



# Utimec XL 1100 Agitator ED



Normet reserves the right to change  
this specification without further notice

Pictures may include options and additional equipment.

## INTRODUCTION

**XL 1100 Agitator ED** with practical concrete transport capacity of 10.5 m<sup>3</sup> is designed for concrete transportation in underground mines and tunnels where the tramming height is 3.3 m or more. Concrete drum rotation speed can be adjusted between 0-13 rpm and hydraulically operated discharging chute ease machine positioning.



Electric system is designed for harsh underground environment. System consists of self-extinguishing wire harnesses with tinned wires, water tight conduits and all exposed components are minimum IP65 protection class. In addition, vehicle layout allows easy access to all service points, all daily checks can be done from the ground level.



### POWER TRAIN

XL ED-series units have powerful 6-cylinder liquid cooled turbocharged 250 kW Volvo Penta engine. Emission standard is Stage V that provides clean and efficient operation.

Machine is equipped with electrodynamic powerline and planetary type axles which have dual-circuit, spring applied hydraulically released fail-safe -type service/parking/safety brake with separate hydraulic tank and flushing circuit.



### SAFETY AND USABILITY

Vehicle has an front axle suspension system, which improve safety, driving comfort and increases component lifetime.

Normet's FOPS and ROPS approved safety cabin provides superior visibility and comfortable compartment for the driver and the passenger. Cabin controls are easy and ergonomic to use, and the multifunctional display (MID) provides driving information (speed, RPM, temperatures, safety warnings & alarms etc.), which can be recorded for further analysis. Enclosed cabin provides low noise level ensuring safe and comfortable driving.

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# TECHNICAL SPECIFICATION

## CONCRETE DRUM

Wear resistant concrete drum	
Carrying capacity	10.5 m <sup>3</sup>
Electrically controlled mixing and unloading	
Remote controller for concrete drum	
Manual concrete drum lock	
Water tank with hydraulic driven pump	500 l

## ENGINE AND DRIVELINE

### Volvo Penta TAD884VE, 250 kW/2200 rpm, with engine brake, Stage V approved

Requires diesel exhaust fluid (DEF) and Ultra-low sulphur diesel (ULSD)	
Diesel particulate filter (DPF)	
Selective catalytic reduction (SCR)	
Fuel tank capacity	280 l
DEF tank capacity	25 l
Permanent magnet generator	
Nominal voltage	750 VDC
Two direct drive permanent magnet electric motors	
4-wheel drive, no separate transmission	
Combined power rating	240 kW

## PERFORMANCE

Tramming speed (horizontal)	20 km/h
Lateral gradient for tramming (continuous)	4°
Longitudinal gradient for tramming (continuous)	9°
Depending of machine configuration, lateral and longitudinal tramming gradient can temporarily be higher.	

## AXLES AND BRAKES

Kessler D91 planetary type axles	
Fixed load end axle	
Suspended engine end axle	
Spring applied-hydraulically released oil cooled multidisc service and parking/safety brakes in both axles	
Brake testing possible from cabin	

## TYRES AND RIMS

Bridgestone 18.00–25" with NDT inspected rims

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## STEERING

Orbitrol type hydraulic frame steering	
Frame articulation	+/- 45°

## HYDRAULIC SYSTEM

Variable displacement pump system for carrier hydraulics	
210 bar, 180 l/min at 2200 rpm	
Hydraulic oil tank capacity	180 l
Variable displacement pump system for brakes	
180 bar, 90 l/min at 2200 rpm	
Brake oil tank capacity	100 l
Closed loop variable displacement system for concrete drum rolling	
380 bar, 160 l/min at 2200 rpm	
Oil cooler for drum rotation	
Emergency pump for steering and drum emptying	

## 24 VDC ELECTRICAL SYSTEM

LED driving and indicator lights	
LED work lights	
LED side lights	
Warning LED light:	
Color	
• Amber	
◦ Blue	
◦ Red	
◦ Green (n/a with rotating light pattern)	
◦ White (n/a with rotating light pattern)	
Light pattern	
• Strobe	
◦ Rotating	

Pictures may include options and additional equipment.

## DRIVER'S COMPARTMENT

### Cabin type:

- Open cabin FOPS/ROPS approved
- Enclosed cabin FOPS/ROPS approved

### Driver's seat and seat belt:

- Air suspended T-back seat with 3-point seat belt
- Air suspended heavy duty seat with 3-point seat belt

### Cabin door interlock switches with safety brake application

### Passenger's seat:

- T-back seat with 3-point seat belt
- Heavy duty seat with 3-point seat belt
- 2 seats with retractable lap seat belts

### Front facing pedals

## MACHINE CONNECTIVITY

- Machine connectivity hardware (WLAN/3G/4G/LTE)
- Analytics license (includes connectivity hardware)

## TECHNICAL DOCUMENTATION

### Standard documents:

#### Instruction manuals, hard copy 2 pcs:

- English
- Russian
- One of destination EU languages

#### Spare parts manuals, hard copy 2 pcs:

- English
- Russian

#### PDF manuals on USB-stick 2 pcs, includes instruction and spare parts manuals

#### Additional documentation:

- Extra hard copies of manuals
- Extra PDF manuals
- LinkOne WebView electronic manuals
- Other than standard language manuals

## OTHER

### Powder extinguisher:

- 6 kg
- 12 kg
- Ansul Sentry

### Number of extinguishers:

- 1
- 2

### Painting and taping:

- Standard painting and taping
- Painting and taping according to customer specifications

### Reversing camera:

- 3 cameras, 3 displays
- 3 cameras, 3 displays and reversing radar
- 6 cameras, 3 displays with recording support

### Text labels in:

- En/Ru/One of destination EU-languages
- Other language

### Measurements:

- Noise
- Vibration
- Emissions

## ACCESSORIES

### PROCESS PRODUCTIVITY

- Accelerator system with 300 l tank and hydraulic driven pump
- Chemical dosing system
- Form oil system with 30 l tank
- Concrete drum safety guards
- Brake resistor
- Front support legs
- Rear support legs
- Pressure washer
- High voltage power pack for concrete drum discharging
  - 400 V (IEC)
  - 1000 V (AS/NZS)

### CARRIER PRODUCTIVITY

- Accessories for open cabin:
  - Two-piece windscreen with wipers
    - Windshield with wipers
- Accessories for enclosed cabin:
  - Two-piece windscreen
  - Audio system
  - Air conditioning with heating
  - Heated mirrors
- 12 V, 20 A power supply in cabin with socket and connector
- Auto engine shutdown during idling
- Engine shutdown delay
- Inlet plug for jump start
- Block heater with interior heater and battery charger 230 V (Interior heater available with enclosed cabin)
- Fuel operated pre-heater
- Fast fuel filling system
- 24 VDC pump for filling of hydraulic oil tank
- Fluid evacuation panel with sampling points
- Automatic lubrication system
- Spare rim and tyre
- Toolbox and maintenance tools
- Interior cooling fan
- Wax tape for electric connectors

### SAFETY

- Cabin door puddle lights
- Extra warning LED light
  - Color
    - Amber
    - Blue
    - Red
    - Green (n/a with rotating light pattern)
    - White (n/a with rotating light pattern)
  - Light pattern
    - Strobe
    - Rotating
- Direction lights (left/right)
  - Green / Red
  - Red / Green
- Extra warning LED light with battery backup
  - Color
    - Amber
    - Blue
    - Red
    - Green (n/a with rotating light pattern)
    - White (n/a with rotating light pattern)
  - Light pattern
    - Strobe
    - Rotating
- Seat belt interlock switch applies safety brake
- Fire extinguisher system
  - Dry chemical
    - Ansul A-101
      - Manual
      - Automatic, Checkfire 110
    - Liquid agent
      - Ansul LVS
        - Manual
        - Automatic, Checkfire 110
- Front and rear grounding straps
  - Flat cable
  - Chain
- Electric pump for brake release
- Engine end roof safety rails
- Redundant brake monitoring system
- Methane monitoring system
- Protection guards for tunnel curtains
- Tyre pressure indicators
- Warning triangles
- Flashlight with charger
- Hearing protectors
- Wheel chocks with brackets
- Service isolator for starter

## SERVICES

### NORMET SERVICES

Our services cover the whole life cycle of your equipment. They include start-up and commissioning, genuine spare parts, upgrades & modifications, and remanufacturing, as well as rental and leasing offerings, and field services. We also offer improvement services such as operator training and process audits.

### SPARE PARTS

Genuine parts from Normet Services ensure that you always have the highest quality parts available to keep your equipment up and running. Depending on your needs, we can offer everything from individual parts to complete parts contracts, and our professionals around the world have the experience to ensure that you have the parts you need when you need them.

#### Initial spare parts package:

Available for 1000h of use\*. Includes periodical service, most common wearing parts and most critical safety parts.

#### Spare parts packages made for customer needs:

Available based on hours of use\*. Includes periodical service, most common wearing parts and most critical safety parts.

\* Recommendations are based on average hours – can vary a lot depending on work site conditions.

### UPGRADES AND MODIFICATIONS

Our Upgrades and Modifications services are designed to ensure the economical, efficient and purposeful performance of your equipment over its entire life cycle. A service provided by a reliable OEM like Normet ensures the safety and performance of your equipment. Normet Upgrades and Modifications save you both time and money, while delivering the high quality you expect from us.

### SERVICE CONTRACTS



With a service agreement, Normet manages your fleet with guaranteed availability and agreed costs, giving you transparency for your life cycle costs, annual operational budget and fleet uptime. This lets you focus on your core operations. Each service agreement is built and customized to meet the individual customer's needs from our portfolio of services. Depending on the level of service agreement you need, you can choose anything from basic technical support for an individual machine all the way up to services for your entire fleet, as well as process performance. The service levels we offer are:

- Parts Availability
- Fleet Support
- Fleet Availability
- Process Performance

The content of a service level can be tailored to meet your particular requirements.

### TRAINING SERVICE

Our Training Services are available for you and your operators throughout the equipment lifecycle and they include:

	 <b>Operation &amp; Maintenance</b>	 <b>Spraying</b>	 <b>Charging</b>	 <b>Scaling</b>
<b>ADVANCED</b>	Advanced fault diagnostics & troubleshooting	Concrete chemicals, testing and preparing for EFNARC-certificate test		
<b>INTERMEDIATE</b>	Troubleshooting training Foundations of electrics, hydraulics and mechanics NorSmart	Advanced training in concrete spraying Economics of concrete spraying	Advanced training in explosives Economics of charging	Advanced training in scaling Economics of scaling
<b>BASIC</b>	Operation and Maintenance Training Basic Product Training	Basic understanding of concrete spraying	Basic understanding of charging	Basic understanding of scaling
<b>LEVEL</b>	<b>SERVICE</b>	<b>PROCESS KNOWLEDGE</b>		

# START-UP AND COMMISSIONING

## 1. OPERATOR TRAINING

	Start-up training	Commissioning
<b>1.1 Classroom training</b>		
General introduction and operation of machine	Basic	No classroom training included in commissioning
Safety instructions	Basic	
Use of manuals	Basic	
Technical introduction of equipment	Basic	
Hands-on service and pre-operation checks	Basic	
Controls and driving (starting, driving, stopping, parking)	Basic	
<b>1.2 Practical training</b>		
Pre-operation checks	Basic	Introduction
Driving, starting, stopping, parking	Basic	Introduction
Preparing the machine for specific operation conditions	Basic	Not covered
Operation	Basic	Introduction
Washing the machine	Basic	Introduction
Troubleshooting	Basic	Basic

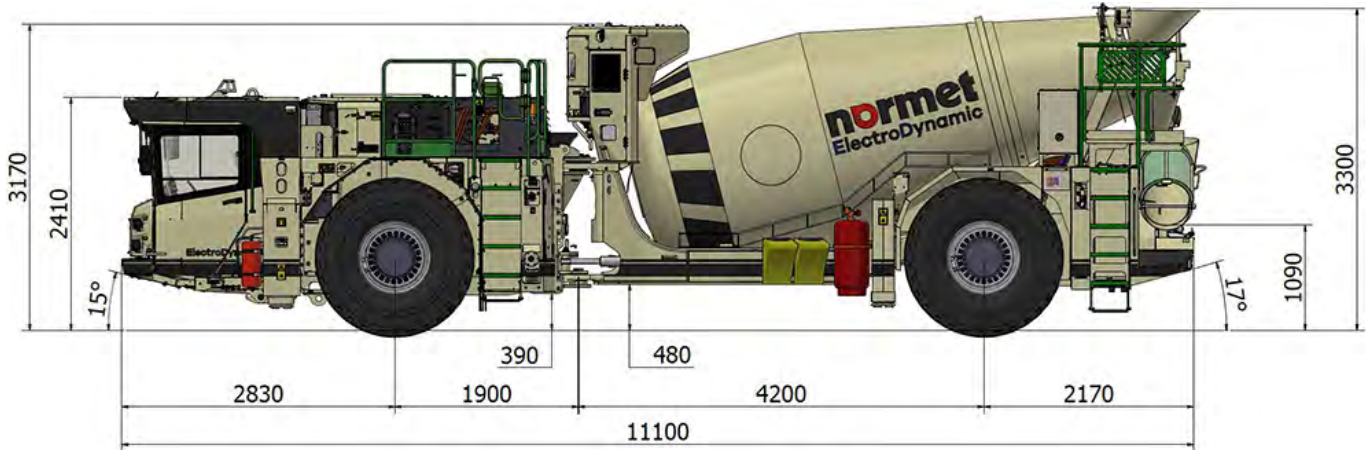
## 2. MAINTENANCE AND REPAIR TRAINING

General operation of machines	Basic	Introduction
Symbols of drawings and codes	Basic	Not covered
Understanding hydraulic and electric schematics	Basic	Introduction
Control systems	Basic	Introduction
Function of main components (depending on equipment)	Basic	Introduction
Locations of components in the machine	Basic	Not covered
Periodical maintenance	Basic	Introduction
Troubleshooting	Basic	Not covered
Use of manuals	Basic	Introduction
Connection of hydraulic and electrical equipment	Basic	Not covered

## DIMENSIONS

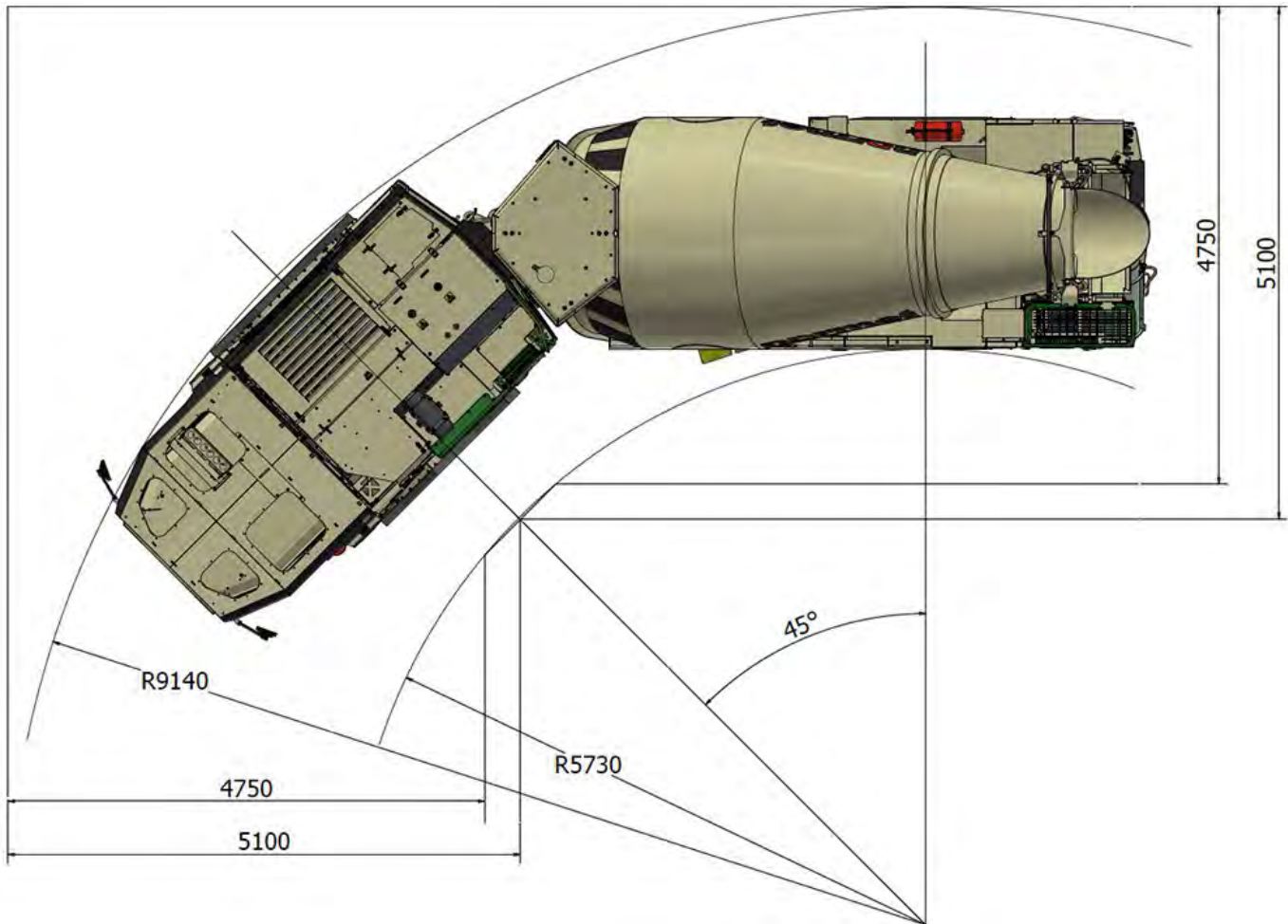
Length	11100 mm	Track	1800 mm
Width	2310 mm	Ground clearance	280 mm
Height	3300 mm	Turning radius outer	9140 mm
Height of cabin	2410 mm	Turning radius inner	5730 mm
Wheel base	6100 mm		

### SIDE VIEW – MACHINE WITH OPTIONS

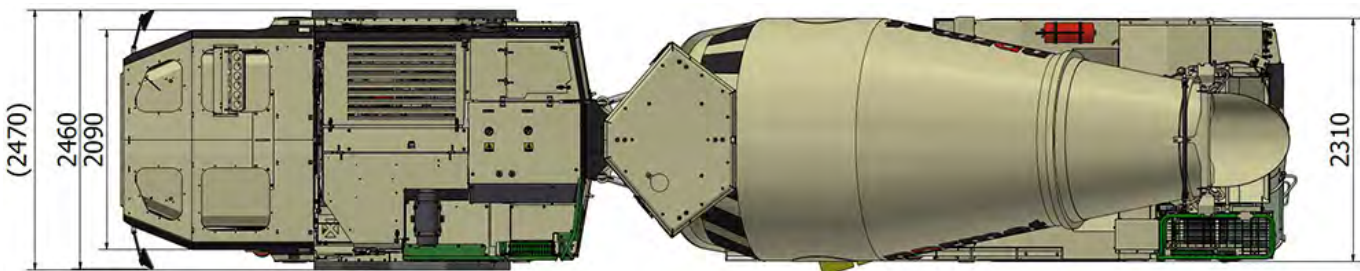




## TURNING RADIUS



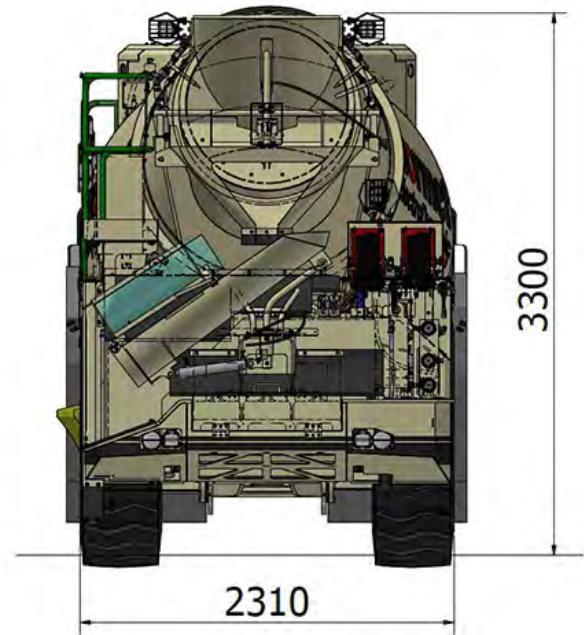
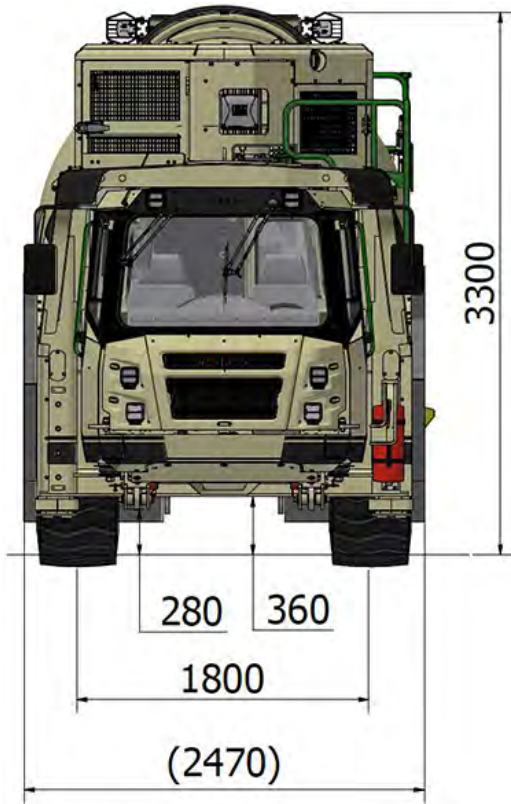
## TOP VIEW



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## FRONT AND BACK VIEWS



## TRACTIVE EFFORTS

### OPERATING WEIGHT

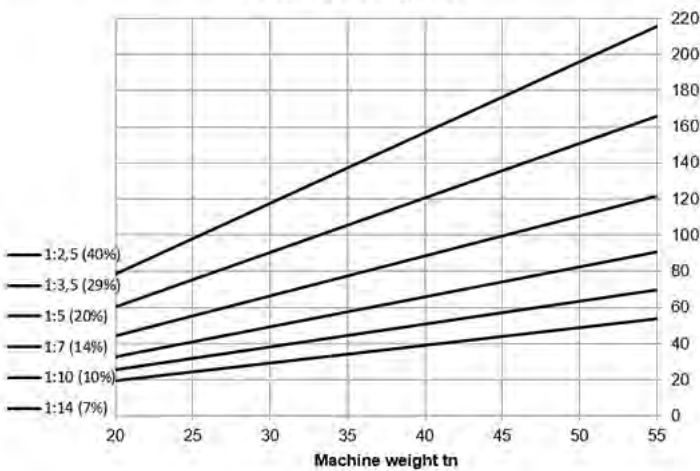
Empty	29 000 kg
Fully loaded	53 000 kg

### VOLVO PENTA TAD884 250 KW

Performance curve DOC069556

3 % rolling resistance

**Gradeability kN**



**Tractive effort kN**

