



# E15

AGITATOR 7M<sup>3</sup>



Elphinstone Underground Support Solutions  
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**ELPHINSTONE**

**UNDERGROUND RELIABILITY**



# TECHNICAL SPECIFICATIONS

## Engine

Engine Tier	Tier 3 - Standard		Tier 4 Final (High Power)		Tier 4 Final (Low Power)	
Engine Model	Cat C7.1 ACERT (TA)		Cat C7.1 ACERT (TA)		Cat C7.1 ACERT (TA)	
Gross Power SAE J1995	168 kW	225 hp	151 kW	202 hp	129 kW	173 hp
Displacement	7.0131 L	428 in <sup>3</sup>	7.0131 L	428 in <sup>3</sup>	7.0131 L	428 in <sup>3</sup>
Bore	105 mm	4.1 in	105 mm	4.1 in	105 mm	4.1 in
Stroke	135 mm	5.3 in	135 mm	5.3 in	135 mm	5.3 in
Number of Cylinders	6		6		6	
Max Torque @ Rated Speed	1028 Nm @ 1400 rpm		870 Nm @ 1400 rpm		842 Nm @ 1400 rpm	
Derating Altitude	3000 m	9843 ft	3000 m	9843 ft	3000 m	9843 ft
Emission Certification	EPA Tier 3		EPA Tier 4 Final		EPA Tier 4 Final	
Alternator	150 amp		150 amp		150 amp	
Electrical System	24 V		24 V		24 V	
Battery - Quantity	2		2		2	
Battery - Volts	12 V		12 V		12 V	
Battery - Capacity	1000CCA		1000CCA		1000CCA	
Starting System	Direct Electric		Direct Electric		Direct Electric	

- Power ratings apply at 2200 rpm when tested under the specified standard conditions.
- Based on standard air conditions of 25° C (77° F) and 99 kPa (29.32 in Hg) dry barometer. Used 35° API gravity fuel having an LHV of 42,780 kJ/kg (18,390 BTU/lb) when used at 30° C (860 F) [ref. A fuel density of 838.9 g/L (7.001 lb/gal)].

## Powertrain

Travel Speed - Fwd. 1st	6.2 km/h	3.9 mph
Travel Speed - Fwd. 2nd	10.2 km/h	6.3 mph
Travel Speed - Fwd. 3rd	16.4 km/h	10.2 mph
Travel Speed - Fwd. 4th	21.9 km/h	13.6 mph
Travel Speed - Fwd. 5th	35.1 km/h	21.8 mph
Travel Speed - Rev. 1st	6.2 km/h	3.9 mph
Travel Speed - Rev. 2nd	10.2 km/h	6.3 mph
Travel Speed - Rev. 3rd	21.9 km/h	13.6 mph
Torque Converter Type	Lock-up clutch	
Transmission	5 fwd / 3 rev countershaft powershift	
Steering, Frame Articulation	42.5 degrees	
Brakes - Service Type	Hydraulic applied inboard WET disc enclosed	
Brakes - Parking Type	Internal Spring Applied Hydraulically Released wheel ends (SAHR)	
Tyres	16.00 R20	

## Service Refill

Fuel Tank	340 L	89.8 gal
Cooling System	50 L	13.2 gal
Differential, Final Drive - F	18.5 L	4.9 gal
Differential, Final Drive - R	20.5 L	5.4 gal
Engine Oil	13.5 L	3.6 gal
Transmission, Torque Converter	31 L	8.2 gal
Hydraulic Tank	150 L	39.6 gal
Bowl Geared Head	8 L	2.1 gal
Diesel Exhaust Fluid (DEF) (Tier 4 Final Only)	16 L	4.2 gal

## Weights

Gross Vehicle Weight (GVM)	37,000 kg	81571 lb
Tare Weight	20,000 kg	44092.5 lb

\*Tare weight includes one operator and a full tank of fuel.

## Standards

ROPS/FOPS	ISO 3471:2008 / ISO 3449:2005	
Steering	ISO 5010:2007	
Braking	ISO 3450-2011/CSA-M424.3-M90	

## Speed on Grade

Cat C7.1 ACERT, 168kW Tier 3

Grade	Vehicle Speed [km/h]				
	1st Fwd	2nd Fwd	3rd Fwd	4th Fwd	5th Fwd
1:7 (14%) Empty (20,000 kg)	6.2	10.2	16.4	16.9	-
1:7 (14%) GVM (37,000 kg)	6.2	9.3	-	-	-

Cat C7.1 ACERT, 151kW Tier 4 Final (High Power)

Grade	Vehicle Speed [km/h]				
	1st Fwd	2nd Fwd	3rd Fwd	4th Fwd	5th Fwd
1:7 (14%) Empty (20,000 kg)	6.2	10.2	14.4	-	-
1:7 (14%) GVM (37,000 kg)	6.2	7.9	-	-	-

Cat C7.1 ACERT, 129kW Tier 4 Final (Low Power)

Grade	Vehicle Speed [km/h]				
	1st Fwd	2nd Fwd	3rd Fwd	4th Fwd	5th Fwd
1:7 (14%) Empty (20,000 kg)	6.2	10.2	12.7	-	-
1:7 (14%) GVM (37,000 kg)	6.2	7.0	-	-	-

\*Note: 2% rolling resistance

## Agitator

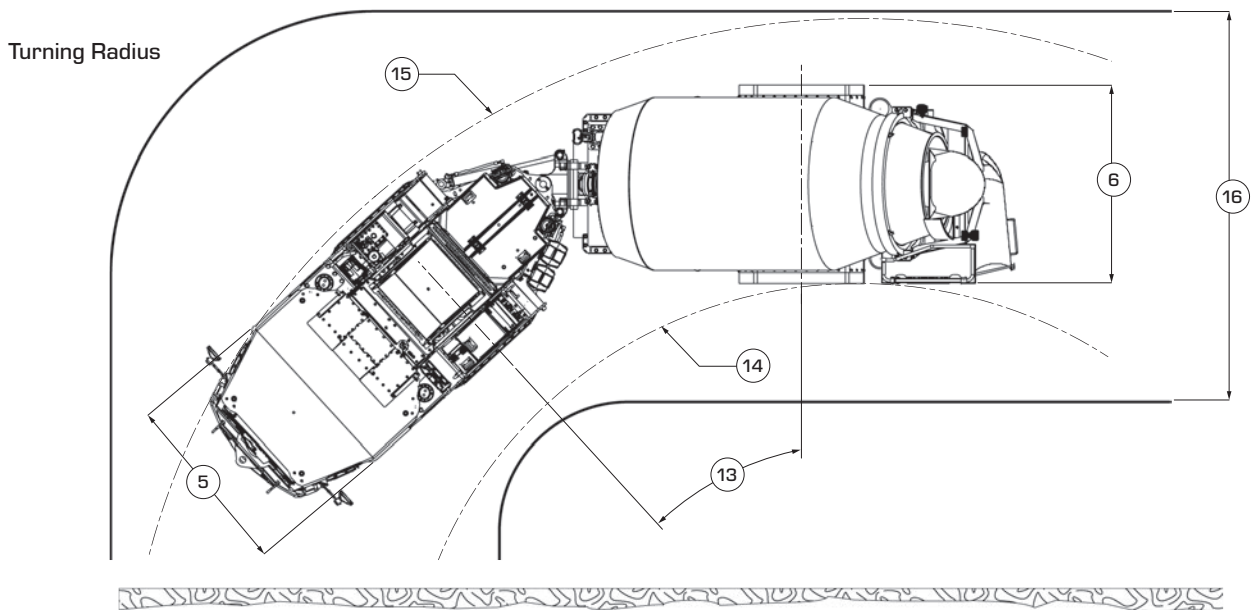
Drum Volume						
100% Drum Volume						10.9m <sup>3</sup>
Rated Capacity to AS 1792-1991 (65%)						7.1m <sup>3</sup>
Retained Capacity / Nominal						7m <sup>3</sup>
Bowl Capacities						
Material SG (kg/m <sup>3</sup> )	2000	2100	2200	2300	2400	2500
Max. Fill Capacity (m <sup>3</sup> )	8.4	8.0	7.6	7.3	7.0	6.7

## Tank Capacities

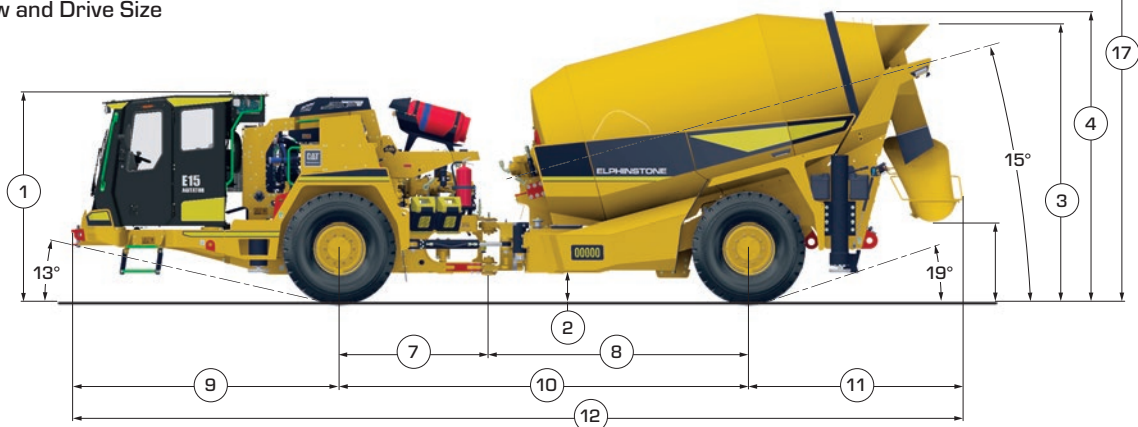
Form Oil	2x95 L	2x25 gal
Water	180 L	47.6 gal
Chemical Transport Tank	245 L	64.7 gal



## MACHINE DIMENSIONS



Side View and Drive Size



### Dimensions

1	Height - Top of Cabin	2445mm	8 ft 0.3 in
2	Height - Ground Clearance	350mm	1 ft 1.8 in
3	Height - Top of Feed Chute	3240mm	10 ft 7.2 in
4	Height - Top of Agitator	3335mm	10 ft 11.2 in
5	Width - Machine Front Frame	2100mm	6 ft 10.7 in
6	Width - Machine Rear Frame	2315mm	7 ft 7.1 in
7	Length - Front Axle to Hitch	1725mm	5 ft 7.9 in
8	Length - Hitch to Rear Axle	3000mm	9 ft 10.1 in
9	Length - Front axle to bumper	3090mm	10 ft 1.8 in
10	Length - Wheel Base	4725mm	15 ft 6.0 in
11	Length - Rear Axle to Chute	2515mm	8 ft 3.0 in
12	Length - Overall	10330mm	33 ft 10.7 in
13	Articulation	42.5 deg	

### Drive Size

14	Radius - Inside Clearance - By design	4677mm	15 ft 4.1 in
15	Radius - Outside Clearance - By design	7633mm	25 ft 0.5 in
16	Minimum Width Portal (90° corner)	4500mm	14 ft 9.1 in
17	Typical Minimum Height Portal	4500 mm	14 ft 9.1 in





## STANDARD AND OPTIONAL EQUIPMENT

● Standard ● Optional ● Safety

### Powertrain

Air Cleaner, 2-Stage With Integral Pre-Cleaner	●
All Wheel Drive with Lock-up Torque Converter	●
Axle Breathers, Remote Mounted	●
Brakes - Parking, Four Wheel Spring Applied, Enclosed Disc	●
Brakes - Service, Four-Wheel Pressure Applied Enclosed Disc	●
Brake - Driveline, Electromagnetic Retarder	●
Driveline Slip-joint, Lubed for Life	●
Engine, Cat C7.1, ACERT Technology, ATAAC - Tier 3	●
Engine, Cat C7.1, ACERT Technology, ATAAC - Tier 4 Final	●
Fan, Sucker	●
Filters, Engine Air, Primary/Secondary	●
Filters, Fuel, Primary/Secondary	●
Final Drives, Outboard Planetary	●
Fuel Transfer Pump (Electric)	●
Fuel Lines - Double Wire Braided	●
Fuel Shutoff Valves Supply & Return	●
Lock - Wheel Nut (Torque Retention)	●
Muffler/Catalytic Converter (Tier 3 Only)	●
Oscillating Hitch	●
Radiator	●
Steering, Rotary Metering Pump	●
Suspension, Front Axle	●
Transmission, Countershaft Powershift (5F/3R)	●
Universal Joints, Lubed for Life	●

### Fast-Fill Systems

Coolant, Engine Oil, Hydraulic Oil, Transmission Oil	●
Fuel, Non-pressurised	●

### Antifreeze

Coolant, Extended Life for -35°C (-30°F)	●
Coolant, Arctic Extended Life for -50°C (-58°F)	●

### Operator Environment

300 mm (12 in) Touch Screen Operator Display	●
Brake Retarder Control	●
Cabin, Open, FOPS/ROPS	●
Cabin, Enclosed, FOPS/ROPS, Climate Control HVAC System	●
Cabin, Pressuriser	●
RESPA Recirculation Filter	●
Camera/Monitor, Reversing	●
Diagnostic Connector	●
Engine Idle Timer	●
Fire Extinguisher 1.5 kg, Hand Held Dry Chemical Powder 3A:40B:E LH Side	●
Fire Extinguisher 1.5 kg, Hand Held Dry Chemical Powder 3A:40B:E RH Side	●
Interior Lamps (LED)	●
Mirrors, Rear View	●
Seat Belt, 3x Retractable, Occupancy Indicator	●
Seat, T-Seat, Air Suspension, Operator	●
2x Seat, T-Seat, Air Suspension, Companion	●
Seat Covers, Operator and Companion	●
Steering Wheel, Tilt and Telescoping	●

### Instrumentation, Gauges

Brake, Accumulator Pressure	●
Brake, Oil Pressure	●

### Operator Environment

Diesel Exhaust Fluid (DEF) (Tier 4 Final Only)	●
Engine, Coolant Temperature	●
Engine, Oil Pressure	●
Fuel, Level	●
Hydraulic, Oil Temperature	●
Pressuriser Air Filter, High Efficiency Particulate Air	●
Pressuriser Air Filter, Activated Charcoal	●
Speedometer	●
Steering, System Pressure	●
Tachometer	●
Torque Converter, Oil Temperature	●

### Instrumentation, Warning Indicators

Brake, Accumulator Oil Pressure	●
Brake, Fault	●
Brake, Park Indicator	●
Cabin, Door Open	●
Electrical System	●
Emergency Stop	●
Engine, Coolant Temperature	●
Engine, Fault	●
Engine, Oil Pressure	●
Hydraulic, Oil Level	●
Hydraulic, Oil Temperature	●
Steering, Primary	●
Steering, Secondary	●
Torque Converter, Oil Temperature	●
Transmission, Fault	●
Transmission, Oil Filter Bypass	●

### Instrumentation, Digital Data

Gear and Direction	●
Driveline Retarder, Braking Percentage	●
Service Hour, Meter	●

### Electrical

Accessory Power Port (12 V) & (24 V)	●
Alarm, Back-up	●
Alternator, 150 amp	●
Auxiliary Start Receptacle	●
Batteries, Maintenance Free (2x1000 CCA)	●
Battery Isolation, Lockable Disconnect Switch (4 Pole)	●
Emergency Stop - Cabin	●
Emergency Stop - Ground Level, LH Side Front	●
Emergency Stop, Additional, RH Side Front	●
Horn, Warning	●
Lights, Beacon (LED), Cab Mounted (Amber/Red/Blue)	●
Lights, Headlights (LED)	●
Lights, Reversing	●
Lights, Stop/Tail/Turn (LED)	●
Lights, Work, Front/Rear - Cab Mounted (LED)	●
Lights, Work, Front/Rear - Cab Mounted (LED) Additional	●
Radio, Ready, Communications	●
Radio, AM/FM/USB/Bluetooth	●
Sealed Electrical Connectors	●
Starter, Electric, Heavy Duty	●
Starter Isolator, Lockable Disconnect Switch (4 Pole)	●
Starting and Charging System, 24 V	●



## STANDARD AND OPTIONAL EQUIPMENT

● Standard ● Optional ● Safety

### Hydraulics

Case Drain Return Screen	●
Closed Center-load Sensing System	●
Hydraulic Oil Cooler	●
Hydraulic Oil Filling System, Filtered	●
Line Filter, Full Flow Return	●
Suction Screen	●

### Agitator

Bowl, Auxiliary Motor Quick Connection Fittings	●
Bowl, Access Platform/Ladder - Rear LH Side	●
Bowl, Controls, Cabin	●
Bowl, Controls, Fixed, Rear	●
Bowl, Guards	●●
Bowl, Lifting Hardware	●
Bowl, Lock	●●
Bowl, Maintenance Access Covers	●
Camera, Rear, Discharge Chute, Mounted	●
Chute Extensions, Base/Extension/Placement	●
Tank, Chemical Additive	●
Emergency Stop, Ground Level, RH Side Rear	●●
Lights, Work, Rear (LED) x6	●
Water Pump, High Pressure, Hose, Reel, and Lance	●
Water Pump, Low Pressure, Hose, Reel	●
Tank, Chemical Additive	●
Tank, Water	●
Slump Meter Gauge, Rear	●

### Operator Display

Bowl, Speed (RPM)	●
Current Mode of Operation - Plant Mix, Transit Mix, Discharge	●
Slump Meter, Cab	●

### Other

Brakes, Park, Onboard, Release for Machine Retrieval	●●
Engine, Enclosures, Hinged (Tier 3 Only)	●
Film, GP Reflective, Fluorescent Yellow	●●
Film, GP Reflective, Fluorescent Orange	●●
Fire Extinguisher, 4.5 kg, Hand Held Dry Chemical Powder 4A:80B:E LH and RH Side	●●
Fire Extinguisher, 9 kg, Hand Held Dry Chemical Powder 6A:80B:E LH and RH Side	●●
Fire Suppression System, Ansul A101 Dry Chemical Powder, Engine Shutdown	●●
Fire Suppression System, Sandvik Aqueous-Film Forming Foam, Engine Shutdown	●●
Grease Lubrication System, Centralised, Manual	●
Grease Lubrication System, Automatic	●
Lift, Tie Down and Retrieval Points (Front and Rear)	●
Mudguards	●
Radiator, Cap, Manual Pressure Release	●
Scheduled Oil Sampling (SOS) ports	●
Steering, Frame Lock Link	●
Steering, Secondary	●
Tyres, Tubeless Rims (16.00 R20)	●
Tyre and Rim, Spare (16.00 R20)	●
Unit Number Placard	●
Wheel Chocks	●●



# OVER 45 YEARS IN THE MINING INDUSTRY.

Elphinstone Pty Ltd is an established Caterpillar Original Equipment Manufacturer with over 45 years' experience in the mining industry. Elphinstone specialises in the design, manufacture and support of quality equipment for the global underground and surface mining industries.

The Elphinstone range of Underground Mining Support Vehicles combines practical design, the latest technology and quality manufacturing to ensure reliable performance.

The current product range includes specialised underground support vehicles, mine extraction devices, extended distance off-highway haulage trucks and water tanks customised to suit Caterpillar articulated trucks.

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HM61780-02 (01-2024)