

MecALAC

MULTIFUNCTIONS WHEELED MACHINE **12MTX**



> Experience of your worksite

FAST AND POWERFUL IN ANY SITUATION

35 years of experience, working alongside our clients, has enabled us to develop original solutions...

- > boom cylinders mounted on parallelogram,
- > fully rotatable turntable independent of the motor,
- > standard methods of operation, according to the ISO 10968 standard...

... and continually innovative solutions:

- > **ACTIVE LOCK**, hydraulic quick-release coupling *
- > **ACTIVE CONTROL**, load sensing, flow sharing, cylinders coupling **
- > **SENSO DRIVE***, closed circuit hydrostatic travel **

* details page 5
 ** details page 9

74 kW / 100 CV
 at 2200 rpm

27 km/h
 on the road

9 t

A very powerful engine for a machine of this weight

Accessory compatibility with the previous models

Extensive equipment as standard

MULTIFUNCTIONS MACHINES

10MSX	7t
12MSX	9t
12MTX	9t

VERSATILE EXCAVATORS

712MC	11t crawlers
714MC	13,5t crawlers
714MW	13,5t wheels
714MW RR	16t wheeled rail-road machine



The core values of our machines meet the needs of professionals in the following sectors: highways, construction, cable or pipeline installations, open spaces or local authorities.



COMPACTNESS

Through its small size, its counterweight fully integrated into the turntable and its ultra-compact versatile equipment, the 12MTX is 100% operational and only uses a single pathway, regardless of the accessory being used.

Thanks to its unique drive train, the 12MTX is particularly at ease on narrow, cluttered sites, which require finesse and expertise.



PERFORMANCE

Picking up the heaviest loads up and positioning them precisely and safely are usual jobs for the Mecalac.

Unloading a lorry, handling a pallet

3 metres below ground, or setting it down over a wall are also part of daily work.

VERSATILITY

You prefer a single machine on site to dig, load, handle and carry out many other tasks while being fully effective in each function.

The tool is changed from the cab in just a few seconds thanks to **ACTIVE LOCK**, a Mecalac quick-release coupling with mechanical locking and hydraulic overlock.

The equipment's versatility enables the operator to swap the back-hoe bucket for forks, the sling guide plate, the 4 x 1 loader or any other hydraulic accessory (rock-breaker, compactor, flail mower, sweeper, mixer bucket...).

Mecalac flexibility is achieved through its unrivalled Mecalac boom, arm offset, hydraulic quick coupler, compactness, and speed of cycles.



Combining speed, versatility and efficiency, the 12MTX is the machine for all service and urban work.

With its 4.5 l turbocharged engine which delivers 100 hp (74 kW) at 2200 rpm, the 12MTX is the machine with the best engine in this weight category.

On site, the 12MTX is always available to tackle the most demanding tasks with exceptional efficiency.

HYDRAULIC PERFORMANCE

The hydraulic circuit makes it possible to get the most out of the engine's power.

The equipment pump delivers 140 l/min at 280 bars and permits the use of attachments essential to some service and maintenance jobs: hedge cutter, road sweeper, flail mower, etc.



STABILITY IN ALL SITUATIONS...

The 12MTX's general stability is exceptional: This is achieved at mounting the engine transversely at the back of the machine, thus lowering the center of gravity.

The articulated undercarriage with oscillating rear axle (+/-10°) can be locked by the operator irrespective of the machine's position, thus ensuring appreciable additional stability for certain work or lifting operations to the side.

The independent stabilisers are part of the standard equipment. They are also available in a telescopic version (as an option), and these significantly increase stability when working to the side. When trench digging, they rest a long way from the sides in order to prevent trench collapse.

Despite its 9 tonnes, the 12MTX is extremely compact: the turntable's total rotation is completed in a radius of just 1.36 m.



ACCESS FACILITATED FOR SERVICING AND MAINTENANCE, TO ENSURE RELIABILITY

The transversely mounted engine and two large trap doors under the cradle permit easy access for maintenance operations.

A wide cover on the hydraulic compartment gives easy access at a convenient height to the SX14 load sensing distribution valve block.

The number of greasing points are particularly small, thanks to the one-shot greasing of the parallelogram and crown wheel*.

* As an option:

- Simultaneous greasing of the parallelogram, crown wheel and equipment
- Automatic one-shot greasing.



TO WORK BETTER AND MORE QUICKLY...

Cab comfort and easy operation, precision and progressiveness of the controls contribute to making the Mecalac a high-productivity machine.

A PANORAMIC, COMFORTABLE CAB:

The cab, in order to meet the FOPS and ROPS safety requirements, is particularly spacious. With large glazed areas, you can see all of the equipment and site environment. Separated from the engine, it has a very low sound level.

ADVANCED TECHNOLOGIES

SENSO DRIVE

The **SENSO DRIVE** (closed circuit hydrostatic transmission) offers many **operational benefits** (accuracy, progressive approach...), **economic benefits** (maximum yield/optimised consumption) and **incomparable operational comfort** (progressive acceleration, safe and effective braking, power control).

ACTIVE CONTROL INSIDE :

LOAD SENSING : optimum equipment pressure suited to the effort requested,

FLOW SHARING : pump output shared among all controls, simultaneous movement

CYLINDER COUPLING : Simultaneous control of boom cylinders and tandem drive with a single joystick or control the equipment in 3 stages without using the pedal.



STANDARD OPERATION - COMPLYING WITH STANDARD ISO 10968:

In **Excavator Mode**, the Mecalac, with its 3-part equipment, behaves like a standard excavator with 2-part equipment, thanks to the patented **cylinder coupling system**. (see plan 1 below).

In **Loader Mode**, the Mecalac behaves like a standard loader, the operator having his left hand on the steering wheel and his right hand on the manipulator. (see picture 2 below).

In **Mecalac Modes**, the operator controls each equipment and accessory cylinder individually to meet particular situations.



1 - Cylinder coupling system

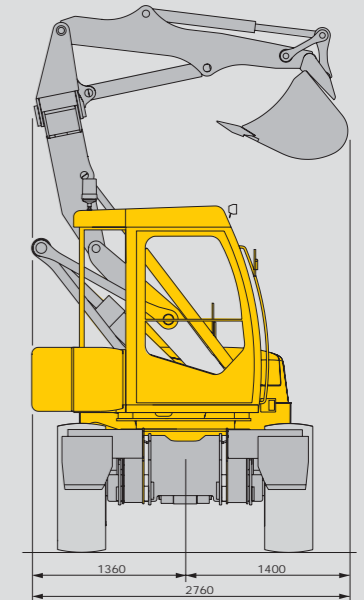
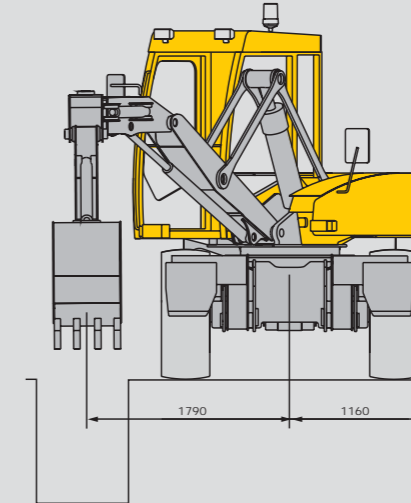
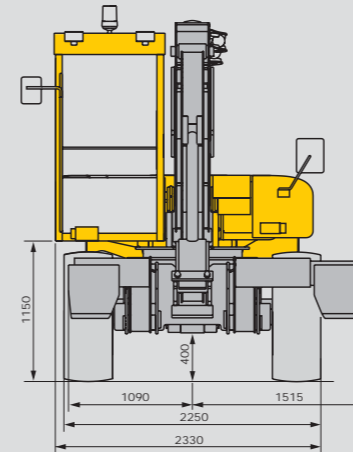
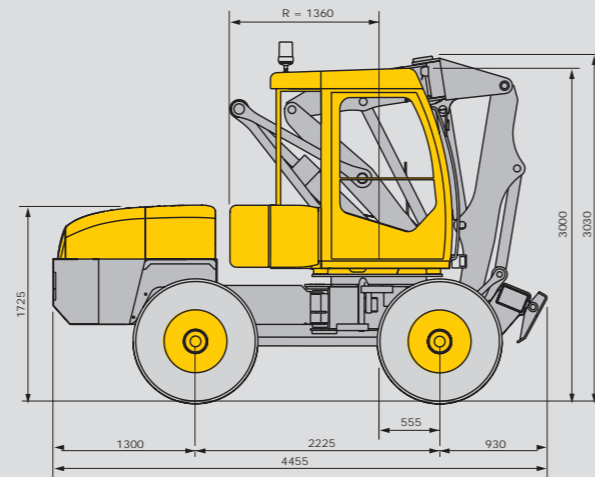


2 - Loader driving mode

Comfort equipment : foldaway front windscreen, high-performance ventilation, filtering sun visor, multi-adjustable seat, (pneumatic seat as an option), very efficient air conditioning*, heating and defrosting, adjustable steering column...

* Option.

TECHNICAL SPECIFICATION



WEIGHT

- Empty in working order without bucket 9100 kg
- with 600 mm bucket 9315 kg
- with loader bucket 9440 kg

ENGINE

- Turbocharged engine
- Type..... CUMMINS 4 BT4.5C
- Diesel 4 cylinders in line
- Power 74 kW at 2200 rpm, 100 hp
- Max net torque 414 Nm at 1500 rpm
- Cylinder capacity 3 300 cm³
- Cooling system by water
- Air filter dry, cartridge type
- Fuel consumption (depending on conditions of use) ... 7 to 10 l/h
- External soundproofing 2000/14/CE 101 dB(A)

ELECTRICAL CIRCUIT

- Voltage 12 V
- Batteries 175 Ah
- Alternator 12 V/60A
- Starter 12 V/ 2,7 kW

CHASSIS-SECTION

- Articulated type
- Turning circle..... inside 2.65 m
- outside 4.91 m
- Chassis equipped with 2 independent front stabilisers, either fixed or telescopic*.
- Blade*.

Tanks

- Hydraulic oil, capacity 82 l
- Diesel fuel, capacity 120 l
- * On option.

TURNTABLE

- Total 360° rotation.
- Crown wheel drive with internal gear.
- Slewing by hydraulic motor with brake.
- Rotation speed 8 rpm
- Hydraulic motor 750 cm³ max pressure 230 bars
- Fixed capacity gear pump : Max pump flow rate 42 l/min
- Patented HYDRO-SENSOR type, dampened
- Cross-over valve for movement start-up and progressive stopping of the rotation turntable.

STEERING

- Hydraulic ORBITROL unit ; priority valve, actuated by load sensing signal.
- Shock protection valves..... 240 bars

CAB

- Certified ROPS and FOPS.
- Single shell fixed on 4 elastic blocks, windscreen can be folded up the roof of the cab, sliding door window, opening rear window.
- Servo-controls integrated in the consoles on either side of the driver's seat, and adjustable with respect of the seat.
- Suspended, shock-absorbing seat, with height and longitudinal adjustment, equipped with seat belt.
- Electronic instrument panel combining all safety and monitoring information, visual displays and acoustic alarms.
- Easy, visible access to fuses and electrical components.
- Adjustable steering column.
- Waterheated, ventilation with large air flow, 320 m³/h, great capacity of demisting and defrosting.
- Soundproofing in cab 71 dB(A).
- Air conditioning as an option.
- Stereo radio CD player (option).

- Patented driver assistance system with four possible modes :
 - **MECALAC 1+2**, for handling and precision work.
 - **EXCAVATOR**, for use as excavator, for earth-works and grading work.
 - **LOADER**, for rehandling and grading.

TRANSMISSION

- Closed-circuit hydrostatic transmission with "automotive" type automatic control **SENSO DRIVE**
- Electrically-controlled travel direction reversing system on steering column ; can be actuated without stopping.
- Two speed ranges in both travel directions : "site" and "road".
- "Inching" or slow approach control allowing the machine speed to be reduced progressively until stopped with constant diesel engine revs : this function is controlled by a foot pedal which also combines as a braking function.
- Hydraulic travel motor and pump have variable capacity allowing continuous variation in transmission ratio over the entire speed range : 0 to 27 km/h

Max traction force 5500 daN
 Max pressure..... 430 bars
 Max pump flow rate..... 156 l/min
 Motor..... 140 cm³

Axles and wheels

- Four equal size drive wheels
 - Standard: 405/70-20 tyres.
 - Option: 425/75-20 or 18-19.5 tyres.
- Fixed rigid drive axle on front chassis-section
- Oscillating drive axle on rear chassis section, +/- 10°
- Oscillating locking system by 2 hydraulic cylinders.
- On rear axle, single-ratio transfer gear box transferring movement directly to the rear axle and to the front axle via a transmission shaft. Limited-slip differential on both axles.

Brakes

- Multi-disc, oil bath main service brakes built into both axles.
- Multi-disc, oil bath parking brake built into the front axle.
- Multi-disc, oil bath emergency brake built into the front axle, actuated by pressure drop.
- Hydrostatic brake.



HYDRAULIC CIRCUIT

Equipment circuit

- Variable capacity piston pump 75 cm³
- Max pressure 280 bars
- Max pump flow rate 165 l/min

Power control ACTIVE CONTROL

- SX14 type distribution valve block
- proportional load sensing system with individual balance valve for each item : boom, boom extension, arm, bucket and auxiliary (optional).
- proportionality of functions always respected regardless of the pressure level of each item.
- anti-cavitation overpressure valve on each item.
- Hydraulically-assisted proportional controls of functions, by manipulators or foot-operated controls supplied at low pressure with standby accumulator.

Auxiliary functions by solenoid valves :

- independently controlled left and right hand stabilisers.
- Unlocking of the tool holder.
- safety lock to prevent consoles from being raised.



EQUIPMENT

- Made up of three parts : boom, boom extension and arm.
- Boom controlled by a patented system of rods and cylinders giving a deflection of 140°.
- Offset to the left or right by hydraulic cylinder patented system for maintaining all penetration forces regardless of the angular position of the offset block.
- Bearing blocks fitted with watertight seals.
- Booms cylinder with travel limit damper.
- Snap-action tool attachment system **ACTIVE LOCK**
 - Mecalac quick attach with automatic mechanical locking and hydraulic over-locking.
 - Hydraulically controlled unlocking system.

Equipment performances

Handling work

- For lifting and handling operations, the Mecalac must be fitted with safety valves.

Excavator

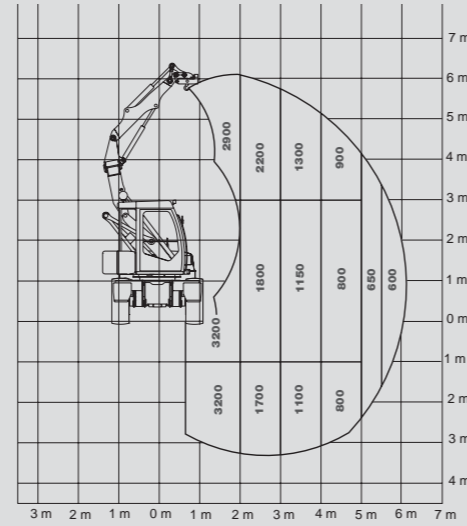
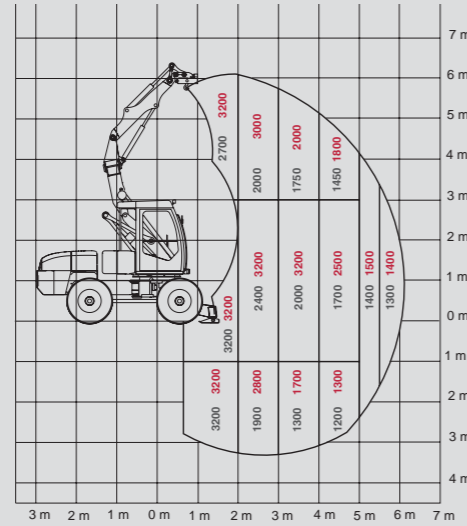
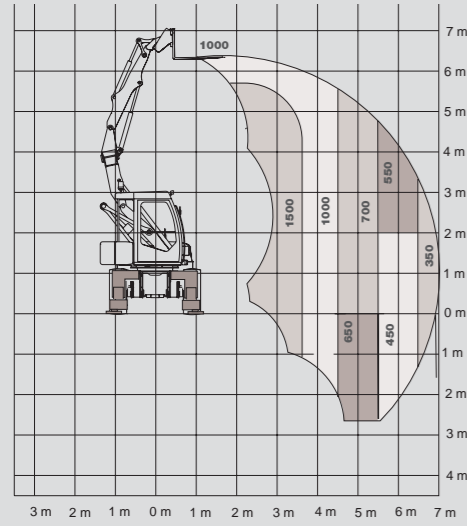
- Max penetration force 3100 daN
- Max break-out force 5600 daN

Loader

- Max break-out force 4400 daN

mm	dm ³	dm ³	kg	kg
350	125	140	2	151
450	170	190	3	176
600	205	244	3	215
750	290	340	4	252
900	355	415	4	297
1200	422	532	5	366

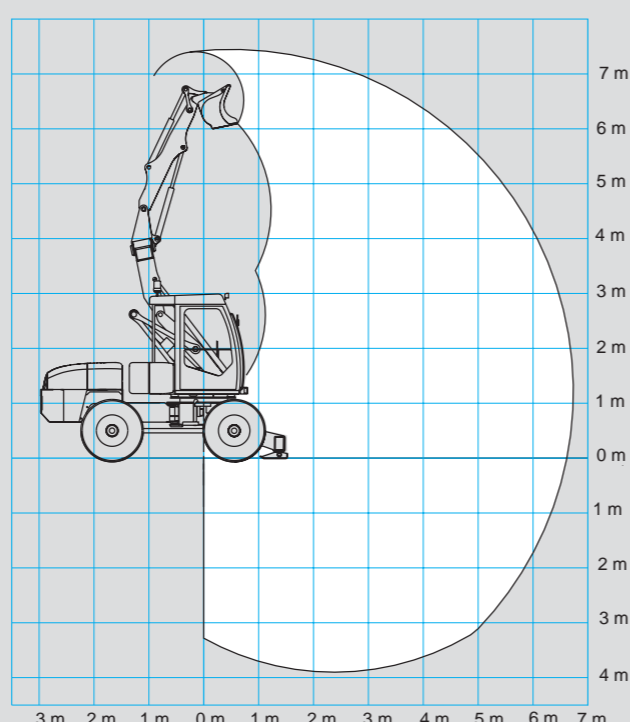
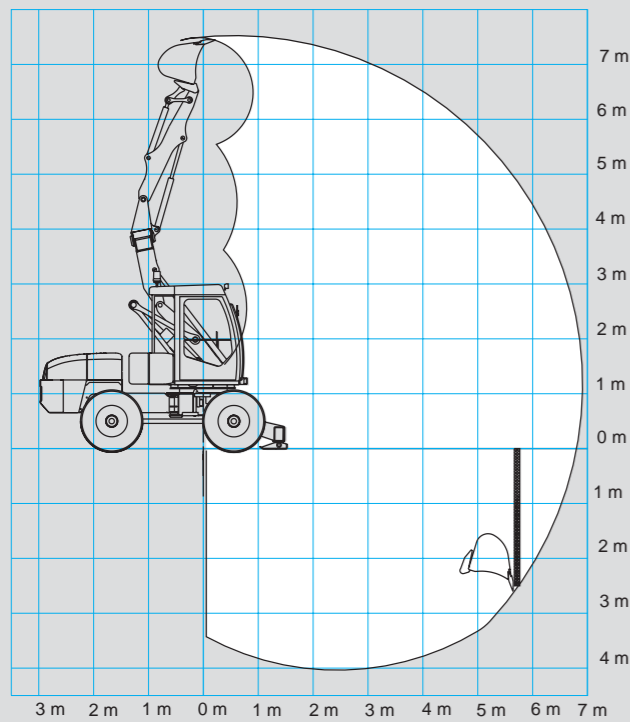
TECHNICAL SPECIFICATION



Lifting capacities in kg (ISO 10567)

■ Lifting capacities in kg (ISO 10567)
 ■ Lifting capacities with optimum configuration

Lifting capacities with optimum configuration





Our mission is to design, develop, manufacture and distribute quality products. Our innovative machines perform many varied and demanding tasks within your environment.

Customers are the heart of our company.

We provide them with our knowledge, experience and the team spirit that drives Mecalac.

Your dealer



Mecalac