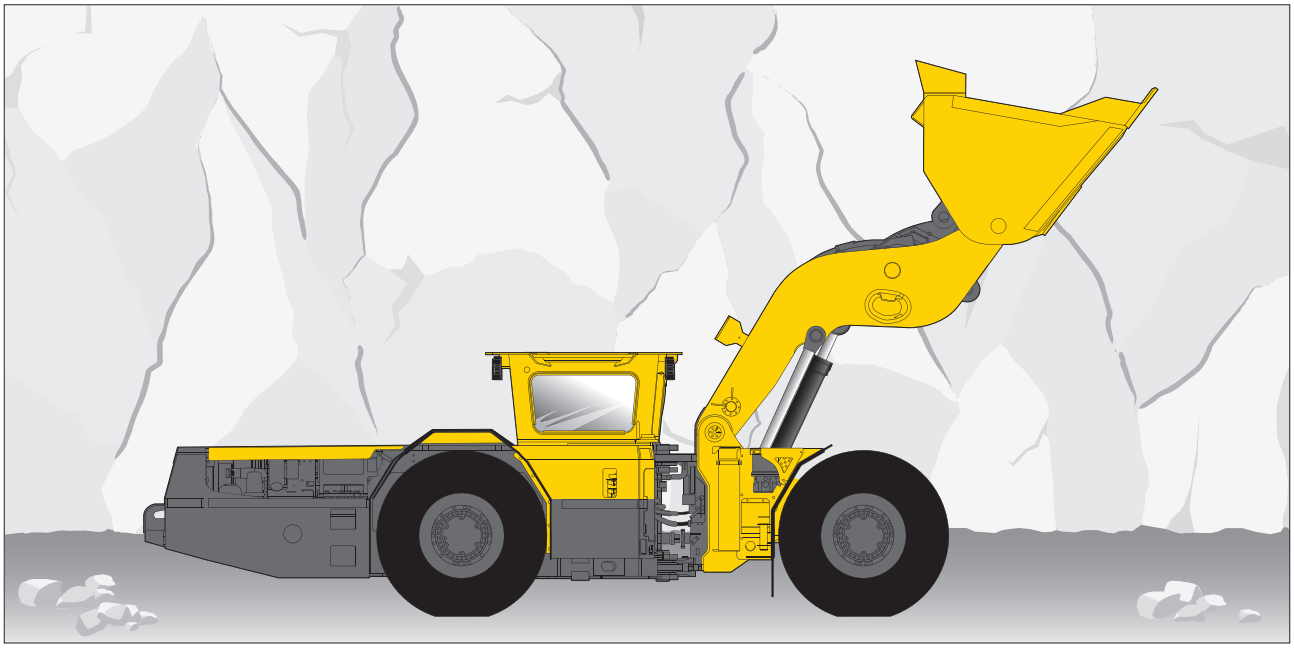
Atlas Copco Underground loaders

Scooptram ST7

Technical specification

Dealer
McDowell Since 1968
2018 Kingsway Blvd.
Sudbury, Ontario, Canada P3B 4J8
Tel: +1 (705) 566-8190
www.bmcdowell.com



The Scooptram ST7 is a robust LHD that is built for demanding underground applications where small size combined with high performance is the key to superior productivity.

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 and door interlock (applies brakes, blocks steering and bucket/boom movement when door opens)
- The best operator visibility in its class due to the low back end

» Superior Operator's Comfort

- Increased leg-room with AC Footbox
- Rubber mounted cabin or canopy for reduced vibration level
- Ergonomic multifunction control joysticks
- Comfortable air suspended seat (optional)
- Simple and clear, multifunction display with intuitive operator interface
- Steering and boom soft stop reduces vibration for the operator (optional)

» Environmental

- Fuel efficient, clean burning EPA Tier 3/EU Stage IIIA engine
- Rock tough catalytic purifier

» Reliability for Enhanced Productivity

- Proven powertrain components
- On board diagnostics give the operator a clear indication of the machine status
- L&M V-tube Core radiator
- Machine status indication lights, displays the machine status for personnel working around the machine
- Load weighing system (optional)

» Peak Performance

- Load sensing variable displacement hydraulic pump 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
- All daily maintenance from ground level
- Patented automatic lubrication system with low level warning and lube fault detection for all daily lube points.

Atlas Copco

Specifications

CAPACITIES

kg	Tramming capacity*	6 800
	Breakout force, hydraulic	13 350
	Breakout force, mechanical	11 750

**Tramming capacity with EOD bucket 5 800 kg.*

MOTION TIMES

sec	Boom raising	5.3
	Boom lowering	3.5
sec	Dumping	2..1

WEIGHTS

Standard equipped vehicle (EVW)		
kg	Approximate weight	19 300
	Axle load, front end	8 600
	Axle load, rear end	10 700

» Engine

- Brand/model:...Cummins QSB6.7 EPA Tier 3/EU Stage IIIA
- Power rating at 2 200 rpm..... 144 kW/193 hp
- Maximum torque at 1 400 rpm ..... 931 Nm
- MSHA Part 7 ventilation:
  Ventilation rate.....241 m3/min
  Particulate index 269 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 coverter

- Automatic power shift with integral converter, fully modulated 4 speed shifting, forward/reverse with de-clutch function
- Funk DF150

» Axles

- Spiral bevel differential, full floating, planetary wheel end-drive
- Rock Tough.....406
- Degree of rear axle oscillation.....14° (7° on each side)
- Differentials:
  Front..... No spin
  Rear ..... Open

» Brakes

- Fully enclosed, force cooled, multiple wet discs at each wheel end
- Service/parking/emergency brakes .....SAHR

» Tyres*

- Tubeless, smooth, tread design for underground mine service
- Tyre size, front and rear .....17.5x25 20 ply L5S

** As applications and conditions vary, Atlas Copco recommends that the user consults with tyre suppliers to obtain the optimum tyre selection.*

» Operator's Compartment

- Canopy ISO ROPS/FOPS
- Open door retainer
- Side seated operator for bi-directional operation
- Spring suspended Grammer seat with 2-point retractable seat belt
- External sound level according to ISO 6393 LwA 124,5 dB(A)
- Sound level in canopy according to ISO 6394 LpA 105 dB(A)
- Sound level in cabin according to ISO 6394 LpA 82 dB(A)
- Whole body vibration value according to below EN 14253 A(8)w maximum 0.55+/-0.2m/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.....13 x 40W

» Hydraulic system

- Heavy duty load sensing pump.....1 x Rexroth A10VO
- Hydraulic leakage detection system
- Steering and system pressure.....24.0 MPa
- Hydraulic tank capacity..... 111 litres
- Filtration, return line.....12 µm
- Cylinders; chrome plated stems, diameter:
  Steer cylinders (2)..... 80 mm
  Hoist cylinders (2).....125 mm
  Stabilizer cylinder.....150 mm

» Control system

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

» Fuel

- Fuel tank capacity ..... 190 litres
- Fuel filtration:
  Primary, including water trap.....2µm
  Secondary.....3µm
- Fuel consumptuin @ full load.....37 litres/hr
- Estimated engine load factor.....40%
- Anti-siphon fuel supply

» Included features

- Boom up lock
- Central manual lubrication system
- Fire extinguisher
- Audio-visual reverse alarm

Grade Performance

GRADE PERFORMANCE - EMPTY BUCKET

%	Grade	0.0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	16.0	18.0	20.0	25.0
Ratio	Grade	–	–	–	–	–	1:10	1:8	1:7	–	–	1:5	1:4
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	3.8
	2nd gear	7.4	7.3	7.1	7.0	6.8	6.7	6.5	6.3	6.1	5.4	5.7	5.2
	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	–	–	–	–	–	–	–

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

GRADE PERFORMANCE - LOADED BUCKET

%	Grade	0.0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	16.0	18.0	20.0	25.0
Ratio	Grade	–	–	–	–	–	1:10	1:8	1:7	–	–	1:5	1:4
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	3.4
	2nd gear	7.3	7.1	6.9	6.7	6.5	6.3	5.9	5.6	5.4	5.1	4.7	3.5
	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.

Optional Equipment

» System
- Manually actuated fire suppression with engine shut-down
- Ansul checkfire, automatic actuation of fire suppression system
- Lincoln auto lube
- Wiggins fast fuel fill
- Atlas Copco Scooptram RRC (Line of sight - Radio Remote Control)
- Premium package including:
  - Auto lube with Lincoln pump
  - Steering soft stop
  - Load weighing (logging of production data, weight per bucket, number of buckets and accumulated payload)

» Electrical System
- CD/MP3 player

» Hydraulic System
- Brake release retriever tow hook
- Steering soft stop
- Electric pump for hydraulic tank fill

» Operator´s compartment
- Air suspended Grammer seat with 2-point retractable seat belt
- Cabin or canopy

» Controls and instruments
- Block out 3rd and 4th gears
- Production logging
- Maintenance logging
- Brake apply after 3 sec in neutral
- Load weighing system

» Tyres
- 17.5R25 X-Mine D2 (lugged)

» Power unit
- Cold weather package 120V or 240V:
  - Block heater
  - Battery warmer
  - Fuel heater
  - Hydraulic oil heater
  - Transmission oil heater
  - Arctic oil
- DCL exhaust cleaning system

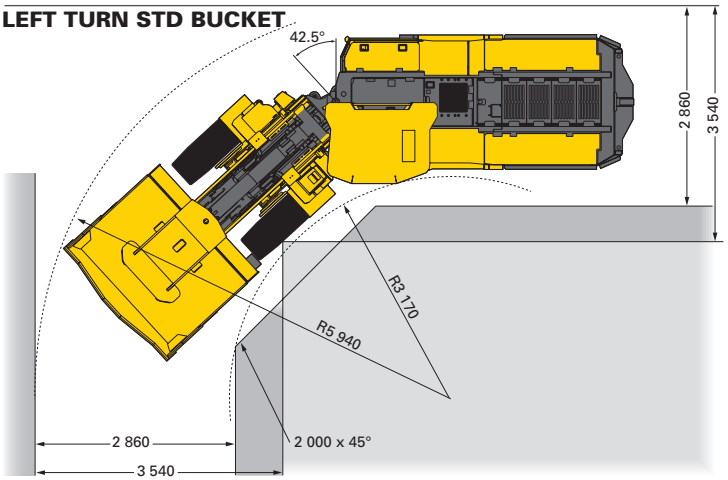
» Main Frame
- Optional bucket sizes
- EOD buckets
- Wheel chocks and brackets
- Knockdown construction

» Documentation
- LinkOne parts catalogue, CD
- LinkOne reader
- Operator and maintenance manual - plasticized

» 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

Measurements

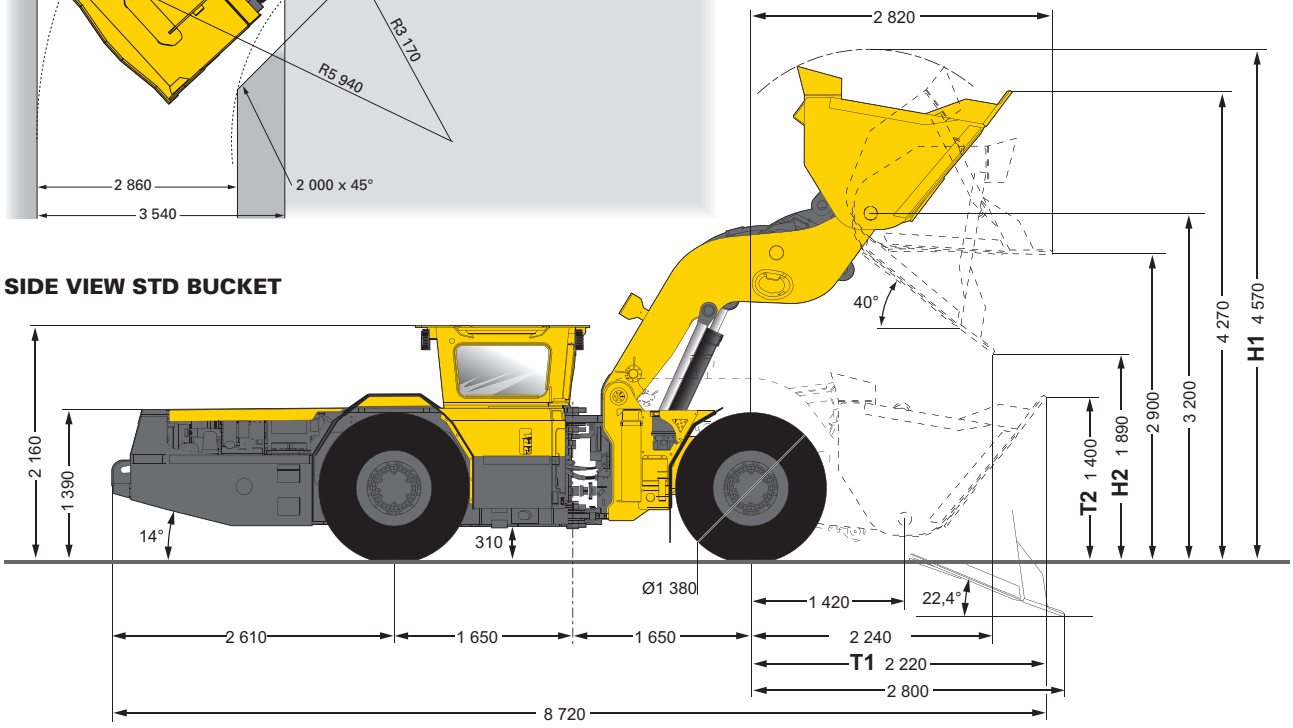
LEFT TURN STD BUCKET



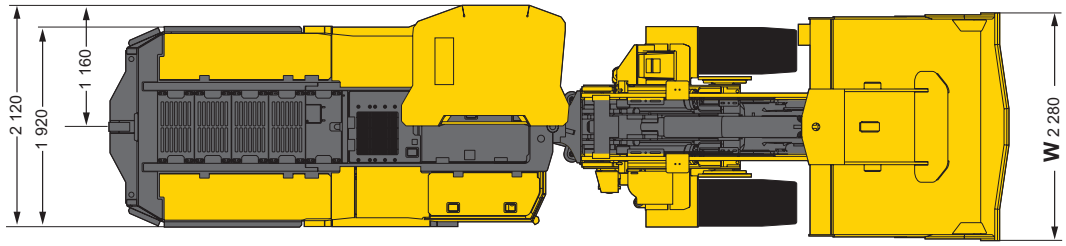
» Dimensions

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

SIDE VIEW STD BUCKET



TOP VIEW



STANDARD BUCKET DATA		STD						
Volume, nominal heaped (m3)		**3.8**	**3.4**	**3.1**	**2.8**	**2.6**	**2.4**	**2.3**
Maximum material density (t/m3)		**1.8**	**2.0**	**2.2**	**2.4**	**2.6**	**2.8**	**3.0**
Width, bucket (mm)	W	2 280	2 280	2 280	2 280	2 280	2 280	2 280
Tramming position: Axle centreline to bucket lip (mm)	T1	2 970	2 900	2 800	2 770	2 650	2 670	2 600
Tramming position: Ground to bucket tip (mm)	T2	1 540	1 450	1 400	1 330	1 200	1 230	1 190
Reach dimension (mm)	L1	2 380	2 280	2 220	2 160	2 010	2 050	2 000
Raised position: Back height, max. (mm)	H1	4 760	4 660	4 570	4 540	4 540	4 500	4 490
Raised position: Bucket tip, height (mm)	H2	1 750	1 850	1 890	1 940	2 050	2 020	2 070

EOD BUCKET DATA							
Volume, nominal heaped (m3)		**3.2**	**2.9**	**2.7**	**2.5**	**2.2**	**2.4**
Maximum material density (t/m3)		**1.8**	**2.0**	**2.2**	**2.4**	**2.6**	**2.8**
Width, bucket (mm)	W	2 280	2 280	2 280	2 280	2 280	2 280
Tramming position: Axle centreline to bucket lip (mm)	T1	3 020	2 970	2 920	2 870	2 830	2 780
Tramming position: Ground to bucket tip (mm)	T2	1 650	1 580	1 530	1 480	1 430	1 370
Reach dimension (mm)	L1	2 500	2 420	2 370	2 310	2 270	2 200
Raised position: Back height, max. (mm)	H1	4 650	4 600	4 530	4 510	4 490	4 490
Raised position: Bucket tip, height (mm)	H2	1 700	1 740	1 800	1 840	1 880	1 940

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