



Utimex MF 500 Transmixer SD



Normet reserves the right to change
this specification without further notice

Pictures may include options and additional equipment.

INTRODUCTION



Utimec MF 500 Transmixer SD has 4.4 m³ practical concrete carrying capacity. Machine is designed for fast and safe concrete transportation in underground mines and tunnels where tramping height is 2,4 m (8.0 ft). Concrete drum rotation is electrically controlled and the speed ranges between 0 - 13 rpm.

Standard drum lifter feature allows flexible adjustment of the concrete discharging height up to 1.9 m.

The fully electric vehicle architecture (SmartDrive) includes latest Li-ion battery technology, fast charging capability, and two high-torque direct drive electric motors, which provide instant torque and efficient operation without any local emissions. Energy recuperation technology comes as a standard feature. Batteries are charged during downhill driving and deacceleration which further increases total efficiency of the operation.

Maximum speed is 20 km/h. The fully reversible 4WD with high traction capability and instant torque ensures safe and sure movement in difficult ground conditions. 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 it is needed.

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. The enclosed cabin and SmartDrive provide low noise level.



NorSmart 3 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.

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	
Adjustable drum discharge height	1300 - 1900 mm
Drum volume (100% fill)	5.5 m ³
Carrying capacity	10 000 kg
Material SG	Max. fill capacity
≤ 2300 kg/m ³	4.4 m ³
2400 kg/m ³	4.2 m ³
2500 kg/m ³	4 m ³
2600 kg/m ³	3.8 m ³

PERFORMANCE

Max. tractive effort	99 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	90 kWh
Liquid cooled	
Fast charging capability	

BATTERY CHARGING

30 kW on-board 3-phase AC charging system	
in up to 160 minutes 0-80% charging time	
CCS type 2 fast-charging socket	
to charge batteries from 0-80% in up to 25 min	
depending on charger	
NOTE: compatible CCS charging station required with type 2 plug	

AXLES AND BRAKES

Dana planetary type axles	
Fixed load end axle	
Suspended battery module axle	
Electronic braking: energy recuperation	
via electric motor braking	
Service brake: hydraulically powered dual-circuit oil immersed	
multidisc brakes in both axles	
Safety/Parking brake: spring applied hydraulically released	
fail-safe -type brake	
Brake testing possible from cabin	

TYRES AND RIMS

Nokian Tyres 12.00–20" with NDT inspected rims

STEERING

Orbitrol type hydraulic frame steering	
Frame articulation	+/- 42°

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	200 kW

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HYDRAULIC SYSTEM

Hydraulic oil tank capacity	145 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 250 l tank and hydraulic driven pump
- Form oil system with 30 l tank
- Hydraulic brake for concrete drum
- Concrete drum safety guards
- Hydraulically controlled drum discharging hatch
- Emergency drum emptying
- Lock for drum lifting
- Remote controller for concrete drum
- Front support legs
- Pressure washer with 230 l tank

CARRIER PRODUCTIVITY

- Accessories for enclosed cabin:
 - Two-piece windscreen
 - Sliding rear window for driver's side
 - Audio system
 - Heated cabin
 - Heated mirrors
- 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/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.

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.

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.

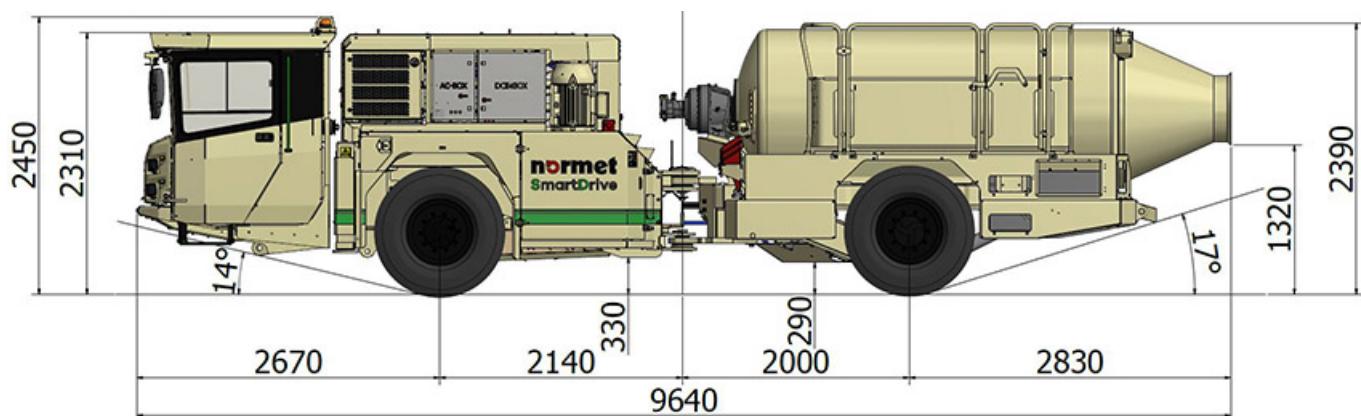
Contact your local Normet office for Upgrade offering to your fleet.

More information check normet.com.

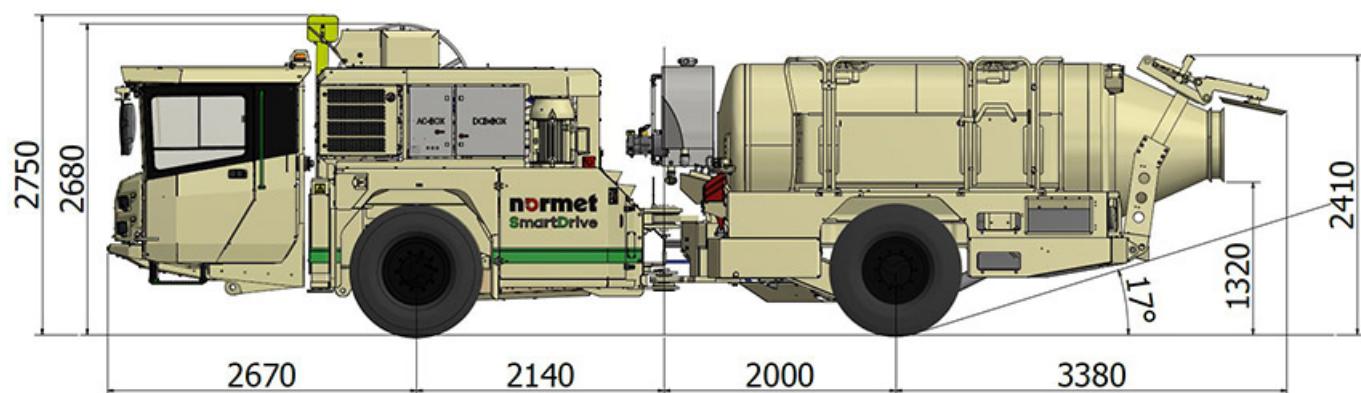
DIMENSIONS

Length	9640 mm	Track	1670 mm
Width	2040 mm	Ground clearance as shown	330 mm
Height	2450 mm	Turning radius outer	6690 mm
Wheel base	4140 mm	Turning radius inner	4350 mm

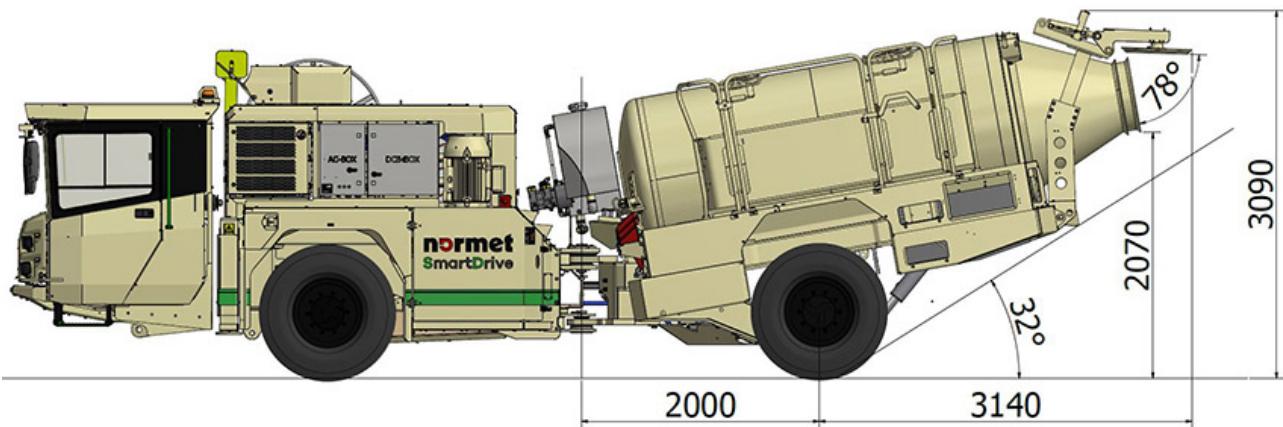
SIDE VIEW – BASIC MACHINE



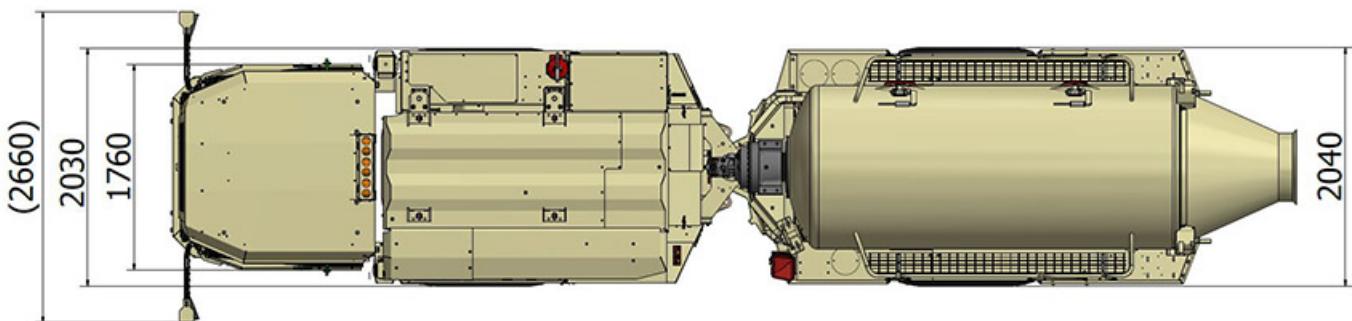
SIDE VIEW – MACHINE WITH OPTIONS



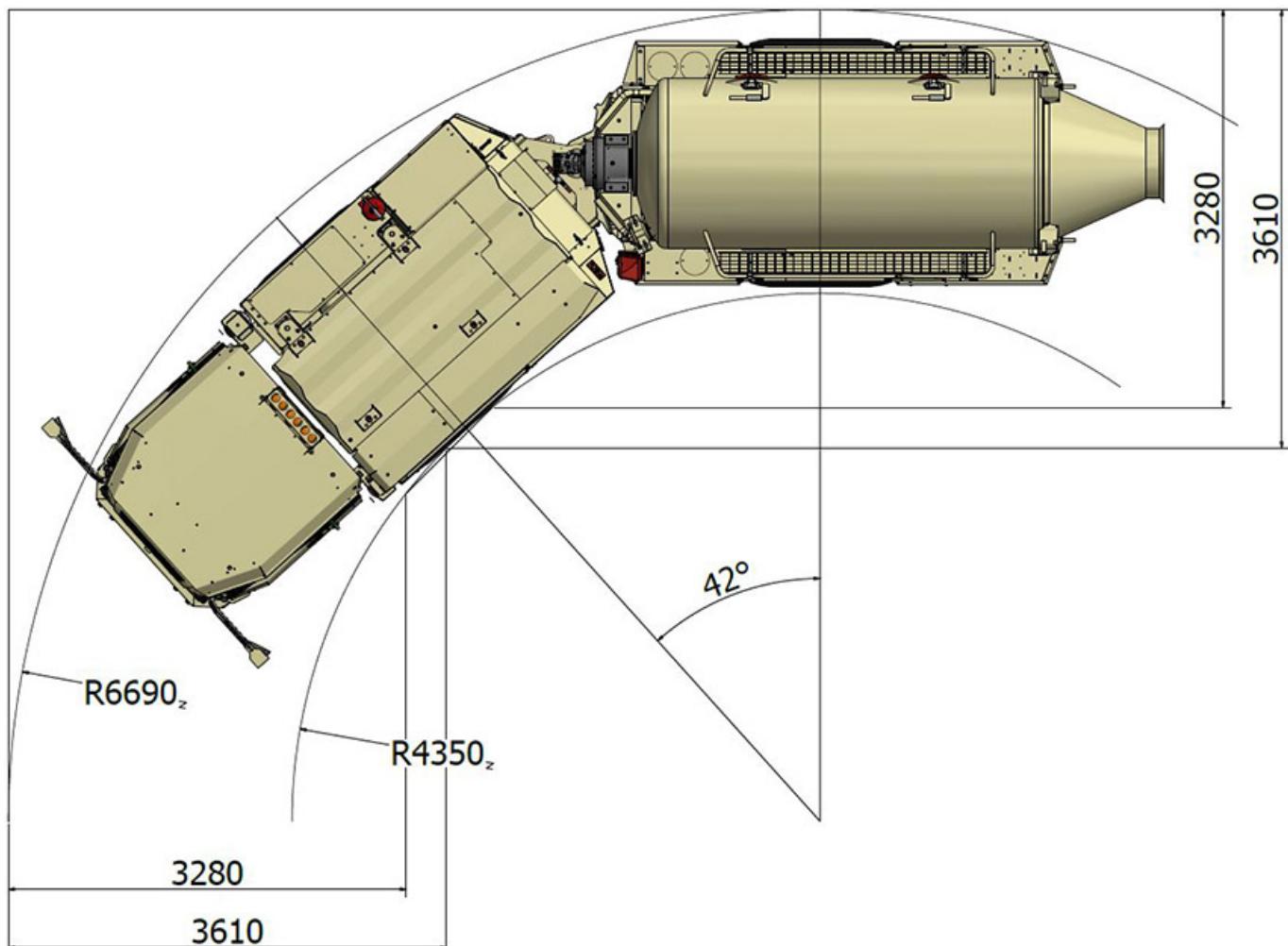
SIDE VIEW – MACHINE WITH OPTIONS, CONCRETE DRUM IN HIGHEST POSITION



TOP VIEW



TURNING RADIUS



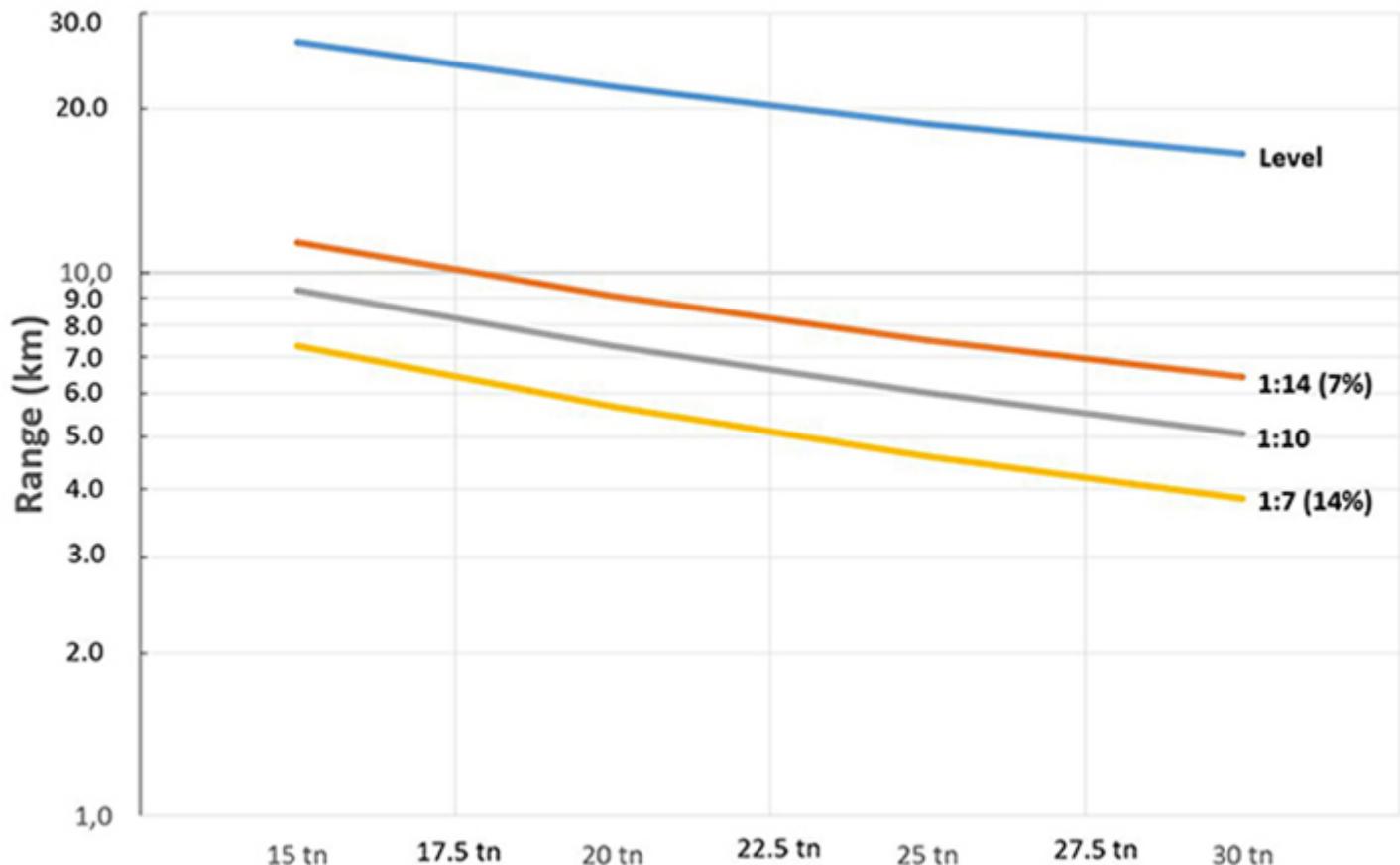
FRONT VIEW



DRIVING RANGE AND TRACTIVE EFFORT

DRIVING RANGE

Driving range curve: DOC060017



OPERATING WEIGHT

Empty	15 000 kg
Fully loaded	25 000 kg

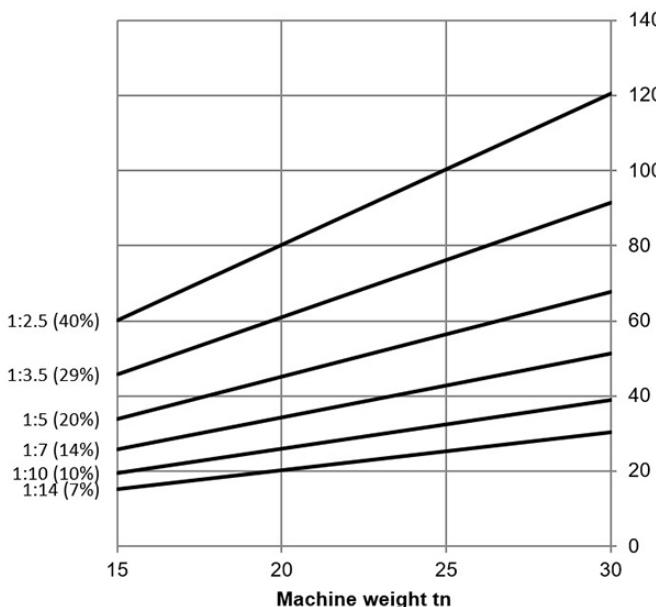
final machine weight variate in agree with selected options

TRACTIVE EFFORT

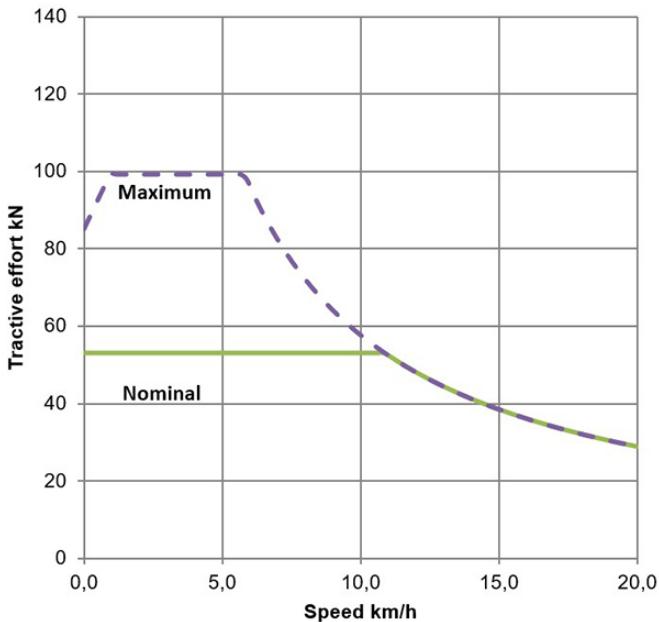
Performance curve: DOC059935

3 % rolling resistance

Gradeability kN



Tractive effort kN



Combined motor power kW

