



DBM EV - XG



COMPANY
WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
=ISO 9001:2000=

dbm

3500 EV 2500 EV 2000 EV



MAKING MILECO 11 125 XG 0207
Unità e stampo Agnini - fabbrica dell'Omio (Cuneo)
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DBM 3500 EV DBM 2500 EV DBM 2000 EV

Merlo self-loading motorised concrete mixers have always provided rapid and economical solutions for producing and transporting quality mortar and concrete – wherever and whenever it is required.

These practical machines have for decades proved the ideal solution for building companies needing flexibility in construction site operations, and today offer a host of new features ensuring even greater job competitiveness.

The DBM EV system rapidly produces varying concrete mixes on site - from the most fluid mortars to low slump concrete, in exactly the right quantity, and laid exactly when required, offering numerous advantages to traditional pre-mixed concrete.

DBM - Rough-terrain

The pinnacle of development of a tried and tested method of transporting and laying concrete.



COMPARATIVE TABLE

DBM

Check of the advantages provided:

Other systems

yes no

yes no

<input checked="" type="checkbox"/>	<input type="checkbox"/>	No time and costs lost in transporting premixed concrete	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	No time wasted by delayed premixed delivery	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	No wastage of excess premixed delivery	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	No possibility of mix hydration during delivery	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speed and economy on sites with difficult access.	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Operating economy on small or variable sites	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Complete control of quantity, quality and delivery time	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Complete elimination of the restrictions imposed using premix	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Reduced costs compared with premix	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Complete flexibility in regard to quantities mixed, up to 14 m ³ /hr	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ease of use and transport, using only one operator	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A major operational economy	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Rapid amortisation of capital cost	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Safety systems meeting or even exceeding international requirements	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Optional hydraulic or electronic weighing systems, with printout facility if required	<input type="checkbox"/>	<input type="checkbox"/>

The Merlo DBM EV combines the advantages of a self-loading motorised concrete mixer with the technology required to guarantee speedy, safe and economical operation - always ensuring that finished product quality is of the highest priority.

Self-loading Concrete Mixers

and tested, efficient and economic technology for producing,



THE RANGE

MODEL		DBM 3500	DBM 2500	DBM 2000
WEIGHTS				
Operating weight (unladen)	kg	7300	6200	6000
PERFORMANCE				
Concrete yield capacity	l	3500	2500	2000
Drum volume	l	5000	3500	2950
Loading bucket volume	l	700	700	700
Water tank capacity	l	950	800	800
Water pump capacity	l/min	250	250	250
Maximum unloading height				
• without discharge chute	mm	2285	1930	1900
• with discharge chute	mm	2100	1715	1670
Drum rotation speed	rpm	0÷18	0÷26	0÷32
4 cylinder low emission engine (Euro 2)		Deutz	Perkins	Perkins
Nat. Aspirated/Turbo/Turbo Aftercooler		T TA ⁽¹⁾	A T ⁽¹⁾	A T ⁽¹⁾
Power (97/68/CE)	kW/HP	74,9/102 103/140 ⁽¹⁾	64/86 74,5/101 ⁽¹⁾	64/86 74,5/101 ⁽¹⁾
Steering		Permanent four wheel drive with three steering modes		
Brakes		Disc brakes on all four wheels, automatic locking parking brake		
Maximum gradeability				
• Empty	%	50	55	55
• Fully laden	%	40	45	45
Maximum transversal slope	%	15	15	15
SPEED				
1 st speed	kph	11	7 11 ⁽¹⁾	7 11 ⁽¹⁾
2 nd speed	kph	40	25 40 ⁽¹⁾	25 40 ⁽¹⁾

A (Aspirated) - T (Turbo) - TA (Turbo Aftercooler) ⁽¹⁾ Option ⁽²⁾ Subject to local road regulation

DBM Hydrostatic transmission for travel speeds of up to 40 kph*



Mixer drum

■ A generous 700 litre capacity loading shovel ensures class-leading loading cycles. The loading bucket is equipped with hydraulic lifting and tilt services, and incorporates an automatic discharge flap for drum unloading.

■ The drum is manufactured from special long-life steel, and the generous volume and low inclination angle ensure a perfect mix, increasing the yield capacity by up to 40%. A Merlo exclusive double spiral mixer, with variable pitch and special edging material, rapidly produces homogeneous mixtures.

■ A variable capacity pump drives the drum, and its speed is infinitely variable from the ground level controls (DBM 3500 and 2500).

■ The discharge operations are easier thanks to the exclusive features of the machine:

- The drum discharge height is the highest in its class, facilitating easy discharge over obstructions.
- Hydraulic drum tilt.
- Drum slews 180° to

permit discharge to either side of the vehicle, even whilst moving. It can be tilted to facilitate discharge.

■ The hydraulically positioned discharge chute, with two 1.5m extensions, permits unloading across obstructions.



Manoeuvrability and stability

■ More than 3000 Merlo mixers have proven the manoeuvrability and short working cycles of the concept. An exclusive 'automotive' type hydrostatic transmission delivers travel speeds up to 40 kph, as well as excellent off-road performance. Careful weight distribution and a very low centre of gravity combine high performance with safety on the toughest site conditions.

■ Exclusive Merlo-built portal axles ensure high ground clearance and stability.

Two different Merlo axles are used, according to the DBM mixer model:

- DBM 2500 and 2000 EV – cast iron axle frame.
- DBM 3500 EV – fabricated steel axle frame.

* Standard on DBM 3500 EV



■ Four drive/steer wheels give tremendous manoeuvrability, on even the tightest of sites.

■ The drum axis is offset in relation to the longitudinal axis of the DBM chassis. When empty, the drum weight balances the cab for excellent stability and visibility for loading. When fully loaded, the unique Merlo drum mixer design ensures the concrete mass is maintained exactly on the machine's longitudinal axis.

Hydrostatic transmission

■ The hydrostatic transmission provides automatic and continuous speed adjustment from standstill to maximum travel speed, simply by operating the accelerator pedal:

- At low engine speeds, torque output is double that of many conventional transmissions.
- Instant and powerful dynamic braking is available through the transmission.
- Stopping and restarting on slopes of up to 50%, without using brakes.

■ An 'Inching-Control' allows precise travel speed adjustment, independent of engine speed.

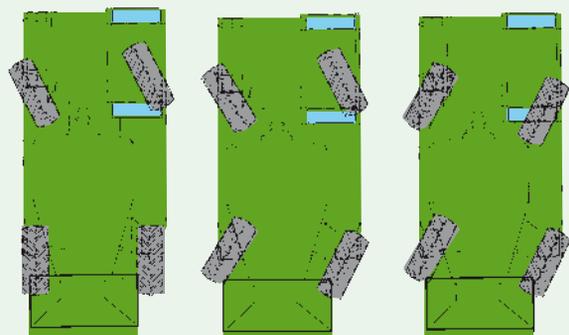
■ Permanent four wheel drive traction.

■ The 'Finger-Touch' system allows to reverse the direction simply using the lever near the steering wheel.

Steering

- All four drive wheels are steered, with operator selection of three possible steer modes. Auto-synchronisation realigns the steering wheels should they become misaligned:
- Front Wheel Steer (for road use).
 - Four-Wheel Steer (for maximum site manoeuvrability).
 - Crab Steer (sideways motion

without changing the longitudinal alignment of the machine).



FEATURES AND OPTION



Operator's cab

- The cab structure is designed to protect the operator in the event of an overturn (ROPS standard).
- The cab is fully closed⁽¹⁾ and the door is split into two independent opening sections.
- Opening front and rear windows are fitted with wash/wipe systems.
- The seat swivels through 180°.

Controls

■ Duplicated controls permit operation whilst driving in either direction⁽²⁾. On-site driving can be controlled with a joystick, ensuring maximum manoeuvrability (DBM 3500 and 2500).

⁽¹⁾ On three sides on DBM 2000.

■ The control panel includes: fuel contents indicator, engine coolant thermometer, hour counter, mixing tank water contents gauge, and a warning/annunciator panel for engine air filter blockage, hydrostatic oil level and temperature, engine oil pressure, and park brake engagement indicator.

Ground level controls

- A duplicated set of controls at ground level⁽³⁾ includes:
- Engine accelerator.
 - Water pump operation.
 - Drum rotation control.
 - Tank hydraulic control.
 - Discharge chute control.

Engine

■ 4 cylinder low emission (Euro 2), direct injection, water cooled.

⁽²⁾ The controls and seat swivel on DBM 2000.

Brakes

- Service disc brakes operating on differential output shafts.
- The 'fail-safe' parking brake is a large diameter spring-on disc brake operating on the main transmission shaft. Brake release is hydraulic.
 - The parking brake is automatically applied whenever the engine is switched off, and disengaged on subsequent re-starting.
 - A separate cab control permits operation with the engine running.

Water system

- Self-priming pump with three-way diverter valve to feed the tank, mixing drum or washing nozzle.
- Electronic contents gauges, on both

dashboard and at ground level⁽³⁾, accurately display the water used in drum or tanks.

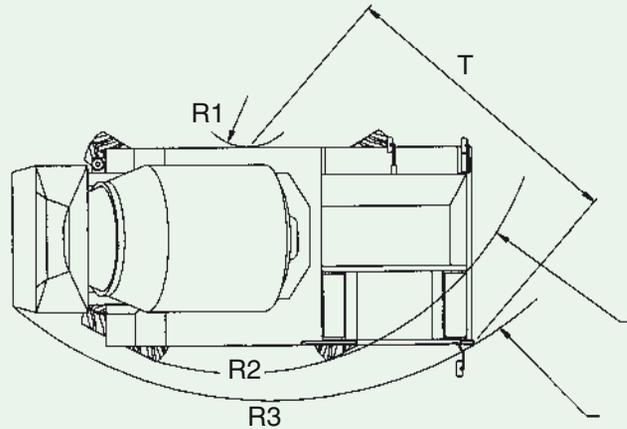
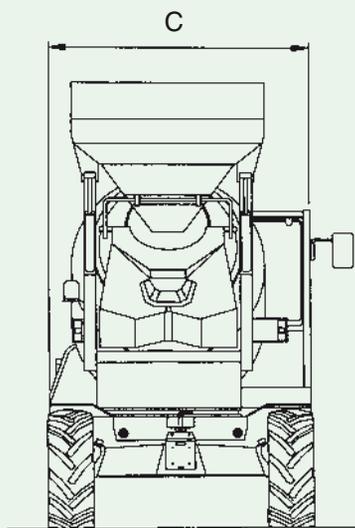
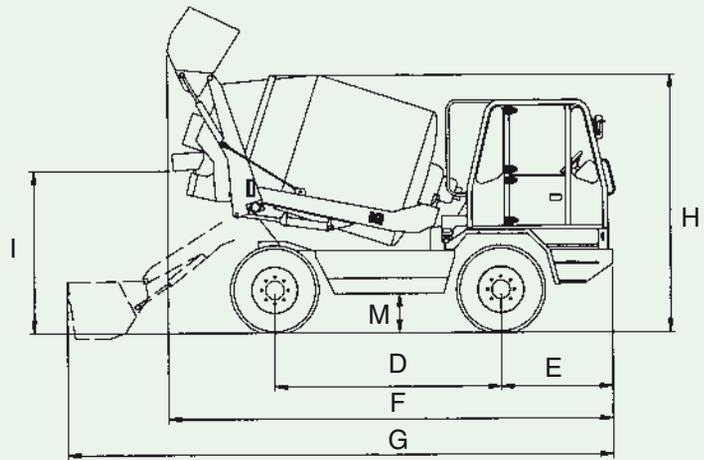
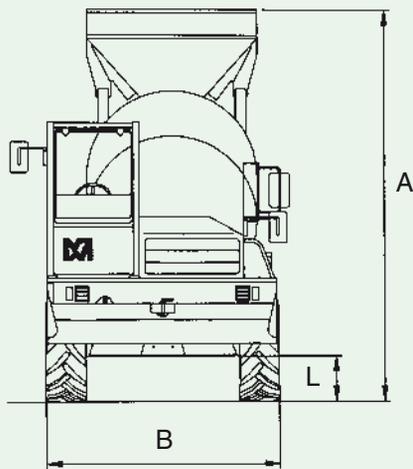
- There is a flexible 6m pipe for connection to an external water supply.
- Fittings are complete with a washing spray nozzle.

Hydraulic system

- The hydraulic system differs according to the different models.
 - Load-Sensing hydraulic system on DBM 3500 and 2500.
 - Gear pump on DBM 2000.

⁽³⁾ Only on DBM 3500 and 2500.

TECHNICAL CHARACTERISTICS



Model	Tyres	Dim	A	B	C	D	E	F	G	H	I	L	M	R1	R2	R3	T
DBM 3500 EV	18-19.5 16PR	mm	3940	2335	2300	2750	1350	5460	6480	3160	2100	470	495	1620	4190	4730	3590
DBM 2500 EV	405/70-20 14PR	mm	3660	2220	2250	2690	1070	5025	6040	2880	1715	455	520	1490	3940	4400	3350
DBM 2000 EV	405/70-20 14PR	mm	3660	2220	2250	2690	1070	5025	6040	2880	1715	455	520	1490	3940	4400	3350

Electrics

■ 12V system with 100Ah battery and 90A alternator.

■ Full road lighting and rotating beacon.

Capacities

- Hydraulic oil: 140 l
- Diesel fuel: 120 l (200 l on DBM 3500 EV)
- Hydrostatic oil: 12 l

- Engine oil: 8,5 l
- Coolant: 12 l

Tyres

■ 18-19.5 16PR on DBM 3500 EV.

■ 405/70-20 14PR on DBM 2500 and 2000.

Safety system

- Safety has been given the very highest priority, as with all Merlo designs:
 - Emergency stop button at ground level.
 - Acoustic reversing alarm.
 - Fittings for fire extinguisher and seat belt.

Options

- 40 kph transmission for DBM 2500 and 2000.
- Rear differential lock.
- Hopper for silo loading.
- Remote electrical control panel for tank rotation.
- Cab working lights.
- Ground level controls on DBM 2000 (tank control, water pump operation).
- Fully closed cab (DBM 2000).
- Cab heating (DBM 2000).

SPECIAL EQUIPEMENT

Electronic weighing system



Permits precise quantity control of each ingredient fed into the mixing drum. The system includes a printout facility, which is essential where contractual specifications require concrete of certified quality.

Hydraulic weighing system



Provides material weighing to an accuracy of 8% of the indicated figure.

Washing pump



A high pressure machine washing pump, essential for the long life operation of vehicle, drum and tank.

Road/rail device



Two hydraulic lift rail-drive axles permit operation both on-rail and on-road.



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