



SHOTCRETER

**MODEL
S1-SHOTCRETER**



The DUX S1-Shotcreter with remote controlled robotic knuckle boom, Aliva-263 wet/dry shotcreting machine and rotor pump

FEATURES

- For maximum reach and coverage the DUX S1-Shotcreter is equipped with remote controlled robotic knuckle boom with extendable spray arm, all position spray head and liquid accelerator dosage pump (dry or wet) shotcrete system
- Standard S1-Shotcreter can spray concrete on drifts up to 40-feet (12.2 meters) high, optional booms with greater reach available
- Spray boom equipped with Aliva AL-302 all position spray head with two totally enclosed Rota actuators for swing/tilt
- Aliva AL-263 wet/dry shotcreting machine with AL-403.4 liquid accelerator
- For maximum safety, reliability and low maintenance cost, the S1-Shotcreter is equipped with heavy-duty transmission and planetary axles
- Spacious operator compartment is ergonomically designed for maximum visibility and bidirectional tramming, operator can safely control and monitor machine functions at a glance
- Centralized service points and modular design for easy service access and fast component exchange
- Excellent service and parts back-up worldwide

WEIGHTS

Machine weight, approx. 16.3 tonne..... 17.8 ton (with optional compressor)

OVERALL DIMENSIONS

Length..... 11 355 mm.....37' 3"
 Width with optional compressor... 2 210 mm.....7' 3"
 Tramming height2 590 mm.....8' 6"

TURNING RADIUS

Inside.....3 860 mm..... 12' 8"
 Outside arm straight..... 7 315 mm..... 24' 0"
 Angle45°

ADDITIONAL FEATURES

- Lifting device with two (2) totally enclosed built in stabilizers and controls for Aliva 263 shotcrete spraying machine, includes reinforcement of front engine side frame
- Two (2) boom side stabilizers with horizontal spread (manual) on both sides plus controls
- Two (2) enclosed storage boxes with hinged covers



The DUX S1-Shotcreter with remote controlled robotic knuckle boom and piston pump

DUX Model S1-Shotcreter

TECHNICAL SPECIFICATIONS*

Engine

Make and model Cummins QSB 4.5 with Electronic
..... Management System
Derated power 110 kW (148 HP) @ 2300 RPM
Cylinders 4
Aspiration Turbocharged and charge air cooled
Displacement 4.5 L 275 in³
Starter 24-volt
Air intake cleaner Donaldson 2-stage dry type with service gauge
Exhaust system Catalytic purifier with integrated silencer
Cooling Liquid
Emission standard Meets EPA Tier 3, Euro Stage IIIA

Transmission with Integrated Torque Converter

Make and model Dana SOH HR24000 series with integrated
..... torque converter and flex plate drive
Speeds 3 in forward and in reverse

Axles

Make and model Dana SOH 176 planetary with internal multiple
..... wet-type 4-wheel disc brakes

Tires

– Bridgestone 12.00-20, 18 Ply Tube-Type E-3 mining tires

Brakes

Service 4-wheel power multi-internal wet disc, dual
..... hydraulic power control with accumulator back-up
Emergency/parking Fail-safe back-up Spring Applied Hydraulic
..... Released (SAHR) multi-internal wet 4 wheel brakes
Automatic Brake Applies brake in case of engine failure or
Applicator (ABA) pressure drop in torque converter

Steering

– Articulated frame hydraulic power steering
– Orbitrol valve-type with steering wheel and cushion valve
– Double acting steering cylinders (2)
– $\pm 45^\circ$ steering angle each way for a total of 90°

Oscillation

– $\pm 10^\circ$ center of oscillation for a total of 20°
– Large sized, heavy-duty roller bearing for minimum maintenance and a smooth ride, 4-wheel ground contact guaranteed

Frames and Pins

– Articulated heavy-duty frames made to withstand the high impact and torsional stress associated with mining application
– Frames come with five-year unlimited hour guarantee
– Large high tensile alloy steel pins in replaceable anchor bushings

Operator Compartment

– Side seated for maximum visibility and bi-directional operation
– Heavy-duty adjustable suspension seat with arm rests and seat belt
– Shock mounted compartment floor for maximum comfort
– All controls and gauges located within easy reach and view of operator

Hydraulic System

– Heavy-duty double acting protected steering cylinders (2) with hard chrome plated stems
– Heavy-duty PTO driven gear-type pumps driven from converter
– Suction filter
– Inline high pressure filter with service gauge
– $\frac{3}{4}$ " inside diameter and over hoses that are four-spiral wire braid and have crimped hose end swivel fittings
– Hose bulk-head located mid-ship

Tank Capacities

Fuel 170 L 45 US gallons
Hydraulic oil 303 L 80 US gallons

Electrical System

– 24-volt negative ground
– 70 amp alternator with integrated sealed voltage regulator
– Main electric cut-off switch
– Heat resistant, waterproof, sealed electric PMA wire harness
– Sealed junction box and stainless steel instrument panel box with multi-stem connectors
– Semi-automatic circuit breakers
– Front (2), rear (4), and all-directional (1) LED high-intensity lights
– Heavy-duty batteries (2)
– Signal horn and audible, adjustable back-up alarm

Aliva AL-302 (Electric Driven) Telescopic Spraying Arm

– Max. tunnel height 8.0 m (with 1 m spraying distance), min. height 3.5 m
– 3-point telescopic arm. 0-3 m range of telescopic movement
– Hose and nozzle holders can be infinitely adjusted from vertical to horizontal position. Spraying head -240° field of traverse (injection arch)
– 360° field of rotation
– Electric proportional remote control for the boom movements
– Oil tank 75 L. Hydraulic double pump. Control cabinet
– Remote electric controls with 8 m long umbilical cord to allow maximum operator visibility and safe position whilst shotcreting
– Stabilizers (2) with manual side spread on boom side

Aliva AL-263 Shotcrete Spraying Machine for Wet or Dry Mix

– 25 L with trapezoidal rotor chamber
– Capacity: Speed I: 5 kW at 985 RPM, Speed II: 7.5 kW at 1465 RPM
– Good for maximum 20 mm particle size
– Wet mix spraying attachment with vulcollane type nozzle and integrated additive. Skid mounted on lifting device on front of S1-Carrier

Aliva AL-403.4 Liquid Dozing Accelerator

– 24-240 L/H dosage, 0.7 kW electric motor, 460 V / 3 phase / 60 Hz
– Comes with liter/hour digital display
– Conveying capacity infinitely adjustable with potentiometer
– Parallel connection with AL-263

Options

Different engine • Certified FOPS/ROPS canopy or cab • Automatic lubrication system • Fire suppression system • On board compressor • High pressure water washer • Piston pump • OTHER OPTIONS ON REQUEST



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