

# Scooptram ST18 SG

Fully battery electric loader with 17.5-tonne capacity  
Built for high productivity in large-size underground mines



# Strength and sustainability combined

Built for demanding underground applications, the highly productive, zero-emission Scooptram ST18 SG gives you the ability to work in the toughest conditions without exposure to diesel particulates and toxic gases. With a 20% longer drivetime, your operation enjoys new levels of productivity.

## + Main benefits

**High productivity** The strong electrical drivetrain in combination with the aggressive front end, traction control and kickdown, safeguards an improved productivity. Acceleration and traction from the electrical drivetrain are unmatched by any diesel machine.

**Safety at its core** ST18 SG ensures that every operation can be carried out in the best way for both people and equipment without compromising on productivity and sustainability.

**Zero-emission** No diesel emissions underground for a better local working environment and the possibility to fulfill environmental commitments, while being a sustainable contributor to society.

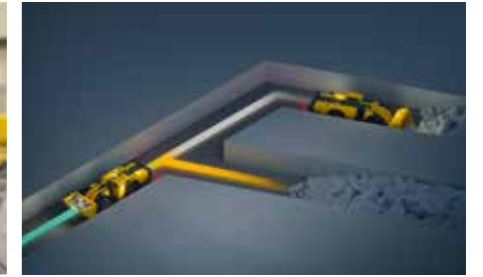
Thanks to the electrical drivetrain and the traction control function you can experience a more powerful and agile feeling of the machine when entering the pile.



Focus on your task and be productive with the controls you have in close reach on the joystick.



Dedicated camera displays in the direction of operation improves visibility, focus and by that safety.



Prepared for automation and remote control thanks to Epiroc's Rig Control System (RCS)

Set up for automation thanks to the laser towers

Rig control system (RCS) opens up possibilities for smart and safe features, together with data management for improved processes.



Electrical system built for durability and easy routing

## Productivity redefined

Scooptram ST18 SG builds on Epiroc's well proven electrification knowledge, setting safety and environment in focus, while further increasing productivity thanks to the 20% longer drivetime.



### + Battery autonomy

Highest energy density in the industry safeguards autonomy and productivity without taking focus from the safety of the operation. Epiroc's design gives over 50% higher autonomy compared to competition, resulting in higher value and better productivity.



### + Local environment in the mine

With the zero-emission Scooptram ST18 SG comes reduced heat, water vapor and noise, improving the local environment underground for everyone working daily in the mine. This is especially beneficial in areas close to places where people are working for long periods like workshops, crushers or stationary workplaces.



### + Operator comfort

The operator compartment is ergonomic and spacious, providing extra room for the legs to get a more relaxed working position. Noise and vibration are very low thanks to the electrical drivetrain, and this makes every day work easier, leaving energy for other things outside work.



## 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.

# Smart and Green series



Our zero-emission underground loaders are now part of the Smart and Green series (SG). Equipped with Rig Control System, RCS, and ready for smart functionality such as automation and remote control.

Our ambition is to create the world's greenest machines – so you can produce metals and minerals in the most sustainable way possible.

## Technical specifications

### Scooptram ST18 SG

Scooptram ST18 SG is what defines **safety** standards thanks to its ISO ROPS and FOPS certified cabin, speed limiter and best operator visibility in its class. Enjoying a robust built, this underground zero-emissions loader is made for rough mining environments, always keeping operators and the operation safe.

Without overlooking the **comfort** of operators, the Scooptram ST18 SG increases their well-being by offering, among others, a spacious leg-room with the Epiroc footbox, air suspended seat as well as steering soft stop.

Moreover, it is not only the boom suspension and traction control, but also the smart control system and long battery autonomy, that offers your operation new levels of **productivity**.

Through our Certiq system, machine data can be used to optimize day to day work and processes, for increased productivity and flow in the mine.

Keeping up a productive operation requires, a high utilization rate of the machine. That is why, we have made the **service** of the Scooptram ST18 SG as safe, fast and accesible as possible. All entrances to the machine are accessed with three-point contact.

All of these and more come with a machine that is made for a **sustainable** business, industry and society, leaving no emissions and contributing to a better working environment underground.

### Specifications

| Capacities  |           |
|---|-----------|
| Tramming capacity*                                  | 17 500 kg |
| Breakout force, hydraulic                           | 28 500 kg |
| Breakout force, mechanical                          | 26 000 kg |
| *Tramming capacity with EOD bucket 15 200 kg        |           |
| Weights, including battery (standard empty vehicle) |           |
| Approximate weight, including battery (unloaded)    | 54 500 kg |
| Approximate weight, including battery (loaded)      | 72 000 kg |
| Motion times  |           |
| Boom raising  | 72 sec    |
| Boom lowering                                       | 4.0 sec   |
| Dumping   | 2.2 sec   |

### Battery pack

|  |                   |
|--|-------------------|
| Chemistry                                | Li-Ion NMC        |
| Useable capacity (kWh)                   | 450               |
| Cell cooling                             | Liquid cooled     |
| Thermal management                       | Integrated        |
| Operating ambient temperature            | 0° to 40°C        |
| Charging contact                         | CCS 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                    | 180 min (0.5C)    |
| Weight                                   | 6 000 kg          |

### Sound and vibration

| Cabin  |                              |
|--|------------------------------|
| A-weighted sound pressure level, LpA according to ISO 6396:2008    | 69 +/-6 dB                   |
| Weighted whole body vibration level, A(8)w according to ISO 2631-1 | 0.8 +/- 0.4 m/s <sup>2</sup> |
| External   |                              |
| A-weighted sound power level, LwA according to ISO 6395:2008       | 98 +/-6 dB                   |

### Brakes

|                                    |  |
|------------------------------------|--|
| Type                               | Fully enclosed, force-cooled, multiple wet discs at each wheel end |
| Service brake                      | Regenerative braking, SAHR   |
| Park brake / emergency brake       | SAHR   |
| Brake system according to ISO 3450 |  |

### Motor

|                 | Traction         | Auxiliary        |
|-----------------|------------------|------------------|
| Brand           | ABB              | ABB              |
| Type            | Permanent magnet | Permanent magnet |
| IP              | 65               | 65               |
| Nominal power   | 260 kW           | 150 kW           |
| Nominal torque  | 1100 Nm          | 600 Nm           |
| Nominal voltage | 400 VAC          | 400 VAC          |
| Cooling         | Liquid cooled    | Liquid cooled    |

### Transmission

|             |   |
|-------------|---|
| Brand/model | Dana ERTE32   |
| Type        | Automatic power shift with fully modulated 4 speed shifting |

### Axles

|                             |                    |
|-----------------------------|--------------------|
| Front and rear axle         | Kessler/ D111      |
| Front and rear differential | Limited slip       |
| Oscillation                 | 16° (8° each side) |

### Tires

|   |                              |
|---|------------------------------|
| Front and rear size   | 29.5 R29 L5 (sticks/treaded) |
| As applications and conditions vary, Epiroc recommends that the user consults with tire suppliers to obtain the optimum tire selection. |                              |

### Buckets

| Type               | Volume (m <sup>3</sup> ) | Material density (t/m <sup>3</sup> ) | Width (mm) |
|--------------------|--------------------------|--------------------------------------|------------|
| Straight blade     | 9.7                      | 1.8                                  | 3330       |
|                    | 8.8                      | 2                                    | 3330       |
|                    | 7.9*                     | 2.2                                  | 3330       |
|                    | 7.3                      | 2.4                                  | 3330       |
|                    | 6.7                      | 2.6                                  | 3330       |
|                    | 6.3                      | 2.8                                  | 3330       |
| EOD straight blade | 7.4                      | 2                                    | 3330       |
|                    | 7.1                      | 2.2                                  | 3330       |

All buckets are available with GET  
\* Standard bucket

### Requirements and compliances

|  |
|--|
| 2014/35/EC Low voltage directive                   |
| 2014/30/EC Electromagnetic compatibility directive |
| 2006/42/EC Machinery directive                     |
| ISO 19296:2019 Machines for underground mines      |

## Technical specifications



### Hydraulic system

|  |                             |
|--|-----------------------------|
| System pressure                                | 27 Mpa                      |
| Hydraulic tank capacity                        | 290 litres                  |
| Filtration, return line                        | 10 µm                       |
| Lift cylinder                                  | 2x 200 mm                   |
| Tilt cylinder                                  | 1x 260 mm                   |
| Steer cylinder                                 | 2x 125 mm                   |
| Main valve                                     | Open circuit, LS controlled |
| Steering pump                                  | Piston type                 |
| Bucket hydraulics pump                         | Piston type                 |
| Automatic boom suspension system, ride control |                             |
| Steering cylinder soft stop                    |                             |
| Emergency steering                             |                             |
| Steering according to ISO 5010                 |                             |

### Control system

|  |  |
|--|--|
| Operator display with intuitive interface and integrated BMS information |  |
| Logging of production data, number of bucket, etc                        |  |
| Logging of machine data; transmission, hydraulic, energy consumption etc |  |
| Brake test   |  |
| Traction control   |  |
| Bucket float   |  |
| Certiq telematics hardware for Wifi or LTE                               |  |

### Electrical system

|                              |                |
|------------------------------|----------------|
| Batteries                    | 2x 12V, 125 Ah |
| System voltages              | 24V            |
| Front working lights         | 1400 lumen     |
| Rear working lights          | 1400 lumen     |
| Front driving lights         | 1400 lumen     |
| Position and brake lights    |                |
| Battery jumpstart receptacle |                |
| Locakable main switch        |                |
| Emergency stop               |                |
| Machine status indicator     |                |
| Audio-visual reverse alarm   |                |

### Power electrics; inverters, transformers

|             |               |
|-------------|---------------|
| Brand       | ABB           |
| IP          | 67            |
| Max voltage | 850 VDC       |
| Cooling     | Liquid cooled |

### Operator's compartment

| Cabin  |  |
|--|--|
| Closed cabin   |  |
| FOPS according to ISO 3449   |  |
| ROPS according to ISO 3471   |  |
| Heating Ventilation Air Condition (HVAC) in cabin roof                                     |  |
| Isolated sound barriers  |  |
| Sealed door and windows  |  |
| Ergonomic adjustable joysticks   |  |
| Oilfree environment  |  |
| Emergency exit in large window, all windows possible to open from outside and inside       |  |
| Safe, three point access into and out of cabin   |  |
| 5V USB outlet  |  |
| Diagnosis outlets  |  |
| Physical dimensions of operators and minimum operator space envelope according to ISO 3411 |  |
| Zones of comfort and reach for controls according to ISO 6682                              |  |
| Operator's control according to ISO 10968  |  |
| Side seated for bi-directional control   |  |
| Steering joystick with Forward/Neutral/Reverse toggle switch                               |  |

### Operator's seat

|   |  |
|---|--|
| Air suspended                             |  |
| Adjustable height, depth, lumbar          |  |
| Adjustable joysticks with padded support  |  |
| Soft padded with water resistant material |  |
| Two point safety belt                     |  |



## Options

### Main frame

- EOD ejector bucket
- Wheel chocks and brackets
- Ground engagement tools, GET
- Ansul A-101 Dry Chemical Fire Suppression system with manual release (CE requirement)
- Ansul Checkfire 210 Suppression Detection and Actuation system (CE requirement)
- Central automatic lubrication system
- Wiggins fast fill for transmission and hydraulic oil
- Handheld fire extinguisher
- Foldable guard rails
- Corrosion resistant radiator
- Wiggins central service point

### Brake

- Neutral brake apply, NBA (Park brake on neutral)
- Hydraulic brake release tow hook

### Parts and services

- Preventive maintenance kits
- Repair and rebuild kits
- Upgrade kits
- Face mechanics tool set
- Shop mechanics tool set
- Service tool box for RCS
- Operators training in simulator

### Hydraulic system

- Electric pump for hydraulic tank fill, 24V
- Arctic oils

### Electrical system

- Detachable service light (CE requirement)
- Always on strobe

### Automation

- Radio Remote Control (RRC)
- Video assist
- Tele Remote Control
- Automation solutions

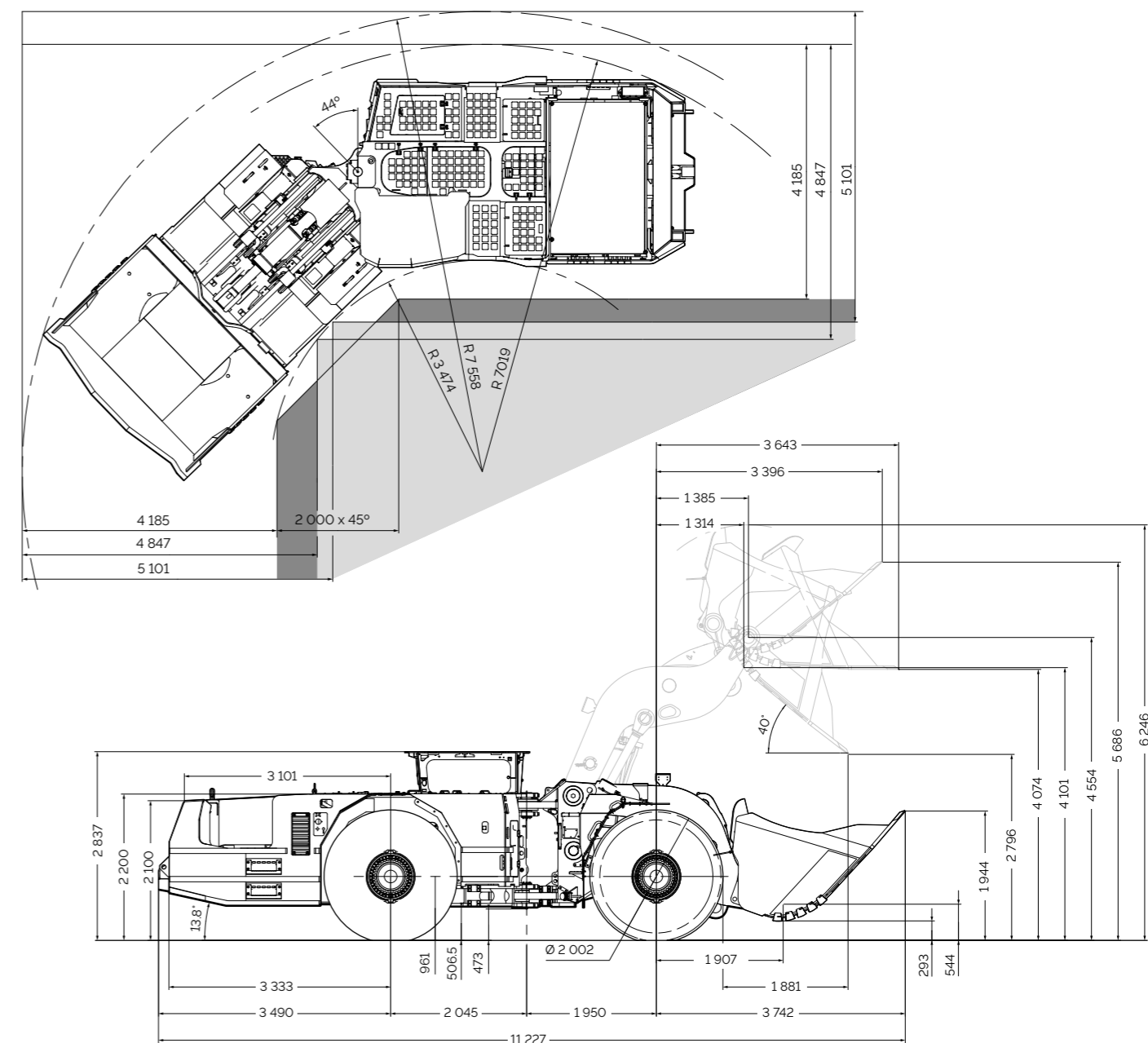
### Control system

- Speed limiter
- Machine protection
- Collision Avoidance System Interface (CAS)
- Certiq telematics solution professional

### Operator's compartment

- Camera monitoring, front and rear with dedicated displays (CE requirement)
- Machine protection
- Media player

## Turning radius and dimensions (2.2 t/m<sup>3</sup> standard bucket)



All dimensions are shown in millimeters (mm). Dimensions and calculations shown are based on standard vehicle configuration.

### Grade performance

| Grade %                     | 0    | 2    | 4    | 6      | 8      | 10   | 12.5 | 14.3 | 16    | 18    | 20  |
|-----------------------------|------|------|------|--------|--------|------|------|------|-------|-------|-----|
| Grade                       | -    | 1:50 | 1:25 | 1:16.7 | 1:12.5 | 1:10 | 1:8  | 1:7  | 1:6.3 | 1:5.6 | 1:5 |
| <b>Empty bucket (km/h)</b>  |      |      |      |        |        |      |      |      |       |       |     |
| 1st gear                    | 4.2  | 4.2  | 4.2  | 4.2    | 4.2    | 4.2  | 4.2  | 4.2  | 4.2   | 4.2   | 4.2 |
| 2nd gear                    | 10.5 | 10.5 | 10.5 | 10.5   | 10.5   | 10.5 | 10.5 | 9.9  | 9.2   | 8.3   | 7.6 |
| 3rd gear                    | 17.2 | 17.2 | 17.2 | 17.2   | 15.7   | 13.3 | 11.2 | 9.9  | 9.2   | 8.3   | -   |
| 4th gear                    | 31.2 | 31.2 | 24.6 | 19.1   | 15.7   | -    | -    | -    | -     | -     | -   |
| <b>Loaded bucket (km/h)</b> |      |      |      |        |        |      |      |      |       |       |     |
| 1st gear                    | 4.2  | 4.2  | 4.2  | 4.2    | 4.2    | 4.2  | 4.2  | 4.2  | 4.2   | 4.2   | 4.2 |
| 2nd gear                    | 10.7 | 10.7 | 10.7 | 10.7   | 10.7   | 9.9  | 8.3  | 7.4  | 6.8   | 6.2   | 5.7 |
| 3rd gear                    | 17.0 | 17.0 | 17.0 | 15.0   | 11.6   | 9.9  | 8.3  | -    | -     | -     | -   |
| 4th gear                    | 31.9 | 25.5 | 18.3 | -      | -      | -    | -    | -    | -     | -     | -   |

3% rolling resistance assumed. Actual performance may vary depending on the application, lock up engaged. Continuous operation is recommended on maximum 17 grade.

# Automate your operation

Your Scooptram loader can be provided with well proven teleremote and automation capabilities, matching the needs of your operation – from small stoping to large block caving.

## + Increased safety

By operating the machine from a control room located in a safe environment, the operator will not be exposed to hazardous areas within the mine.

## + Boost productivity

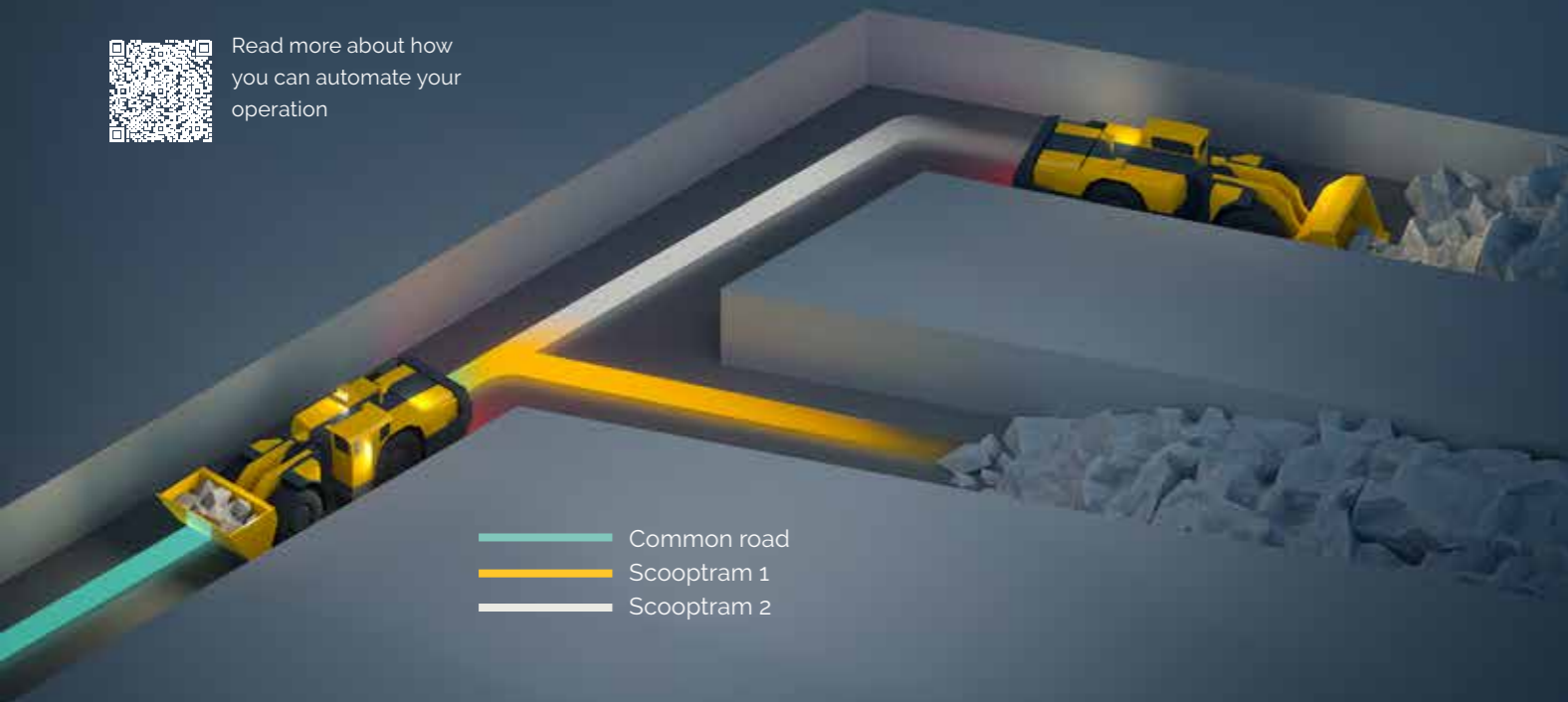
Automation enables you to utilize your loader even when people are not allowed in the mine due to blasting and shift changes, which increases uptime and produced tonnes. Thanks to hauling on repeatable routes, your machine will have fewer wall hits and spend less time in the repair shop.

## + Optimization

Adding automation to your fleet means reaching the full potential of your operation by controlling production assignments, fleet traffic, and work area access. This eliminates the risk of collisions in common drifts and enables a continuous operation.



Read more about how you can automate your operation



- Common road
- Scooptram 1
- Scooptram 2

Related mine truck - Minetruck MT42 SG

# Supreme strength, impressively fast

Minetruck MT42 SG 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.



## Specifications

| Capacities                          |                     |
|-------------------------------------|---------------------|
| Tramming capacity                   | 42 000 kg           |
| Standard box volume (SAE heaped)    | 19.0 m <sup>3</sup> |
| 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 |

# United in performance. Inspired by innovation.

Performance unites us, innovation inspires us, and commitment drives us to keep moving forward. Count on Epiroc to deliver the solutions you need to succeed today and the technology to lead tomorrow.  
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