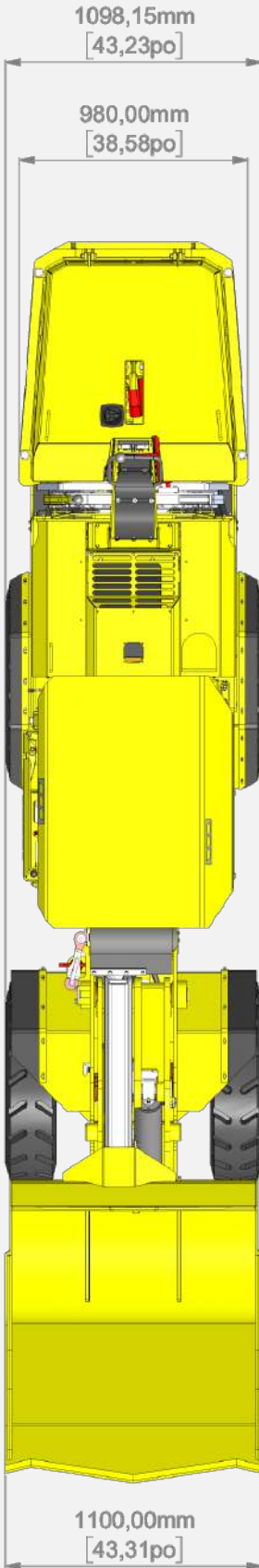
INTEGRATED  
CHARGER

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





## COMFORT AND ENVIRONMENT



EMISSION

0%  
CO<sub>2</sub>

LOW  
NOISE



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

## LOADING POWER



TRACTIVE  
EFFORT  
3,2t

INSTANT  
REACTIVITY



60%  
OF ITS MAX  
TORQUE

## RELIABILITY



PROVEN  
COMPONENTS



UNDERGROUND  
USE

ALTITUDE  
≥4000m



TEMPERATURE  
<35 TO 40°



## HIGH TECH



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

## 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

# 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 <sup>3</sup>		
Density (t/m <sup>3</sup> )	1,6	1,9	2,2
Volume (m <sup>3</sup> )*	0,8	0,7	0,6
Width (mm)	1 100	1 100	1 100

\* Heaped SAE

## PRODUCTIVITY WITH A 42 kWh ENERGY MODULE

<b>4H*</b> AVERAGE 5km/h	<b>2 to 5 %</b> GRADE UP LOADED	<b>100m</b> TRAMMING DISTANCE X2	<b>1 PASS</b> LOADING
<b>15 t/hour</b>			

\* 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
<b>Autonomy</b>	3-4 hours	4-5 hours
<b>Replacement</b>	Less than 15 minutes (QRS)	
<b>Battery recharge</b>	5 hours	3,5 hours
<b>Power required for recharge</b>	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

# SPECIFICATIONS

## 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)

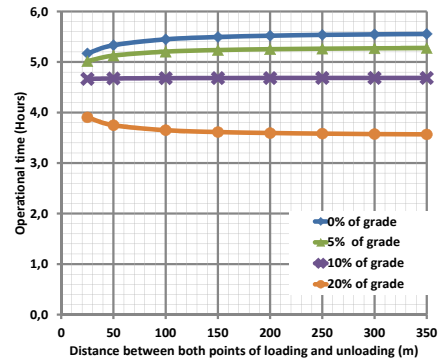
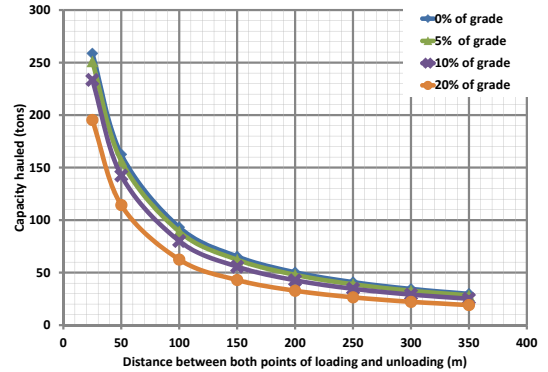
BATTERY DISCHARGE : 100% (Equivalent at 95% DOD\*)

Rolling resistance of tires : 3%

LOADED IN CLIMB UP and EMPTY IN DOWNHILL

The haulage Average speed : 3 km/h

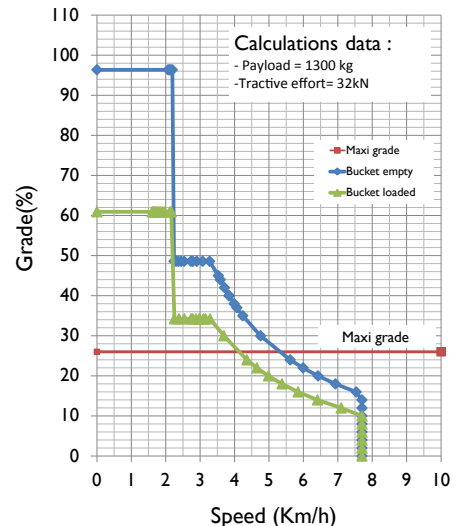
\*Depth Of Discharge



\*\* For each energy module fully charged

## SPEED ON GRADE

Performance curve



# NEVER STOP MINING



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