



# Utimec LF 600 Transmixer SD



Normet reserves the right to change  
this specification without further notice

Pictures may include options and additional equipment.

# INTRODUCTION



The battery-electric **Utimec LF 600 Transmixer SD** has a practical concrete carrying capacity of 5.6 m³. The machine is designed for fast and safe concrete transportation in underground mines and tunnels where the minimum tramming height is 2.6 m. The concrete drum rotation is electrically controlled, and the speed ranges between 0-13 rpm.

The standard drum lifter feature enables flexible adjustment of the concrete discharging height up to 1.9 meters. The Utimec LF 600 Transmixer SD can be equipped with a variety of specially designed accessories to enhance machine productivity and safety. The vehicle layout is optimized for easy access to all service points, allowing all daily checks to be performed from ground level.

The SmartDrive battery-electric vehicle architecture features advanced Li-ion battery technology, fast charging capability, and two high-torque direct drive electric motors, delivering instant torque and efficient, emission-free operation. The fast-charging interface adheres to the industry-standard CCS, and the vehicle can be recharged from mine electric grid by using the on-board charger. Energy recuperation technology comes as a standard feature. The batteries are charged during downhill driving and deceleration, which further increases the total efficiency of the operation.

The maximum speed is 20 km/h. The fully reversible 4WD with high traction capability and instant torque ensures safe and reliable movement in difficult ground conditions. The majority of the braking is done via electric motors recuperating energy, but the vehicle also includes efficient hydraulic dual-circuit oil-immersed multi-disc brakes to provide additional braking power when needed.

The vehicle has a front axle suspension system, which improves safety, driving comfort, and increases component life-time.

Normet's FOPS and ROPS approved safety cabin provides superior visibility and a comfortable compartment for the driver and the passenger. The cabin controls are designed for ease of use and ergonomic efficiency. The multifunctional display (MID) delivers comprehensive driving information, including speed, temperatures, safety warnings, and alarms. Additionally, this data can be monitored remotely through Normet connectivity services



The NorSmart 3 electric system is designed for harsh underground environments. The system consists of self-extinguishing wire harnesses with tinned wires, watertight conduits, and all exposed components are of a minimum IP65 protection class.

# TECHNICAL SPECIFICATION

## CONCRETE DRUM

|                                              |                    |
|----------------------------------------------|--------------------|
| 2 round side hatches for drum filling        |                    |
| Electrically controlled mixing and unloading |                    |
| Control panel on the left side               |                    |
| Manual concrete drum lock                    |                    |
| Lock for drum lifting                        |                    |
| Adjustable drum discharge height             | 1450 - 1900 mm     |
| Drum volume (100% fill)                      | 7.1 m <sup>3</sup> |
| Carrying capacity                            | 13 000 kg          |
| Material SG                                  | Max. fill capacity |
| ≤ 2300 kg/m <sup>3</sup>                     | 5.6 m <sup>3</sup> |
| 2400 kg/m <sup>3</sup>                       | 5.4 m <sup>3</sup> |
| 2500 kg/m <sup>3</sup>                       | 5.2 m <sup>3</sup> |
| 2600 kg/m <sup>3</sup>                       | 5 m <sup>3</sup>   |

## ELECTRICAL SYSTEM

Main supply voltage

Power supply for the electrical functions

- 50 Hz
  - 380 V (IEC)
  - 400 V (IEC)
  - 415 V (IEC)
  - 525 V (IEC)
  - 690 V (IEC)
  - 1000 V (IEC)
  - 1000 V (AS/NZS)
- 60 Hz
  - 440 V (cULus)
  - 440 V (IEC)
  - 480 V, (460 V) (cULus)
  - 600 V, (575 V) (cULus)
  - 1000 V (cULus)

Robust and abrasion-resistant mains voltage supply cable with PUR outer sheath (excluding plug)

- 7 m cable without cable reel
- Hydraulically driven cable reel
  - No cable
  - 25 m cable

Pilot circuit

- No
- Yes

## ELECTRIC MOTORS

Two direct drive permanent magnet electric motors

4-wheel drive, no separate transmission

Combined power rating 175 kW

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## PERFORMANCE

|                                                                                                           |         |
|-----------------------------------------------------------------------------------------------------------|---------|
| Max. tractive effort                                                                                      | 117 kN  |
| 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. |         |

## BATTERY

|                           |         |
|---------------------------|---------|
| Li-ion battery technology |         |
| Energy content            | 200 kWh |
| Liquid cooled             |         |
| Fast charging capability  |         |

## BATTERY CHARGING

30 kW on-board 3-phase AC charging system  
 in up to 280 minutes 0-80% charging time

CCS type 2 fast-charging socket

to charge batteries from 0-80% in up to 49 min  
 depending on charger

**NOTE:** compatible CCS charging station required with type 2 plug

## AXLES AND BRAKES

Kessler planetary type axles

Fixed load end axle

Suspended battery module axle

Electronic braking: energy recuperation  
 via electric motor braking

Brake resistor

Service brake: spring applied hydraulically released dual-circuit multidisc fail-safe -type brakes

Safety/Parking brake: spring applied hydraulically released fail-safe -type brake

Brake testing possible from cabin

## TYRES AND RIMS

Bridgestone 14.00–24" with NDT inspected rims

Pictures may include options and additional equipment.

## STEERING

Orbitrol type hydraulic frame steering  
 Frame articulation +/- 40°

## HYDRAULIC SYSTEM

Hydraulic oil tank capacity 155 l  
 Brake cooling tank capacity 65 l  
 Variable displacement pump system for carrier:  
 200 bar, 100 l/min

## 24 VDC ELECTRICAL SYSTEM

2 x 12 V deep cycle batteries  
 24 V battery charger (DC/DC converter)  
 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

## DRIVER'S COMPARTMENT

Enclosed 2-operator cabin FOPS/ROPS approved  
 Air conditioning  
 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  
 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  
 Cabin door interlock switches with safety brake application

## MACHINE CONNECTIVITY

Machine connectivity hardware (WLAN/3G/4G/LTE)  
 Connectivity services:  
   ◦ Analytics license for three years  
     (includes access to analytics portal)  
   ◦ Remote monitoring for one year

## TECHNICAL DOCUMENTATION

Standard documents:  
 Instruction manuals, hard copy 2 pcs:  
   • English  
   ◦ One of destination EU languages  
 Spare parts manuals, hard copy 2 pcs:  
   English  
 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

Dry chemical fire extinguisher system  
 Ansul A-101 with Checkfire 210 automatic detection  
 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  
 Emergency pump for brake release and steering  
 Text labels in:  
   • En/One of destination EU languages  
   ◦ Other language  
 Measurements:  
   ◦ Noise  
   ◦ Vibration

# ACCESSORIES

## PROCESS PRODUCTIVITY

- Accelerator system with 280 l tank and hydraulic driven pump
- Form oil system with 40 l tank
- Hydraulic brake for concrete drum
- Hydraulically controlled drum discharging hatch
- Emergency drum emptying
- Remote controller for concrete drum
- Front support legs
- Pressure washer with 230 l tank

## CARRIER PRODUCTIVITY

- Accessories for enclosed cabin:
  - Two-piece windscreen
  - Audio system
  - Heated cabin
  - Heated mirrors
  - Heated windows
- 12 V, 20 A power supply in cabin with socket and connector
- Drive battery coolant heater with interior heater and 24 VDC battery charger (230 V)
- 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 (Green/Red)
  - Both lights always on
  - Lights follows driving direction
- 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
- Front and rear grounding straps
  - Flat cable
  - Chain
- 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

## BEV SAFETY FEATURES

- Battery safe box (for transportation and storage)

## SERVICES

### NORMET SERVICES

Normet is committed to servicing its customers all over the world. We provide service from a single machine to an entire fleet. The Normet service offering consists of many different products from delivery of parts and training to fleet performance agreements.

More information check [normet.com](https://www.normet.com):

<https://www.normet.com/en/products-and-services>

**For any questions about Normet Services contact local Normet.**

<https://www.normet.com/en/contact/>

### SPARE PARTS

As a leading global Original Equipment Manufacturer, we are committed to providing a complete solution to your spare parts needs. All of Normet's spare parts are manufactured to the highest possible standards to help maintain the safety and profitability of your projects. Our spare parts improve efficiency and total cost of ownership throughout your operations.

Start a carefree journey with Normet equipment by having the right selection of parts available from the beginning.

**Spare part recommendation / Start-up Spare Part package:**

Available for the first 2000h\*: includes periodical service parts, most common wearing parts and other recommended parts. (\*Recommendations are based on average hours that can vary depending on worksite conditions.)

Underground, every part is critical!

More information check <https://www.normet.com>

### SERVICE AGREEMENTS

Service agreements are always customized to meet our customer needs, consisting of various Normet service products. The service solution is created together with the customer and the level of an agreement can vary with different support agreements (including e.g. parts, periodical maintenance, on-call services, and audits) up to guaranteed fleet availability or process performance (including e.g. parts, all maintenance activities, operator trainings and process audits).

Note that we can provide Digital solutions with connected equipment.

More information check [normet.com](https://www.normet.com).

### TRAININGS

Training services can be tailored to your individual needs and range from equipment service training to process application training.

We offer a sustainable training path from the beginning of your operation to the execution stage of your project.

More information check [normet.com](https://www.normet.com).

### COMMISSIONING

Equipment commissioning concerns **equipment familiarization**. This is included as part of Normet vehicle delivery. Safety introduction and operating basics for Normet Equipment. Review of Normet user and spare parts manuals. Hands-on equipment safety device operational training. Ensure product quality and customer satisfaction during handover.

**Commissioning includes machinery handover to customers and safety operating principles** without technical insights or process application training.

### EXTENDED COMMISSIONING

We offer an extended training package on top of standard commissioning. Normet provides extended commissioning services that offer basic insights into maintenance manuals, periodical and daily maintenance, as well as modern operating perspectives to maximize handling efficiency. Safety-oriented training ensures reliable operations for breaker boom systems. This cost-effective solution covers the essential aspects of equipment operation, safety, and maintenance schedules.

To ensure continuous and maximized safe operations with your new equipment and to expand your knowledge scale of operations, this option is the most suitable and recommended option for extending your new equipment training. This cost-effective solution covers the essential aspects of equipment operation, safety, and maintenance schedules.

### UPGRADES AND MODIFICATIONS

We build our machines to last. We also understand that your needs on the ground can change - and reacting to that change makes a big difference in your productivity. Normet Upgrades & Modifications provide you with access to product improvements that meet your evolving requirements and let you stay one step ahead of the curve.

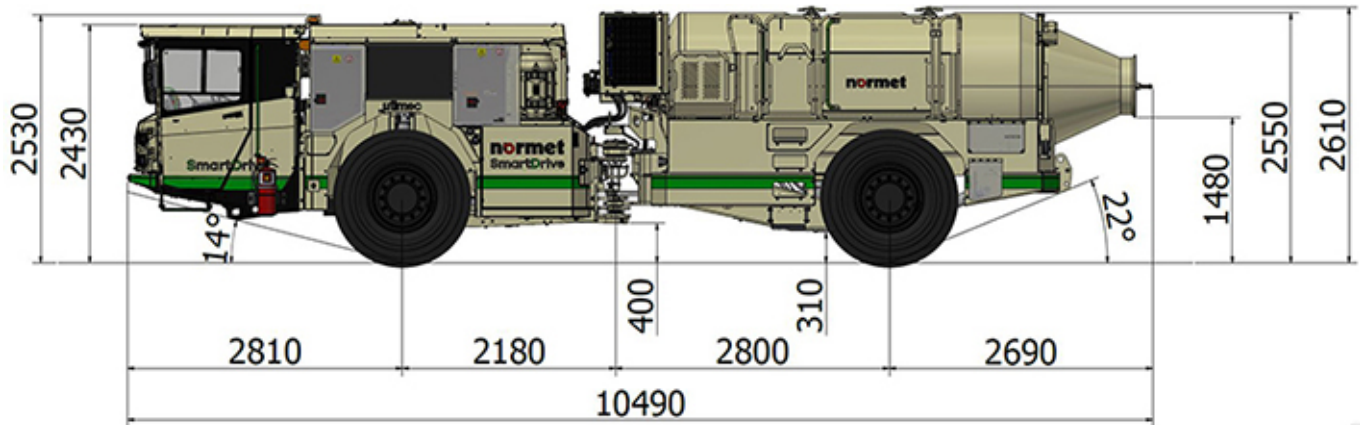
Contact your local Normet office for Upgrade offering to your fleet.

More information check [normet.com](https://www.normet.com).

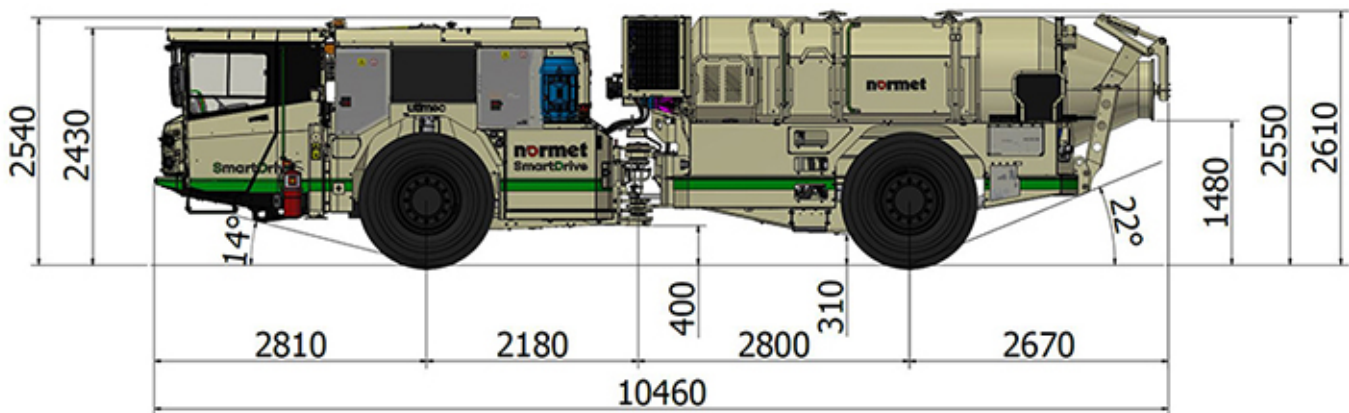
## DIMENSIONS

|            |          |                           |         |
|------------|----------|---------------------------|---------|
| Length     | 10490 mm | Track                     | 1920 mm |
| Width      | 2320 mm  | Ground clearance as shown | 310 mm  |
| Height     | 2610 mm  | Turning radius outer      | 8290 mm |
| Wheel base | 4980 mm  | Turning radius inner      | 5580 mm |

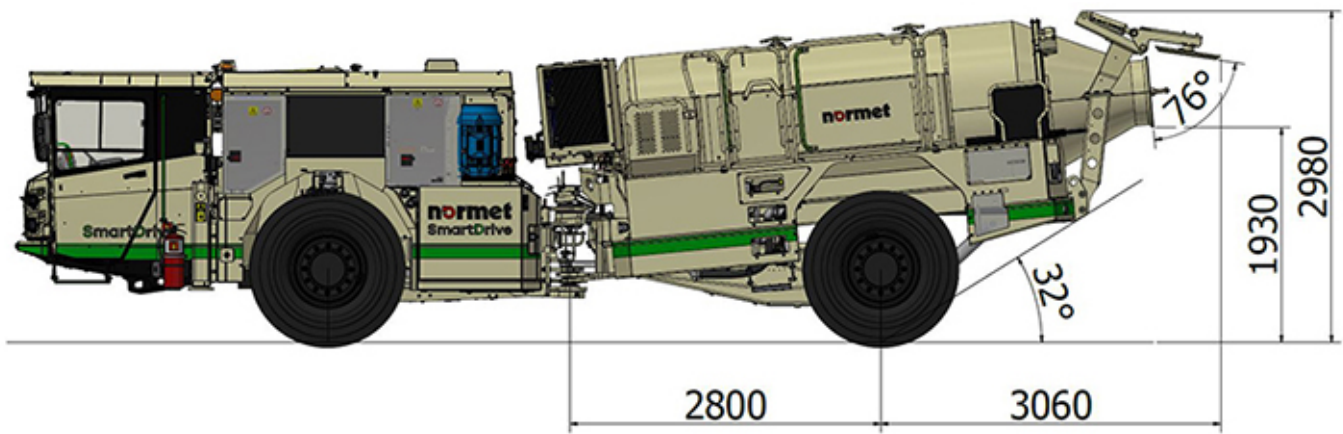
### SIDE VIEW – BASIC MACHINE



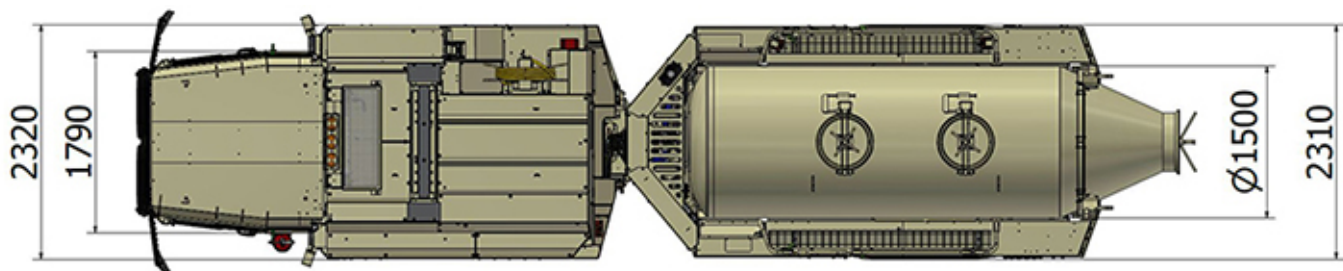
### SIDE VIEW – MACHINE WITH OPTIONS



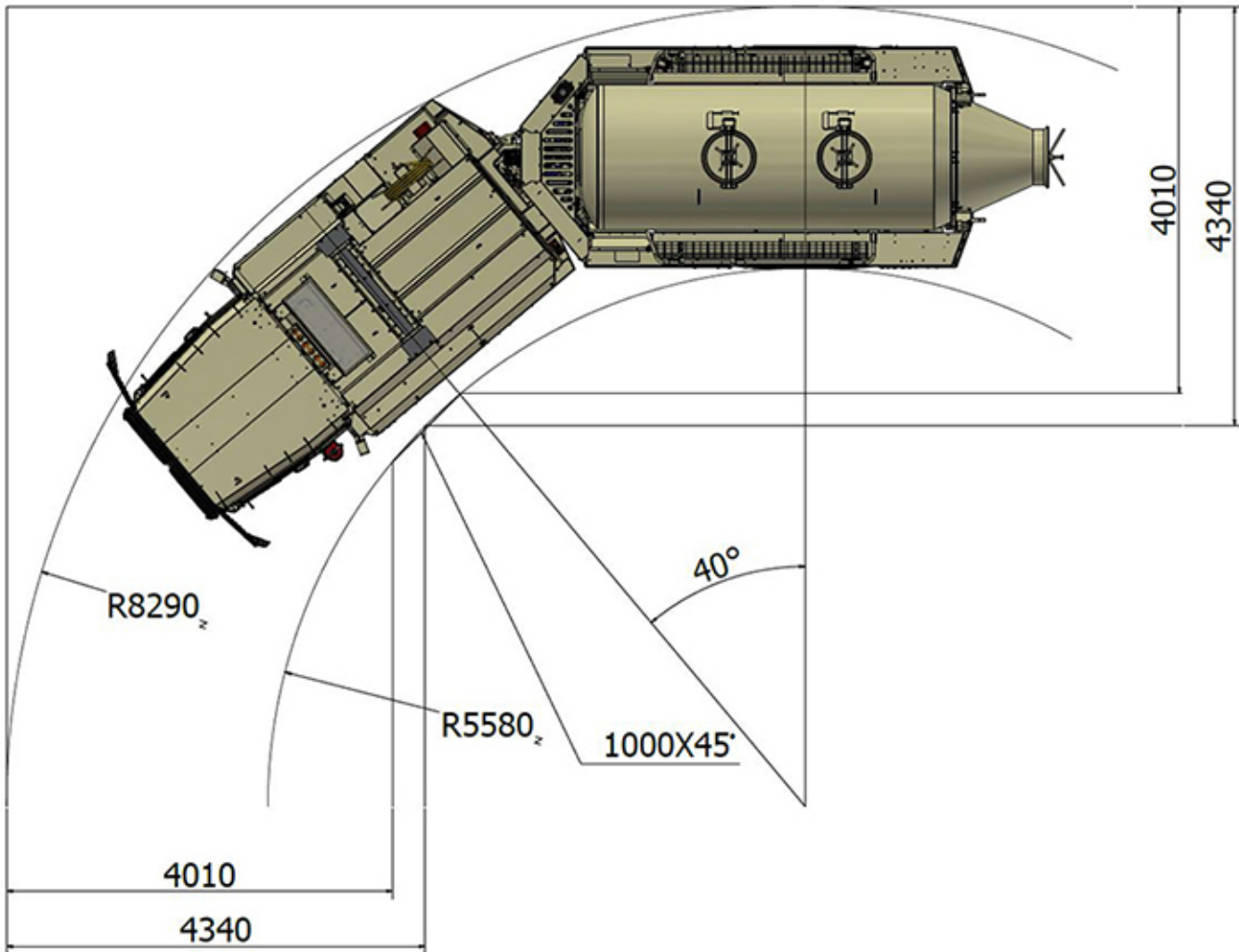
**SIDE VIEW – MACHINE WITH OPTIONS, CONCRETE DRUM IN HIGHEST POSITION**



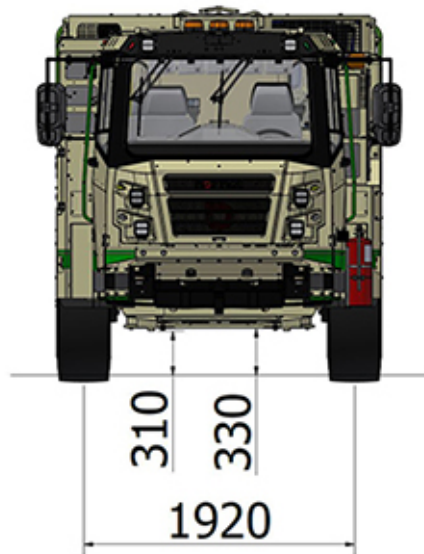
**TOP VIEW**



## TURNING RADIUS



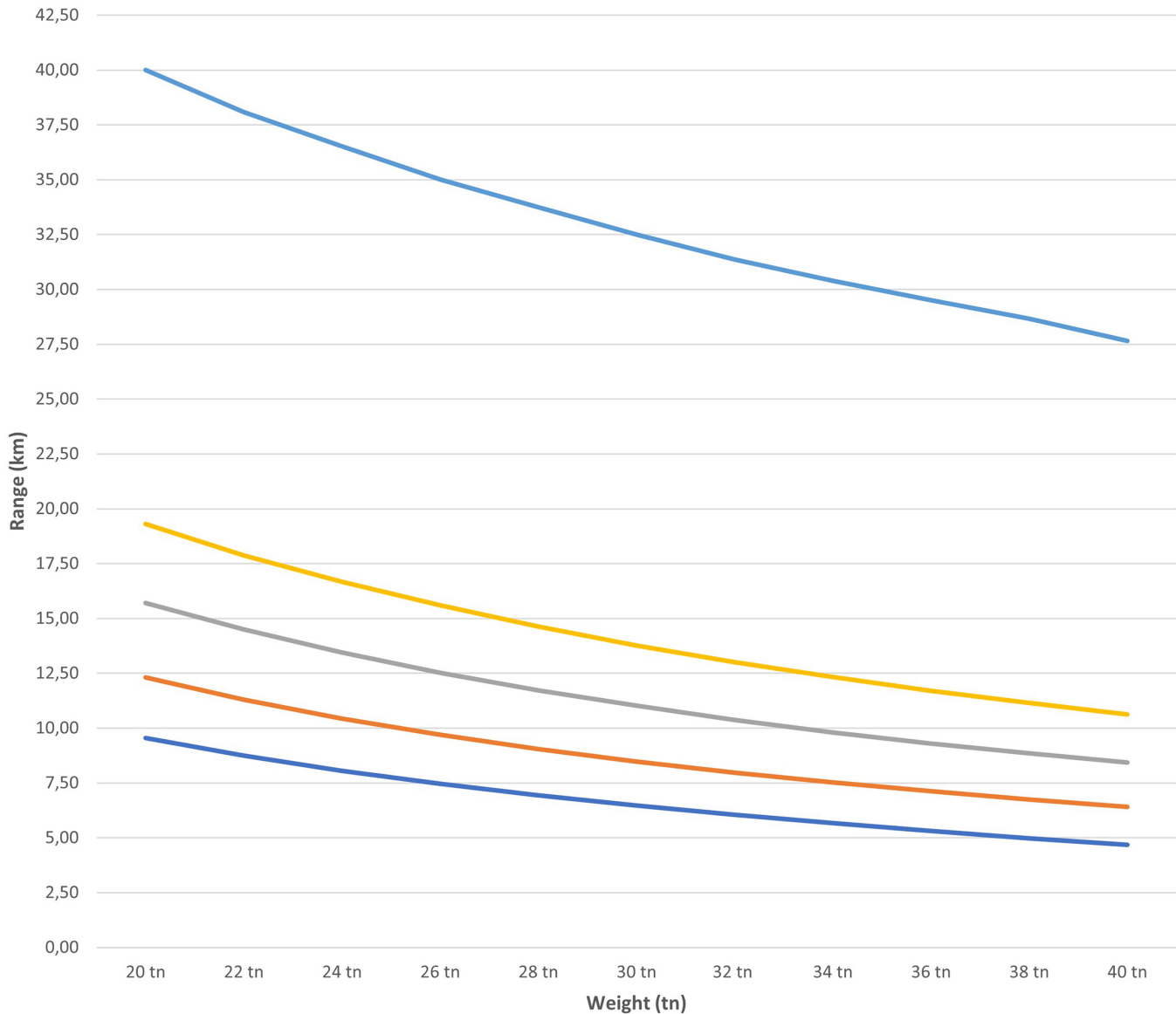
FRONT VIEW



# DRIVING RANGE AND TRACTIVE EFFORT

## DRIVING RANGE

Driving range curve: DOC085408



## OPERATING WEIGHT

|                                                             |           |
|-------------------------------------------------------------|-----------|
| Empty                                                       | 21 000 kg |
| Fully loaded                                                | 34 000 kg |
| final machine weight variate in agree with selected options |           |

## TRACTIVE EFFORT

Performance curve: DOC085390

