

# Adroit 450H/W

## 4x4 Shotcrete Machine



Adroit 450H/W series are designed as concrete pumping and shotcreting machines. The rigid chassis has 4 wheel drive and 4 wheel steering. Machines are fully equipped with lifting, tilting, telescopic boom system, rotation group, compact modular system, water & admixture pumps and tanks, energy cable reel, compressor on the platform. Standard pumping capacity is 30 m<sup>3</sup>/h, concrete pumping capacity is adjustable.

Hydrostatic and powershift drive systems are available for this machine. Hydrostatic system allows user to have 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. Powershift option provides more movement ability in long distance.

### GENERAL SPECIFICATIONS

- > Valf groups, electrical panel, motors and pumps are sheltered by compact modular system
- > 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 7750 mm
- > Width 2350 mm
- > Height 3000 mm
- > Weight 10100 kg

### CONCRETE PUMP

- > Theoretical max. capacity of pumping shotcrete : 30 m<sup>3</sup>/h
- > Shotcrete flow control system
- > Pumping pressure : max. 70 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 : 1000 L
- > Dosing rate can be controlled manually, flow rate (L/min) and dosing percentage (%) readable on the display

## BOOM SYSTEM

- > Lateral : 13.1m
- > Vertical : 15.2 m
- > Lifting, tilting and telescopic boom system

## COMPRESSOR

- > Electrically operated screw compressor
- > Capacity : 9.2 m<sup>3</sup>/min.
- > Pressure : 8 bar
- > Electric motor : 55 kW

## OPERATOR CABIN

- > FOPS - ROPS level 2 certified closed operator cabin
- > Tempered glasses
- > Suspended and 180° pivoting seat  
Retractable lap seat belt

## ENGINE

- > Perkins 1104D - 44T 74.5 kW / 2200 rpm  
Diesel engine EU Stage 3A

## TRANSMISSION

- > Hydrostatic option  
Hydrostatic system : Dana 357 dropbox  
4 speed forward and 4 speed reverse  
4 wheel drive
- > Powershift option  
Powershift system : Dana T12000 transmission  
4 speed forward and 3 speed reverse  
4 wheel drive

## AXLE SYSTEM

- > Hydrostatic system :  
Planetary type Dana 212  
Oscillating rear axle ±8°
- > Powershift system :  
Planetary type Dana 212  
Oscillating front axle ±8°

## TIRES

- > 16 / 70 - 20 size heavy duty tires, suitable for underground work

## PERFORMANCE

- > Hydrostatic option  
Max. speed 28 km/h  
Max. climb gradient 50%
- > Powershift option  
Max. speed 30 km/h  
Max. climb gradient 40%

## 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

## STEERING

- > Four wheel steering, crab steering, front wheel steering

## FUEL SYSTEM

- > Tank capacity 130 L
- > Fuel hose securely fixed and isolated from the hot surfaces

## HYDRAULIC SYSTEM

- > Tank capacity 250 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

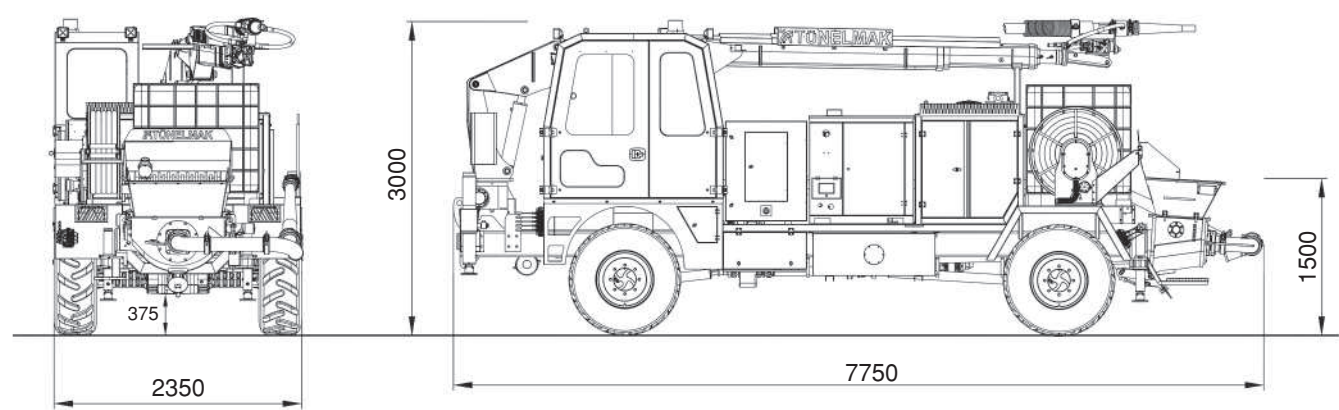
## HIGH VOLTAGE ELECTRICAL SYSTEM

- > 380 V, 50 Hz. cable type 3 x 50 mm<sup>2</sup> + 25 mm<sup>2</sup>
- > Power pack : 45 kW electrical motor
- > Hydraulically driven cable reel
- > Cable length 50 m

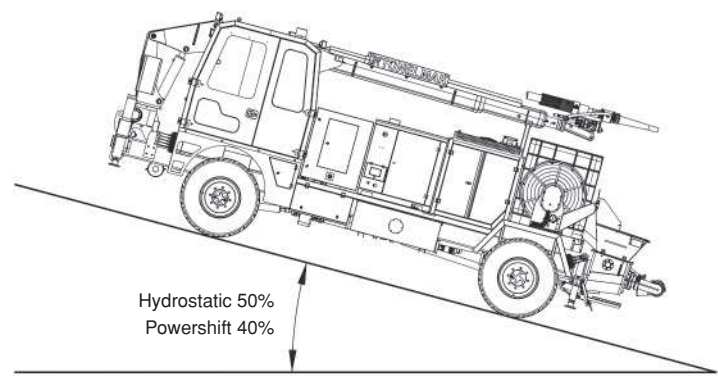
## OPTIONAL COMPONENTS

- > Perkins 904J - E36TA 74.5 kW@2200 rpm  
EU Stage 5 diesel engine
- > 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
- > Heated glasses and side - view mirrors
- > Form oil system
- > Water reel

# **Adroit 450H/W 4x4 Shotcrete Machine** Dimensions of Vehicle



## Climbing Capacity

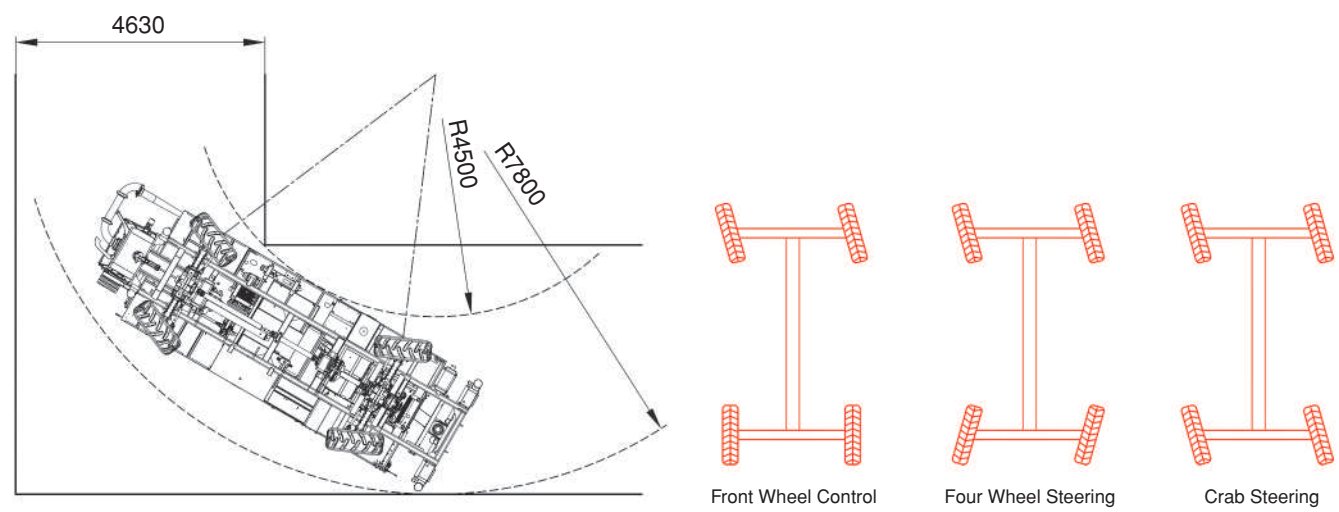


### Max. Speed - Max. Power of Climbing

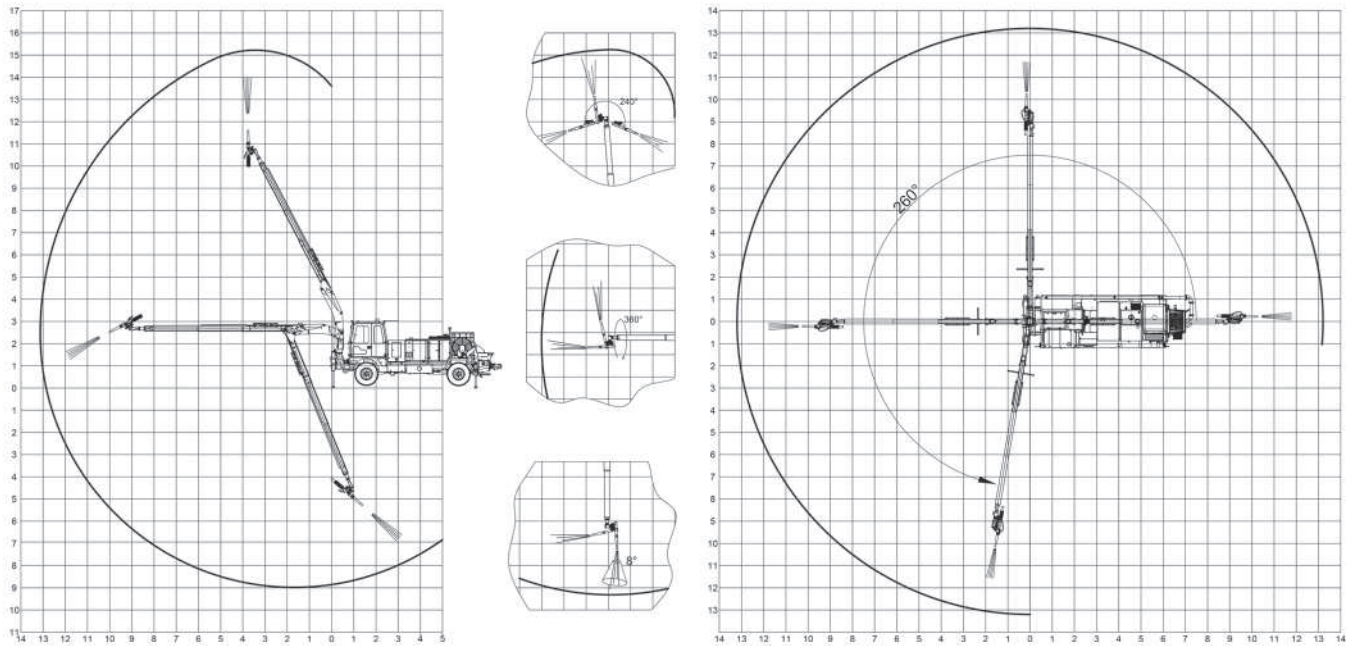
Adroit with 4x4 hydrostatic system ensures reliable performance on challenging terrain and 50% gradient climbing. Rear axle oscillates  $\pm 8^\circ$ .

Adroits with 4x4 powershift system offers long distance drives on flat terrains and have capacity of 40% gradient climbing. Front axle oscillates  $\pm 8^\circ$ .

## Turning Radius



## Adroit 450H/W 4x4 Shotcrete Machine Operation Diagram



## Spraying Dimensions

