

Adroit 420AH

4x4 Articulated Shotcrete Machine



Adroit 420AH is designed as a 4x4 off-road type articulated shotcrete machine. It can easily reach points in tunnels and mines that large machines fail to reach. Adroit 420AH fully designed according to site conditions with a quite simple designs ensures the benefit of being maintained at the work site through the user. The articulated chassis has 4 wheel drive. Machines are fully equipped with lifting cylinder, telescopic boom system, rotation group, water & admixture pumps and tanks, energy cable reel, compressor on the platform.

Hydrostatic system allows user to have max. speed - max. torque by variable flow pump and hydromotor. According to road and land conditions, gear options can be chosen as fast or slow. Ideal choice for work sites where high speed performance is required and construction areas, which have difficult ground conditions.

GENERAL SPECIFICATIONS

- > Led control panel showing fault, warning and driving info
- > Stabilizer cylinder and valve group
- > Cable remote control
- > Reversing audible and visual warning system
- > Handheld fire extinguisher
- > Eyebolts and towing hooks to use in loading and transporting the machine
- > Rear view camera
- > Anti-rust coating

DIMENSIONS AND WEIGHT

- > Length 7500 mm
- > Width 2100 mm
- > Height 2600 mm
- > Weight 8000 kg

CONCRETE PUMP

- > Theoretical max. capacity of pumping shotcrete : 22 m³/h
- > Shotcrete flow control system
- > Pumping pressure : max. 60 bar
- > Hydraulic pressure : max. 250 bar
- > Aggregate size : max. 16 mm
- > Adroit shotcrete machines are able to pump all type of fibers
- > Diesel engine driven concrete unit cleaning system
- > Hydraulically driven hopper vibrator
- > Hydraulically controlled hopper drain cover
- > Concrete line diameter 76 mm

ACCELERATOR SYSTEM

- > Electrically driven accelerator peristaltic pump
- > Dosing rate : max. 0 to 20 L/min
- > Pumping pressure : max. 15 bar
- > Accelerator tank : 600 L
- > Dosing rate can be controlled manually, flow rate (L/min) and dosing percentage (%) readable on the display

BOOM SYSTEM

- > Lateral : 7.2 m
- > Vertical : 8.4 m
- > Lifting and telescopic boom system

COMPRESSOR

- > Electrically operated screw compressor
- > Capacity : 6 m³/min.
- > Pressure : 8 bar
- > Electric motor : 37 kW

OPERATOR CABIN

- > FOPS - ROPS level 2 certified closed operator cabin
- > Laminated and tempered glasses
- > Heated glasses and side-view mirrors
- > Washable cabin upholstery
- > 3 points contacted, non-slippery stairs
- > Emergency stop button inside the cabin
- > Operator seat
 - Suspended
 - Retractable seat belt

ENGINE

- > Perkins 1104D - 44T 74,5 kW / 2200 rpm
Diesel engine EU Stage 3A

TRANSMISSION

- > Hydrostatic system : Dana 311 dropbox
- > 2 speed forward and 2 reverse
- > 4 wheel drive

AXLE SYSTEM

- > Planetary type Dana 111
- > Oscillating rear axle $\pm 8^\circ$

TIRES

- > 12,5 / 80 - 18 size heavy duty tires, suitable for underground work

PERFORMANCE

- > Max. speed 20 km/h
- > Max. climb gradient 50%

BRAKE SYSTEM

- > Service brake : Hydraulically powered two circuit oil immersed multidisc brake in both axles
- > Parking brake : S.A.H.R fail safe brake
- > Brake systems test set-up in cabin

FUEL SYSTEM

- > Tank capacity 135 L
- > Fuel hose securely fixed and isolated from the hot surfaces

HYDRAULIC SYSTEM

- > Tank capacity 200 L
- > Hydraulic filtration, fluid temperature and tank fluid level sensing and warning system

HIGH PRESSURE WATER WASHER

- > Water pump 14 L/min.
- > Max. water pressure 200 bar
- > Hose length 10 m
- > Tank capacity 300 L

24VDC ELECTRICAL SYSTEM

- > Electrical components : IP65 and above protection grade
- > Battery 2 x 135 Ah
- > Led lighting lamps illuminating the movement direction
- > Led flashing beacon in amber colour

HIGH VOLTAGE ELECTRICAL SYSTEM

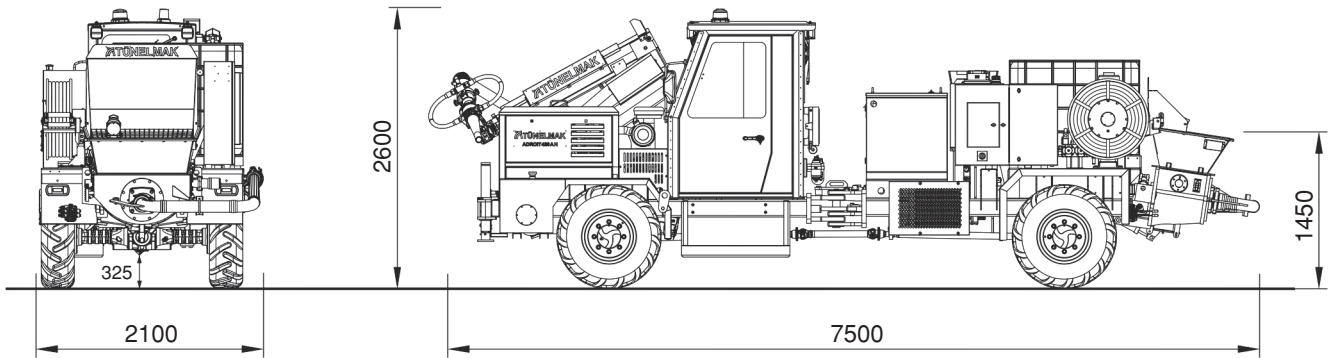
- > 380 V, 50 Hz. cable type 3 x 35 mm² + 16 mm²
- > Power pack : 37 kW electrical motor
- > Hydraulically driven cable reel
- > Cable length 50 m

OPTIONAL COMPONENTS

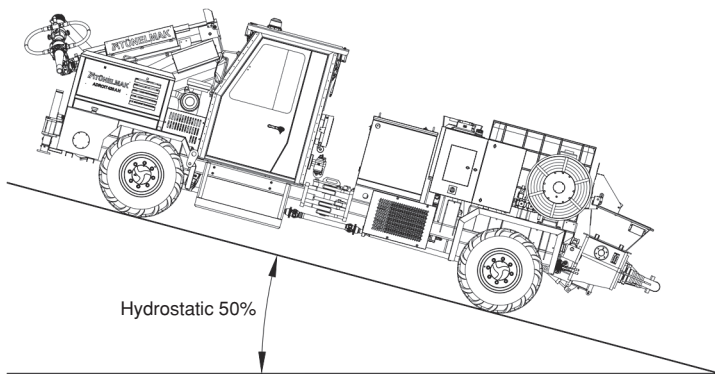
- > Perkins 904J - E36TA 74,5 kW@2200 rpm
EU Stage 5 diesel engine
- > Deutz TCD 2012 L4 103kW / 2400rpm
- > Diesel engine fire suppression system
- > Catalytic converter with diesel particle filter
- > Radio remote control
- > Automatic lubrication system
- > Air conditioner inside the cabin
- > Electrically driven hopper vibrator
- > Form oil system
- > Water reel

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Dimensions of Vehicle



Climbing Capacity

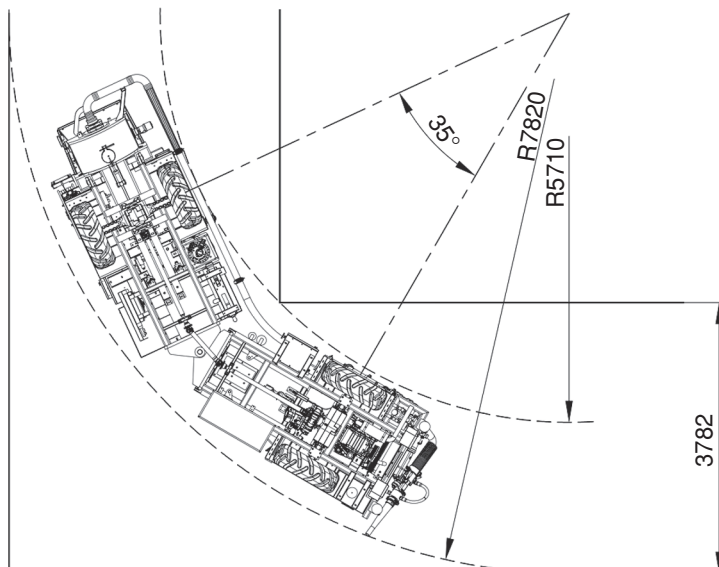


Max. Speed - Max. Power of Climbing

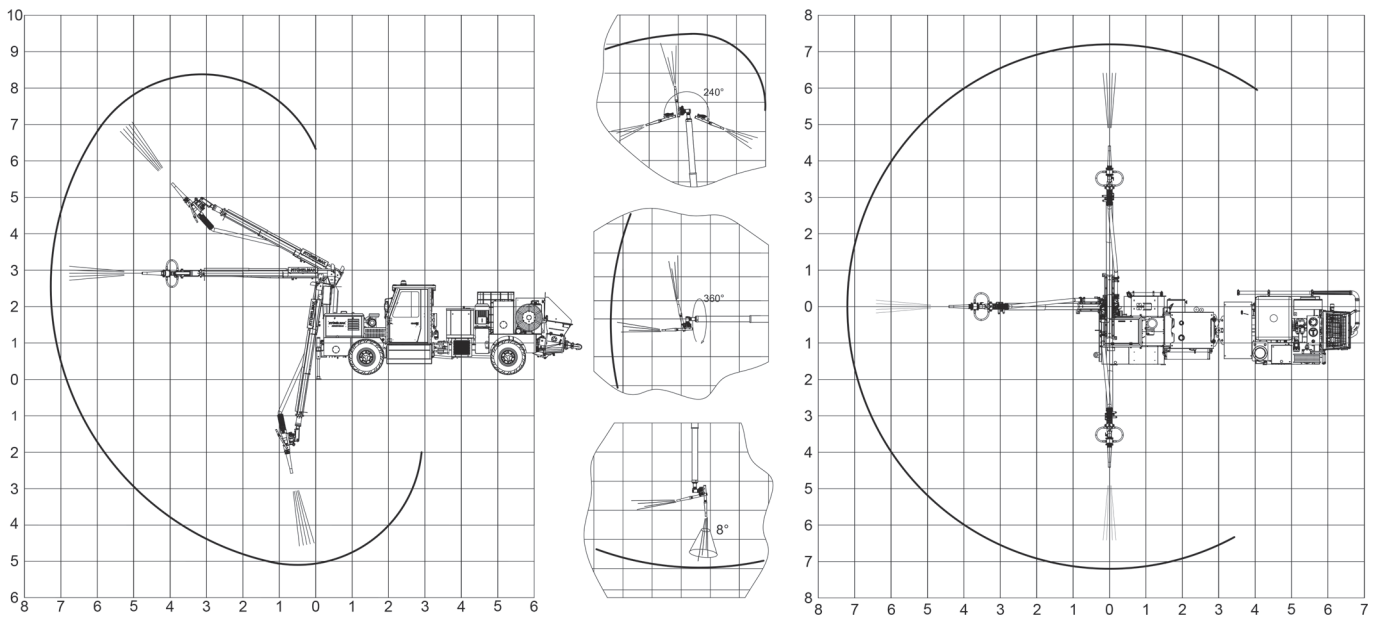
Adroit with 4x4 hydrostatic system ensures reliable performance on challenging terrain and 50% gradient climbing.

Rear axle oscillates $\pm 8^\circ$ and able to move on rough terrain conveniently.

Turning Radius



Adroit 420AH 4x4 Articulated Shotcrete Machine
 Operation Diagram



Spraying Dimensions

