



Pictured machine may include options and additional equipment.

Features

Variomec LF 090 D dumper is part of the Normet's Heavy Duty L-series Variomec-system. The modular Variomec concept uses an articulated carrier and interchangeable work modules: a dump kit for rock hauling, a remixer kit for concrete transport and a boom lift kit for man lifting. Any combination can be converted to another in a couple of hours because the kits are fitted to the carrier using standardized connections.

Variomec LF 090 D is typically used in tunneling projects with medium size tunnel cross sections. The maximum payload capacity is 16 t. The dump box capacity is 9 m³ and the tipping angle of the box is 65 degrees. The maximum height during tipping is 4.4 m. The dump box features a hatch which can be opened when the box is empty. This provides a good visibility when reversing. The other kits, the 4.4 m³ mixer kit and the 9 m lift kit can be delivered as additional equipment.

The powerful liquid cooled turbo charged Deutz 155 kW or MB 170 kW Tier 3 classified engine option provides clean and efficient operation. Maximum speed in horizontal tunnel is 18 km/h. The fully reversible 4 WD with high traction capability ensures safe and sure movement in difficult ground conditions. Efficient hydraulic dual-circuit oil immersed multi-disc brakes provide safe driving and braking.

Vehicle has optional front axle suspension system that improves driving safety and comfort and reduces fatigue. The suspension system reduces vibration from wheels to the cabin and improves handling of the vehicle. The suspension system gives efficiency and speed to vehicle usage, with safety and comfort for the driver and the passenger.

The new Normet FOPS and ROPS approved safety cabin provides superior visibility and comfortable compartment for the driver and the passenger. Cabin is designed for safe and easy entry and exit. Door openings are wide and handrails and non-slip steps are correctly positioned. Dashboard is easy and simple to use. New multifunctional display (MID) provides driving information (speed, RPM, temperatures etc.) and information can be recorded for analysis. Enclosed cabin provides noise level < 75 dB ensuring safe and comfort driving.

Vehicle layout allows easy access to all service points, all daily checks can be done from the ground level.

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

Technical specification

DUMP BUCKET

Volume 9 m³
Tipping angle 65°
Tipping height 4350 mm

ENGINE

Liquid cooled turbo charged Deutz TCD 2012 L6,
155 kW/2300 rpm, TIER 3 approved

EXHAUST SYSTEM

Catalytic exhaust gas purifier and muffler

TRANSMISSION

Dana 32 000 series power shift with pump drive group
3 speeds forward and reverse
4-wheel drive

AXLES

Planetary type
Dana 113
Load end axle fixed
Engine end axle oscillation +/- 7°

TYRES

14.00 - 24 PR 24

PERFORMANCE

1st gear max.	5 km/h
2nd gear	11 km/h
3rd gear	18 km/h
Max. tractive effort	164 kN
Max speed in 1:7 inclined tunnel	
• Fully loaded	8 km/h
• Empty	10 km/h
Performance curve	100022484

BRAKES

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

STEERING

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

FUEL TANK

Capacity 140 L

HYDRAULIC SYSTEM

Variable displacement pump system,
190 bar, 95 L/min/2200 rpm
Hydraulic oil tank capacity 120 L
Return oil filtration 10 µm
Indication of level, filtration and temperature

24 VDC ELECTRICAL SYSTEM

Exposed components are min IP 65 standard
Battery 2 x 115 Ah
Alternator 100 A
Halogen driving lights (4 + 2 pcs) 70 W
Halogen work lights (2 + 2 pcs) 70 W
Halogen work lights on load end (2 pcs) 70 W
LED parking, brake and indicator lights
LED side lights; amber
Side reversing halogen lights 70 W
Rotating beacon; amber
Wire harness (self extinguishing) with tinned wires and water tight conduits

DRIVER'S COMPARTMENT

Open 2-man cabin FOPS/ROPS approved
Air suspended driver's seat
Seat with retractable lap seat belt
Forward and side seating for the driver with two sets of pedals (brake and accelerator)
MID 070 S Multifunctional Display with:

- Meters; e.g. speed, RPM, operating hours
- Status indicators; e.g. fluid levels, temperatures, pressures, alarms, faults

GREASING SYSTEM

Centralized grease fittings for the carrier

OTHER

12 kg hand held fire extinguisher
Standard symbol labels

Optional equipment

DRIVER'S CABIN

Enclosed cabin
Air suspended T-back seat for driver and passenger

ENGINE

Liquid cooled turbo charged Mercedes-Benz OM 906 LA,
170 kW/2200 rpm, TIER 3 approved:

1st gear max.	5 km/h
2nd gear	11 km/h
3rd gear	19 km/h
Max. tractive effort	165 kN
Max speed in 1:7 inclined tunnel:	
• Fully loaded	8 km/h
• Empty	10 km/h
Performance curve	100003433

EXHAUST SYSTEM

Particle filter for Mercedes-Benz OM 906 LA, 170 kW

OTHER

LED driving lights (4 + 2 pcs) 18 W
LED work lights on cabin (2 + 2 pcs) 43 W
Warning lights, 1 unit:

- Rotating beacon; red
- Rotating beacon; blue

Additional equipment

AVAILABLE KITS

Lift kit 905 B
Lift kit 905 B for suspended vehicle

- Front support legs

Mix kit 500 M
Hydraulics for Mix kit 500 M

SUSPENSION

Front axle suspension

FOR ENCLOSED CABIN

CD/Radio system

Cabin ventilation:

- Cabin heating
- Air conditioning

FIRE SUPPRESSION SYSTEM

Fogmaker: Manually actuated
Fogmaker: Automatically actuated
Ansul: Manually actuated
Ansul: Automatically actuated
Tempus: Manually actuated (Non CE)

GREASING SYSTEM

Automatic lubrication system: Lincoln

AUXILIARY BRAKING SYSTEM

Electromagnetic retarder

Mounted in driveline
Recommended on inclines deeper than 1:10 and longer than 1000 m

OTHER

Fast fuel filling system: Wiggins
Oil evacuation kit with sample points
Extra hand held fire extinguisher (12 kg)
Hydraulic front support legs
Warning lights, 1 unit:

- Rotating beacon; amber
- Rotating beacon; red
- Rotating beacon; blue
- Strobe light; white

Text labels in: Fin / En / Por / Swe / Rus / Nor / Ger / Fra / Spa / Ita

Toolbox and maintenance tools

2 wheel chocks with brackets

Reversing camera

Spare wheel with tyre

LTC services

SPARE PARTS

Spare parts package A: Available for 1000 h of use*. Include periodical service, most common wearing parts and most critical safety parts.

Spare parts package B: Available for 3000 h of use*. Include 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.

TRAINING SERVICES

Available before delivery, at start up and after delivery.

NOTE! after/during Start up / Commissioning as additional training days these are cheaper.

In general training reduces operation costs.

Product training:

Operation and Maintenance

NorSmart

Foundation of electrics, hydraulics and mechanics

Audit

Process training:

Concrete spraying

Charging

Scaling

Process audit

AUDIT SERVICES

To improve machines performance

To improve your processes performance and quality

SERVICE CONTRACTS

Spare parts supply programmes

Scheduled inspection programmes

Supervision programmes

Periodic maintenance programmes

Machine usage programmes

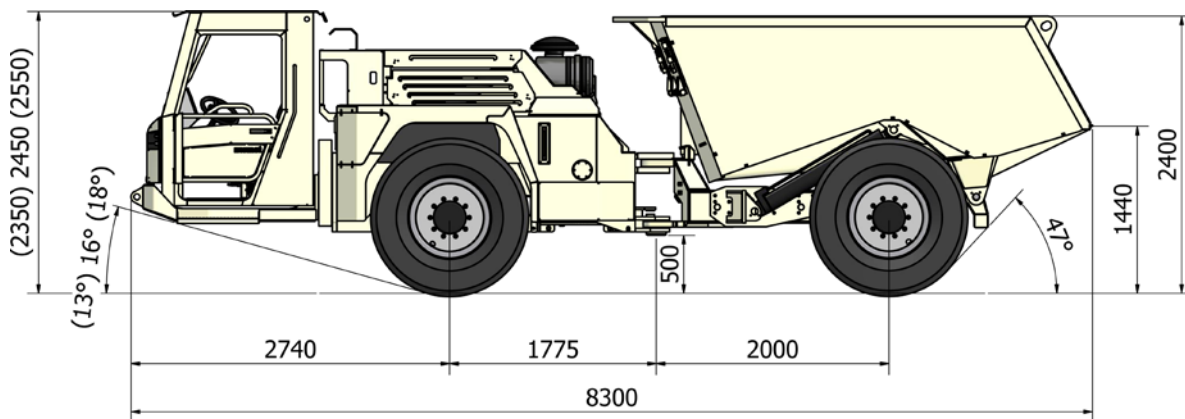
LINK ONE

Link One electronic spare part manuals

WARRANTY SERVICES

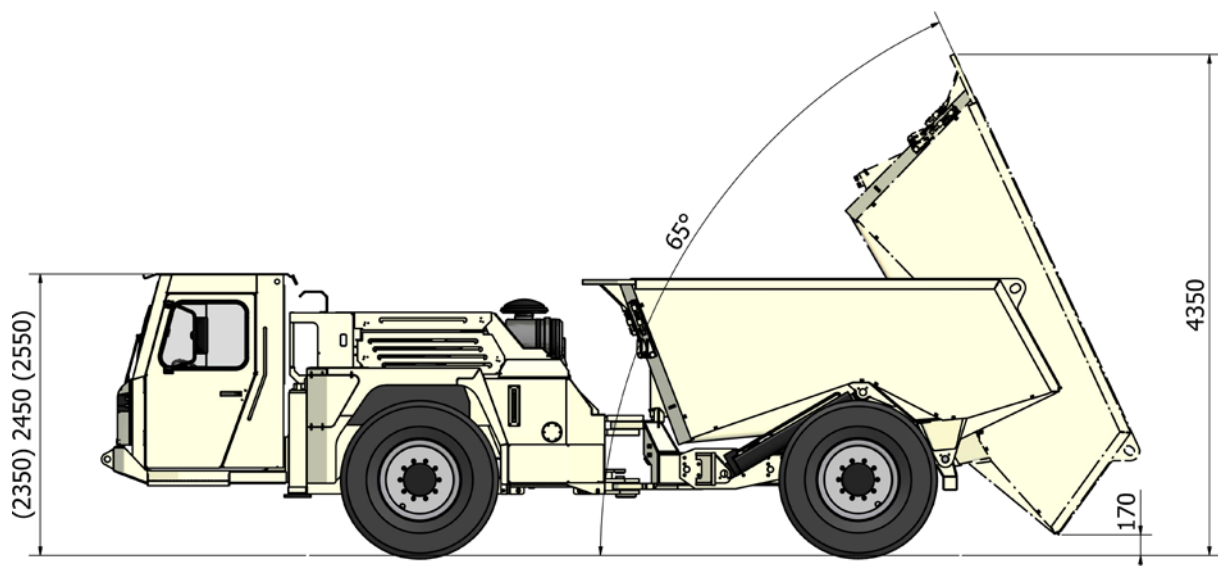
Extended warranty

Dimensions



SIDE VIEW

Basic machine



SIDE VIEW

Machine with options in tipping position

DIMENSIONS

Length	8300 mm
Width	2310 mm
Height	2400 mm
Wheel base	3775 mm
Track	1950 mm
Ground clearance	500 mm

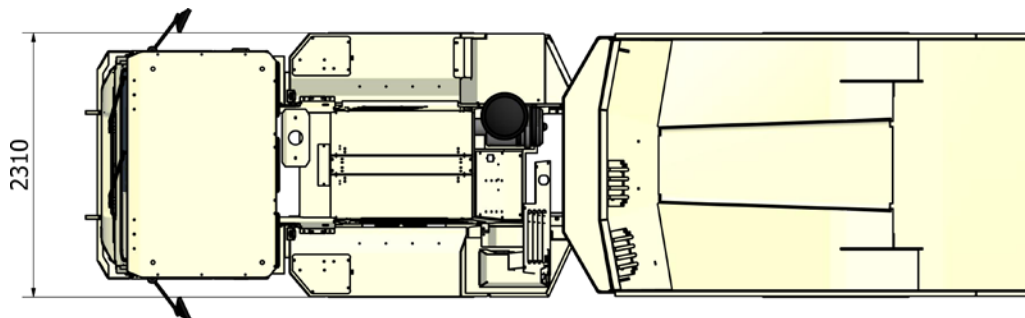
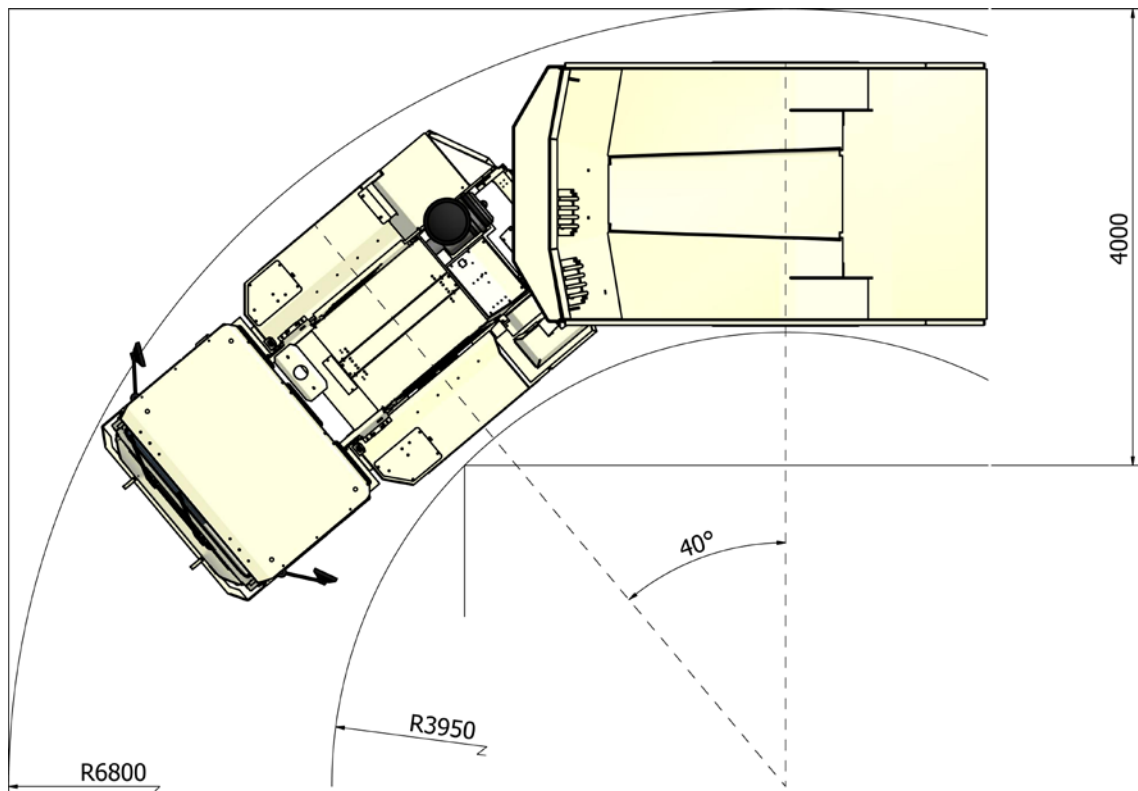
TURNING RADIUS

Outer	6800 mm
Inner	3950 mm

WEIGHT

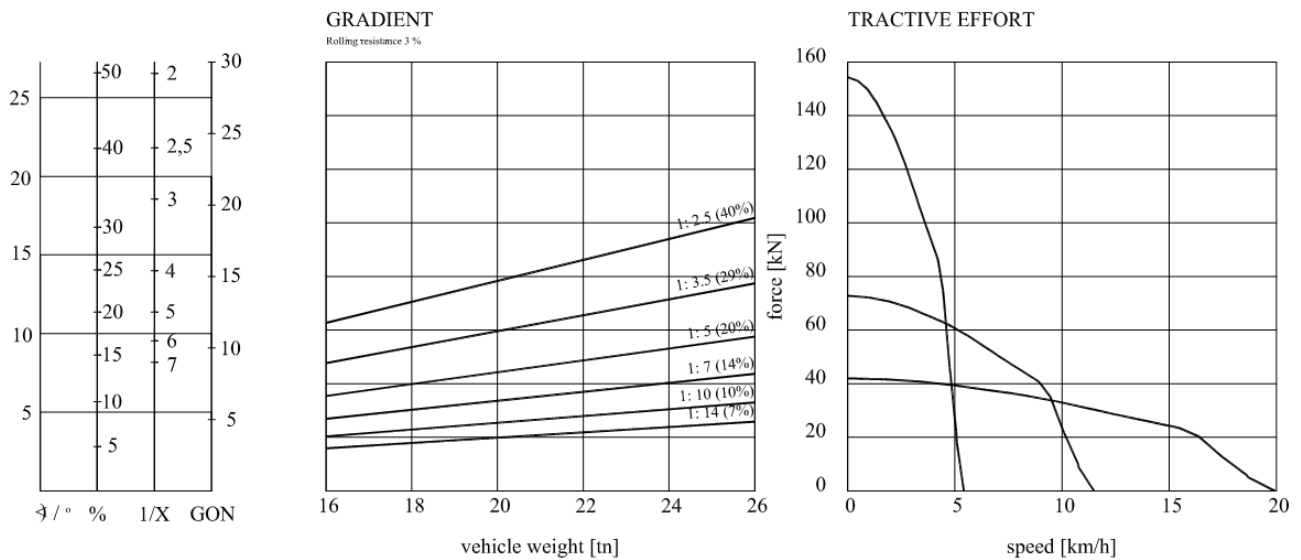
Operating weight:	
• Empty	13 000 kg
• Fully loaded	29 000 kg
Max. payload	16 000 kg

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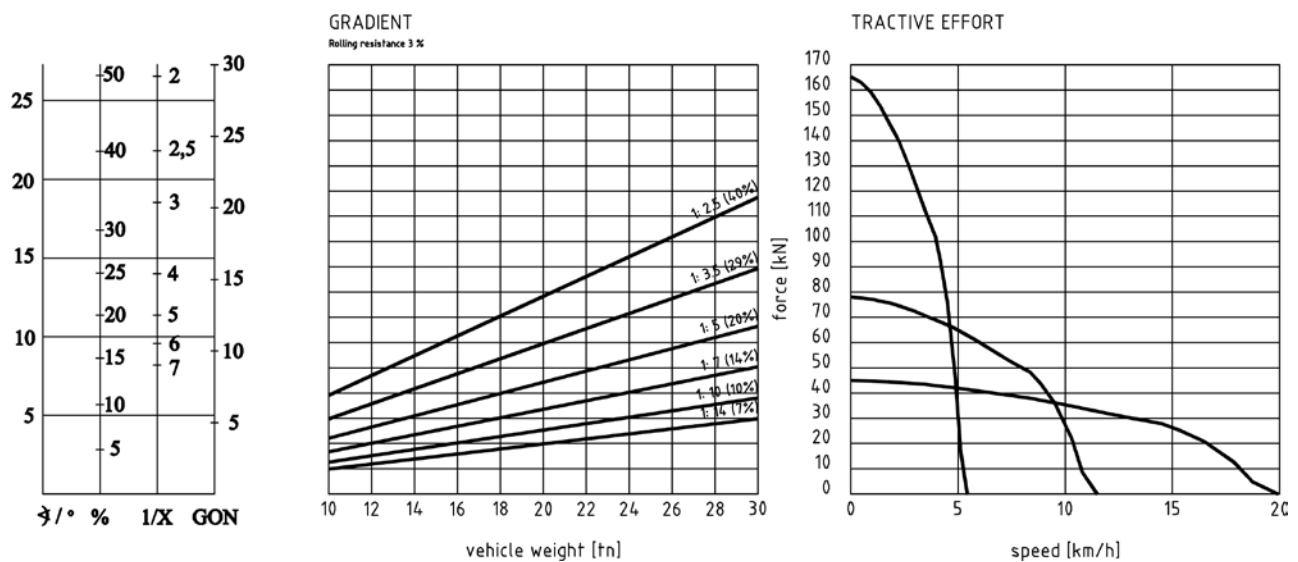
Dimensions**SIDE VIEW****TURNING RADIUS**

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Tractive efforts



DEUTZ TCD 2012 L6, 155 kW
Performance curve 100022484



MERCEDES-BENZ OM 906 LA, 170 kW
Performance curve 100003433

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