



Pictured machine may include options and additional equipment.

## Features

Variomec MF 060 D dumper is part of the Normet's M-series Variomec-system. The modular Variomec concept uses an articulated carrier and interchangeable work modules: a mixer kit for concrete transport, a dump kit for rock hauling 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 MF 060 D is typically used in tunneling projects with small or medium size tunnel cross sections. It has max. 10 t payload. The dump box capacity is 6 m<sup>3</sup> and the tipping angle of the box is 85 degrees and the maximum height when tipping is 3.96 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 m<sup>3</sup> mixer kit and the 9 m lift kit can be delivered as additional equipment.

The powerful liquid cooled turbo charged Deutz 120 kW or MB 110 kW TIER 3 classified engine provides clean and efficient operation. Maximum speed in a horizontal tunnel is 25 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 6 m<sup>3</sup>  
Tipping angle 85°  
Tipping height 3960 mm

#### ENGINE

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

#### EXHAUST SYSTEM

Catalytic exhaust gas purifier and muffler

#### TRANSMISSION

Dana 24 000 series power shift with pump drive group  
3 speeds forward and reverse  
4-wheel drive

#### AXLES

Planetary type  
Dana 123  
Load end axle fixed  
Engine end axle oscillation +/- 10°

#### TYRES

12.00 - 20 PR 20

#### PERFORMANCE

1st gear max.	6 km/h
2nd gear	12 km/h
3rd gear	25 km/h
Max. tractive effort	133 kN
Max speed in 1:7 inclined tunnel	
• Fully loaded	6 km/h
• Empty	11 km/h
Performance curve	100018584

#### 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 112 L

#### HYDRAULIC SYSTEM

Variable displacement pump system,  
190 bar, 95 L/min/2200 rpm  
Hydraulic oil tank capacity 115 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  
Seats 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 904 LA,  
110 kW/2200 rpm, TIER 3 approved

1st gear max.	6 km/h
2nd gear	13 km/h
3rd gear	25 km/h
Max. tractive effort	120 kN
Max speed in 1:7 inclined tunnel:	
• Fully loaded	7 km/h
• Empty	12 km/h
Performance curve	100006272

#### EXHAUST SYSTEM

Particle filter for Deutz TCD 2013 L4 120 kW

#### OTHER

LED driving lights (2 + 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 for carrier: 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**

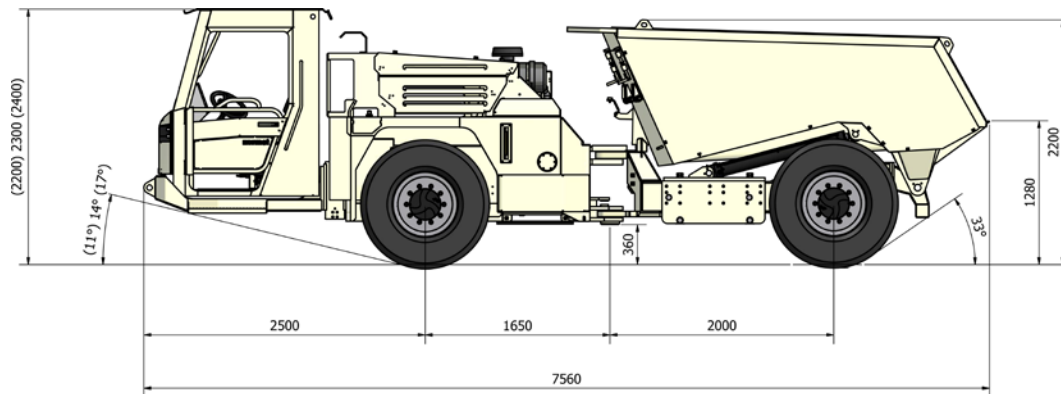
#### **LINK ONE**

Link One electronic spare part manuals

#### **WARRANTY SERVICES**

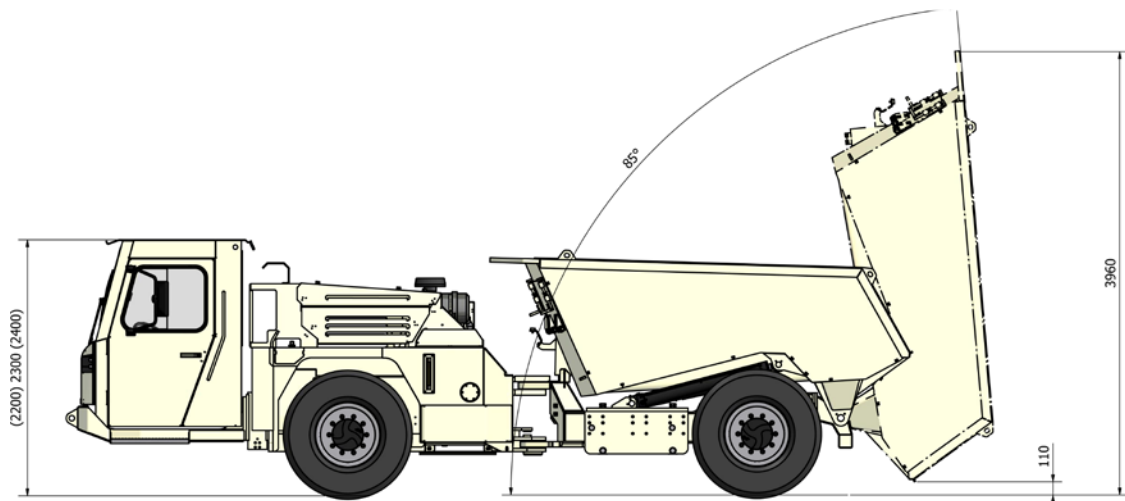
Extended warranty

### Dimensions



#### SIDE VIEW

Basic machine



#### SIDE VIEW

Machine with options and bucket in tipping position

#### DIMENSIONS

Length	7560 mm
Width	2000 mm
Height	(+/- 100 mm) 2300 mm
Wheel base	3650 mm
Track	1650 mm
Ground clearance	360 mm

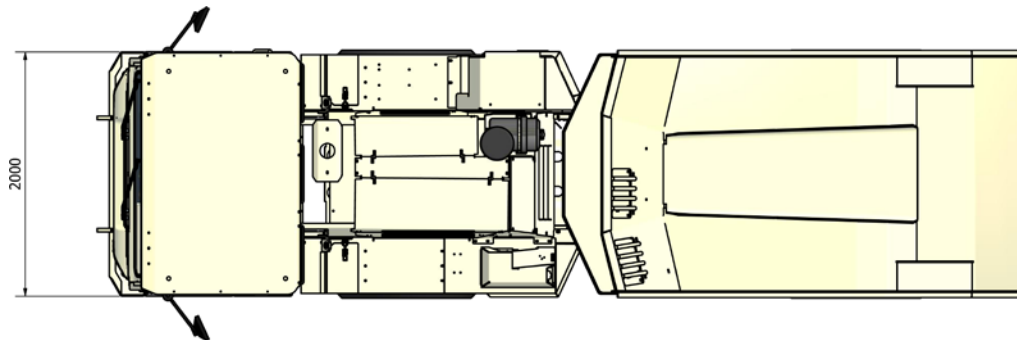
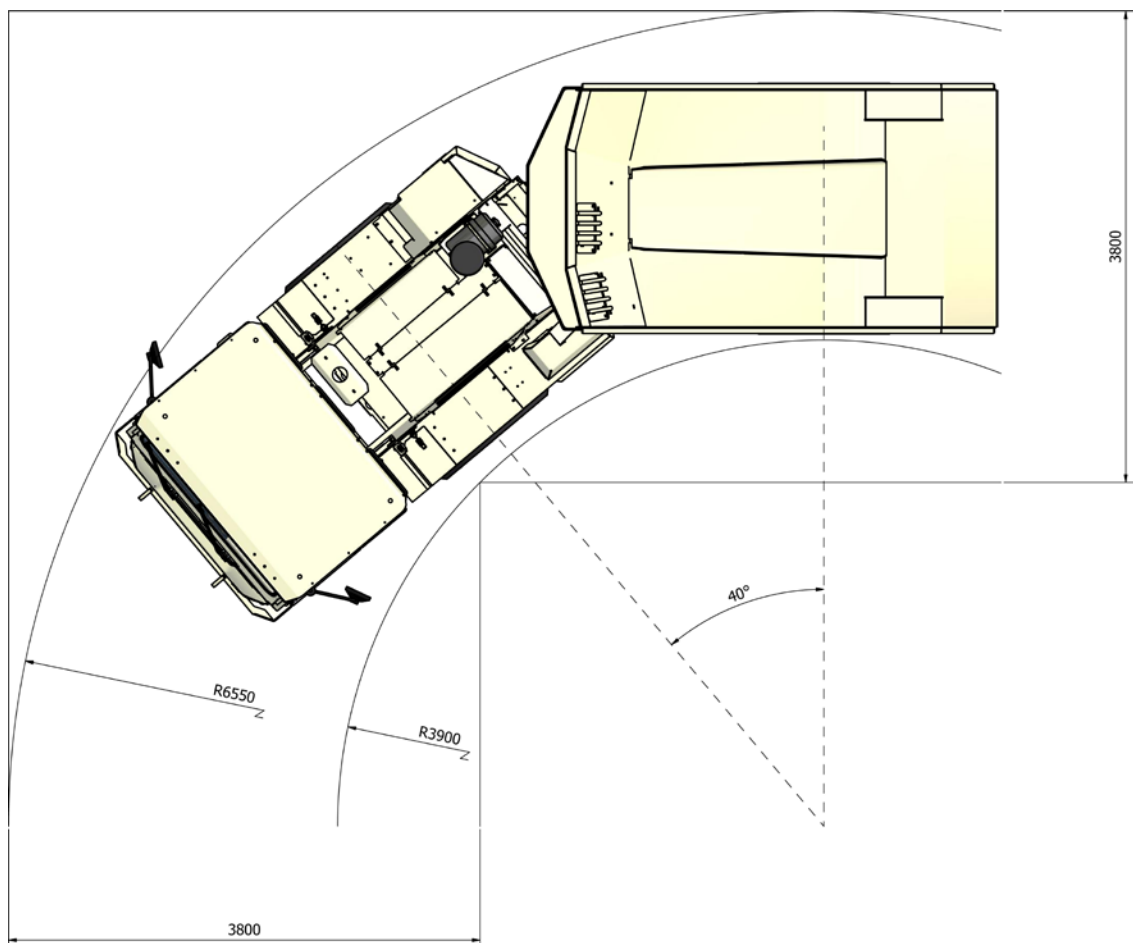
#### TURNING RADIUS

Outer	6550 mm
Inner	3900 mm

#### WEIGHT

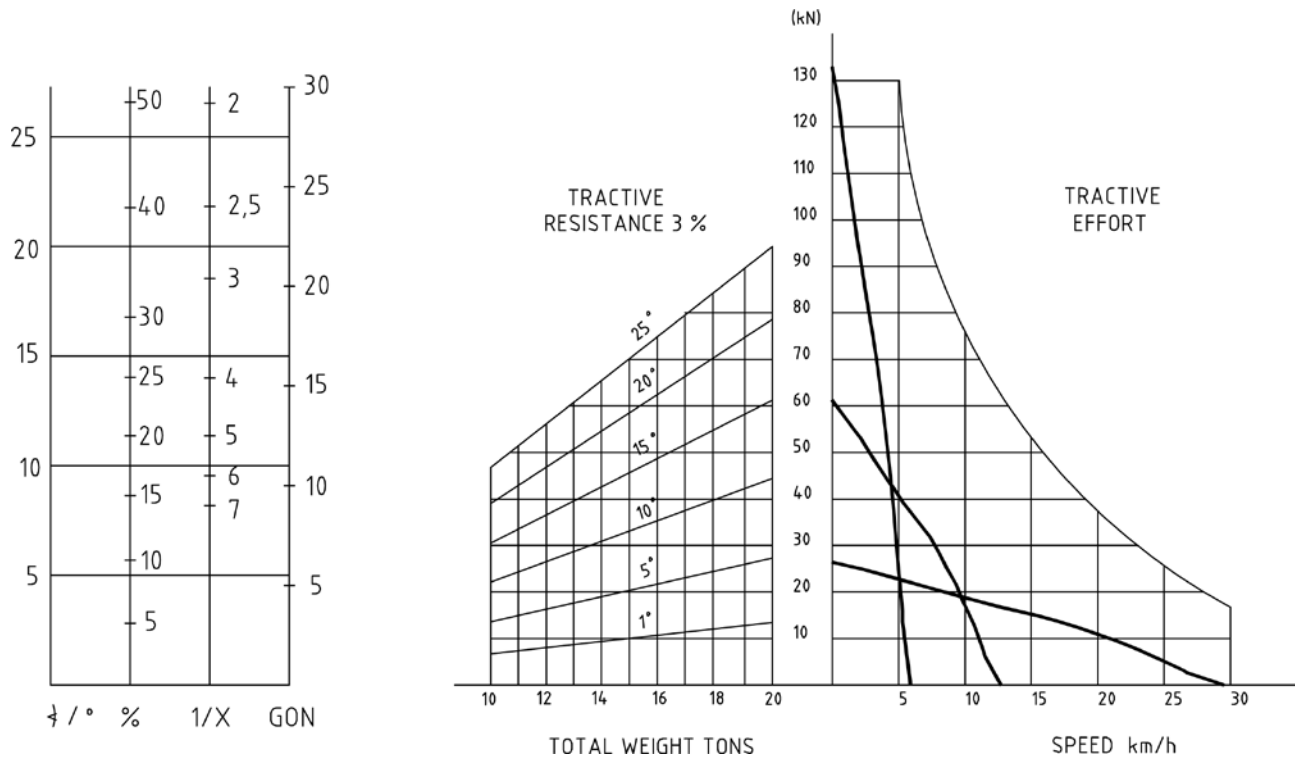
Operating weight:	
• Empty	10 000 kg
• Fully loaded	20 000 kg
Max. payload	10 000 kg

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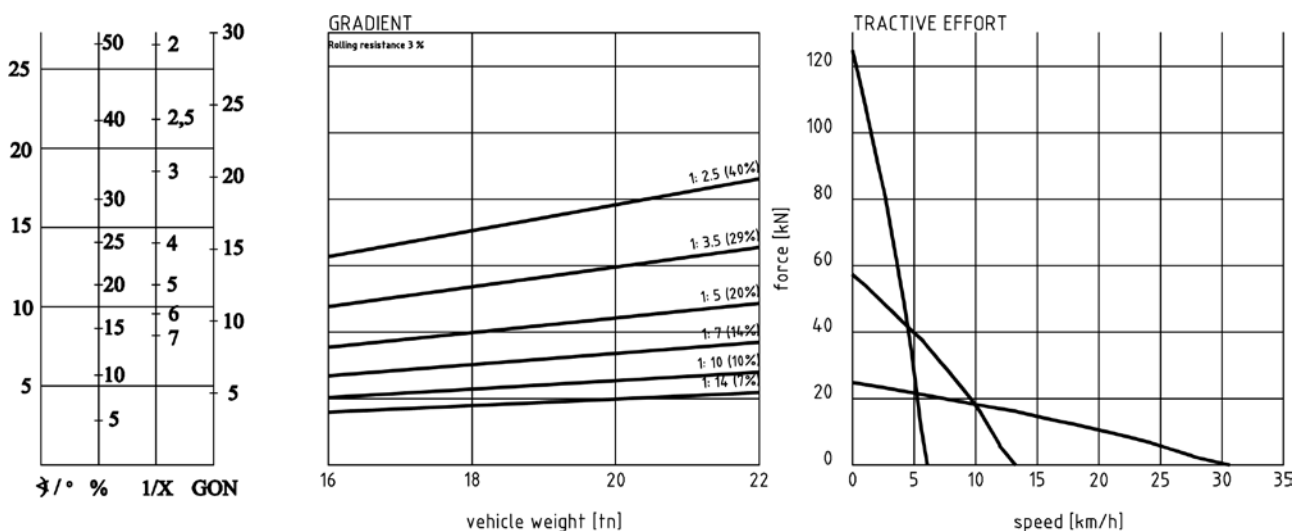
**Dimensions****TOP VIEW****TURNING RADIUS**

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### Tractive efforts



**DEUTZ TCD 2013 L4 120 kW**  
Performance curve 100018584



**MERCEDES-BENZ OM 904 LA 110 kW**  
Performance curve 100006272

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