



*Equipment includes options and extra equipment.*

## **Features**

Normet's Alpha 30DV is a dual diesel hydraulic and electro hydraulic mobile concrete sprayer designed for tunnel profiles up to 7 m in height and 9 meters in width. The maximum longitudinal spraying reach from one set up is 3 m.

The new NSP 30 concrete pump has a theoretical maximum pumping capacity of 30 m<sup>3</sup>/h. Alpha 30DV's accelerator dosing system uses a peristaltic pump and has two stainless steel tanks with a total volume of 420 liters.

Alpha 30DV can be equipped with a radio or wired remote control system for controlling boom and nozzle movements and rotation as well as accelerator dosing and concrete pump.

To make manoeuvring easy in narrow tunnels Alpha 30DV has four wheel steering and four wheel drive. It has a 120 kW Liquid cooled turbo charged diesel engine meeting Tier 3 regulations.

Operator's cockpit on Alpha 30DV is FOPS and ROPS approved.

Standard equipment includes Fogmaker or ANSUL fire suppression system. The additional equipment for Alpha 30DV are, a spare wheel and wired remote control plus cable, among others.

### Technical specification

#### SPRAYBOOM

Automatic functions:

- Nozzle rotation.
- The speed of the movements can be adjusted from the radio remote control.
- All the movements are pressure compensated and have a proportional output.
- Boom coverage for tunnels up to 7 m x 7 m.

#### CONCRETE PUMP

##### Spray pump NSP 30.

Low-wear and low-maintenance double piston pump:

- |                                |                          |
|--------------------------------|--------------------------|
| • Pumping capacity theoretical | 3 - 30 m <sup>3</sup> /h |
| • Pumping cylinder diameter    | 200 mm                   |
| • Cylinder stroke              | 600 mm                   |
| • Pumping pressure             | max. 50 bar              |
| • Hydraulic pressure           | max. 190 bar             |

High pumping pressure enables the conveying of stiff concrete.

The pump is able to pump up to max. aggregate size of 16 mm (including crushed) and all types of fibres (max. length 60 mm) in the mix.

- Hydraulically driven agitator.

#### RADIO REMOTE CONTROL SYSTEM

Following features can be adjusted or switched on/off from the control box:

- Accelerator dosing rate.
- Accelerator pump on/off.
- Concrete pump on/off/reverse.
- Nozzle rotation on/off.

#### ACCELERATOR SYSTEM

- Hydraulically driven Peristaltic pump.
- Max. pumping pressure 7 bar.
- Dosing rate 0.5...16 L/min (30 - 960 L/h).
- Suction line diameter 1" (25 mm).
- Pressure line diameter 1" (25 mm).
- Additive tank capacity 420 L. Stainless steel.

#### CONCRETE LINE 2 1/2"

- Concrete line diameter 2 1/2" (63.5 mm).

#### ENGINE

- Liquid cooled turbo charged Deutz TCD 2013 L4, 120 kW/2300 rpm, TIER 3 approved.

#### DUAL POWER PACK

- Diesel-hydraulic power pack 120 kW for transmission, concrete pump, boom and other spraying functions.
- Electro-hydraulic power pack 55 kW for concrete pump boom and other spraying functions. 50 Hz 15000 RPM and 60 Hz 18000 RPM electric motor.

#### DRIVER'S COMPARTMENT

- Open 1-man cockpit. FOPS / ROPS approved.
- Suspended driver's seat.
- Seat with pressure sensor (dead man).
- Seat with retractable (75 mm wide) lap seat belt.
- The driver's compartment with driving controls and pedals.
- VDO gauges (IP65):
  - Master Gauge:
    - Engine RPM
    - Hourmeter
    - Voltmeter
    - Fuel Consumption
    - Turbocharger pressure
  - Fuel level
  - Engine temperature
- Window kit is included.

#### EXHAUST SYSTEM

- Catalytic exhaust gas purifier.

#### TRANSMISSION

- Hydrostatic 4-wheel transmission.
- Variable piston pump 56 cm<sup>3</sup>.
- Variable piston motor 115 cm<sup>3</sup>.
- Stainless steel hydraulic oil tank.

#### AXLES

- Planetary type.
- Dana 212.
- Rear end axle fixed.
- Boom end axle oscillation +/- 7°.

#### TYRES

- 10.00 - 20 with steel rim.

#### PERFORMANCE

- Max. tractive effort 44 kN.
- Max. speed (horizontal tunnel) 20 km/h.

#### BRAKES

- Service brake: hydraulically powered two-circuit oil-immersed multi-disc brakes in both axles.
- Safety/Parking brake: spring-activated, hydraulically released, fail-safe-type brake.

#### STEERING

- Four-wheel steering as standard.
- Orbitrol type.
- Including crabwalk.

#### FUEL TANK

- Stainless steel tank with a capacity of 165 L.

### Technical specification

#### HYDRAULIC SYSTEM

##### • Diesel

Variable displacement piston pump system with following outputs:

- 150 L/min for concrete pump (piston pump).
- 90 L/min for boom (piston type).

##### • Electric 50 Hz

Variable displacement piston pump with the following outputs:

- 112.5 L/min for the concrete pump (piston pump).
- 76.5 L/min for the shotcrete boom (piston pump).

##### • Electric 60 Hz

Variable displacement piston pump with the following outputs:

- 135 L/min for the concrete pump (piston pump).
- 92 L/min for the shotcrete boom (piston pump).

Stainless steel hydraulic oil tank with a capacity of 500 L.

Oil cooler for concrete and boom circuit.

Return oil filtration 10 µm.

Oil level and temperature indication.

Return filters with contamination indicator.

#### 24 VDC ELECTRICAL SYSTEM

- Exposed components are min. IP65 standard.
- Battery 2 x 80 Ah.
- Alternator 55 A.
- Wire harness (self extinguishing) with tinned wires and watertight conduits.
- LED driving lights:
  - Front end, LED lights 2 x 1300 lm.
  - Rear end, LED lights 2 x 1300 lm.
- Service brake lights.
- LED directional lights on front and back side.

#### HIGH VOLTAGE ELECTRICS

- 400 V. 50/60 Hz. Cable type 3 x 50 mm<sup>2</sup> + 3 G 10.
- Cable length 65 m.

#### CABLE REEL

- Power supply for the electrical functions.
- Hydraulically driven.
- Cable in/out reeling function from near the reel.

#### WORKING LIGHTS

- 24 VDC LED lights.
- 2 pcs on boom of 6700 lm.
- 1 pc over the concrete pump.

#### GREASING MANIFOLD

Centralized grease fittings for:

- Concrete pump.

#### FIRE SUPPRESSION SYSTEM

- **Fogmaker:** Automatically and manually actuated.
- **ANSUL:** Manually actuated.

#### OTHER

- 6 kg hand held fire extinguisher ABC.
- Standard symbol labels.
- Text labels in : Spa / Eng.
- Basic tool set:
  - Cleaning plug
  - Washing ball
  - Rubber hose 3/4" 4 m
  - Suction hose 1" 4 m
  - Sledge hammer 800 g
  - Special tools for concrete pump

### Optional Equipment

#### LOWER DRIVER'S COMPARTMENT

- Open 1-man canopy. Not FOPS / ROPS certified.
- Suspended driver's seat.
- Seat with pressure sensor (dead man).
- Seat with retractable (75 mm wide) lap seat belt.
- The driver's compartment with driving controls and pedals.
- Window kit is included.

### Additional Equipment

#### FOR ENCLOSED COCKPIT

Options available only for Tier 3 equipment.

##### Cockpit ventilation:

- Cockpit Heating.
- Air conditioning.

#### GREASING SYSTEM

- Automatic greasing system for the concrete pump.

#### FORM OIL SYSTEM

Air pressure-driven system with hose reel:

- Tank Capacity 20 L.
- Hose length 20 m.
- Working pressure 7 bar.

#### REMOTE CONTROL SYSTEM

Wired remote control including:

- Remote control box.
- Remote control cable 10 m.

#### SPARE WHEEL

- 10.00 - 20 with steel rim.

#### SAFETY KIT

- Wheel nut locker.
- Laminated cabin glass.

### Additional Equipment

#### WHEEL CHOCKS\*

##### Steel wheel chocks

- Steel wheel chocks kit (2 pieces).

##### Polyurethane wheel chocks

- Polyurethane wheel chocks kit (2 pieces).

\* One type must be selected.

#### SAFETY EQUIPMENT

##### Reversing camera

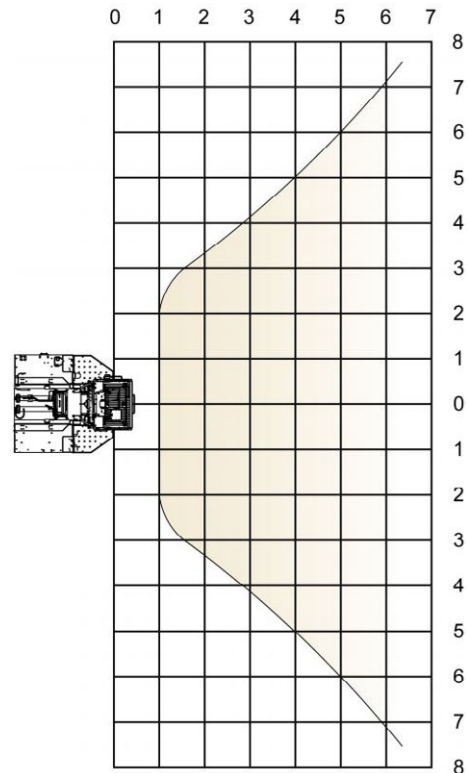
- Infrared LEDs for ultra-low light performance.
- Illumination distance 5 m.
- Heater.
- Day/Night sensor.

##### Obstacle detection system

- Two units ultrasound sensor , adjustable detection distance up to nine meters.
- Two units ultrasound sensor, fix detection distance for blind spots.
- Cockpit display with audio and visual signals.

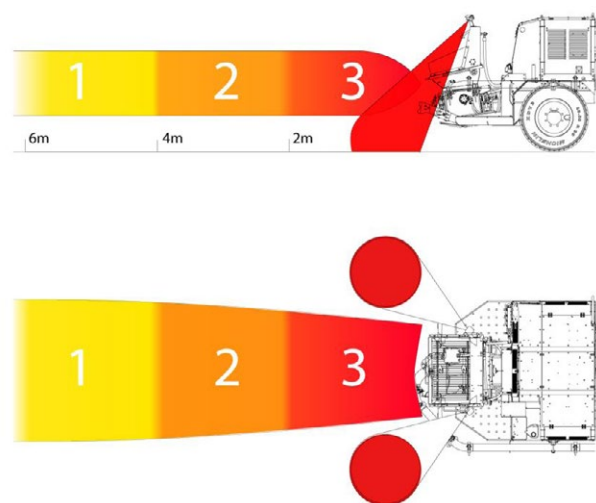
#### CONCRETE THICKNESS MEASUREMENT SYSTEM

- Normet SmartScan
- Normet SmartScan Align for georeferenced profile data



#### TOP VIEW

Reversing camera coverage diagram.

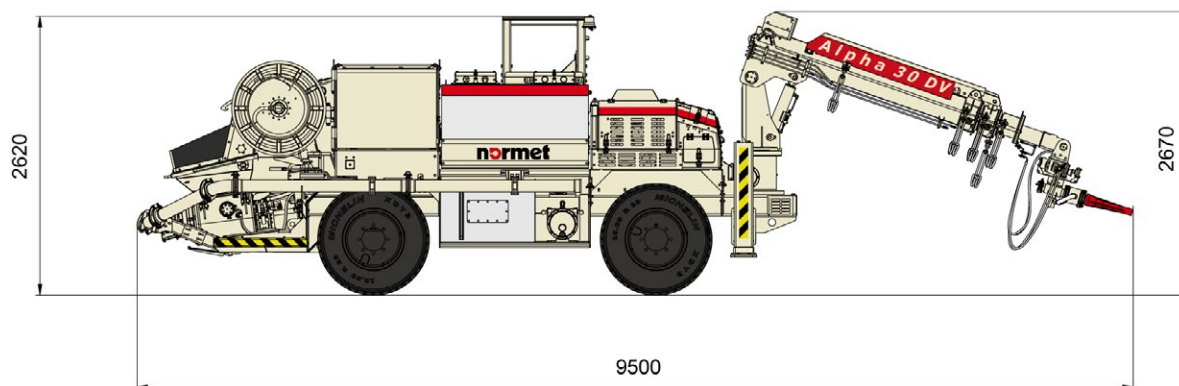


#### TOP AND SIDE VIEW

Obstacle detection system diagram.

Normet reserves the right to change this specification without further notice.

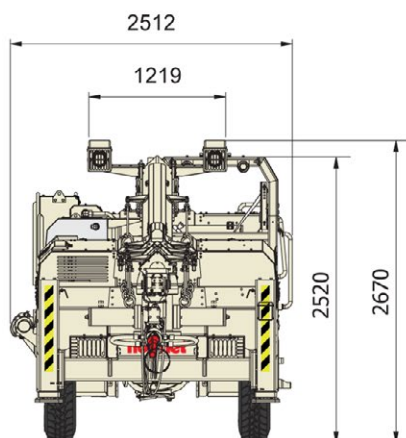
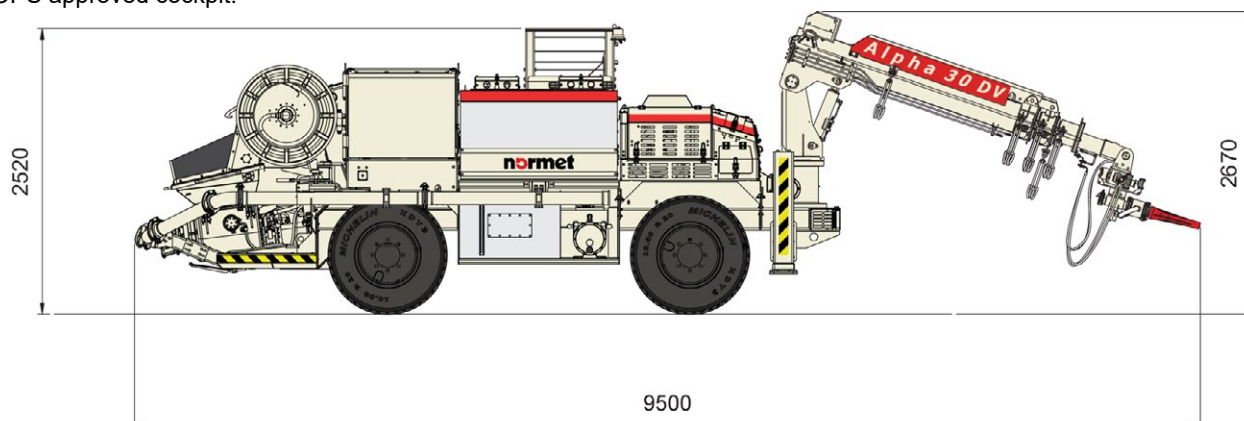
### Dimensions



#### SIDE VIEW 1

Basic machine. Driving dimensions at job site.

Driver compartment corresponds to the standard FOPS / ROPS approved cockpit.



#### SIDE AND FRONT VIEW 2

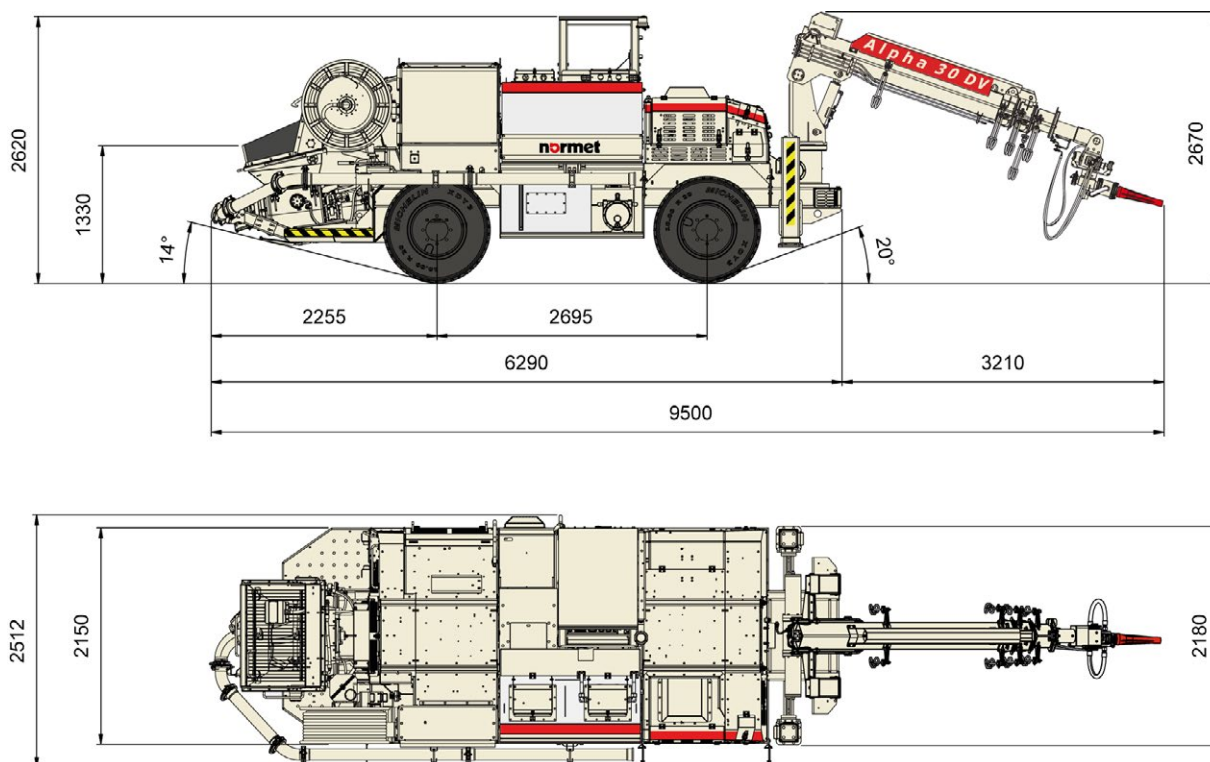
Basic machine. Driving dimensions at job site.

Optional driver compartment corresponds to the Non FOPS / ROPS certified.

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### Dimensions



### SIDE AND OVERVIEW 3

Basic machine. Driving dimensions at job site.

#### DIMENSIONS

Length	9500 mm
Width	2512 mm
Height	2670 mm
Wheel base	2695 mm
Ground clearance	448 mm

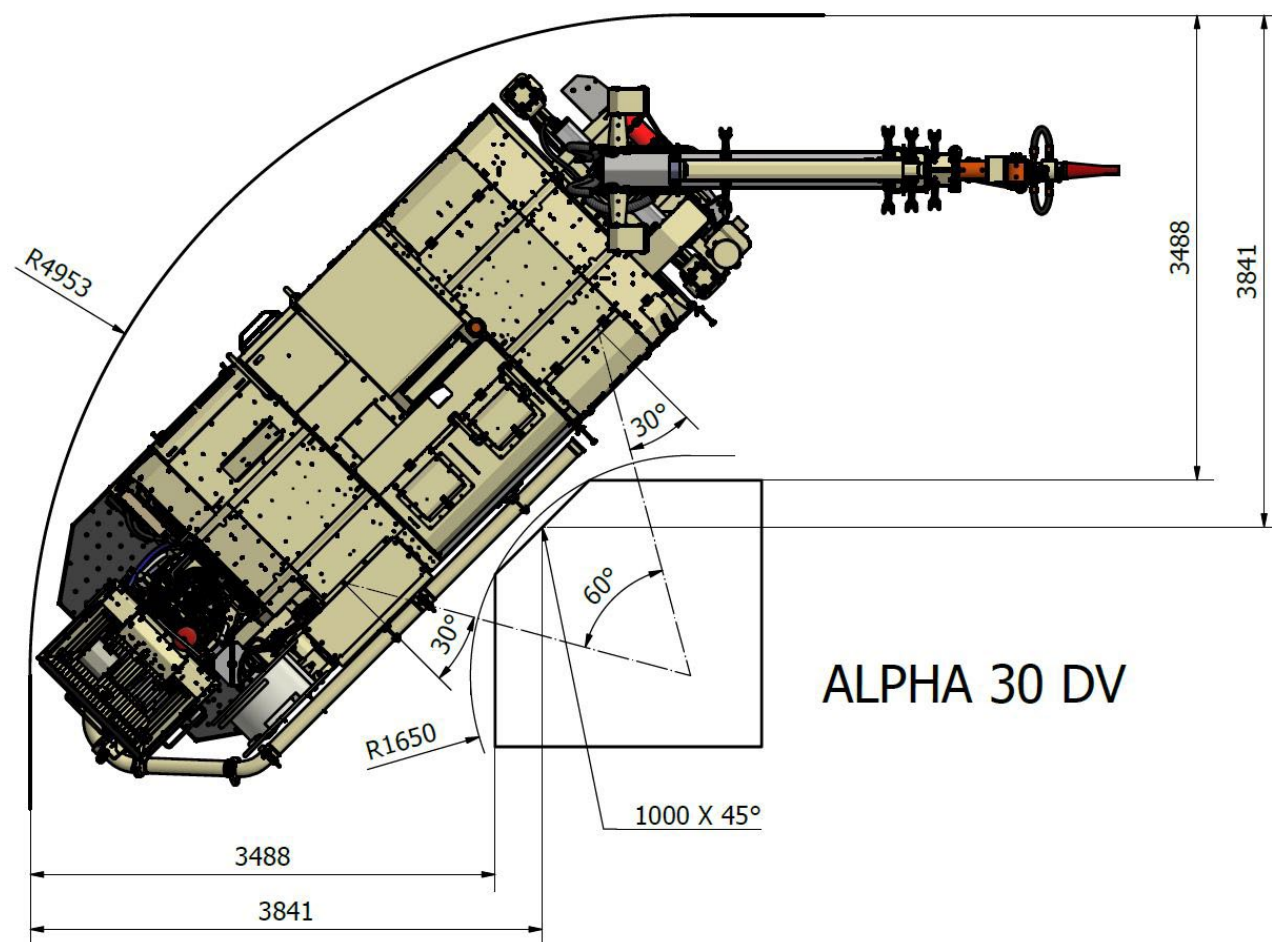
#### TURNING RADIUS

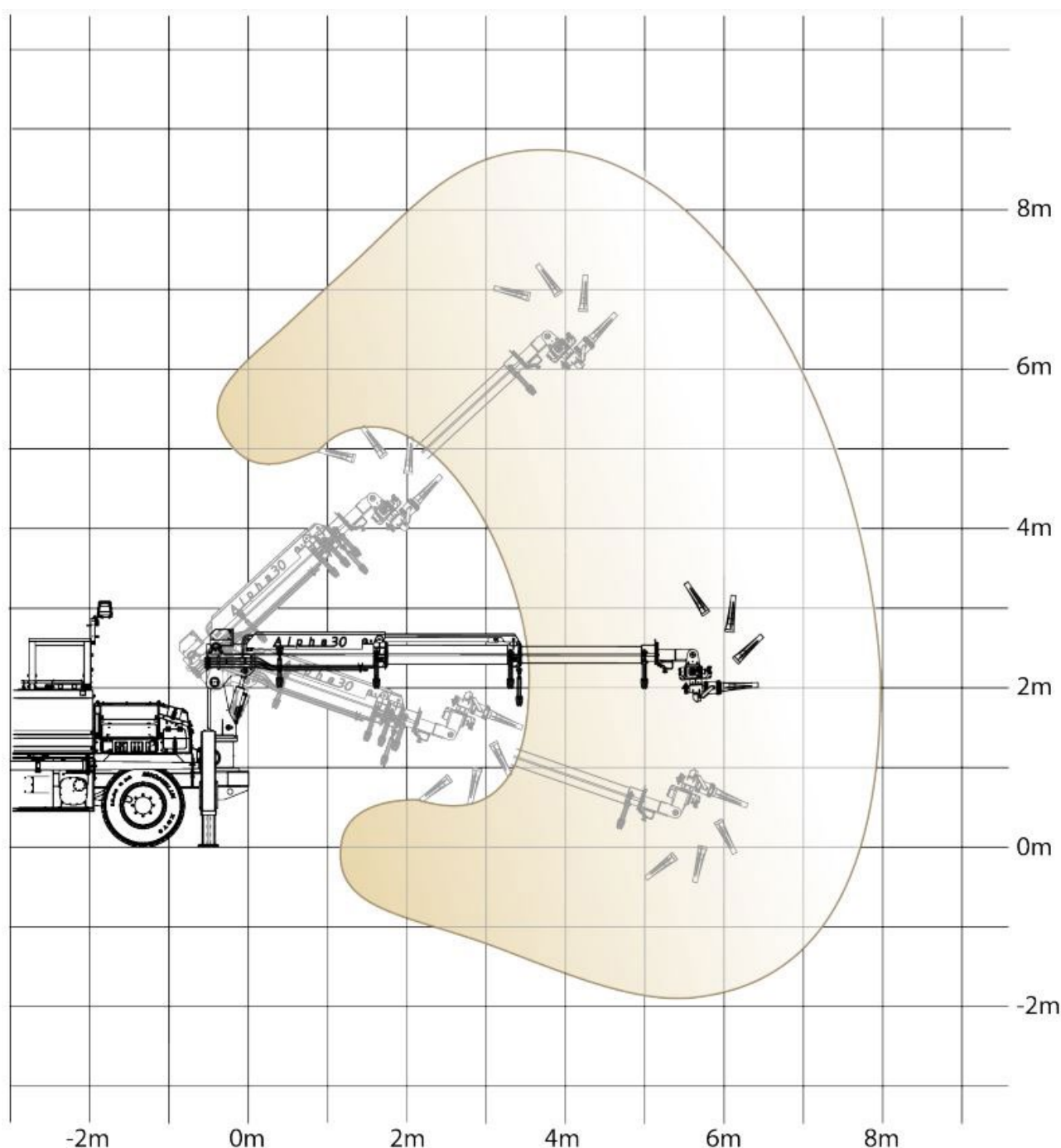
Outer	4953 mm
Inner	1650 mm

#### WEIGHT

Operating	10500 kg
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## TURNING RADIUS

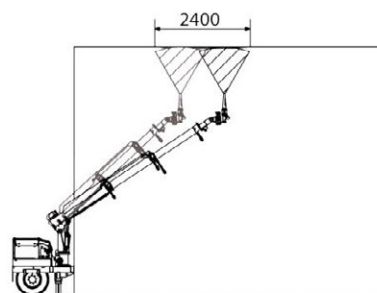
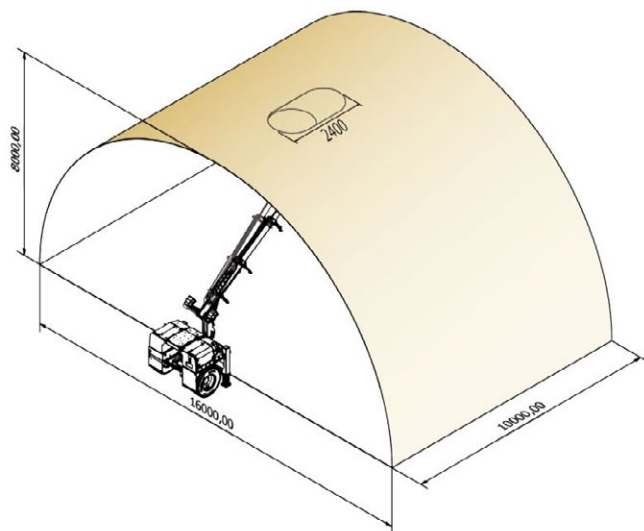




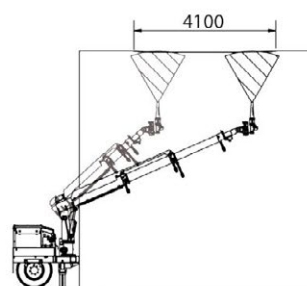
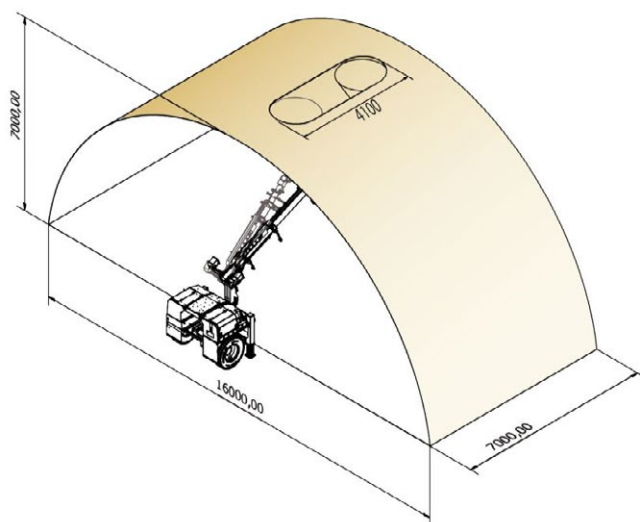
#### COVERAGE AREA OF SPRAY BOOM

Normet reserves the right to change this specification without further notice.





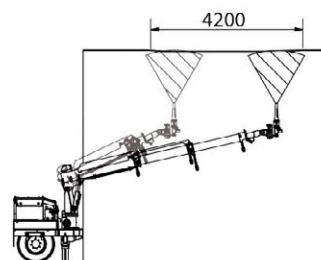
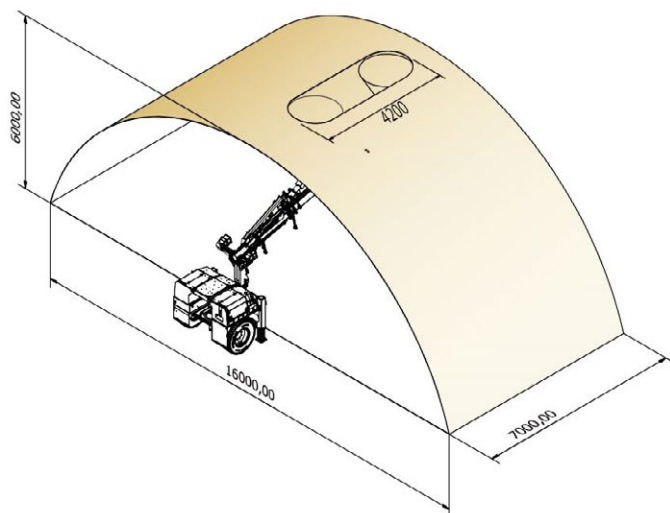
8 meter high tunnel.



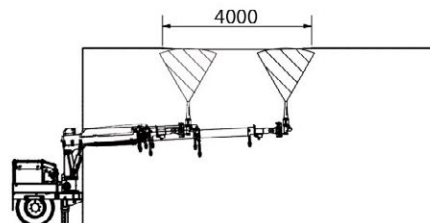
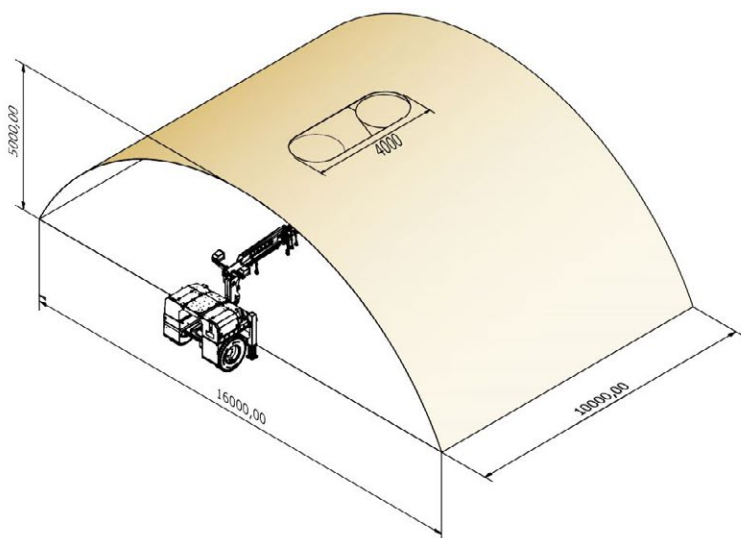
7 meter high tunnel.

### COVERAGE AREA OF SPRAY BOOM

Normet reserves the right to change this specification without further notice.



**6 meter high tunnel.**



**5 meter high tunnel.**

### COVERAGE AREA OF SPRAY BOOM

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## Tractive effort

