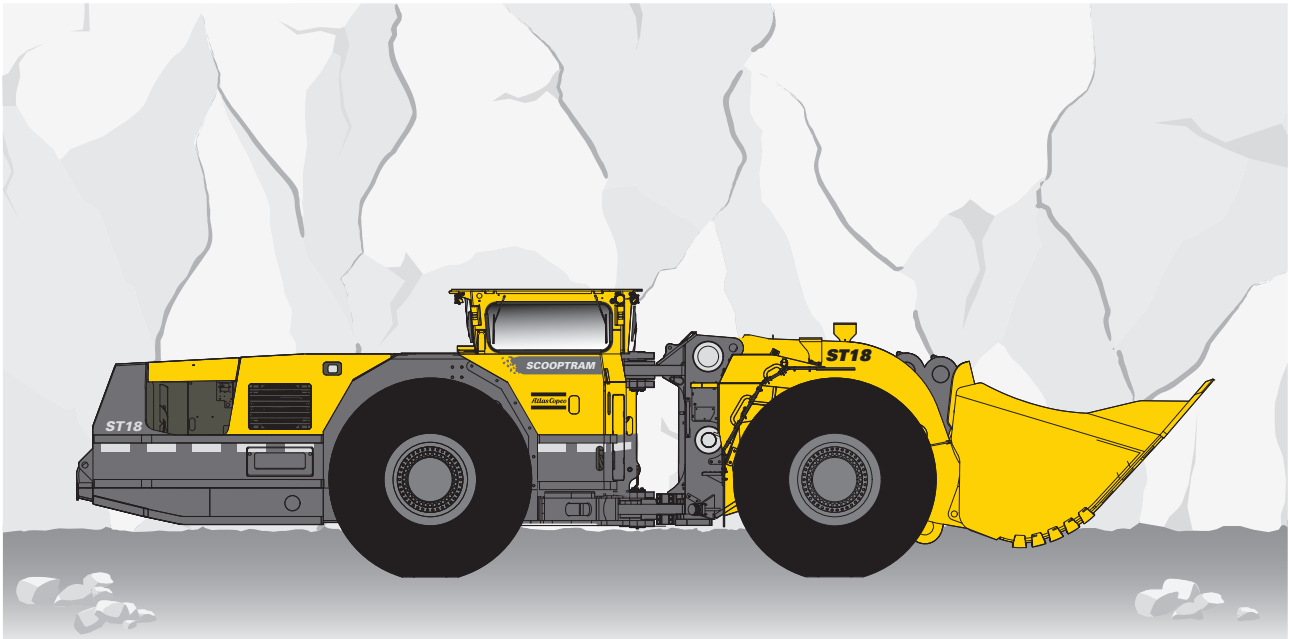


Scooptram ST18

Technical specification



The Scooptram ST18 is a high performance, 18 metric tonne capacity underground loader for large operations, including development work and production mining.

Features

» Safe Working Environment

- Spring applied, hydraulic released (SAHR) brakes
- Automatic brake-test with diagnostics and logging
- ISO ROPS/FOPS approved cabin, oil-free operator's compartment
- The best operator visibility in its class due to the low back end

» Superior Operator's Comfort

- Increased leg-room with Atlas Copco Footbox
- Rubber mounted cabin for reduced vibration level
- Ergonomic multifunction control joysticks
- Simple and clear, multifunction display with intuitive operator interface
- Steering and boom soft stop reduces vibration for the operator

» Environmental

- Fuel efficient, clean burning EPA Tier 3/EU Stage IIIA engine

» Reliability for Enhanced Productivity

- Proven powertrain components
- On board diagnostics
- External machine status indication lights

» Peak Performance

- Load sensing variable displacement hydraulic pumps for increased tractive effort and reduced fuel consumption
- Integrated de-clutch function, saves fuel and improves life of drivetrain components
- Traction control improves loading performance, reduces tyre slip, improves tyre life

» Serviceability

- Easy access to service points, filters and valve blocks
- Atlas Copco Rig Control System (RCS) provides service information in clear text on the monitor
- Filter sensors with data collection for air, hydraulic and transmission filters
- Daily lube points quick and easy to service
- Automatic lubrication system with low level warning and lube fault detection for all daily lube points.

Specifications

CAPACITIES

kg		
	Tramming capacity*	18 000
	Breakout force, hydraulic	28 500
	Breakout force, mechanical	26 000

MOTION TIMES

sec		
	Boom raising	7.2
	Boom lowering	4.0
sec	Dumping	2.8

WEIGHTS

Standard equipped vehicle (EWV)		
kg		
	Approximate weight	51 000
	Axle load, front end	24 000
	Axle load, rear end	27 000

» Engine

- Brand/model: ..Cummins QSX15 EPA Tier 3/EU Stage IIIA
- Power rating at 2 000 rpm..... 336 kW/450 hp
- Maximum torque at 1 000-1 400 rpm..... 2 100 Nm
- MSHA Part 7 ventilation..... 481 m³/min
- Dry type air cleaner
- Catalytic exhaust purifier and silencer
- Exhaust heat protection
- L&M V-tube core radiator and charge air cooler

» Transmission and Torque converter

- Automatic power shift with integral converter, fully modulated 4 speed shifting, forward/reverse with de-clutch function
- DanaTE32

» Axles

- Spiral bevel differential, full floating, planetary wheel end-drive
- KesslerD111
- Degree of rear axle oscillation.....16° (8° on each side)
- Differentials:
 - Front..... Limited slip
 - Rear Limited slip

» Brakes

- Fully enclosed, force cooled, multiple wet discs at each wheel end
- Service/parking/emergency brakesSAHR
- Separate brake cooling tank, capacity..... 53 L
- Brake apply after 3 sec in neutral

» Tyres*

- Tubeless, smooth or tread design for underground mine service
- Tyre size, front and rear 29.5x29
- * As applications and conditions vary, Atlas Copco recommends that the user consults with tyre suppliers to obtain the optimum tyre selection.

» Fuel

- Fuel tank capacity 660 litres
- Fuel filtration:
 - Primary, including water trap.....7µm
- Fuel consumption @ full load..... 90 litres/hr
- Estimated engine load factor.....40-50 %
- Anti-siphon fuel supply

» Operator's compartment

- ISO ROPS/FOPS Cabin
- Door interlock (applies brakes, blocks steering and bucket/boom movement when door opens)
- Automatic climate control
- Open door retainer
- Side seated operator for bi-directional operation
- Air seat suspension seat with 2-point retractable seat belt
- External sound level according to ISO 6393 LwA 118 dB(A)
- Sound level in cabin according to ISO 6394 LpA 80 dB(A)
- Whole body vibration value according to below EN 14253 A(8)w maximum 0.8+/-0.4m/s²

» Electrical system

- 24/12 V converter
- Isolation switch lockout
- System voltage.....Start & accessories 24 V
- Mine duty high output alternator.....140 Amps
- Driving lights LED.....18 x 40W
- Detachable service light (Required for CE Approval Vehicles)
- Battery jump start receptacle

» Hydraulic system

- Heavy duty load sensing pump..... 2x
- Electric pump for hydraulic tank fill
- Brake release tow hook
- Hydraulic driven fans
- Steering and system pressure.....27.0 MPa
- Hydraulic tank capacity..... 290 litres
- Filtration, return line.....12 µm
- Cylinders; chrome plated stems, diameter:
 - Steer cylinders (2) 125 mm
 - Hoist cylinders (2)..... 200 mm
 - Stabilizer cylinder 260 mm

» Control system

- Logging of production data, number of buckets, fuel consumption and tramming distance etc
- Load weighing system
- Joystick controls for dump/hoist and steering
- Automatic ride control (boom suspension)
- Automatic and semi automatic transmission control
- Bucket and boom float
- Operator display
- Brake test function with diagnostics and logging
- Engine and transmission diagnostics
- Radio Remote Control interface
- Emergency stop buttons
- Machine stop

» Included features

- Boom up lock
- Automatic manual lubrication system
- Audio-visual reverse alarm
- Steering soft stop
- Wheel chocks and brackets

» Upbox

- Power transmitted through a 1:1 gear ratio box
- Kessler W2465.2

Grade Performance

GRADE PERFORMANCE - EMPTY BUCKET							
%	Grade	0.0	5.0	10.0	15.0	20.0	25.0
Ratio	Grade	0	1:12	1:10	1:7	1:5	1:4
km/h	1st gear	4.7	4.62	4.48	4.34	4.19	4.05
	2nd gear	8.6	8.13	7.64	7.07	5.92	4.66
	3rd gear	14.14	12.78	10.4	6.93	4.07	–
	4th gear	24.7	16.92	6.4	–	–	–

3% rolling resistance assumed. Actual performance may vary depending on the application.

GRADE PERFORMANCE - LOADED BUCKET							
%	Grade	0.0	5.0	10.0	15.0	20.0	25.0
Ratio	Grade	0	1:12	1:10	1:7	1:5	1:4
km/h	1st gear	4.71	4.55	4.36	4.16	3.95	3.54
	2nd gear	8.5	7.85	7.15	5.61	3.99	2.64
	3rd gear	13.87	11.8	7.29	3.24	–	–
	4th gear	23.7	10.95	–	–	–	–

3% rolling resistance assumed. Actual performance may vary depending on the application.

Optional Equipment

» System

- Manually actuated fire suppression with engine shut-down
- Ansul checkfire, automatic actuation of fire suppression system
- Scooptram Radio Remote Control
- Scooptram Video Remote Control
- Scooptram Multi Machine Control
- Remote monitoring
- Wiggins fast fuel fill
- Wiggins fast hydraulic oil fill
- Fire extinguishers

» Hydraulic System

- Brake release retriever tow hook

» Controls and instruments

- Block out 3rd and 4th gears
- Production logging
- Maintenance logging
- Emergency steering
- Redundant steering

» Power unit

- Arctic oil

» Main Frame

- Optional bucket sizes

» Documentation

- LinkOne parts catalogue, CD
- LinkOne reader

» Parts and Services

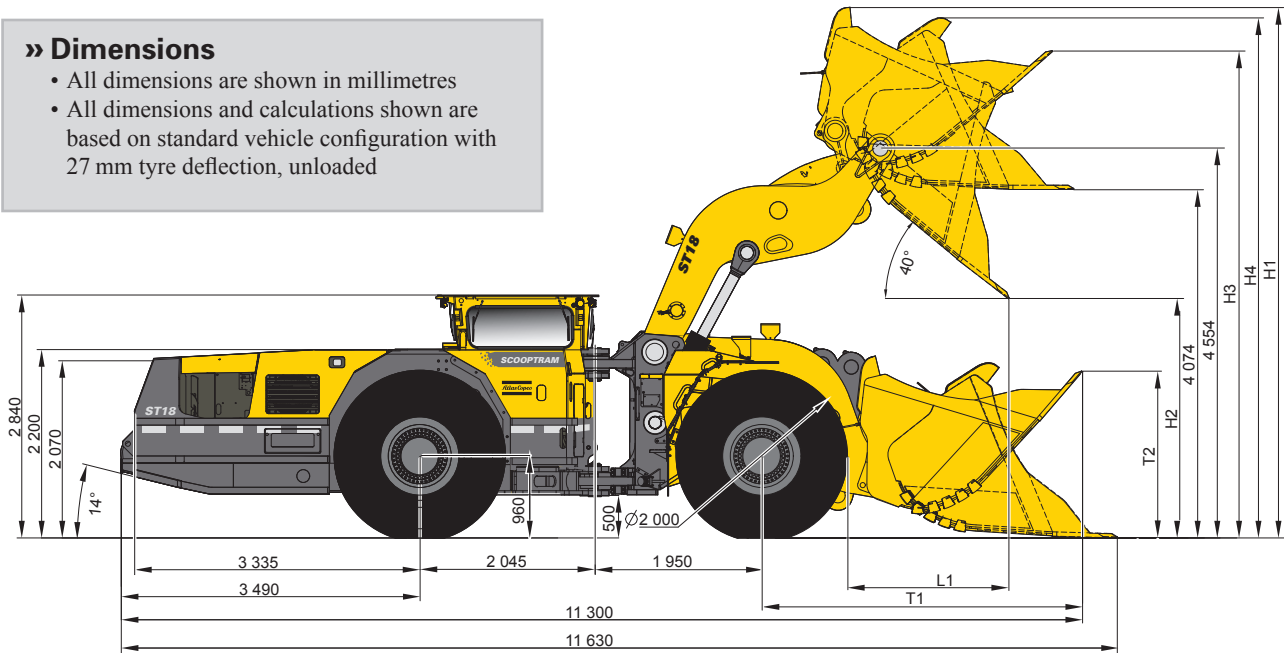
- Operators training in simulator
- Preventive maintenance kits
- Repair and rebuild kits
- Upgrade kits
- Face mechanics tool set
- Shop mechanics tool set
- Service tool box for RCS

Measurements

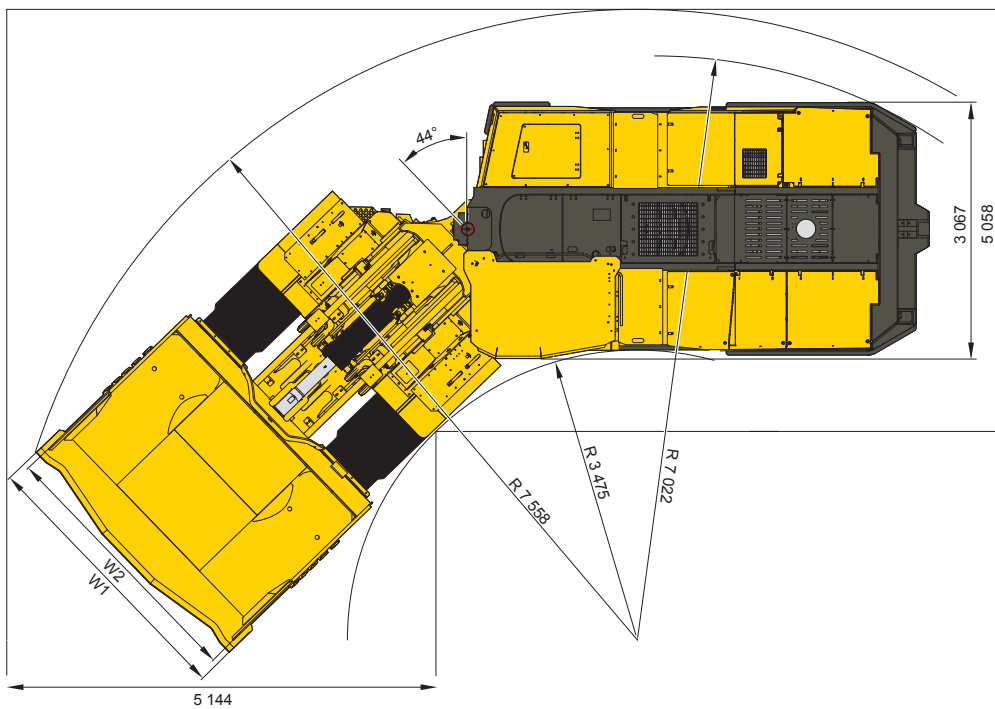
SIDE VIEW STANDARD BUCKET

» Dimensions

- All dimensions are shown in millimetres
- All dimensions and calculations shown are based on standard vehicle configuration with 27 mm tyre deflection, unloaded



TOP VIEW



BUCKET DATA	STD					
	9.7	8.8	7.9	7.3	6.7	6.3
Volume, nominal heaped (m3)						
Maximum material density (t/m3)	1.8	2.0	2.2	2.4	2.6	2.8
Width, bucket blade (mm)	W1 3 330	3 330	3 330	3 330	3 330	3 330
Width, bucket sidecutter (mm)	W2 3 190	3 190	3 190	3 190	3 190	3 190
Tramming position: Axle centerline to bucket tip (mm)	T1 3 941	3 834	3 742	3 663	3 595	3 535
Tramming position: Ground to bucket tip (mm)	T2 2 160	2 043	1 944	1 859	1 785	1 719
Truck loading reach: (mm)	L1 2 107	1 985	1 881	1 791	1 713	1 645
Raised position: Back height, max. (mm)	H1 6 478	6 342	6 240	6 240	6 240	6 240
Raised position: Bucket tip, height (mm)	H2 2 609	2 710	2 796	2 870	2 935	2 991
	H3 5 872	5 772	5 686	5 612	5 548	5 492
	H4 6 228	6 142	6 079	6 079	6 079	6 079