



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 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 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 m³ and the tipping angle of the box is 85 degrees and the maximum height when tipping is 3.7 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 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



# **Technical specification**

#### **DUMP BUCKET**

Volume 6 m<sup>3</sup> Tipping angle 85° Tipping height 3700 mm

#### **FNGINE**

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
Driving halogen lights (4 + 2 pcs) 70 W
Working halogen lights on cabin (2 + 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) CANCockpit, 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**

#### **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/hEmpty 12 km/hPerformance curve 4800030

#### **EXHAUST SYSTEM**

Particle filter for Deutz TCD 2013 L4 120 kW

#### OTHER

Xenon working lights on cabin (2 + 2 pcs) 35 W LED driving lights (2 + 2 pcs) 18 W LED working 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 Mix kit 500 M

Hydraulics for mix kit 500 M

#### FOR ENCLOSED CABIN

CD/Radio system Cabin ventilation:

- 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

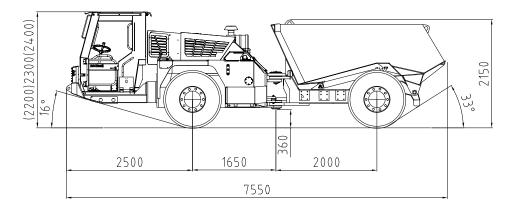
# WARRANTY SERVICES

**Extended warranty** 

4/7

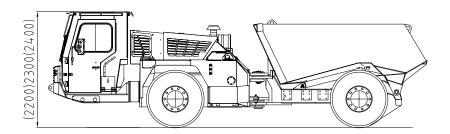


# **Dimensions**



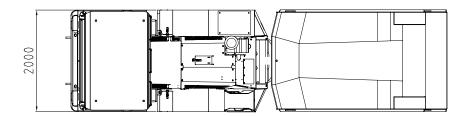
## **SIDE VIEW**

Basic machine.



#### SIDE VIEW

Machine with enclosed cabin



# **TOP VIEW**

Machine with options and extra equipment.

DIMENSIONS	
Length	7550 mm
Width	2000 mm
Height	(+/- 100 mm) 2300 mm
Wheel base	3650 mm
Track	1650 mm
Ground clearance	360 mm

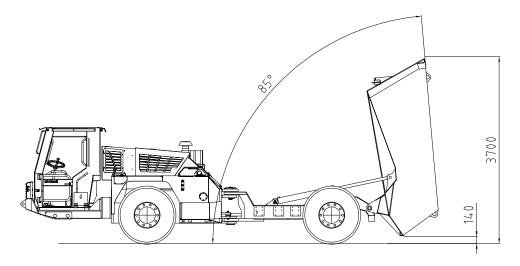
TURNING RADIUS	
Outer Inner	6550 mm 3900 mm
WEIGHT	
Operating weight:	

Empty
 Fully loaded
 Max. payload
 10 000 kg
 20 000 kg
 10 000 kg

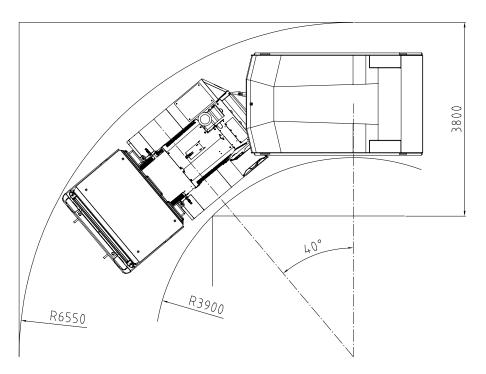
Normet reserves the right to change this specification without further notice



# **Dimensions**



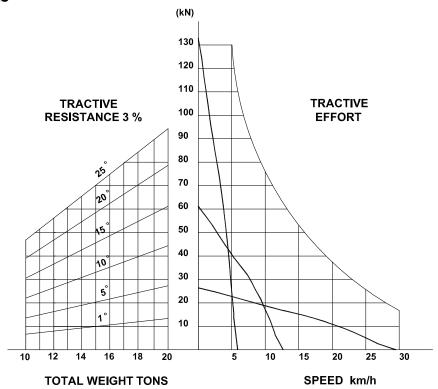
**SIDE VIEW**Machine with bucket in tipping position



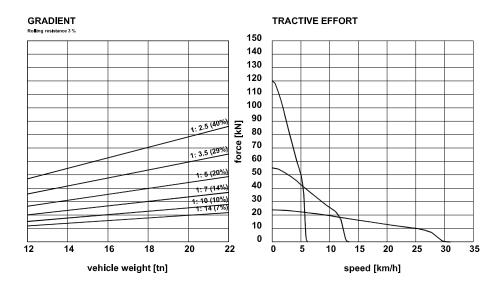
# **TURNING RADIUS**



### **Tractive efforts**



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



MERCEDES-BENZ OM 904 LA 110 kW Performance curve 4800030