



*Pictured machine may include options and additional equipment.*

## Features

Variomec MF 050 M concrete mixer is part of the Normet's M-series Variomec-system. The modular Variomec concept uses an articulated carrier and interchangeable work modules: a remixer 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 050 M features a remixer kit with concrete carrying capacity of 4.4 m<sup>3</sup> as standard. It is designed for concrete transportation in underground mines and tunnels where tramming height is 2.6 m or more. The concrete discharge height of the drum is 1.45 m. The other kits, the 6 m<sup>3</sup> dump 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 ergonomics optimized driver's seat and FOPS and ROPS approved safety cabin provides superior visibility and comfortable compartment for the driver and his assistant. The enclosed cabin provides noise level < 75 dB. 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.

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

### Technical specification

#### CONCRETE DRUM

Drum volume (100% fill) 5.5 m<sup>3</sup>  
Carrying capacity 4,4 m<sup>3</sup>  
Two filling hatches (round)  
Hydraulically controlled mixing and unloading.  
Adjustable rotating speed 0...13 rpm  
Drum discharge height 1450 mm  
Manually drum lock  
Operator of drum on left side

#### 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	9 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  
Driving halogen lights (4 + 2 pcs) 70 W  
Halogen working lights on cabin (2 + 2 pcs) 70 W  
Halogen working 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)  
CAN Cockpit, Master Gauge:

- Tacho, rpm
- Operating hours
- Fuel level
- Transmission temperature
- Cooling water temperature

#### GREASING SYSTEM

Centralized grease fittings for the carrier

#### OTHER

12 kg hand held fire extinguisher  
Standard symbol labels

### Optional equipment

#### FOR CONCRETE DRUM

Hydraulic drum brake

#### 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	4800030

#### EXHAUST SYSTEM

Particle filter for Deutz TCD 2013 L4 120 kW

#### OTHER

Xenon working lights on cabin (2 + 2 pcs) 35 W

Xenon working lights on concrete drum (2 pcs) 35 W

LED driving lights (4 + 2 pcs) 18 W

LED working lights on cabin (2 + 2 pcs) 43 W

LED working lights on load end (2 pcs) 43 W

Warning lights, 1 unit:

- Rotating beacon; red
- Rotating beacon; blue

### Additional equipment

#### AVAILABLE KITS

Dump kit 600

Lift kit 905 B

#### FOR CONCRETE DRUM

High pressure washer with tank

Form oil system with tank

280 L water/chemical stainless steel tank

#### 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

Extra hand held fire extinguisher (12 kg)

Warning lights, 1 unit:

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

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

Toolbox and maintenance tools

2 wheel chocks with brackets

Reversing camera

Spare wheel

### 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

##### Product training:

Operation and Maintenance

NorSmart

Foundation of electrics, hydraulics and mechanics

Audit

##### Process training:

Concrete spraying

Charging

Process audit

#### AUDIT SERVICES

To improve performance of the machines

To improve the performance of your processes

To help improve the quality of maintenance operations

#### SERVICE CONTRACTS

Spare parts supply programmes

Scheduled inspection programmes

Supervision programmes

Periodic maintenance programmes

Machine usage programmes

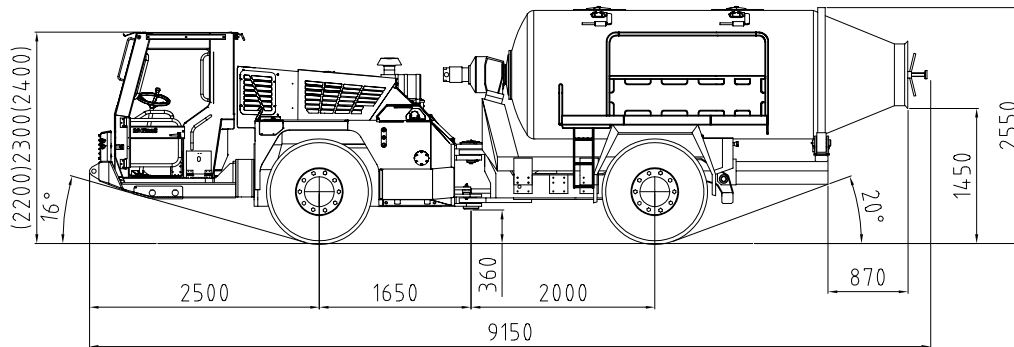
#### LINK ONE

Link One electronic spare part manuals

#### WARRANTY SERVICES

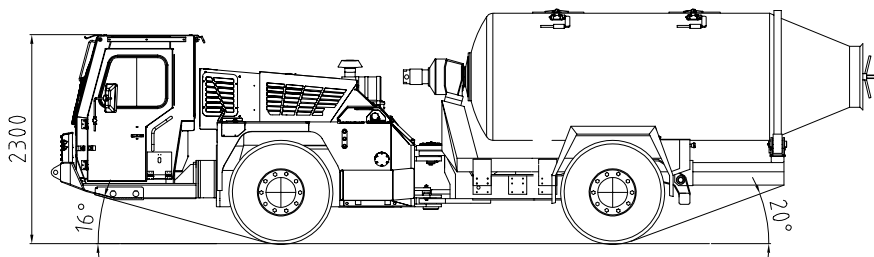
Extended warranty

### Dimensions



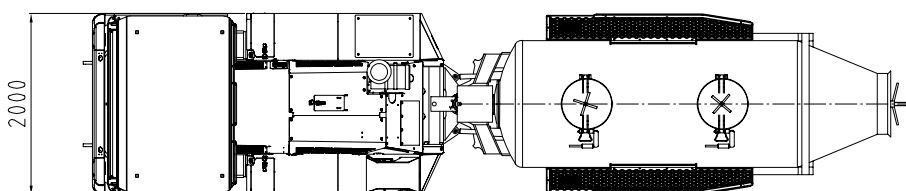
#### SIDE VIEW

Basic machine.



#### SIDE VIEW

Machine with enclosed cabin



#### TOP VIEW

Machine with options and extra equipment.

#### DIMENSIONS

Length	9150 mm
Width	2000 mm
Height	2550 mm
Height of cabin	(+/- 100 mm) 2300 mm
Wheel base	3650 mm
Track	1650 mm
Ground clearance	360 mm

#### TURNING RADIUS

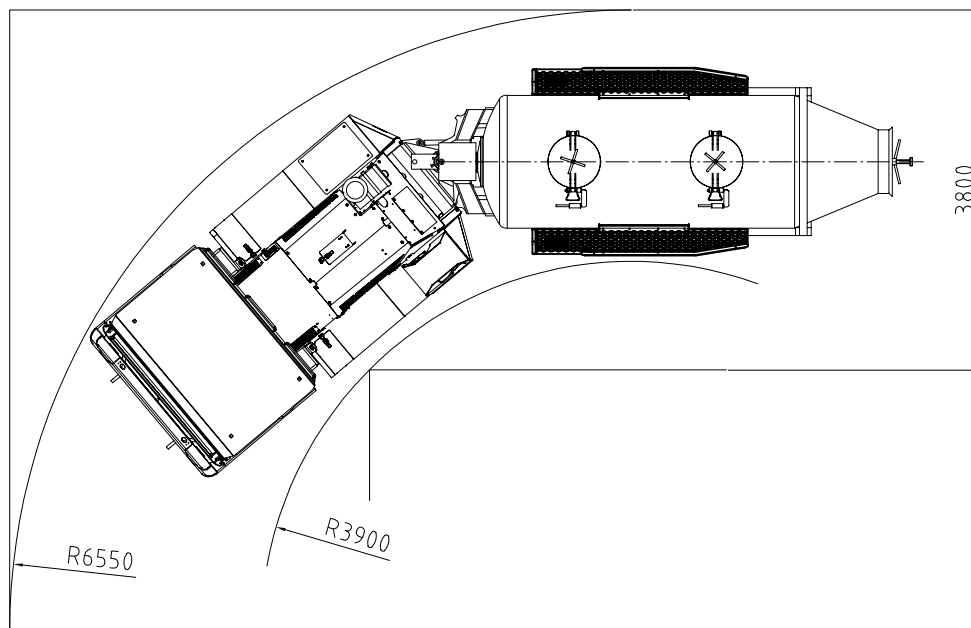
Outer	6550 mm
Inner	3900 mm

#### WEIGHT

Operating weight:	
• Empty	10 700 kg
• Fully loaded	20 900 kg

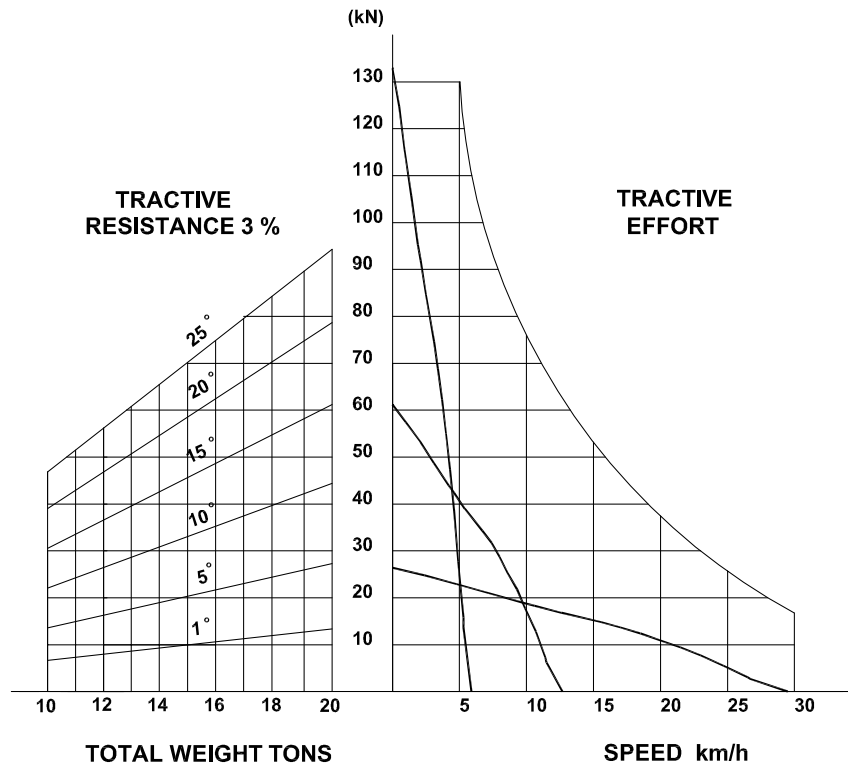
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**Dimensions**

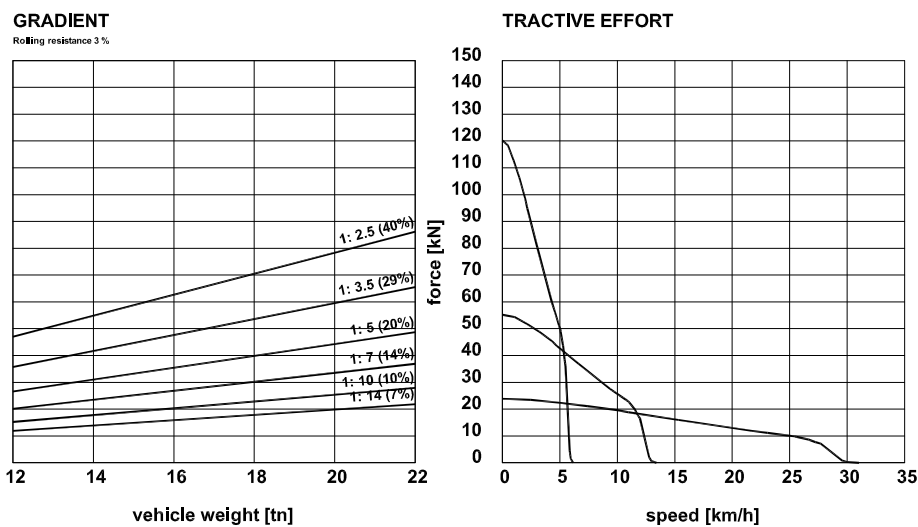


**TURNING RADIUS**

### Tractive efforts



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



### MERCEDES-BENZ OM 904 LA 110 kW Performance curve 4800030

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