



SS-3 Elect-Hyd. Shotcrete Sprayer

The Mine-Mate™ SS-3 Shotcrete Sprayer is a rugged mechanized shotcrete spraying system developed specifically for underground ground support applications. The unit is optimized to make use of the latest developments in wet shotcrete materials, additives and spraying processes for reduced airborne particulates while ensuring high quality and performance.

Features

- Purpose built for mining applications
- Utilizes industry recognized, proven components
- Up to 17 cubic yards/hr (13 m³/hr) spraying rate
- Heavy duty MacLean-designed Spray Boom
- Standard diesel-hydraulic spraying capability
- Optional electric-hydraulic spraying capability
- Self sufficient air supply available
- Stabilizing / lift jacks
- Heavy duty frame construction
- Auxiliary support systems
- Clean high powered, electronically controlled engines
- Reliable, proven power train components
- Four wheel drive, articulated steer carrier
- Canopy and enclosed cab option
- Adaptable for hand held applications if required
- Adjustable hopper height for filling flexibility

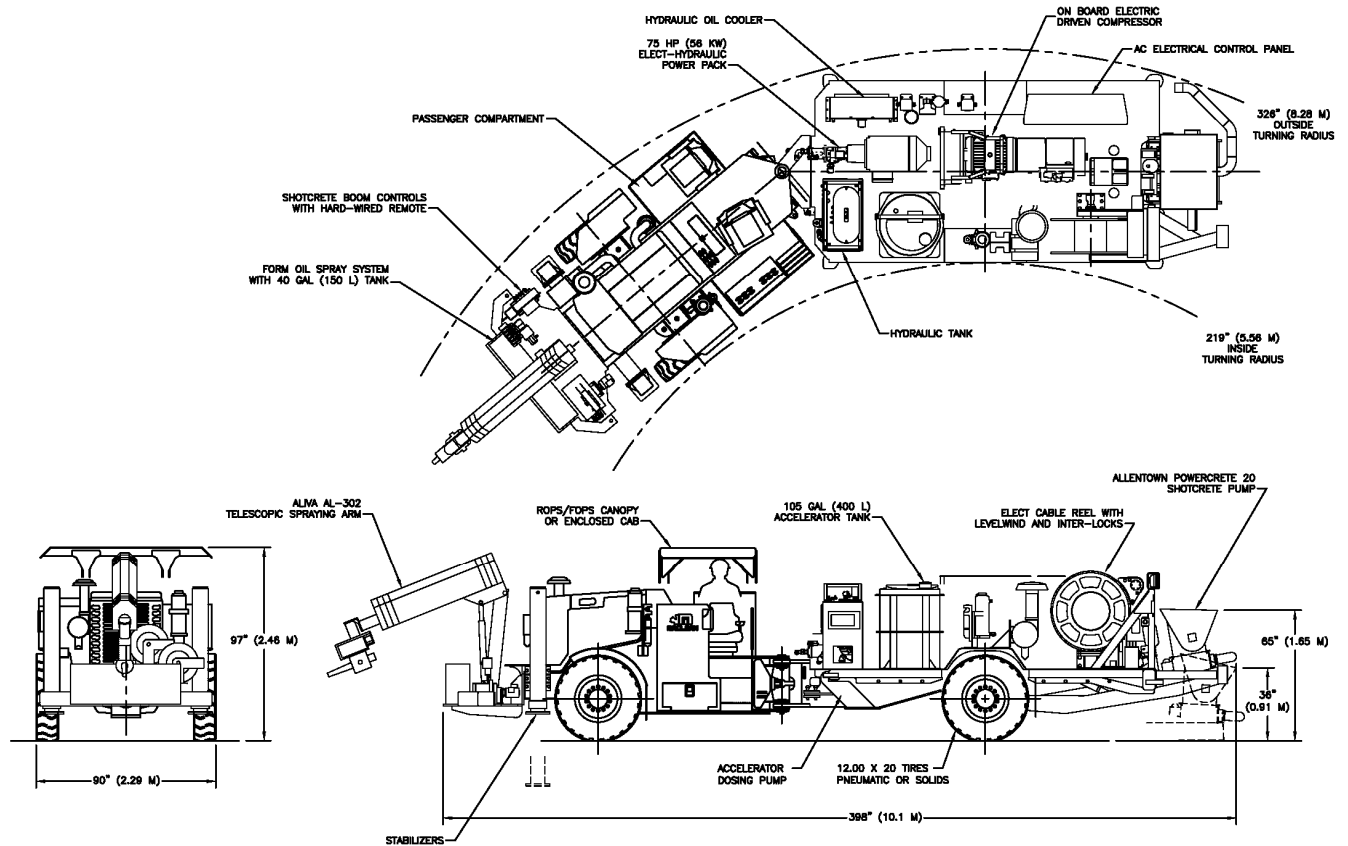
Benefits

- Carrier complies with current underground specifications for mobile equipment operating on steep inclines
- Spray Boom purpose built for tough mining environment
- Rugged design reduces maintenance costs
- Operator friendly spraying controls provide flexibility and high productivity
- Reduced airborne dust compared to dry spraying method
- Ease of maintenance with electronic engine diagnostics, accessible fuel filling and grease points
- Superior traction due to four wheel drive and Powershift transmission
- Clean burning, fuel-efficient engine minimizes harmful emissions
- Zero emissions, reduced ventilation and noise when operating on electric power

Applications

- High production spraying with ready mixed (wet) concrete/shotcrete delivery systems
- Controlled quality spraying for ground support with reinforcing fibers and accelerator curing agents.
- Mine openings as small as 14' x 14' (4.3m x 4.3m) and up to 20' x 20' (6 m x 6 m), maximum upwards reach of 29' (8.8 m)

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Shown with optional equipment included

Weights and Dimensions

Empty vehicle weight – 42,000 lbs (19,000 kg)
 Width - 90" (2.29 m)
 Length – 398" (10.1 m)
 Trimming height – 97" (2.46 m)

+/- 40 degrees steering angle
 Inside turning radius – 219" (5.56 m)
 Outside turning radius – 326" (8.28 m)

Speed Range

Empty on 0% grade

- 1st gear on flat – 2.4 mph (3.7 km/h)
- 2nd gear on flat – 5.1 mph (8.2 km/h)
- 3rd gear on flat – 8.7 mph (14.0 km/h)

Empty on 15% grade

- 138-156 hp (103-116 kW) – 4.6 mph (7.4 km/h)
- 201-213 hp (150-158 kW) – 7.1 mph (11.4 km/h)

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Power End Standard Equipment

Deutz TCD 2012 L4 liquid cooled diesel engine:

- Rated 138 hp (103 kW) at 2400 rpm – Tier 3
- 4 cylinder – 4 stroke – Electronically controlled
- Turbo charged / Air to air charge cooled
- Mesabi radiator and cooling package
- 40 US gal (150 L) diesel tank

Dana Clark 32000 series powershift transmission;

- 3 speeds forward and reverse
- Electric shift control

New Holland D65I axles;

- Inboard planetary gears
- No-spin differential on engine end
- Standard differential on pump end
- Mico SAHR failsafe brake actuators
- Internal wet disk brakes
- +/- 10 degrees oscillation on power end axle
- Fixed mounting on application end axle

Brake system;

- Independent front/rear hydraulically operated service brakes
- Spring applied, hydraulic released emergency/park brakes
- Automatic Brake Application (ABA) with manual reset

Wheels and Tires;

- 12.00 x 20 tire size
- 20 ply pneumatic, lugged thread design

Driver and passenger compartments;

- Side entry away from articulation joint
- Driver's position – Center seated facing outward
- Passenger position – Side seated facing forward
- Deluxe suspension seats with seat belts for driver and passenger
- Stick steering controls
- Anti-slip dimple plate on all step surfaces

Frames;

- Heavy duty plate construction with modular tear down capability
- 40 degrees steering angle with dual steering cylinders
- Grouped grease fittings for articulation joint, steering pins and oscillating axle
- Heavy duty front and rear bumpers with towing capability
- Articulation lock bar
- Wheel chock holders

Hydraulic system;

- Closed center hydraulic circuit
- 30 gpm (110 L/min) piston pump
- 3000 psi (200 bar) system pressure
- 25 US gal (95 L) hydraulic tank
- 10 micron return filter

Electrical system;

- 24 Volt with master disconnect with lock out feature
- 95 amp / 24 volt alternator
- 800 CCA batteries
- 500 amp fuse starter protection
- Re-settable circuit breakers
- 4 headlights forward and 4 reverse
- Back-up alarm
- Strobe light
- Stainless steel enclosures

Exhaust system;

- Purifier and muffler assembly
- Insulation blankets on exposed components
- Emission test port

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Sprayer Standard Equipment

Spray Boom:

- MacLean Telescopic Spray Boom
- Heavy-duty 4-stage telescopic spray boom with 160" (4.1 m) extension
- Retracted spray boom length of 114" (2.9 m)
- Extended spray boom length of 274" (7.0 m)
- 360 degrees nozzle rotation
- 240 degrees nozzle dump
- 180 degree horizontal boom swing
- Continuous nozzle oscillation
- 14'x14' (4.3m x 4.3m) to 20'x20' (6m x 6m) drift coverage
- 28.7' (8.75 m) max height coverage
- Hard wired remote control for boom, shotcrete pump, and dosing system control

Shotcrete Pump:

- Allentown Powercreter 20 shotcrete pump;
- Variable pump rate up to 17 cubic yards/hr (13 m³/hr)
- 8.8 cubic ft (0.25 m³) hopper with vibrator
- Lift/lower hopper positioning system

Additive Dosing System:

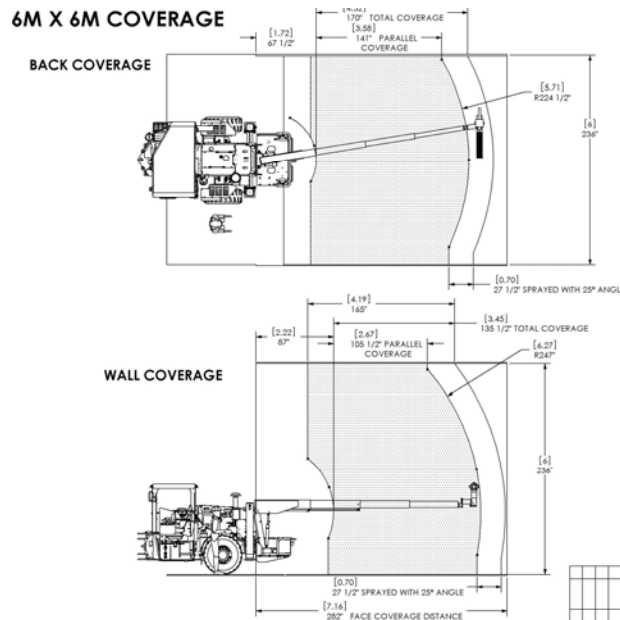
- Allentown A20 accelerator dosing system;
- Peristaltic pumping system
- 24 VDC motor and speed controller
- 105 US gallon (400 L) tank

Form oil spray system with 10 gallon (40 L) on board storage tank

16" (0.41 m) stroke stabilizer jacks on engine side

Air and water header

LED Work Lights: 6 boom-end lights, 2 pump-end work lights



Range and Movements for MacLean Spray Boom – 6m x 6m Opening Shown



Optional Equipment

Mercedes 904 engine upgrade;

- Rated 147 hp (110 kW) at 2300 rpm – MSHA certified Tier 3
- 4 cylinder – 4 stroke – Electronically controlled

Mercedes 906 engine upgrade;

- Rated 201 hp (150 kW) at 2300 rpm – MSHA certified Tier 3
- 6 cylinder – 4 stroke – Electronically controlled

Caterpillar power train components;

- Cat C6.6 rated 156 hp (116 kW) or 213 hp (158 kW) at 2300 rpm
- 6 cylinder – 4 stroke – Electronically controlled
- Cat 535C powershift transmission
- Cat 938G drive axles

Exhaust blankets and shielding

Certified ROPS & FOPS open canopy

Certified ROPS & FOPS enclosed cabin;

- Heating and AC systems
- Pressurized air and sound suppression
- Windshield wiper and washer systems

Fire suppression, Checkfire, hand held extinguisher

Electric-hydraulic power pack:

- 75 hp (56 kW) 575 VAC 60 Hz electric motor
- High voltage AC control panel
- 24 VDC battery charger
- Cable reel with last wind interlock
- 66 gallon (250 L) hydraulic tank
- Air/Oil cooler
- Consult factory for other powerpack options (380/480/1000 VAC, 50/60Hz)

On-board electric driven air compressor:

- 75 hp (56kW) 575 VAC 60 Hz electric motor
- 300 cfm @ 100 psi (8.5 m³/min @ 7 bar)

High Pressure Water Rock Washing Option

Power washer system with hose reel and wand

Radio remote upgrade for sprayer controls

Brake inter-locking for stabilizer jacks

Back-up camera and monitor
Auto lube system

Choice of tires;

- Pneumatics, solids and filled
- Aircraft retreads

High altitude application options available

Manuals and Warranty

Parts, Operators and Maintenance manuals

- 3 sets of hardcopies
- "Catbase" or "Link One" electronic parts books
- French and Spanish parts manuals available

MAC-10 Warranty

- 1 year standard warranty
- Extended to 2 years on power train
- Extended to 7 years on frame

*The manufacturer reserves the right to change the specifications or design of this machine at any time without notification.