

Minetruck MT42 Battery

High-speed, articulated underground truck
with 42-tonne payload capacity



Supreme strength, impressively fast

Minetruck MT42 Battery is the largest battery-operated Minetruck on the market. It is impressively fast on inclines, accelerating your dump cycles and increasing your overall productivity. The result is unmatched, zero emission performance in underground mining and construction operations.



The smart, hydraulically operated tailgate works as a spill guard and supports the filling process with one extra side in the box.



Front axle suspension system, a comfortable seat, lower noise and less vibrations make this truck easy to operate for long periods.



The CE-marked high-energy density batteries have a built-in multi-layer safety system from cell design to a deformation zone.



Dump box with wear resistant steel and optimized interior angles for easy release of material

Thermal management systems for the battery

Comfortable ROPS and FOPS certified operator's cabin with air suspended seat and ergonomic controls

Front axle suspension for superior comfort and increased productivity

+ Main benefits

High capacity and productivity - thanks to the highly efficient drivetrain, Minetruck MT42 Battery hauls material faster than its diesel-driven counterparts

Zero emission - Minetruck MT42 Battery minimizes the need for ventilation and is designed with operators' well-being as primary focus

Increased availability - thanks to the increased timed between service intervals

+ The future is electric

We are leading the change towards sustainability in mining through battery electric, zero-emission equipment. The result is a safer and healthier underground working environment. This contributes to a sustainable future and a smaller environmental footprint. It is a power change that changes everything.

Minetruck MT42 Battery, a superior truck for underground applications

Energy regeneration and the efficient drivetrain configuration ensures low energy consumption and extend driving range. With the electric drive, Minetruck MT42 Battery will outperform diesel equivalents, especially on grade.



+ Environmental benefits

Minetruck MT42 Battery will improve the environment both locally at your operations and globally. Being zero emission, Minetruck MT42 Battery means zero exposure for the operators for diesel particulates, and toxic gases such as nitrogen oxides, hydrocarbons and carbon monoxide (NO_x, HC and CO). Being fossil-free, Minetruck MT42 Battery makes the difference when it comes to carbon footprint and greenhouse gases.



+ Maximized productivity

Minetruck MT42 Battery is optimized for productivity in many ways. The drivetrain has been optimized to reduce losses and reduce the number of components. On this truck, one high power electrical motor is connected to each axle. The electrical drivetrain provides unheard of speed on grades, both up and down the ramp. Hydraulic functions are powered from a separate auxiliary motor that delivers hydraulic power on-demand. Extended battery autonomy is achieved through energy regeneration and high energy density battery design.



+ Service and maintenance made easy

The new Minetruck MT42 Battery electrical drivetrain has a considerably reduced number of components, service points and moving parts. Engine, transmission, cardan shafts and their related spare parts are now a thing of the past. This results in longer service intervals, lower parts consumption, higher up-time and lower running cost.



A comprehensive service offering

Even the best equipment needs to be serviced regularly to make sure it sustains peak performance. An Epiroc service solution offers peace of mind, maximizing availability and performance throughout the lifetime of your equipment. We focus on safety, productivity and reliability.

By combining genuine parts and an Epiroc service from our certified technicians we safeguard your productivity - wherever you are.

Technical specifications

● - Standard ○ - Option ◐ - Local adaptation

Features

Safety

- Spring applied, hydraulically released brakes (SAHR)
- Automatic brake-test logging
- Excellent visibility with low hood design
- Rear-view camera
- Heated rear view mirrors
- Oil-free operator's cabin
- 3-point contact for entry and exit from cabin
- * Box up stand, articulation lock and cabin tilt stand for safe work on the machine

Comfort

- Ergonomically and spacious cabin with focus on safety and reduced operator fatigue
- Front axle suspension system
- Very low noise level in cabin
- A durable air suspension seat with 3-point seat belt
- Simple, clear, multi-functional display
- Instructor's seat

Sustainability

- Low maintenance powertrain components
- On board diagnostics with machine status
- On board BMS - Battery Management System - to ensure proper battery utilization

Productivity

- A high speed, 42-tonne articulated truck with front axle suspension
- Simplified drive line with one electrical motor connected to each axle
- Box design with high strength steel, optimized geometry and smart tailgate
- Teletram dump box (ejector style) available as an option

Serviceability

- Easy access to service points, filters and valve blocks
- Reduced number of service points
- Epiroc Rig Control System (RCS) provides service information and diagnostics
- Cabin is tiltable for easy access to electric and hydraulic components
- Automatic lubrication system with low level warning and lube fault detection for all daily lube points

Cabin

ISO ROPS and FOPS certified	●
Air suspended seat with 3 point retractable seat belt	●
Trainer seat	●
Interactive display module	●
Automatic climate control (air conditioner, heater and pressurizer)	●
External sound level according to ISO 6393 LwA 108 dB(A)	●
Sound level in cabin according to ISO 6394 LpA below 70 dB(A)	●
Whole body vibration value below EN 14253 A(8)w maximum TBD m/s ²	●
Sliding window on door	●
Audio media player	○

Specifications

Capacities	
Tramming capacity	42 000 kg
Standard box volume (SAE heaped)	19.0 m ³
Motion times	
Dumping	13 sec
Operating weight, including battery	
Approximate weight	37 700 kg
Front axle load	27 500 kg
Rear axle load	10 200 kg

Motors

	Traction	Auxiliary
Brand	ABB	ABB
IP	65	65
Nominal power	2 x 200 kW	160 kW
Nominal torque	2 x 1100 Nm	600 Nm
Nominal voltage	400 VAC	400 VAC
Cooling	Liquid cooled	Liquid cooled

Hydraulic system

System pressure: 21.5 MPa	●
Hydraulic tank capacity: 220 liters	●
Filtration, return line: 12 μm	●
Heavy duty gear pumps	●
Electric hydraulic oil fill pump	●
Automatic lubrication system with timer (Lincoln pump)	●
Chrome plated stems on cylinders	●

Suspension

The suspension is a gas-hydraulic system for improved operator comfort and vehicle handling while minimizing frame stress	
Suspension, maximum travel: 140 mm	●

Control system

Ansul checkfire automatic fire suppression	○
Ansul dual bottle fire suppression with engine shut down	○
Handheld fire extinguisher, 2x6 kg	○
Wiggins fast fill for hydraulic oil	○
Emergency steering (required for CE)	○
Speed limiter	○
Certiq - telematics system*	○
Load weighing production data, weight per box, number of boxes and accumulated payload)	○
CAS interface	○
Tire monitoring system	○

*Certain country restriction may exist

Tires

Tubeless, (treaded) for underground mine service	●
Tire dimensions: 29.5R25	●

As applications and conditions vary, Epiroc recommends that the user consult tire suppliers for optimum tire selection.

Brakes

Fully enclosed, force-cooled, multiple wet discs at each wheel end	●
Service/parking/emergency: SAHR	●
Regenerative braking system	●
Electric brake release pump	●
Brake apply after 3 sec in neutral	●

Technical specifications

Axles

Kessler: model 102	<input checked="" type="checkbox"/>
Differentials: front, open	<input checked="" type="checkbox"/>
Differentials: rear, open	<input checked="" type="checkbox"/>

Battery pack

Chemistry	Li-Ion NMC
Number of sub-packs	5
Useable capacity (kWh)	375
Cell cooling	Liquid cooled
Thermal management system	Integrated
Operating ambient temperature	0° to 40°C
Charging contact	CCS 2.0 type 1 or 2
Charging source	External charger
On-board battery with off-board charger	Yes
Off-board battery with off-board charger	Yes, battery swap
Minimum charging time 0-90%	180 min
Weight	4 950 kg

Power electrics: inverters, transformers

Brand	ABB
IP	67
Max voltage	850 VDC
Cooling	Liquid cooled

Main frame

Teletram dump box* (ejector style), fit same load frame as std dump box	<input type="checkbox"/>
Box up support stand, articulation safety lock and cabin tilt stand	<input checked="" type="checkbox"/>
Wheel chocks and brackets	<input checked="" type="checkbox"/>

Teletram dump box changes dumping method and vehicle dimensions (consult with your local customer center).

Grade performance

Grade (%)	0.0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	16.0	18.0	20.0
Grade (ratio)	-	1:50	1:25	1:16.7	1:12.5	1:10	1:8	1:7	1:6.3	1:5.6	1:4
Standard configuration, box empty (km/h)											
km/h	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	19.1	17.3	15.5
Standard configuration, box loaded											
km/h	20.0	20.0	20.0	20.0	16.5	13.2	11.7	10.0	9.0	8.1	7.3

These are theoretical calculations and should be seen as a reference only. 3% rolling resistance assumed. Actual performance may vary depending on the application. Continuous operation is recommended on maximum 1:7 grade.



Low voltage electrical system

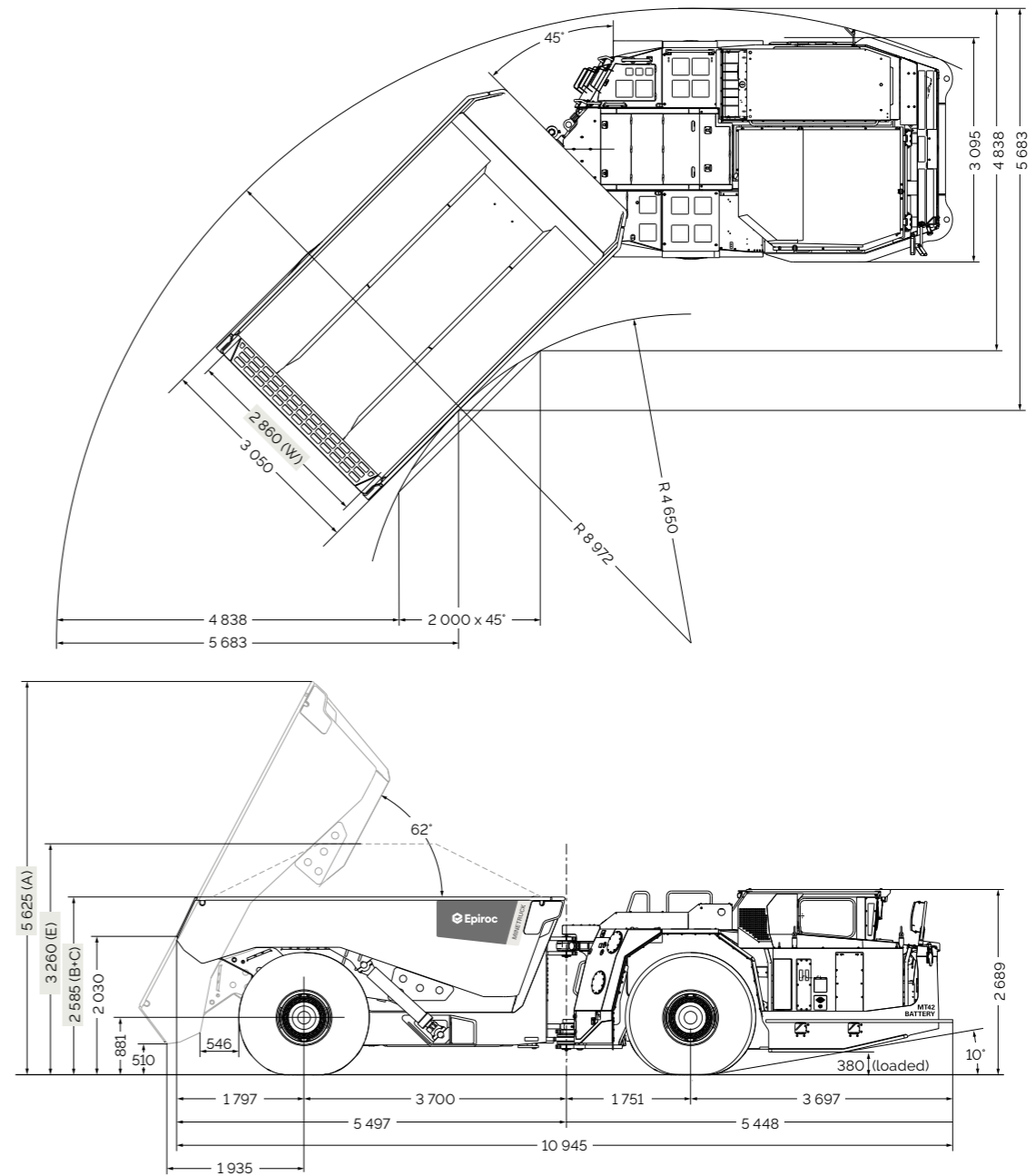
Front and rear turn signals	<input checked="" type="checkbox"/>
Hydraulic warning system, low level	<input checked="" type="checkbox"/>
Rear-view camera	<input checked="" type="checkbox"/>
Detachable service light	<input type="checkbox"/>
Machine status indicator lights	<input checked="" type="checkbox"/>
Amber strobe light - power on	<input checked="" type="checkbox"/>
Neutral brake apply	<input checked="" type="checkbox"/>
Loading camera and load lights	<input checked="" type="checkbox"/>
Driving lights LED: 13x40 W	<input checked="" type="checkbox"/>
DC/DC converter	<input checked="" type="checkbox"/>
Isolation switch lockout	<input checked="" type="checkbox"/>
Audiovisual back-up alarm	<input checked="" type="checkbox"/>
3x emergency stop buttons	<input checked="" type="checkbox"/>
Tail and brake lights	<input checked="" type="checkbox"/>
Side lights	<input checked="" type="checkbox"/>
24V battery charging receptacle	<input type="checkbox"/>

Parts and service

Preventive maintenance kits	<input type="checkbox"/>
Parts & repair kits	<input type="checkbox"/>
Upgrade kits	<input type="checkbox"/>
Midlife kits	<input type="checkbox"/>
Face mechanic's tool set	<input type="checkbox"/>
Shop mechanic's tool set	<input type="checkbox"/>
Service tools for Epiroc Rig Control System (RCS)	<input type="checkbox"/>
Liner kit for dumpbox	<input type="checkbox"/>

Technical specifications

Turning radius and dimensions (2.2 t/m³ dump box with tail gate)



All dimensions are shown in millimeters (mm). Dimensions and calculations shown are based on standard vehicle configuration with 30 mm tire deflection, unloaded.

Dump boxes

						Ejector box style*		
Volume, SAE heaped 2:1 (m3)		23	21	19	17.5	16	21.5	18.5
Volume, semi heaped (m3)		21.2	19.0	17	15.3	13.9	19.5	16.5
Volume SAE struck (m3)		19.3	17.1	15	13.1	11.8	17.5	14.5
Material density (t/m3)		1.8	2.0	2.2	2.4	2.6	1.8	2.0
Dump height (mm)	A	5 835	5 730	5 625	5 625	5 625	-	-
Spill guard height (mm)/push plate height	B	2 885	2 735	2 585	2 585	2 585	3 035	2 815
Load height (mm)	C	2 885	2 735	2 585	2 460	2 460	2 902	2 685
Height loaded heaped, (mm)	E	3 560	3 410	3 260	3 135	3 135	3 523	3 305
Width inside box (mm)	W	2 860	2 860	2 860	2 860	2 860	2 840	2 840

*Ejector box has a different functionality, reduced capacity, different dimensions affecting turning radius etc., more sizes can be available, please consult Epiroc for more information.



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