Scooptram ST7

Underground loader with 6.8-tonne capacity

Epiroc

The latest technology in narrow vein mining

Engineered for performance in tough underground environments, the Scooptram ST7 combines compact design with powerful capabilities to deliver exceptional productivity. With a strong front end, a safe and ergonomic operator cabin, and an intelligent control system, this loader is built to take on any underground loading challenge with confidence.

Main benefits

Highest safety level as the Scooptram ST7 offers unbeatable safety features such as ROPS and FOPS cabin, speed limiter, automatic brake test and status-indicator beacons to increase safety in your operations.

First class working environment thanks to the roomy cabin, a unique footbox, ergonomic controls, unpaired visibility, automatic ride control and soft stop for steering and boom.

Maximum productivity when more tonnes per hour can be expected with the Scooptram ST7 thanks to the high lifting capacity, load sensing hydraulics, traction control and the intelligent Rig Control System (RCS).

The comfortable, ROPS and FOPS certified cabin is air conditioned and features the unique Epiroc footbox to maximize leg room.

High lifting capacity optimizes truck loading.

With its integrated load weighing system, the Scooptram ST7 provides operators instant feedback on productivity and makes it easy to plan tonnage output over time.

Powerful and efficient loading in a small size

The Scooptram ST7 is a robust 6.8 tonne underground loader: compact, powerful, and efficient. It is built for demanding underground applications where small size combined with high performance is key to superior productivity.

+ Productivity in a compact design

With its powerful drivetrain, intelligent load-sensing hydraulics, and a high-capacity front end, the Scooptram ST7 is built to perform. Add smart features like ride control, traction control, and load weighing and you get maximum productivity with every shift.

+ Enjoy a safe and comfortable operation

The operator's compartment of Scooptram ST7 is designed according to rigorous standards, ensuring ample space, intuitive controls, and a comfortable working environment. In areas with a risk of falling rock, such as stopes, the Radio Remote Control (RRC) system allows the loader to be operated from a safe distance, keeping operators out of harm's way while maintaining productivity.

+ Optimize performance and safety

Scooptram ST7 is a popular machine for mine development, room and pillar, cut and fill as well as stoping operations with stopes up to a couple of thousand tonnes. Agility, robustness and performance are the key strengths of this machine. Deep Automation provides the teleremote and automation capabilities that bring your operation to the next level.

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

Features

The Scooptram ST7 provides high safety standards, thanks to its ISO ROPS and FOPS-certified cabin, dedicated dual cameras, speed limiter, safe disconnector logic, and readiness for integration with a collision avoidance system (CAS) Level 9. With its robust construction, this underground loader is engineered to thrive in demanding mining environments, prioritizing the safety of both operators and operations.

At the same time, operators benefit from a comfortable cabin, thanks to a spacious leg-room with the Epiroc footbox, air suspended seat as well as steering soft stop or boom suspension function which offer a smooth driving experience, reducing noise and vibration.

Advanced smart features and integrated digital tools, including traction control, load weighing, and TPMS, alongside Fleet+, unlock unprecedented productivity for your operation.

Keeping up a productive operation requires a high utilization rate of the machine. That is why, we have made the service of the Scooptram ST7 as safe, fast and accessible as possible.

Specifications

Capacities	
Tramming capacity*	6 800 kg
Breakout force, hydraulic	13 350 kg
Breakout force, mechanical	11 750 kg
*Tramming capacity with EOD bucket 5 900 kg	
Motion times	
Boom raising	5.3 sec
Boom lowering	3.5 sec
Dumping	2.1 sec
Weights (standard empty machine)	
Approximate weight	19 300 kg
Axle load, front	8 600 kg
Axle load, rear	10 700 kg

Sound and vibration

Closed cabin	
A-weighted sound pressure level, LpA according to ISO 6394	82 dB
Weighted whole body vibration level, A(8)w according to EN 14253	0.55 +/-0.2 m/s^2
Canopy	
Sound level in canopy according to ISO 6394 LpA	105 dB
External	
A-weighted sound power level, LwA according to ISO 6393	124.5 dB

Engine

Brand, Model	Cummins, QSB6.7
Emmissions standard	EPA Tier 3 / EU Stage IIIA
Power rating	144 kW / 193 hp @ 2 000 rpm
Maximum torque	931 Nm @ 1 400 rpm
Cooling	Liquid cooled, pump controlled fan
Ventialtion rate	CANMET 736 m^3/min (26 000 CFM) MSHA 496 m^3/min (17 500 CFM)
Particulate index	MSHA 340 m^3/min (12 000 CFM)

Tier III/EU Stage IIIA: Dry type air filter, catalytic purifier and silencer, exhaust heat protection, cooling package with tube type radiator, remote engine oil and cooling fuel drain.

Fuel

Fuel tank capacity	190 liters
Fuel filtration, primary, including water trap	7 µm
Fuel filtration, secondary	3 µm

Epiroc Scooptram loaders are compatible with HVO100

Axles

Brand/model	Okubo Rock Tough 406
Front and rear differential	Limited slip
Oscillation	14° (7° on each side)

Transmission

Brand/model	Funk DF150
Type	Automatic power shift with fully modulated 4 speed shifting, automatic lock-up and de-clutch functions

Tires

Front and rear tires	Tubeless tires design for underground mine service

As applications and conditions vary, Epiroc recommends that the user consults with tire suppliers to obtain the optimum tire selection.

Operator's compartment

Canopy
FOPS according to ISO 3449
ROPS according to ISO 3471
Door interlock to apply brake and prohibit hydraulics
Open door retainer
Side seated operator for bi-directional operation
Operator's seat
Air suspension seat with 2-point retractable seat belt
Adjustable height, depth, lumbar support
Soft padded with water resistant material
Two point safety belt
Side seated for bi-directional control
Epiroc footbox

Technical specifications

Control system

Epiroc rig control system, RCS
Load weighing system
Operator display with intuitive interface
Logging of production- and machine data
Automatic brake test
Traction control
Bucket float
Joystick controls for dump/hoist and steering
Forward-Neutral-Reverse toggle switch
Machine status indicator light mounted on canopy
Wiper and washer control in joystick
Machine warmup function
Audio-visual reverse alarm

Electrical system

Batteries	2 x 12V, 235 Ah
System voltages	24V
Front working lights	1 400 lumen
Rear working lights	1 400 lumen
Emergency stops, 3 positions	
Position and brake lights	

Hydraulic system

System pressure	24 Mpa
Main valve	Open circuit, LS controlled
Steering pump	Piston type
Bucket hydraulics pump	Piston type
Hydraulic tank capacity	111 litres
Filtration, return line	12 µm
Hoist cylinders	2x 200 mm
Tilt cylinder	1x 260 mm
Steer cylinder	2x 125 mm
Steering cylinder soft stop	
Automatic Brake Activation, ABA	
Steering according to ISO 5010	

Brakes

Type	Fully enclosed, force-cooled, multiple wet discs at each wheel end
Service / park / emergency brakes	SAHR
Brake system according to ISO 3450	

Buckets

Type	Volume (m^3)	Material density (t/m^3)		Width (mm)
		Straight blade	Wearpact (GET)*	
Straight blade and Wearpact (GET)*	2.3	3.0	1.6	2 230
	2.4	2.8	1.7	2 230
	2.6	2.6	2.0	2 230
	2.8	2.4	2.2	2 230
	3.1	2.2	2.4	2 230
	3.4	2.0	2.6	2 230
	3.8	1.8	2.8	2 230
EOD straight blade	2.9	2.0	-	2 276
	2.7	2.2	-	2 276

* Wearpact (GET) is optional

Main frame

Center hinge and boom lockup pins
Central manual lubrication system
Manual hydraulic fill pump
Battery jumpstart receptacle
Lockable machine disconnector

Documentation

E-copy of the operation, service and maintenance manuals.
Spareparts catalogue in English and other languages in Techinfo.

Options

Automation

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

Control system

- Machine protection
- Speed limiter
- Collison Avoidance System Interface (CAS)
- Tire pressure monitoring system, TPMS
- Engine pre-start warning
- Delayed engine off, turbo cool down
- Radio Remote Control (RRC)

Operator's compartment

- Camera monitoring, front and rear with dedicated displays
- Media player

Electrical system

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

Hydraulic system

- Arctic oils
- Secondary steering (CE requirement)
- Redundant steering (CE requirement)

Digital products

- Fleet monitoring with Fleet+ on My Epiroc
- Machine and fleet data via APIs

Brake

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

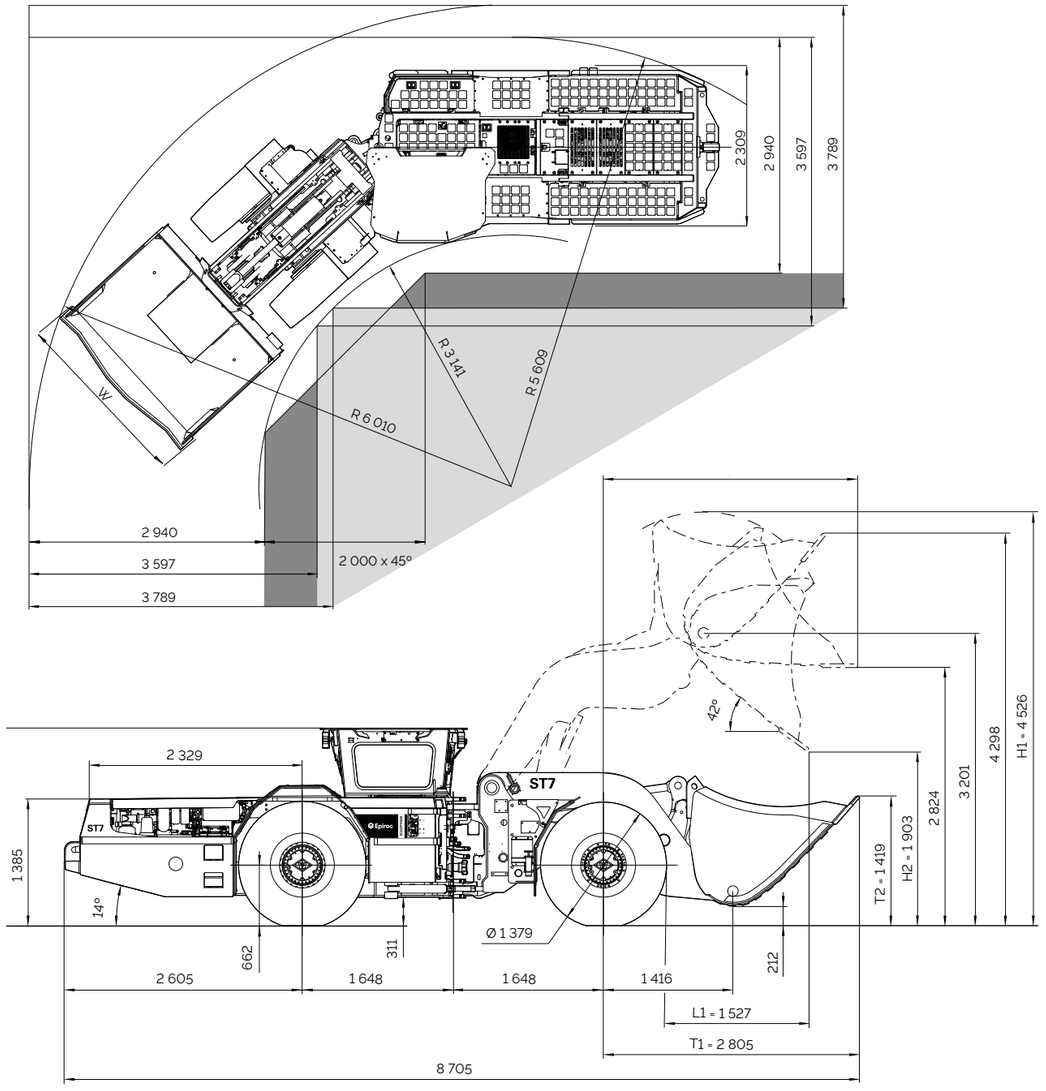
Main frame

- Ansul A-101 Dry Chemical Fire Suppression system with manual release (CE requirement)
- Ansul Checkfire 210D with A-101 Dry Chemical Fire Suppression (required for CE)
- Handheld fire extinguisher
- Central automatic lubrication system
- Electric pump for hydraulic tank fill, 24V
- Wheel chocks and brackets
- Ground engagement tools, GET
- Wiggins fast fill for fuel
- Wiggins fast fill for engine oil, transmission, hydraulic and radiator
- EOD ejector bucket
- Corrosion resistance radiator
- Knock down construction
- Guard rails

Parts and Services

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

Turning radius and dimensions (2.2 t/m³ bucket)



All dimensions are shown in millimeters (mm). Dimensions and calculations shown are based on standard vehicle configuration with 27 mm tire deflection, unloaded.

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
Empty bucket (km/h)											
1st gear	4.5	4.4	4.3	4.3	4.2	4.2	4.1	4.1	4.0	4.0	3.9
2nd gear	7.4	7.3	7.1	7.0	6.8	6.7	6.5	6.3	6.1	5.4	5.7
3rd gear	14.3	13.7	13.1	12.4	11.6	10.8	9.6	8.3	7.1	–	–
4th gear	23.1	21.4	19.1	16.5	12.7	–	–	–	–	–	–
Loaded bucket (km/h)											
1st gear	4.4	4.4	4.3	4.2	4.1	4.1	4.0	3.9	3.8	3.8	3.7
2nd gear	7.3	7.1	6.9	6.7	6.5	6.3	5.9	5.6	5.4	5.1	4.7
3rd gear	14.0	13.2	12.2	11.1	9.8	8.1	–	–	–	–	–
4th gear	22.2	19.3	15.5	–	–	–	–	–	–	–	–

3% rolling resistance assumed, actual performance may vary depending on the application, Tier 4 final, Stage V engine with lock up engaged. Continuous operation is recommended on max. 1:7 grade.

Automate your operation

Your Scooptram loader can be provided with well proven teleremote and automation capabilites, matching the needs of your operation. Productivity becomes unstoppable, as the loader advances faster in cut-and-fill or stoping operations with continuous progress, even during blast clearance.

+ Line-of-sight

Scooptram ST7 can be operated line-of-sight by CE/ISO-certified radio remote controllers. Video assist makes the machine easy to operate also at longer distances.

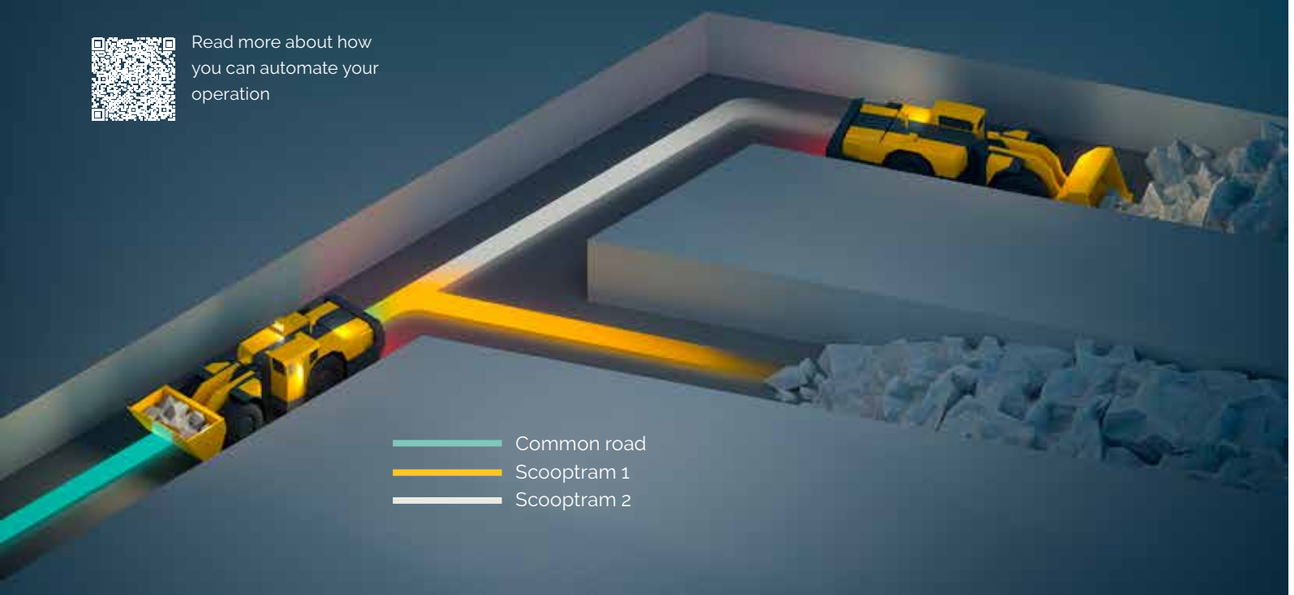
+ Tele-remote

Gets the operator out of potentially dangerous and hazardous areas. Driver Assist ensures the machine never hits the walls. Load Assist helps the tele-remote operator maximize the bucket fill factor every time.

+ Automation

Scooptram ST7 can be autonomously operated. Enabling operators to control multiple machines at once. In isolation or together in a fleet sharing points of interest like ore passes, intersections and loading bays.

Read more about how you can automate your operation



Productivity in a compact size

The Minetruck MT22 is a high-capacity truck built for fast, efficient underground haulage. Designed for deep and narrow mines with a drift size of 4 x 3.4 meters, it is a powerhouse in a compact size that can achieve high productivity outputs even at deep underground levels, thanks to its powerful engine and high speed.

Engine

Brand/model: Cummins QSL9	EPA Tier 3
Power rating at 2 100 rpm	242 kW/325 hp
Maximum torque at 1 500 rpm	1 424
MSHA Part 7 ventilation rate	325.6 m3/min
MSHA Part 7 particulate index	269 m3/min

*MSHA - Mine Safety and Health Administration, USA. Ventilation rate - quantity of additional ventilation air required to dilute raw exhaust emission to a respective level per engine.
**Particulate Index = Calculated air flow for minimum diesel particulate matter (DPM) dilution to a safe level per engine.

Specifications

Capacities		
Payload capacity		22 000 kg
Motion times		
Dumping ± 1 sec		15.5 sec
Weights		
Standard equipped vehicle empty weight	Whole vehicle - empty	23 300 kg
	Axle load, front end	17 070 kg
	Axle load, rear end	6 680 kg
Standard equipped vehicle loaded weight	Whole vehicle - loaded	44 800 kg
	Axle load, front end	20 000 kg
	Axle load, rear end	26 000 kg

*Weights are approximate and given with filled fluids and standard configurated vehicle (e.g. standard equipment, 2.2 t/m3 dump box etc.)

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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